



**OVERHEAD & UNDERGROUND  
TRANSMISSION  
CONSTRUCTION STANDARDS**

**OCTOBER 2013 EDITION**

## SUMMARY OF CHANGES

**October 2013**

**New Edition**

**Section III. NEW CONSTRUCTION**

**MISCELLANEOUS**

*Added:* VN

VNC ..... STM-25

### HISTORY

**February 2013**

**Section V. MATERIAL**

*Added:* INSHP 035 ..... M-54

**October 2012**

**New Edition**

**July 2012:**

**Section II. INFORMATION**

**ENGINEERING.....E-2**

*Added:* 1.1 DESIGN CONSTRAINTS

*Changed:* 1.4 INSULATORS

*Changed:* 2.2 Current JEA suppliers.

**November 2011**

**Section II. INFORMATION**

**GENERAL NOTES .....NCG-1**

*Changed:* CONSTRUCTION NOTE (2)

**Section IV. MAINTENANCE**

**230kV INSULATORS**

*Added:* IESSFC1 & IESSSC1.....CIN-5

**SHIELD**

*Added:* SSDEX.....SH-9

**August 2011**

**New Edition**



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## GENERAL NOTES

### PLATING

1. Plates for 69kV, 138kV, and 230kV structures do not include grounding and guying material nor do they include vibration dampers. Plates needed to ground and guy structures along with vibration damper plates are given in the miscellaneous section and must be specified separately when needed since in some cases when a pole is simply being replaced some or all of these materials may not be necessary.
2. Bolts are specified for each plate based on an assumed pole tip diameter of 17" for spun concrete poles. The designer will need to make necessary modifications to bolt lengths based on the supplied pole tips.

### CONSTRUCTION

1. All hardware with the exception of bracing between double pole structures shall be supplied by JEA. Contractor shall supply all bracing. Bracing shall be 836 hot dipped galvanized and be 3"x3"x $\frac{3}{4}$ " in lengths as required.
3. All 138kV and 230kV insulators and suspension supports for braced line post should have corona rings. Corona rings shall be from the same manufacturer as the insulator. The corona ring gap is where the ring performance is at its weakest and should therefore always be pointed in the direction of the weakest corona area. The following guide shall be used to insure that the ring is effectively positioned and to facilitate noticing when a corona ring is loose and has shifted.

V-STRING: Both ring openings faced towards each other.

BRACED POST: Ring opening faced towards post.

DEAD-END: Ring opening facing the jumper line.

SUSPENSION: Ring opening in-line with the conductor.

For best performance, avoid nicks and scratches on the ring.

2. Polymer insulators should never be twisted or bent. Use two people to carry insulators measuring more than 8 feet in length. Any insulator suspected of being damaged should not be installed.

## TABLE TO DETERMINE PLATE TYPES

	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>
	VOLTAGE	CIRCUIT CONFIGURATION	POLE TYPE	INSULATOR CONFIGURATION	CONDUCTOR CONFIGURATION
A	69kV		SUBSTATION LATTICE		
B	138kV		SUBSTATION A-FRAME		
C	230kV		LATTICE TOWER		
1		ONE CIRCUIT VERTICAL	SINGLE WOOD	SUSPENSION	TANGENT
2		TWO CIRCUITS VERTICAL	SINGLE CONCRETE	POST	LIGHT ANGLE 0°-15°
3		ONE CIRCUIT HORIZONTAL	SINGLE STEEL	BRACED LINE POST	MEDIUM ANGLE 15°-30°
4		TWO CIRCUITS HORIZONTAL	DOUBLE WOOD	DEAD-END	
5		ONE CIRCUIT	DOUBLE CONCRETE	DEAD-END TO POST	HEAVY ANGLE FULL TENSION TO FULL TENSION
6		ONE CIRCUIT DELTA	DOUBLE STEEL	DEAD-END TO DEAD-END W/ POST	HEAVY ANGLE FULL TENSION TO SLACK
7		SINGLE PHASE W/O SHIELD	THREE WOOD	DEAD-END TO DEAD-END W/O POST	HEAVY ANGLE SLACK TO SLACK
8		SINGLE PHASE W/ SHIELD	THREE CONCRETE		
9			THREE STEEL		

# ENGINEERING

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## 1.0 DESIGN CONSIDERATIONS

### 1.1.DESIGN CONSTRAINTS:

Overhead	
Ambient Air Temperature	90° F (32° C)
Crosswind Velocity	2 Feet/Second
Emissivity Constant	0.8
Maximum Solar Heat Gain	June 21, 5:00 PM
Absorptivity Constant	0.5
Atmospheric Conditions	Clear
Altitude	50 Feet
Conductor Azimuth	0° N-S
Latitude	North 30°
Underground	
Earth Temperature	68° F (20° C)
Thermal Resistivity	90 RHO (°C-cm/W)
Load Factor	75%

**1.2.CONDUCTORS:** JEA standard design is to use 954 or 1590 ACSR conductor with a maximum final tension of 20%. Conductor data along with sag and tension data are given in the CONDUCTOR section.

**1.3.HARDWARE:** Bolt sizes are to accommodate the installation load which can be substantially higher than normal working load. Except for dead-ends and heavy angle circuits using 1590 conductor, which shall use 1" bolts, all others shall be  $\frac{7}{8}$ ". Locknuts shall be used in all bolts on concrete and steel pole applications. Spring washers shall be used in place of locknuts on wood structures.

**1.4.INSULATORS:** All new construction shall use polymer (silicone only) insulators.

Note: INSDE002 is used only on new construction 230kV dead-ends.

INSDE003 and INSSU009 are sized to match a string of 15 porcelain insulators for maintenance of existing 230kV structures. INSDE003 is also used on new construction dead-ends for 138kV structures.

INSDE004 and INSSU008 are sized to match a string of 11 porcelain insulators for maintenance of existing 138kV structures. INSDE004 is also used on new construction dead-ends for 69kV structures.

INSDE010 and INSSU007 are sized to match a string of 7 porcelain insulators for maintenance of existing 69kV structures.

**1.5.POLES:** When possible, all new construction shall use spun concrete poles. Steel poles may be used when guying of concrete structures is not possible due to limited right of way. Class 1 wood poles may be used to replace existing wood structures when horizontal construction is necessary.

**1.6.SHIELDS:** 69kV and 138kV shall use bayonet shields while 230kV shall use Davit arms.

**1.7.MISCELLANEOUS:** Work stations shall be installed approximately 3½ feet below work areas such as insulators and shields. Consideration should be given to increasing minimum clearance to ground where future site work is possible and elevations may change such as road work.



## 2.0 POLE INFORMATION

**2.1. GENERAL:** JEA has standardized on spun concrete poles. The main reasons for this are good delivery, low cost, and high reliability. An example of reliability is Homestead Florida where hurricane Andrew hit. The only poles left standing were spun concrete – not a single one failed with over 100 installed. Furthermore, no damage was incurred by these poles which was verified when the manufacturer tested them following the hurricane and found that they tested to 150% of capacity. In some situations where right of way limitations or other factors such as weight require, JEA will continue to use wood or steel pole replacements.

**2.2. TRANSPORTATION ISSUES AND LEAD TIME:** Spun concrete poles used for transmission are very long and heavy. For this reason they have high transportation cost and can be only transported during daylight hours. Lead time from time to order is typically about 10 weeks. During emergencies they will require a minimum of 30 days due to the curing time required to insure adequate strength concrete. Because of transportation cost, manufacturers are limited to local suppliers. Current JEA suppliers are listed below.

Valmont/Newmark  
Barlow, Fl.  
Tommy Hanner  
(727) 804-9612

**APPROXIMATE POLE WEIGHTS BY LENGTH AND POLE TIP DIMENSIONS**

	11" tip	13" tip	15" tip	17" tip	20" tip	22" tip
80 ft	17,000	19,000	22,000	26,000	28,000	31,000
85 ft	18,000	21,000	24,000	28,000	31,000	34,000
90 ft	20,000	23,000	27,000	31,000	34,000	37,000
95 ft	22,000	25,000	29,000	34,000	37,000	40,000
100 ft	24,000	27,000	31,000	36,000	40,000	44,000
105 ft	26,000	29,000	34,000	39,000	43,000	48,000
110 ft	28,000	32,000	37,000	42,000	46,000	52,000
115 ft	31,000	34,000	40,000	45,000	49,000	56,000
120 ft	33,000	37,000	42,000	49,000	55,000	60,000
125 ft	36,000	39,000	46,000	52,000	59,000	64,000
130 ft	38,000	42,000	49,000	56,000	63,000	68,000

**2.3. SIZE AND CLASSIFICATIONS:** Longer poles than listed above are available but not as single units. By splicing two units together it is possible to go up to 190 feet. Some poles have been made larger by having two splices. Based on JEA designs, poles should have a typical pole tip diameter of 17". These dimensions are larger than in the past because poles are now designed to handle the additional load of under-built distribution circuits. Some diameters such as dead-end applications may be smaller when guying is used. All spun concrete poles have a constant taper of 0.216 in/ft and are classified by strength.

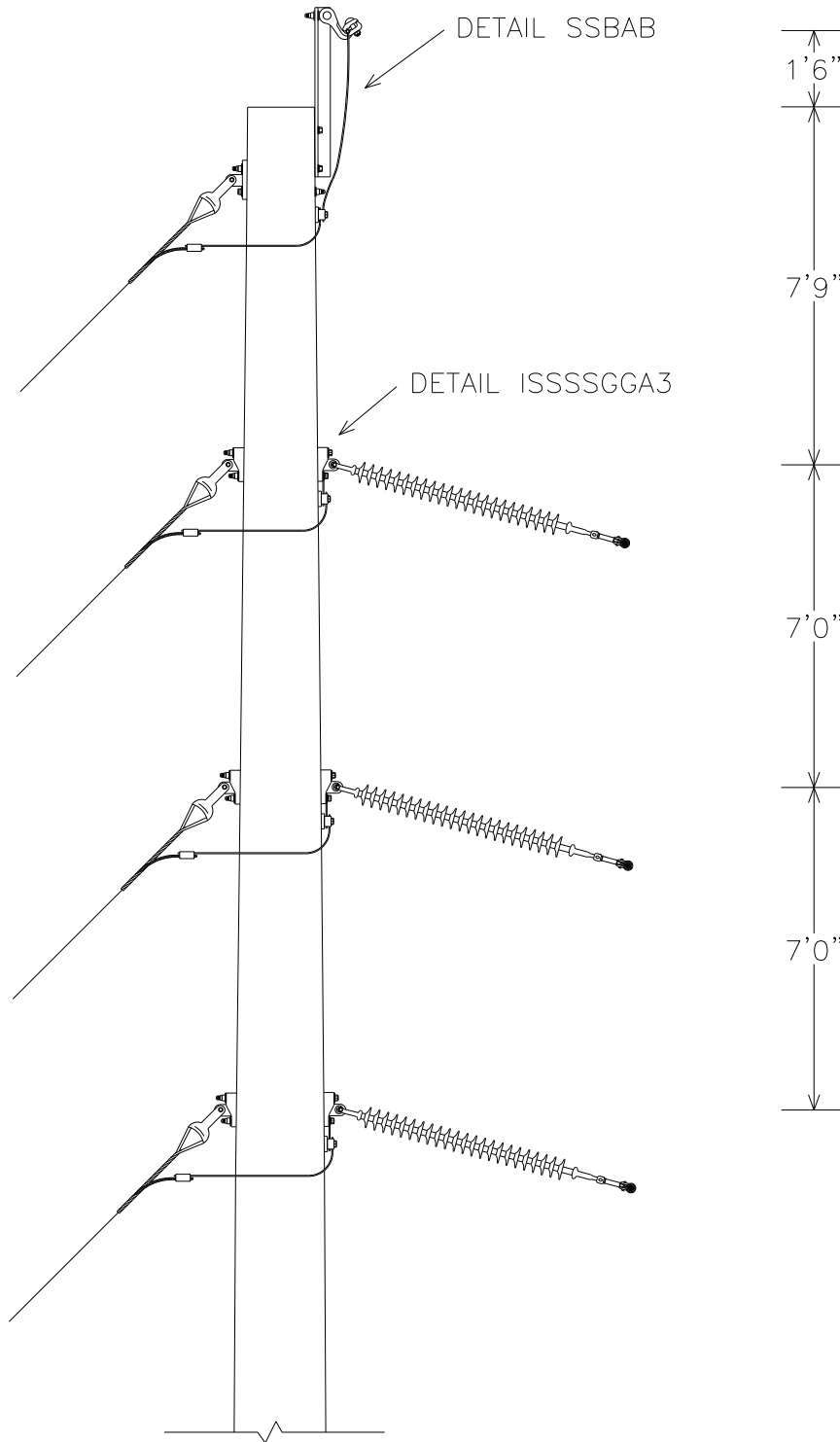
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# A1213

69KV, SINGLE SUSPENSION, SINGLE GRIP, GUYED, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A1213 PLATES

## A1213 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6"
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
56	INSSU 007	3	SUSPENSION INSULATOR, SILICON, Y-BALL COUPLING, 69KV, L = 43 INCHES, CLASS 52-5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	7	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## A1213\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1213\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

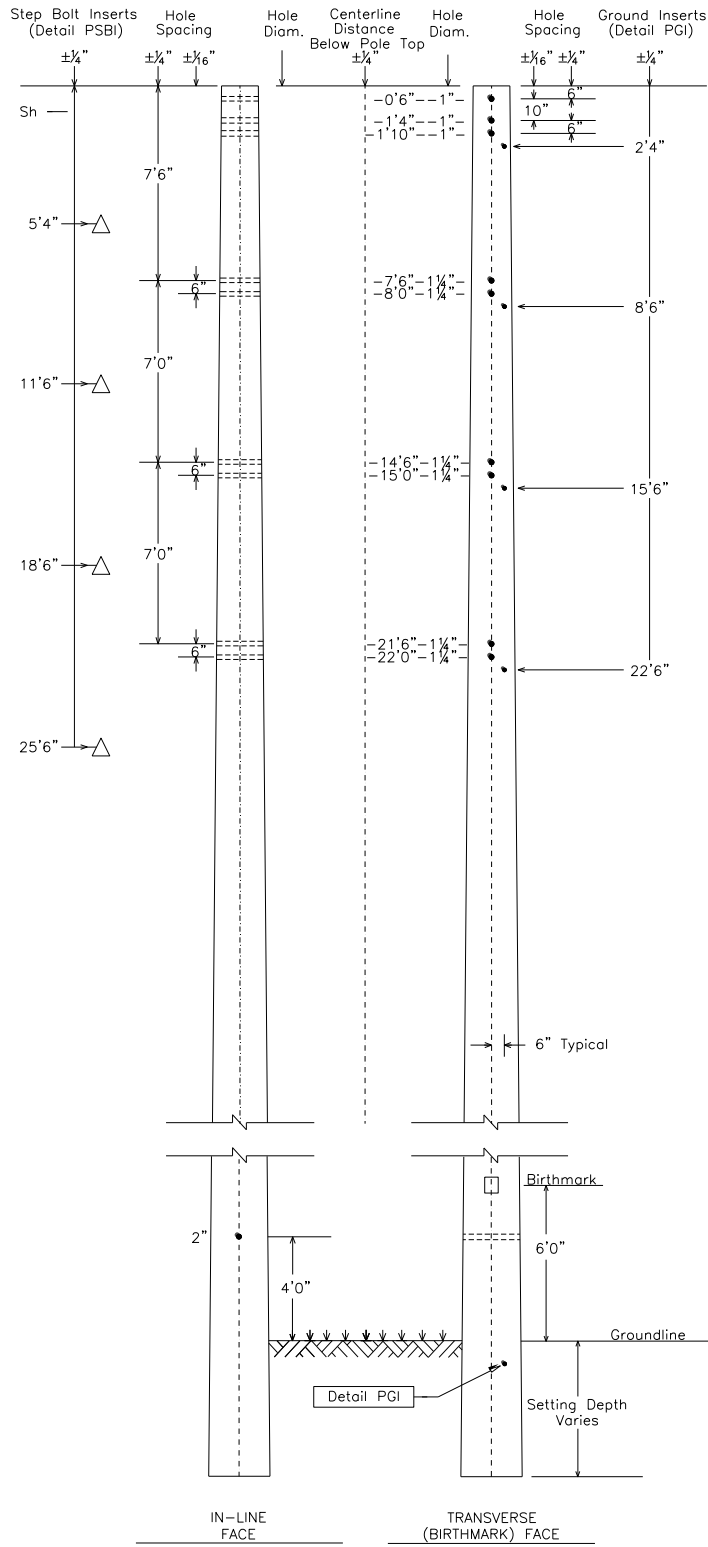
## A1213\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1213\*1590

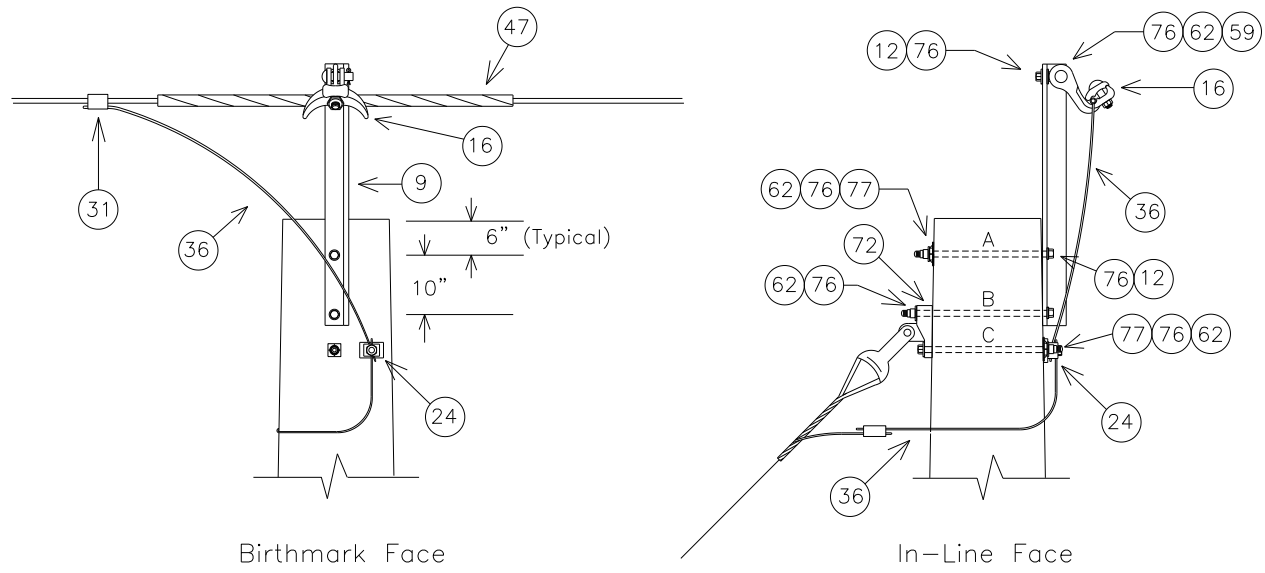
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1213 DRILLING DETAIL



## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

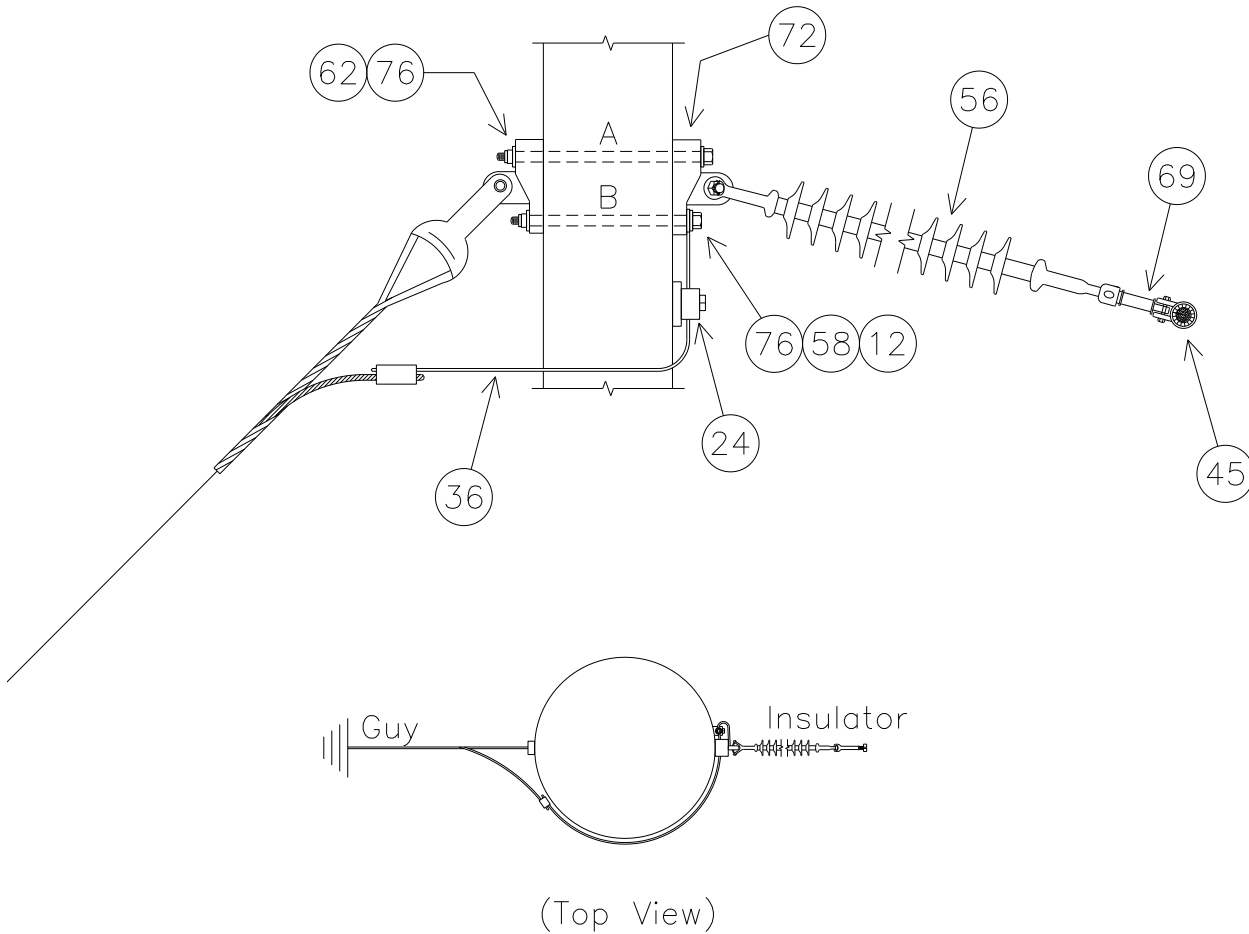
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSSSGGA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE SUSPENSION, SINGLE GRIP, GUYED, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSSSGGA3 PLATES

## ISSSSGGA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 007	3	SUSPENSION INSULATOR, SILICONE, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSSGGA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSSSGGA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSSSGGA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

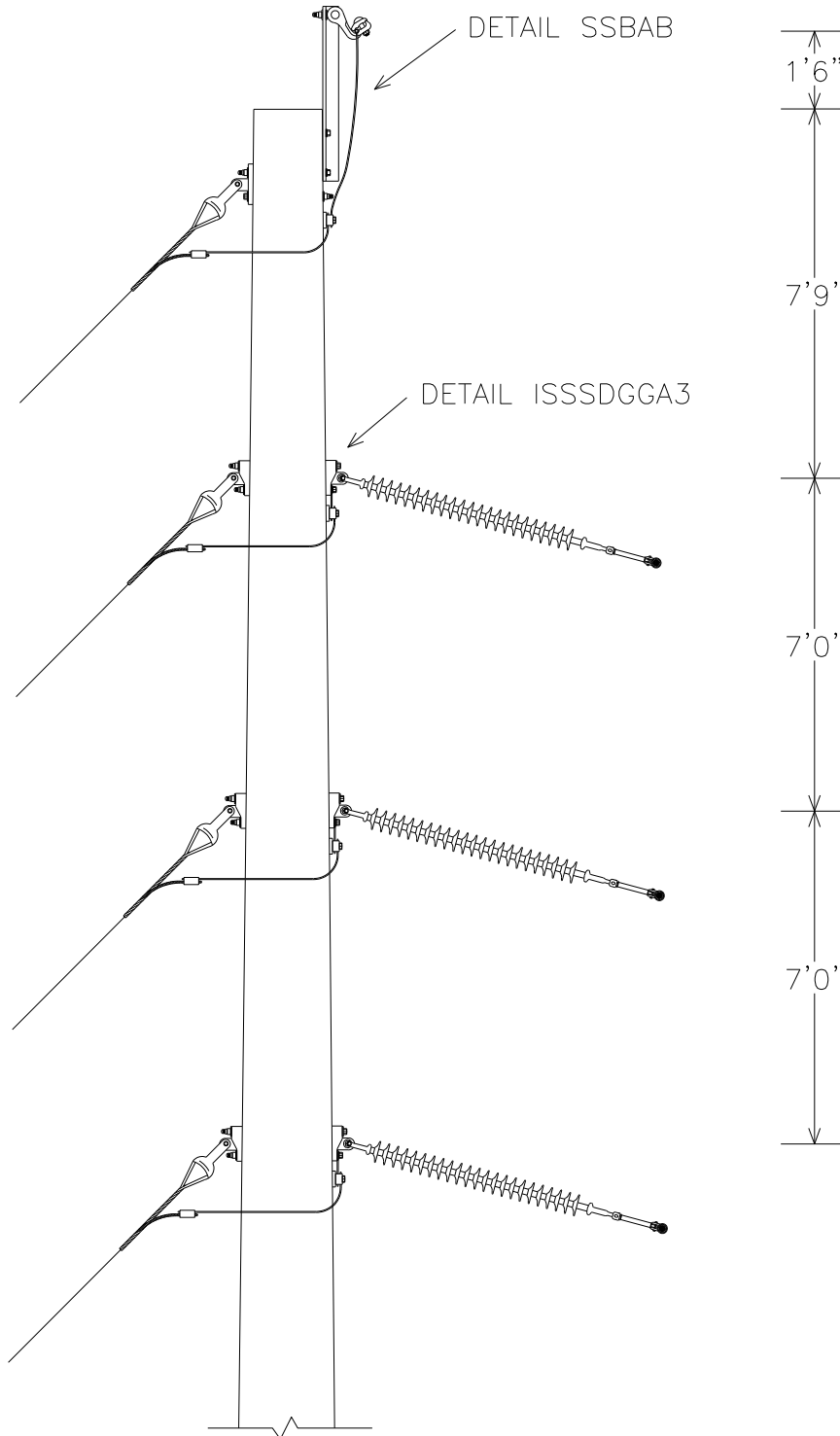
## ISSSSGGA3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.



# A1214

69KV, SINGLE SUSPENSION, DOUBLE GRIP, GUYED, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S, 1590



# A1214 PLATES

## A1214 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6"
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-5, L = 10", EYE = 3/4 THICK WITH 13/16 OPENING, H. D. G.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
56	INSSU 007	6	SUSPENSION INSULATOR, SILICON, Y-BALL COUPLING, 69KV, L = 43 INCHES, CLASS 52-5
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	7	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GALVANIZED, 15/16 HOLE DIA.

## A1214\*954A

12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

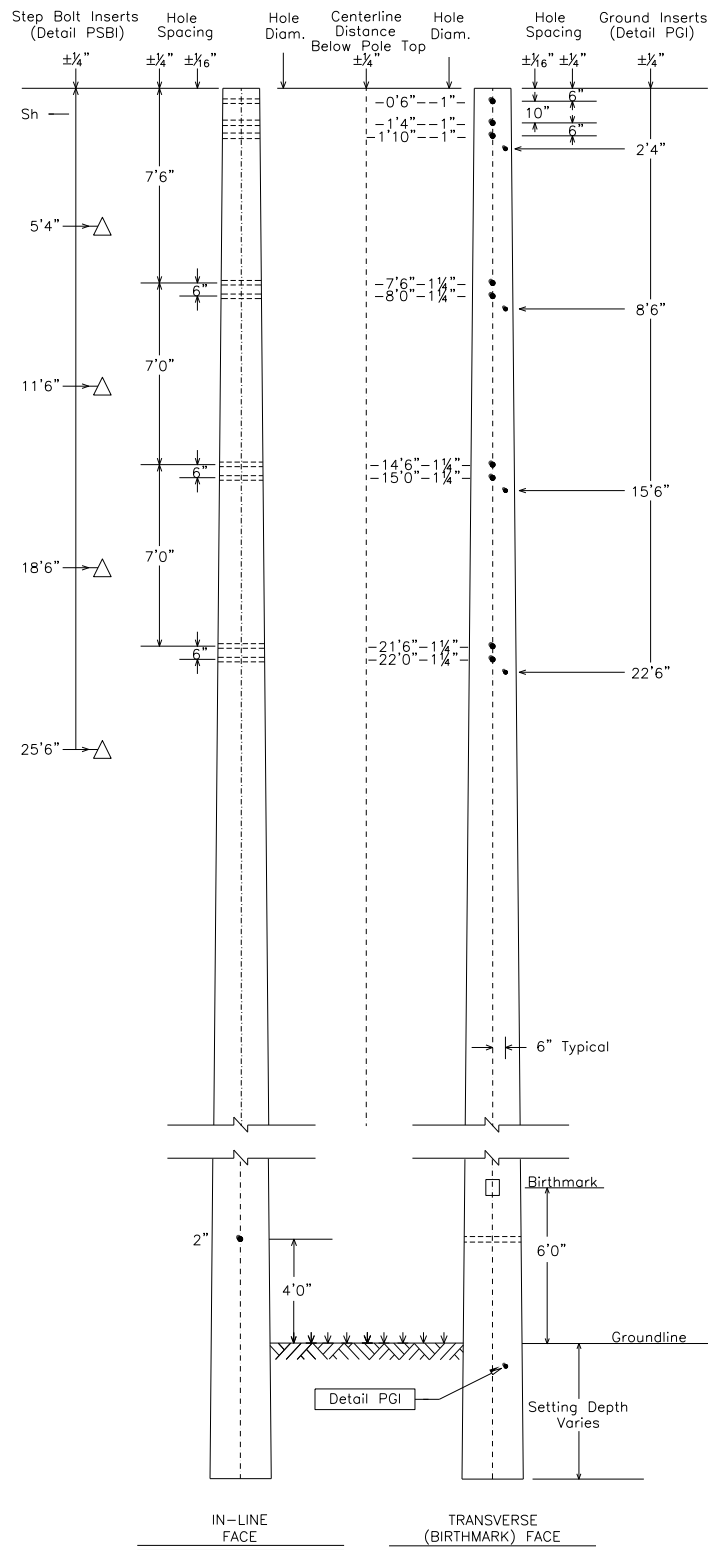
## A1214\*954S

12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1214\*1590

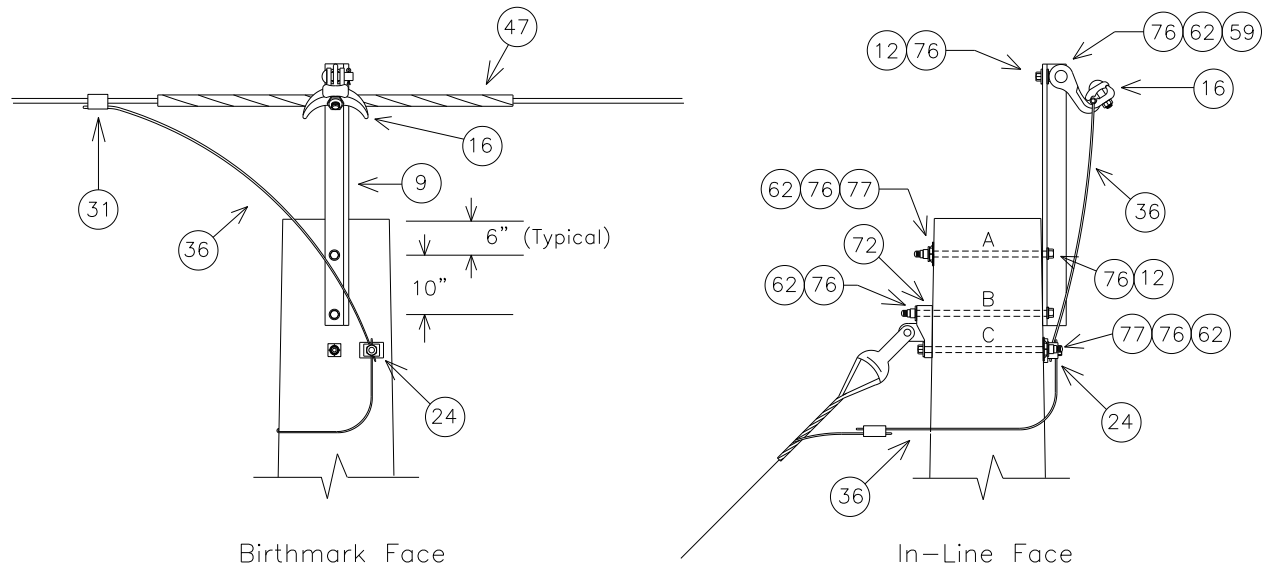
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# A1214 DRILLING DETAIL



## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

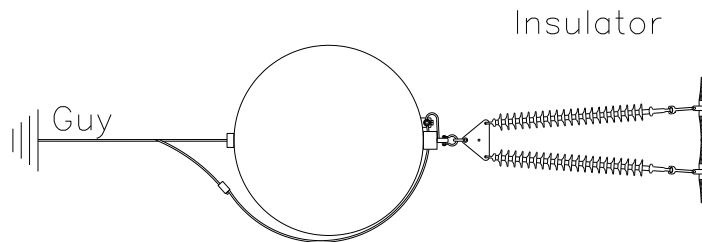
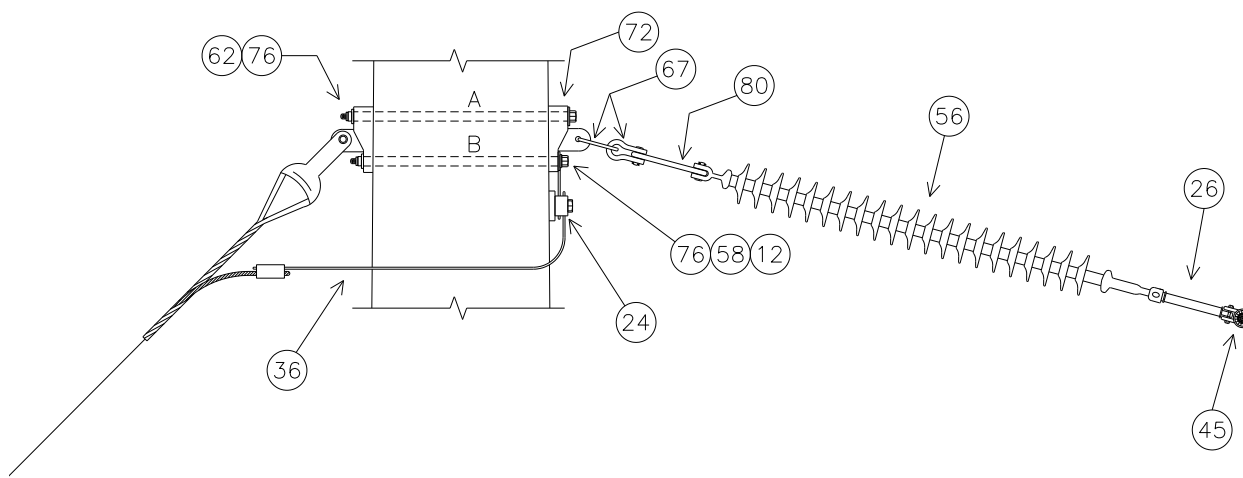
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSSDGGA3

INSULATOR FOR SPUN CONCRETE POLES  
 DOUBLE SUSPENSION, DOUBLE GRIP, GUYED, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSSDGGA3 PLATES

### ISSSDGGA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 007	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-3/5
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GALVANIZED, 15/16 HOLE DIA.

### ISSSDGGA3\*954A

12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISSSDGGA3\*954S

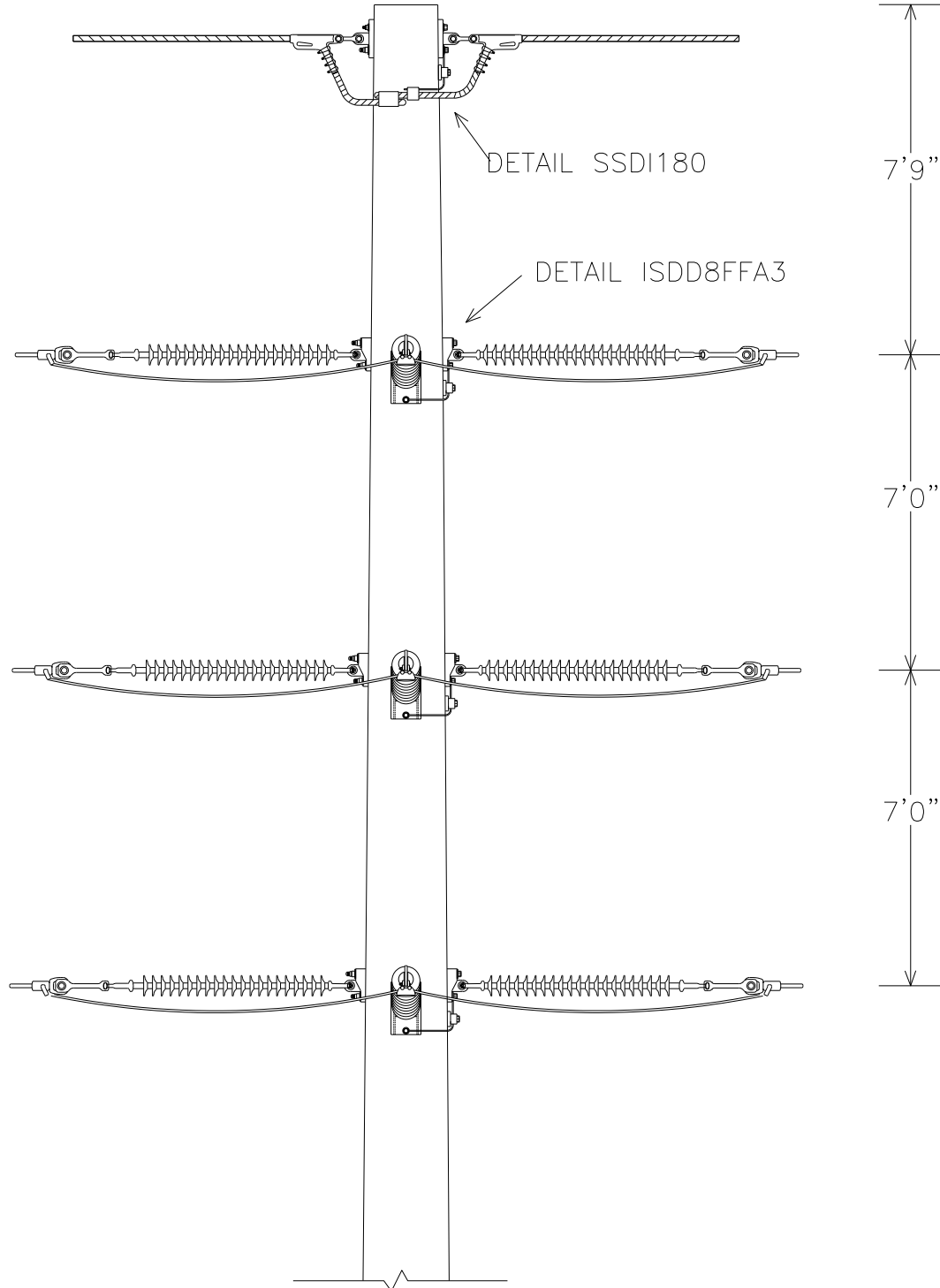
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISSSDGGA3\*1590

12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1241C

69KV, DOUBLE DEADEND 180°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S, 1590



# A1241C PLATES

## A1241C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST SILICONE INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## A1241C\*556S, 954S

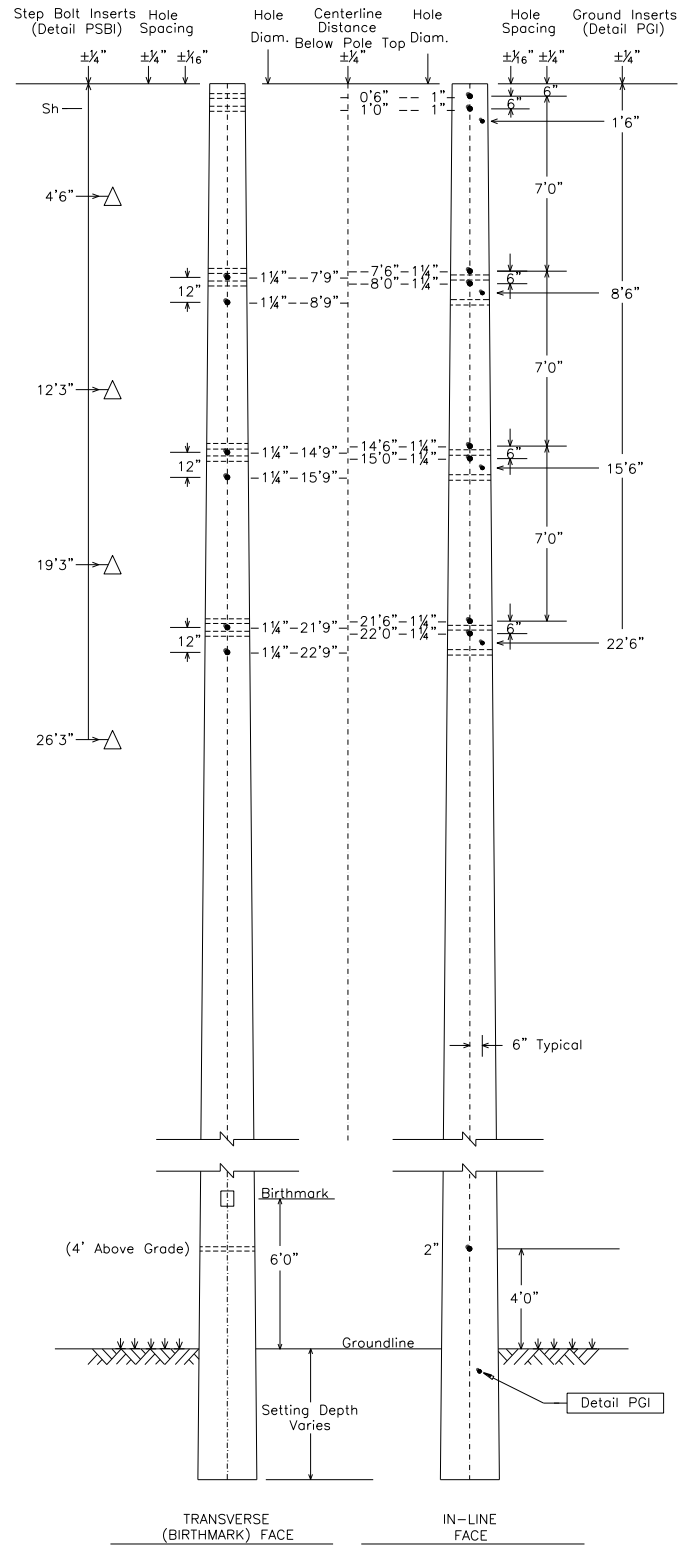
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20 (556S)	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
20 (954S)	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26 (556S)	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8, HOT DIPPED GALV.
26 (954S)	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42 (556S)	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
42 (954S)	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50 (556S)	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-3/5
50 (954S)	INSDU 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1241C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDU 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

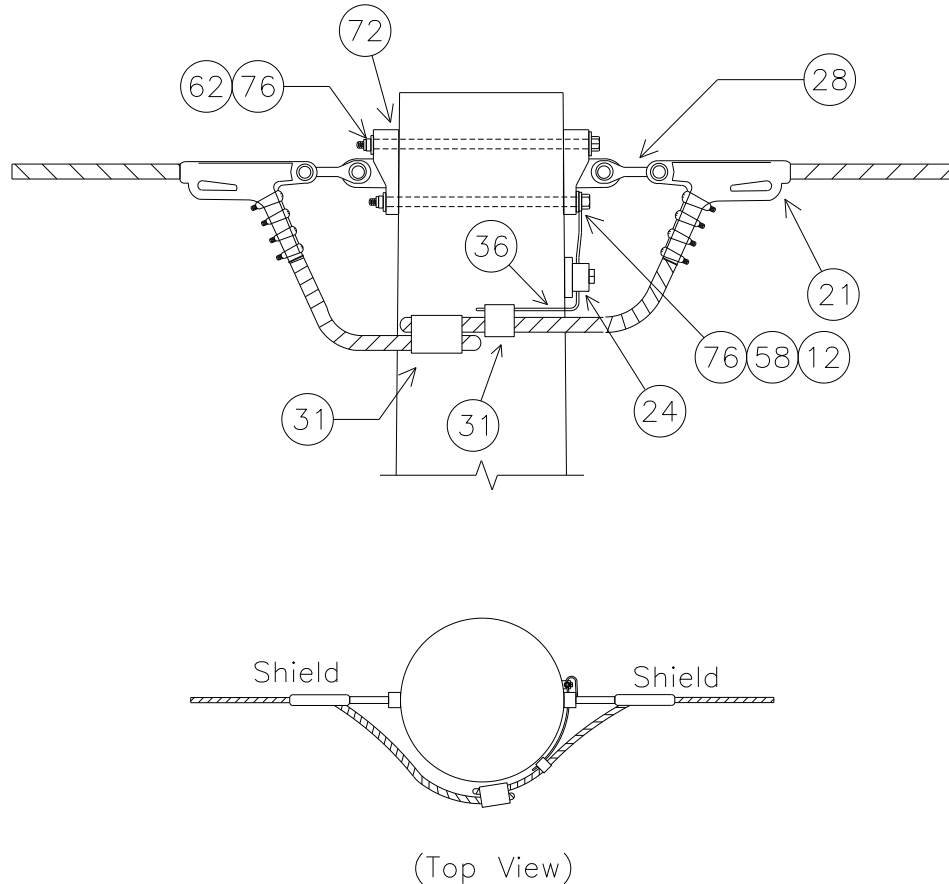


## A1241C DRILLING DETAIL



## SSDI180

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH	22.6
LOWER BOLT LENGTH	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

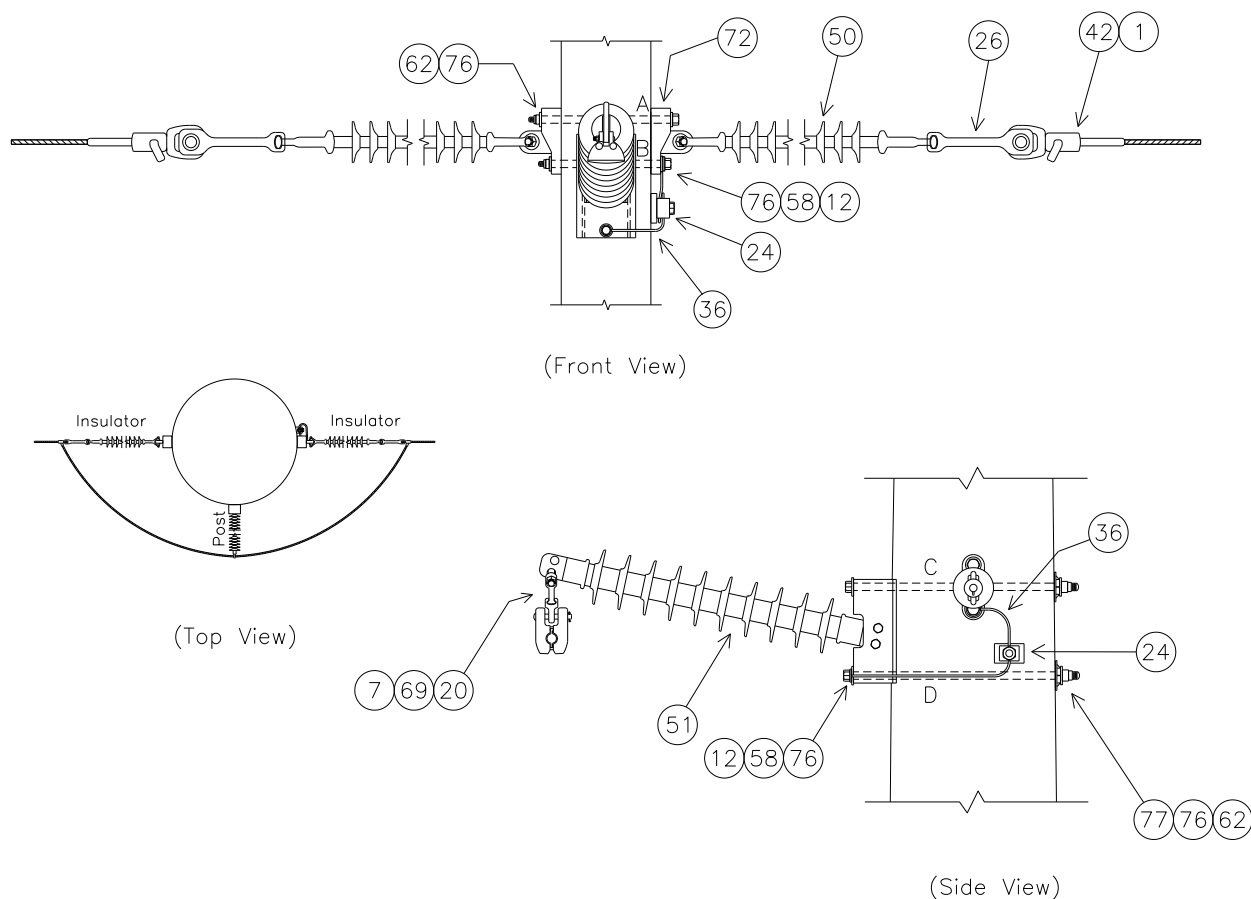
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD8FFA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.0	28.5	30.1
LOWER BOLT 'D' LENGTH (INCHES)	27.5	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD8FFA3 PLATES

## ISDD8FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD8FFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

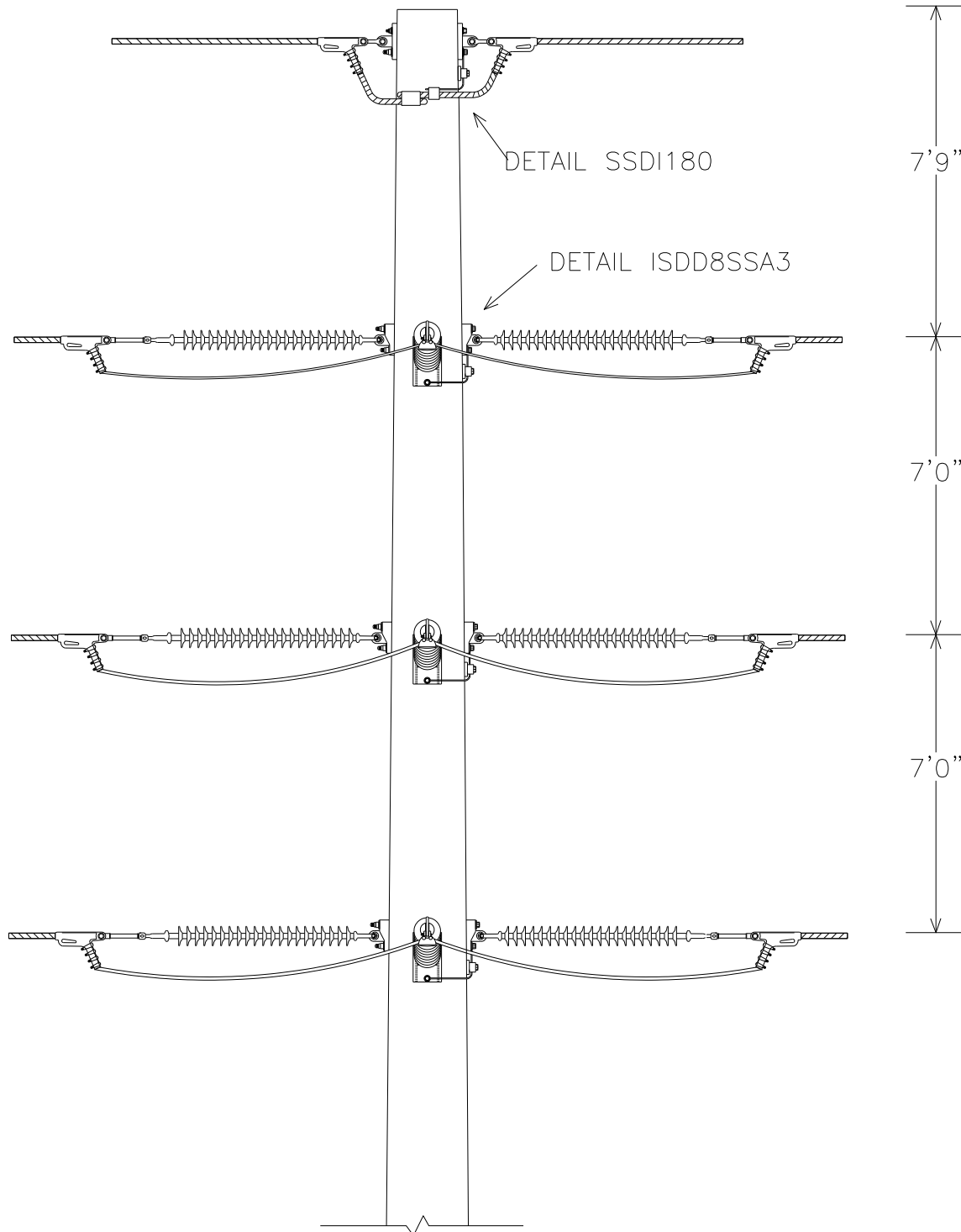
## ISDD8FFA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# A1241Q

69KV, DOUBLE DEADEND 180°, SLACK TENSION TO SLACK TENSION, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A1241Q PLATES

## A1241Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
51	INSH 020	3	HORIZONTAL POST SILICONE INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## A1241Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## A1241Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 006	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 AAC
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC, COMPRESSION SPLICE, NON-TENSION ONLY

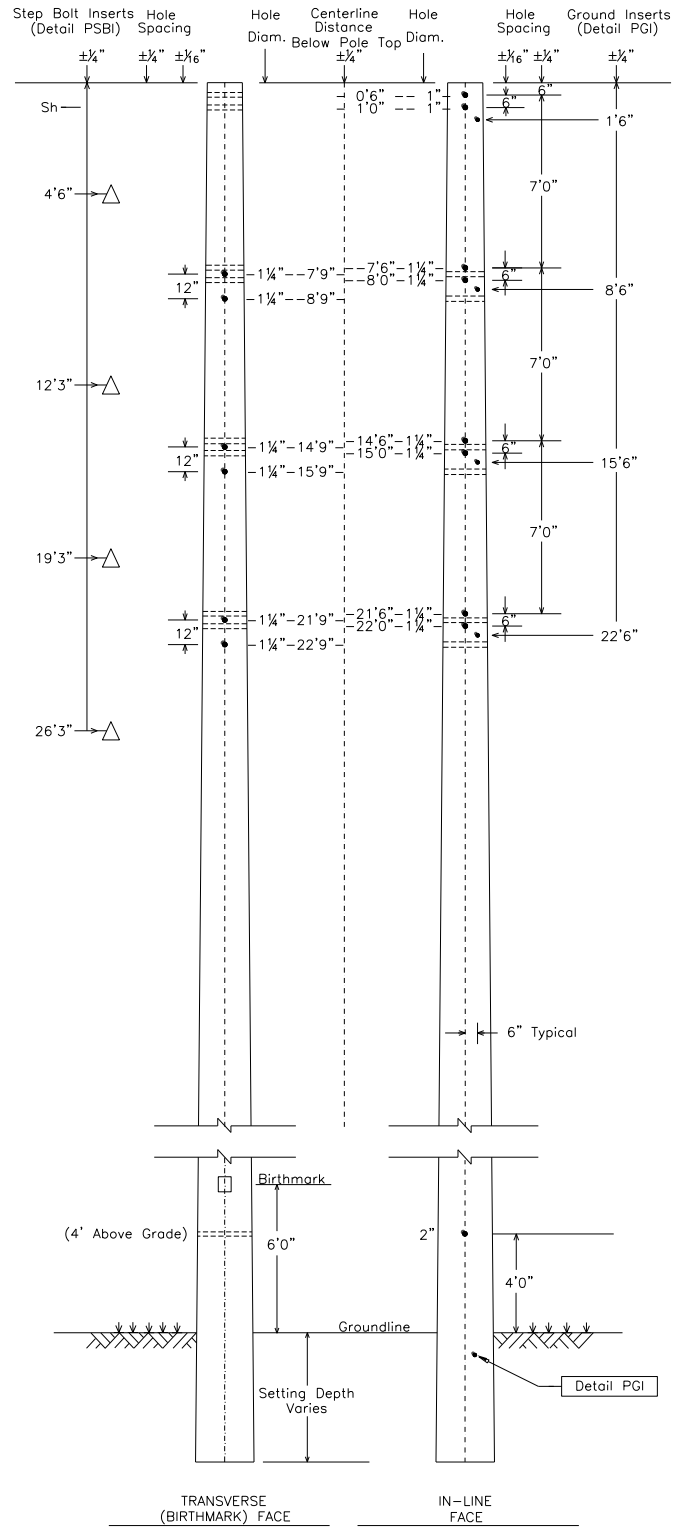
## A1241Q\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 965 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## A1241Q\*1590

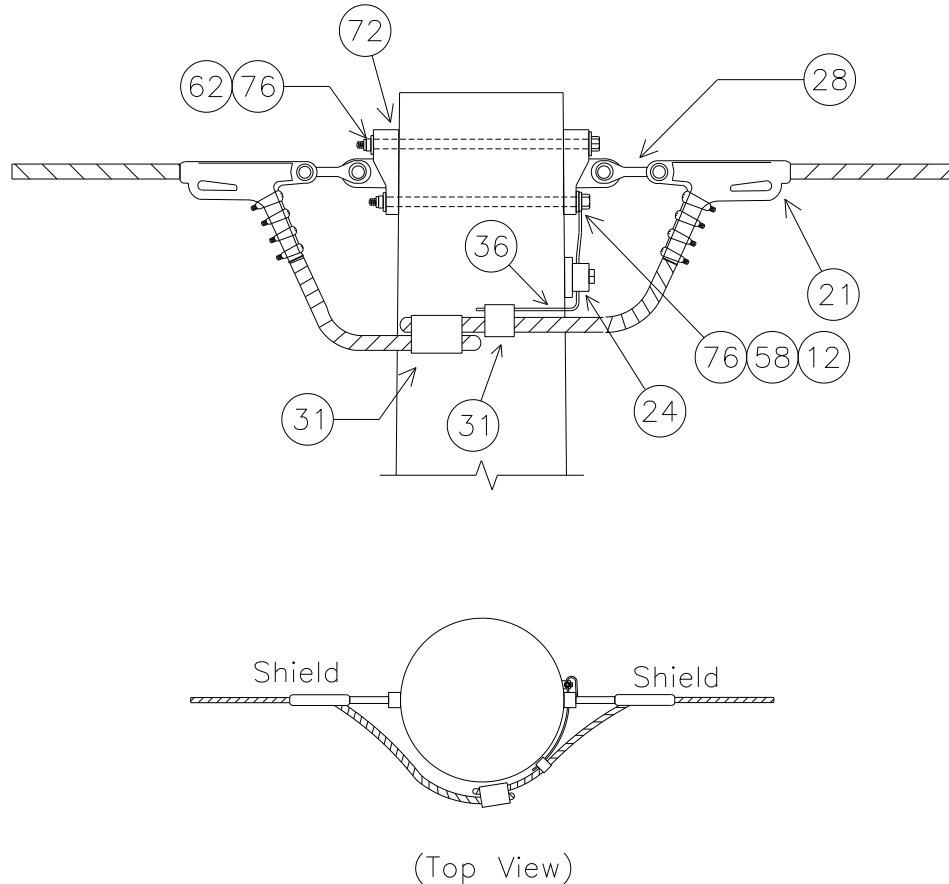
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## A1241Q DRILLING DETAIL



## SSDI180

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH	22.6
LOWER BOLT LENGTH	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

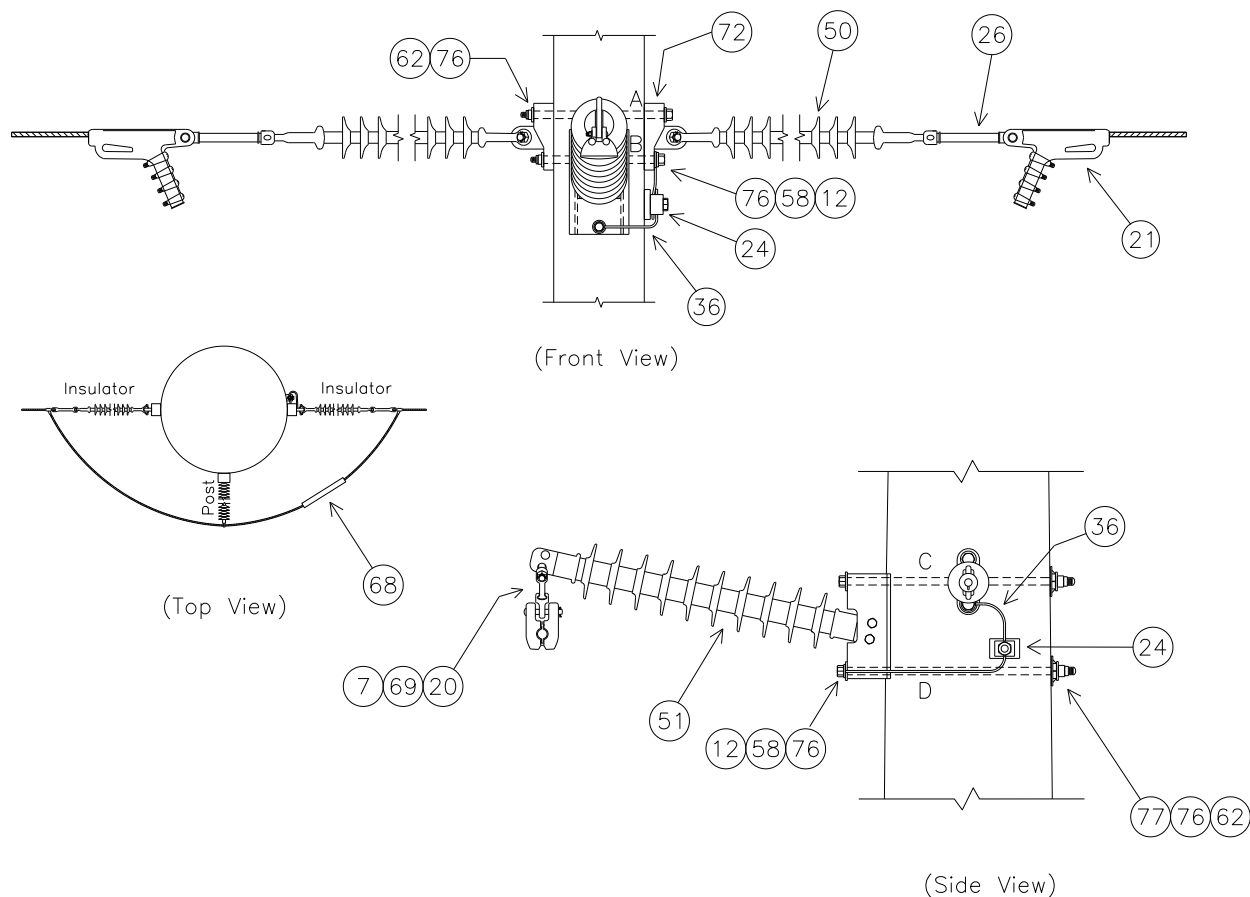


## ISDD8SSA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.0	28.5	30.1
LOWER BOLT 'D' LENGTH (INCHES)	27.5	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD8SSA3 PLATES

## ISDD8SSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8SSA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSA3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 006	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 AAC
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSA3\*954S

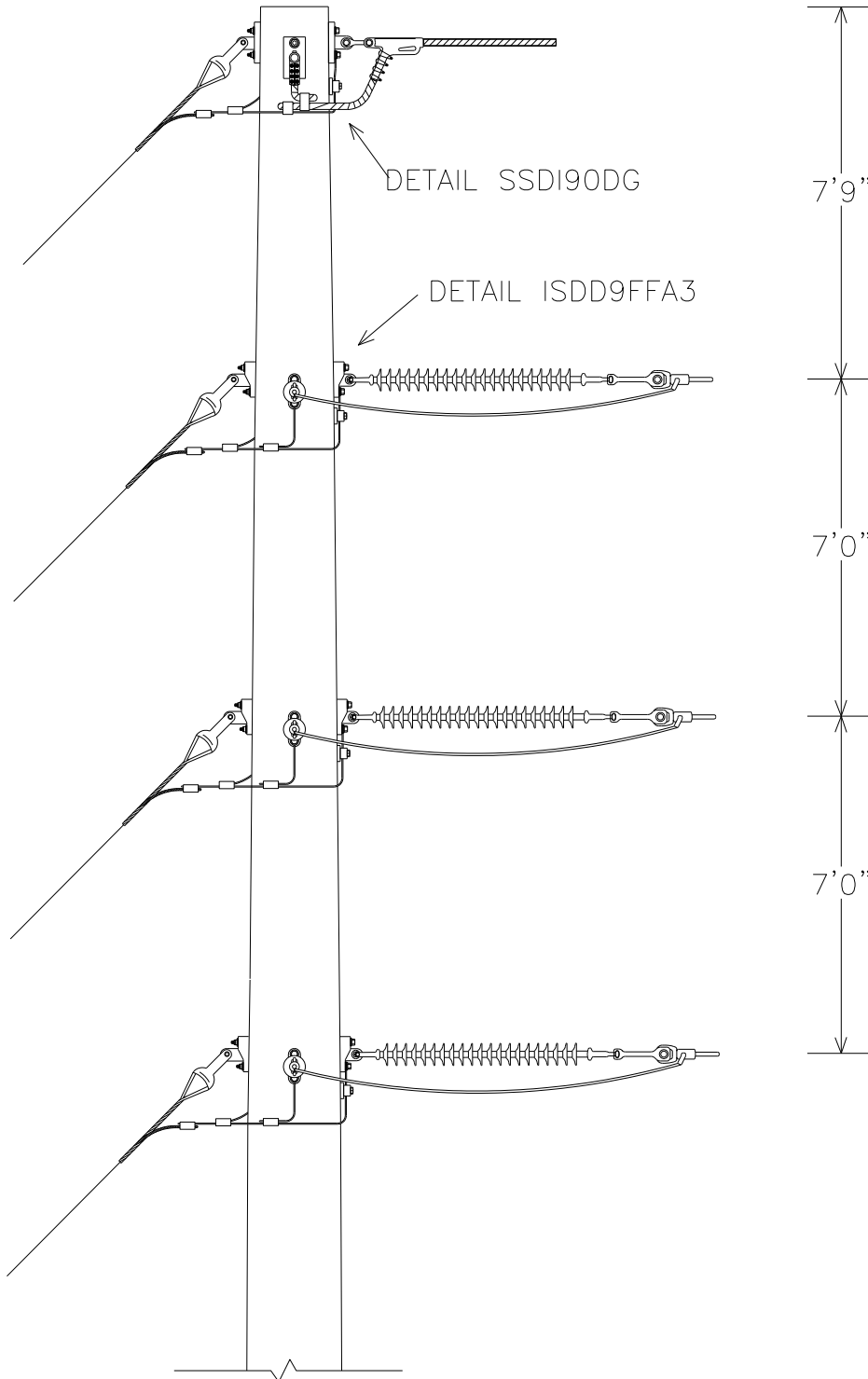
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## A1244C

69KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S, 1590



# A1244C PLATES

## A1244C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	33 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	16	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## A1244C\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSDE 004	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-3/5
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

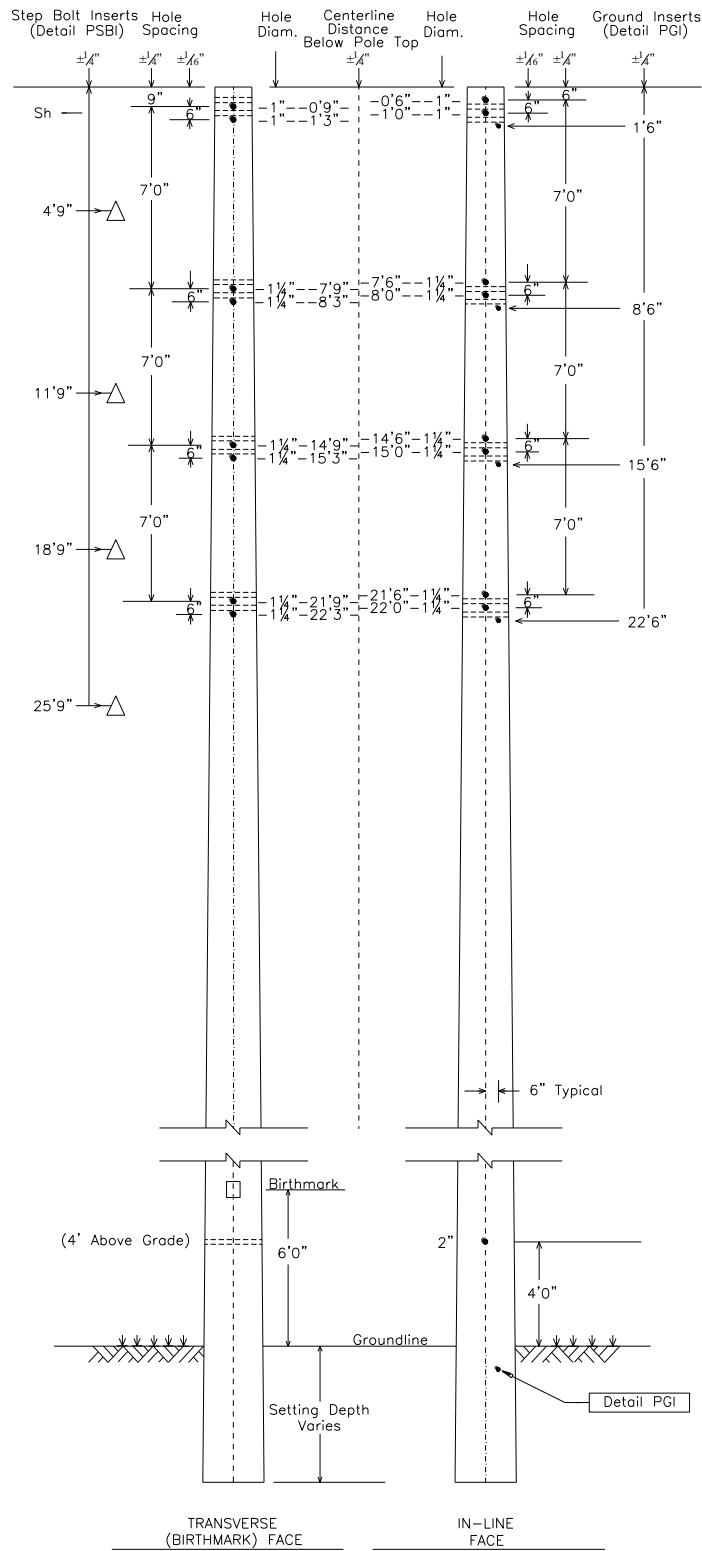
## A1244C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1244C\*1590

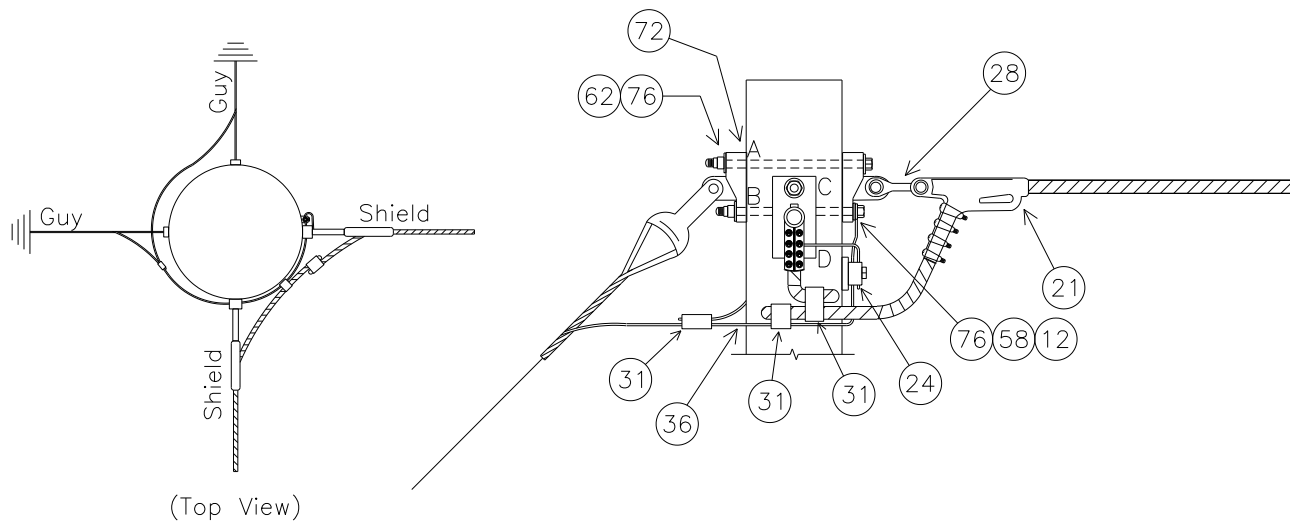
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	8	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# A1244C DRILLING DETAIL



## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

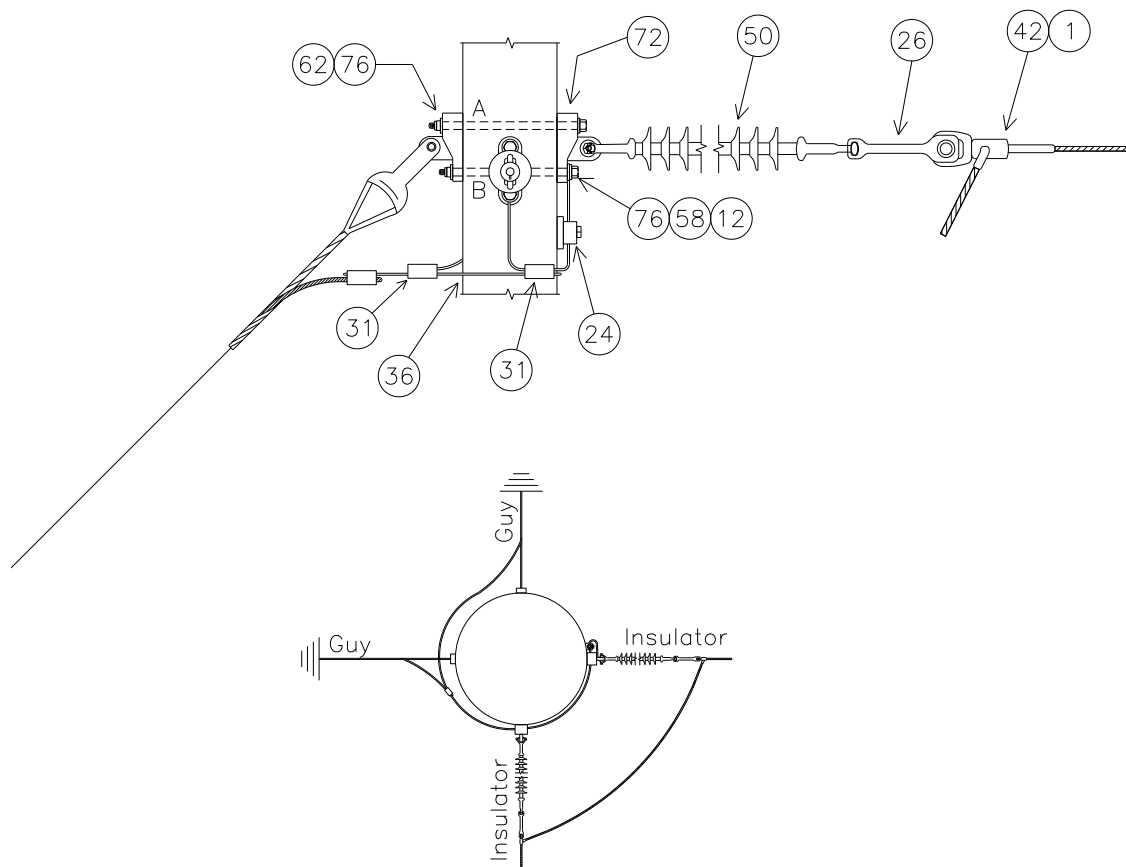
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD9FFA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT (A) LENGTH (INCHES)	24.3	25.8	27.3	24.4	25.9	27.4
LOWER BOLT (B) LENGTH (INCHES)	22.7	24.2	25.7	22.7	24.2	25.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FFA3 PLATES

## ISDD9FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	27 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

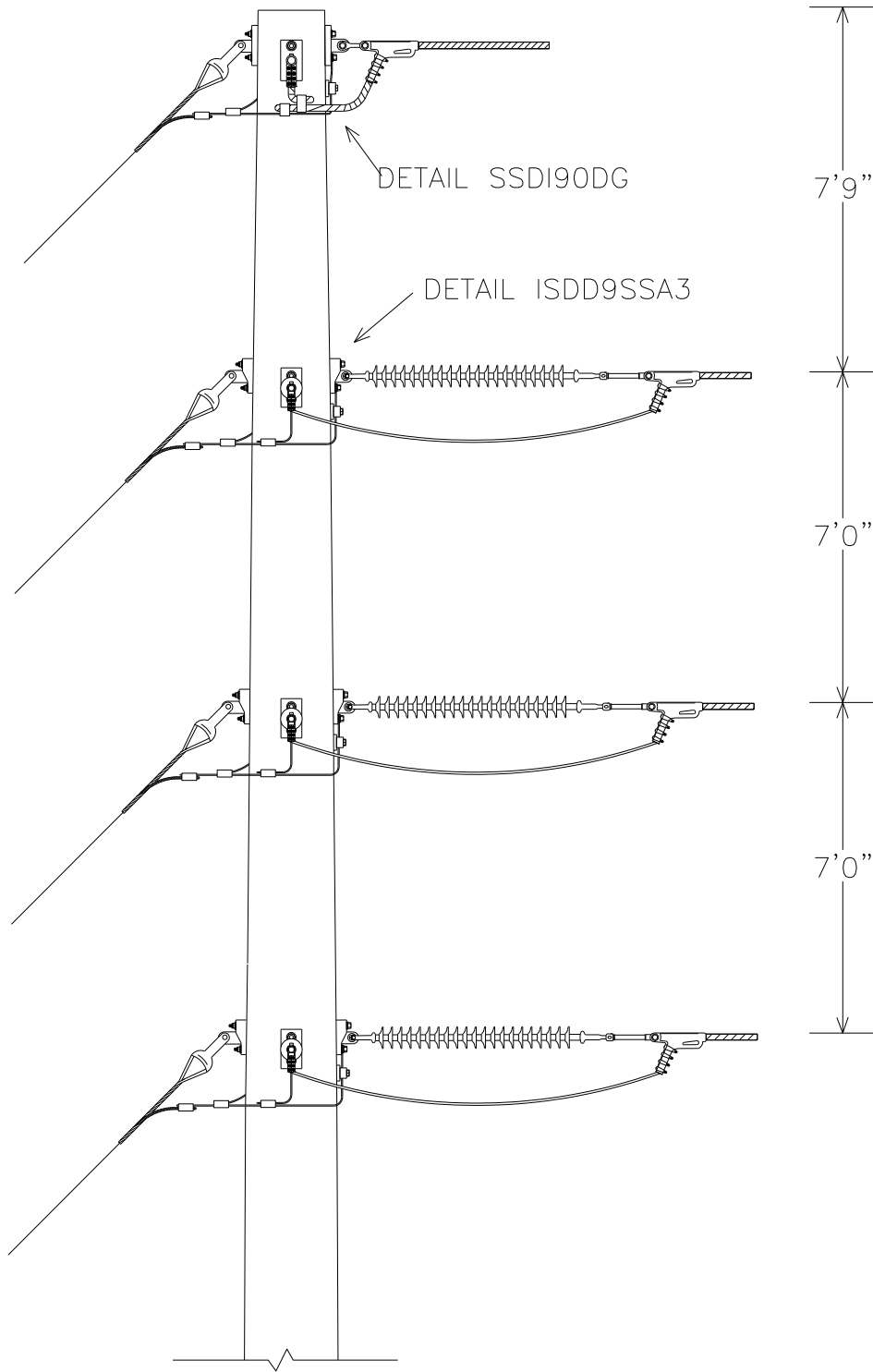
## ISDD9FFA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	8	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



## A1244Q

69KV, DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A1244Q PLATES

## A1244Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	16	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1244Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## A1244Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

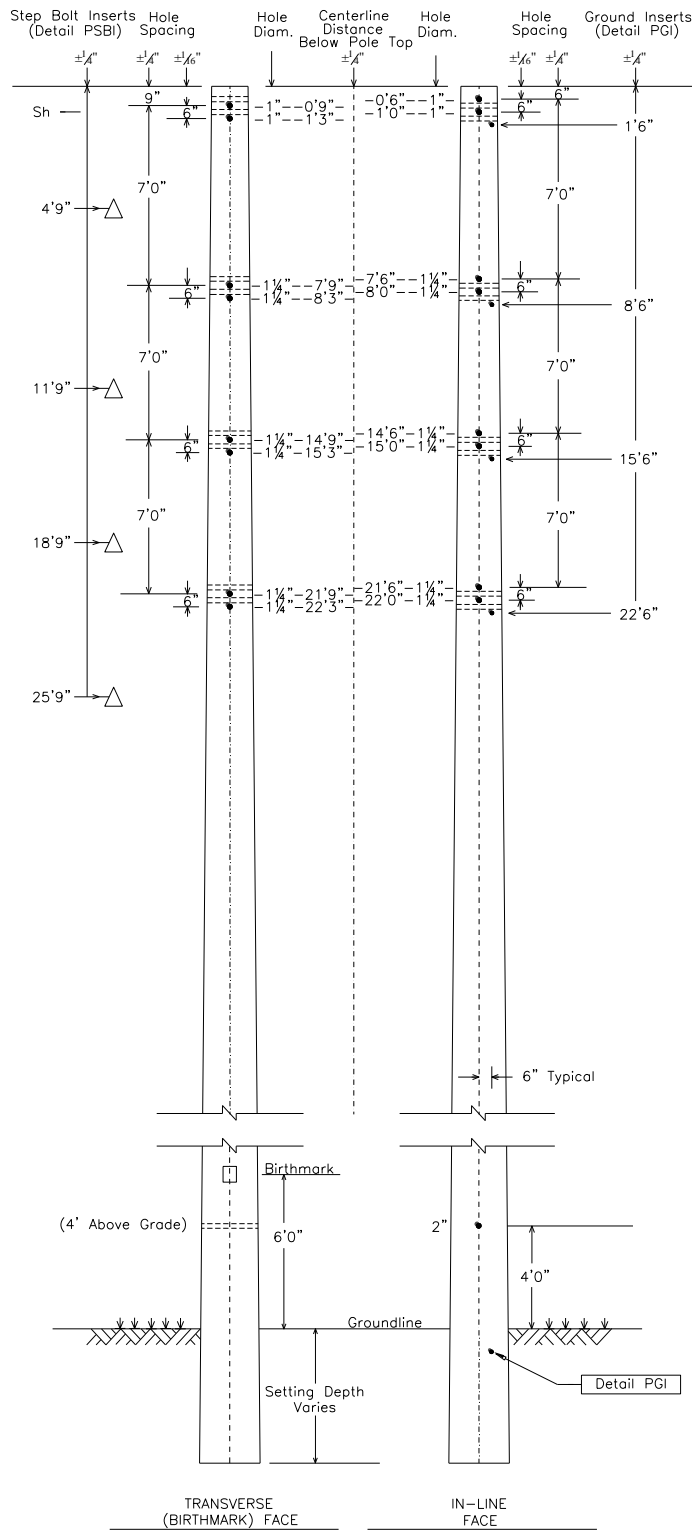
## A1244Q\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## A1244Q\*1590

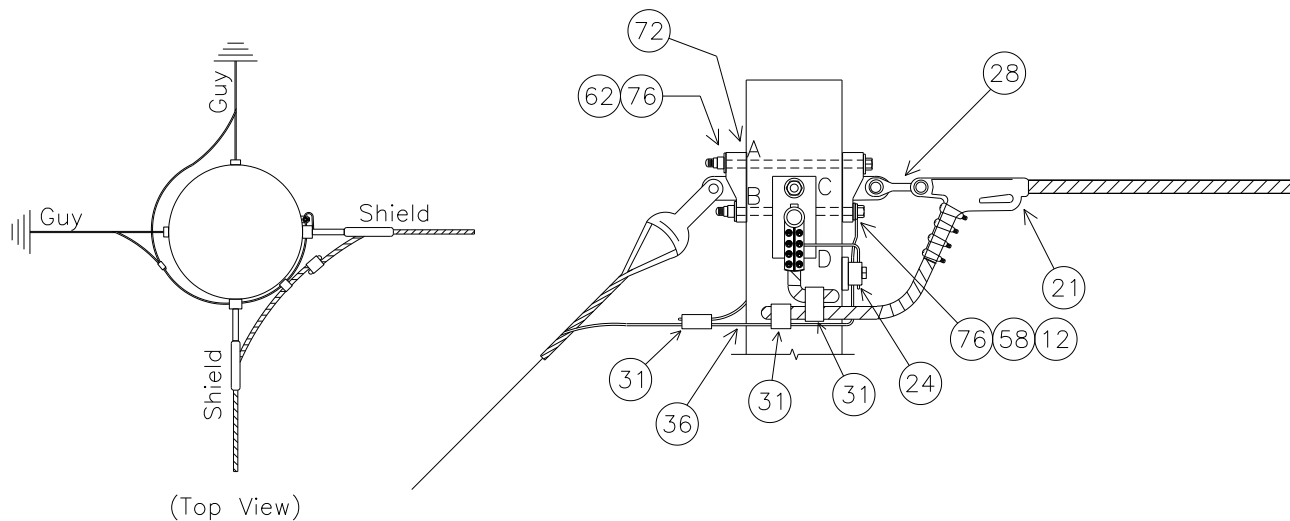
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## A1244Q DRILLING DETAIL



## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

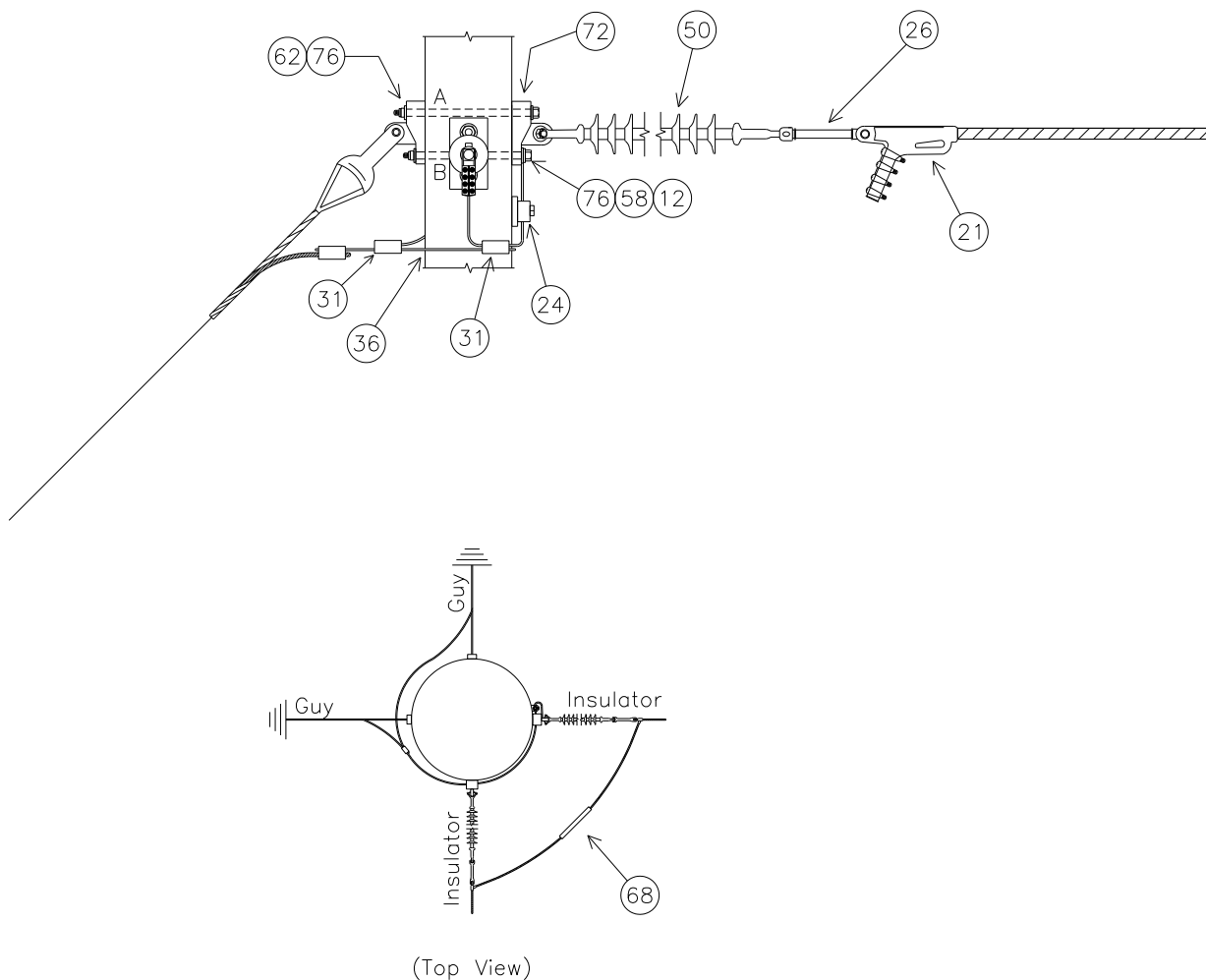
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD9SSA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6	22.7	24.2	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9SSA3 PLATES

## ISDD9SSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9SSA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSA3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

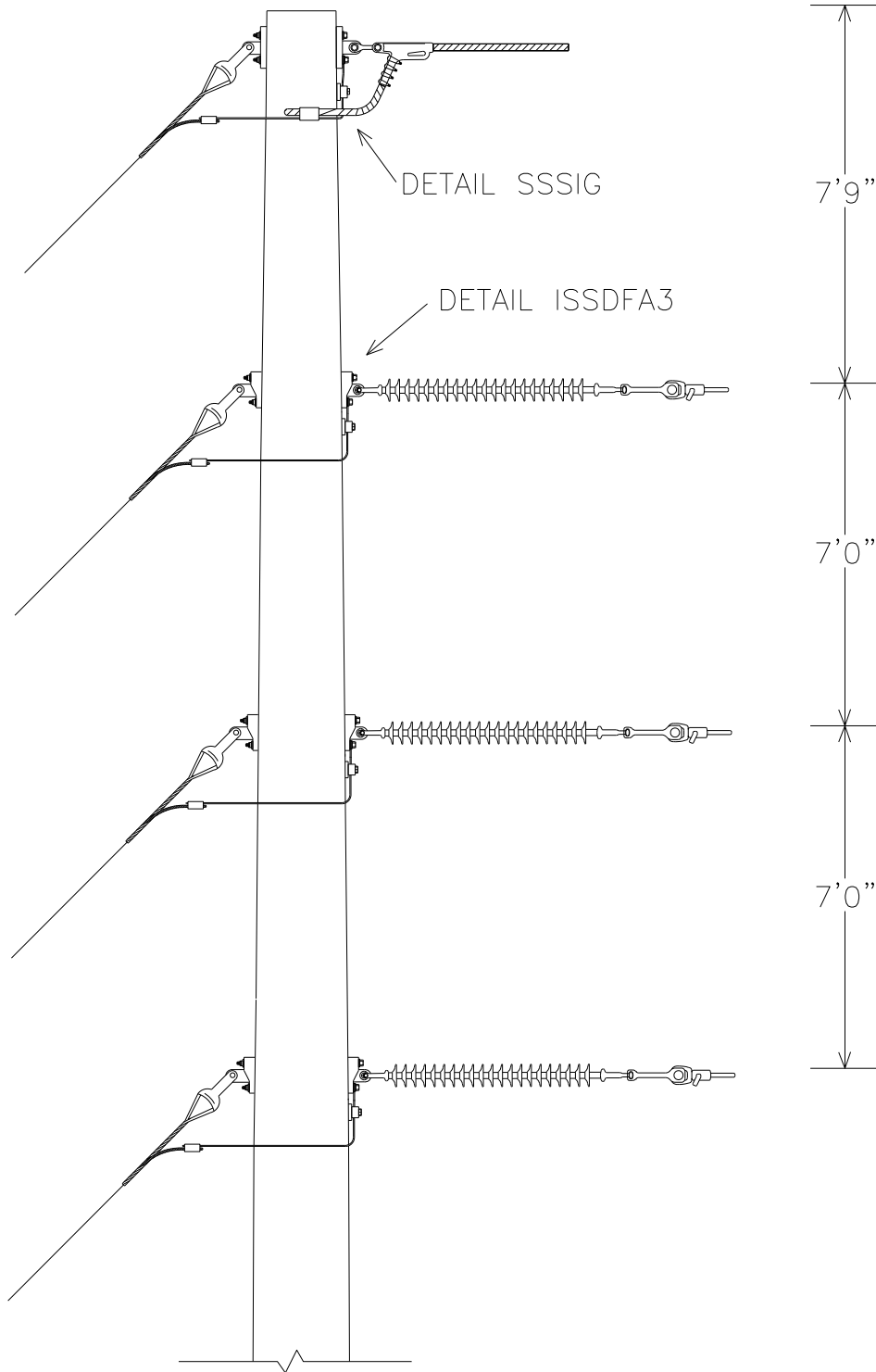
## ISDD9SSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## A1245C

69KV, SINGLE DEADEND, FULL TENSION, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



# A1245C PLATES

## A1245C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## A1245C\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1245C\*954S

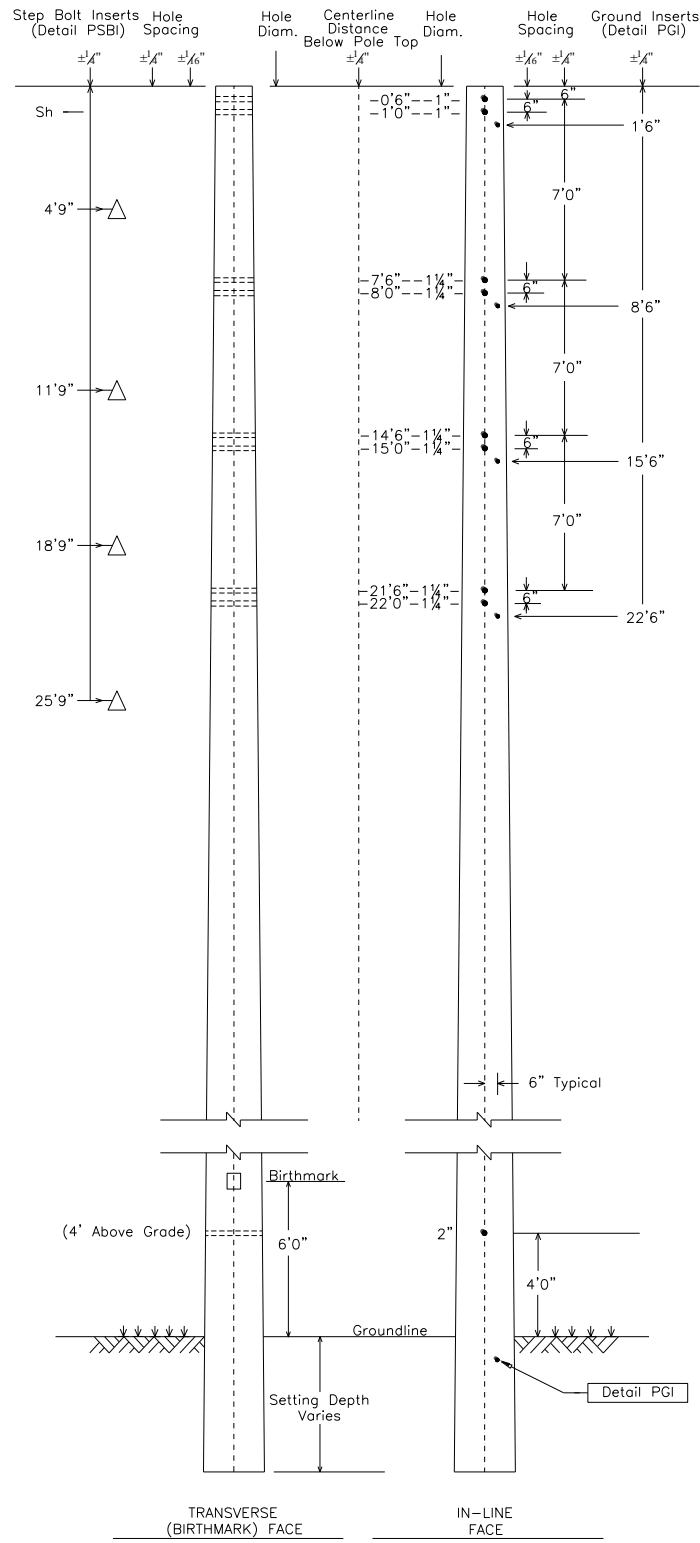
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1245C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

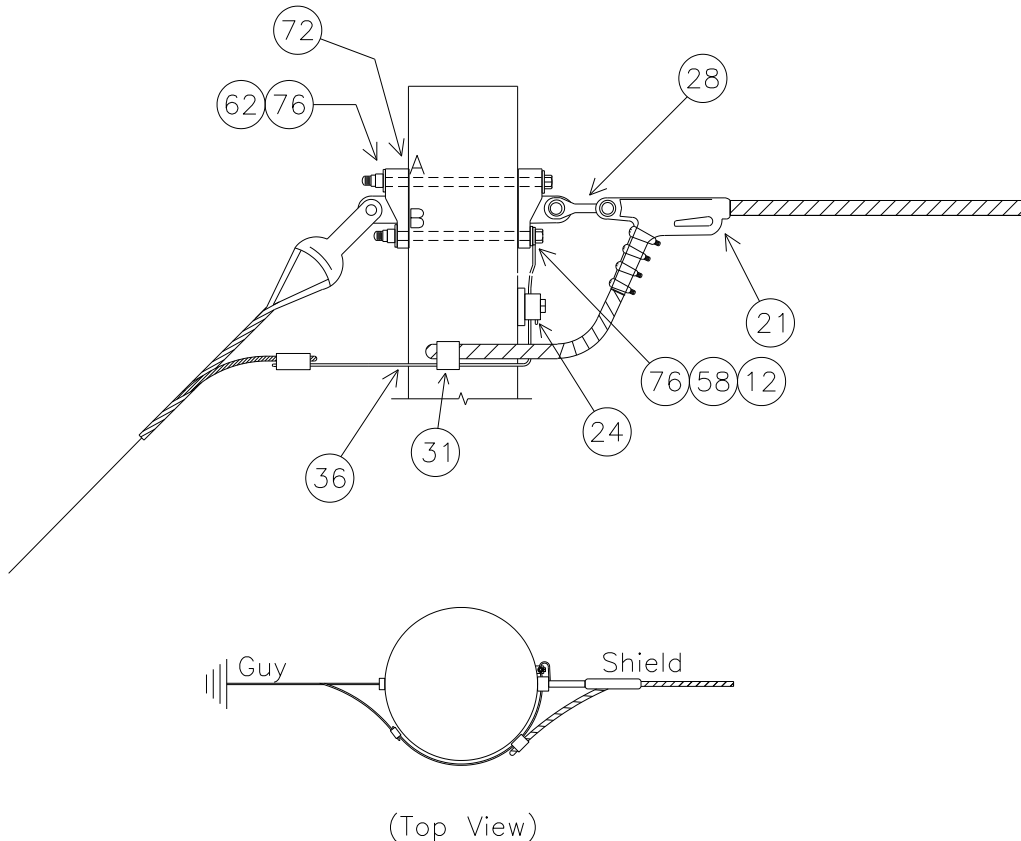


## A1245C DRILLING DETAIL



# SSSIG

SHIELD FOR SPUN CONCRETE POLES  
SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

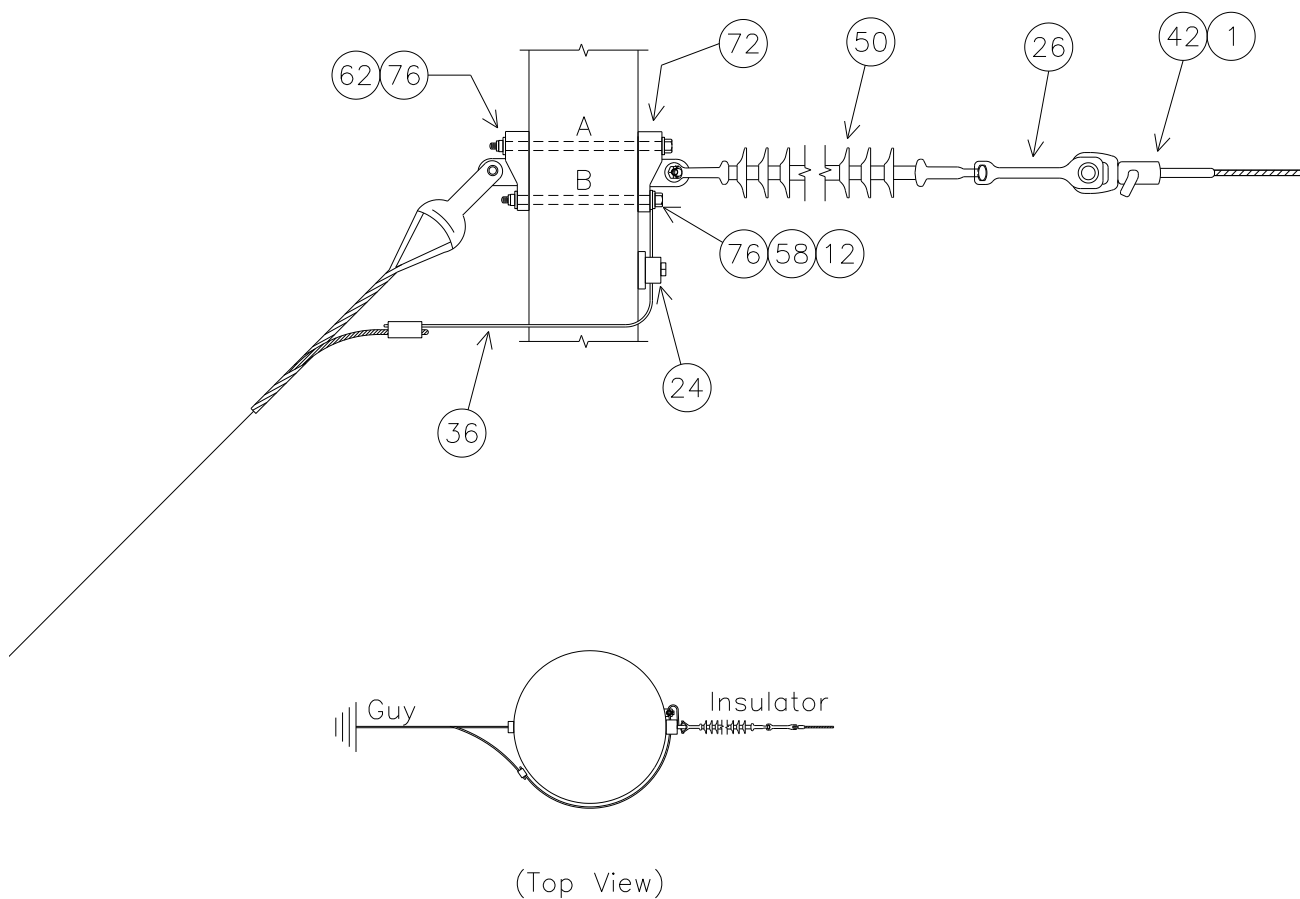
BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDFA3

INSULATOR FOR SPUN CONCRETE POLES  
SINGLE DEAD-END, FULL TENSION, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFA3 PLATES

## ISSDFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISSDFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

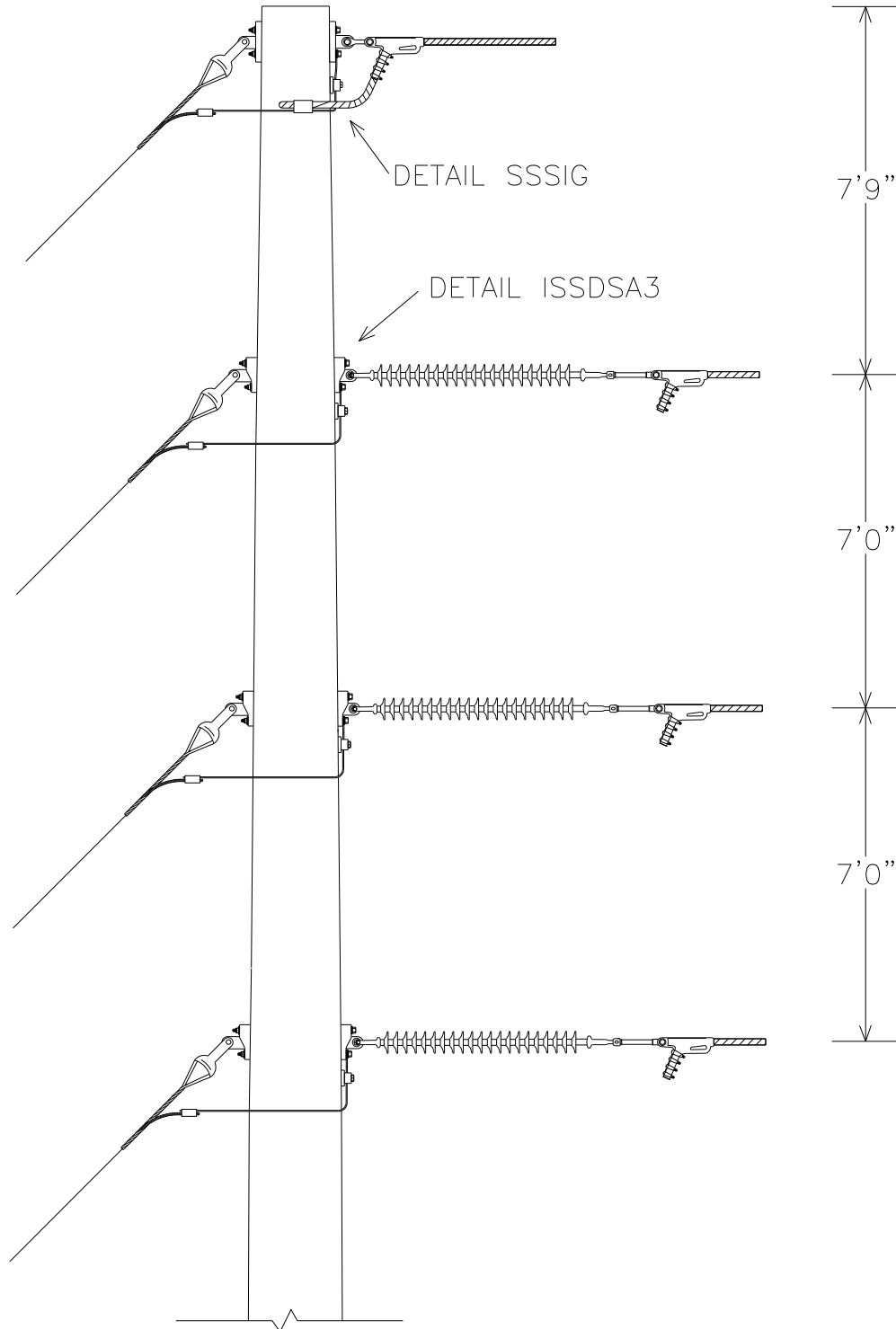
## ISSDFA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# A1245Q

69KV, SINGLE DEADEND, SLACK TENSION, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A1245Q PLATES

## A1245Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

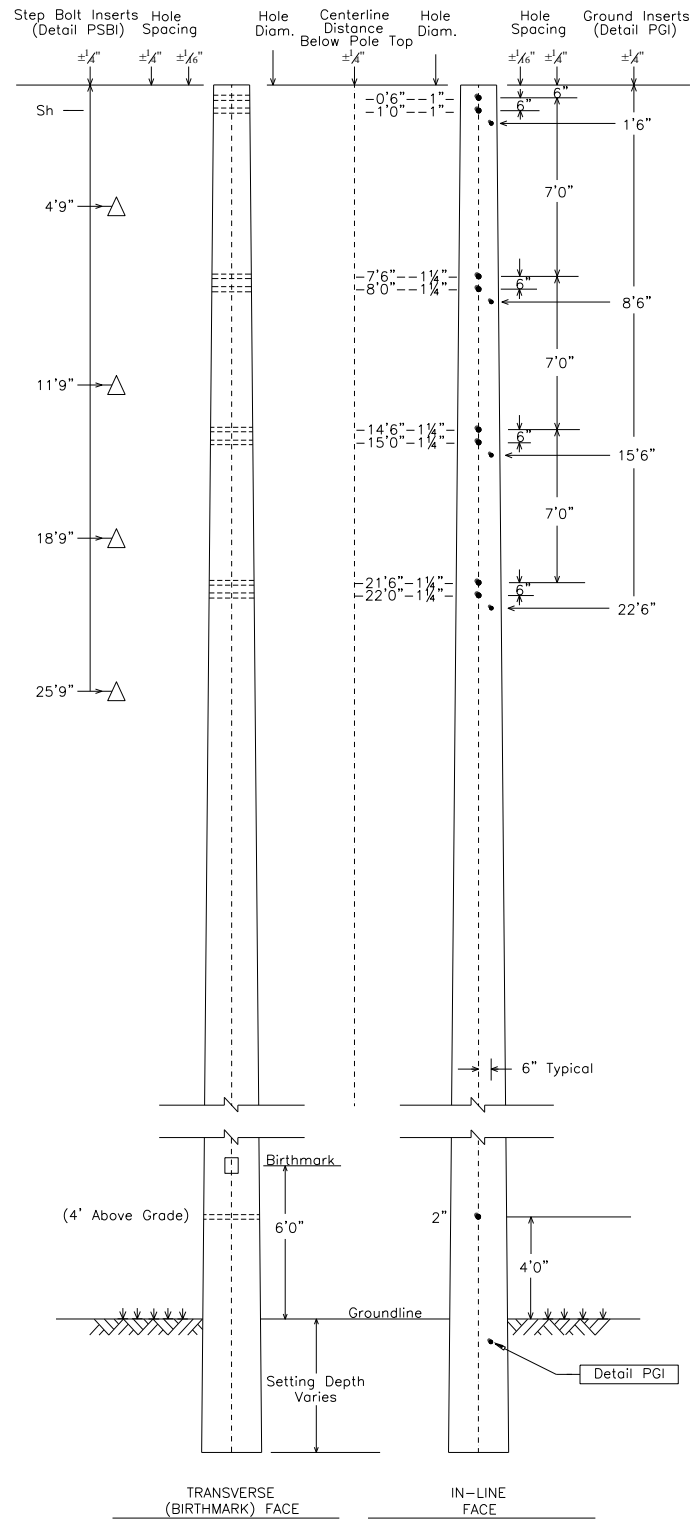
## A1245Q\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## A1245Q\*1590

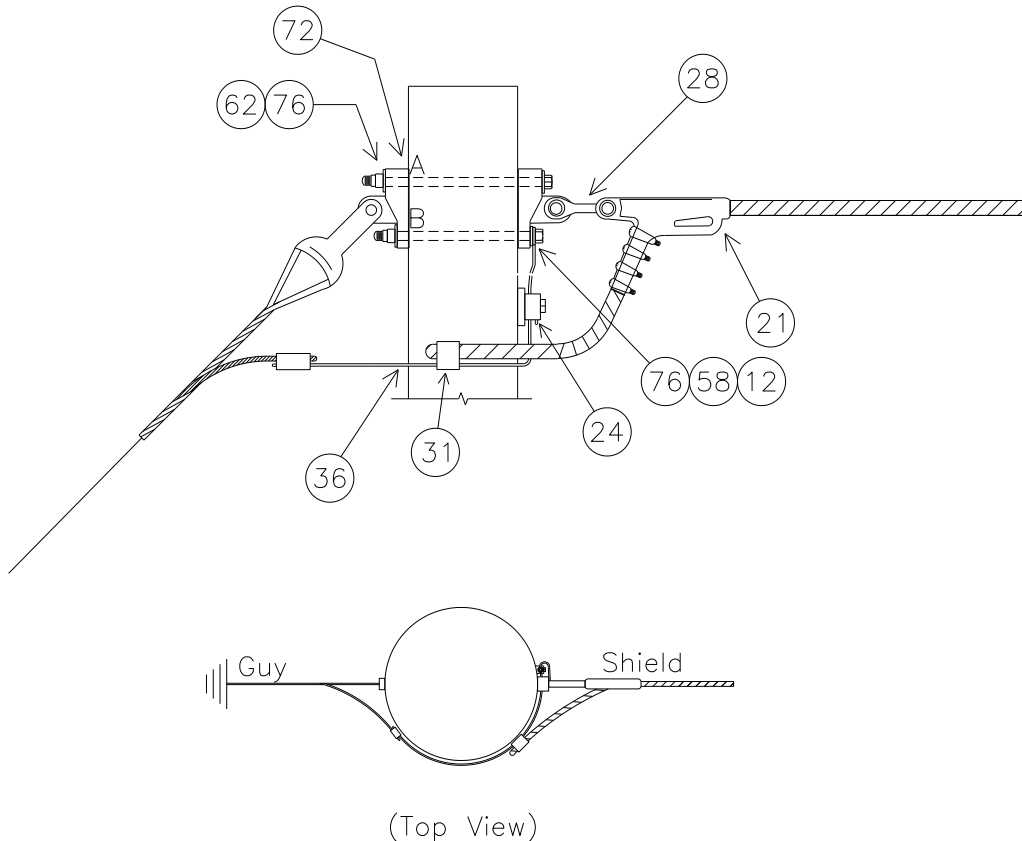
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

## A1245Q DRILLING DETAIL



## SSSIG

SHIELD FOR SPUN CONCRETE POLES  
SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

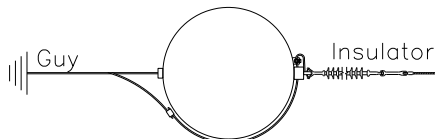
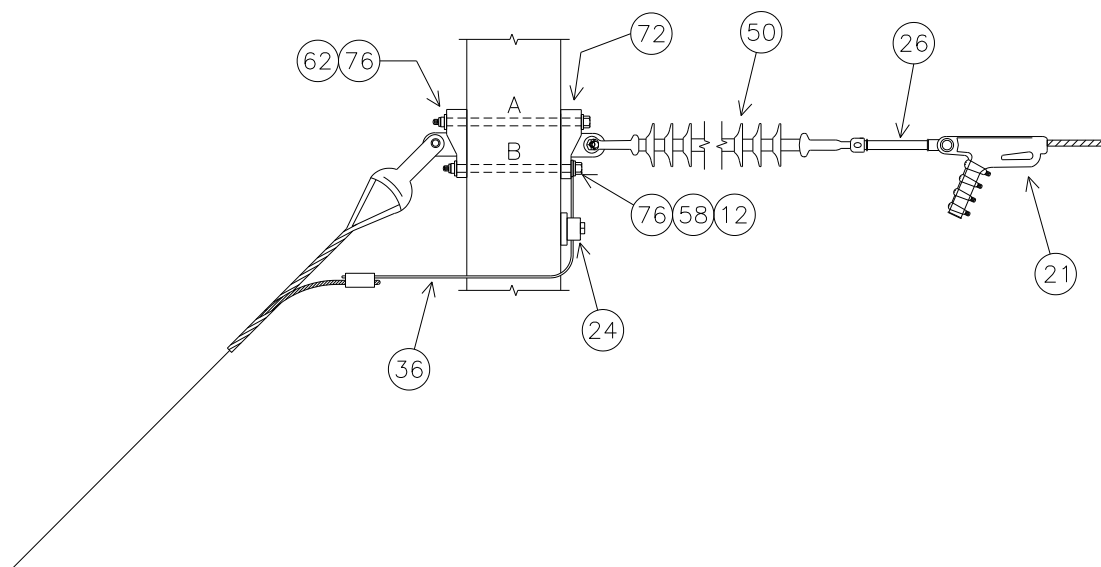
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED



## ISSDSA3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END SLACK TENSION, 69KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDSA3 PLATES

## ISSDSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDSA3\*556S, 954A, 954S

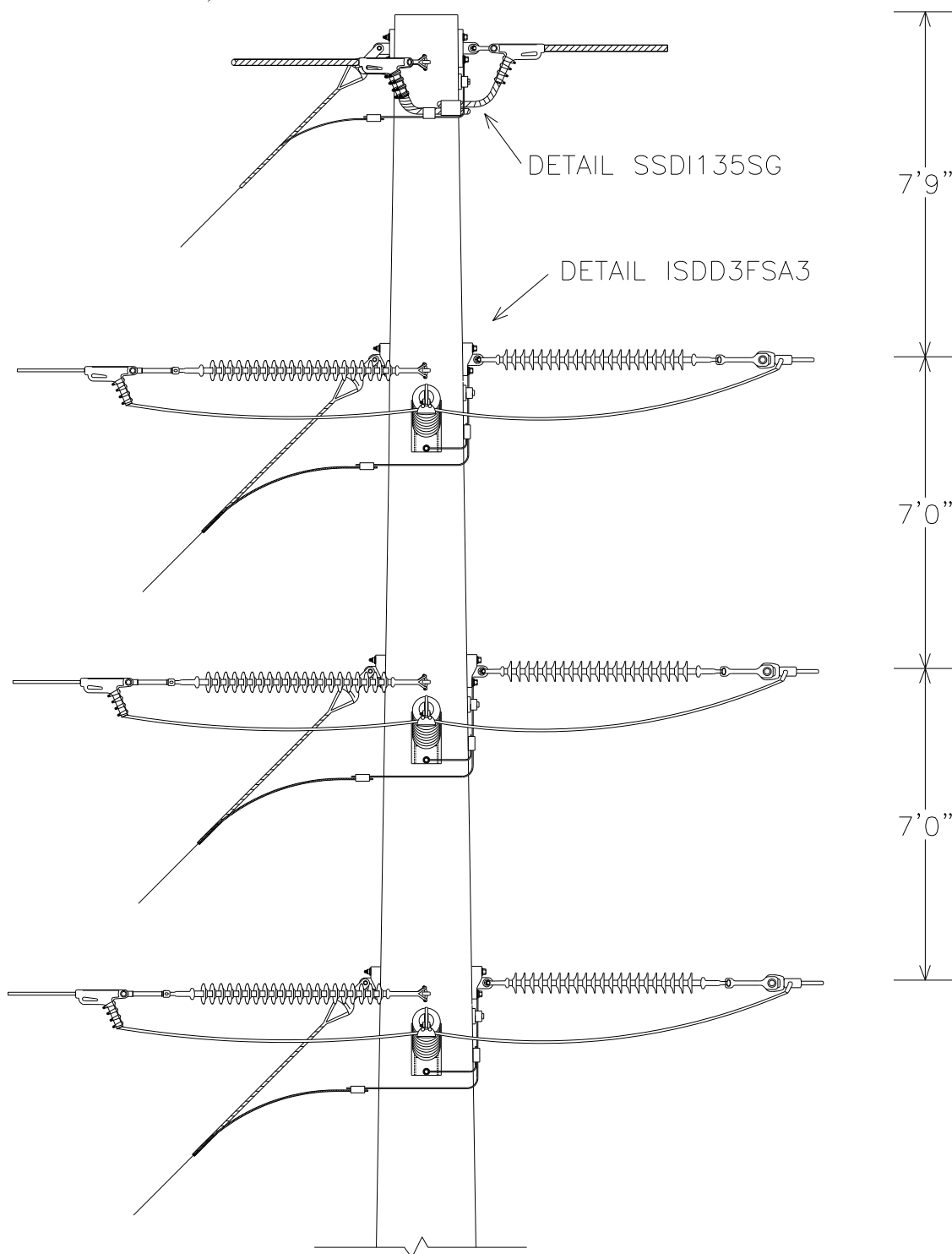
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## ISSDSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# A12462

69KV, DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590





## Overhead Transmission Standards

### A12462 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	2	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90-DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST SILICONE INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	10	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	16	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	14	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

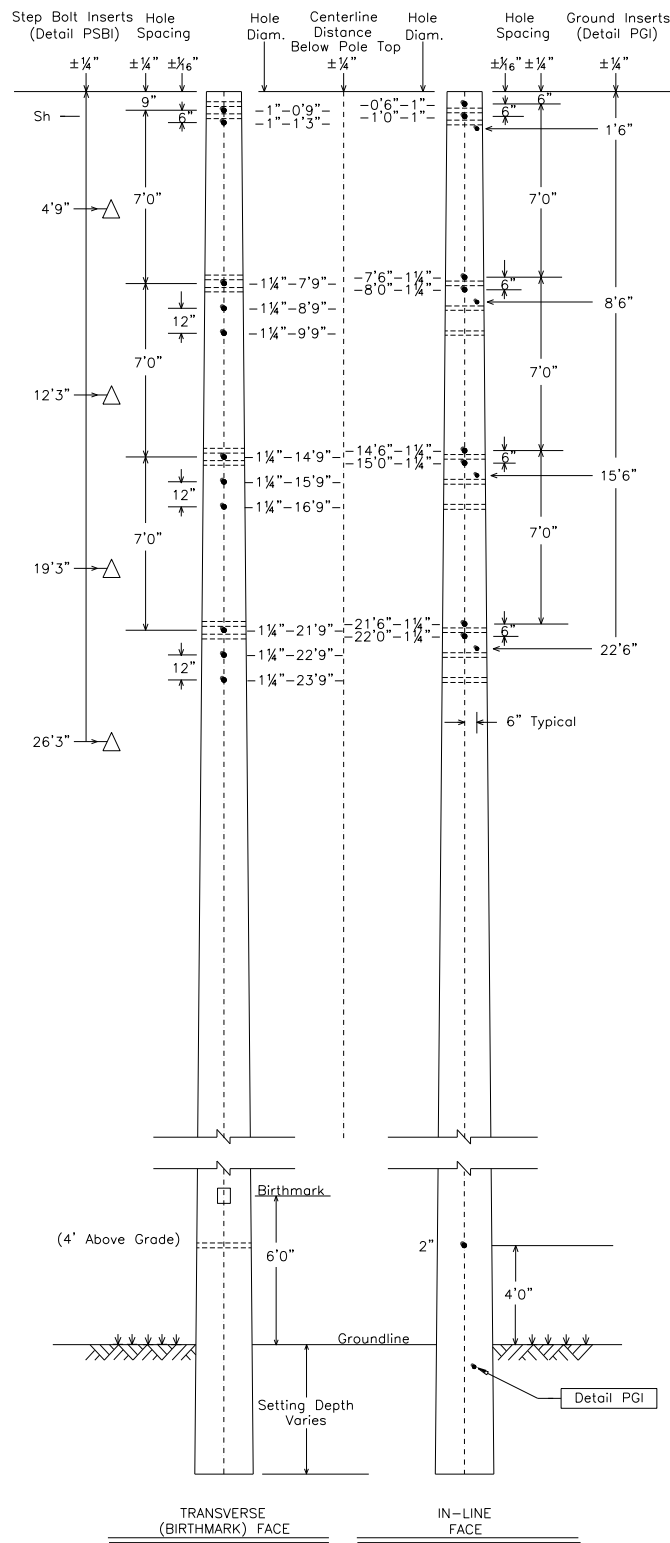
### A12462\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### A12462\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A12462 DRILLING DETAIL



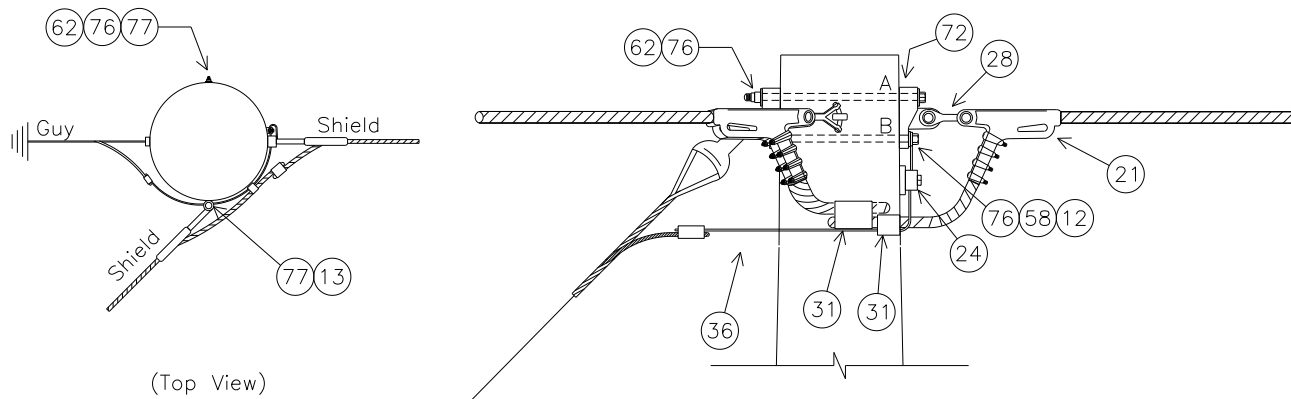
REVISÉ: OCTOBER 2013

REVISÉD BY: MLR

APPROVED BY: KKR

## SSDI135SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 135°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED SHOULDER EYE BOLT LENGTH (INCHES)	20.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

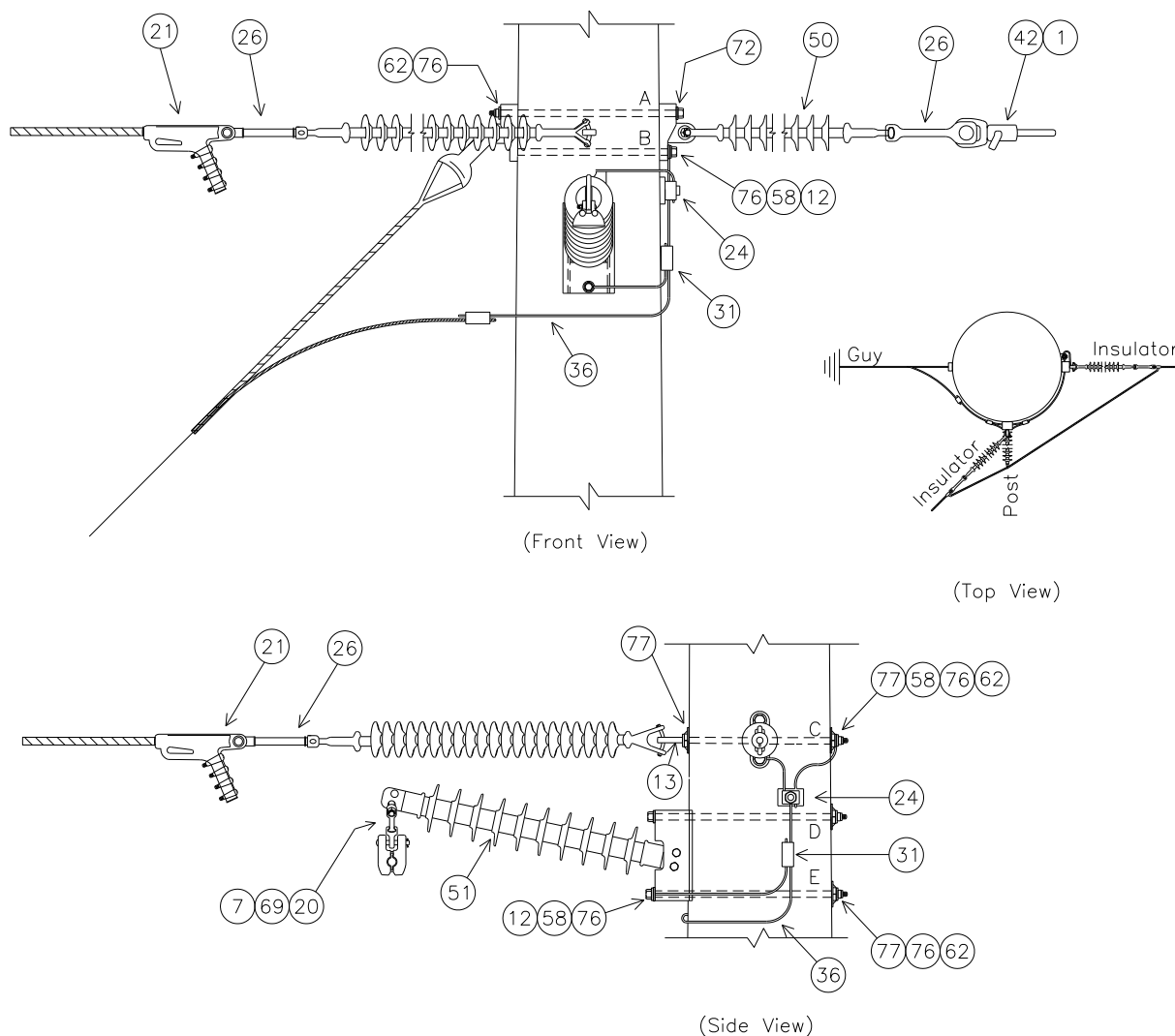
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	1	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	1	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	1	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD3FSA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	SECTION		
	TOP	MIDDLE	BOTTOM
BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7
SHOULDER EYEBOLT 'C' LENGTH (INCHES)	21.6	23.1	24.6
BOLT 'D' LENGTH (INCHES)	27.2	28.8	30.3
BOLT 'E' LENGTH (INCHES)	27.7	29.2	30.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD3FSA3 PLATES

### ISDD3FSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALF007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	1	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST SILICONE INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	9	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	FLAT CURVED WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED

### ISDD3FSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

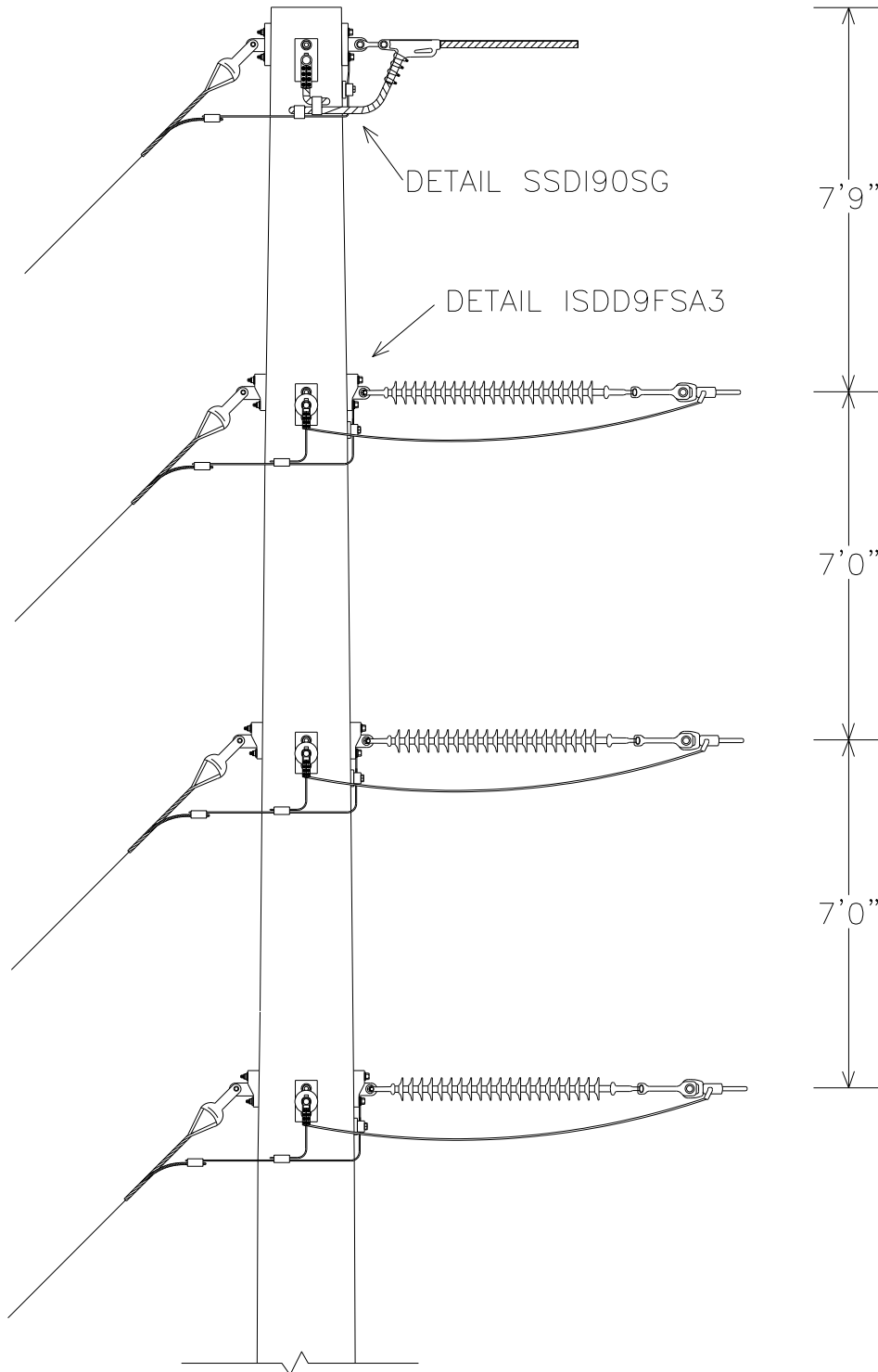
### ISDD3FSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



## A1246C

69KV, DOUBLE DEADEND 90°, FULL TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# A1246C PLATES

## A1246C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

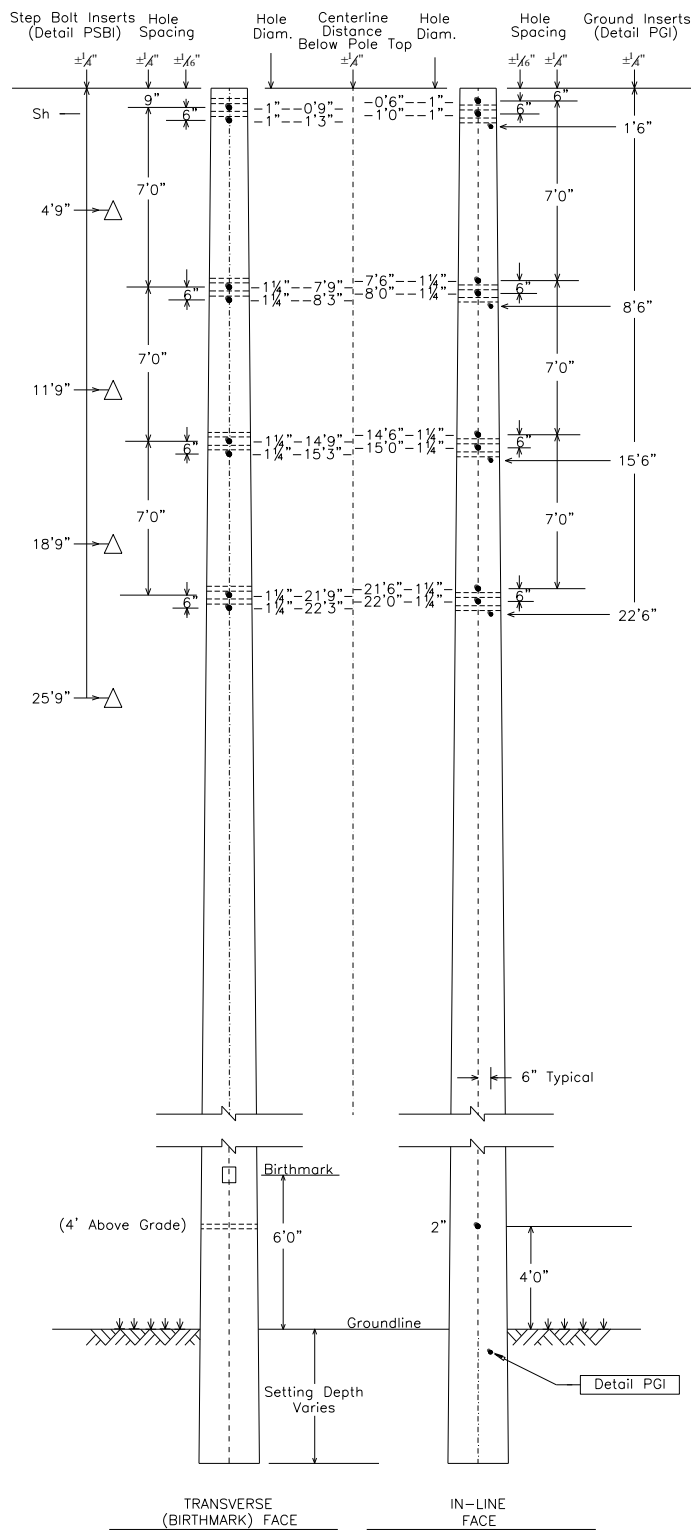
## A1246C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1246C\*1590

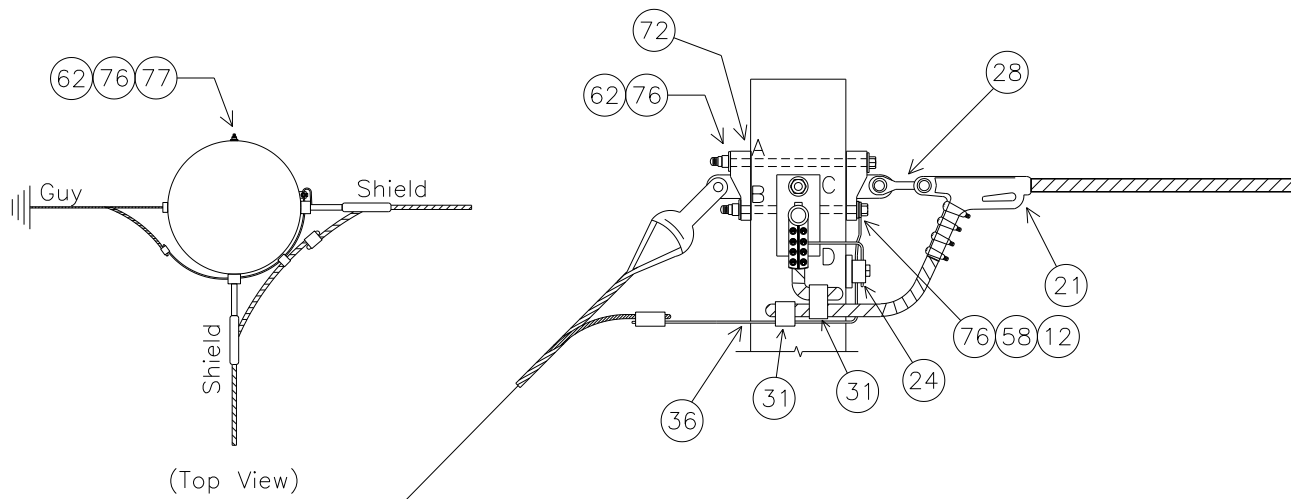
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## A1246C DRILLING DETAIL



# SSDI90SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	DOUBLE TEE SIDE	SINGLE TEE SIDE
UPPER BOLT LENGTH (INCHES)	22.6	21.3
LOWER BOLT LENGTH (INCHES)	20.9	20.6

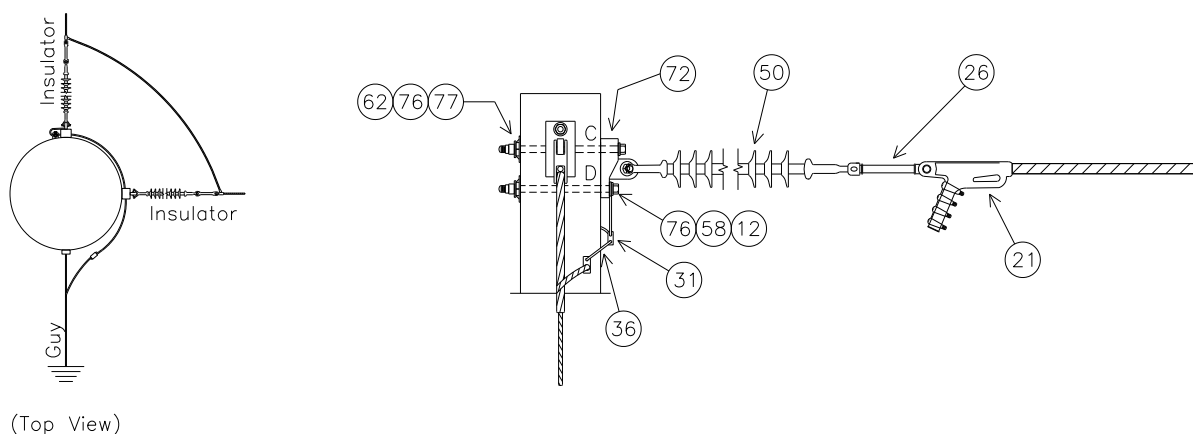
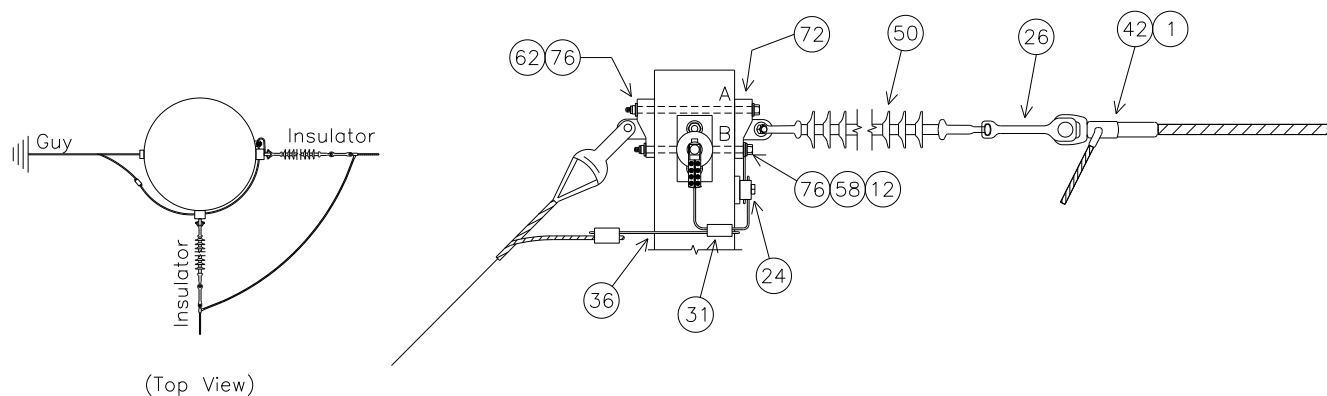
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4"

# ISDD9FSA3

## INSULATOR FOR SPUN CONCRETE POLES

**DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 69KV, 3-PHASE**

**CONDUCTOR OPTIONS: 954S, 1590**

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7

## SLACK TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	23.0	24.6	26.1
LOWER BOLT 'B' LENGTH (INCHES)	22.3	23.8	25.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD9FSA3 PLATES

### ISDD9FSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	9	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### ISDD9FSA3\*954S

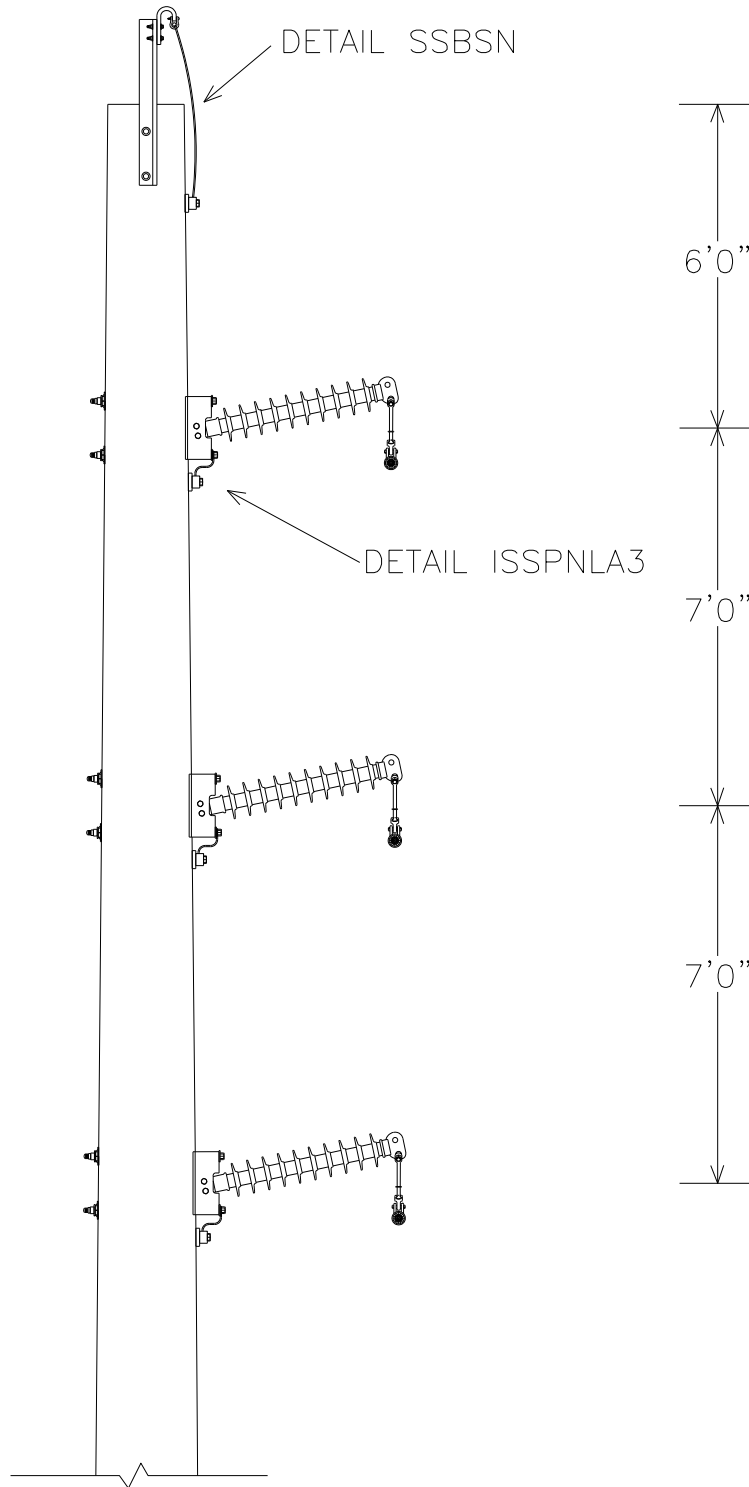
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD9FSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# A1251

69KV SINGLE POST, UNGUYED, TANGENT SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



# A1251 PLATES

## A1251 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## A1251\*954A

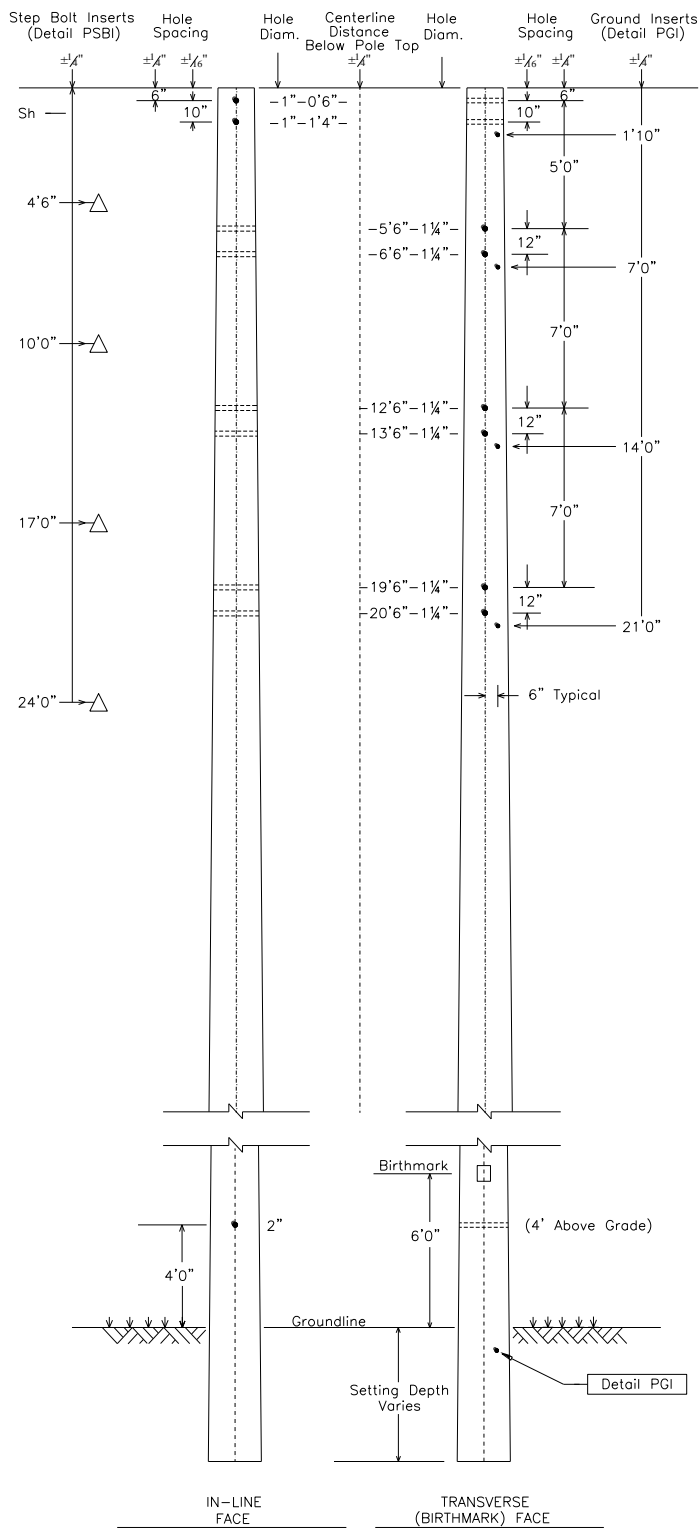
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1251\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

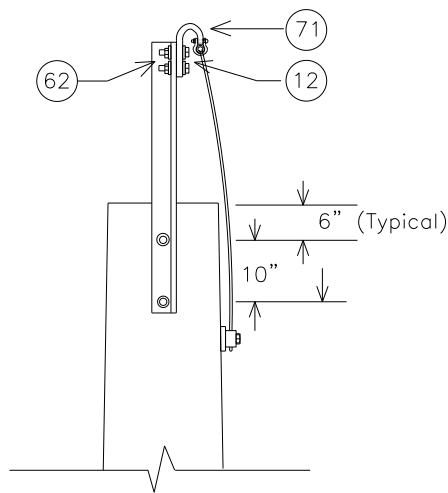


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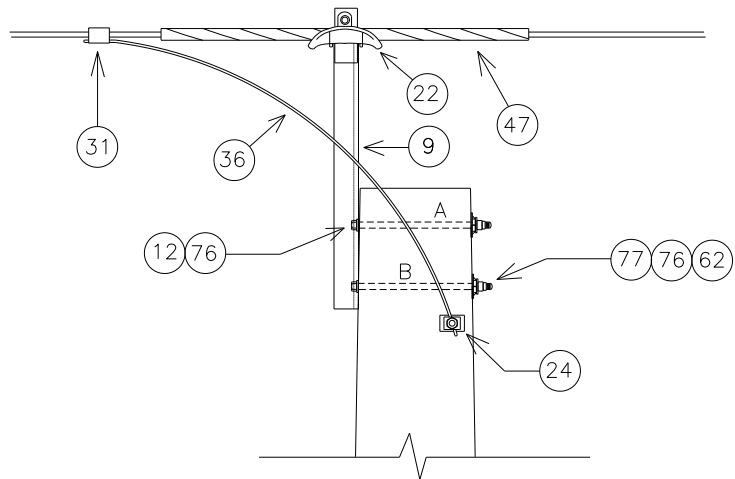


# SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



In Line Face



Birthmark Face

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

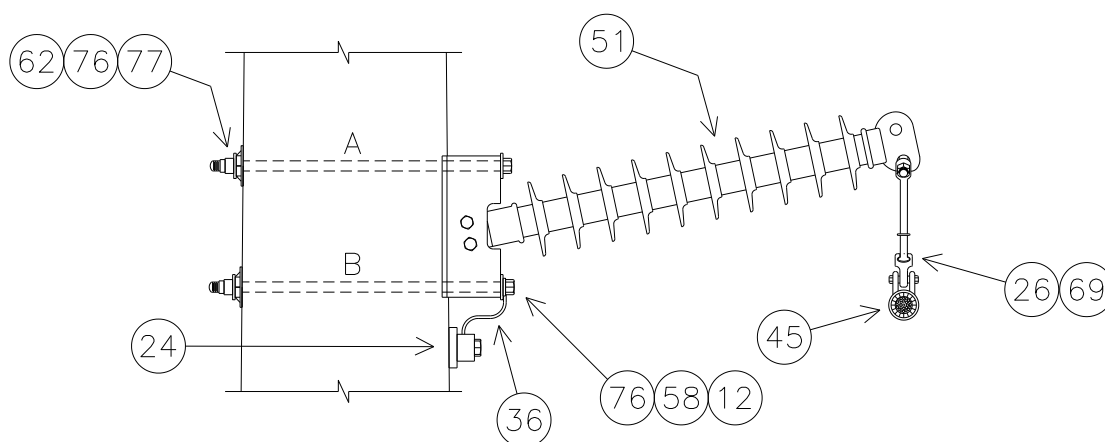
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNLA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	28.1	29.6
BOLT 'B' LENGTH (INCHES)	27.0	28.5	30.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISSPNLA3 PLATES

**ISSPNLA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

**ISSPNLA3\*954A**

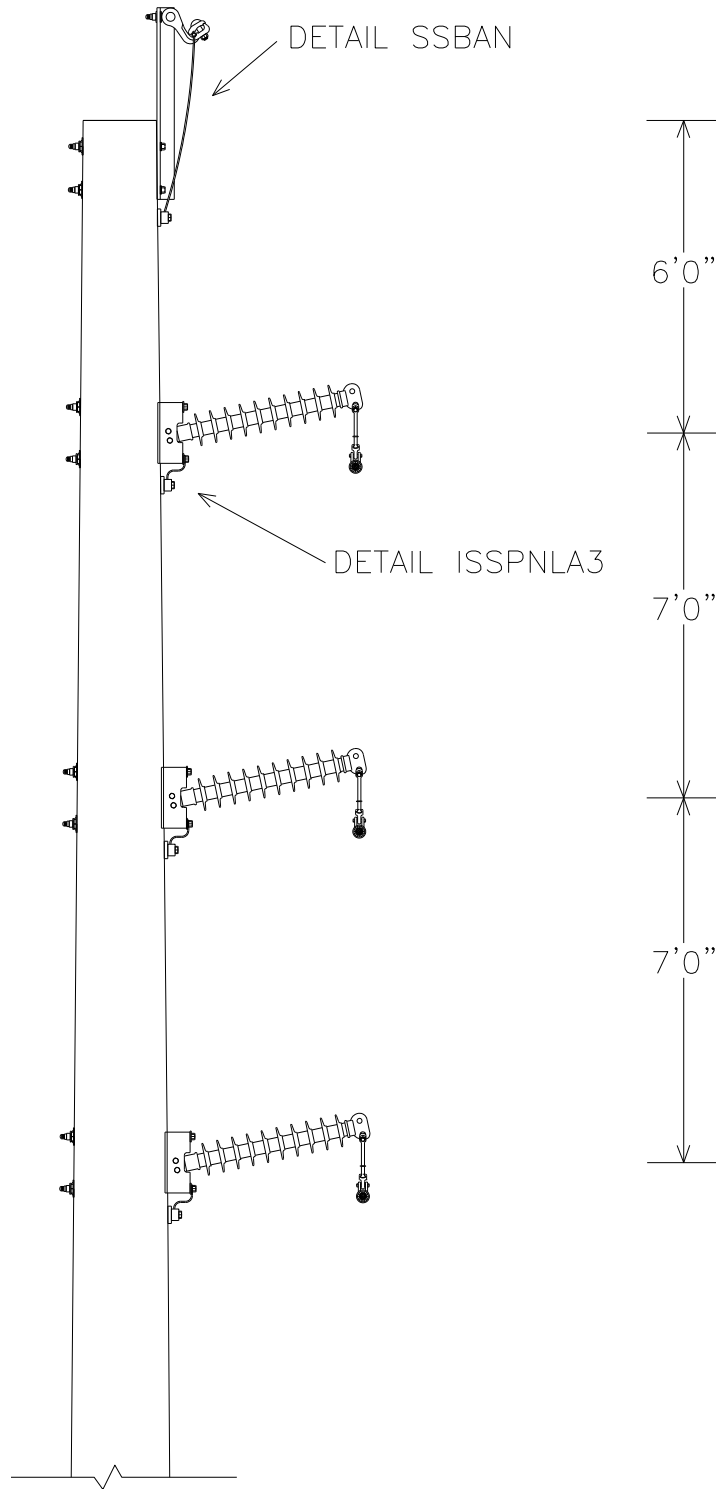
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

**ISSPNLA3\*954S**

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# A1252

69KV SINGLE POST, UNGUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



# A1252 PLATES

## A1252 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

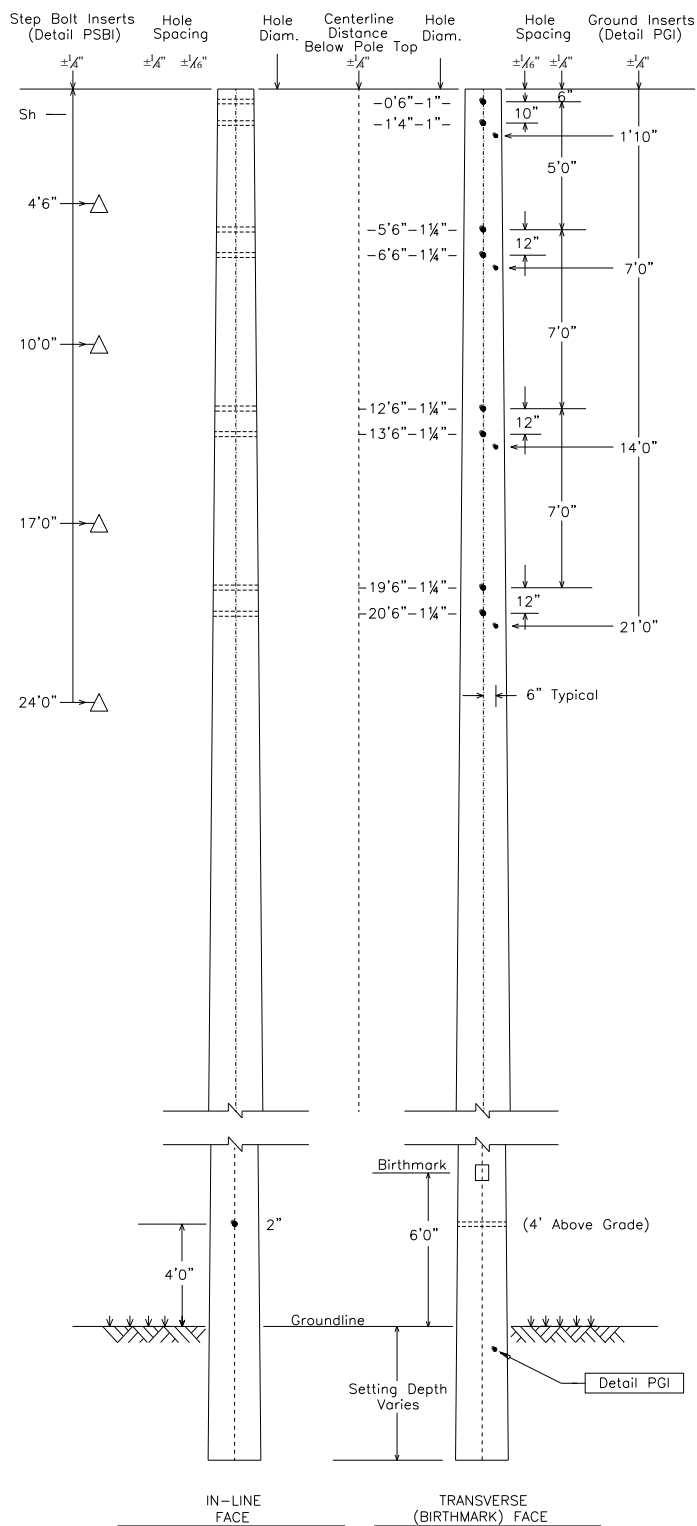
## A1252\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1252\*954S

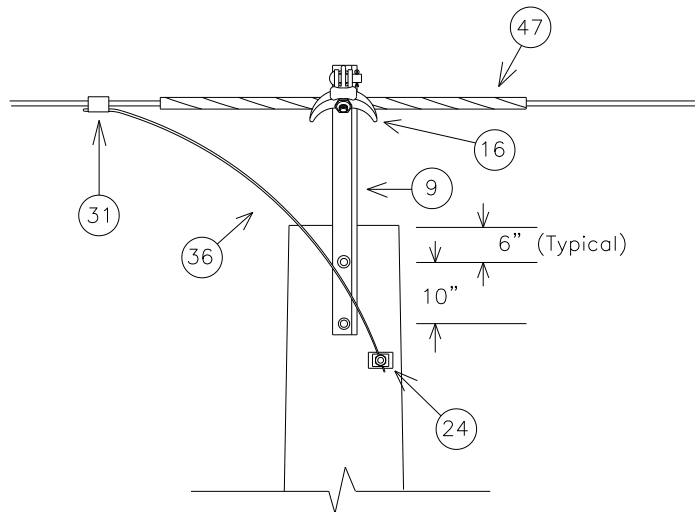
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1252 DRILLING DETAIL

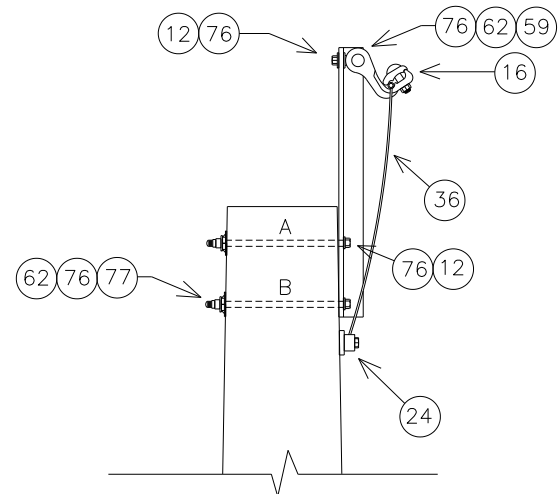


## SSBAN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



In Line Face



Birthmark Face

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

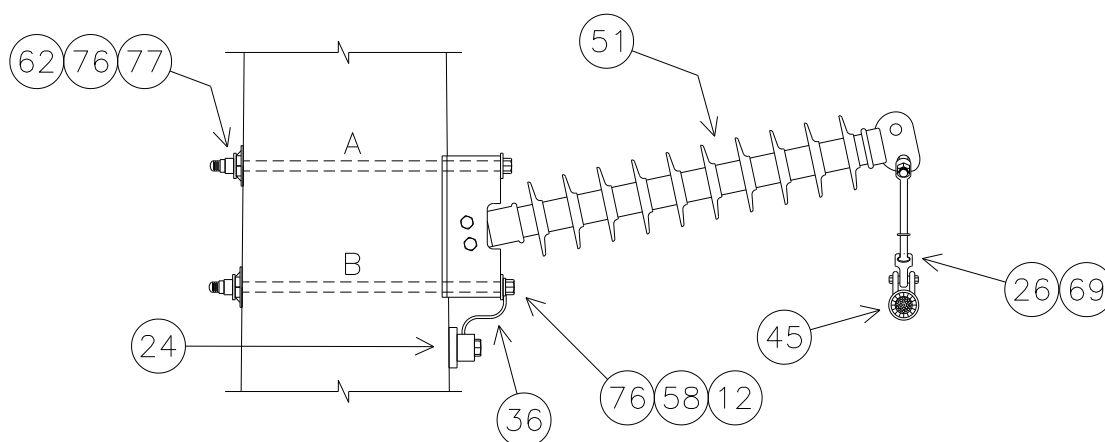
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA01	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



## ISSPNLA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	28.1	29.6
BOLT 'B' LENGTH (INCHES)	27.0	28.5	30.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISSPNLA3 PLATES

## ISSPNLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNLA3\*954A

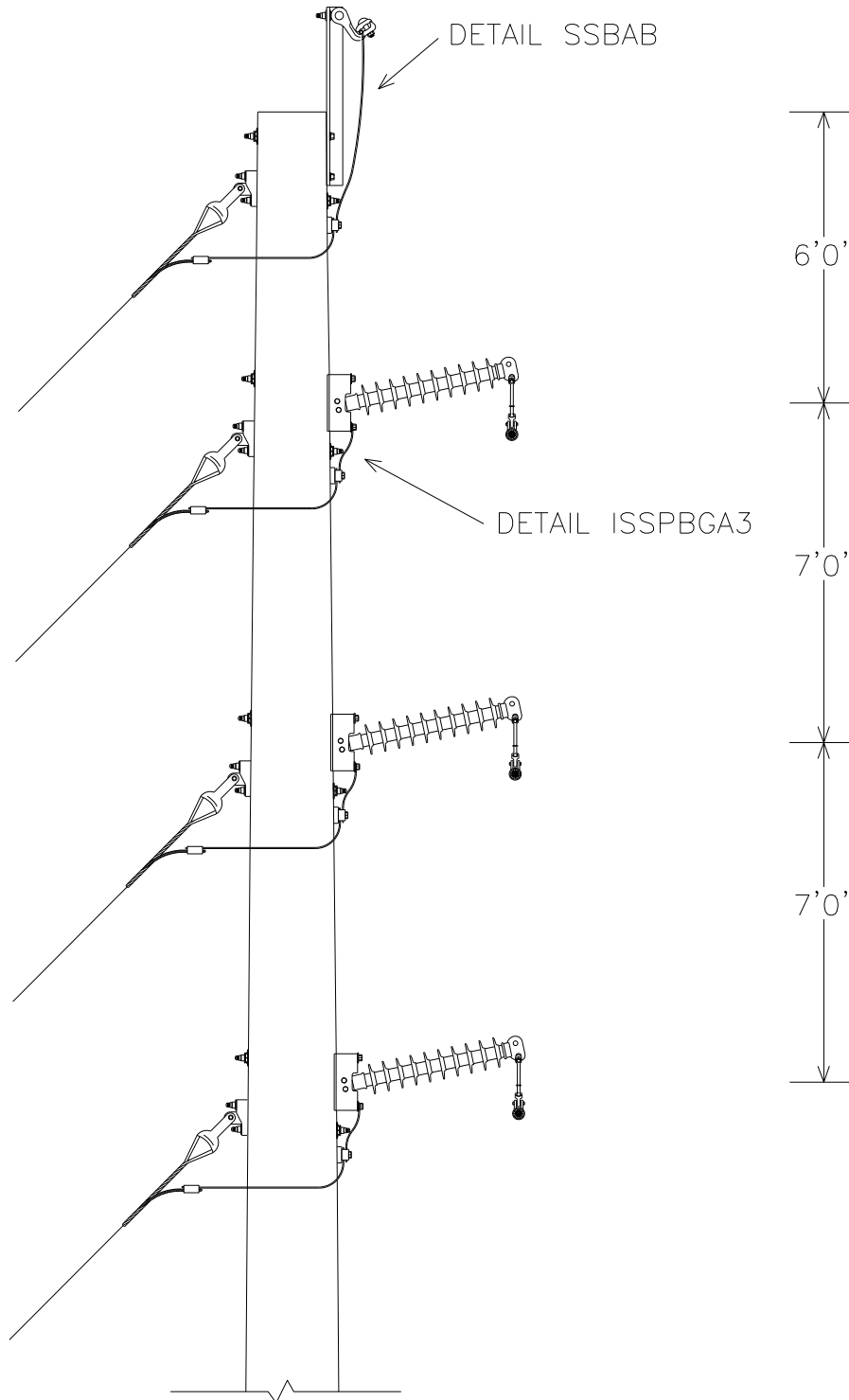
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSPNLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1252A

69KV SINGLE POST, BACK GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



## A1252A PLATES

### A1252A BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	2	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	11	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	21	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

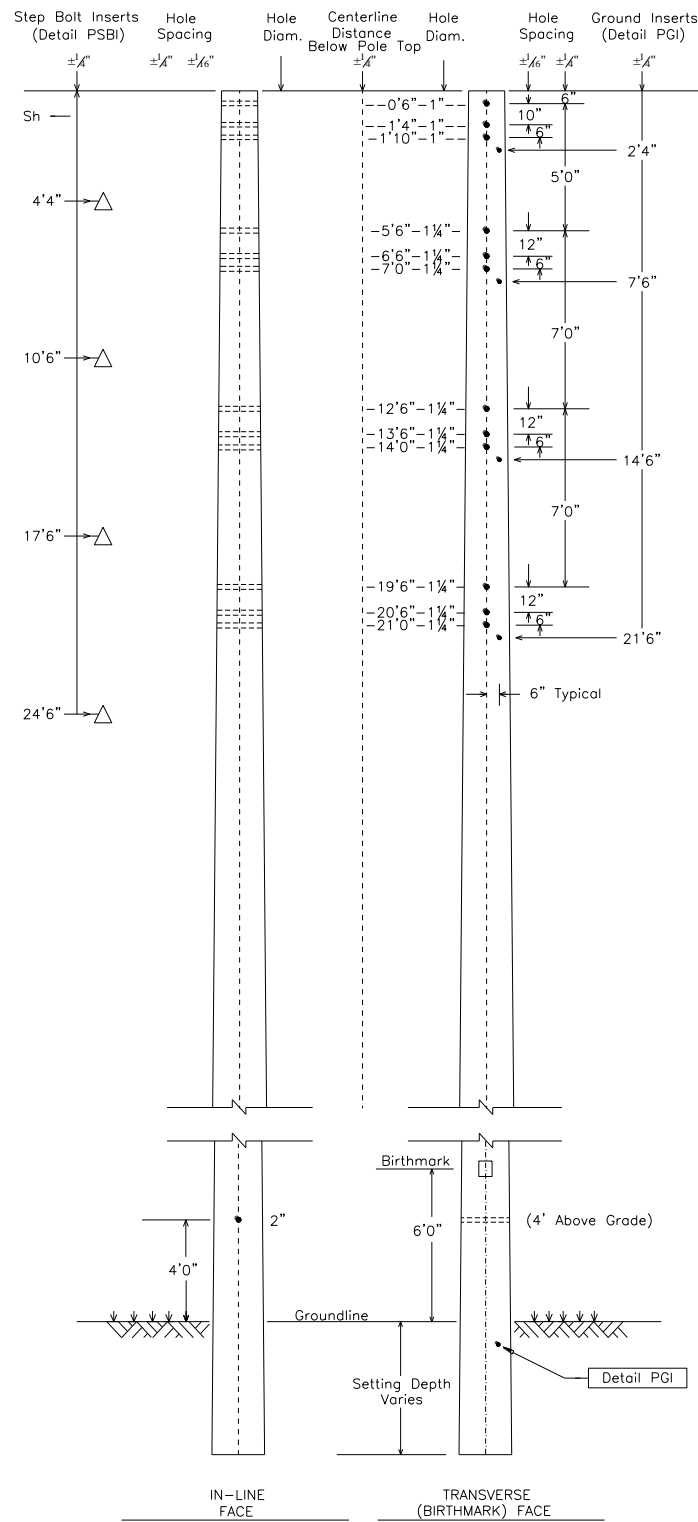
### A1252A\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

### A1252A\*954S

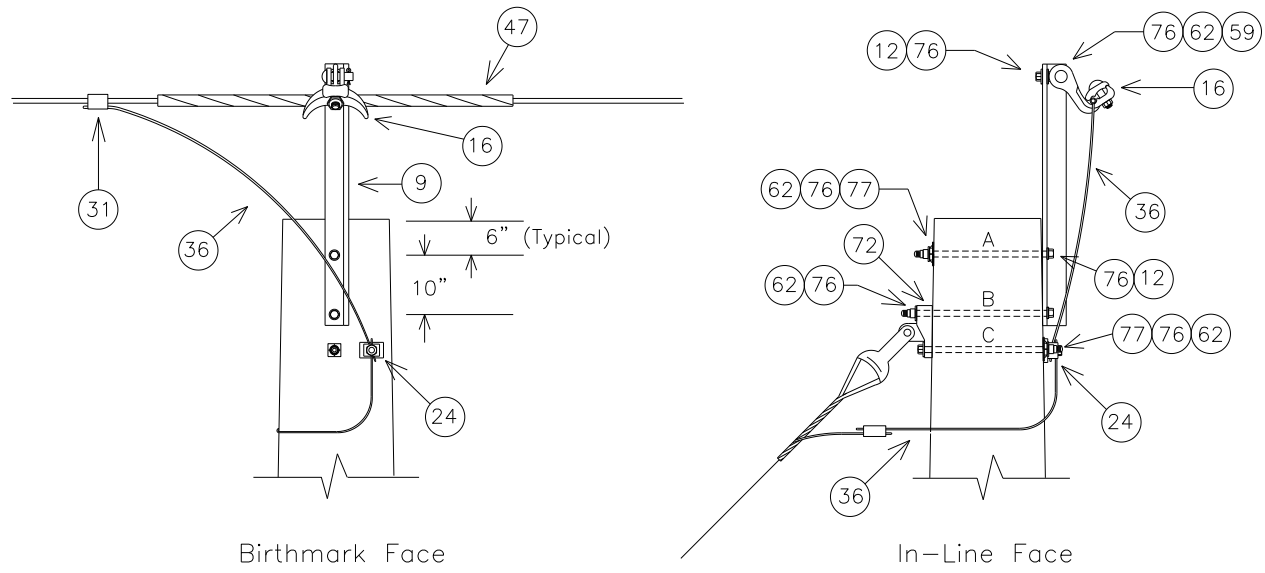
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1252A DRILLING DETAIL



## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

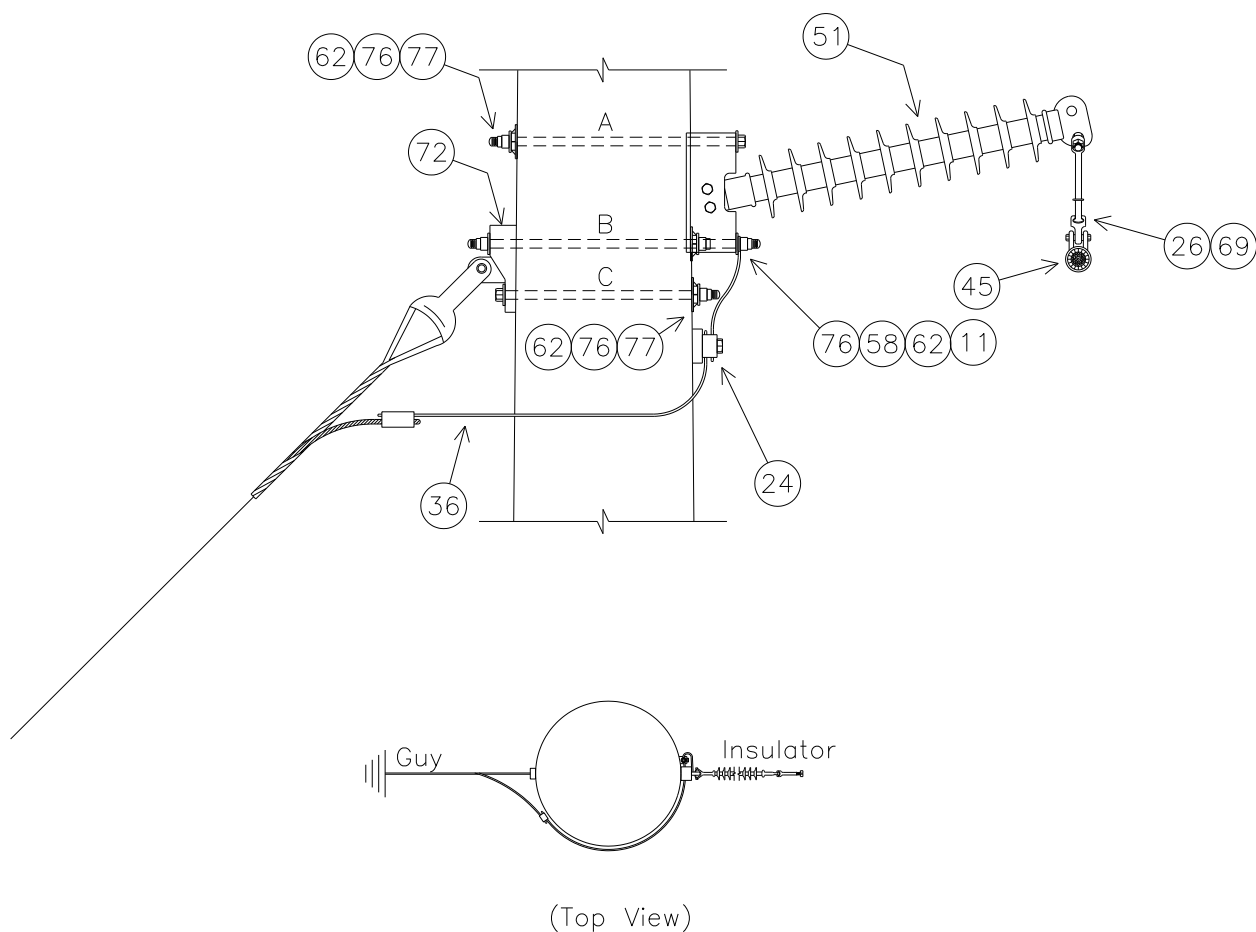
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# ISSPBG3

**INSULATOR FOR SPUN CONCRETE POLES  
SINGLE POST, BOTTOM GUYED, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	28.1	29.6
D.A. BOLT 'B' LENGTH (INCHES)	28.3	29.9	31.4
BOLT 'C' LENGTH (INCHES)	21.8	23.3	24.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSPBGA3 PLATES

## ISSPBGA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	2	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	21	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPBGA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

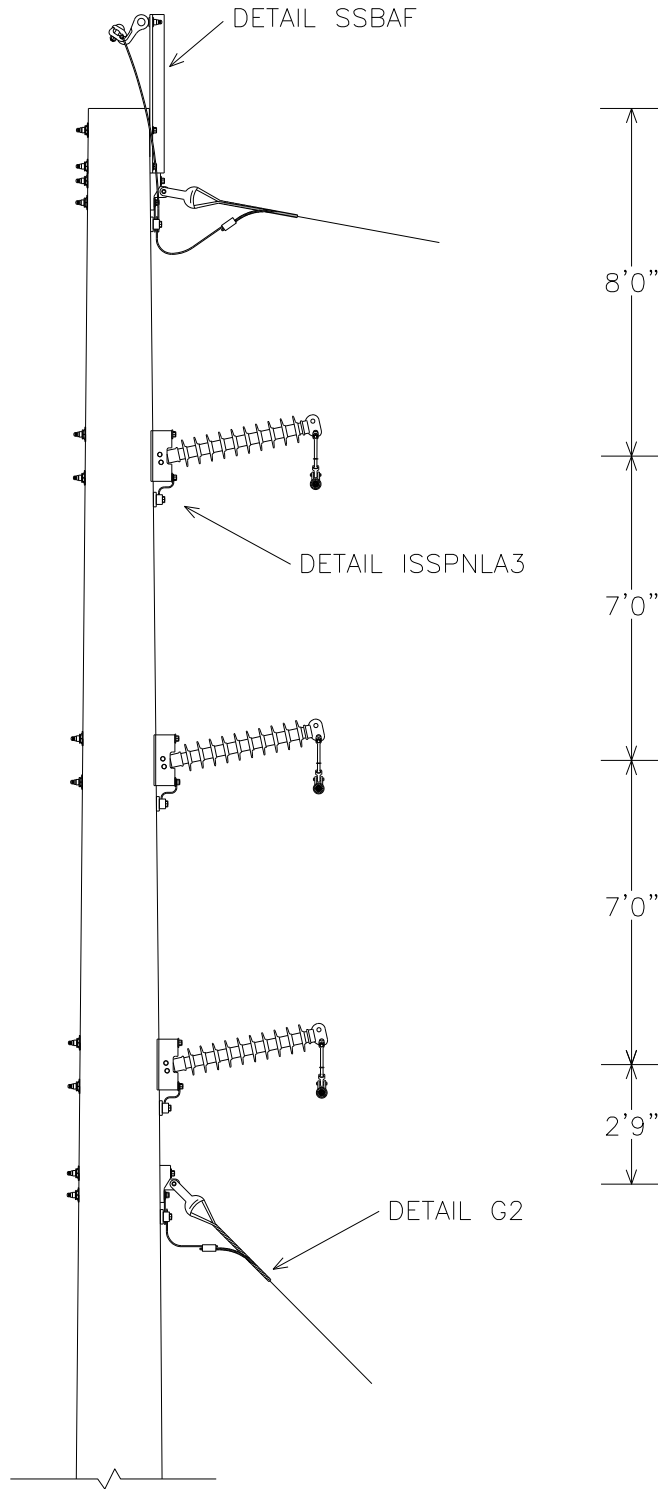
## ISSPBGA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.



## A1252B

69KV SINGLE POST, FRONT GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



# A1252B PLATES

## A1252B BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	5	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	4	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	10	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16 BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	20	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	10	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

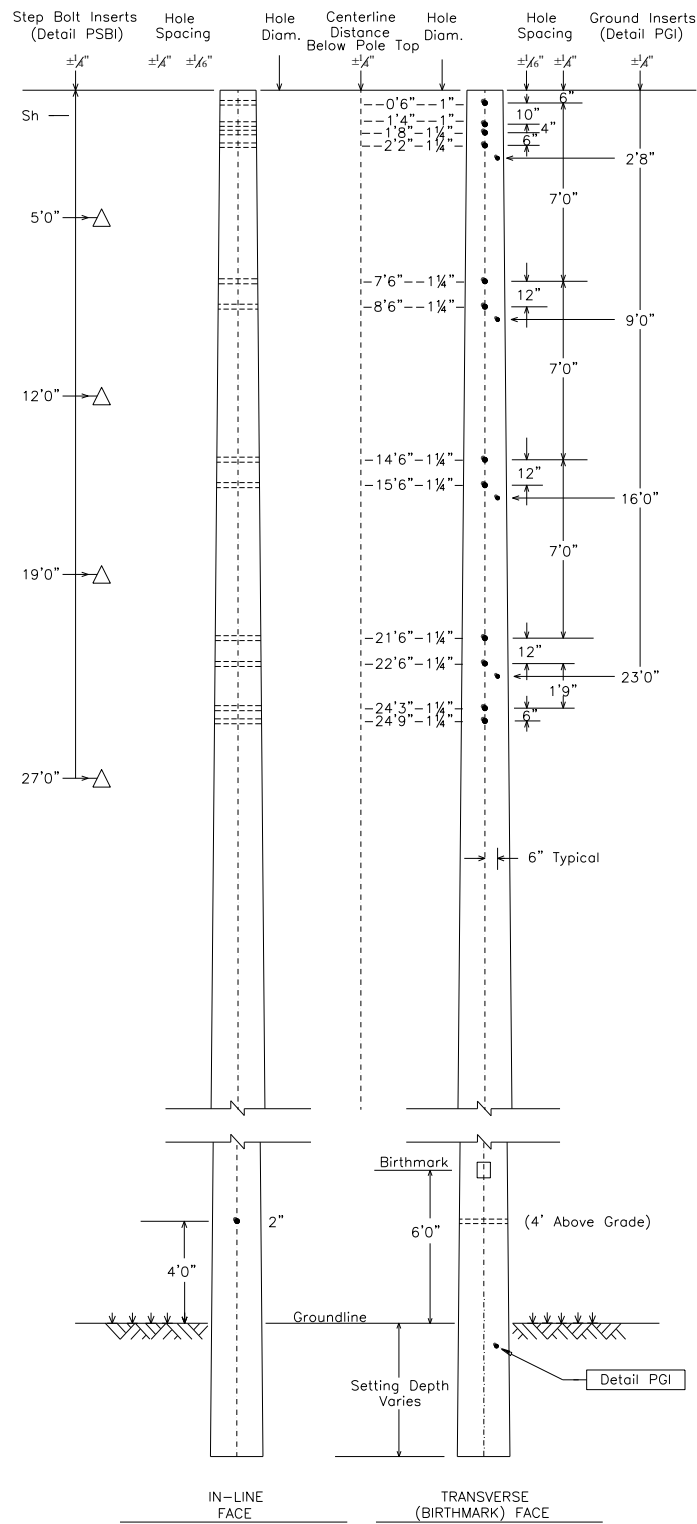
## A1252B\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1252B\*954S

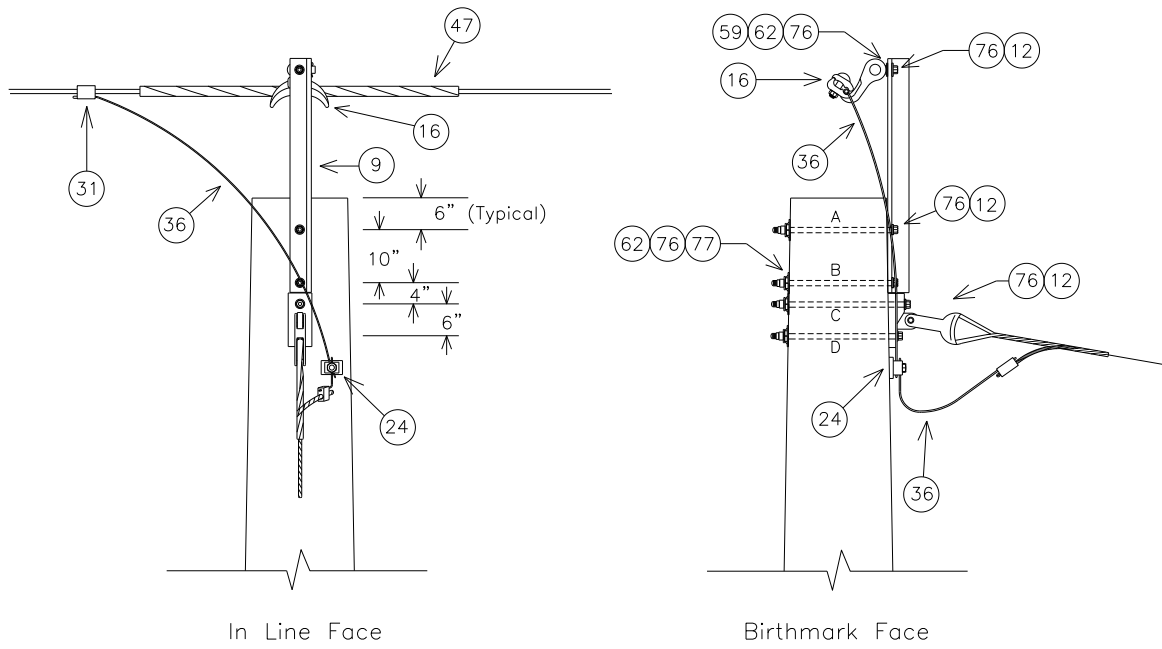
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1252B DRILLING DETAIL



## SSBAF

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, FRONT GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

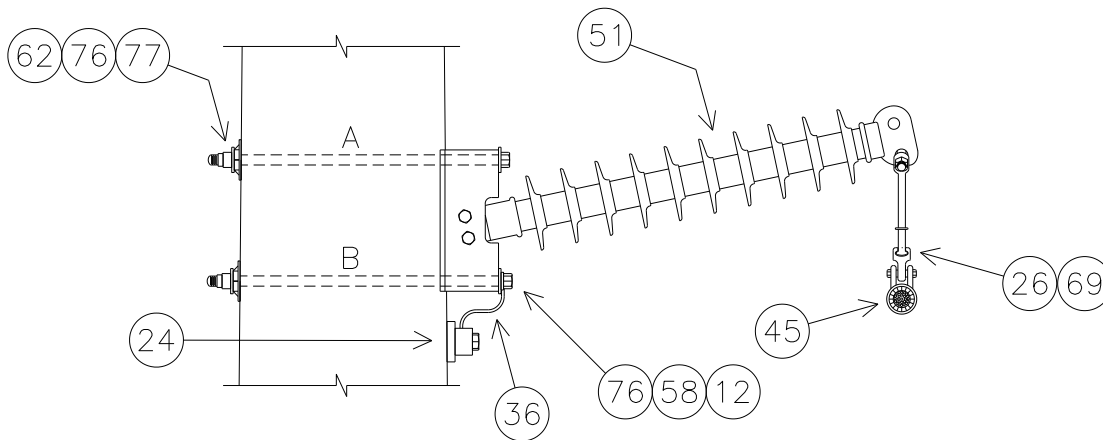
	'A'	'B'	'C'	'D'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	19.6	19.8	21.7	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER;  
USE 3/4" BOLTS FOR 'A' & 'B' AND 7/8" BOLTS FOR 'C' & 'D'

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	1	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16" BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNLA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.5	30.0
BOLT 'B' LENGTH (INCHES)	27.4	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISSPNLA3 PLATES

## ISSPNLA3 BASE

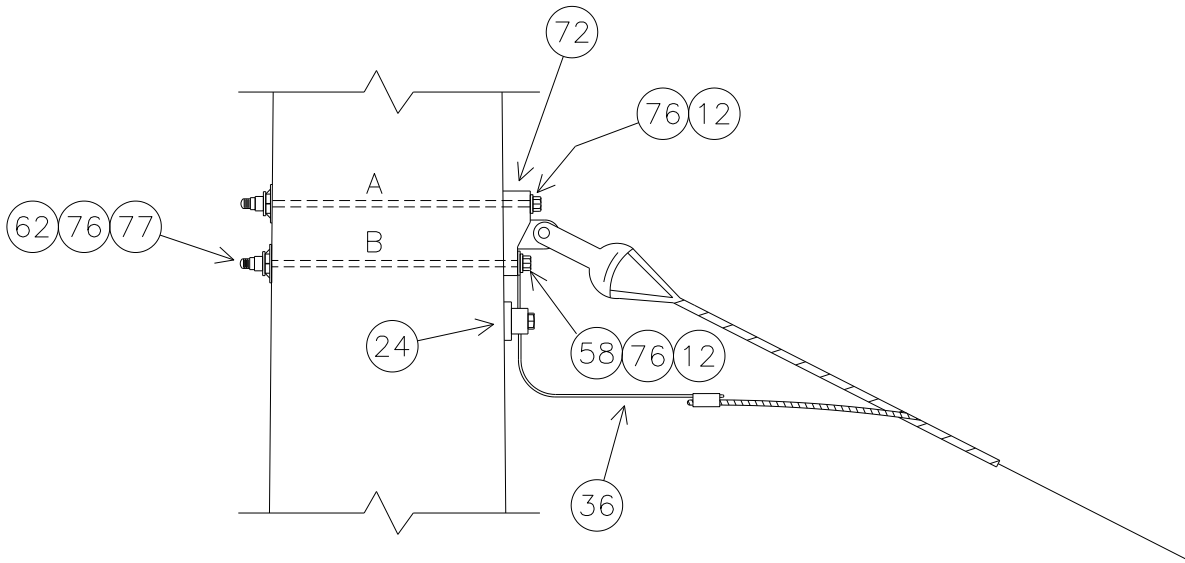
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSPNLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

**G2****HEAVY GUY**

MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	26.7
'B'	26.0

NOTE: BOLT CALCULATIONS ASSUMES A 17 INCH POLE TOP DIAMETER

**G2**

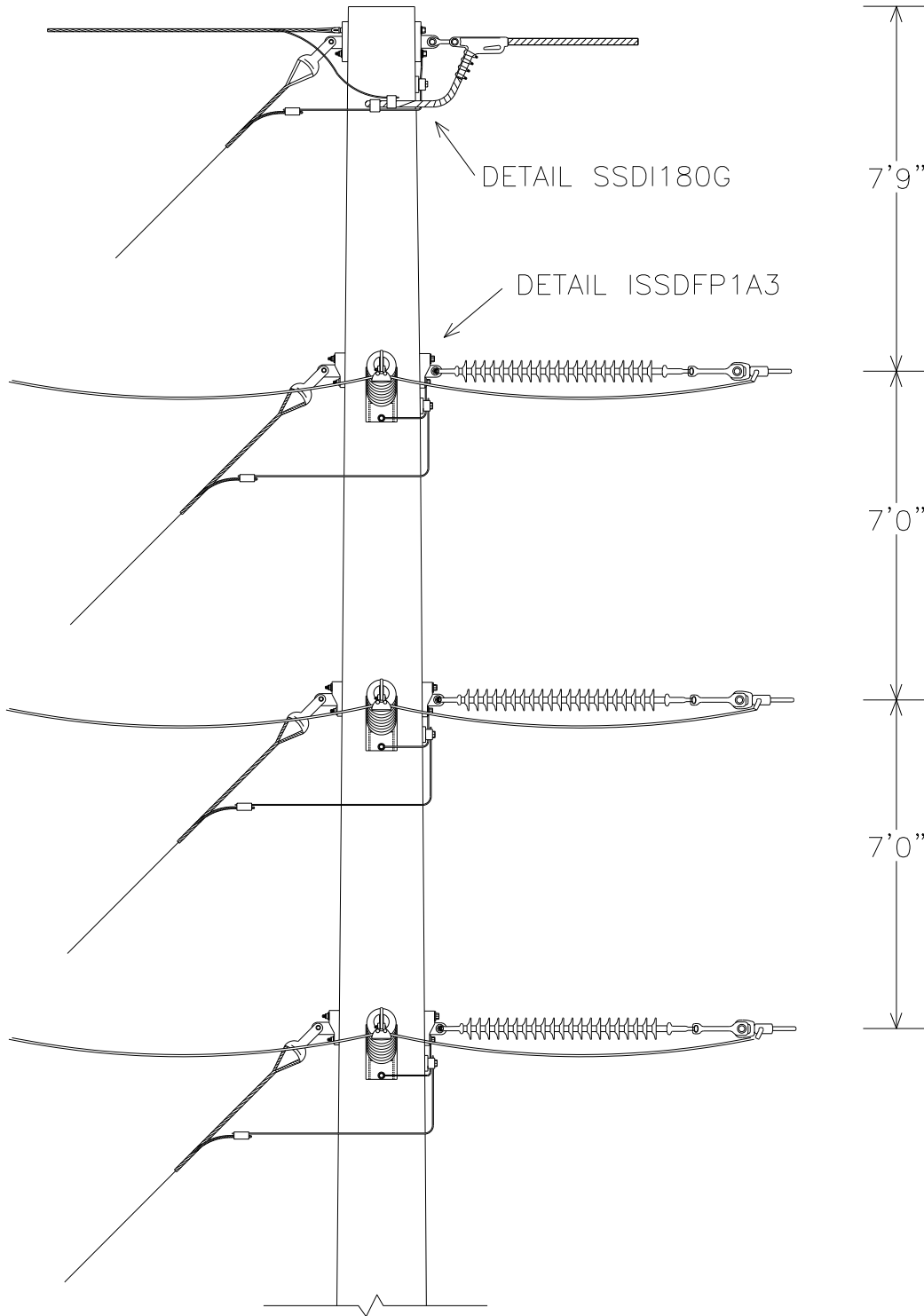
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS FOR TOP BRACE GROUNDING
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	1	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

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## A1286C

69KV, SINGLE DEAD-END 180°, FULL TENSION TO POST, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S, 1590



# A1286C PLATES

## A1286C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
2	ADPCT 001	3	CLAMP-TOP ADAPTER, CONVERTS TWO HOLE BLADE TO CLAMP TOP POST
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

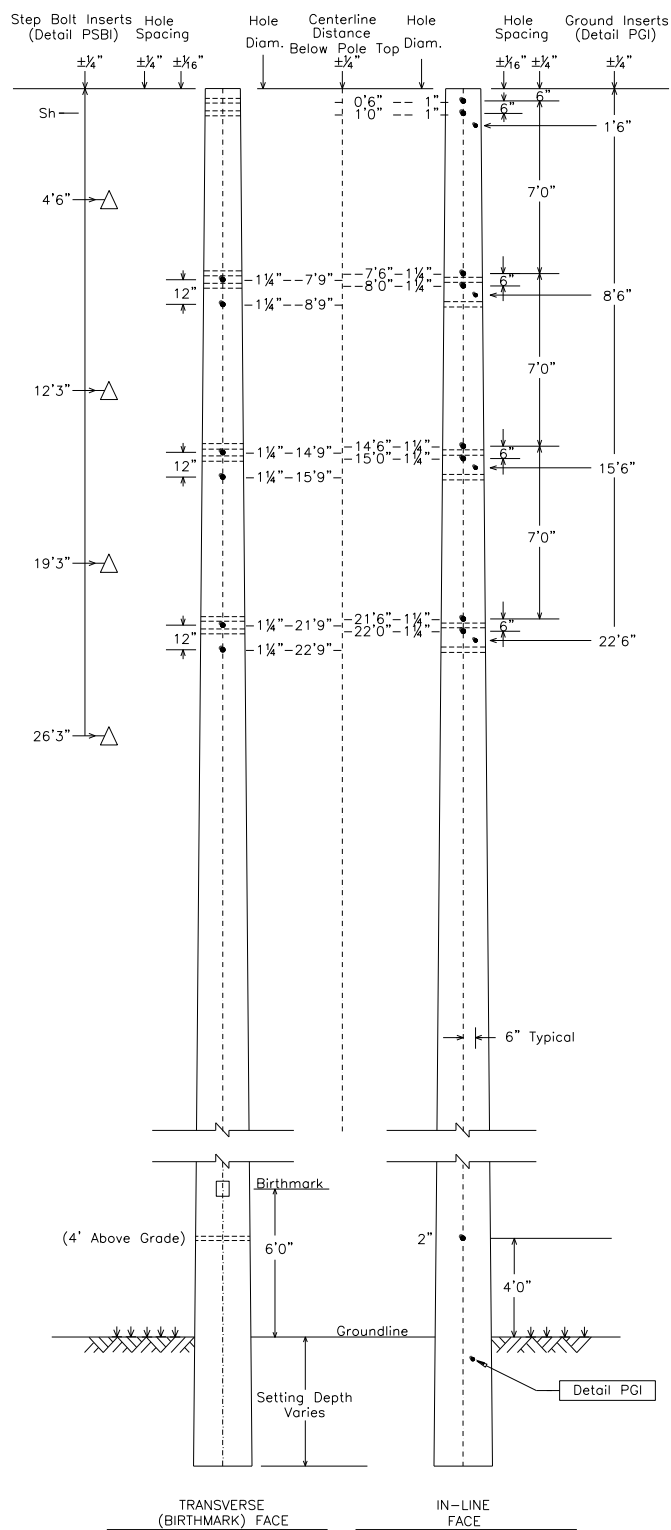
## A1286C\*556S, 954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17 (556S)	CLACT 004	3	CLAMP, ALUMINUM, FOR 556ASCR
17 (954S)	CLACT 005	3	CLAMP, ALUMINUM, FOR 954 ASCR
26 (556S)	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8, HOT DIPPED GALV.
26 (954S)	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42 (556S)	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50 (556S)	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-3/5
50 (954S)	INSD 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83 (556S)	RODAR 005	3	ARMOR ROD FOR 556 ACSR, 80 INCHES
83 (954S)	RODAR 007	3	ARMOR ROD FOR 954 ACSR, 100 INCHES

## A1286C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 006	3	CLAMP, ALUMINUM, FOR 1590ASCR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSD 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ACSR, 100 INCHES

## A1286C DRILLING DETAIL



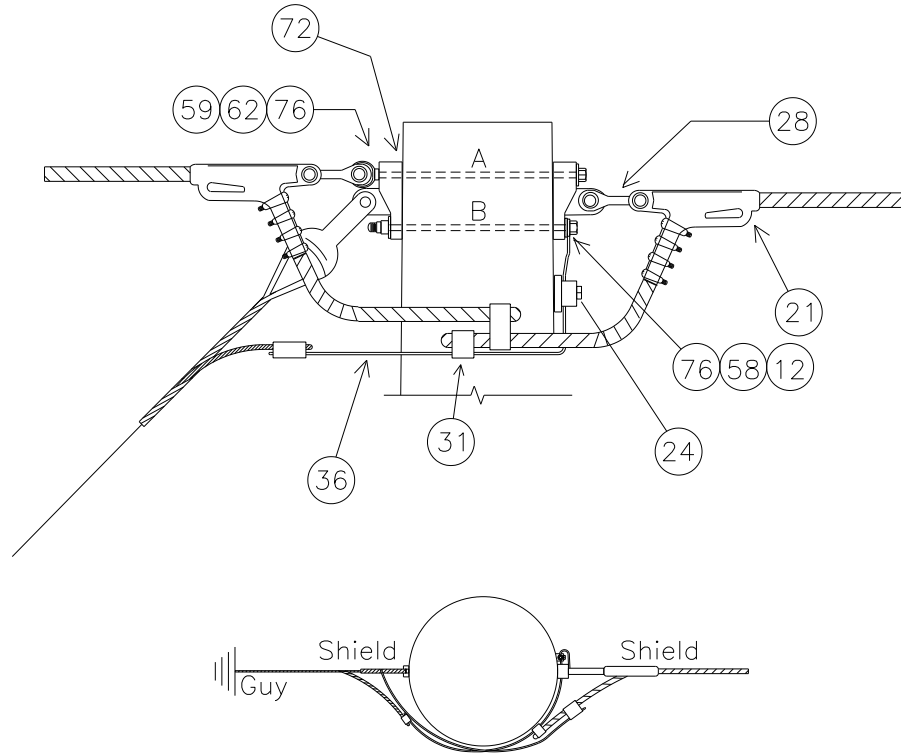
REVISÉ: OCTOBRE 2013

REVISÉ BY: MLR

APPROVED BY: KKR

# SSDI180G

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°, GUY



(Top View)

NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	23.6
LOWER BOLT LENGTH (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

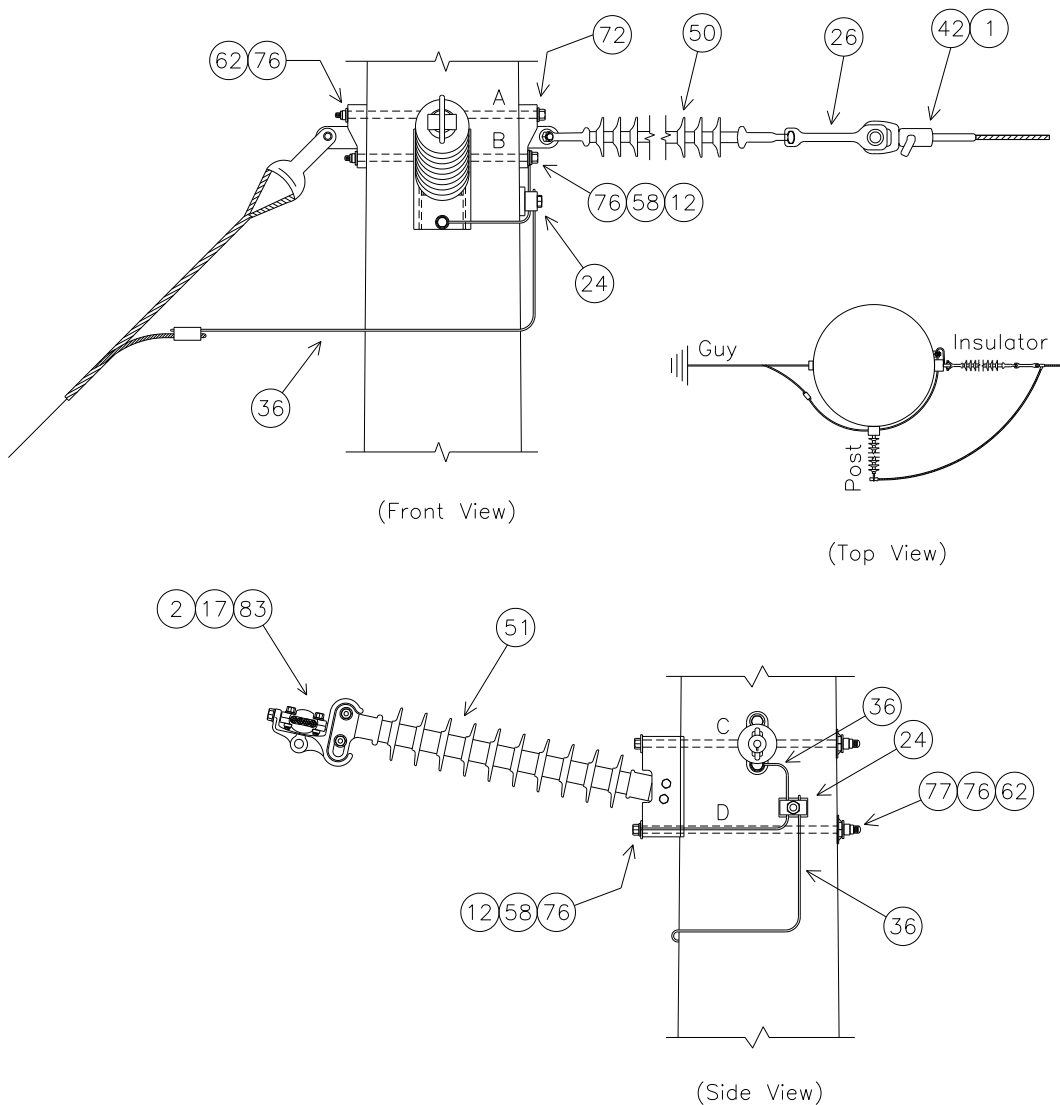
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDFP1A3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END FULL TENSION TO POST, TYPE1, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7
BOLT 'C' LENGTH (INCHES)	27.0	28.5	30.1
BOLT 'D' LENGTH (INCHES)	27.5	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFP1A3 PLATES

## ISSDFP1A3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
2	ADPCT 001	3	CLAMP-TOP ADAPTER, CONVERTS TWO HOLE BLADE TO CLAMP TOP POST
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSDFP1A3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 004	3	CLAMP, ALUMINUM, FOR 556ASCR
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 005	3	ARMOR ROD FOR 556 ACSR, 80"

## ISSDFP1A3\*954S

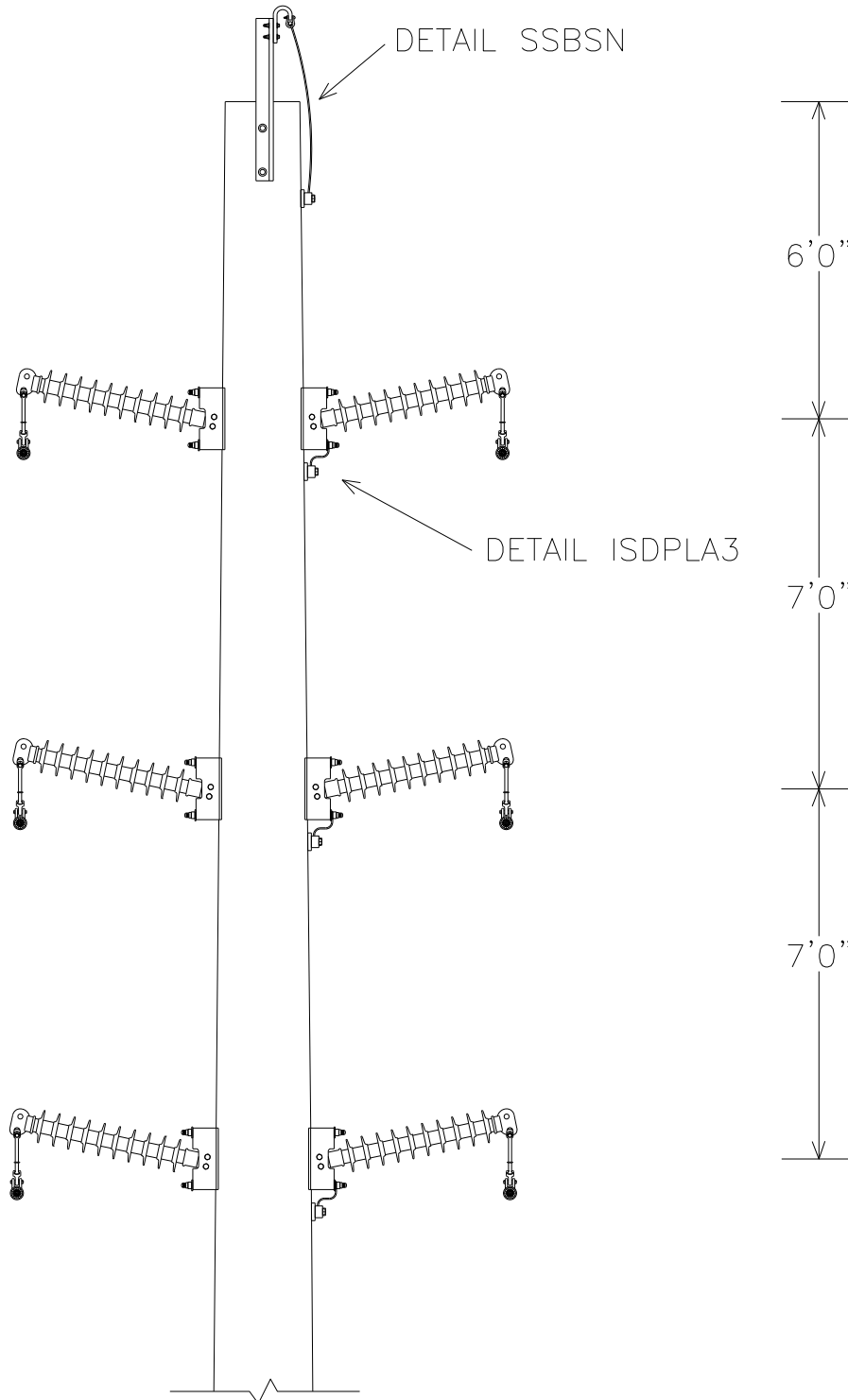
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 005	3	CLAMP, ALUMINUM, FOR 954ASCR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ACSR, 100"

## ISSDFP1A3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 006	3	CLAMP, ALUMINUM, FOR 1590ASCR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ACSR, 100"

# A2251

69KV DOUBLE POST, UNGUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S



# A2251 PLATES

## A2251 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
11	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - .366"
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## A2251\*556S

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ACSR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4

## A2251\*954A

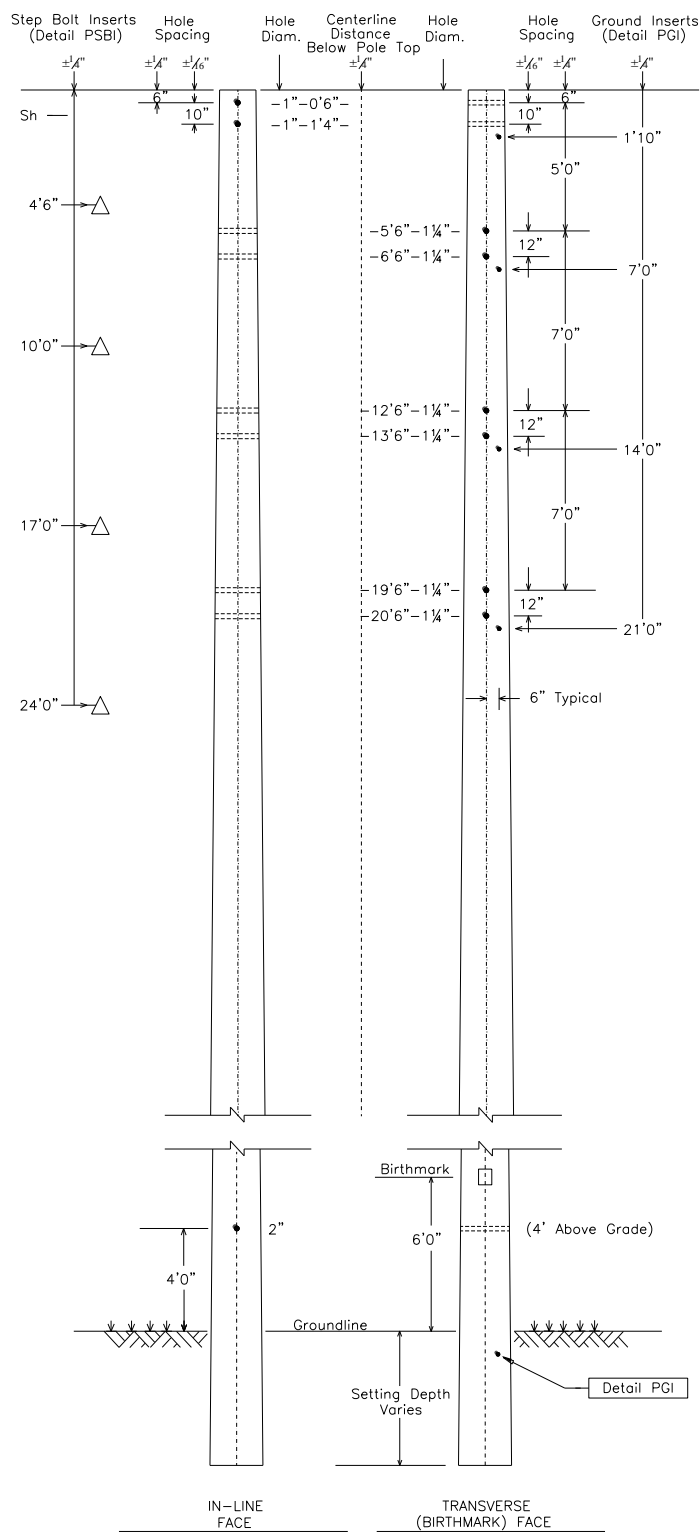
45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16

## A2251\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16



## A2251 DRILLING DETAIL



# SSBSN

REVISÉ: OCTOBRE 2013

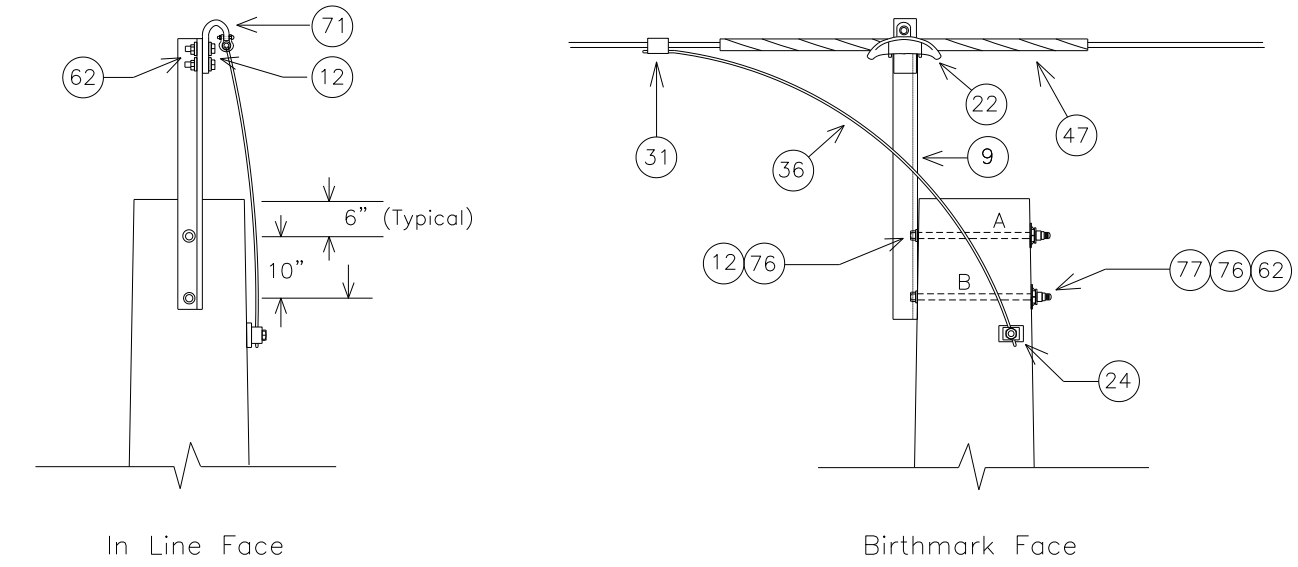
REVISÉ BY: MLR

APPROVED BY: KKR

## 69KV STRUCTURES-NEW CONSTRUCTION

STS69-96

## SHIELD FOR SPUN CONCRETE POLES BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

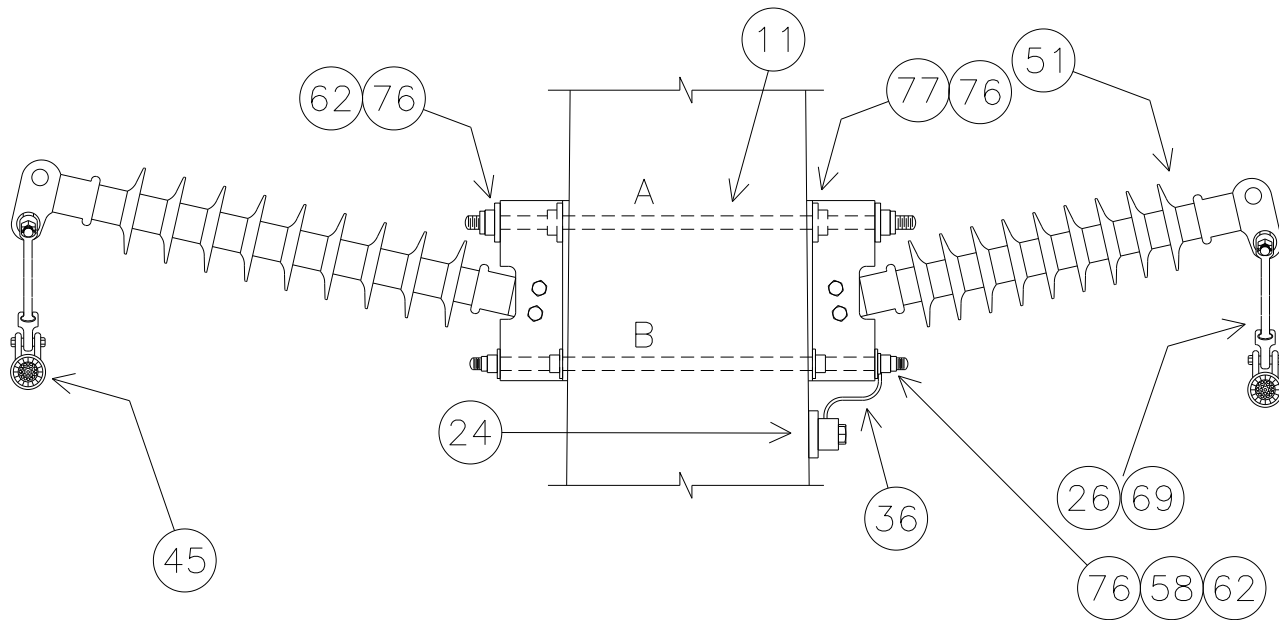
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISDPLA3

INSULATOR FOR SPUN CONCRETE POLES  
DOUBLE POST, LONG CLEVIS, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA2 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	33.2	34.7	36.2
BOLT 'B' LENGTH (INCHES)	33.7	35.2	36.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDPLA3 PLATES

## ISDPLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L ≈ 10", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDPLA3\*556S

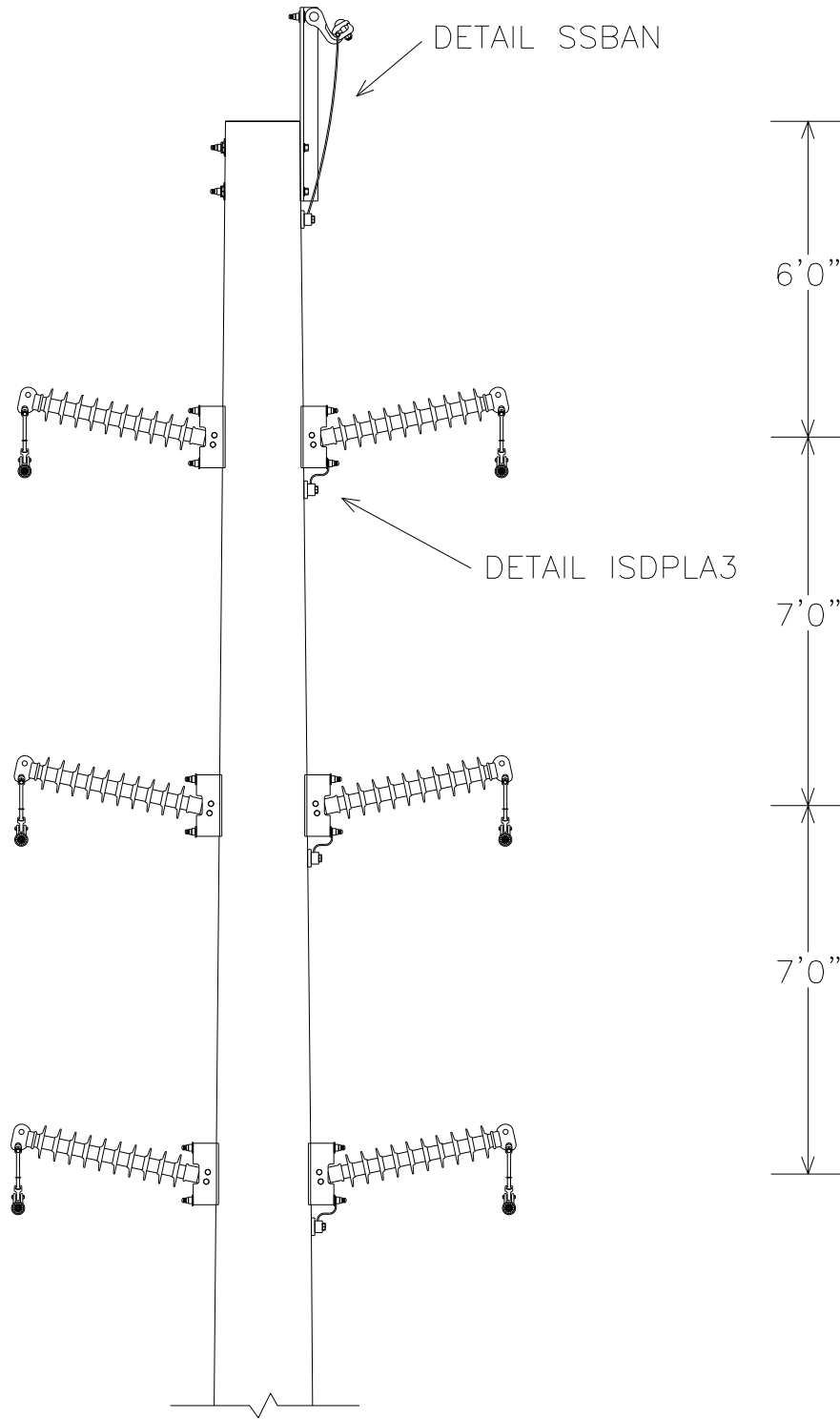
45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## ISDPLA3\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"

# A2252

69KV DOUBLE POST, UNGUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



# A2252 PLATES

## A2252 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
11	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL – 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

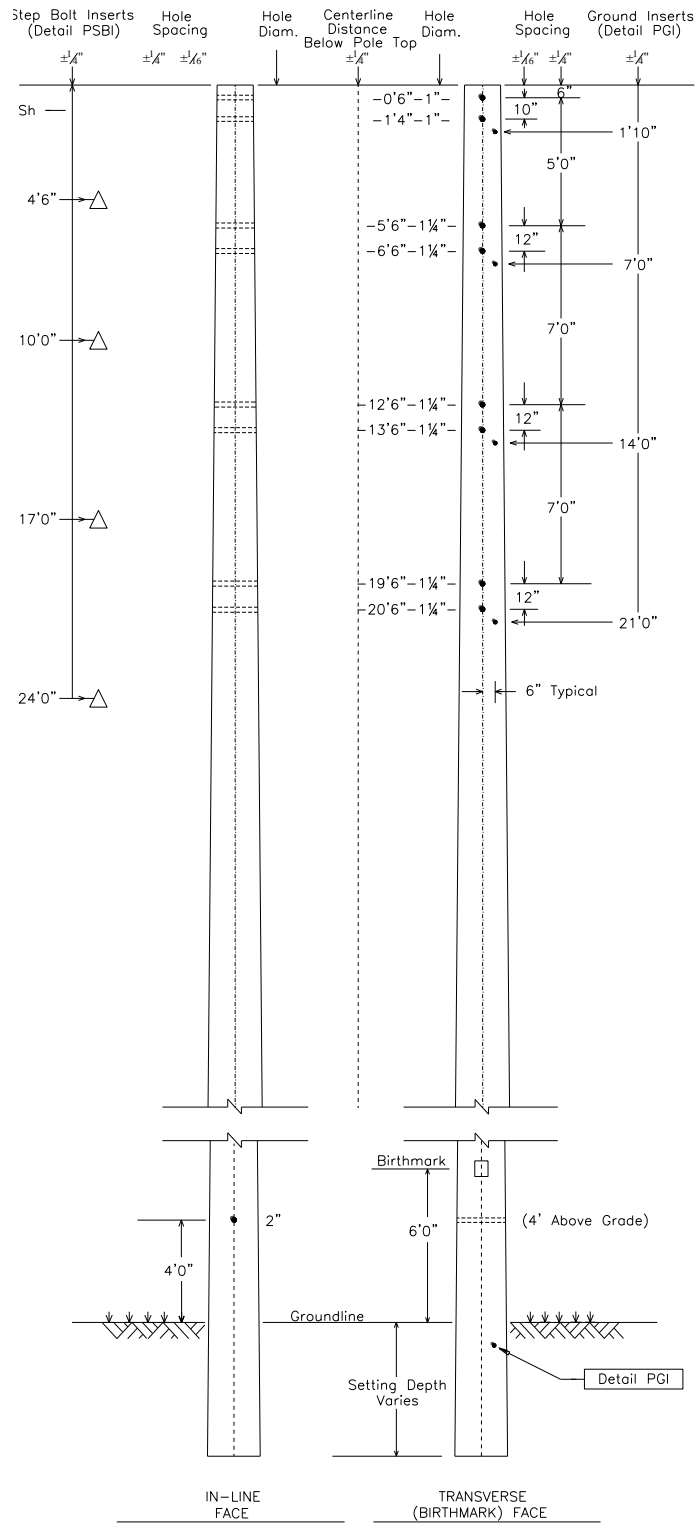
## A2252\*556S

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A2252\*954S

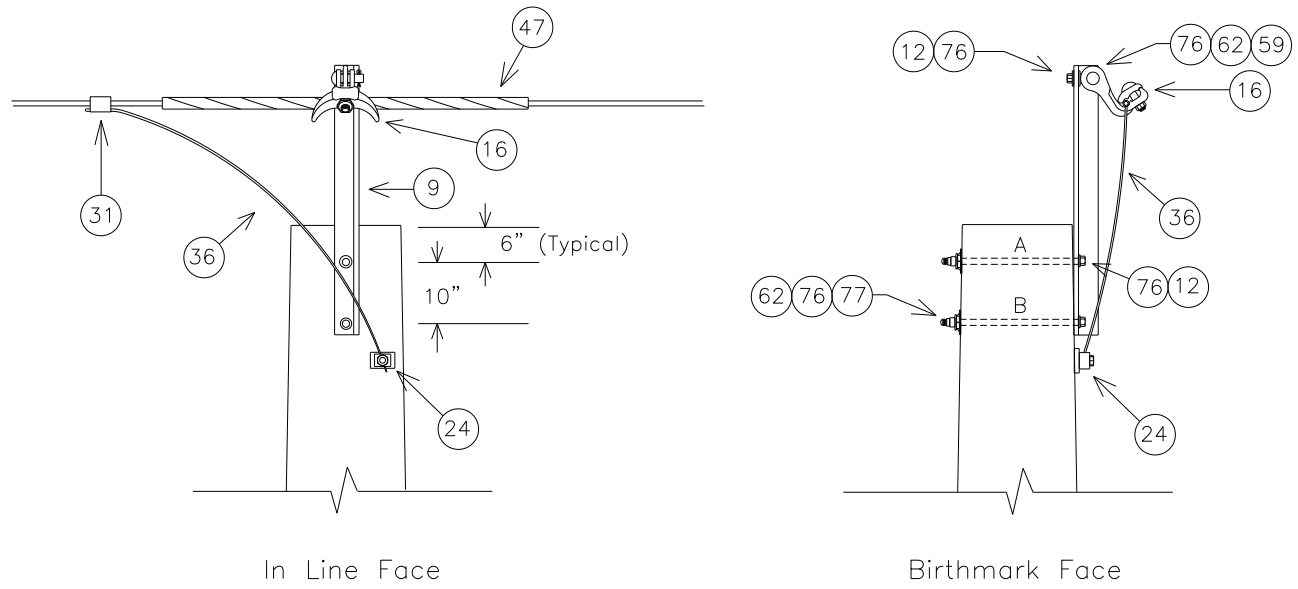
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A2252 DRILLING DETAIL



## SSBAN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

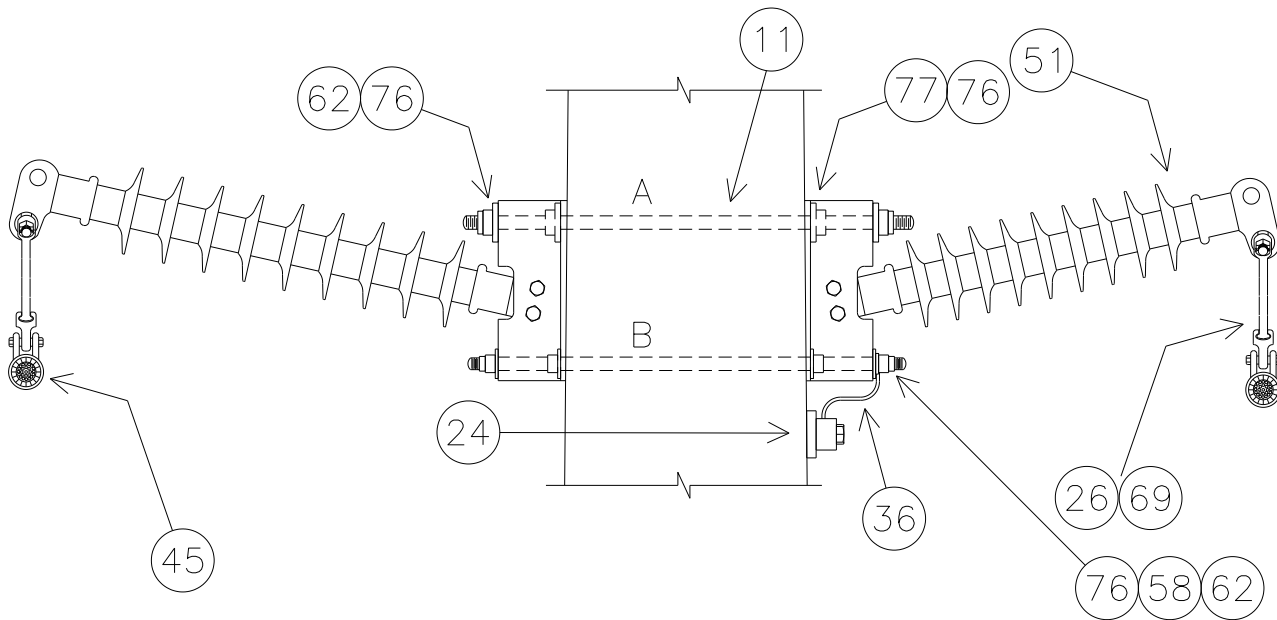
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA01	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



## ISDPLA3

INSULATOR FOR SPUN CONCRETE POLES  
DOUBLE POST, LONG CLEVIS, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA2 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	33.2	34.7	36.2
BOLT 'B' LENGTH (INCHES)	33.7	35.2	36.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDPLA3 PLATES

## ISDPLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L ≈ 10", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDPLA3\*556S

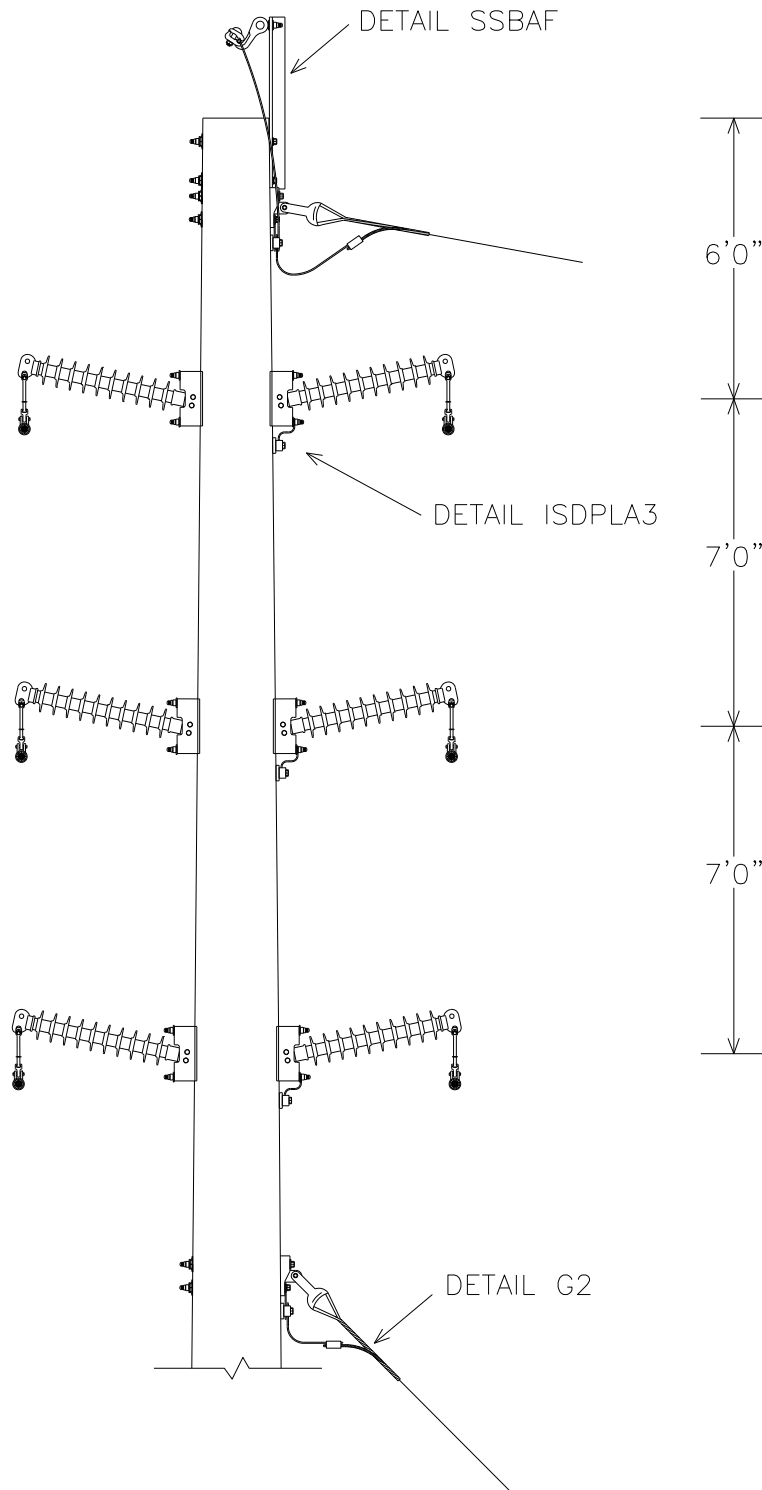
45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## ISDPLA3\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"

# A2253

69KV DOUBLE POST, FRONT GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954S



## A2253 PLATES

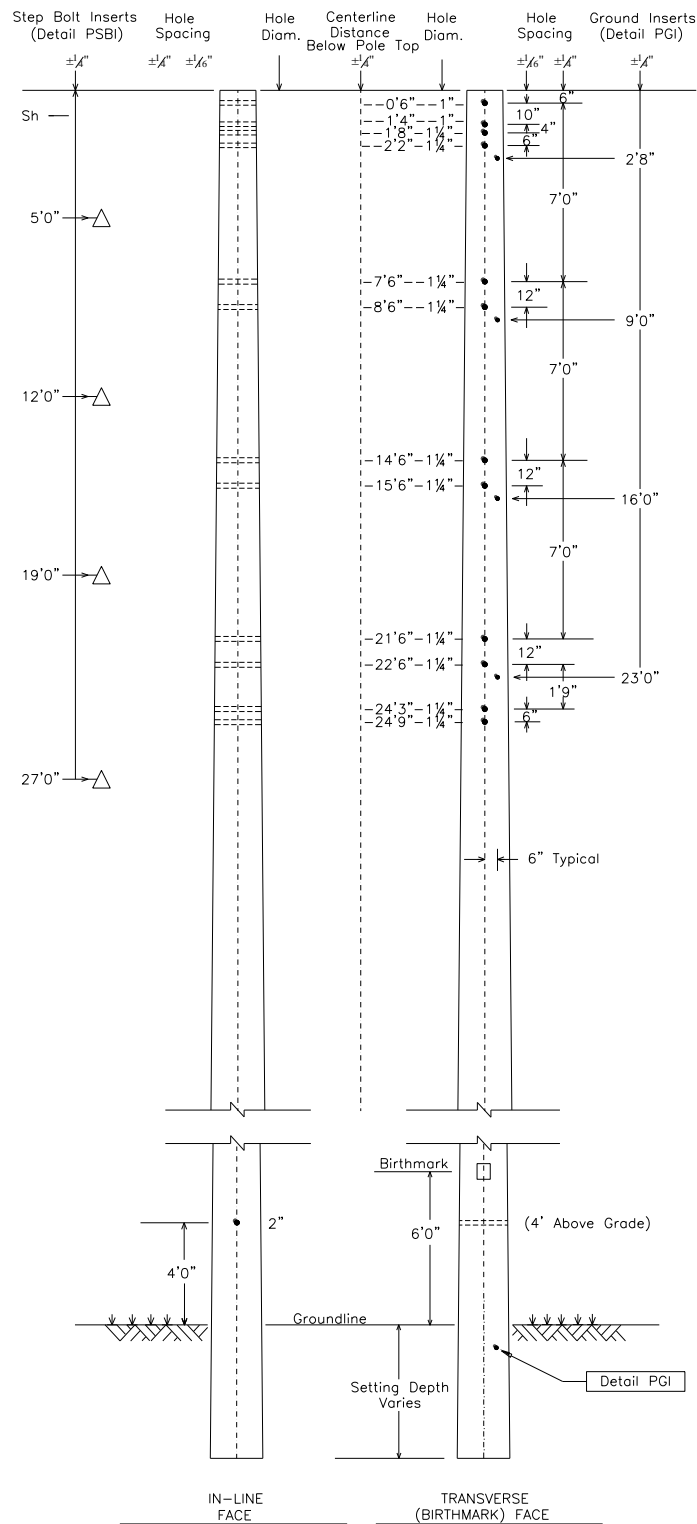
### A2253 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
11	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	5	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - .366"
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTGY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	16	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16 BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	32	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### A2252\*954S

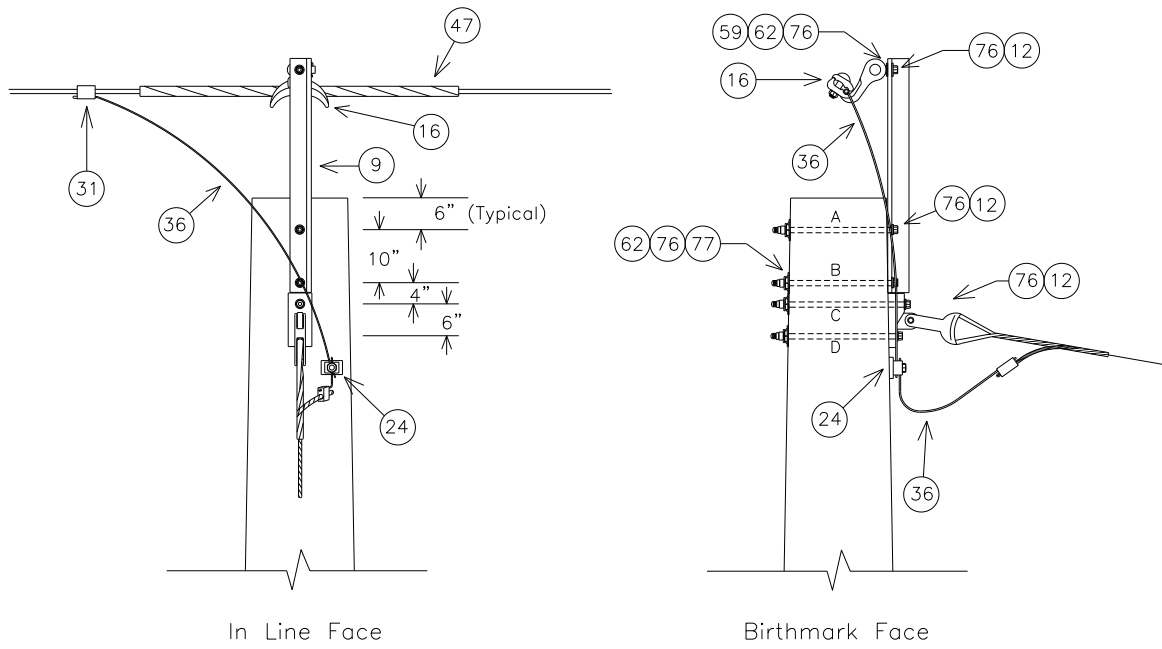
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A2253 DRILLING DETAIL



## SSBAF

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, FRONT GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

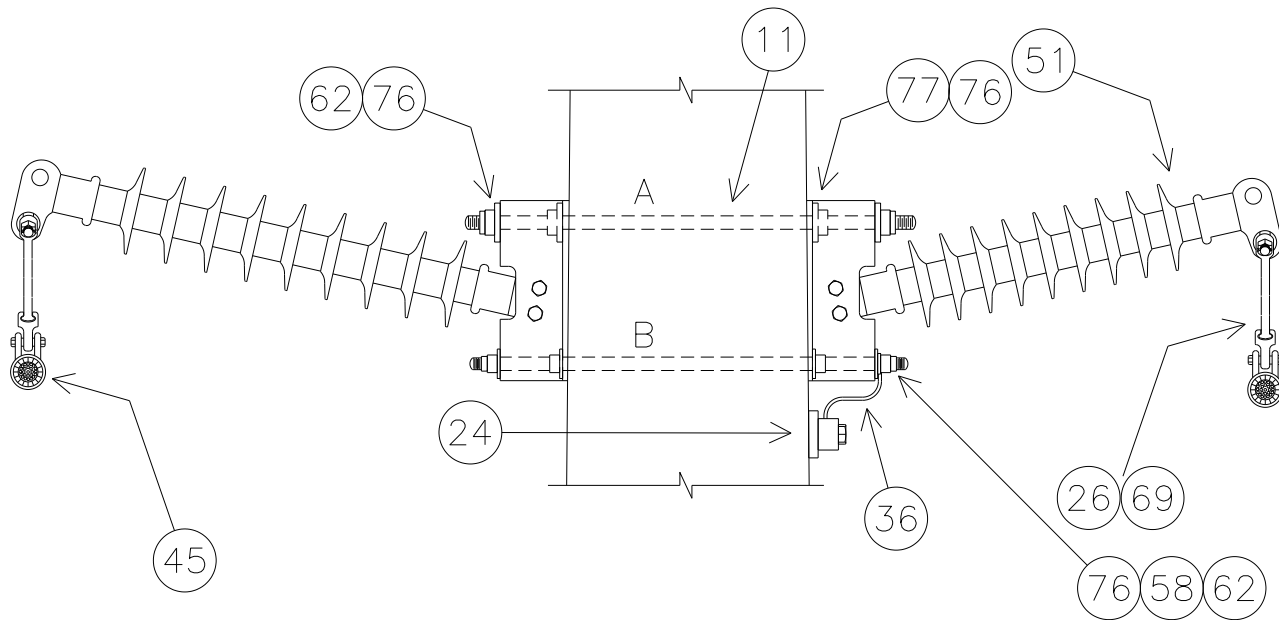
	'A'	'B'	'C'	'D'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	19.6	19.8	21.7	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER;  
USE 3/4" BOLTS FOR 'A' & 'B' AND 7/8" BOLTS FOR 'C' & 'D'

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	1	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16" BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISDPLA3

INSULATOR FOR SPUN CONCRETE POLES  
DOUBLE POST, LONG CLEVIS, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 954S



NOTE: SEE MBA2 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	33.2	34.7	36.2
BOLT 'B' LENGTH (INCHES)	33.7	35.2	36.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDPLA3 PLATES

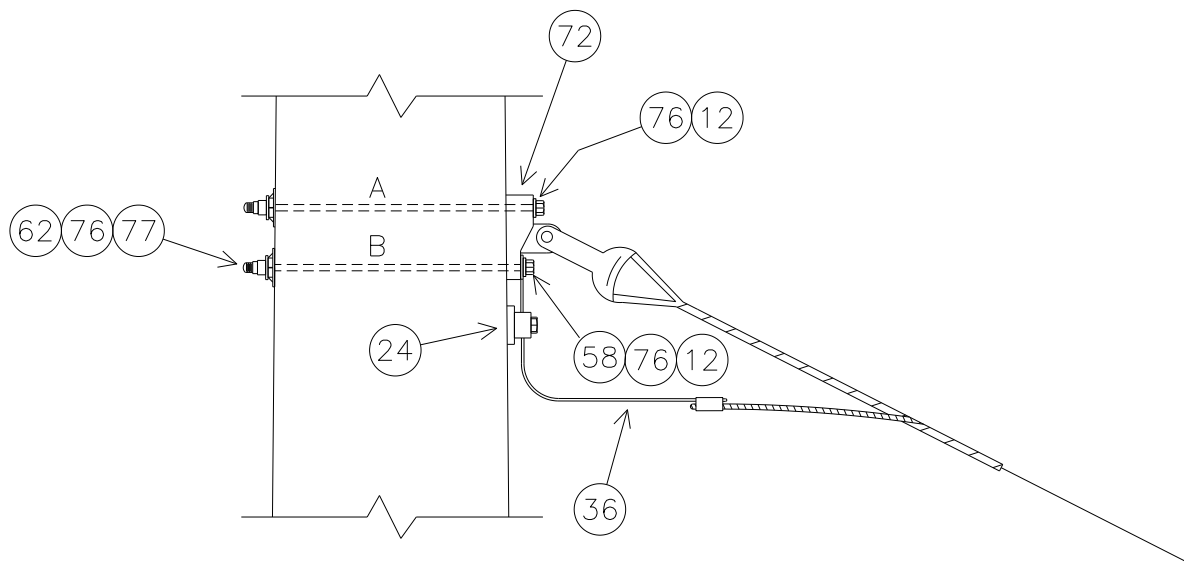
**ISDPLA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L ≈ 10", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

**ISDPLA3\*954S**

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"



**G2****HEAVY GUY**

MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	26.7
'B'	26.0

NOTE: BOLT CALCULATIONS ASSUMES A 17 INCH POLE TOP DIAMETER

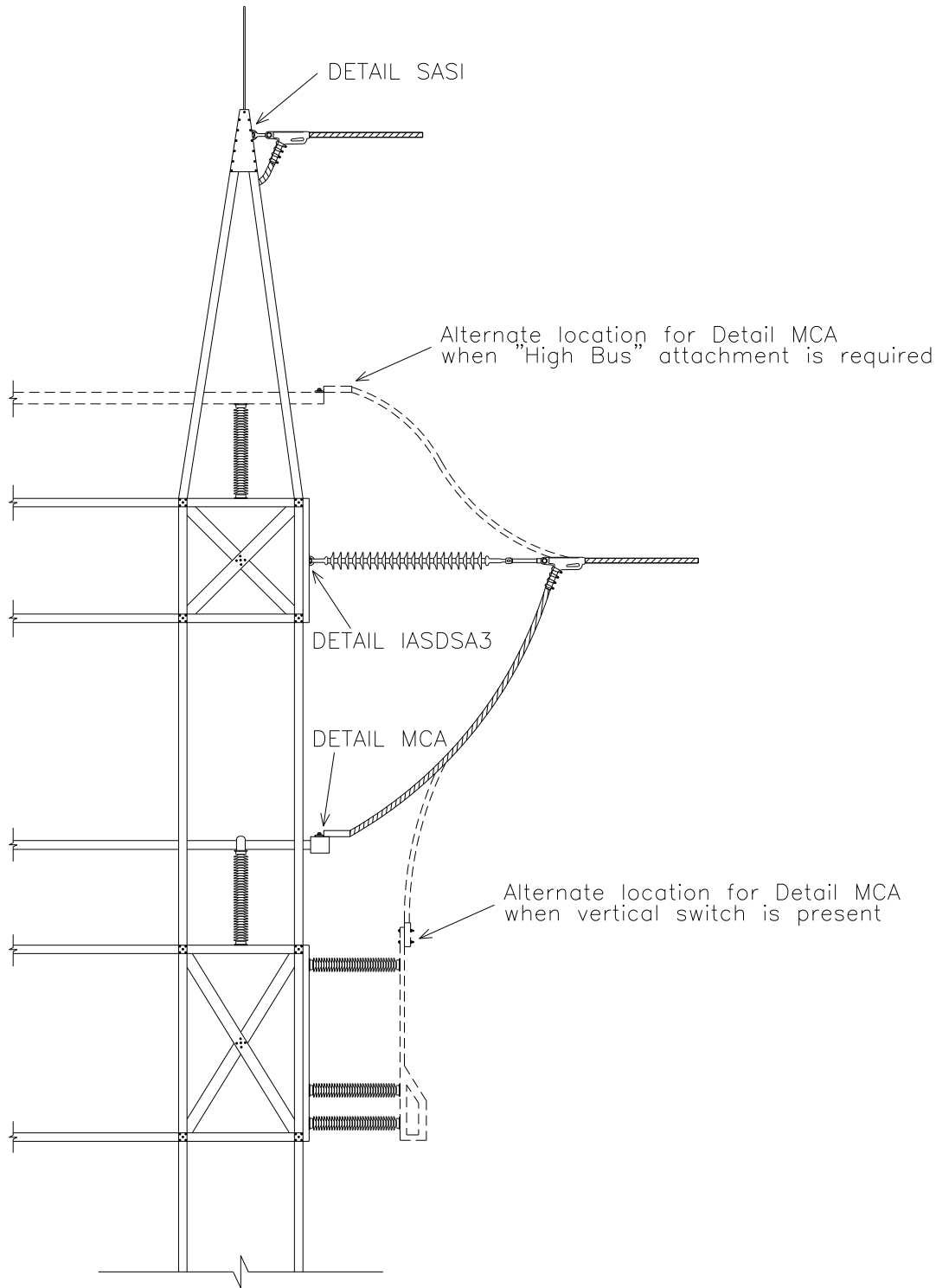
**G2**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS FOR TOP BRACE GROUNDING
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	1	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

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# A3A45Q

69KV, SINGLE DEADEND, SLACK TENSION, SUBSTATION LATTICE, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A3A45Q PLATES

## A3A45Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## A3A45Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

## A3A45Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

## A3A45Q\*954S

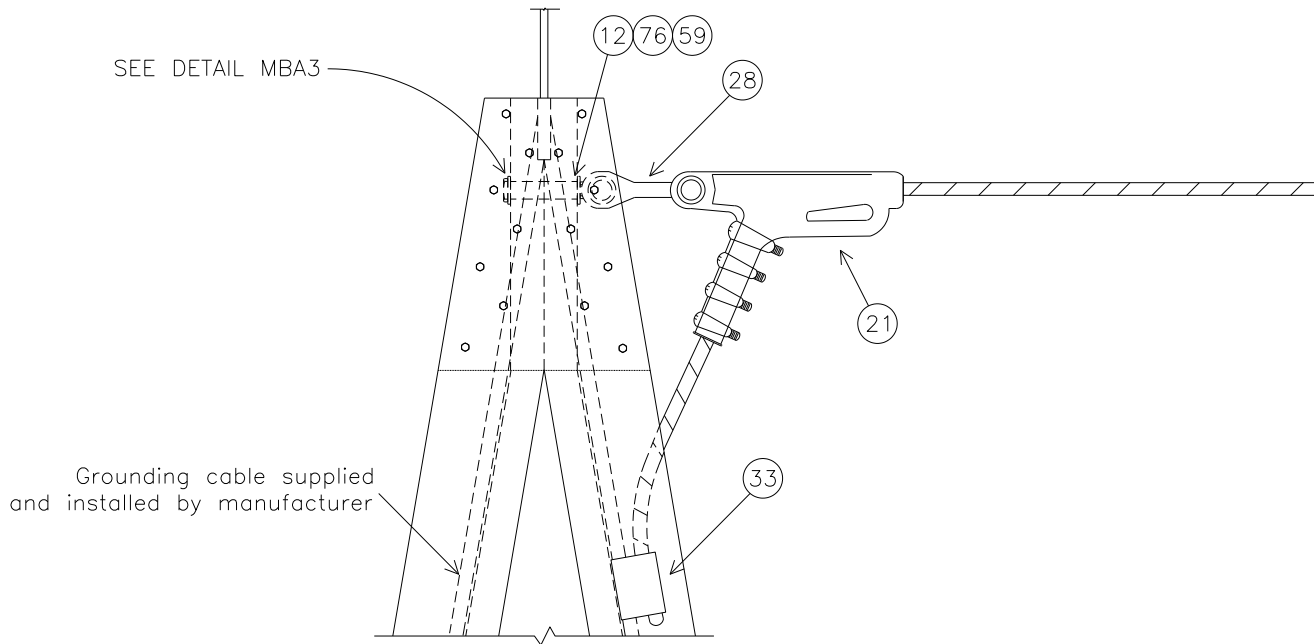
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

## A3A45Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE

## SASI

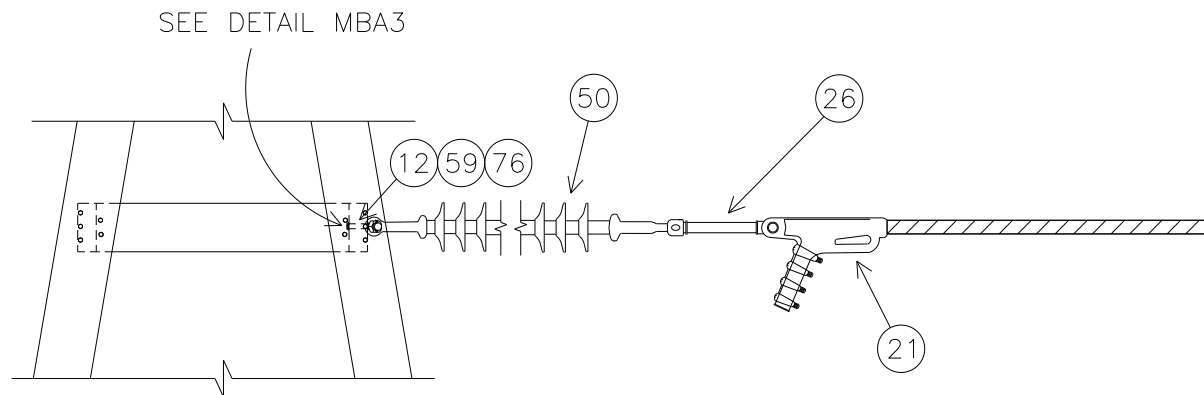
### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSA3

**INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES**  
**SINGLE DEAD-END, SLACK TENSION, 69KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### IASDSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
59	NUTUY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### IASDSA3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

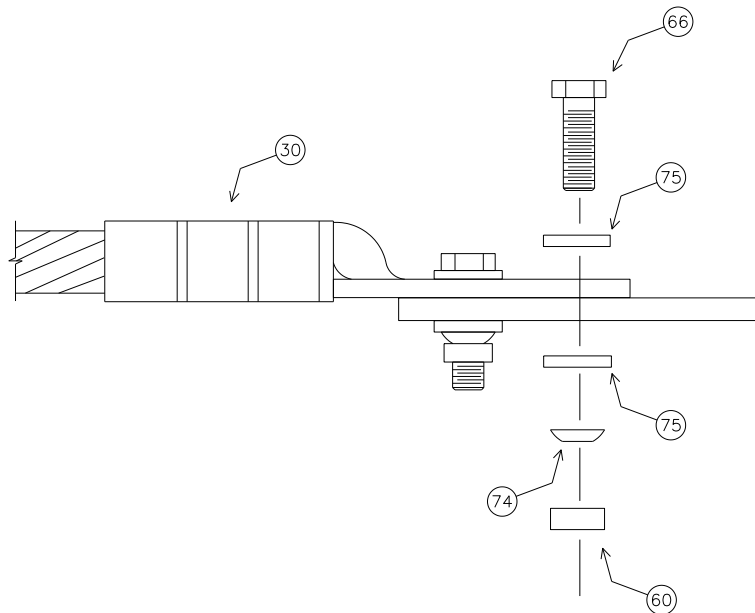
### IASDSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

## MCA

### CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



#### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

#### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

#### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

#### MCA\*954S

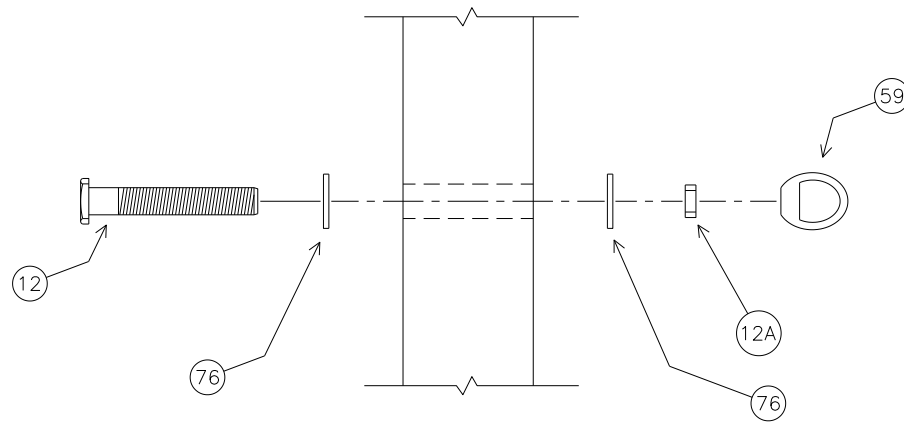
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

#### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

# MBA3

## TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES



### MBA3 PLATE

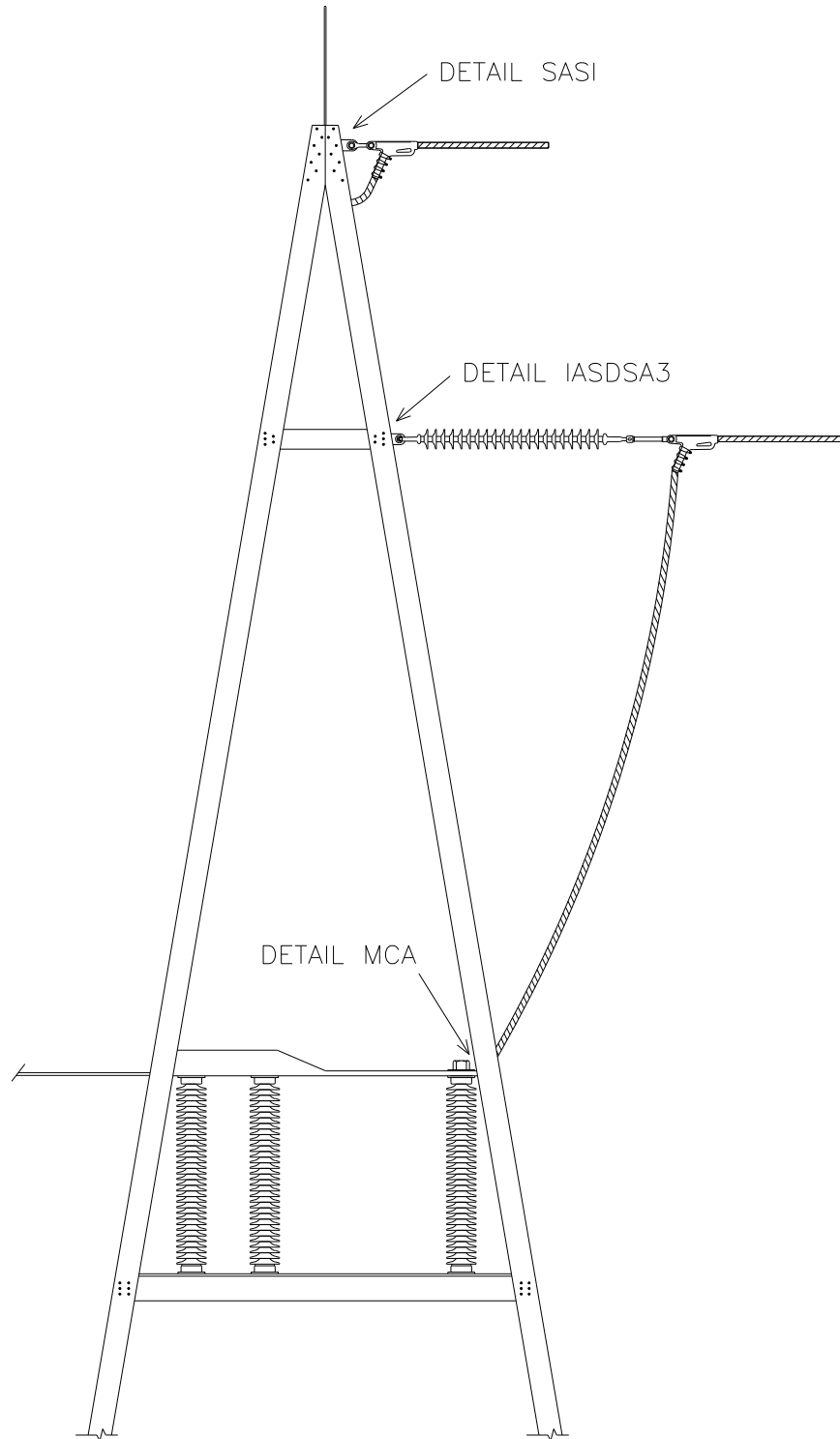
NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED



# A3B45Q

69KV, SINGLE DEADEND, SLACK TENSION, SUBSTATION A-FRAME, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A3B45Q PLATES

## A3B45Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66 INCHES, CLASS 52-8/11
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## A3B45Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

## A3B45Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

## A3B45Q\*954S

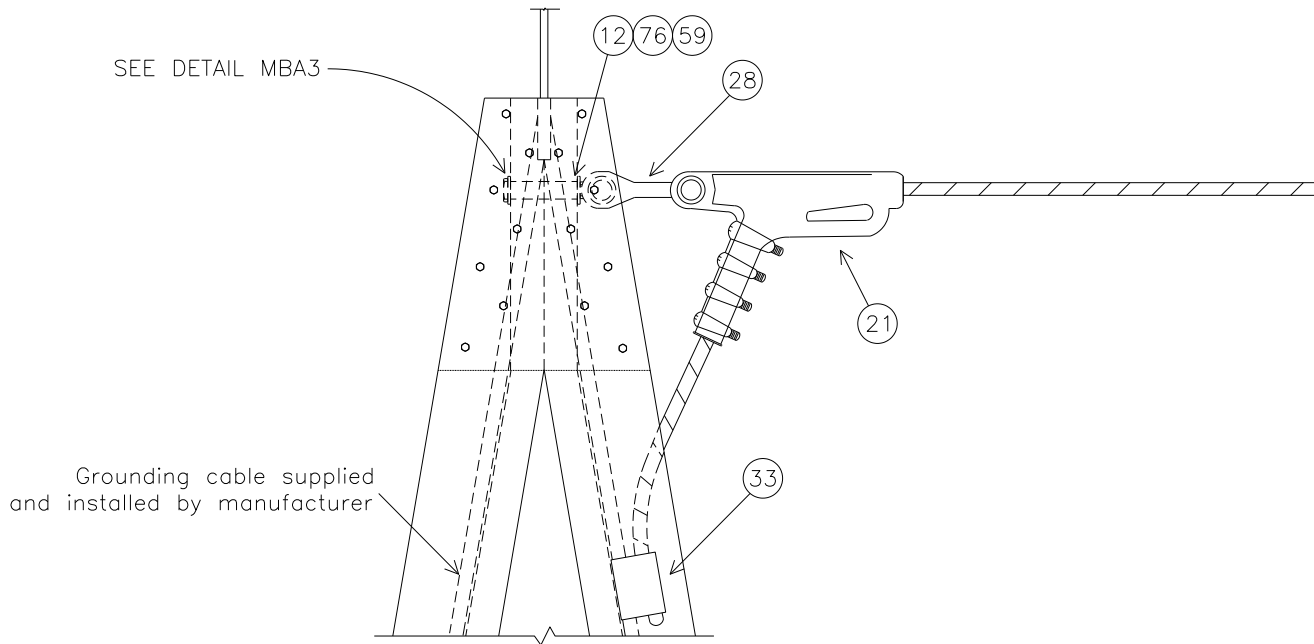
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

## A3B45Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE

# SASI

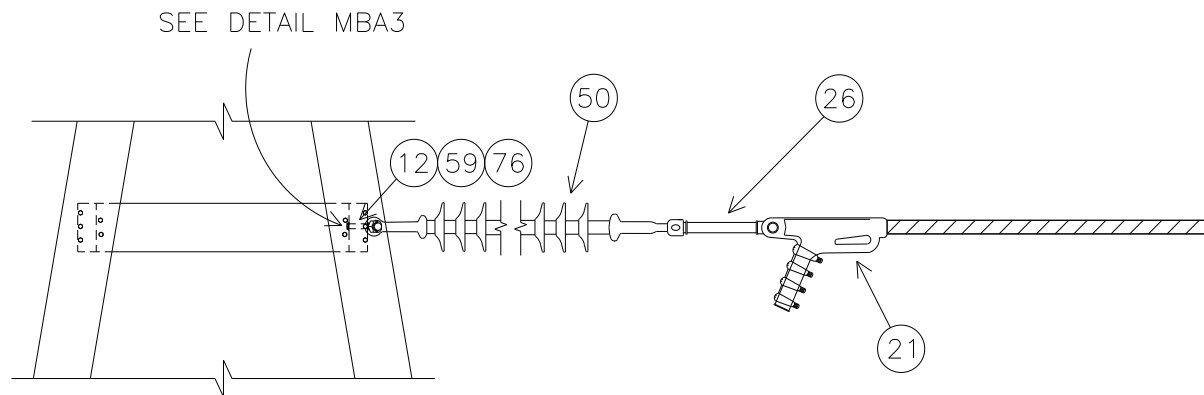
## SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSA3

**INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES**  
**SINGLE DEAD-END, SLACK TENSION, 69KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### IASDSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
59	NUTUY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### IASDSA3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

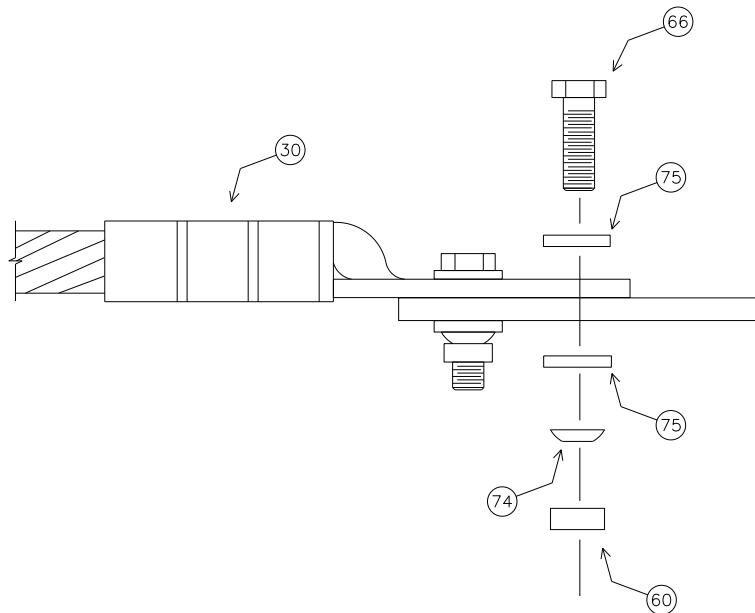
### IASDSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# MCA

## CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### MCA\*954S

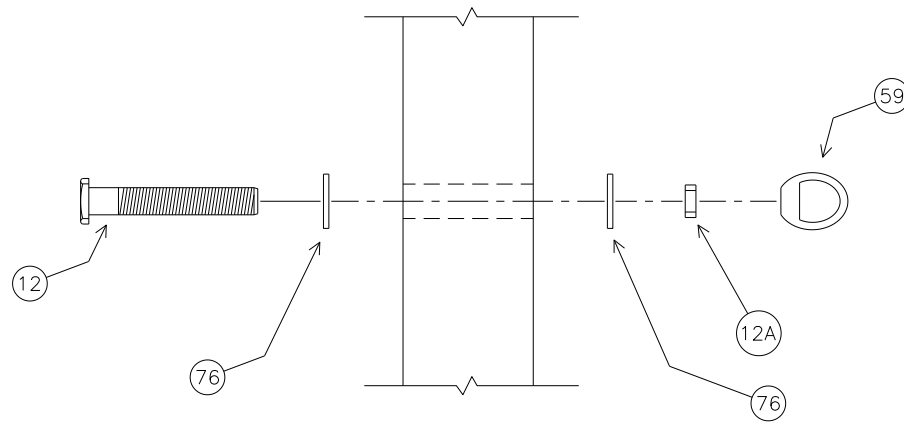
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

# MBA3

## TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES



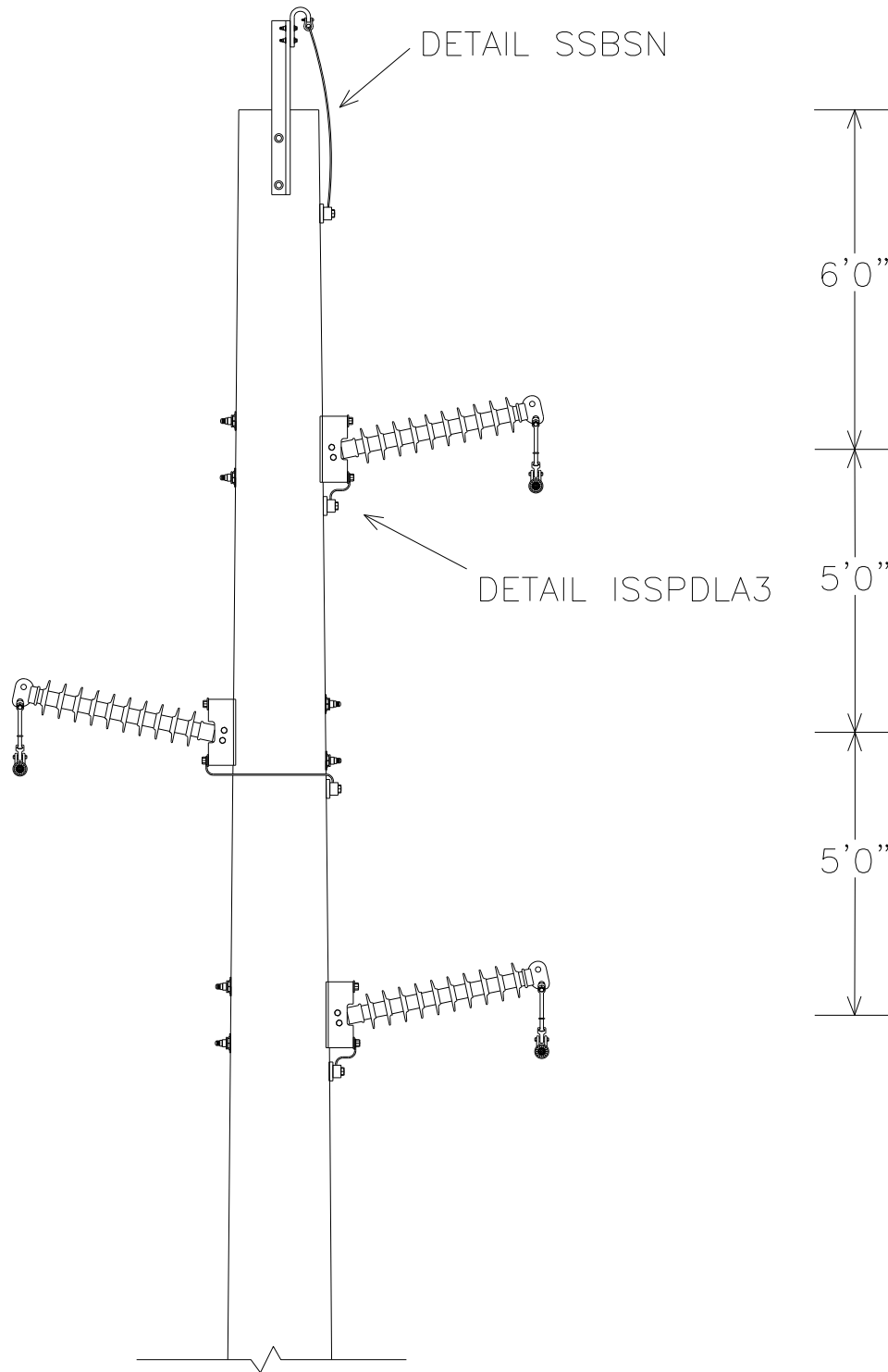
### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# A6221

69KV SINGLE POST, DELTA, UNGUYED, ANGLE SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A6221 PLATES

## A6221 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## A6221\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4

## A6221\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## A6221\*954S

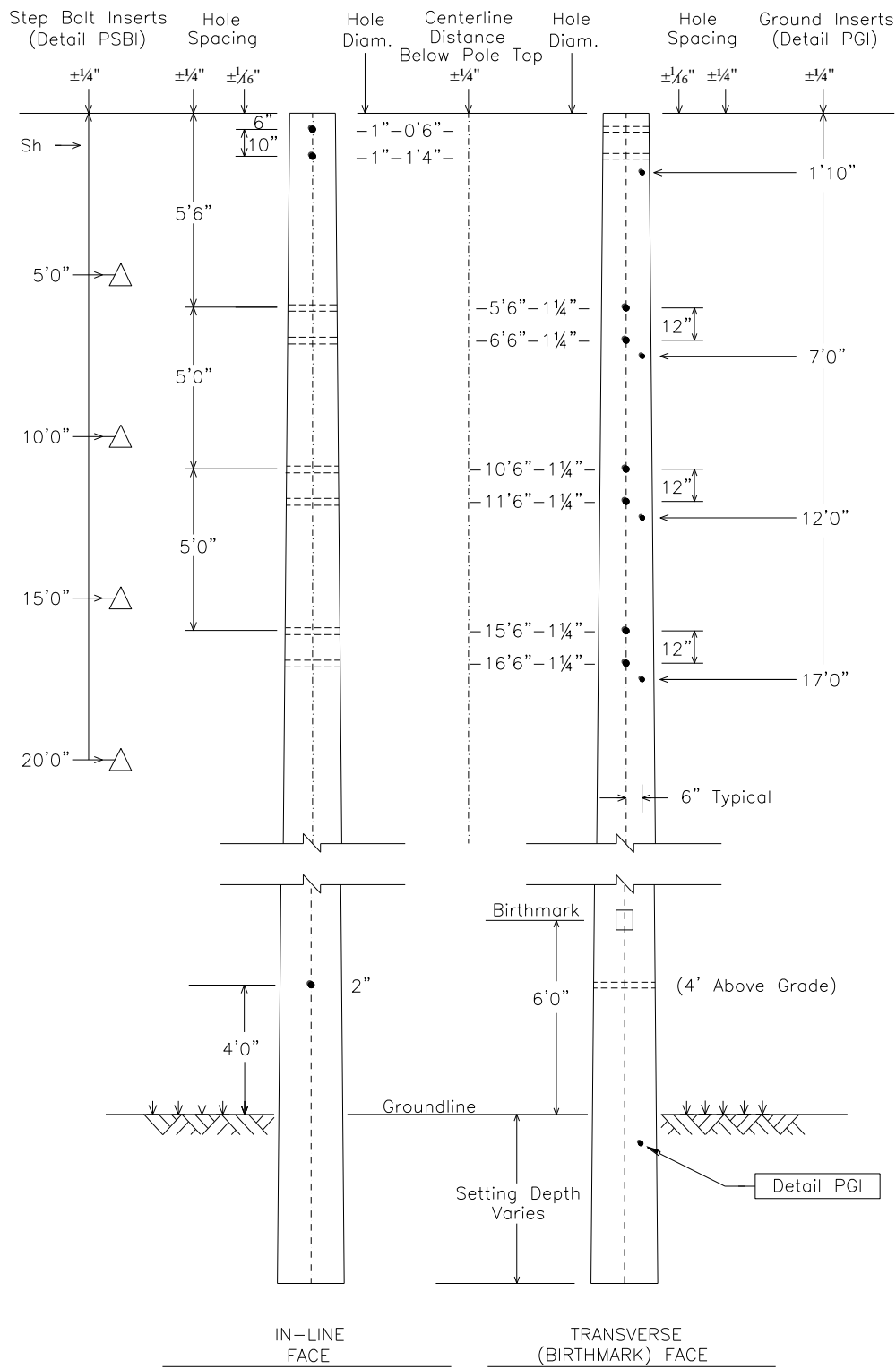
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## A6221\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

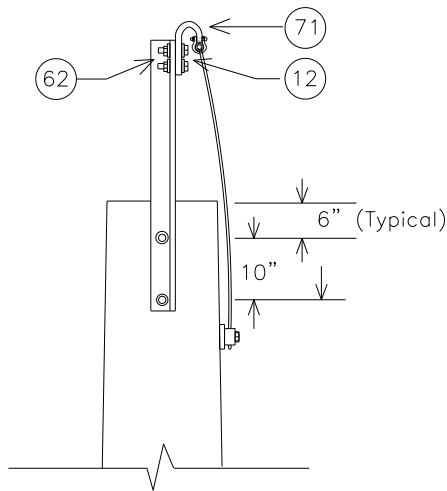


## A6221 DRILLING DETAIL

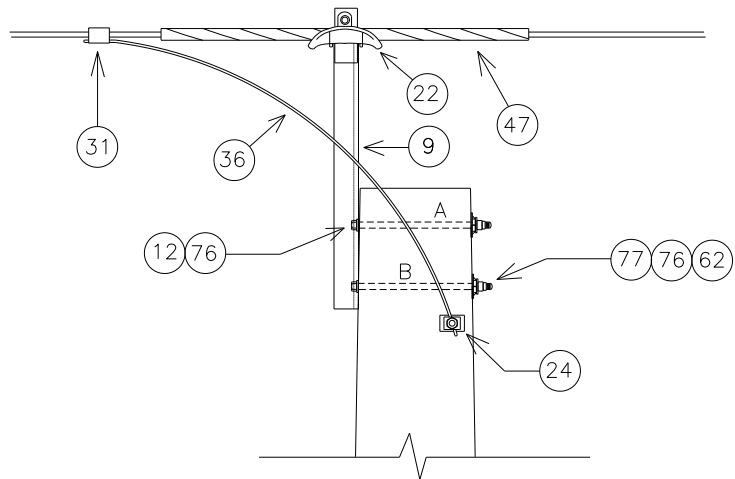


## SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



In Line Face



Birthmark Face

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

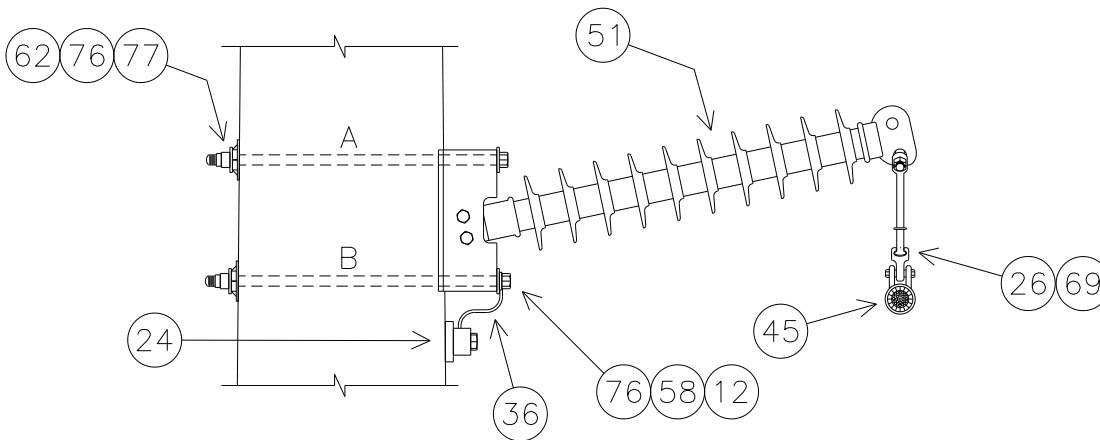
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPDLA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE POST, DELTA, LONG CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.4	27.4	28.5
BOLT 'B' LENGTH (INCHES)	26.8	27.9	29.0

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER.

# ISSPDLA3 PLATES

## ISSPDLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPDLA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 3/4

## ISSPDLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPDLA3\*954S

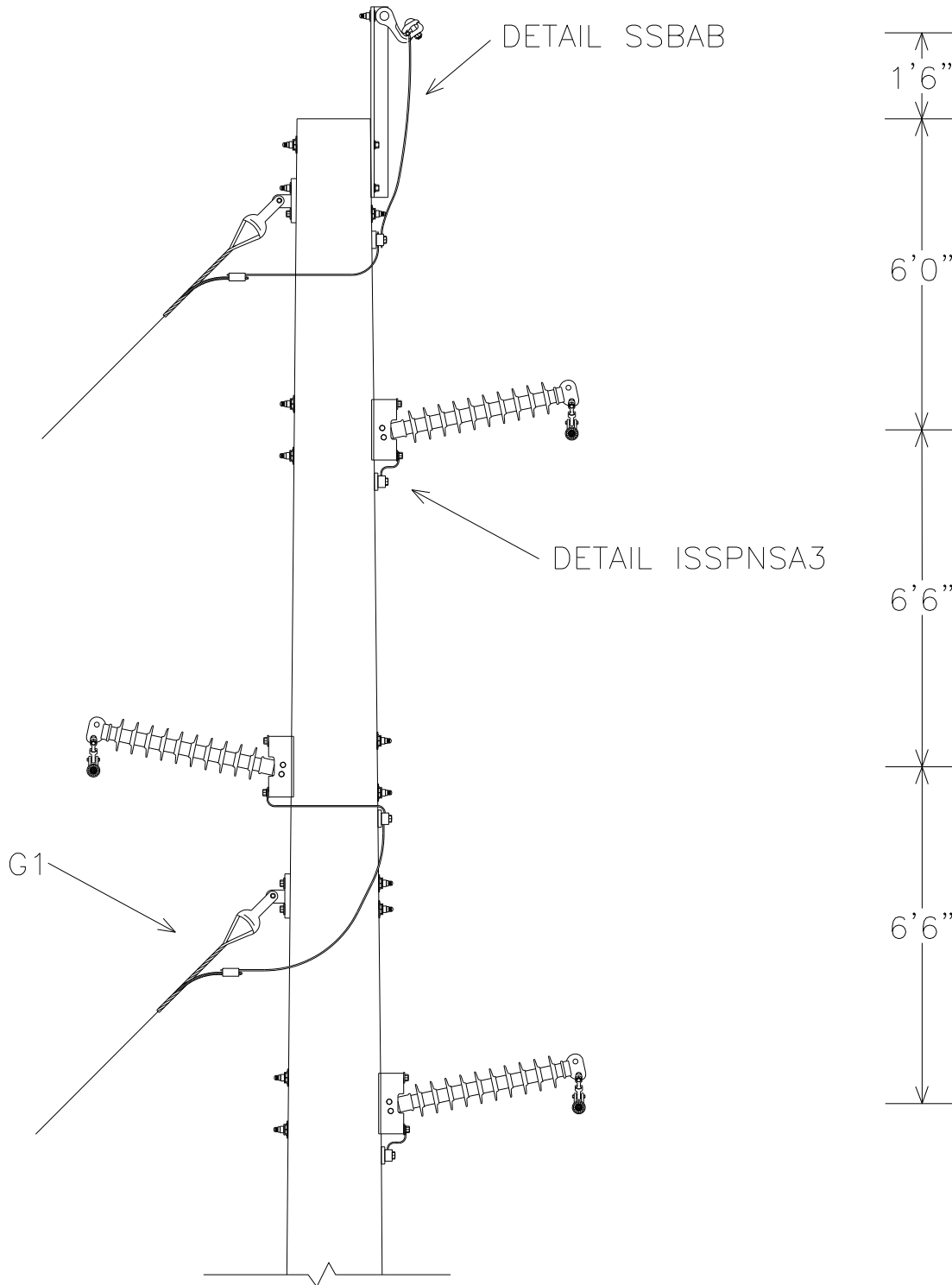
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPDLA3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

# A6222A

69KV SINGLE POST, DELTA, BACK GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A6222A PLATES

## A6222A BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	8	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	16	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	8	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## A6222A\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 3/4

## A6222A\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

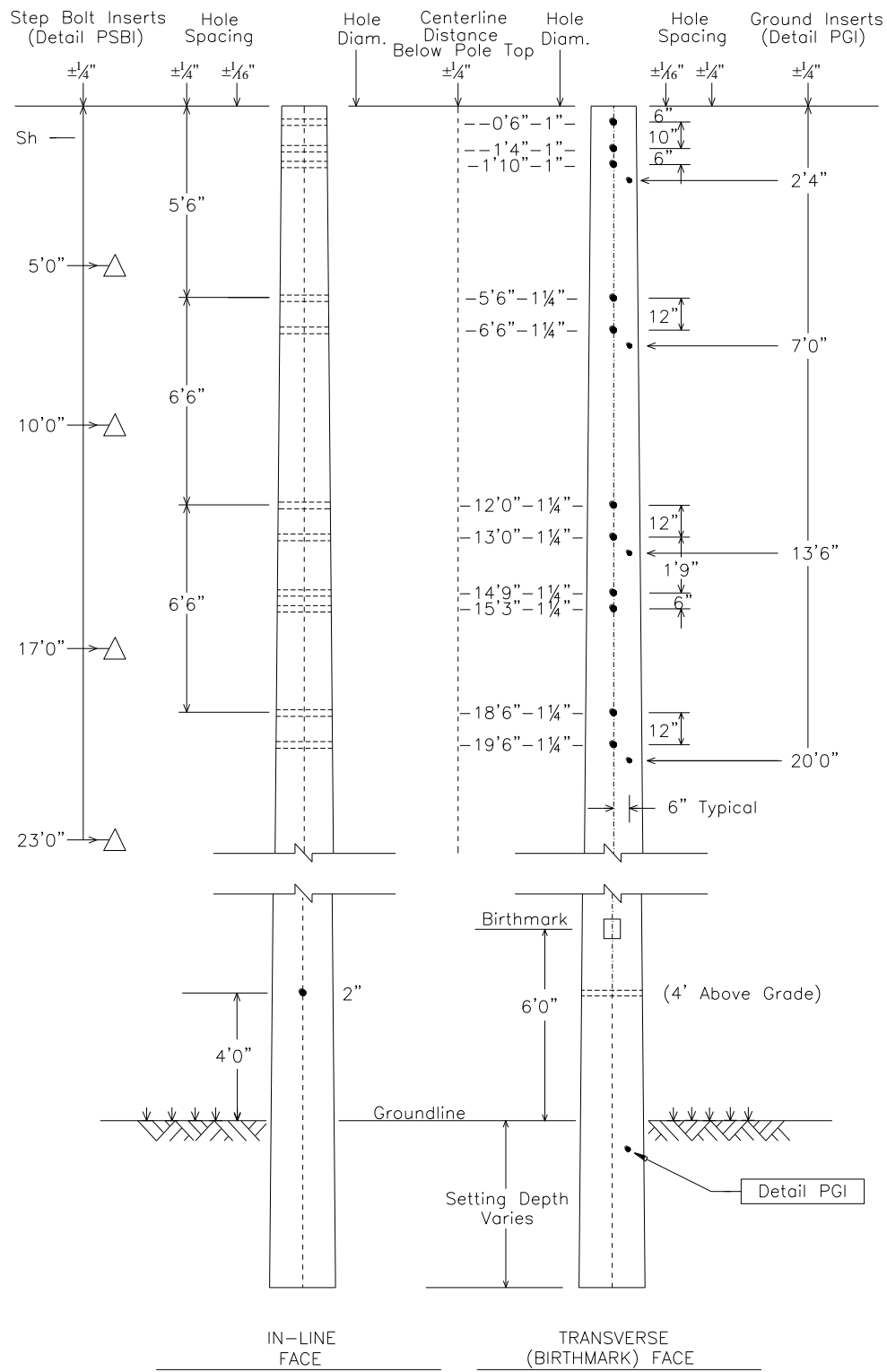
## A6222A\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## A6222A\*1590

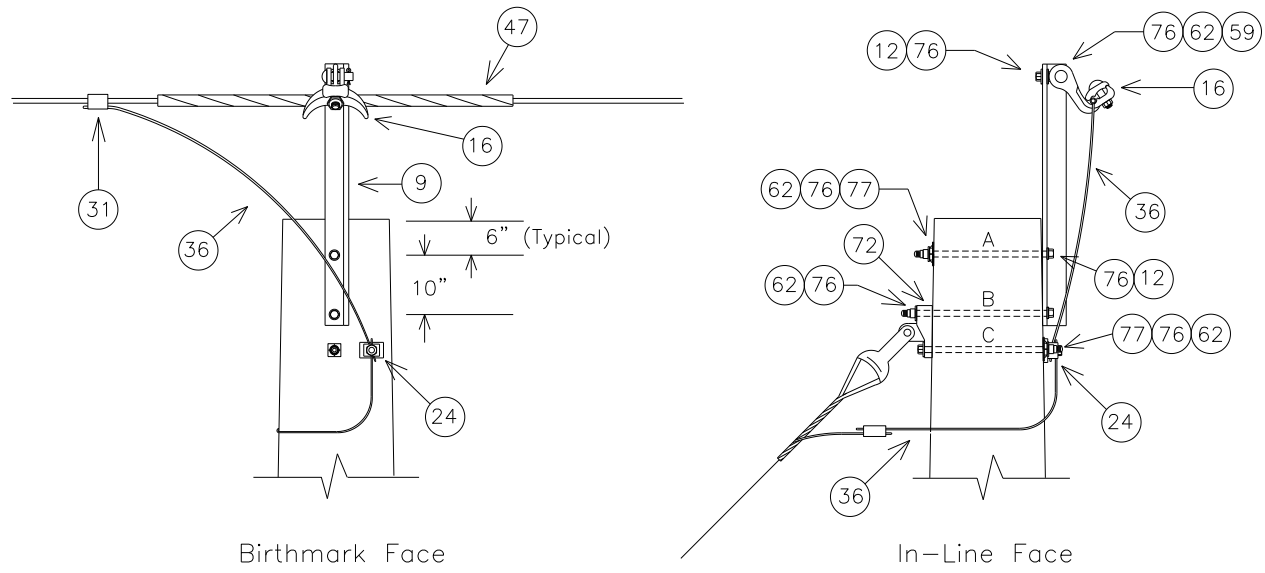
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## A6222A DRILLING DETAIL



## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

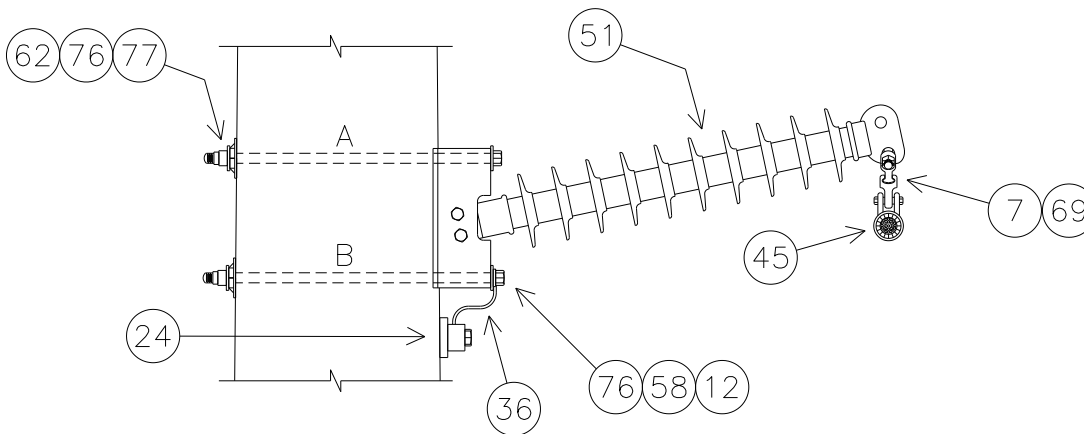
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



## ISSPNSA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE POST, NO GUY, SHORT CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	27.9	29.4
BOLT 'B' LENGTH (INCHES)	27.0	28.4	29.8

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER.

# ISSPNSA3 PLATES

## ISSPNSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNSA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 3/4

## ISSPNSA3\*954A

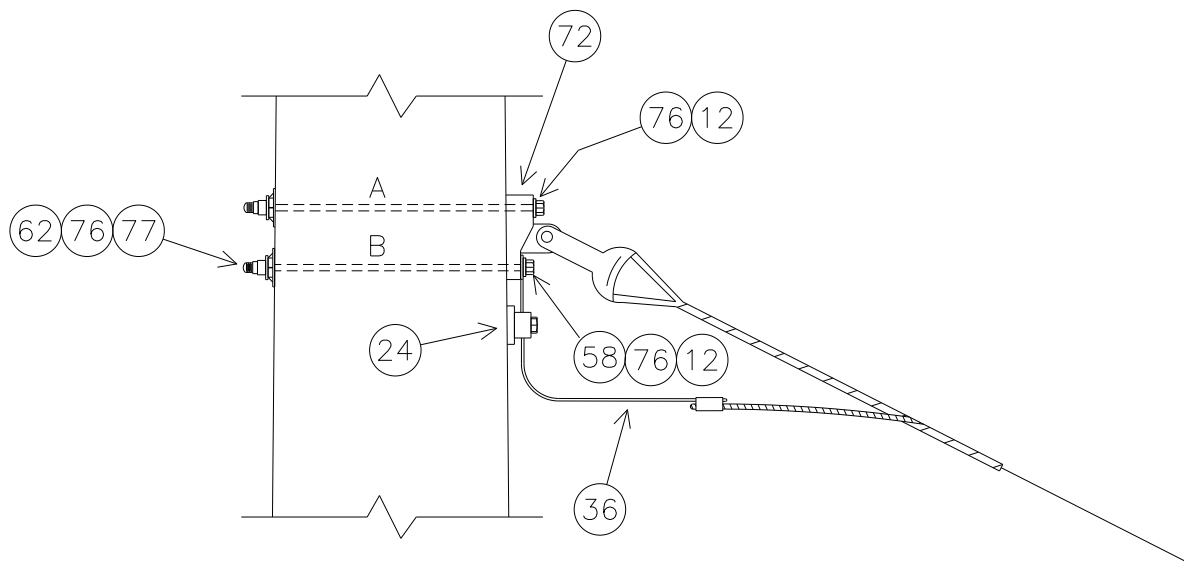
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPNSA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPNSA3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

**G1****GUY**

MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	25.3
'B'	24.6

NOTE: BOLT CALCULATIONS ASSUMES A 17 INCH POLE TOP DIAMETER

**G1**

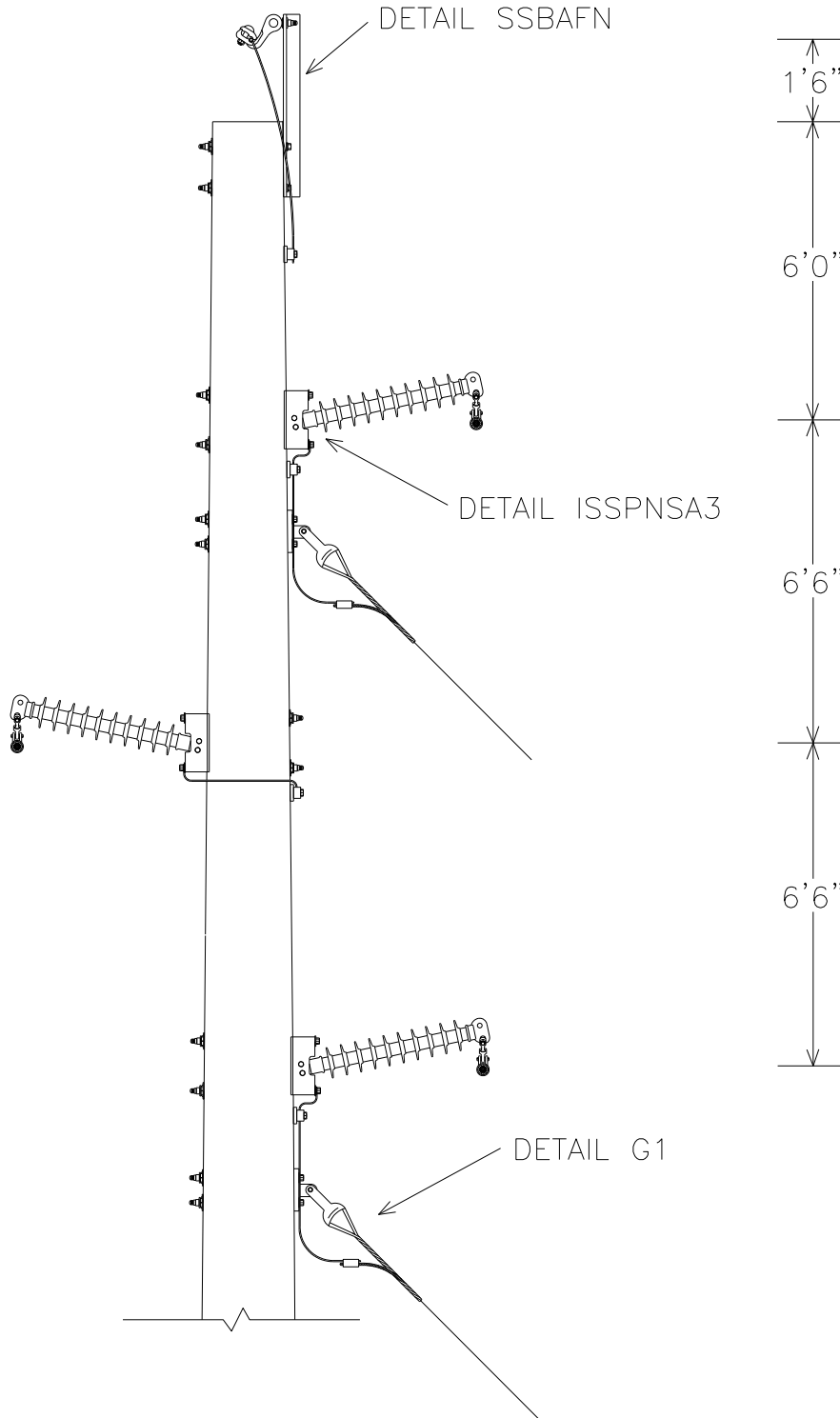
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	0	PROVIDED AS PART OF POST INSULATOR MATERIALS
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	1	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

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## A6222B

69KV SINGLE POST, DELTA, FRONT GUYED, ANGLE SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# A6222B PLATES

## A6222B BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	10	SQUARE LOCK NUT FOR 7/8" BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	20	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	10	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## A6222B\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 3/4

## A6222B\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

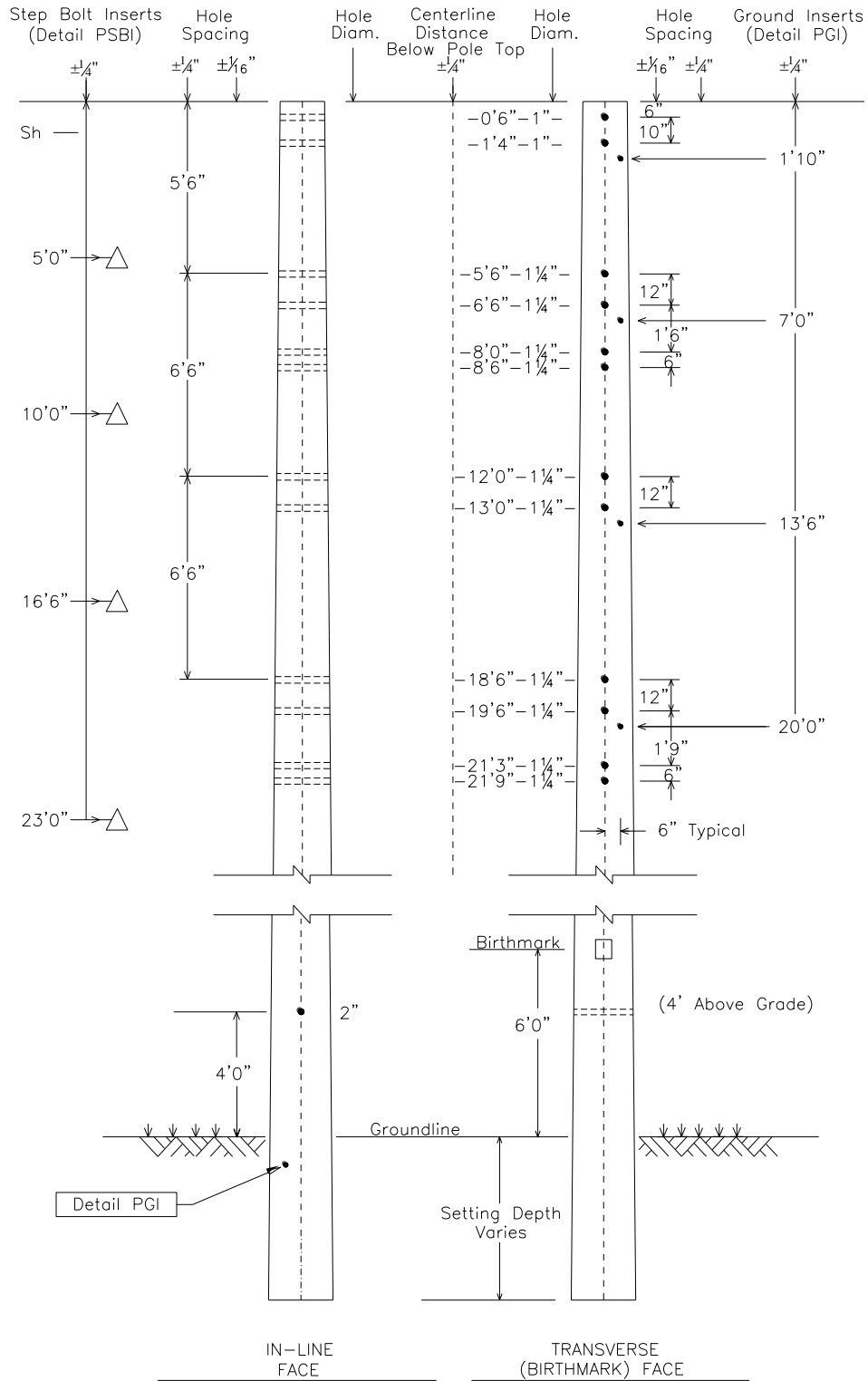
## A6222B\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## A6222B\*1590

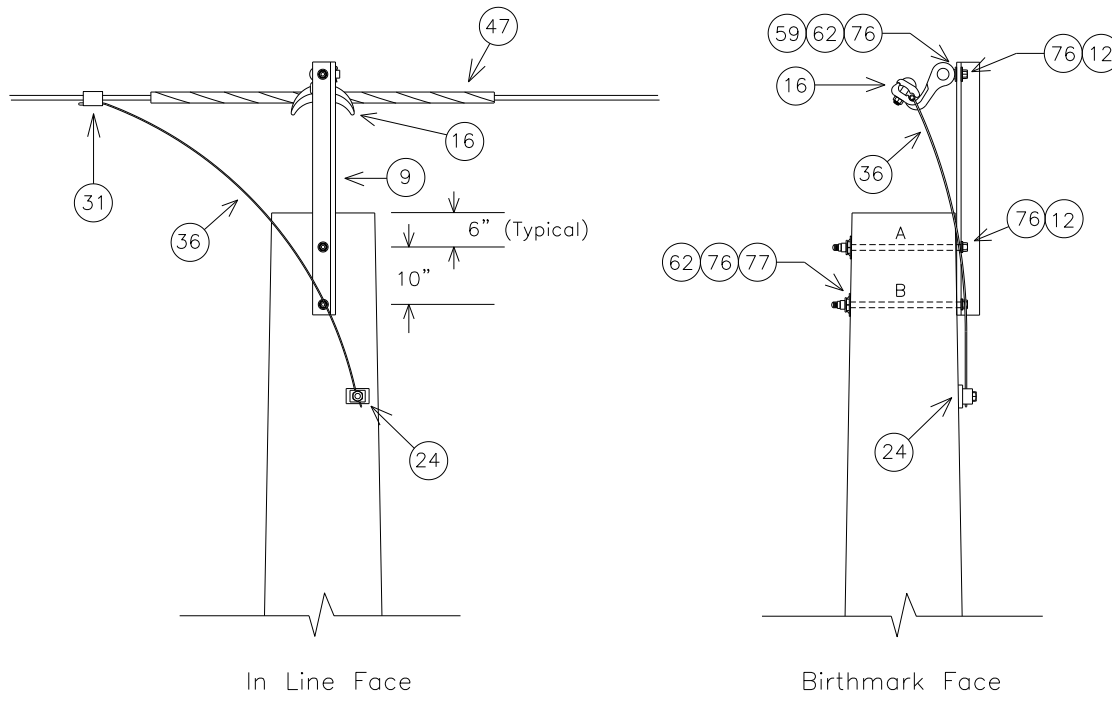
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## A6222B DRILLING DETAIL



## SSBAFN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	'A'	'B'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	19.6	19.8

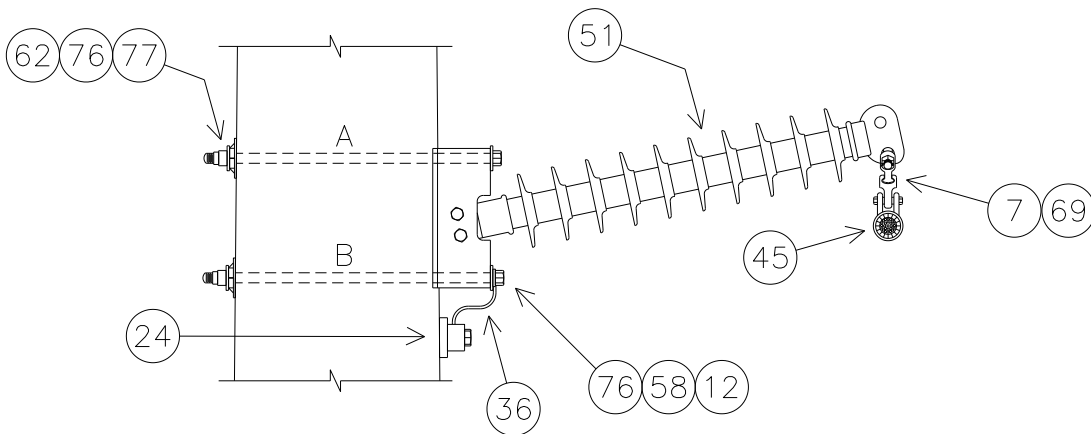
NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER;

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



# ISSPNSA3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE POST, NO GUY, SHORT CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	27.9	29.4
BOLT 'B' LENGTH (INCHES)	27.0	28.4	29.8

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER.

# ISSPNSA3 PLATES

## ISSPNSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNSA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 3/4

## ISSPNSA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPNSA3\*954S

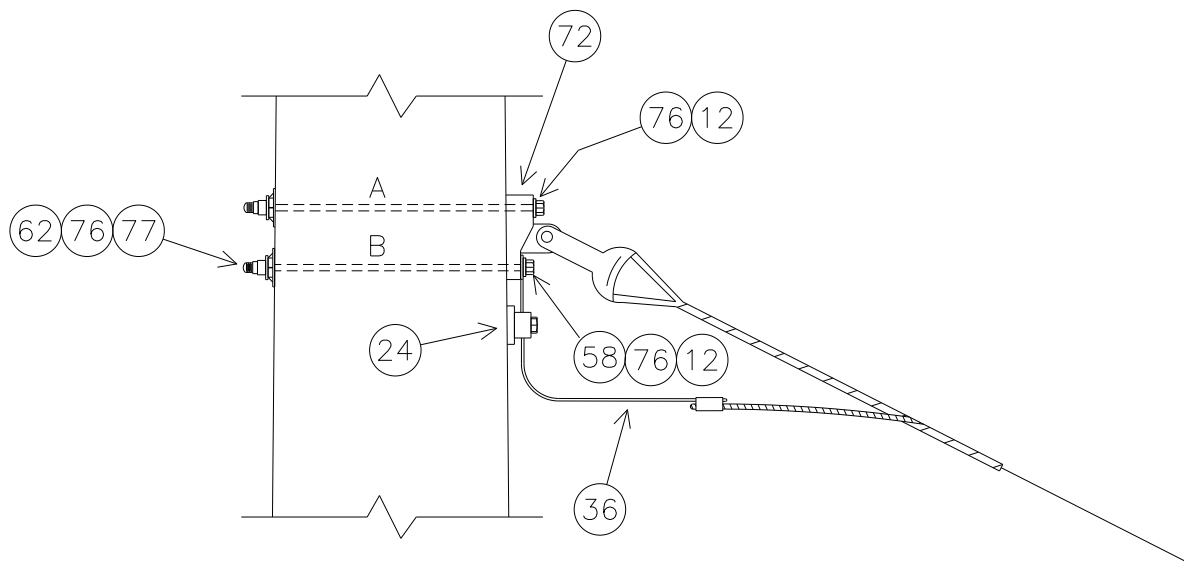
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPNSA3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

**G1**

LIGHT GUY (QUANTITY = 2)



SUBSTRUCTURE	Top	Bottom
BOLT 'A' LENGTH (INCHES)	23.0	25.8
BOLT 'B' LENGTH (INCHES)	22.1	25.0

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER.

**G1**

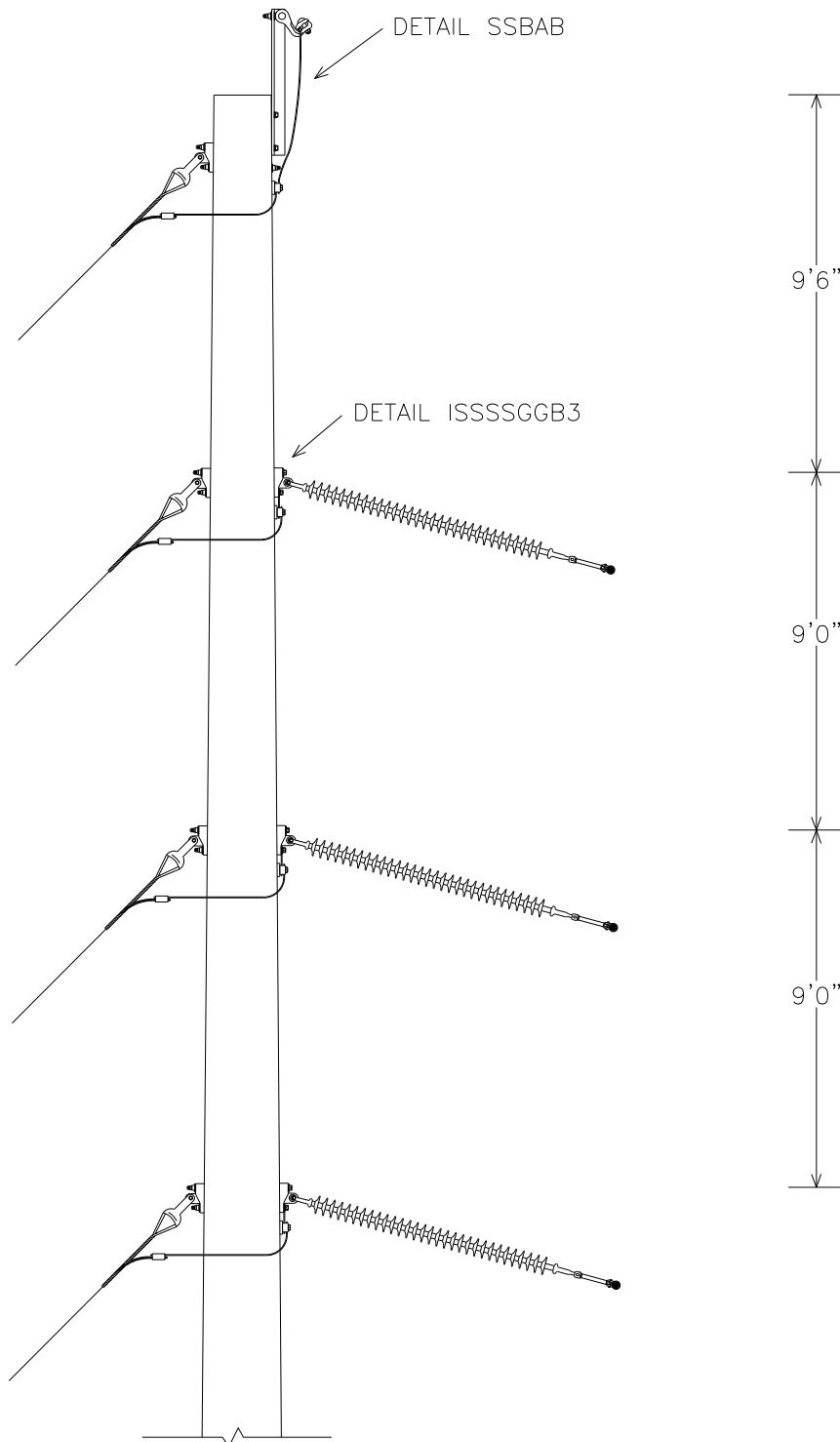
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	0	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

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## B1213

138KV, SINGLE SUSPENSION, SINGLE GRIP, GUYED, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S, 1590



## B1213 PLATES

### B1213 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6"
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA01	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 007	3	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4 THICK WITH 13/16 OPENING, H. D. G.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
56	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 66 INCHES, CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	7	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### B1213\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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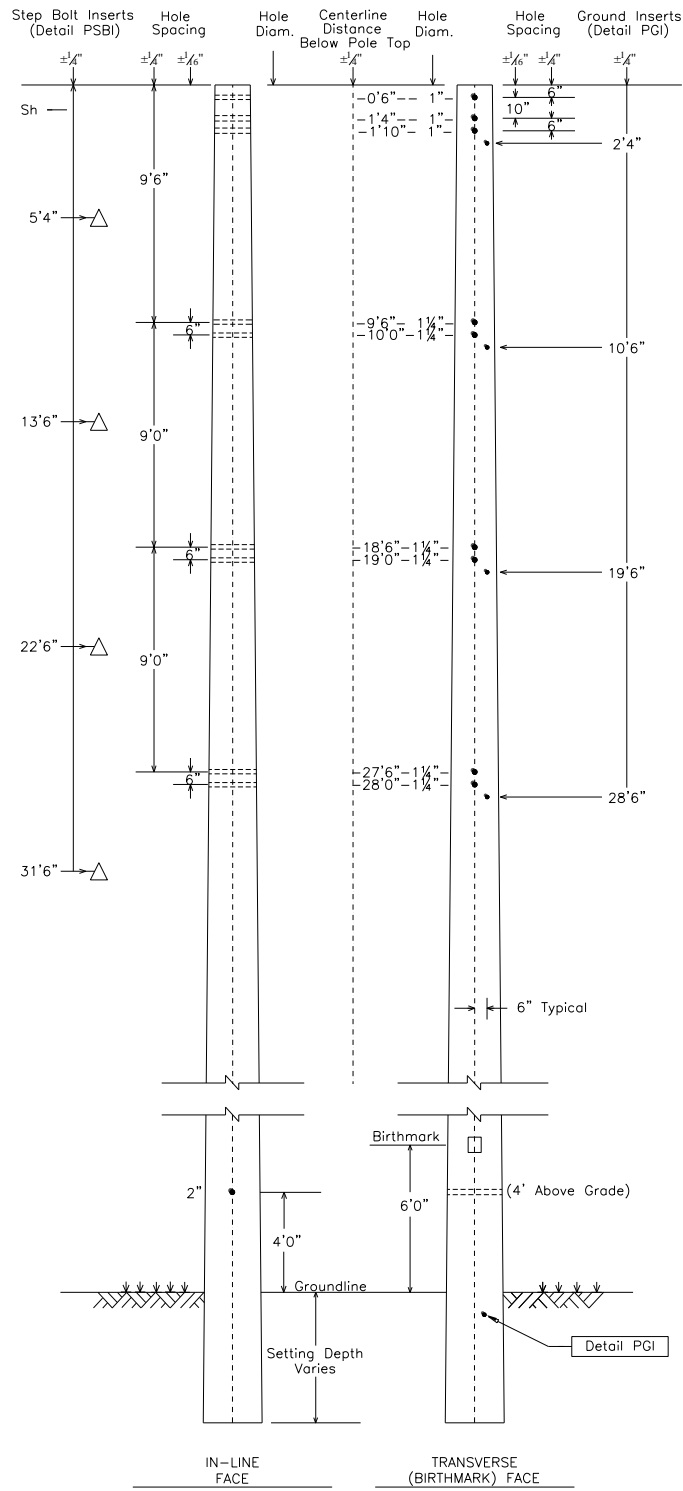
### B1213\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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### B1213\*1590

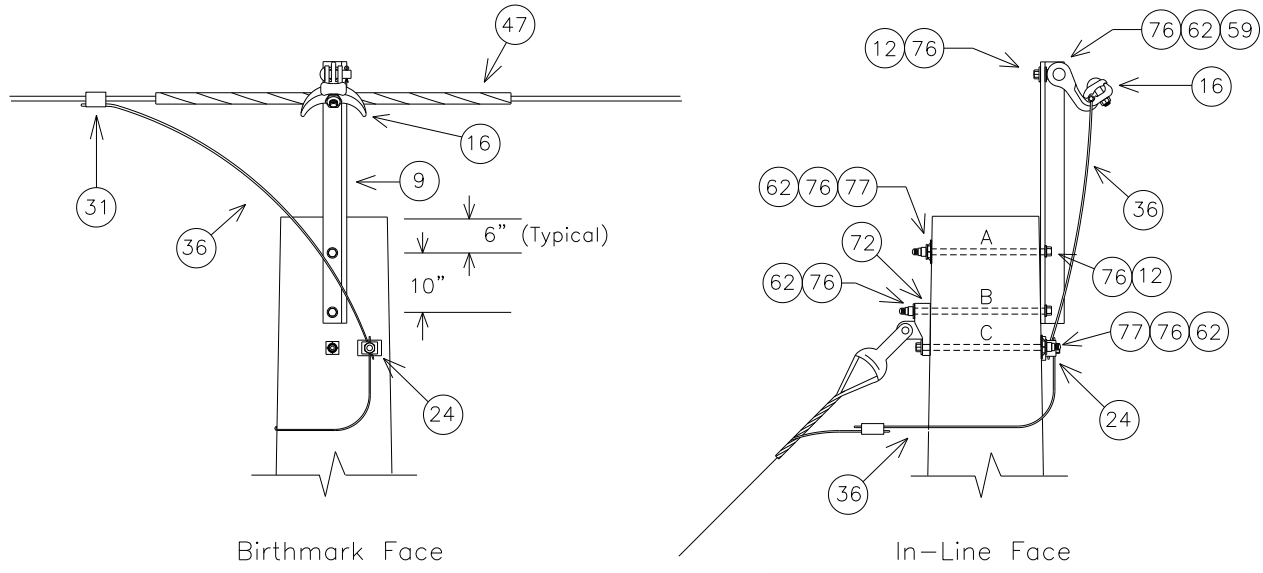
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
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## B1213 DRILLING DETAIL



## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

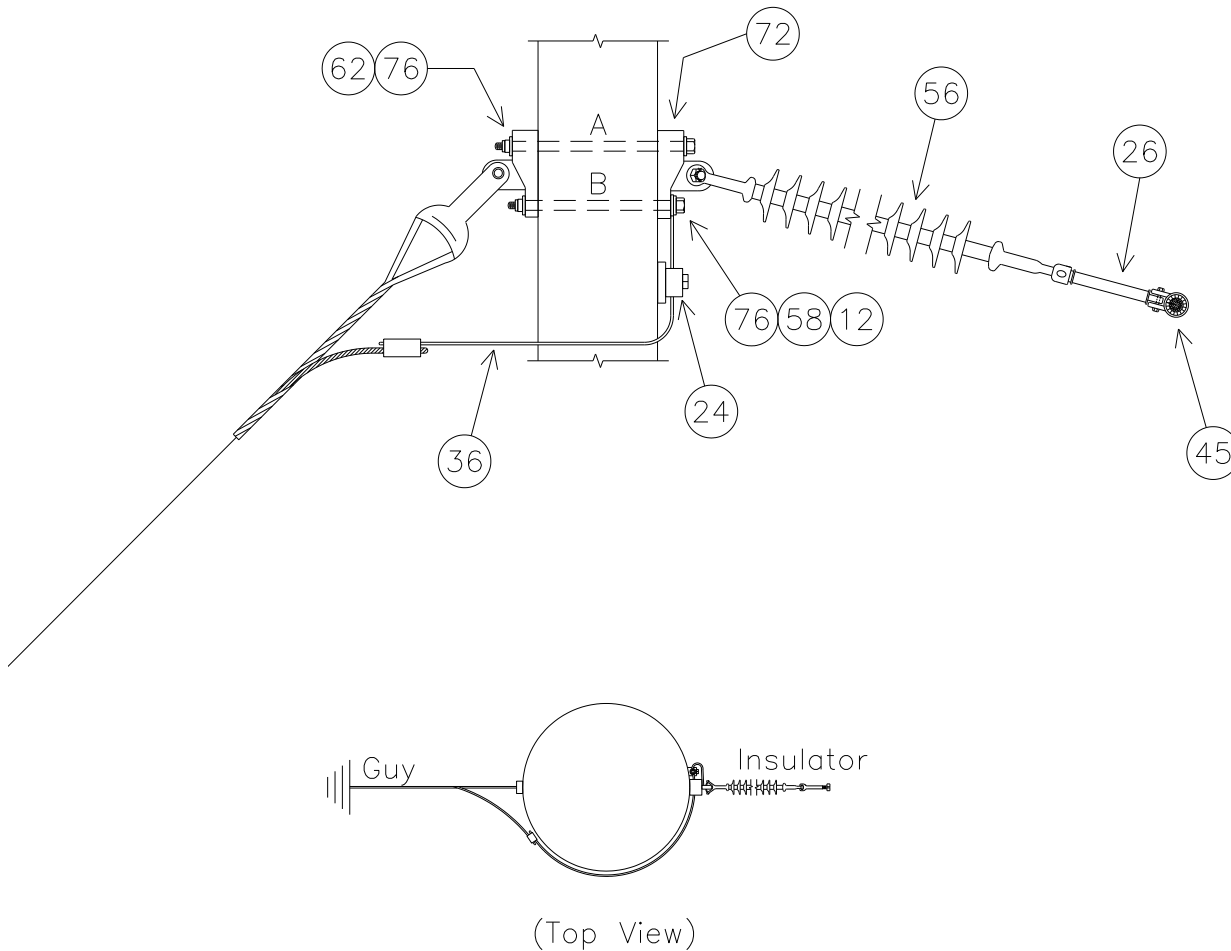
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



## ISSSSGGB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE SUSPENSION, SINGLE GRIP, GUYED, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.7	26.6	28.5
LOWER BOLT 'B' LENGTH (INCHES)	23.0	24.9	26.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSSSGGB3 PLATES

### ISSSSGGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	3	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISSSSGGB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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### ISSSSGGB3\*954S

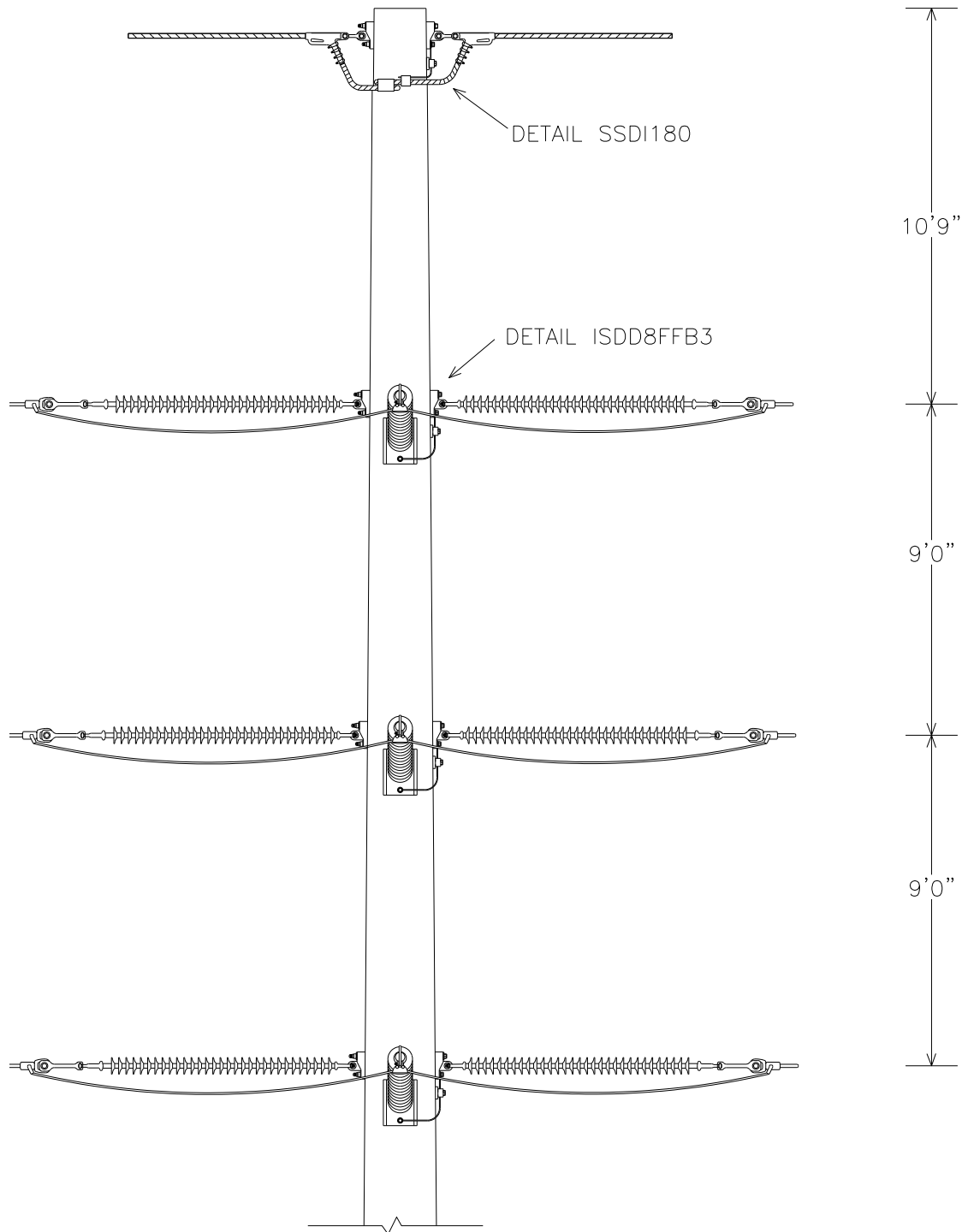
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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### ISSSSGGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# B1241C

138KV, DOUBLE DEADEND 180°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590





## B1241C PLATES

### B1241C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALF007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST SILICONE INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

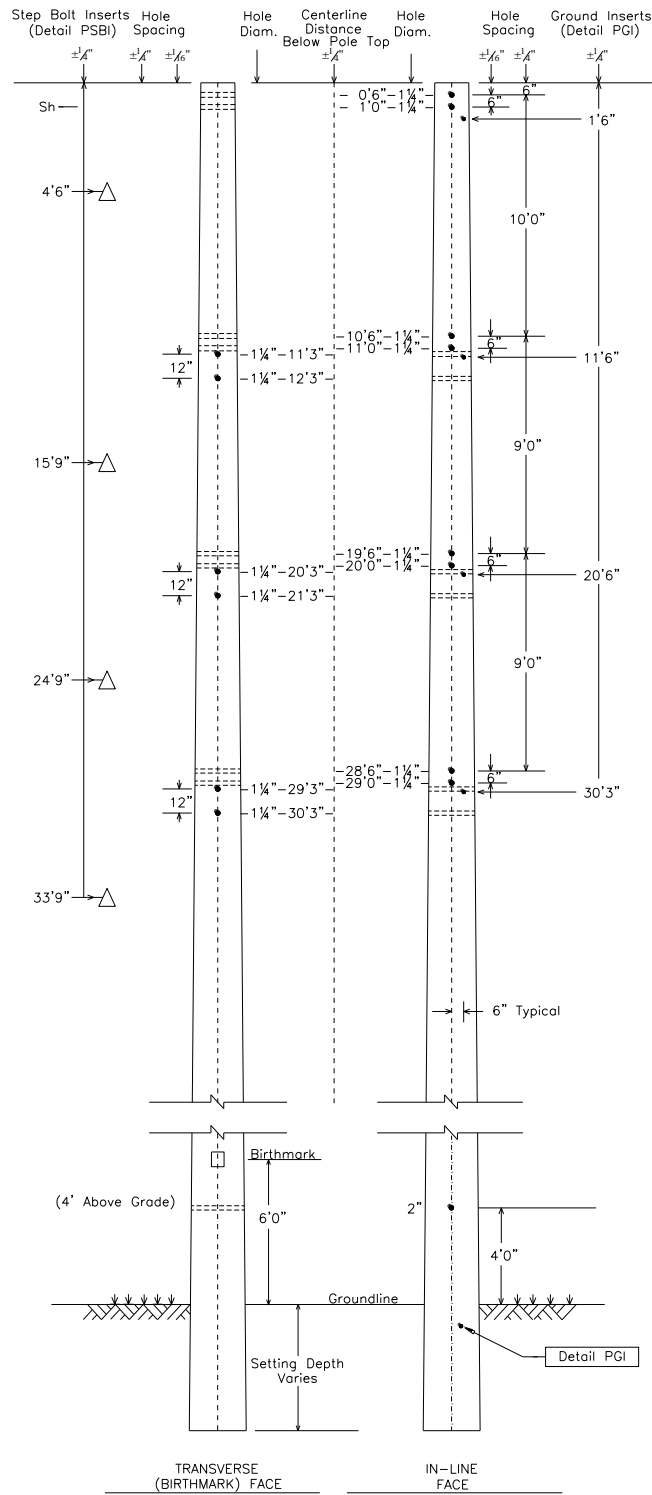
### B1241C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B1241C\*1590

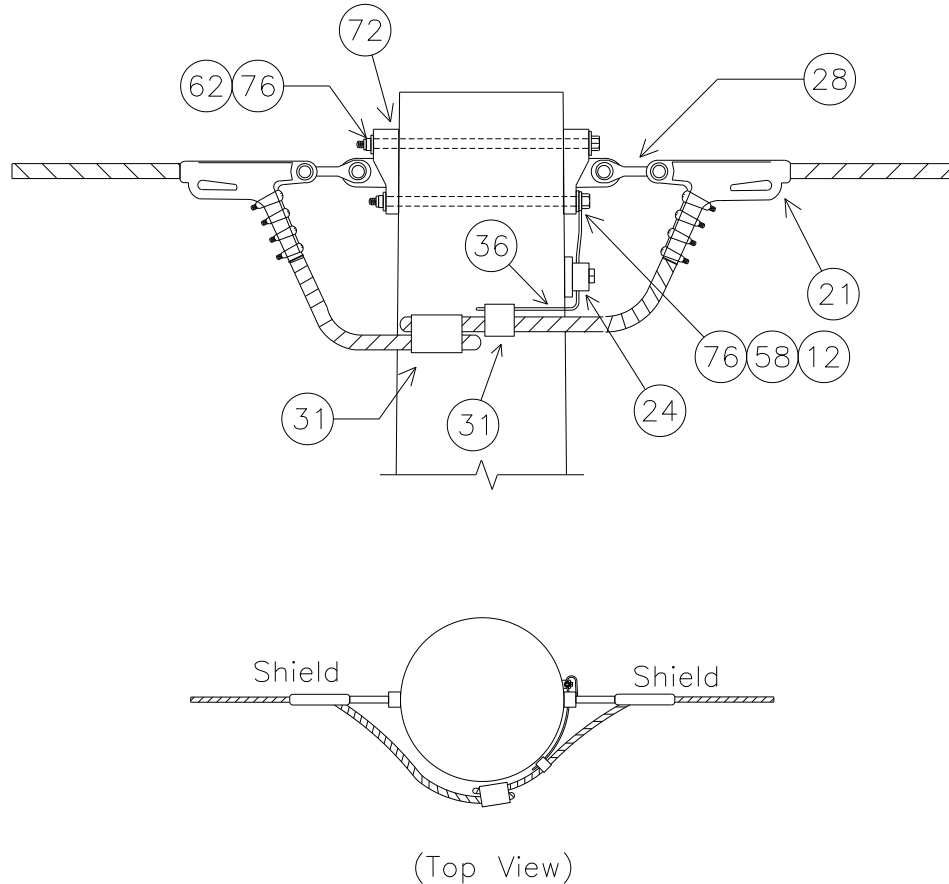
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B1241C DRILLING DETAIL



## SSDI180

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	22.6
LOWER BOLT LENGTH (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

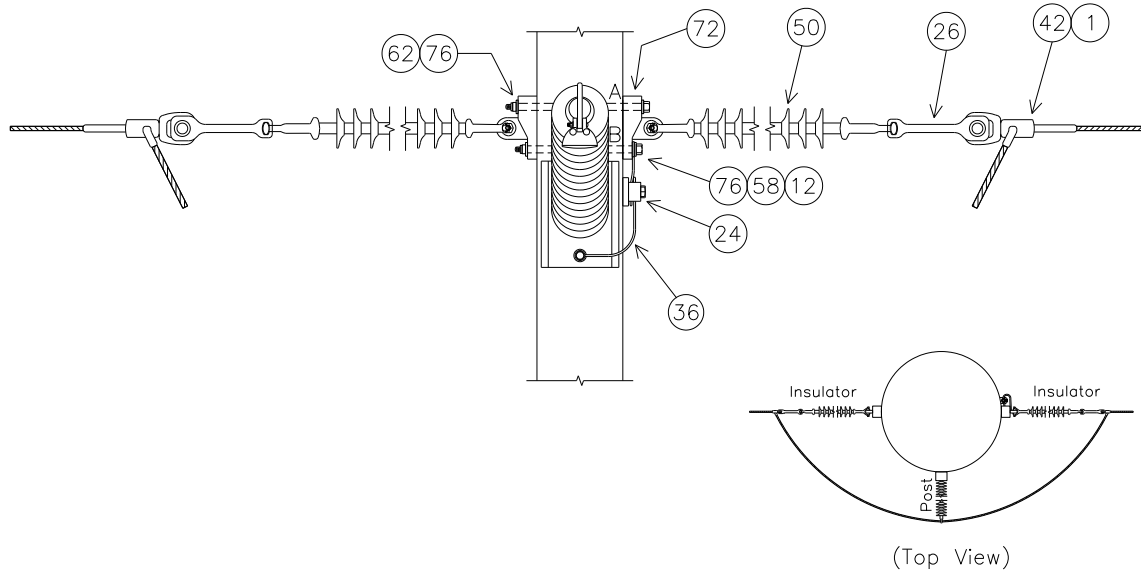
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD8FFB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, FULL TENSION TO FULL TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.8	29.7	31.7
LOWER BOLT 'D' LENGTH (INCHES)	28.3	30.2	32.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD8FFB3 PLATES

### ISDD8FFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12" RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

### ISDD8FFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

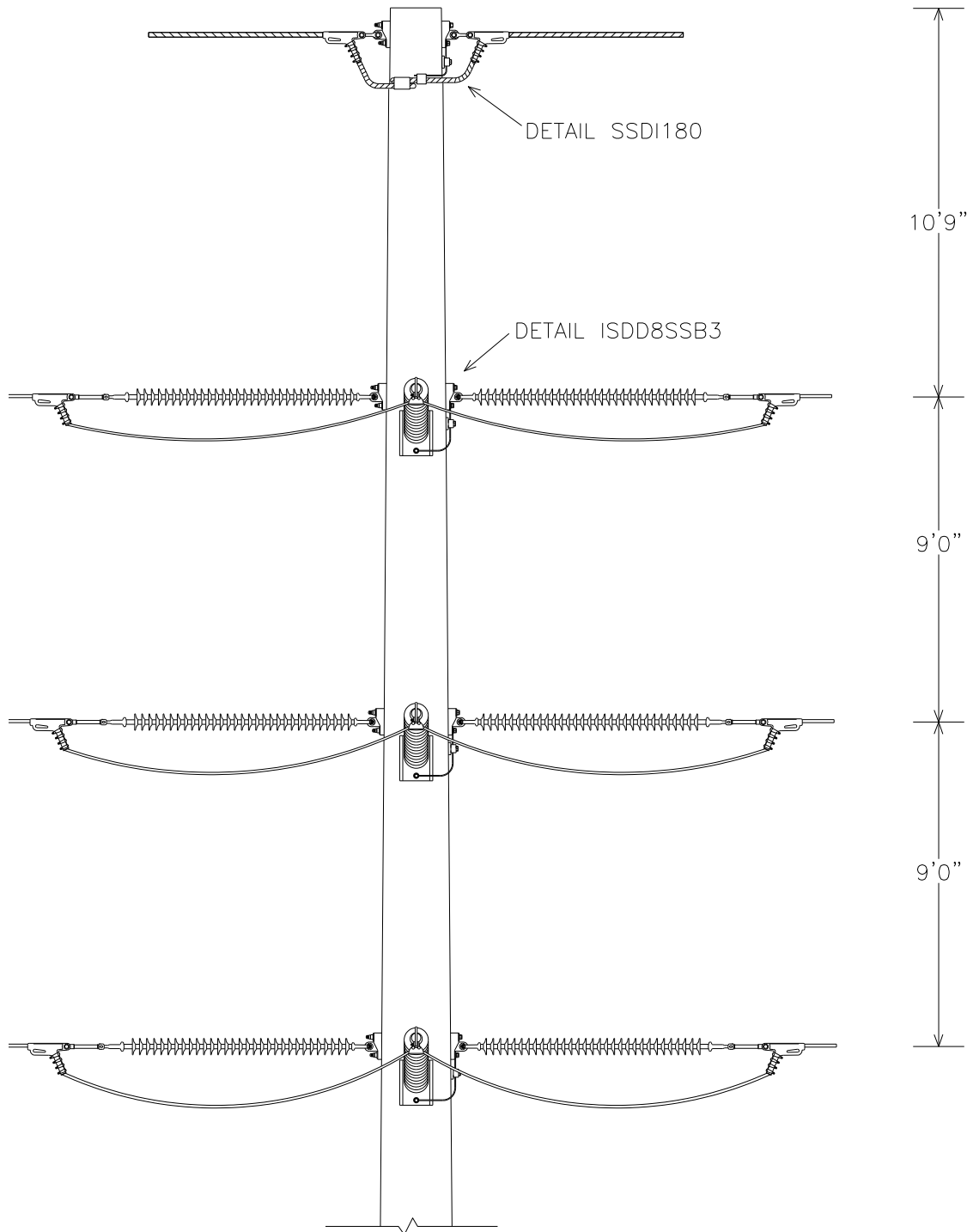
### ISDD8FFB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



# B1241Q

**138KV, DOUBLE DEADEND 180°, SLACK TENSION TO SLACK TENSION, 3-PHASE**  
**CONDUCTOR OPTIONS: 954A, 954S, 1590**





# B1241Q PLATES

## B1241Q BASE

BASE	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST SILICONE INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## B1241Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 006	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 AAC
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

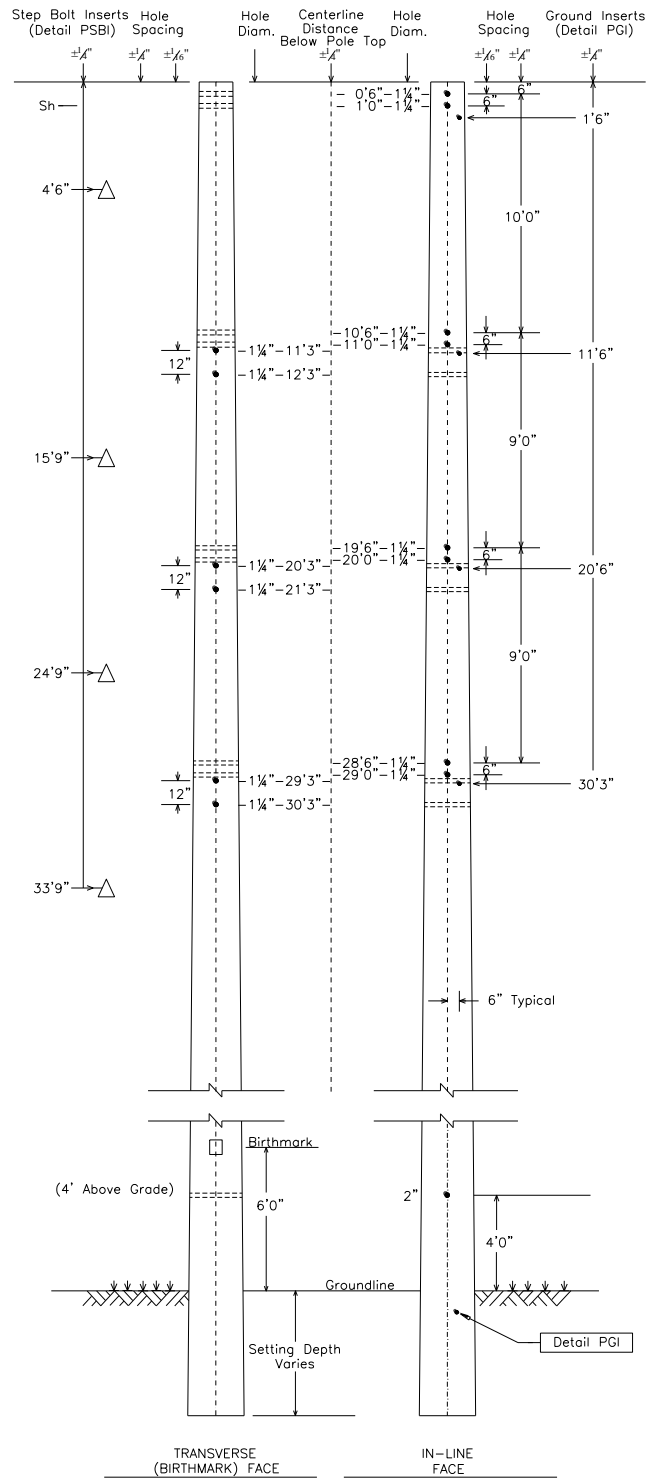
## B1241Q\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## B1241Q\*1590

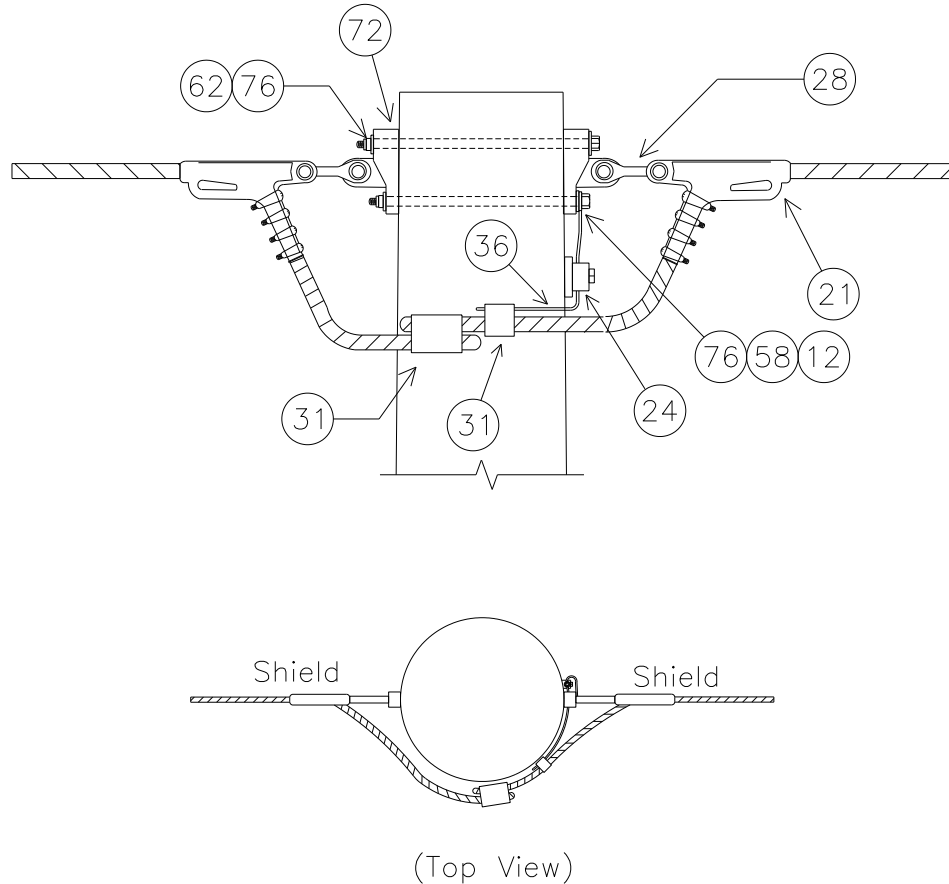
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## B1241Q DRILLING DETAIL



## SSDI180

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	22.6
LOWER BOLT LENGTH (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

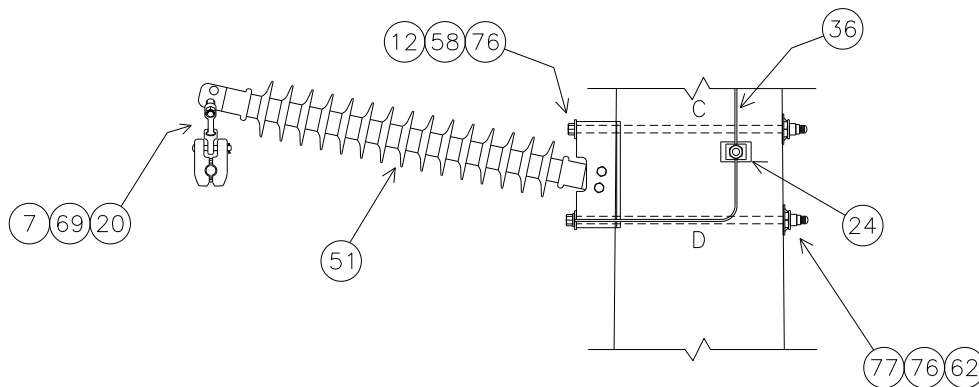
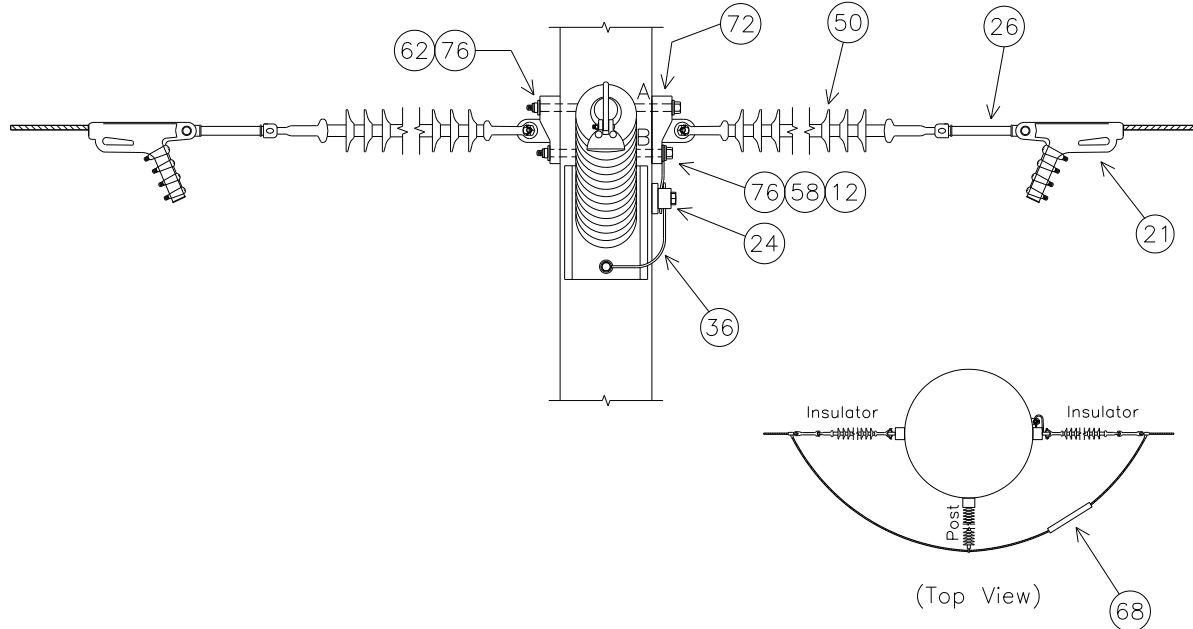
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD8SSB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, SLACK TENSION TO SLACK TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.9	26.8	28.7
LOWER BOLT 'B' LENGTH (INCHES)	23.2	25.2	27.1

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.8	29.7	31.7
LOWER BOLT 'D' LENGTH (INCHES)	28.3	30.2	32.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD8SSB3 PLATES

### ISDD8SSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

### ISDD8SSB3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 006	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 AAC
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

### ISDD8SSB3\*954S

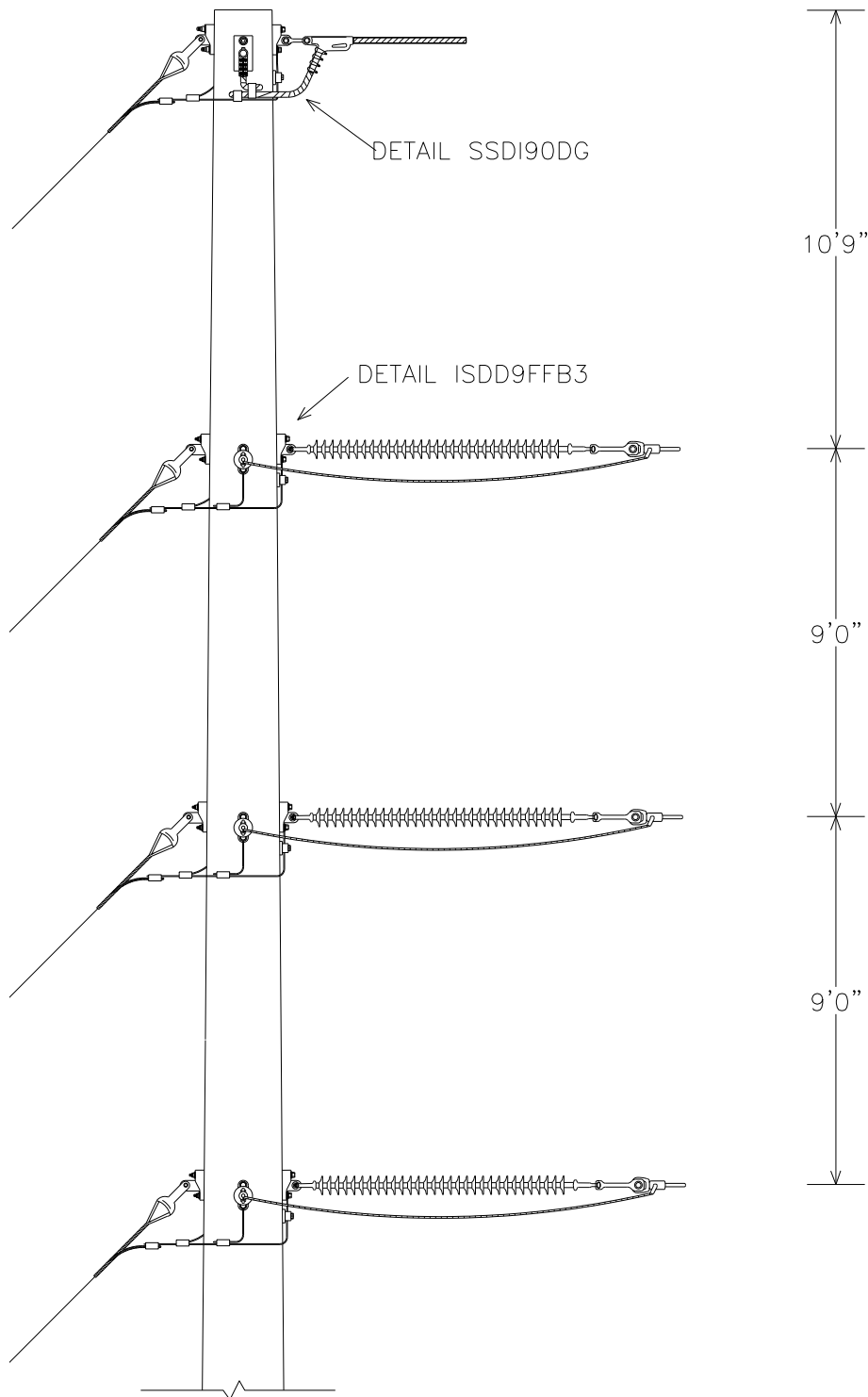
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

### ISDD8SSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## B1244C

138KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954H, 954S, 1590





## B1244C PLATES

### B1244C BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	16	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

### B1244C\*954H

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	6	VOID FILLER COMPOUND FOR HIGH TEMPERATURE DEADEND ASSEMBLY
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B1244C\*954S

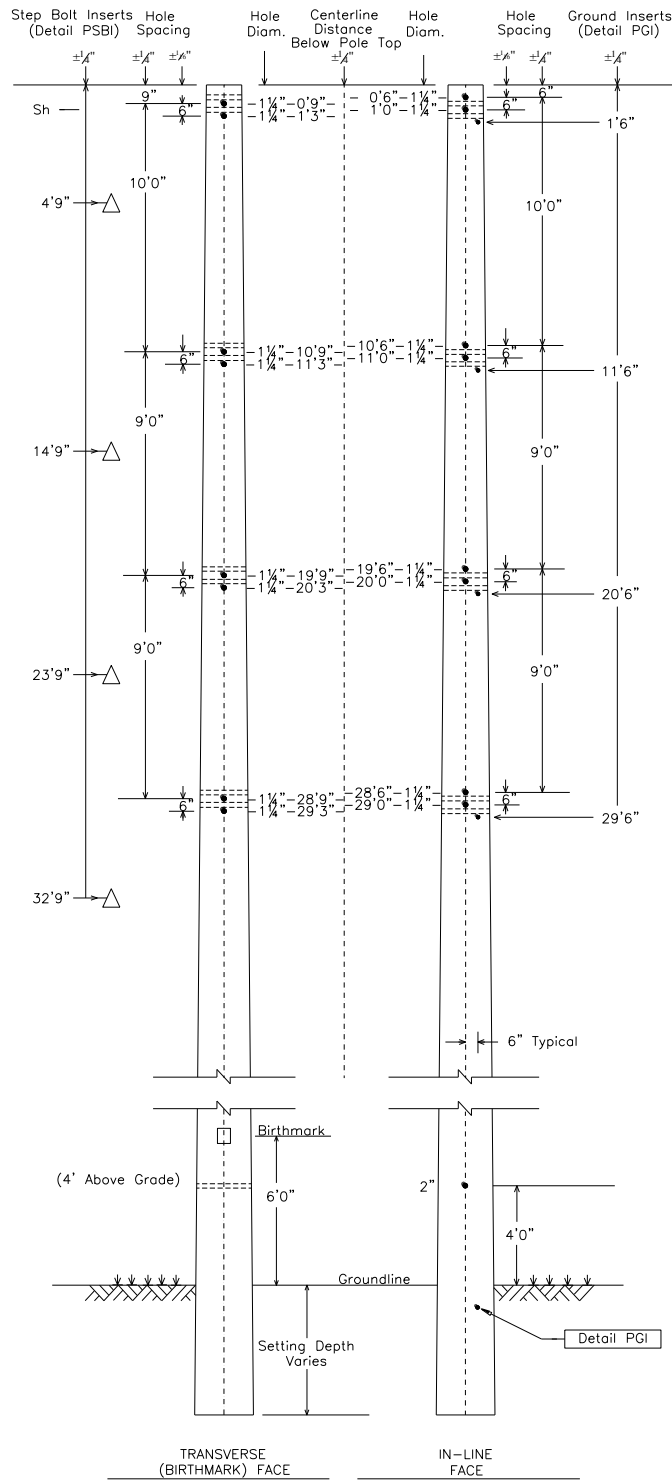
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B1244C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

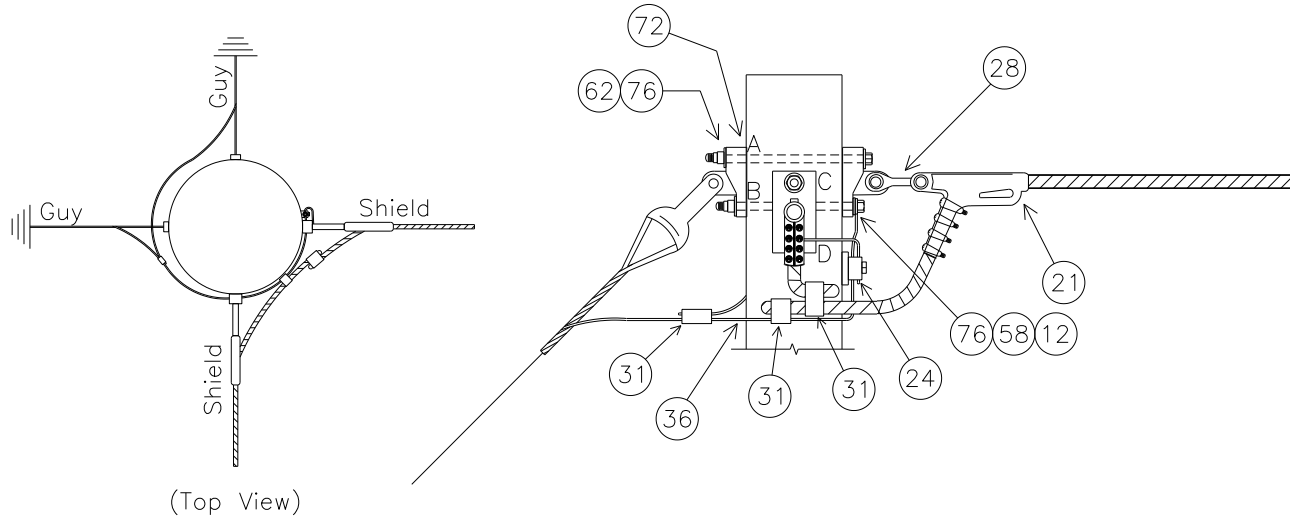


## B1244C DRILLING DETAIL



## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

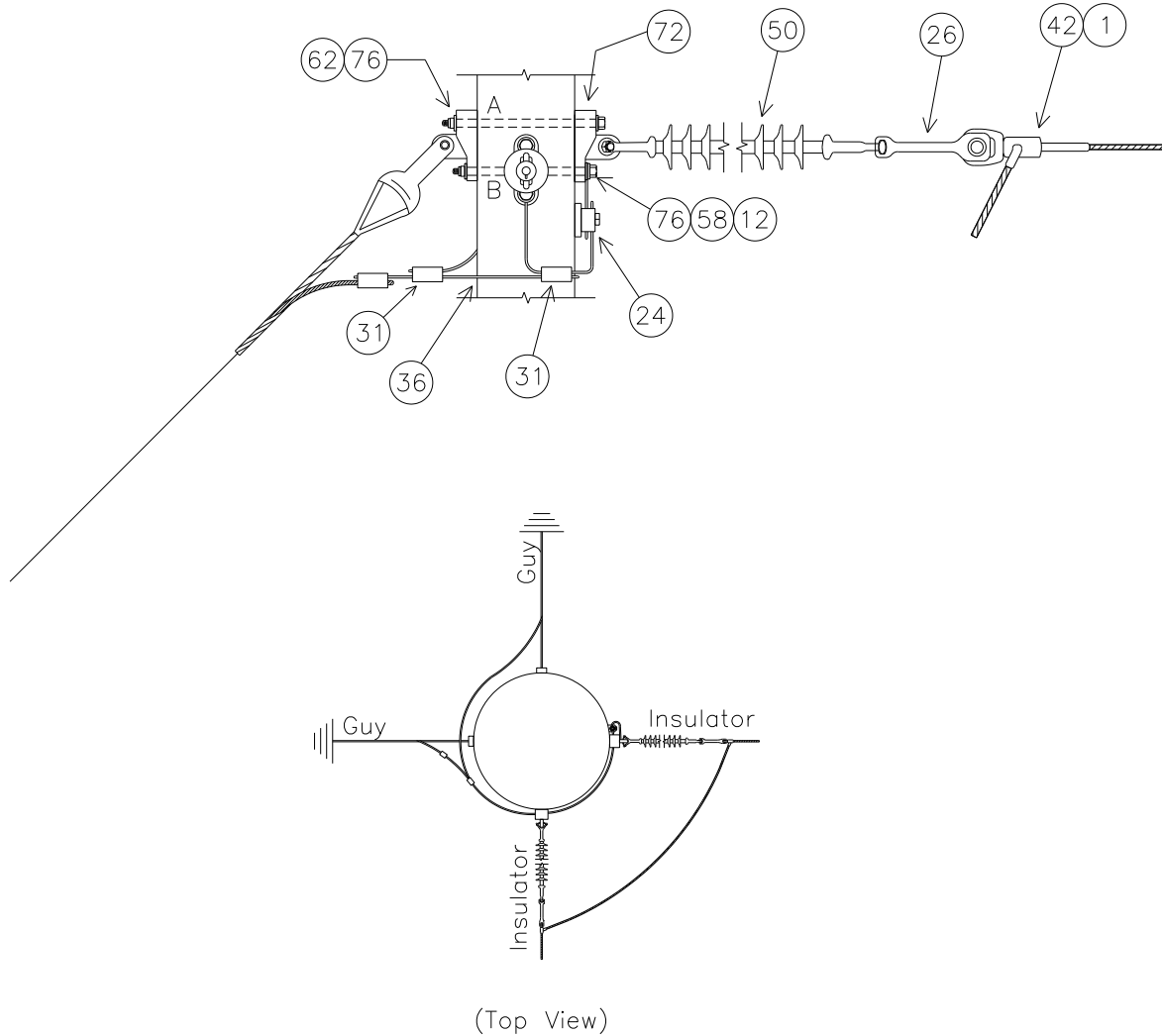
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD9FFB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954H, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9	25.0	27.0	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2	23.4	25.3	27.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FFB3 PLATES

**ISDD9FFB3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

**ISDD9FFB3\*954H**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	6	VOID FILLER COMPOUND FOR HIGH TEMPERATURE DEADEND ASSEMBLY
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

**ISDD9FFB3\*954S**

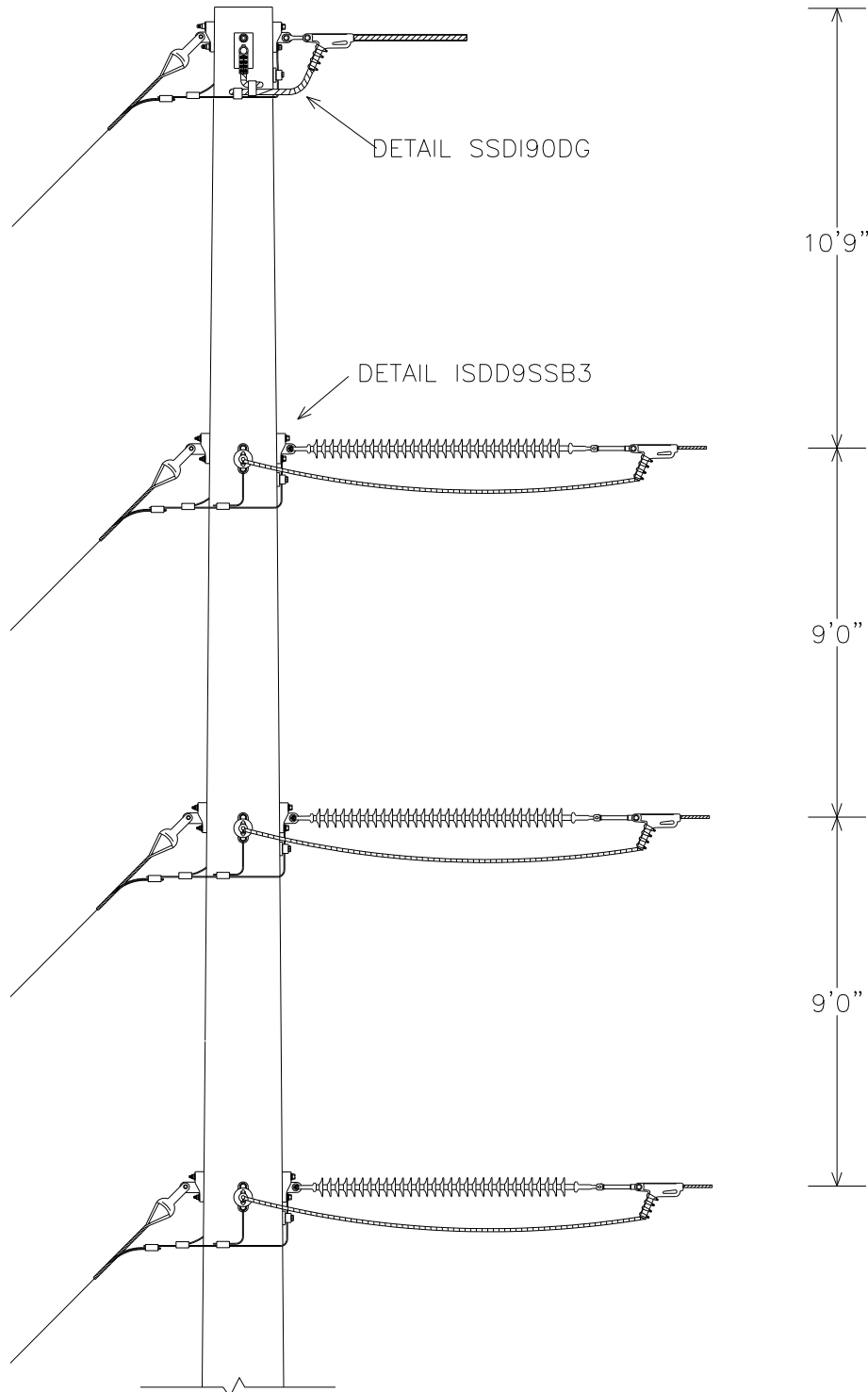
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

**ISDD9FFB3\*1590**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B1244Q

138KV, DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S, 1590



## B1244Q PLATES

### B1244Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	16	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B1244Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

### B1244Q\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

### B1244Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

The drawing consists of two main views: a Transverse (Birthmark) Face and an In-Line Face.

**Transverse (Birthmark) Face:** This view shows the cross-section of the pier. It includes labels for "Step Bolt Inserts (Detail PSBI)", "Hole Spacing", "Hole Diam.", "Centerline Distance Below Pole Top", and "Ground Inserts (Detail PGI)". Dimensions include vertical spacing of 4'9", 10'0", 9'0", 14'9", 9'0", 23'9", and 32'9". Horizontal dimensions include 9", 6", 1 1/4", 0'9", 0'6", 1 1/4", 1'0", 1 1/4", 1'6", 11'6", 20'6", and 29'6". A "6" Typical" dimension is also shown.

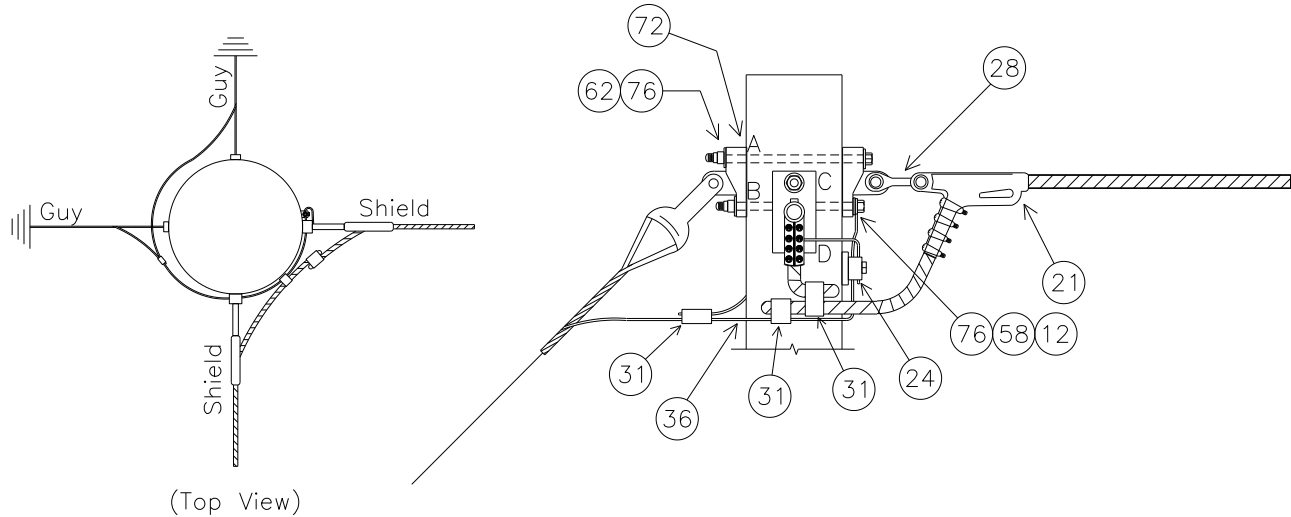
**In-Line Face:** This view shows the side profile of the pier. It includes labels for "Birthmark", "Groundline", "Setting Depth Varies", and "Detail PGI". Dimensions include a vertical distance of 6'0" from the birthmark to the groundline, a 2" dimension, and a 4'0" dimension. A "Detail PGI" callout points to a specific feature.

**Labels and Dimensions:**

- Step Bolt Inserts (Detail PSBI)
- Hole Spacing
- Hole Diam.
- Centerline Distance Below Pole Top
- Ground Inserts (Detail PGI)
- Sh
- 4'9"
- 10'0"
- 9'0"
- 14'9"
- 9'0"
- 23'9"
- 32'9"
- 9"
- 6"
- 1 1/4"
- 0'9"
- 0'6"
- 1 1/4"
- 1'0"
- 1 1/4"
- 1'6"
- 11'6"
- 20'6"
- 29'6"
- 6" Typical
- Birthmark
- Groundline
- Setting Depth Varies
- Detail PGI
- TRANSVERSE (BIRTHMARK) FACE
- IN-LINE FACE

## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

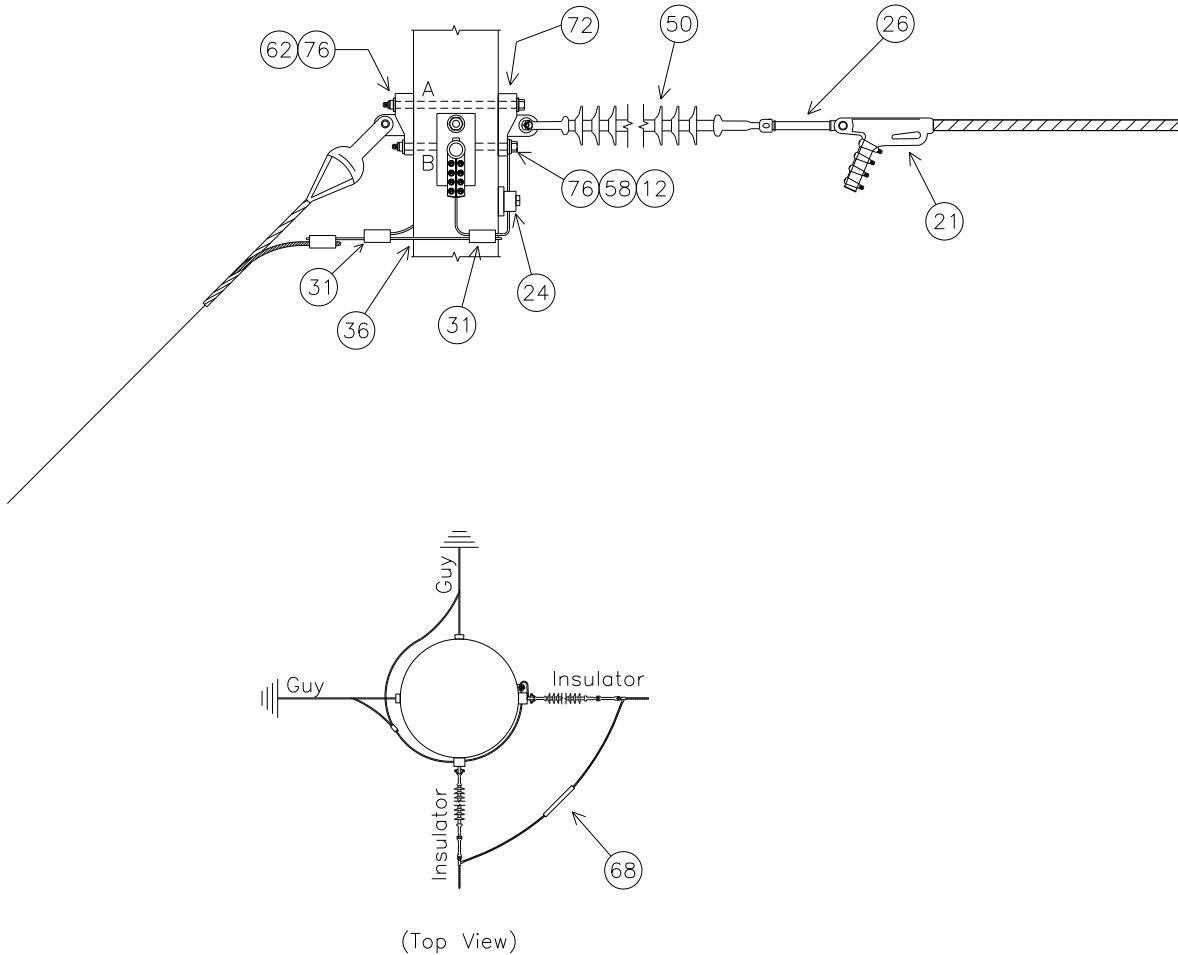


## ISDD9SSB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.9	26.8	28.7	24.9	26.9	28.8
LOWER BOLT 'B' LENGTH (INCHES)	23.2	25.2	27.1	23.3	25.2	27.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD9SSB3 PLATES

### ISDD9SSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD9SSB3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

### ISDD9SSB3\*954S

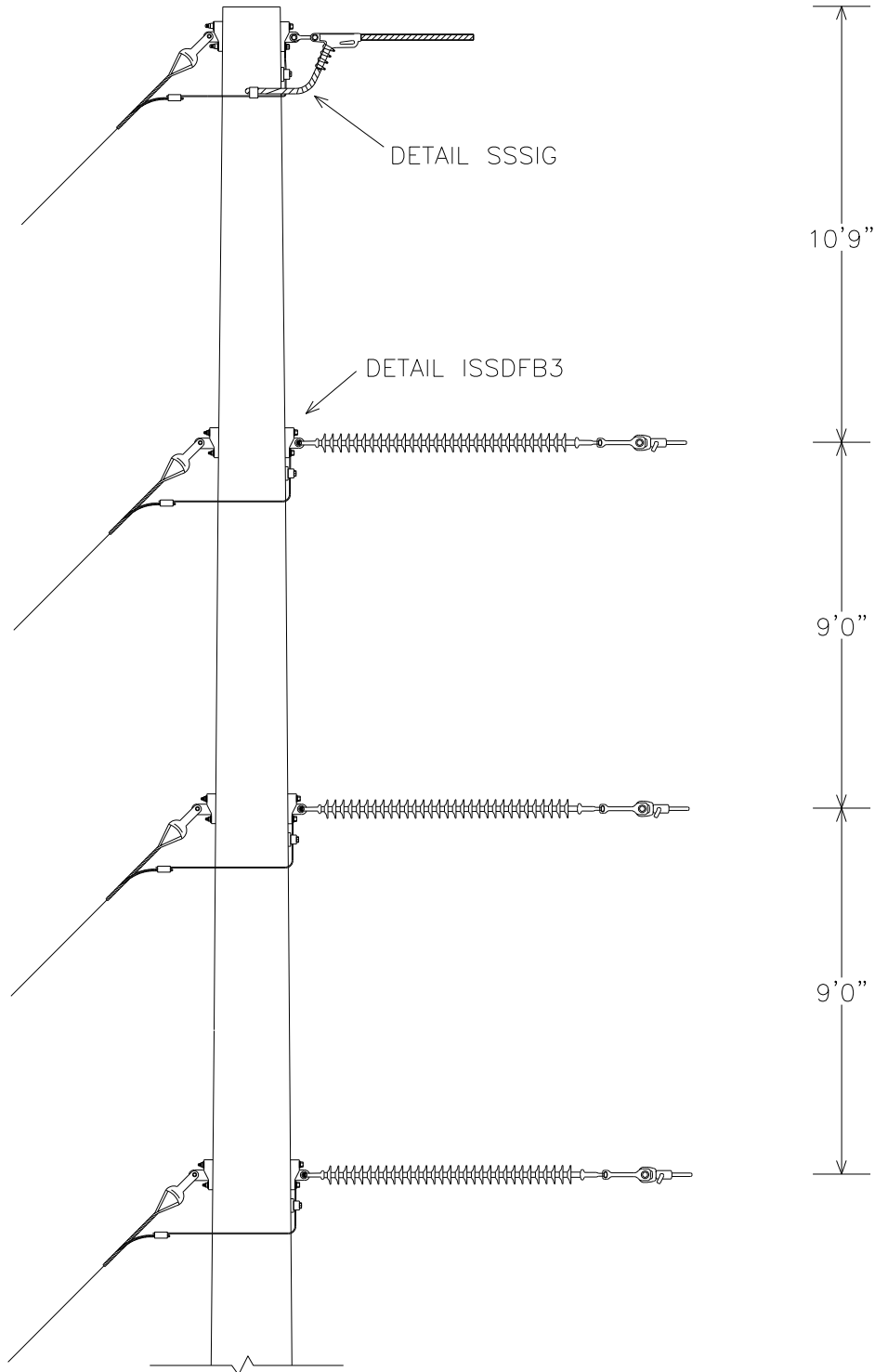
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

### ISDD9SSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## B1245C

138KV, SINGLE DEADEND, FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



## B1245C PLATES

### B1245C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

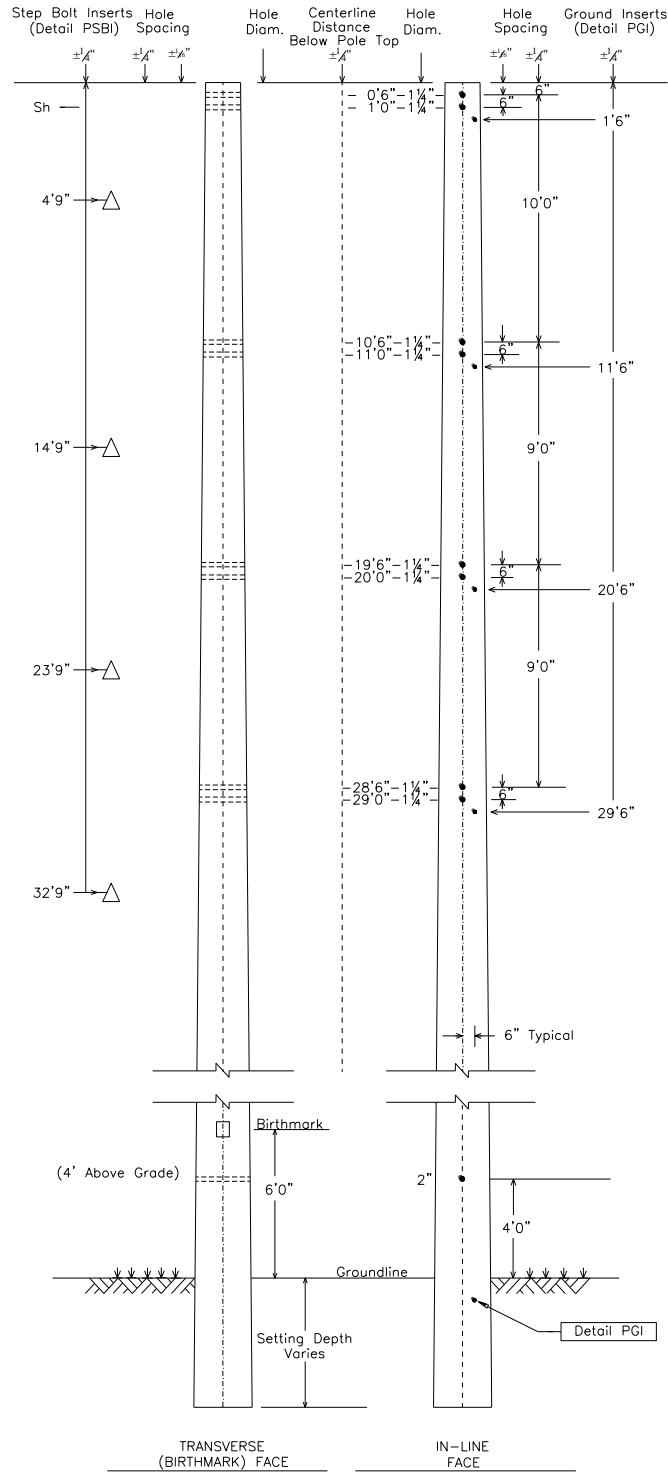
### B1245C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B1245C\*1590

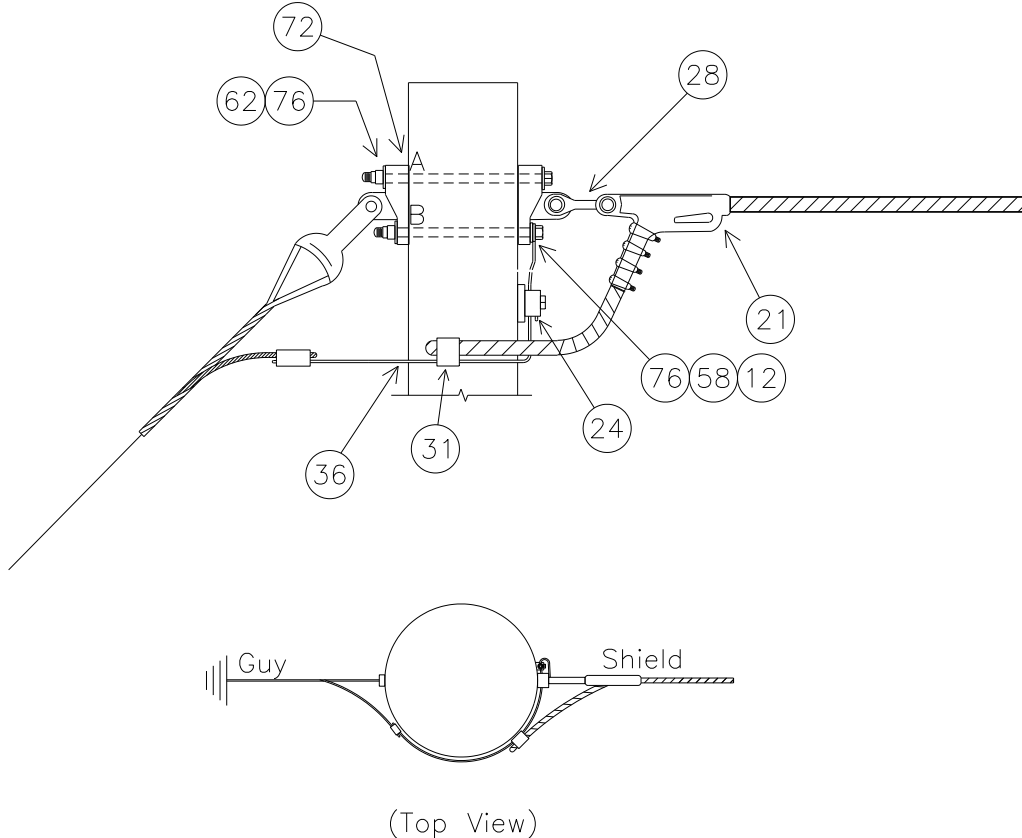
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B1245C DRILLING DETAIL



## SSSIG

### SHIELD FOR SPUN CONCRETE POLES SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

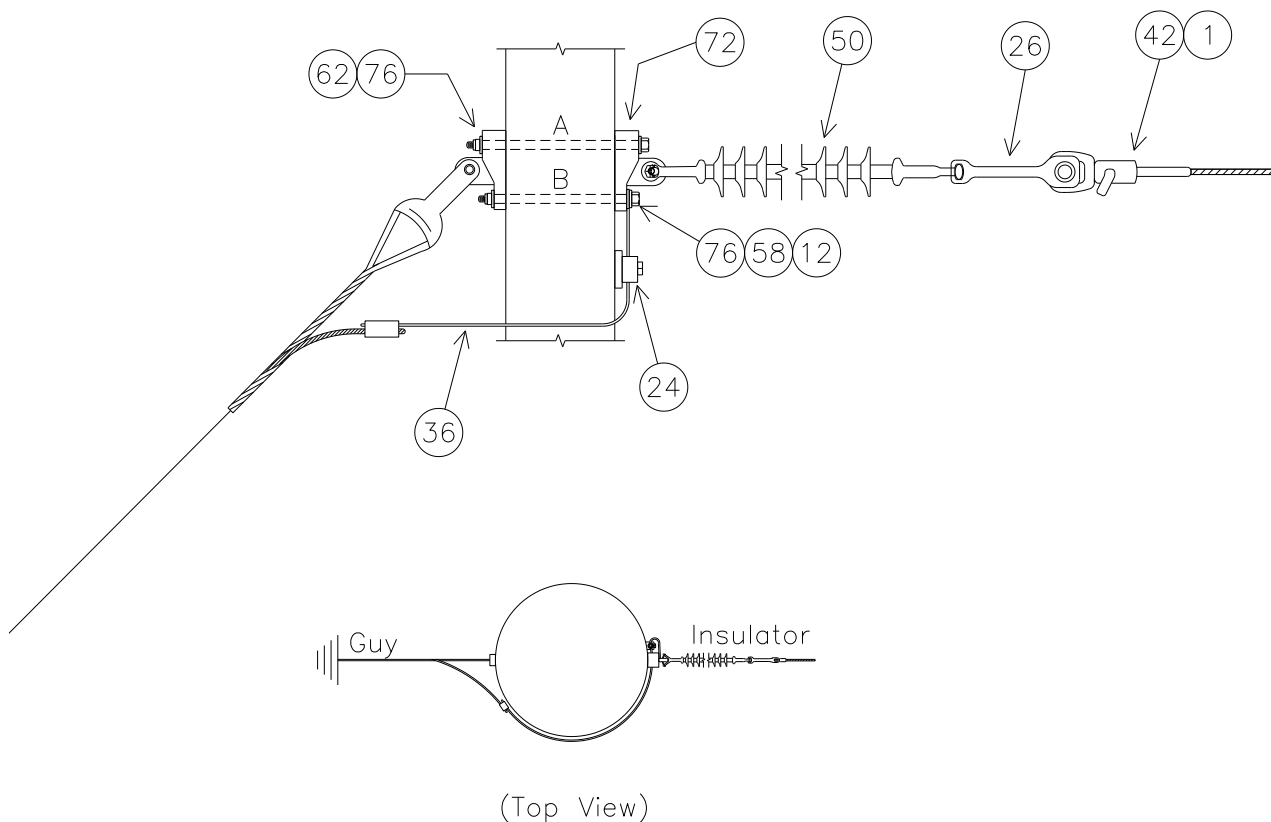
BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDFB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END FULL TENSION, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSDFB3 PLATES

### ISSDFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

### ISSDFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

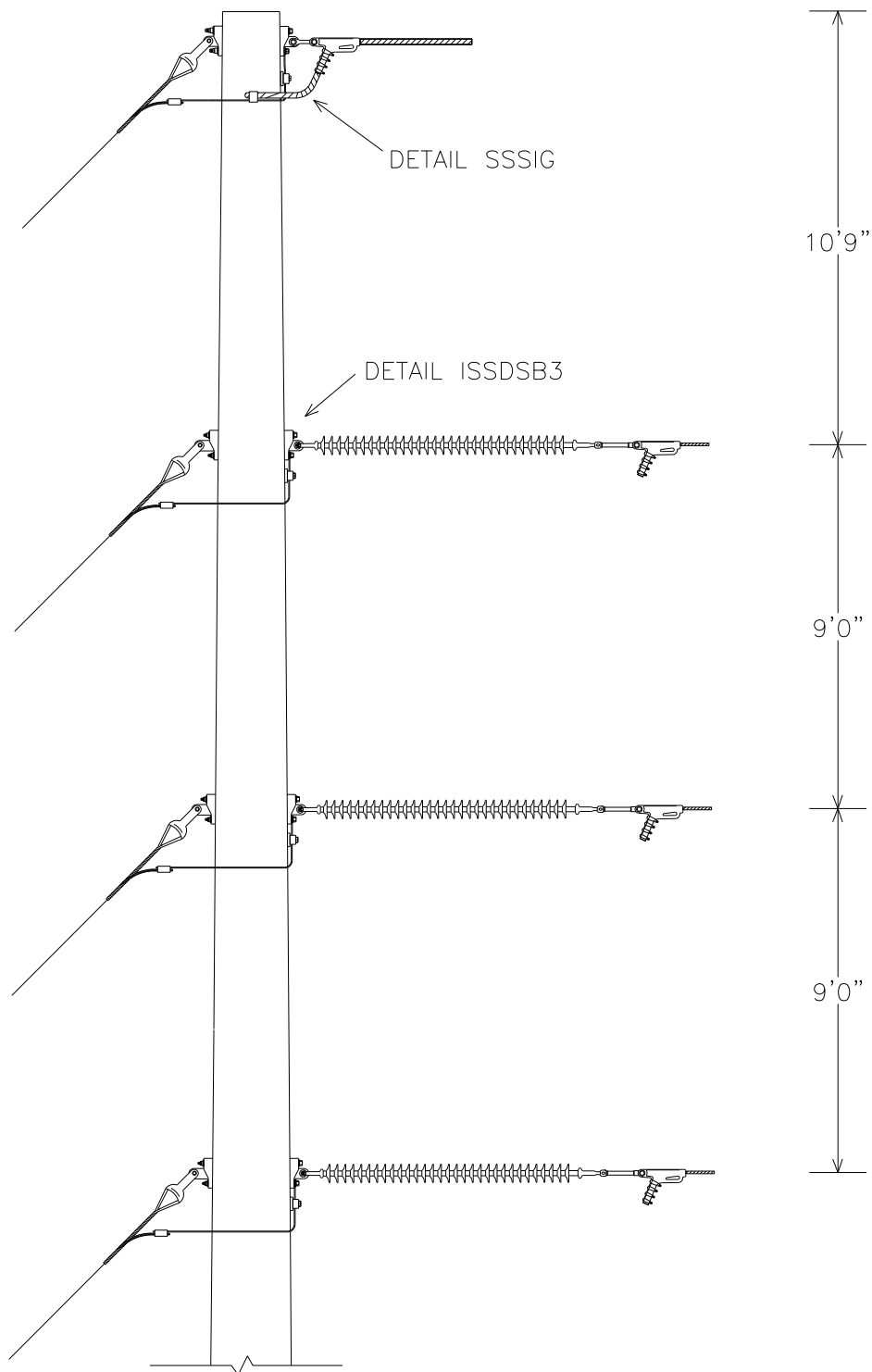
### ISSDFB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



## B1245Q

138KV, SINGLE DEADEND, SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S, 1590



## B1245Q PLATES

### B1245Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

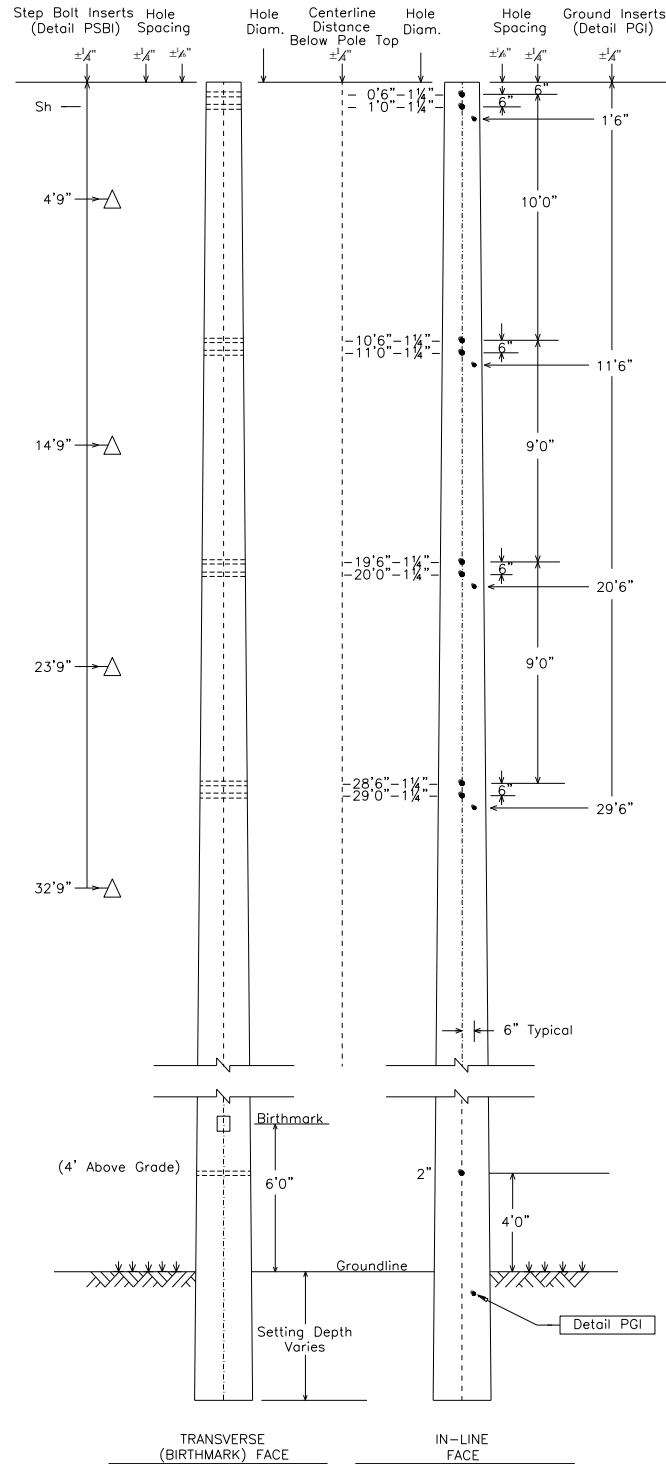
### B1245Q\*954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

### B1245Q\*1590

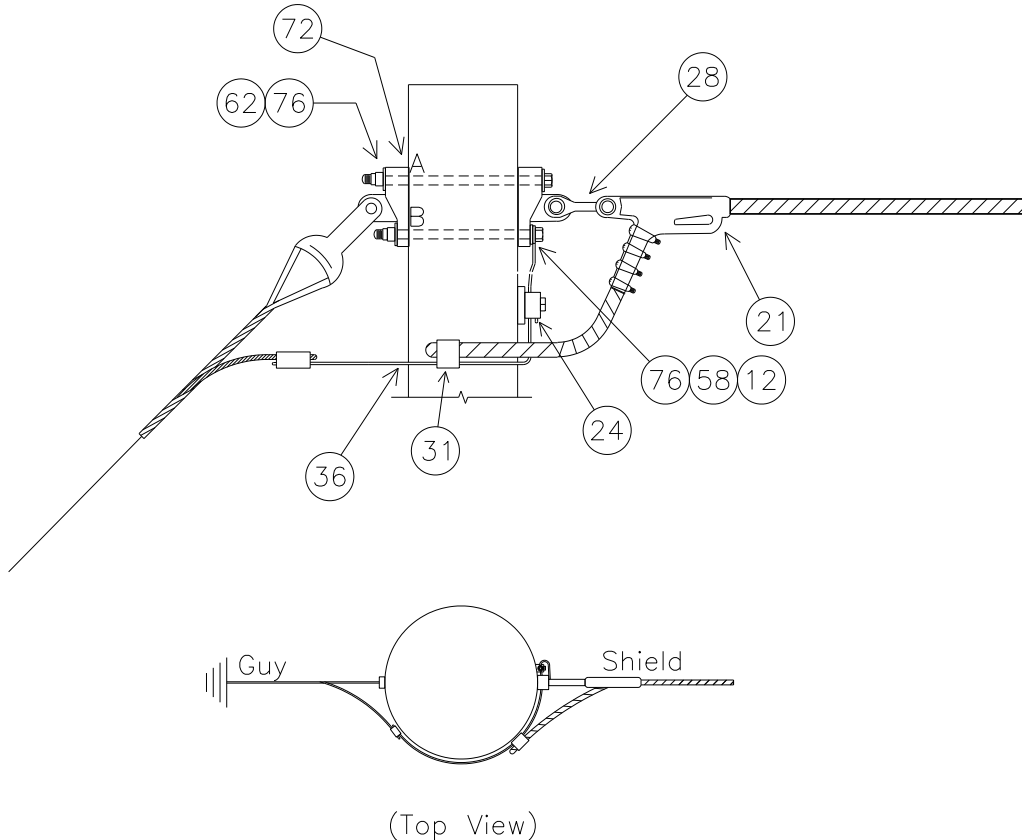
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

## B1245Q DRILLING DETAIL



## SSSIG

### SHIELD FOR SPUN CONCRETE POLES SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

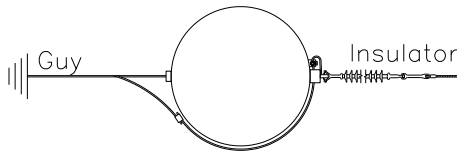
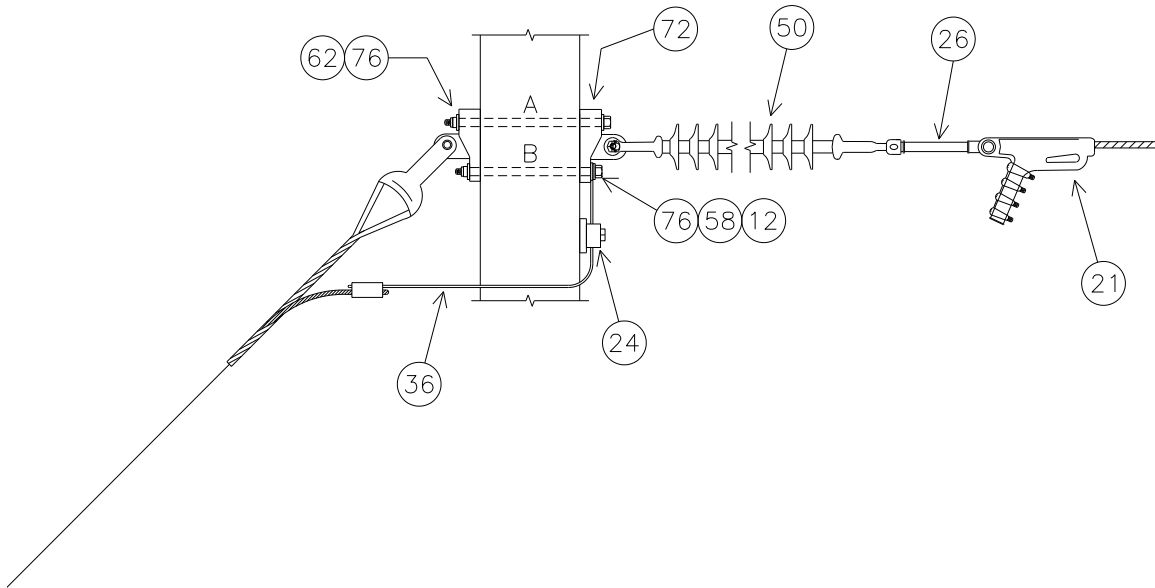
BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDSB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END, SLACK TENSION, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.9	26.8	28.7
LOWER BOLT 'B' LENGTH (INCHES)	23.2	25.2	27.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDSB3 PLATES

**ISSDSB3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

**ISSDSB3\*954A, 954S**

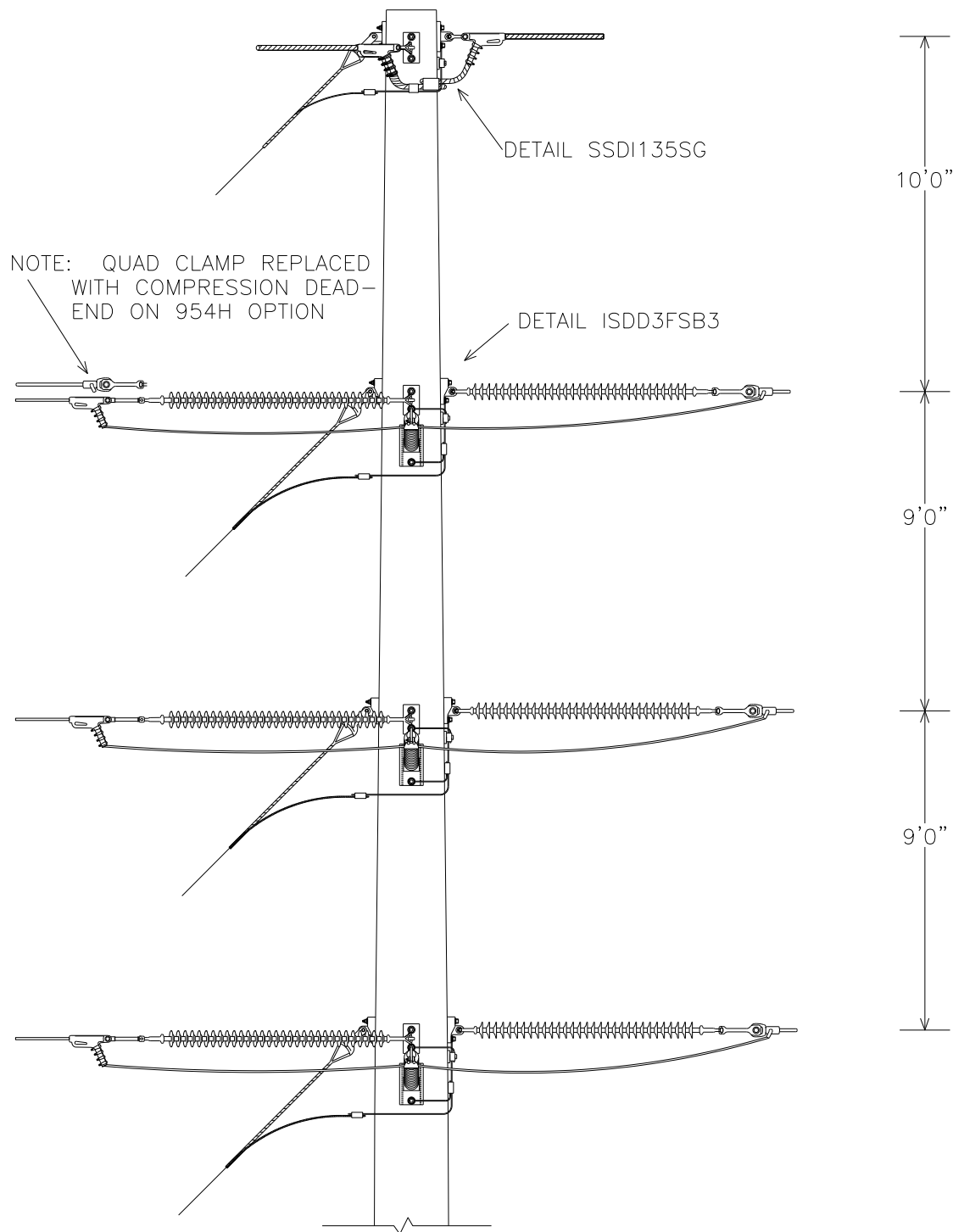
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

**ISSDSB3\*1590**

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# B12462

138KV, DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954H, 954S, 1590



## B12462 PLATES

### B12462 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	1	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	1	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 024	1	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90-DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST SILICONE INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	10	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	14	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### B12462\*954H

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	6	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 010	3	HIGH TEMPERATURE CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
42	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED





## Overhead Transmission Standards

### B12462\*954S

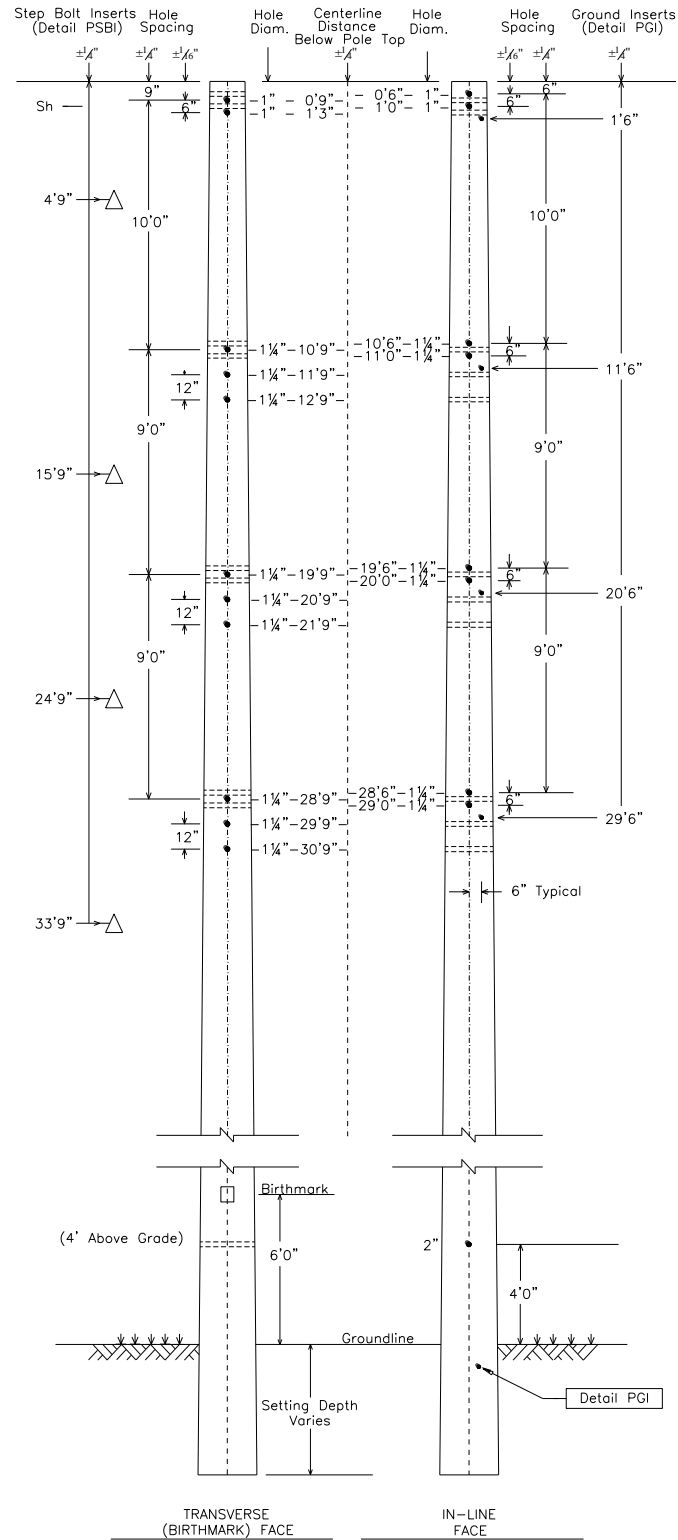
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B12462\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

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# B12462 DRILLING DETAIL



REVISÉ: OCTOBRE 2013

REVISÉD BY: MLR

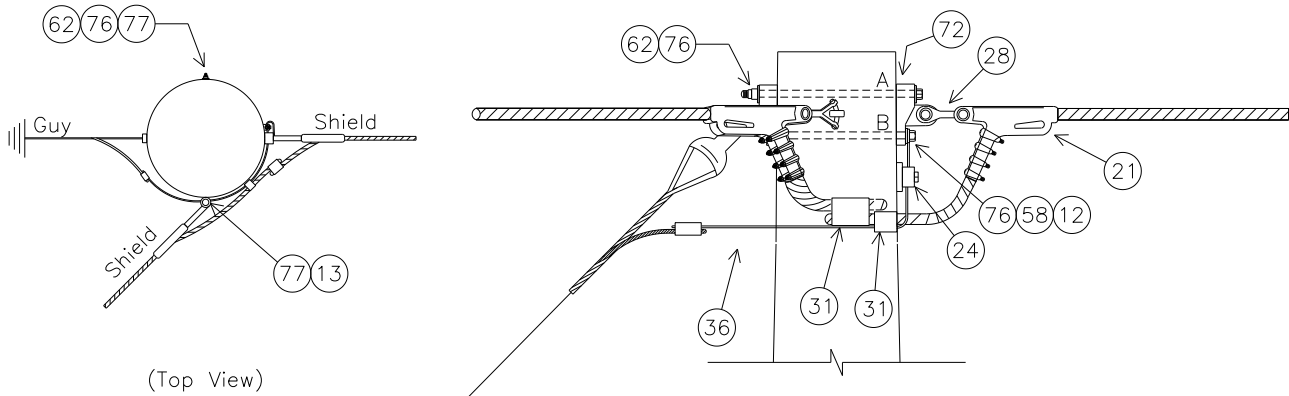
APPROVED BY :KKR

## 138KV STRUCTURES-NEW CONSTRUCTION

STS138-48

## SSDI135SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 135°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

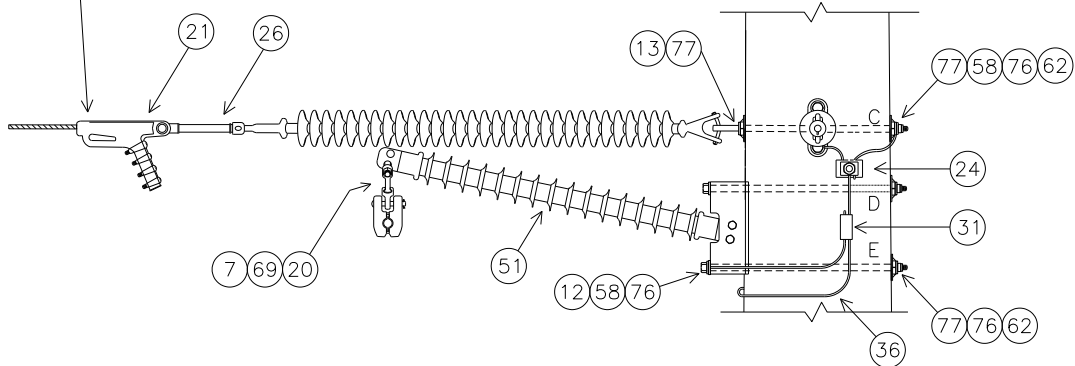
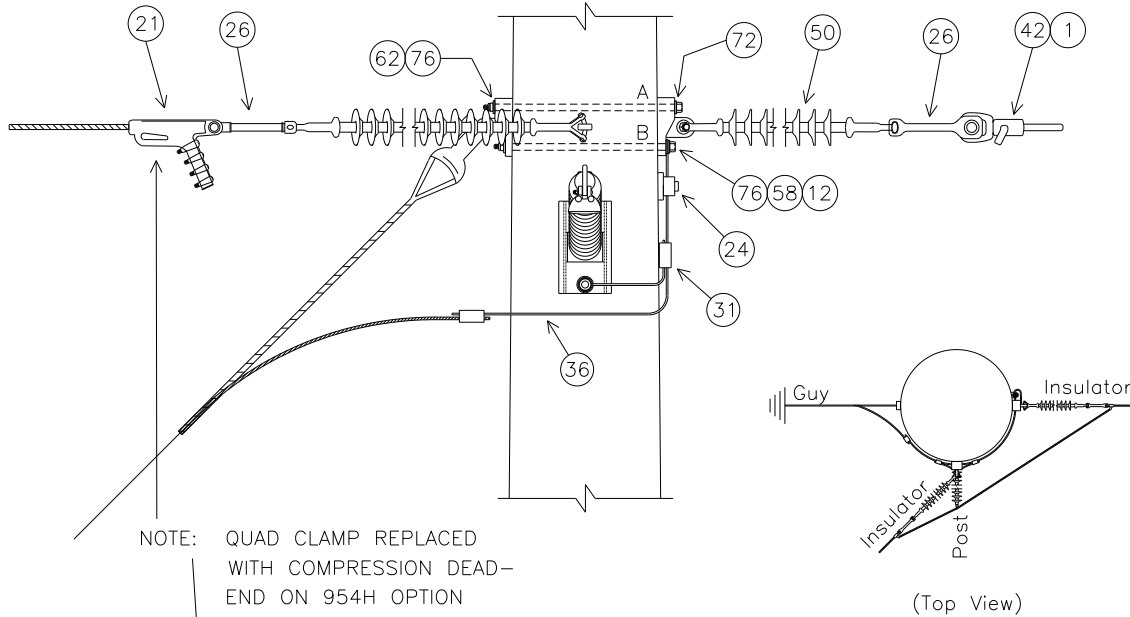
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED SHOULDER EYE BOLT LENGTH (INCHES)	20.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	1	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	1	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	1	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD3FSB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954H, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	FULL TENSION SIDES		
	TOP	MIDDLE	BOTTOM
BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2
SHOULDER EYEBOLT 'C' LENGTH (INCHES)	22.2	24.2	26.1
BOLT 'D' LENGTH (INCHES)	27.9	29.8	31.8
BOLT 'E' LENGTH (INCHES)	28.4	30.3	32.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD3FSB3 PLATES

### ISDD3FSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 34", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	1	MACHINE BOLT, 7/8" X 38", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 024	1	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST SILICONE INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	9	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE FLAT WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED

### ISDD3FSB3\*954H&S

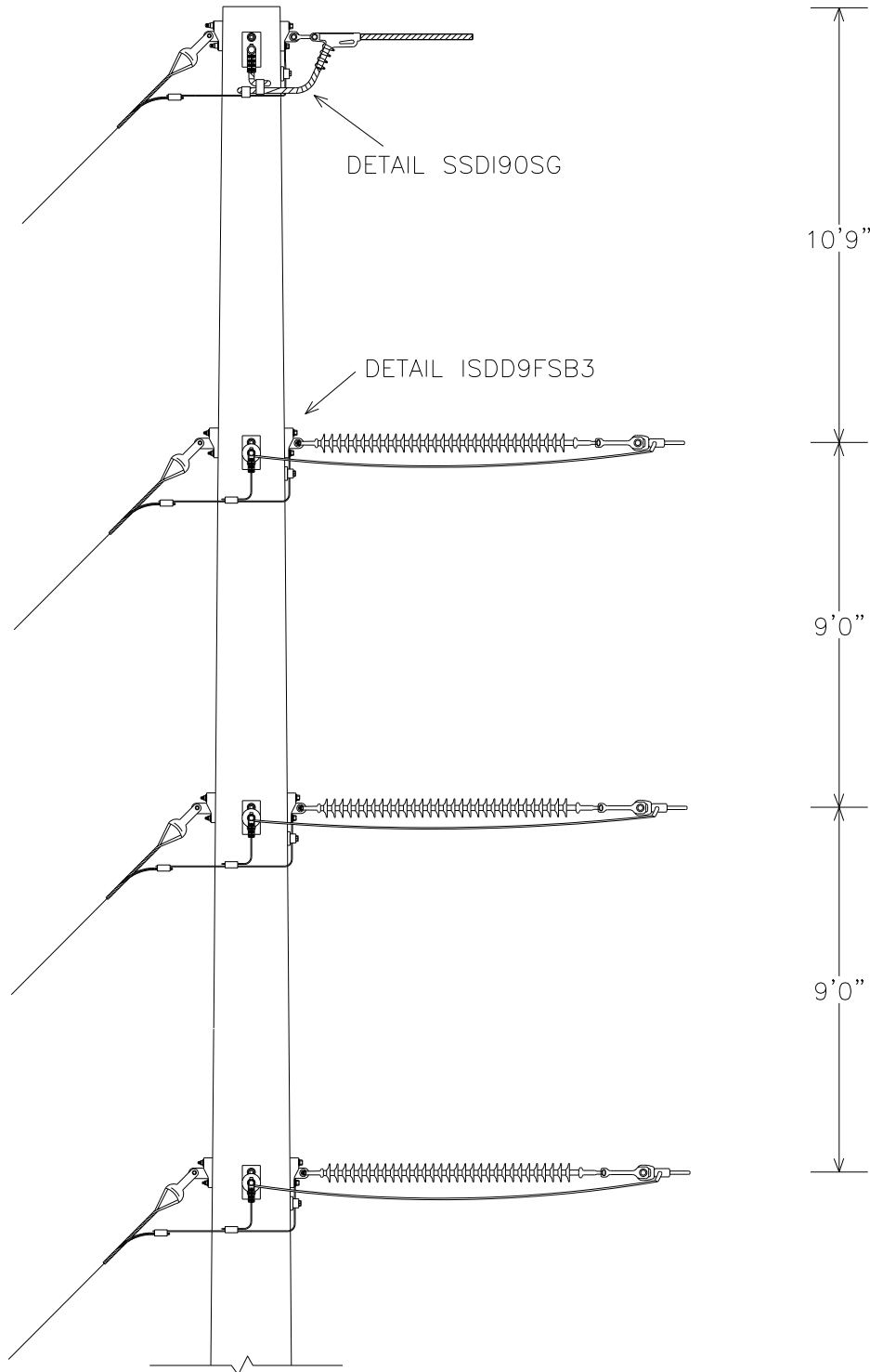
NO.	ITEM ID	QTY	DESCRIPTION
1 (954H)	ADCVF 002	6	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
1 (954S)	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20 (954H)	CLAJU 010	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSS
20 (954S)	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21 (954S)	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
26 (954H)	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26 (954S)	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42 (954H)	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD3FSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# B1246C

138KV, DOUBLE DEADEND 90°, FULL TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954H, 954S, 1590





## B1246C PLATES

### B1246C BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### B1246C\*954H&S

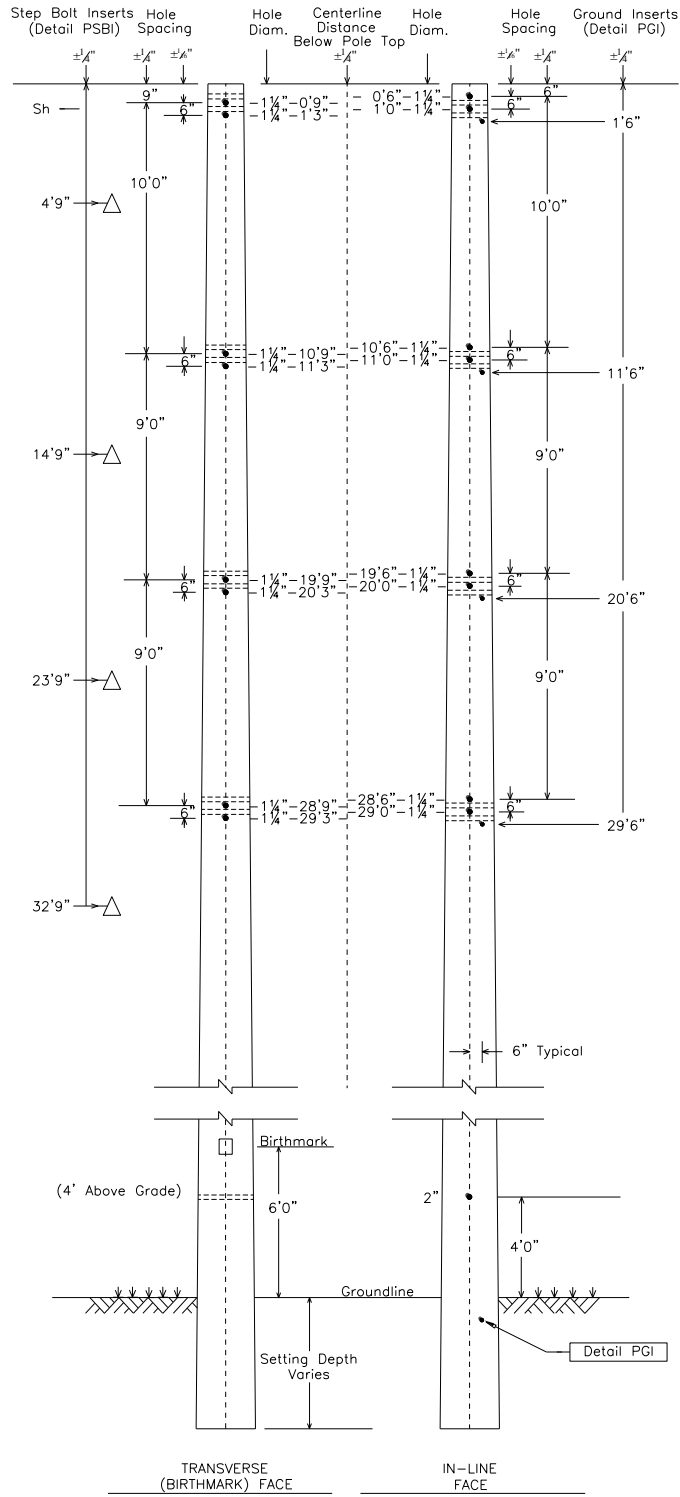
NO.	ITEM ID	QTY	DESCRIPTION
1 (954H)	ADCVF 002	6	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
1 (954S)	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21 (954S)	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
26 (954H)	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26 (954S)	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
42 (954H)	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B1246C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

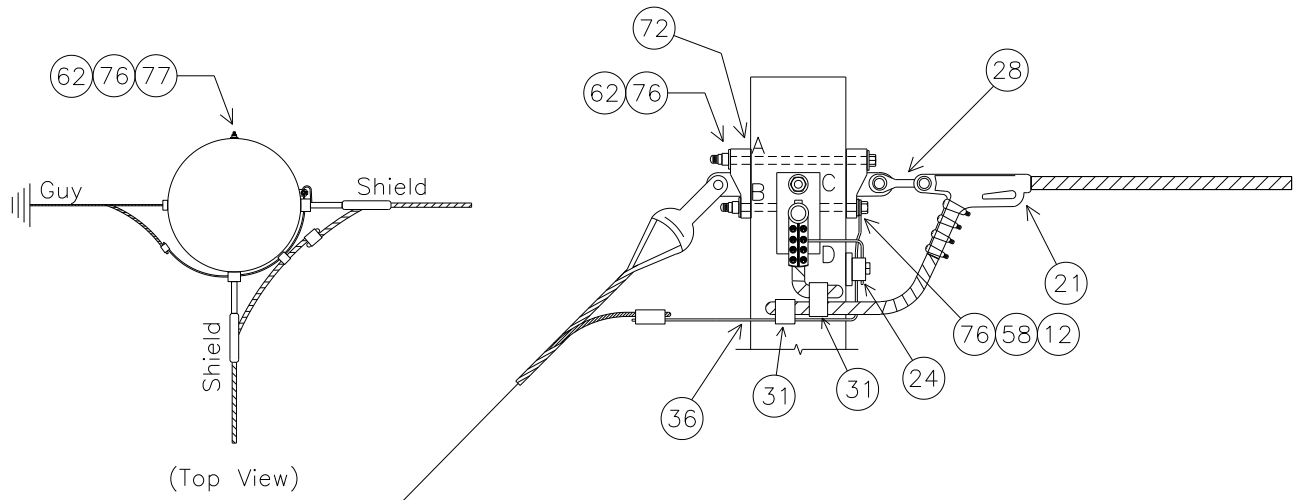


## B1246C DRILLING DETAIL



## SSDI90SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	DOUBLE TEE SIDE	SINGLE TEE SIDE
UPPER BOLT LENGTH (INCHES)	22.6	21.3
LOWER BOLT LENGTH (INCHES)	20.9	20.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

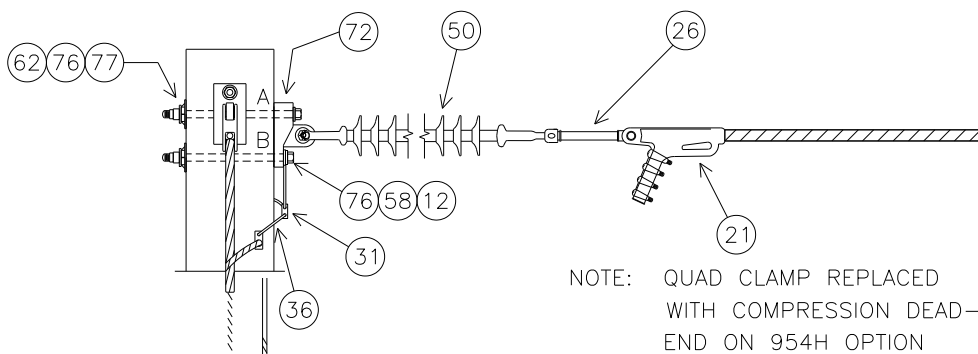
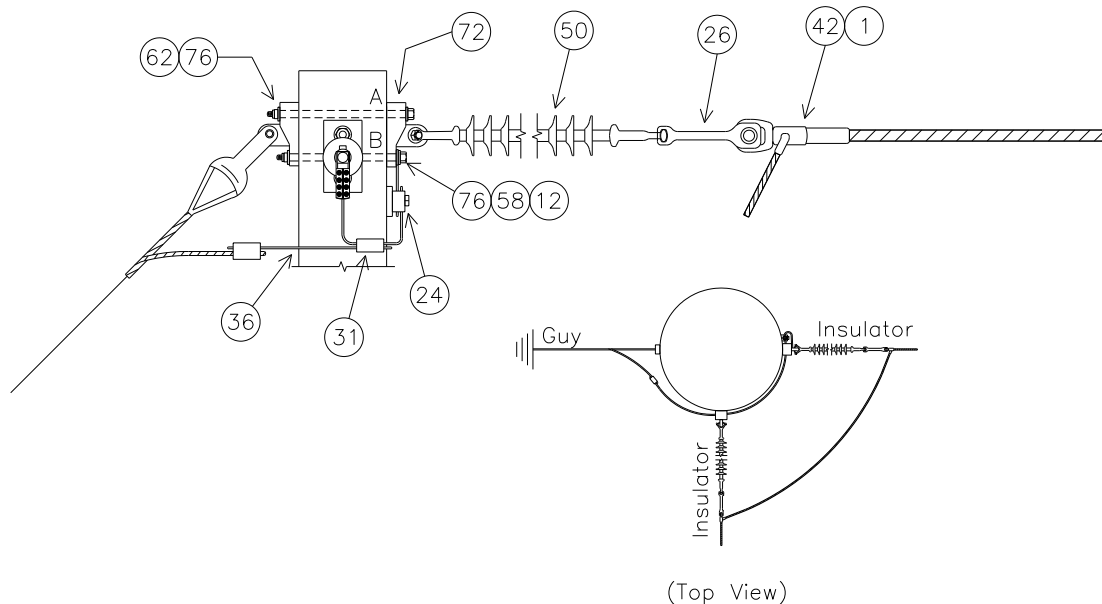
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954H, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

### FULL TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2

### SLACK TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	23.7	25.6	27.6
LOWER BOLT 'B' LENGTH (INCHES)	22.9	24.9	26.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD9FSB3 PLATES

### ISDD9FSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	9	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### ISDD9FSB3\*954H

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	6	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD9FSB3\*954S

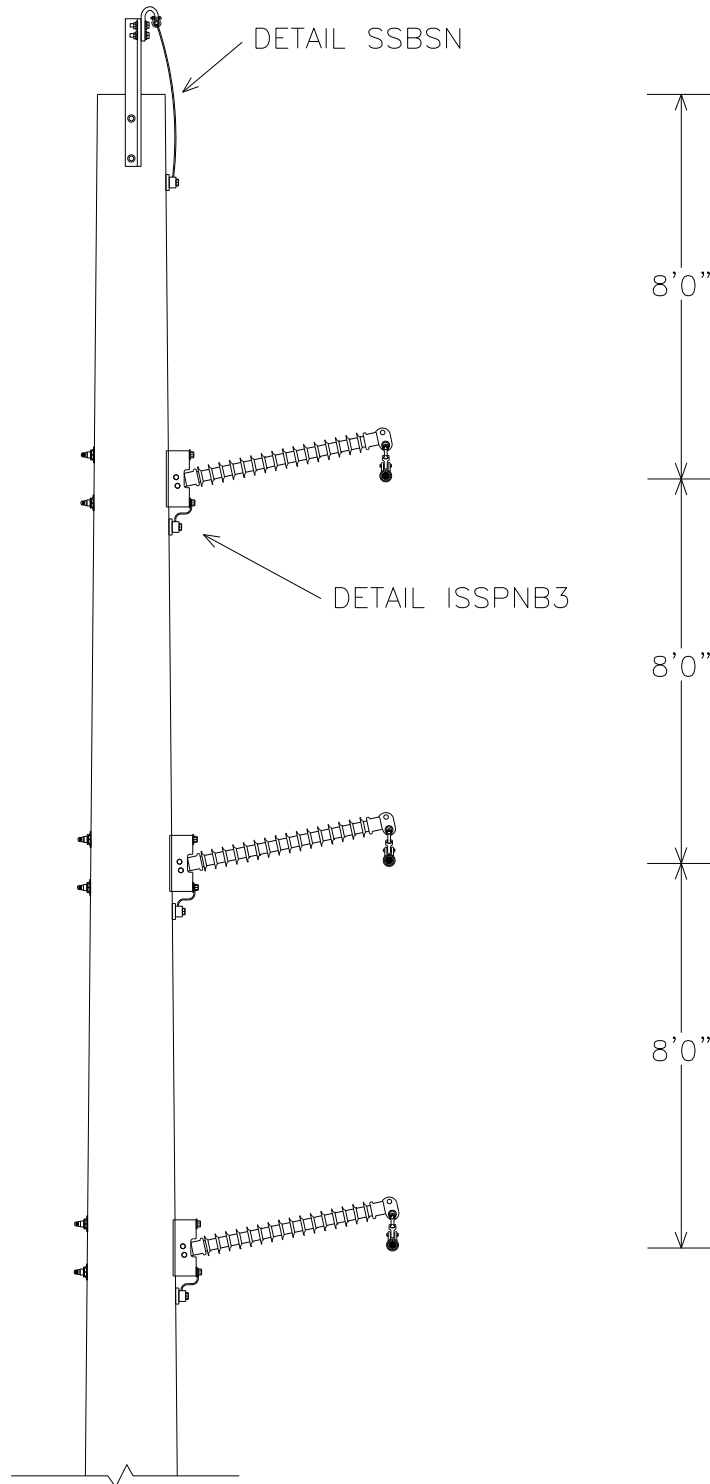
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD9FSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B1251

**138KV SINGLE POST, UNGUYED, TANGENT SHIELD, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S





## B1251 PLATES

### B1251 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

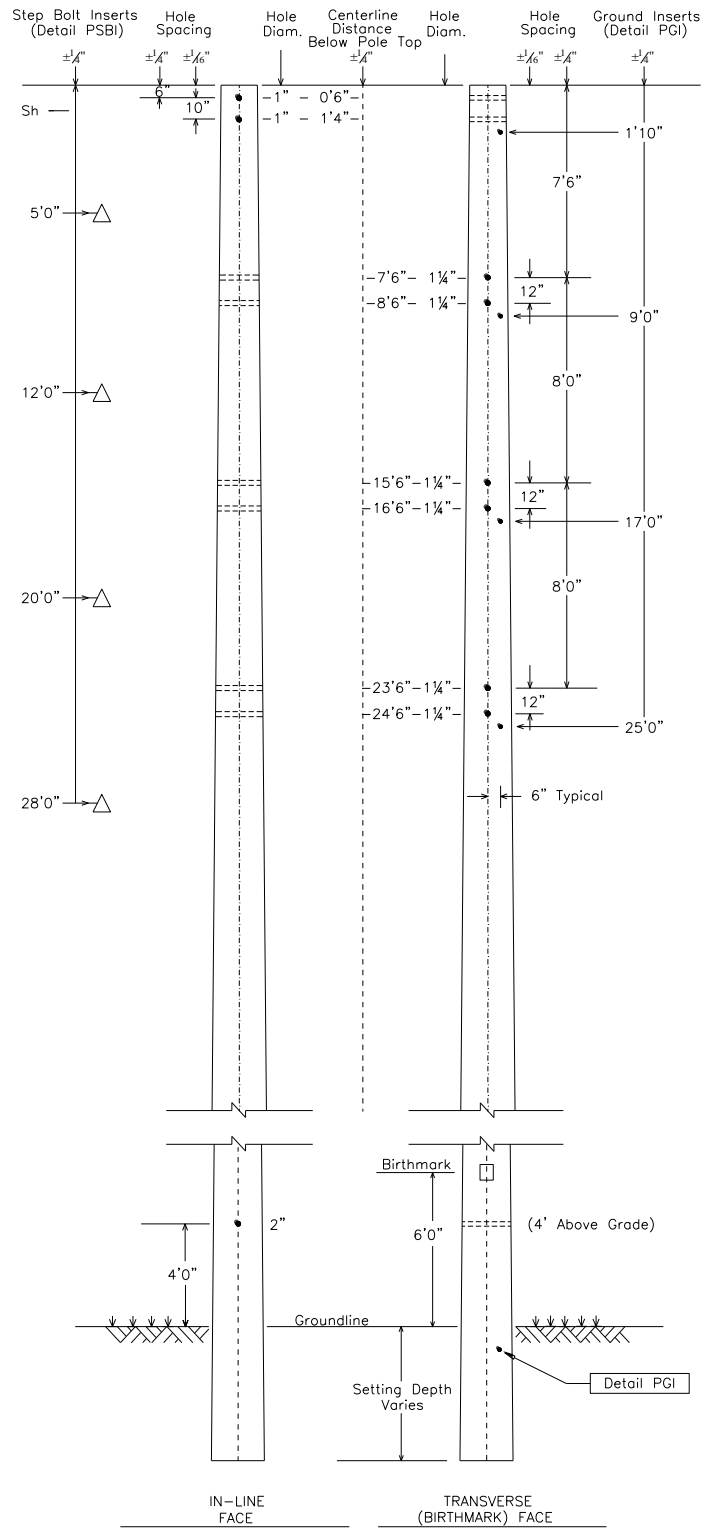
### B1251\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

### B1251\*954S

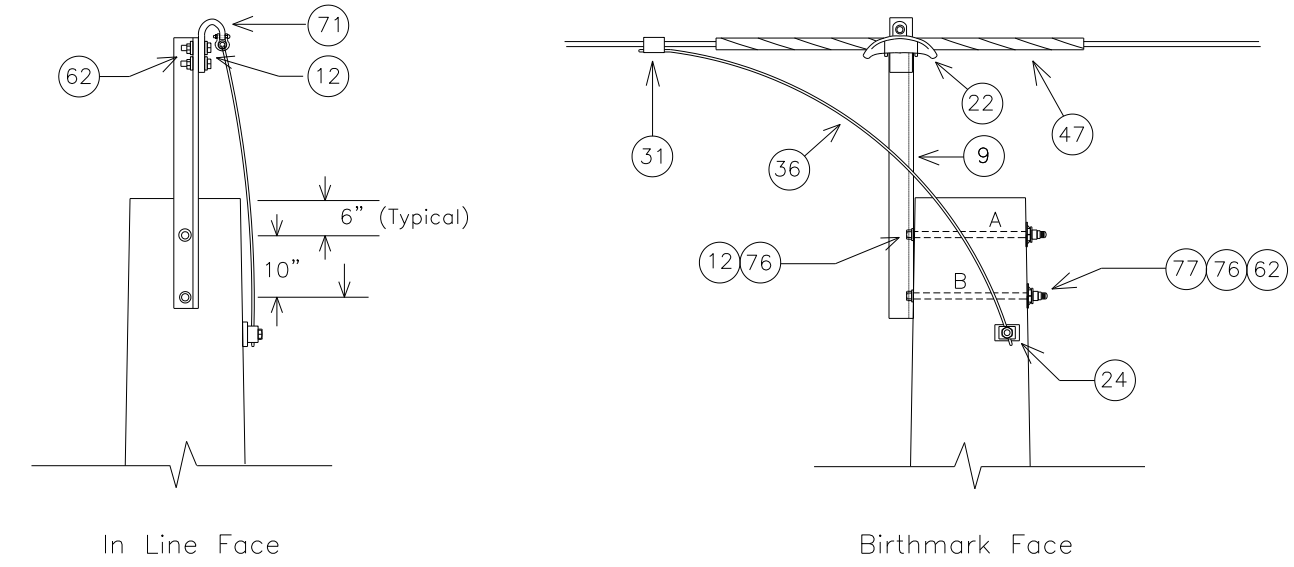
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## B1251 DRILLING DETAIL



## SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

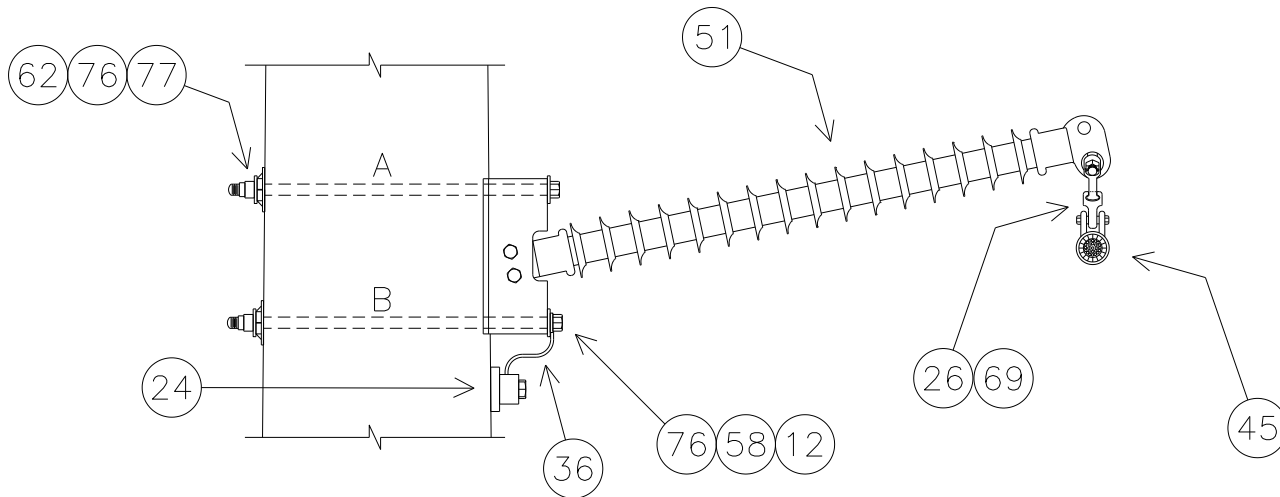
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



## ISSPNB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, NO GUY, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.7	30.4
BOLT 'B' LENGTH (INCHES)	27.4	29.2	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISSPNB3 PLATES

**ISSPNB3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

**ISSPNB3\*954A**

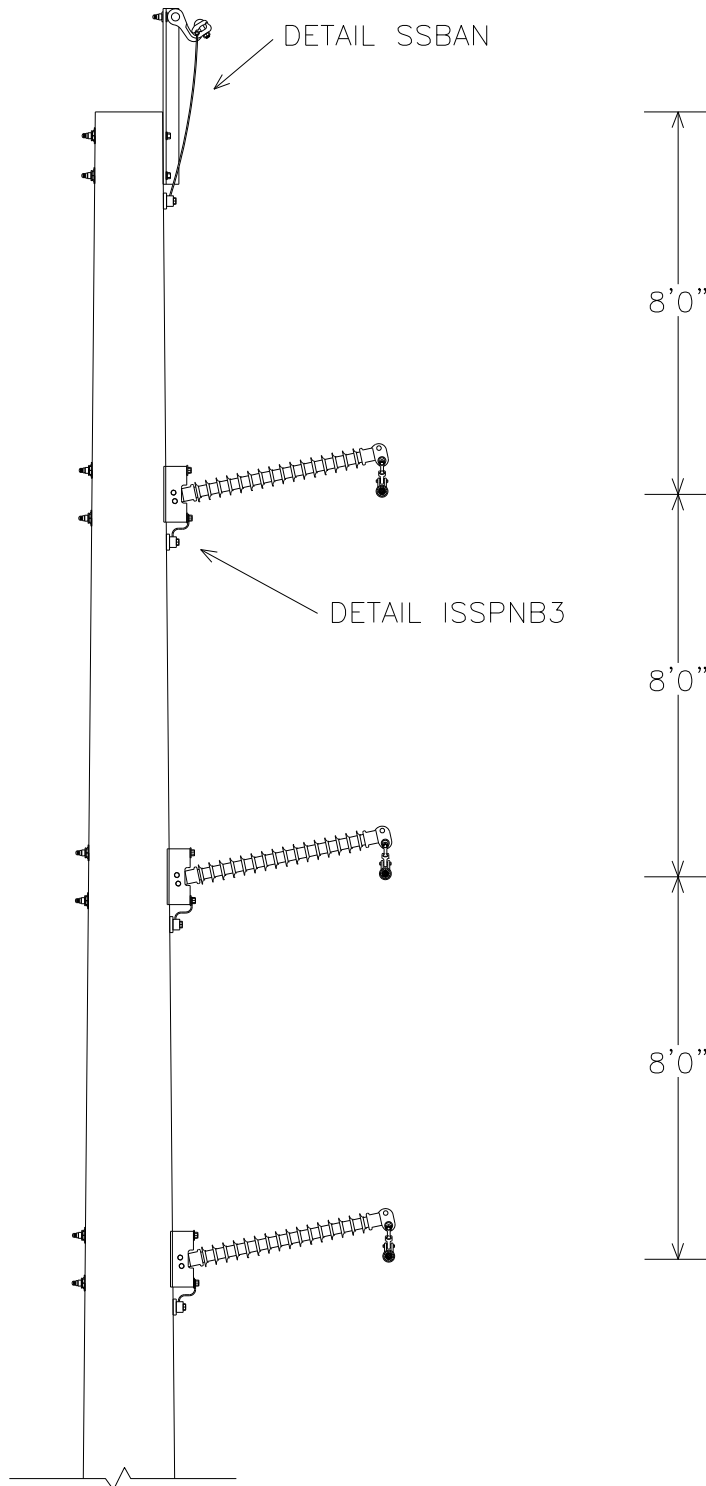
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

**ISSPNB3\*954S**

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## B1252

**138KV SINGLE POST, UNGUYED, ANGLE SHIELD, 3-PHASE**  
**CONDUCTOR OPTIONS: 954A, 954S**



## B1252 PLATES

### B1252 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTGY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

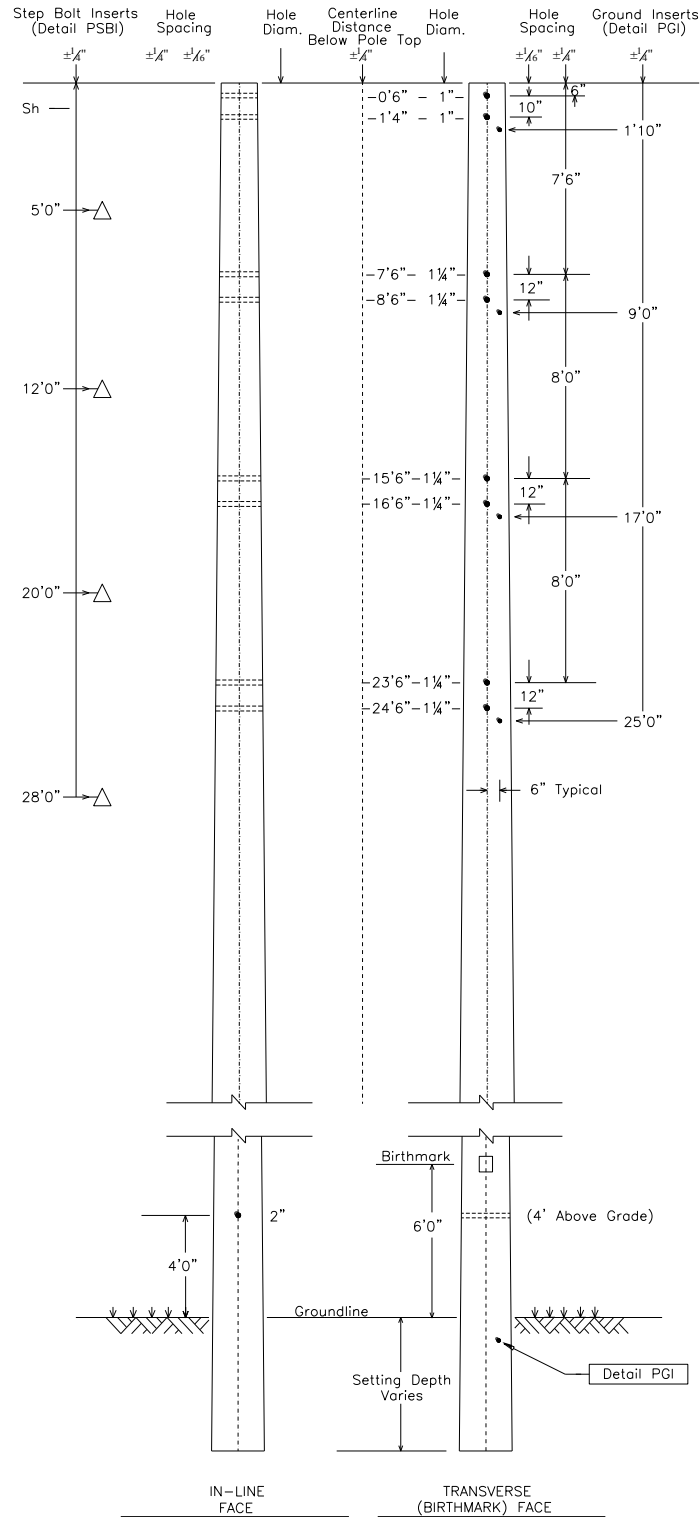
### B1252\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

### B1252\*954S

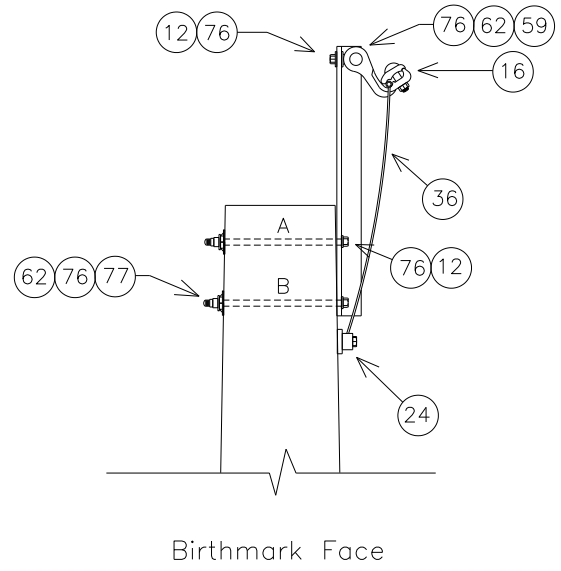
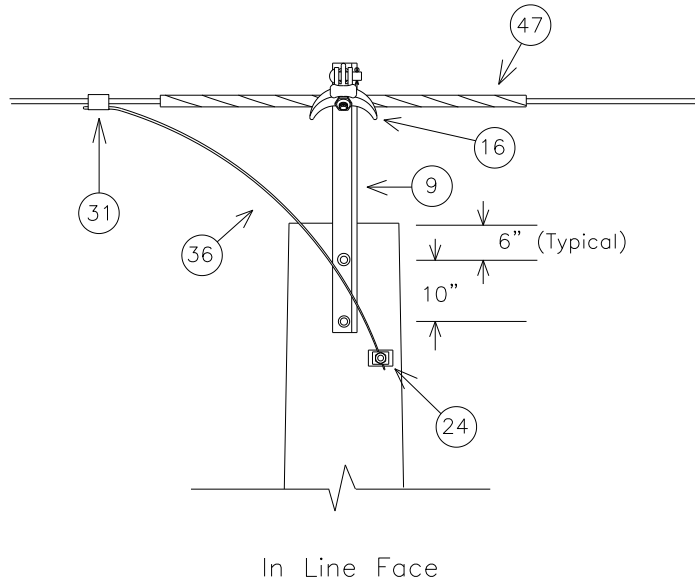
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## B1252 DRILLING DETAIL



## SSBAN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

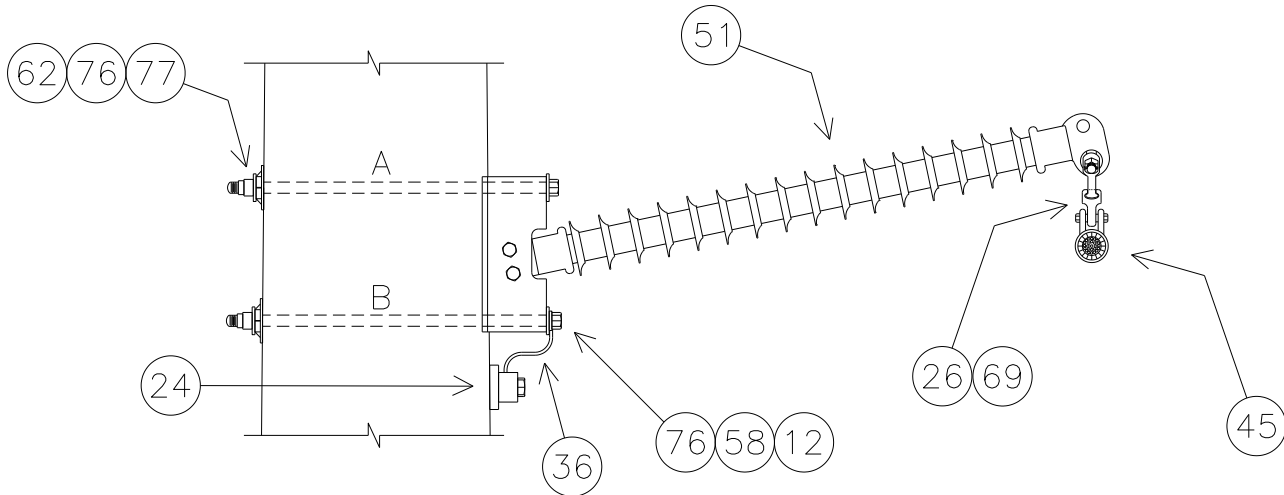
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, NO GUY, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.7	30.4
BOLT 'B' LENGTH (INCHES)	27.4	29.2	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

## ISSPNB3 PLATES

### ISSPNB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSPNB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

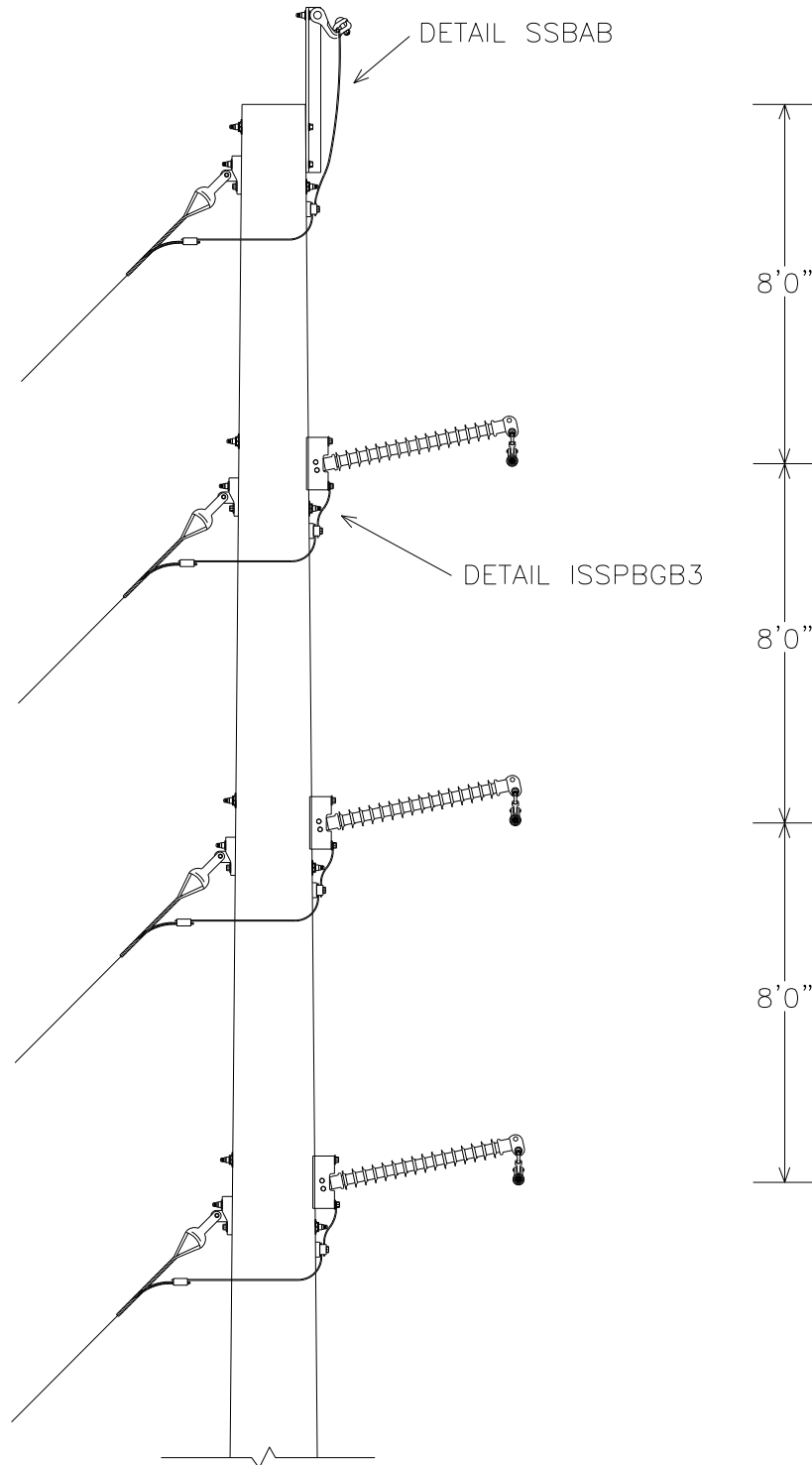
### ISSPNB3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.



## B1252A

138KV SINGLE POST, BACK GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



## B1252A PLATES

### B1252A BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	1	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 038	1	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	21	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

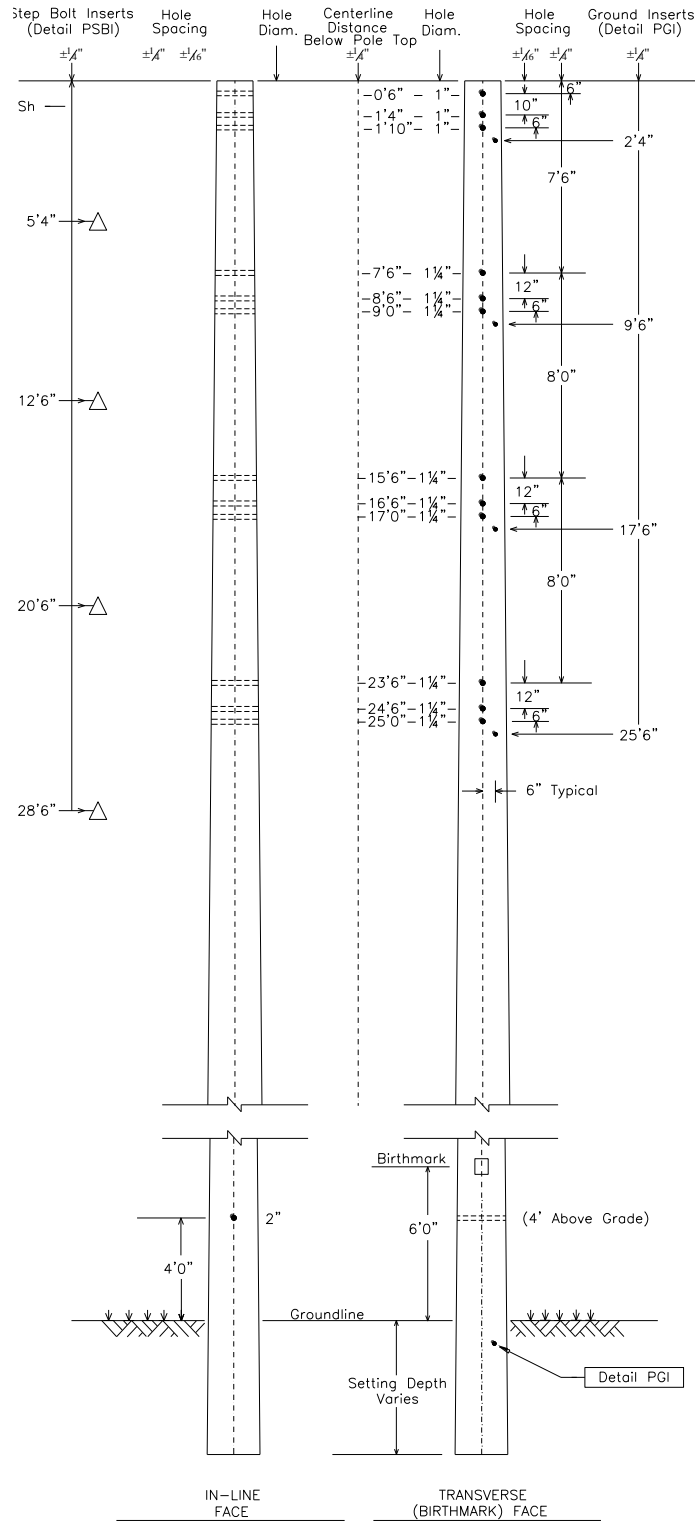
### B1252A\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

### B1252A\*954S

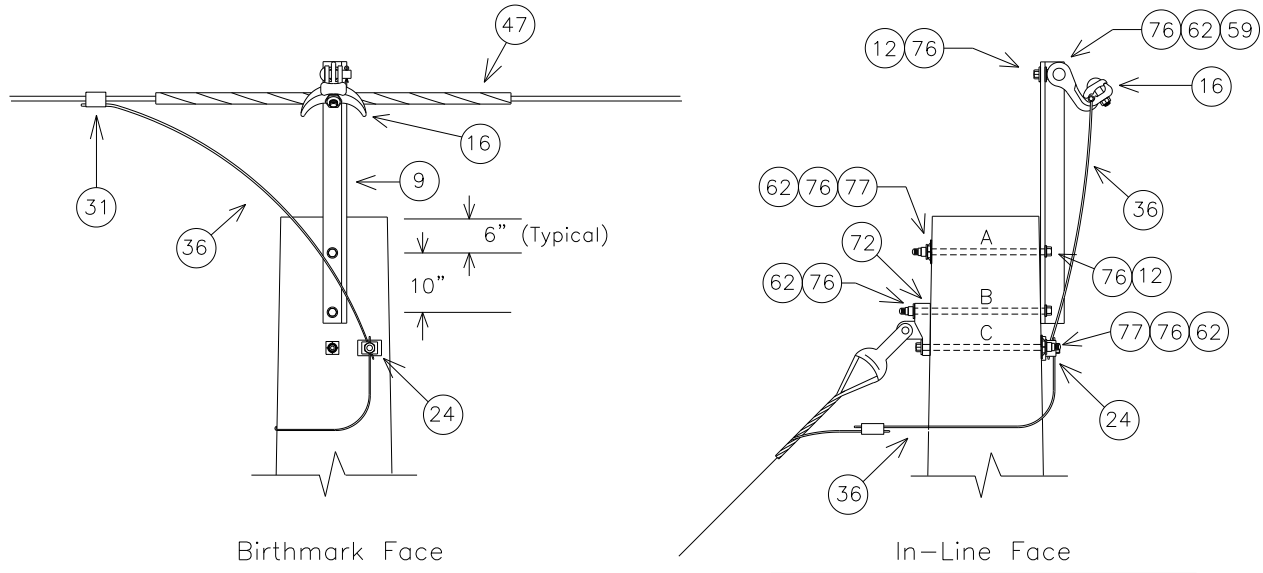
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## B1252A DRILLING DETAIL



## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

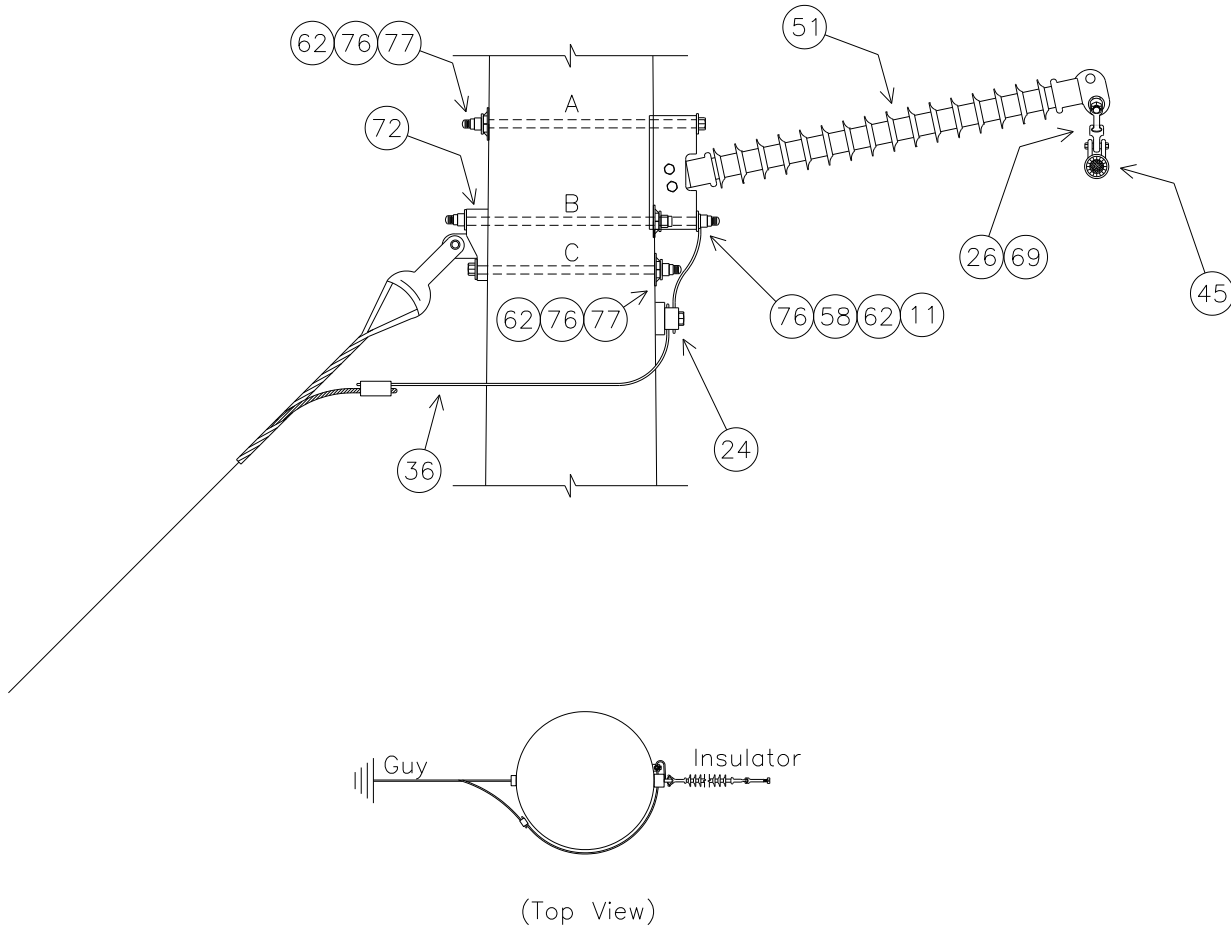
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPBGB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, BOTTOM GUYED, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.7	30.4
D.A. BOLT 'B' LENGTH (INCHES)	28.8	30.5	32.2
BOLT 'C' LENGTH (INCHES)	22.2	23.9	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSPBGB3 PLATES

### ISSPBGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	1	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 038	1	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	21	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSPBGB3\*954S

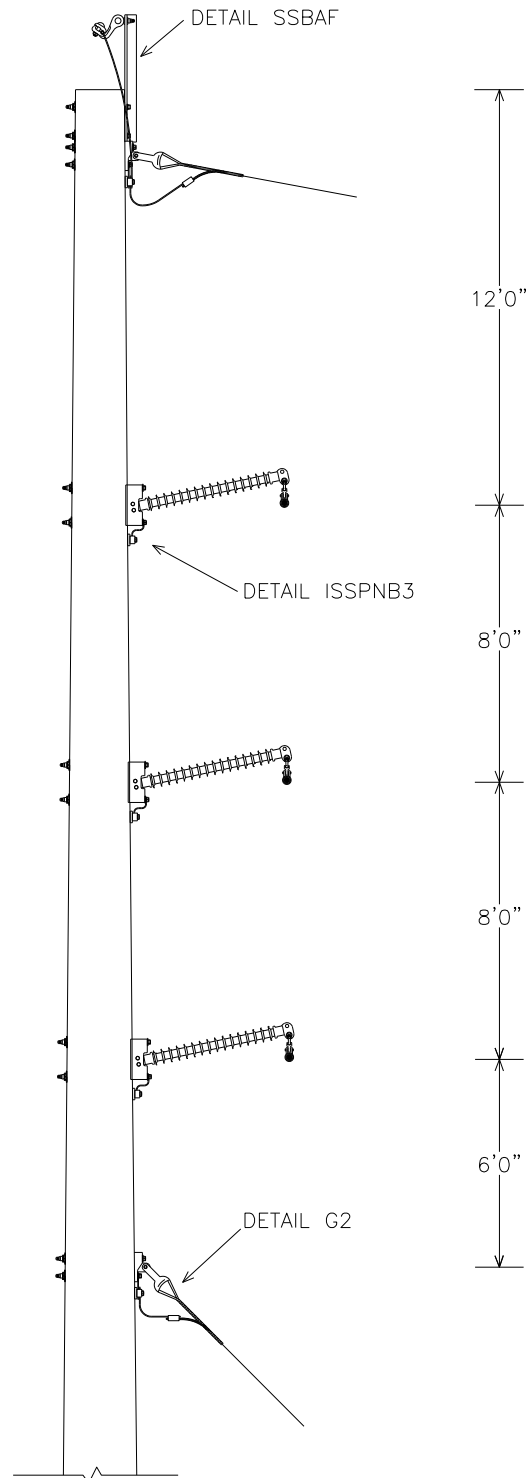
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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### ISSPBGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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## B1252B

138KV SINGLE POST, FRONT GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



## B1252B PLATES

### B1252B BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	5	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	4	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	10	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16 BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	20	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	10	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### B1252B\*954A

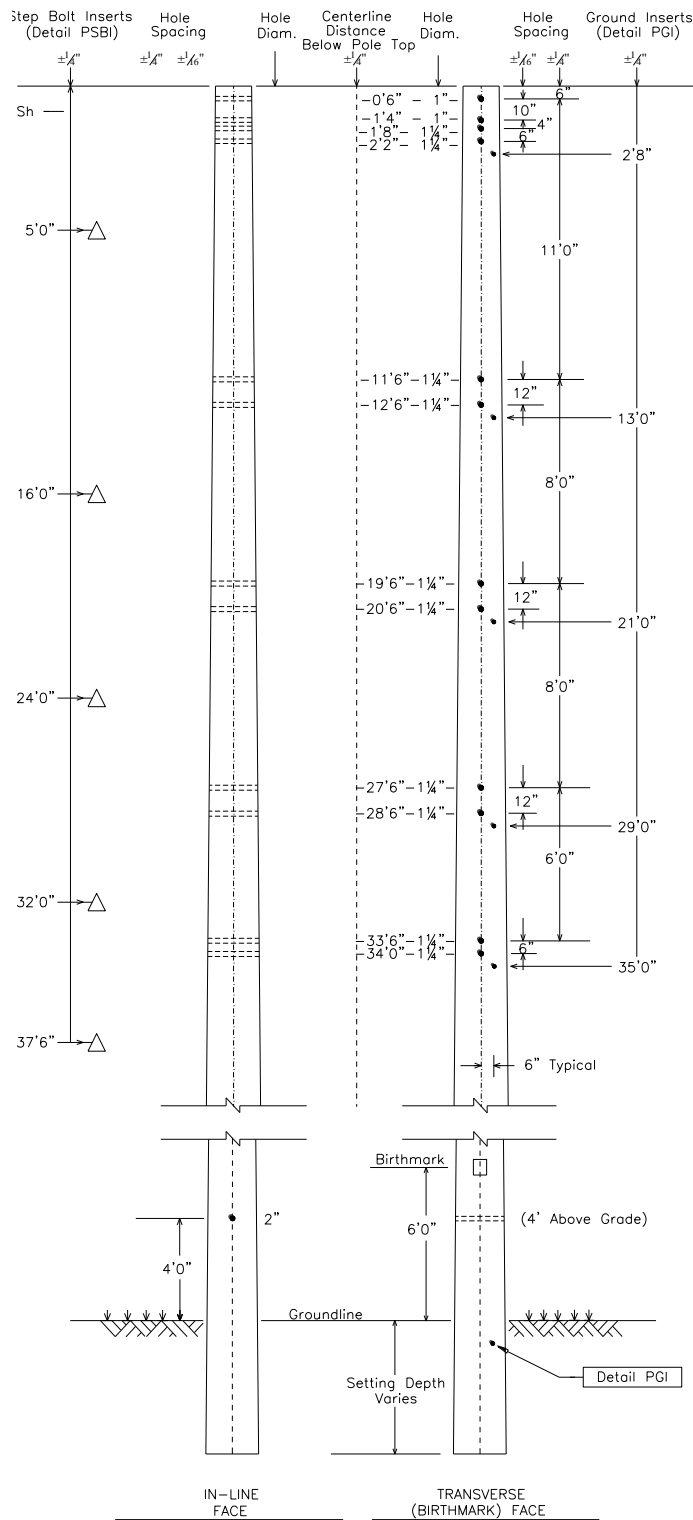
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

### B1252B\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

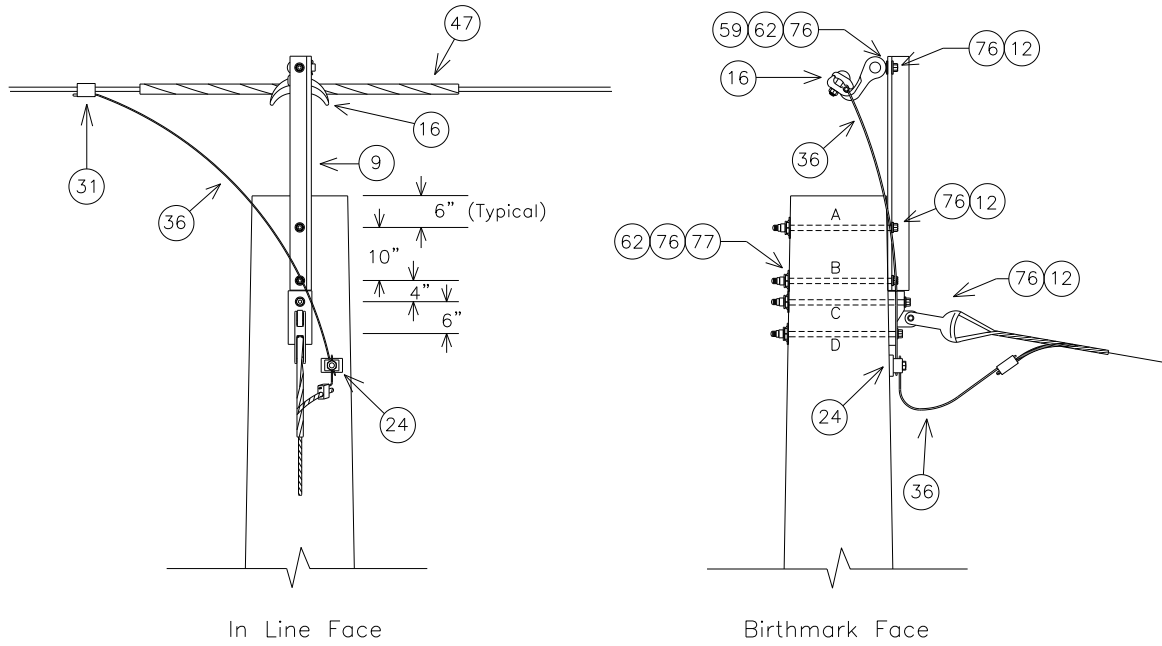


## B1252B DRILLING DETAIL



## SSBAF

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, FRONT GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

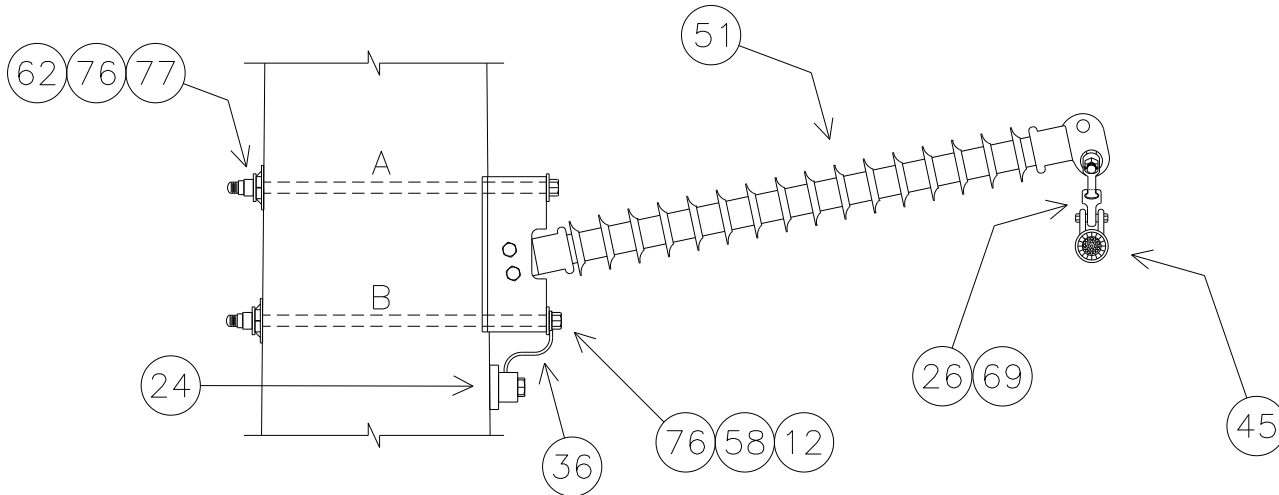
	'A'	'B'	'C'	'D'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	19.6	19.8	21.7	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER;  
USE 3/4" BOLTS FOR 'A' & 'B' AND 7/8" BOLTS FOR 'C' & 'D'

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	1	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16" BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, NO GUY, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.7	30.4
BOLT 'B' LENGTH (INCHES)	27.4	29.2	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

## ISSPNB3 PLATES

### ISSPNB3 BASE

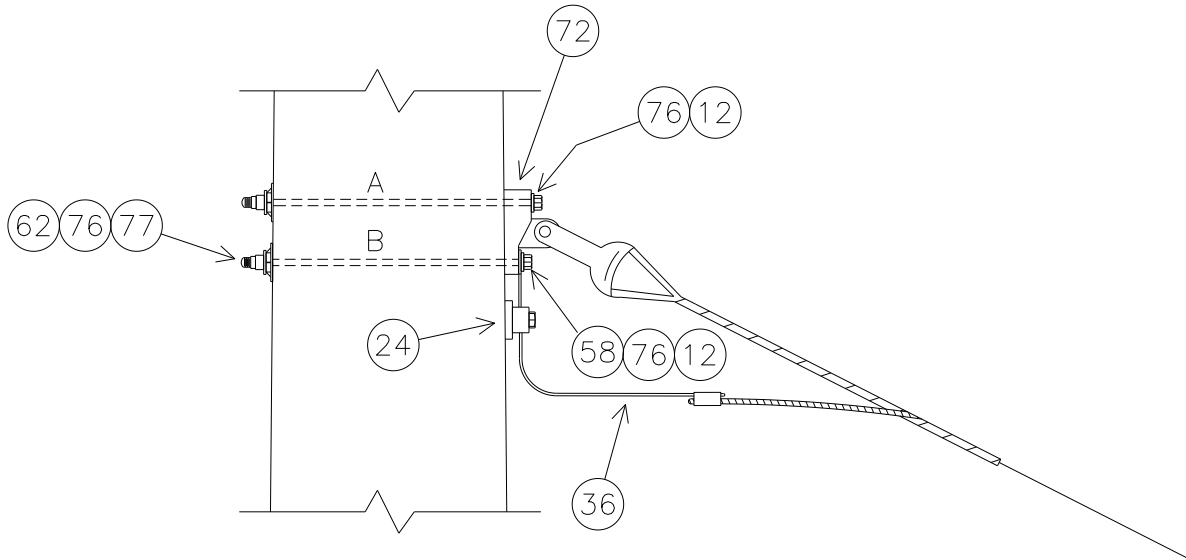
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSPNB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

### ISSPNB3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

**G2****HEAVY GUY**

MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	28.6
'B'	28.0

NOTE: BOLT CALCULATIONS ASSUMES A 17 INCH POLE TOP DIAMETER

**G2**

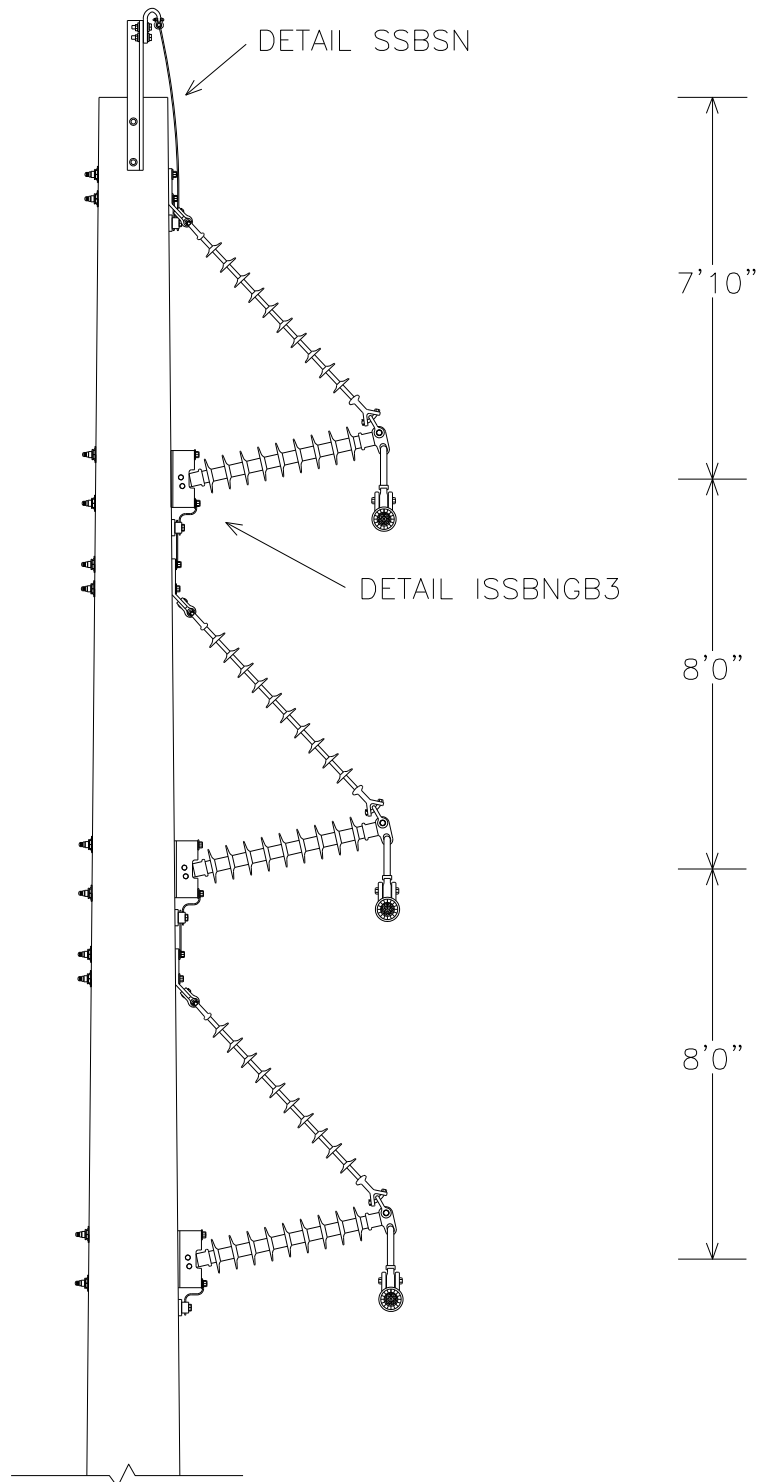
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS FOR TOP BRACE GROUNDING
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	1	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

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## B1261

### 138KV SINGLE BRACED LINE POST, UNGUYED, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590





## B1261 PLATES

### B1261 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
10	BKTLP 001	3	BRACKET, 46-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### B1261\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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### B1261\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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### B1261\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
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The drawing consists of two main vertical sections: the **IN-LINE FACE** on the left and the **TRANSVERSE (BIRTHMARK) FACE** on the right.

**IN-LINE FACE:**

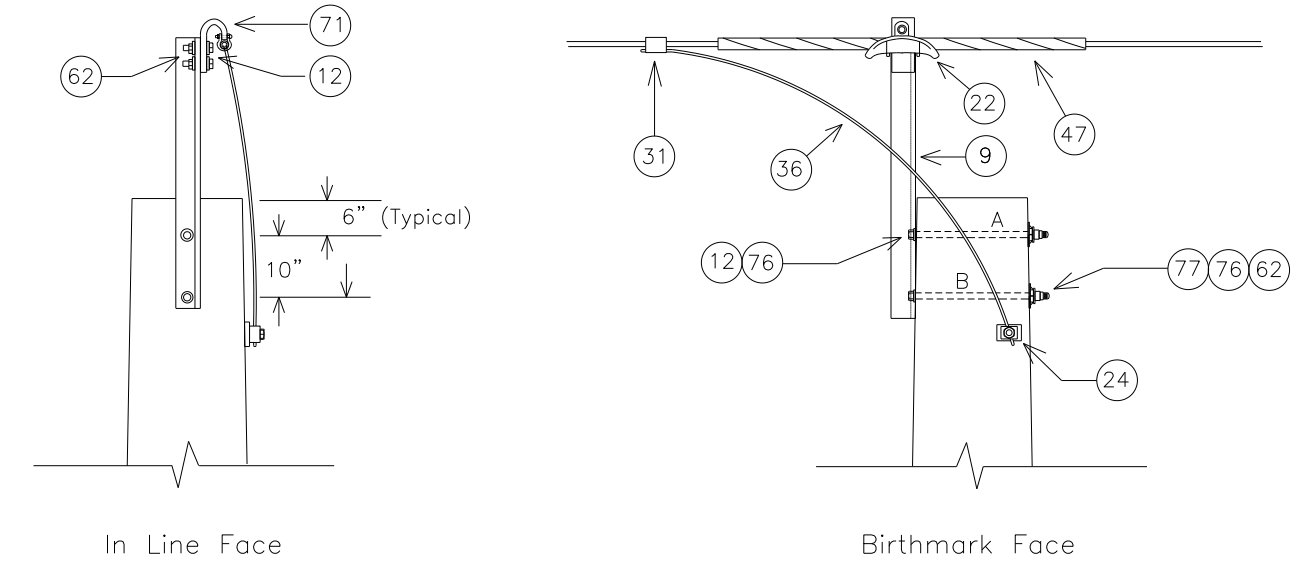
- Labels:** Step Bolt Inserts (Detail PSBI), Hole Spacing, Hole Diam., Centerline Distance Below Pole Top, Pole Diam., Ground Inserts (Detail PGI).
- Dimensions:**
  - Vertical spacing between hole centers: 7'4", 5'3", 8'0", 5'3", 8'0", 5'3", 8'0", 5'3", 21'7", 27'10".
  - Horizontal spacing between hole centers: 12", 6", 12", 6", 12", 6", 12".
  - Hole diameters: 1", 0'6", 1'4", 1'7"-1'1/4", 2'1"-1'1/4", 7'4"-1'1/4", 8'4"-1'1/4", 9'7"-1'1/4", 10'1"-1'1/4", 15'4"-1'1/4", 16'4"-1'1/4", 17'7"-1'1/4", 18'1"-1'1/4", 23'4"-1'1/4", 24'4"-1'1/4".
  - Ground line: 4' Above Grade, Birthmark, Groundline, Setting Depth Varies.

**TRANSVERSE (BIRTHMARK) FACE:**

- Labels:** Hole Spacing, Ground Inserts (Detail PGI).
- Dimensions:**
  - Vertical spacing between hole centers: 2'7", 8'10", 16'10", 24'10".
  - Horizontal spacing between hole centers: 10", 6".
  - Hole diameters: 1'7"-1'1/4", 2'1"-1'1/4", 7'4"-1'1/4", 8'4"-1'1/4", 9'7"-1'1/4", 10'1"-1'1/4", 15'4"-1'1/4", 16'4"-1'1/4", 17'7"-1'1/4", 18'1"-1'1/4", 23'4"-1'1/4", 24'4"-1'1/4".
  - Ground line: 4'0", Detail PGI.

## SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

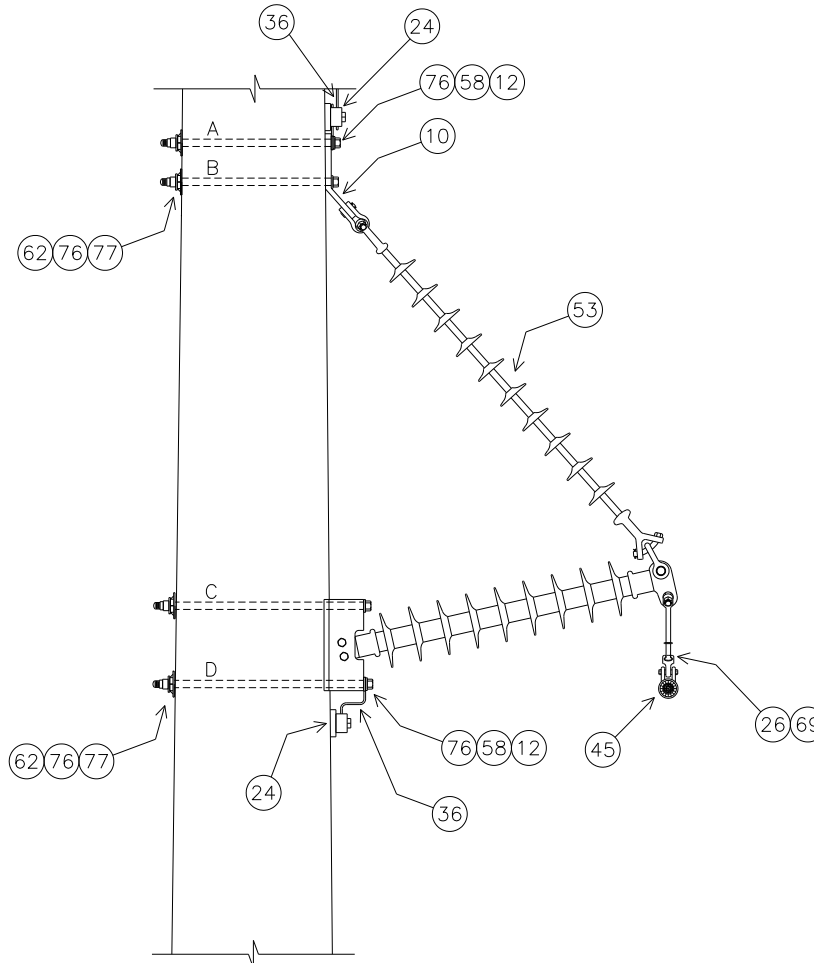
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBNGB3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE BRACED LINE POST, NO GUY, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

### VERTICLE CONFIGURATION

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	20.6	20.4	26.9	27.4
MIDDLE	22.3	22.2	28.7	29.1
BOTTOM	24.0	23.9	30.4	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSBNGB3 PLATES

### ISSBNGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP001	3	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSBNGB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBNGB3\*954S

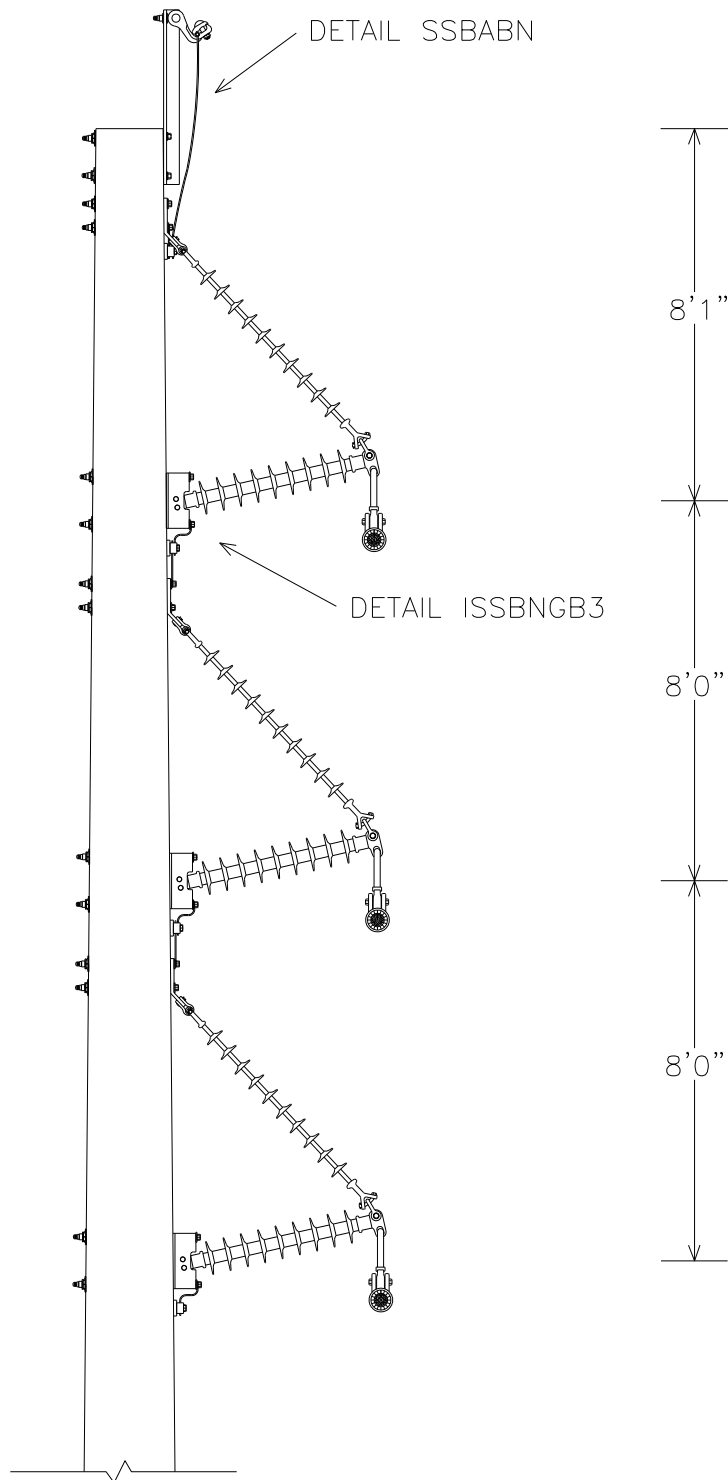
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBNGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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## B1262

**138KV SINGLE BRACED LINE POST, UNGUYED, 3-PHASE,**  
**CONDUCTOR OPTIONS: 954A, 954H, 954S, 1590**





## B1262 PLATES

### B1262 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
10	BKTLP 001	3	BRACKET, 46-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLAN 001	1	ANGLE CLAMP FOR 4-SOL-250MCM, 7000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### B1262\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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### B1262\*954H

45	GRISA 009	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSS, 112 INCHES,
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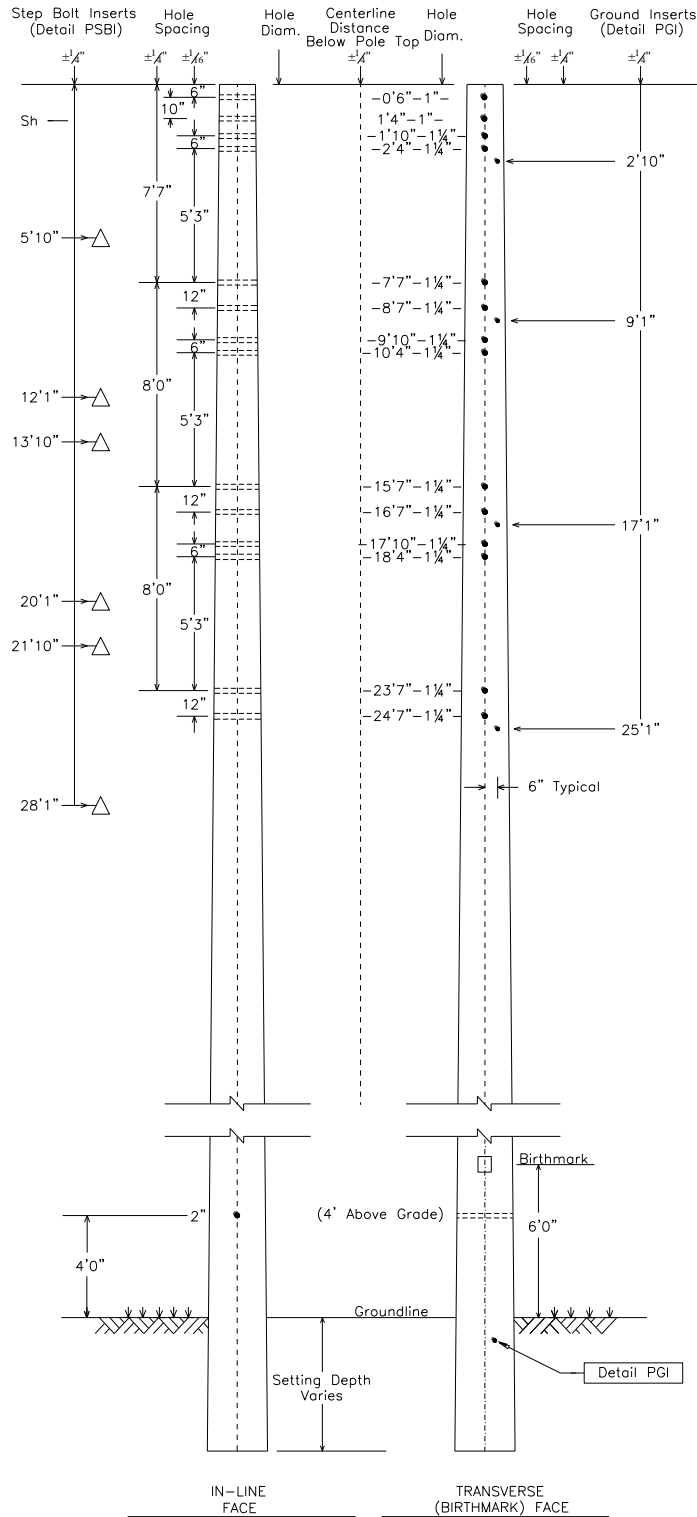
### B1262\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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### B1262\*1590

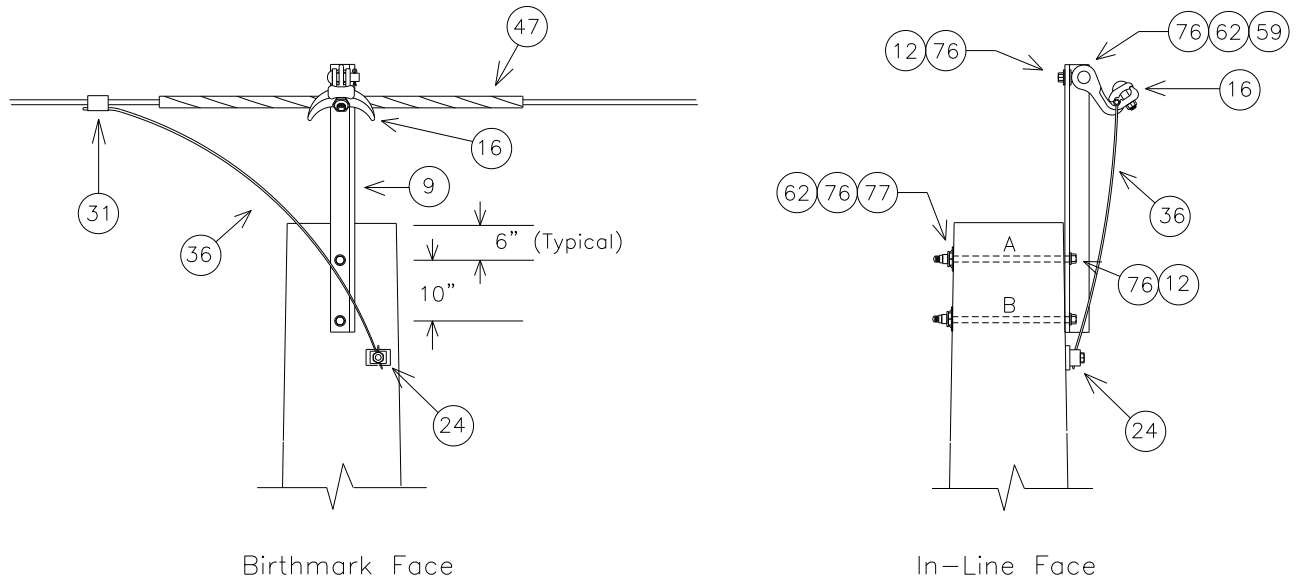
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN
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## B1262 DRILLING DETAIL



## SSBABN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

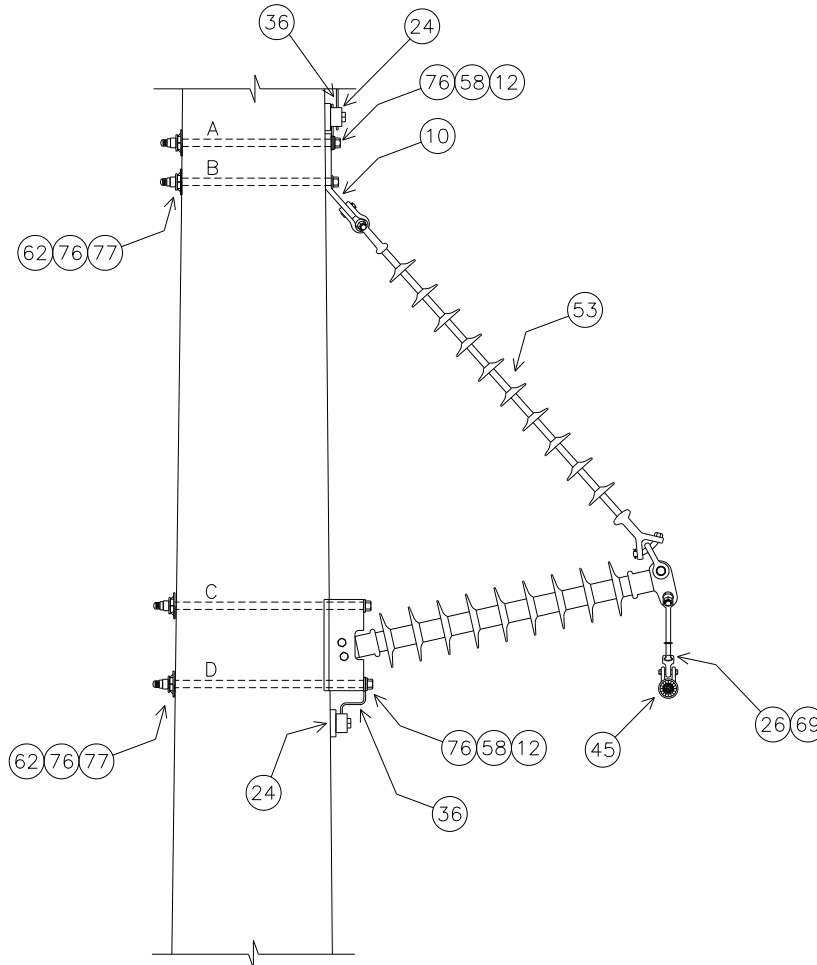


## ISSBNGB3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE BRACED LINE POST, NO GUY, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954H, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

### VERTICLE CONFIGURATION

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	20.6	20.4	26.9	27.4
MIDDLE	22.3	22.2	28.7	29.1
BOTTOM	24.0	23.9	30.4	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSBNGB3 PLATES

### ISSBNGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 001	3	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSBNGB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBNGB3\*954H

45	GRISA 009	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSS
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### ISSBNGB3\*954S

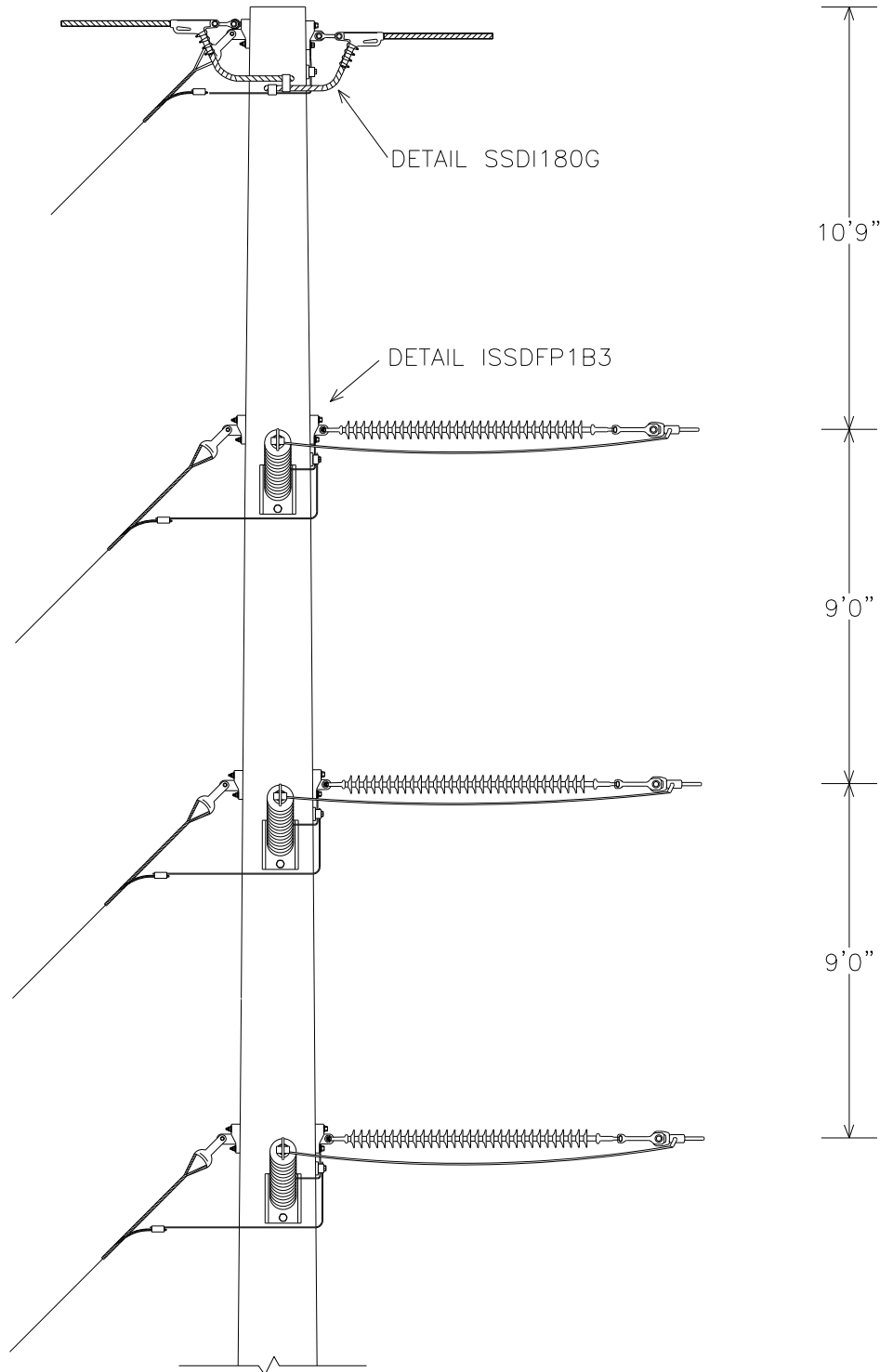
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBNGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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## B1286C

138KV, SINGLE DEAD-END 180°, FULL TENSION TO POST, 3-PHASE  
CONDUCTOR OPTIONS: 954H, 954S, 1590



REVISED: OCTOBER 2013

REVISED BY: MLR

APPROVED BY :KKR

### 138KV STRUCTURES-NEW CONSTRUCTION

STS138-96



# B1286C PLATES

## B1286C BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
51	INSHP 030	3	HORIZONTAL POST INSULATOR (TRUNION), 138KV, L = 54 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

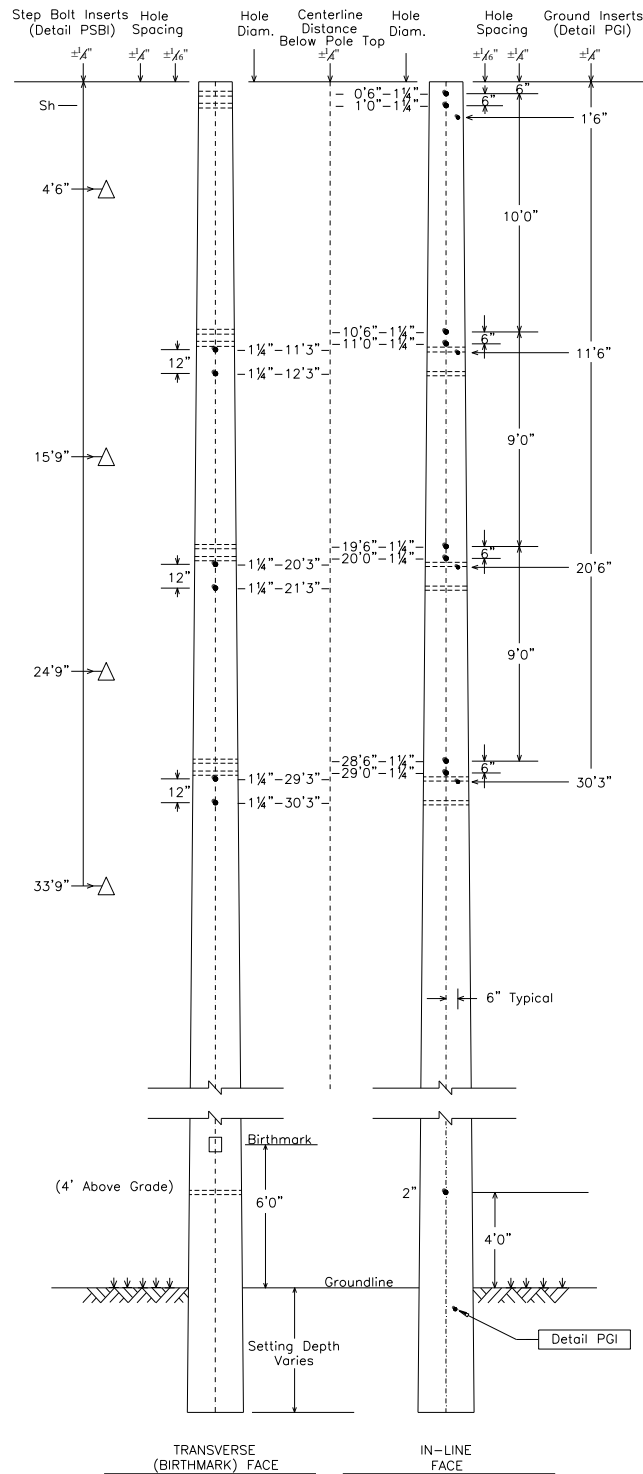
## B1286C\*954S & H

NO.	ITEM ID	QTY	DESCRIPTION
1 (954S)	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
1 (954H)	ADCVF 002	3	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 005	3	CLAMP, ALUMINUM, FOR 954ASCR
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
42 (954H)	DEACB 016	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ASCR, 100 INCHES

## B1286C\*1590

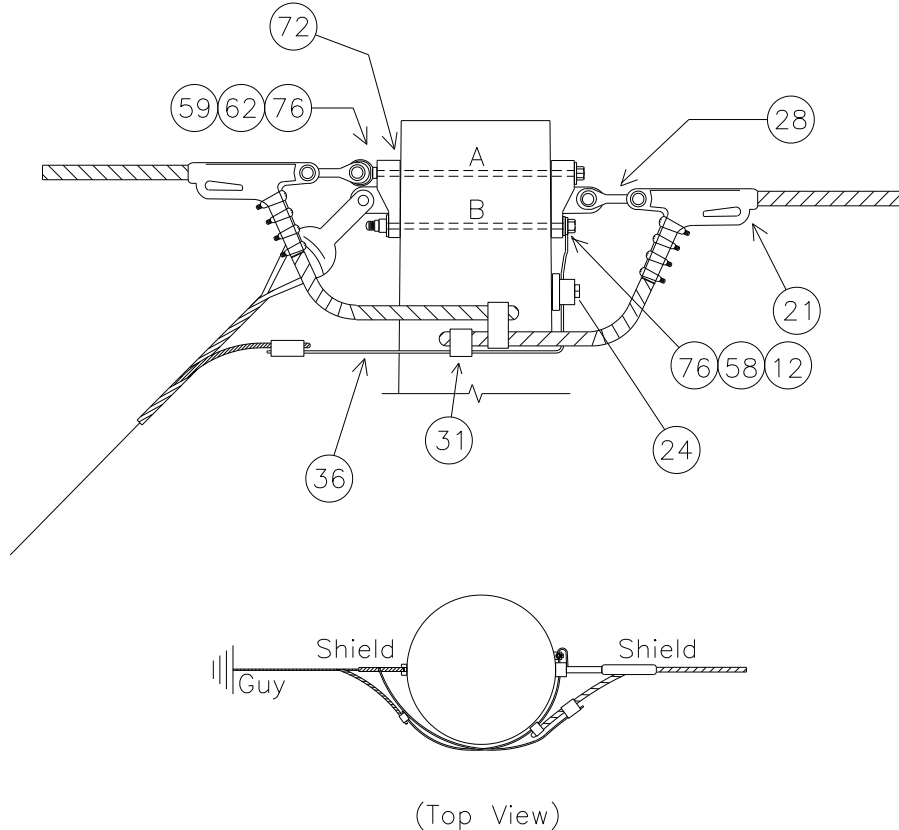
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 006	3	CLAMP, ALUMINUM, FOR 1590ASCR
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ASCR, 100 INCHES

## B1286C DRILLING DETAIL



## SSDI180G

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°, GUY



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

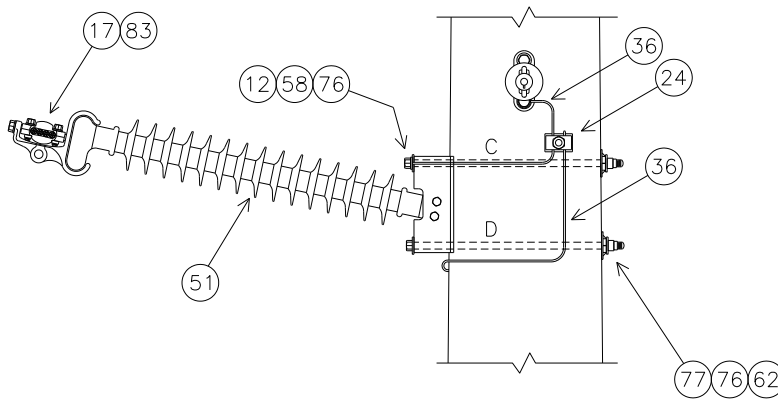
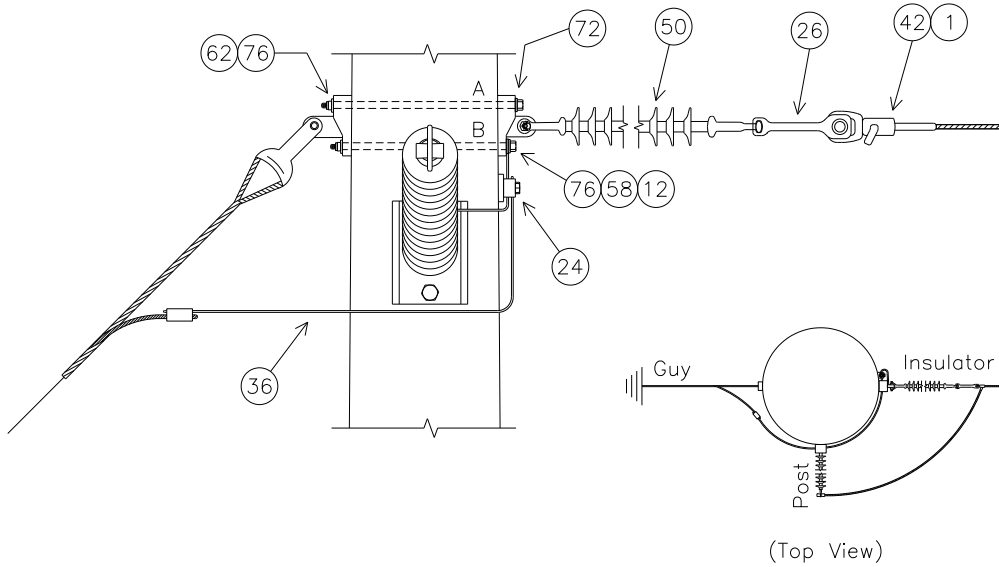
UPPER BOLT LENGTH (INCHES)	23.6
LOWER BOLT LENGTH (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDFP1B3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END, FULL TENSION TO POST, TYPE 1, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2
BOLT 'C' LENGTH (INCHES)	27.8	29.7	31.7
BOLT 'D' LENGTH (INCHES)	28.3	30.2	32.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSDFP1B3 PLATES

### ISSDFP1B3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 030	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSDFP1B3\*954S & H

NO.	ITEM ID	QTY	DESCRIPTION
1 (954S)	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
1 (954H)	ADCVF 002	3	VOID FILLER COMPOUND FOR HIGH TEMPERATURE DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 005	3	CLAMP, ALUMINUM, FOR 954ASCR
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
42 (954H)	DEACB 016	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ACSR, 100"

### ISSDFP1B3\*1590

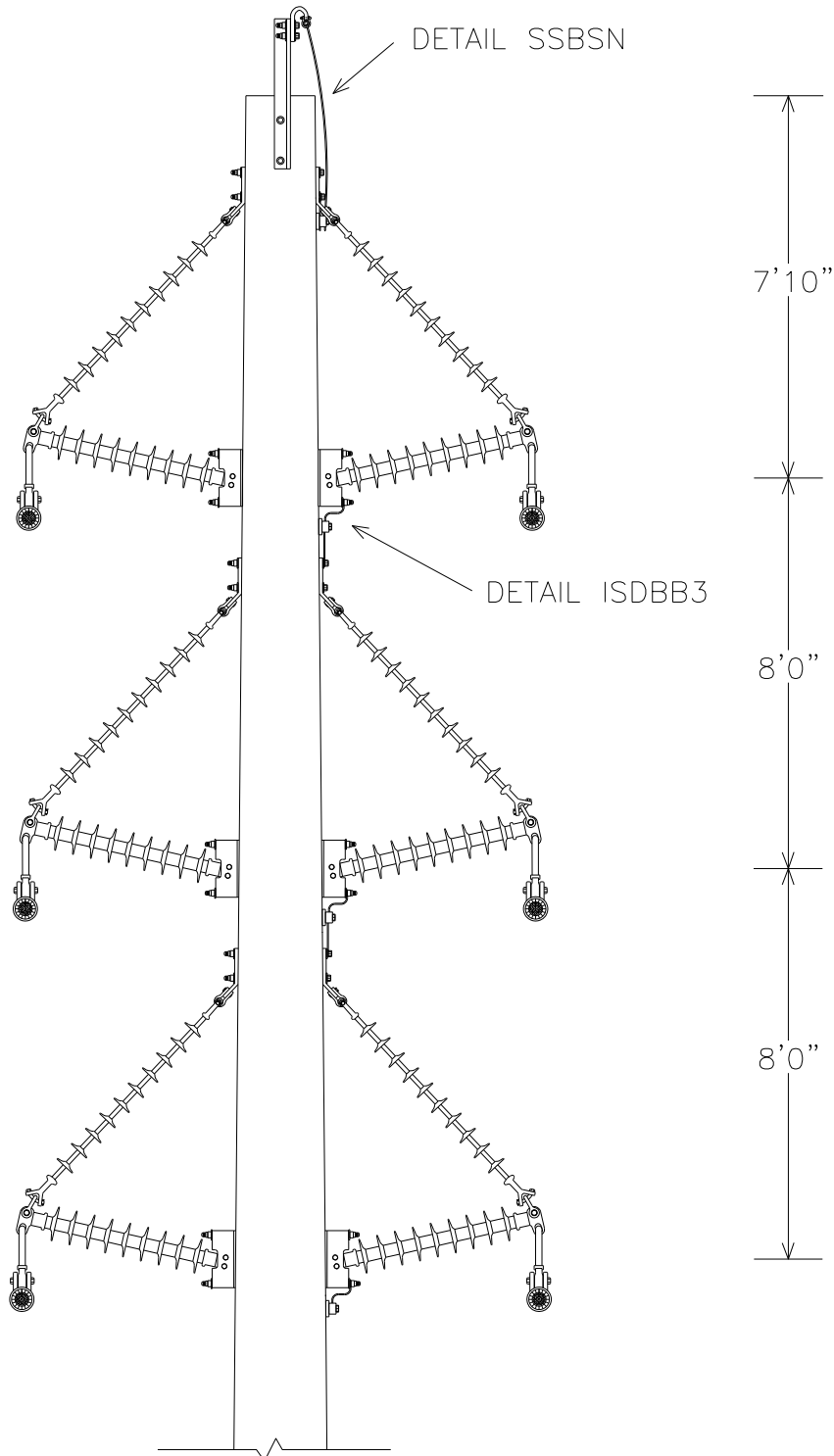
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 006	3	CLAMP, ALUMINUM, FOR 1590ASCR
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ACSR, 100"



## B2261

138KV, DOUBLE BRACED LINE POST, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



## B2261 PLATES

### B2261 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
10	BKTLP 001	6	BRACKET, 46-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 012	6	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	36	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### B2261\*954A

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN

### B2261\*954S

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

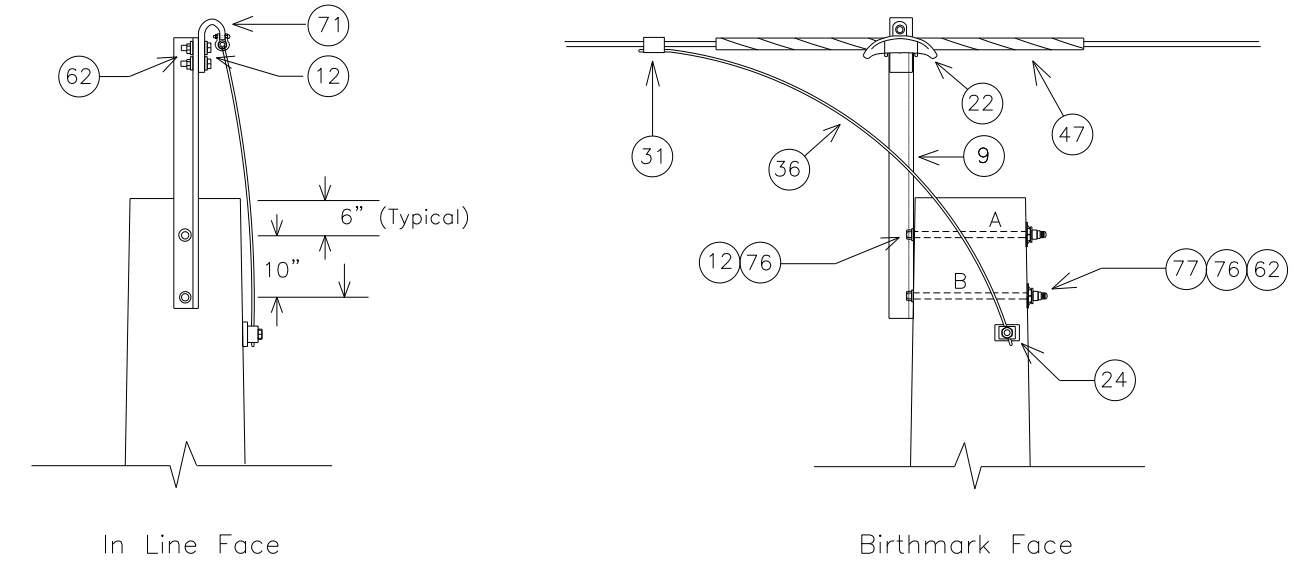
### B2261\*1590

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN

[illegible]

## SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

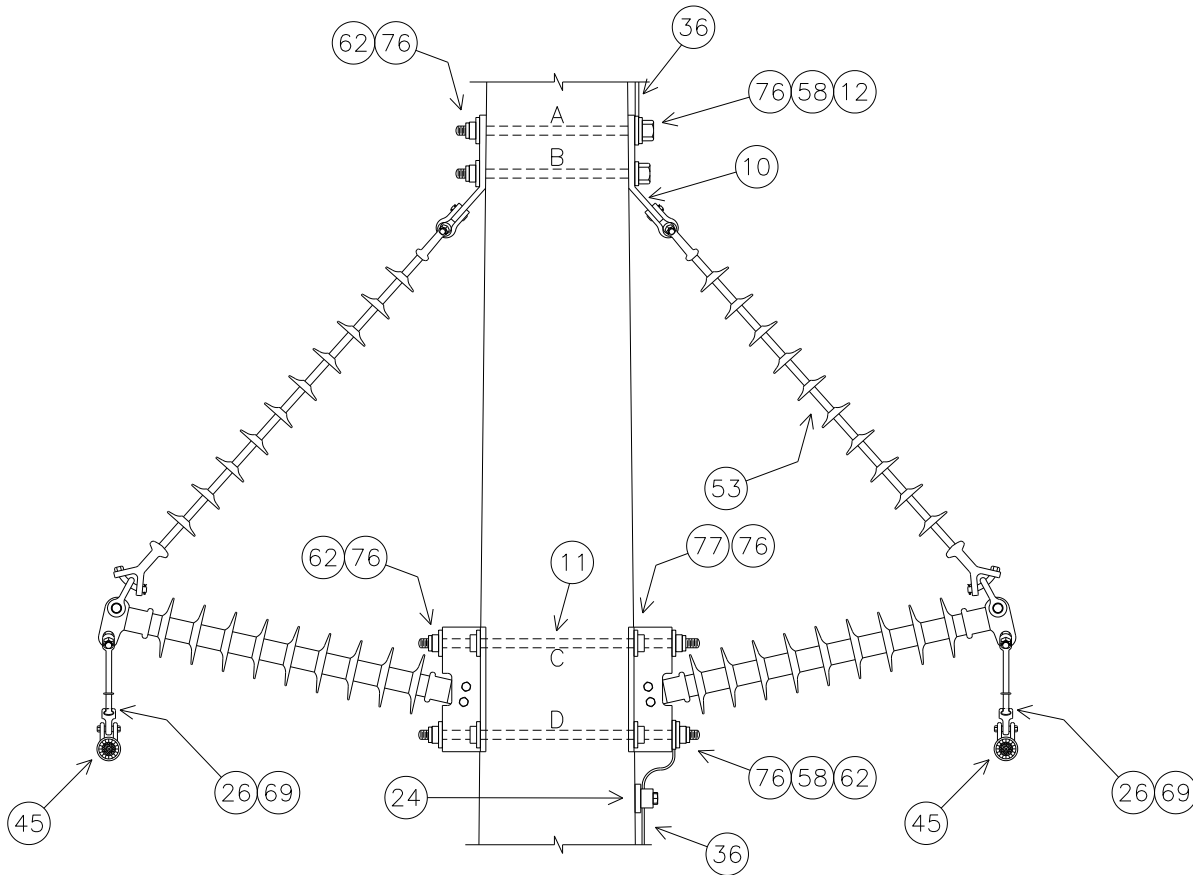
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISDBB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE BRACED LINE POST, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS AND MBA2 FOR DOUBLE ARMING BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTHS (INCHES)			
	'A'	'B'	'C'	'D'
TOP	20.6	20.5	33.6	34.1
MIDDLE	22.4	22.2	35.3	35.8
BOTTOM	24.1	24.0	37.1	37.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDBB3 PLATES

### ISDBB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 001	6	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	6	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	36	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### ISDBB3\*954A

45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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### ISDBB3\*954S

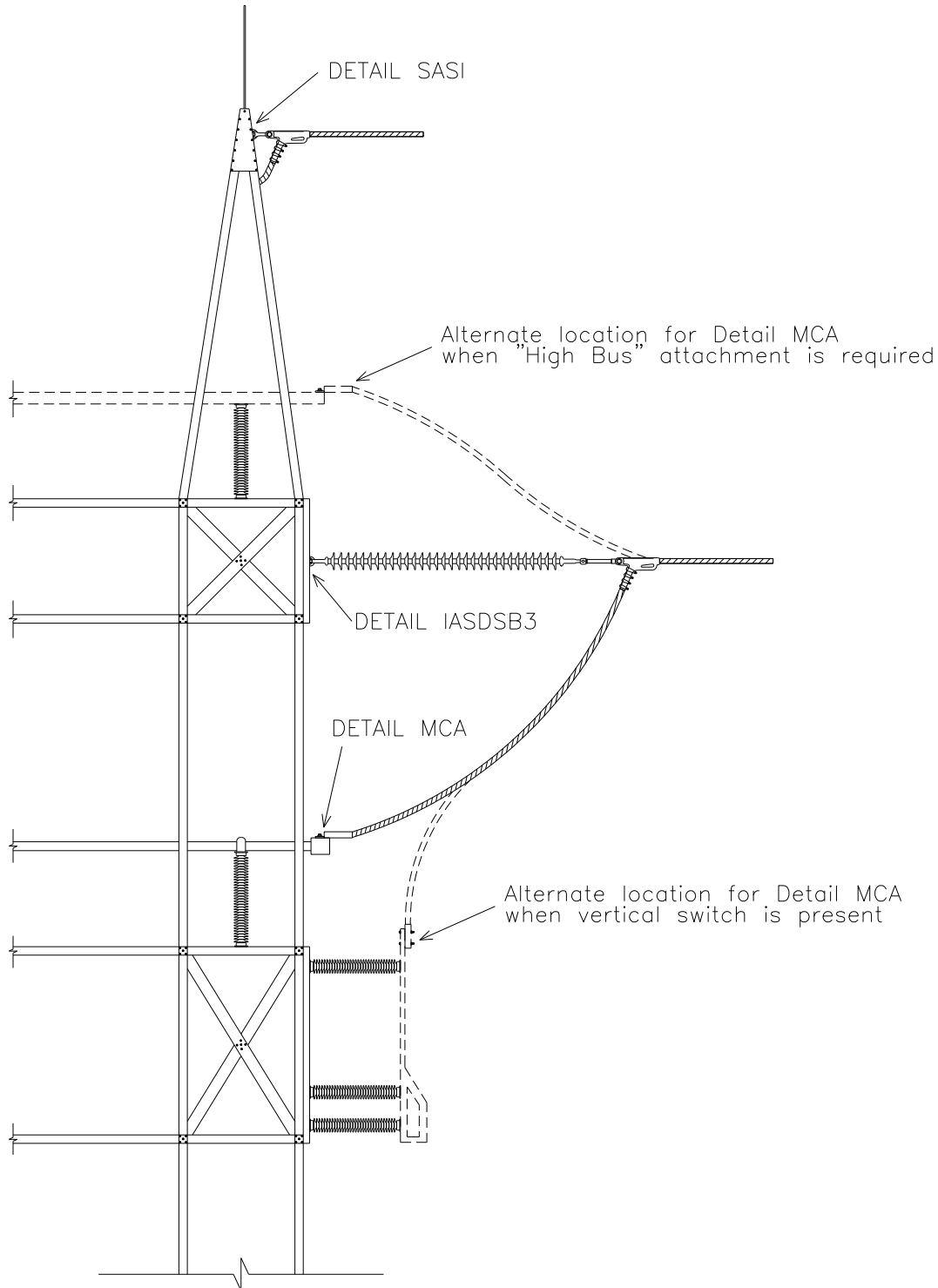
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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### ISDBB3\*1590

45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# B3A45Q

138KV, SINGLE DEADEND, SLACK TENSION, SUBSTATION LATTICE STRUCTURE, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



## B3A45Q PLATES

### B3A45Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2"BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### B3A45Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889"-.964" (556-ACSR), 15-DEGREE ANGLE

### B3A45Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092"- 1.172" (954 AAC), 0-DEGREE ANGLE

### B3A45Q\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124"- 1.196" (954-ACSR), 0-DEGREE ANGLE

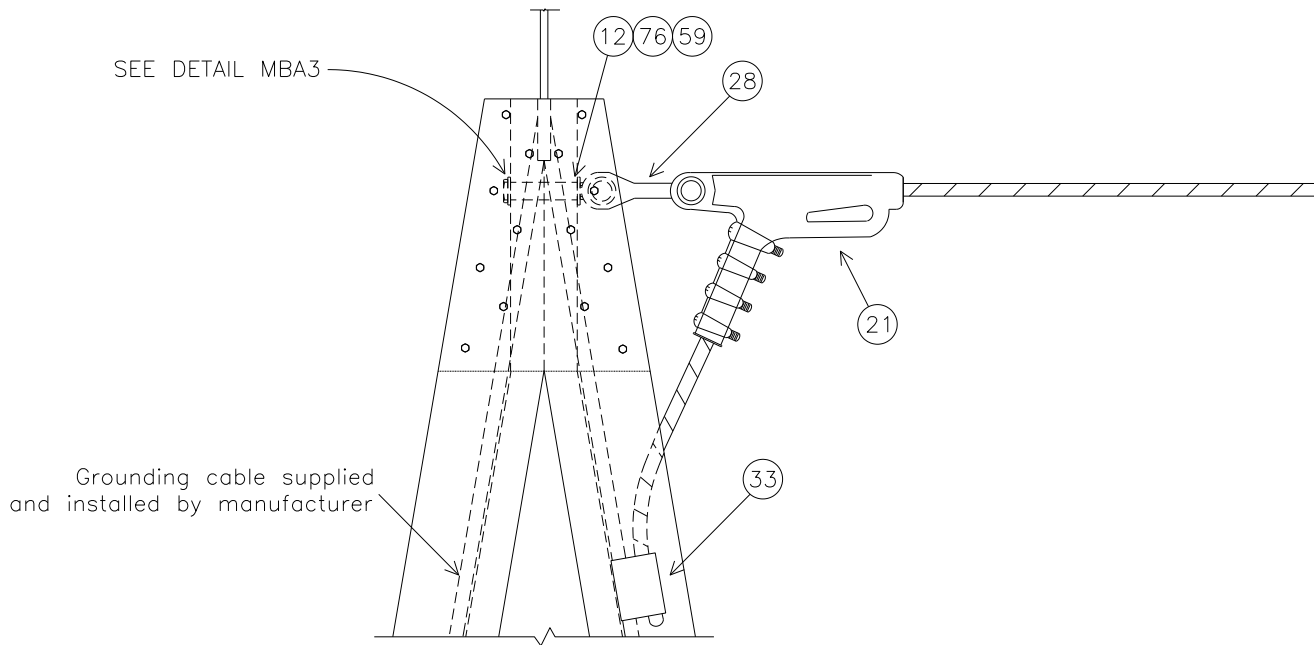
### B3A45Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475"- 1.560" (1590-ACSR), 0-DEGREE ANGLE



## SASI

### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



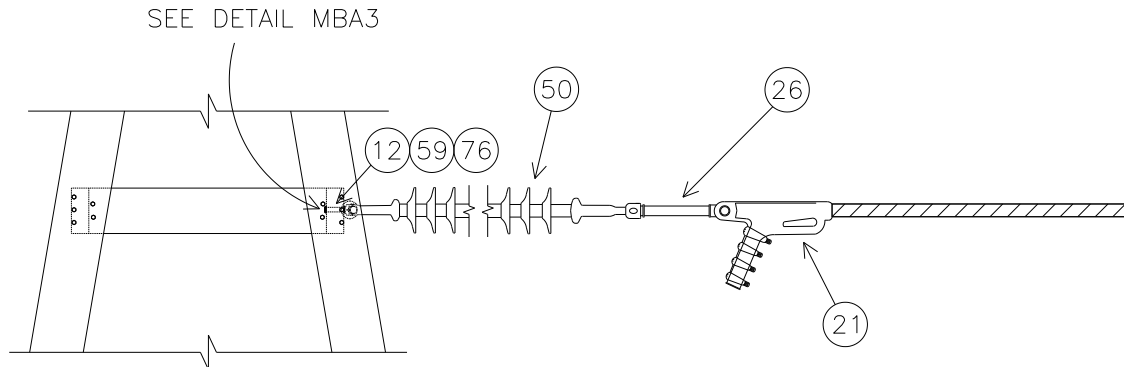
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSB3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, SLACK TENSION FOR SUBSTATION STRUCTURES, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### IASDSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
59	NUTEY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### IASDSB3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

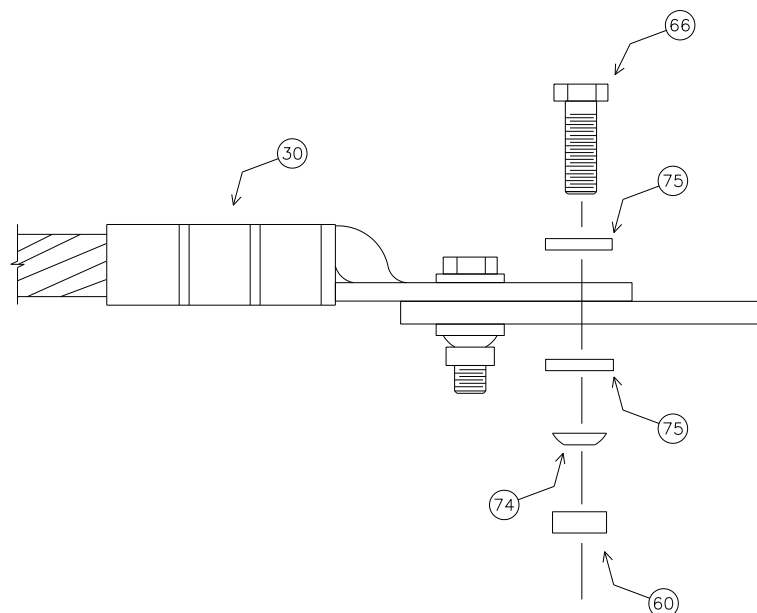
### IASDSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# MCA

## CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### MCA\*954S

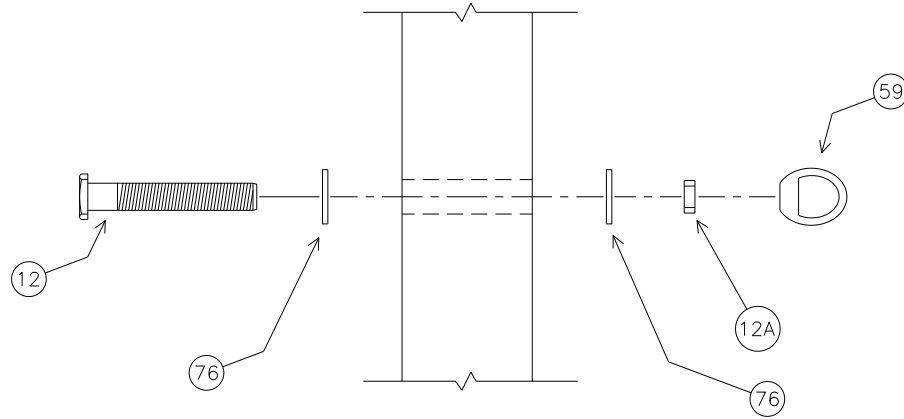
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

## MBA3

### TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES

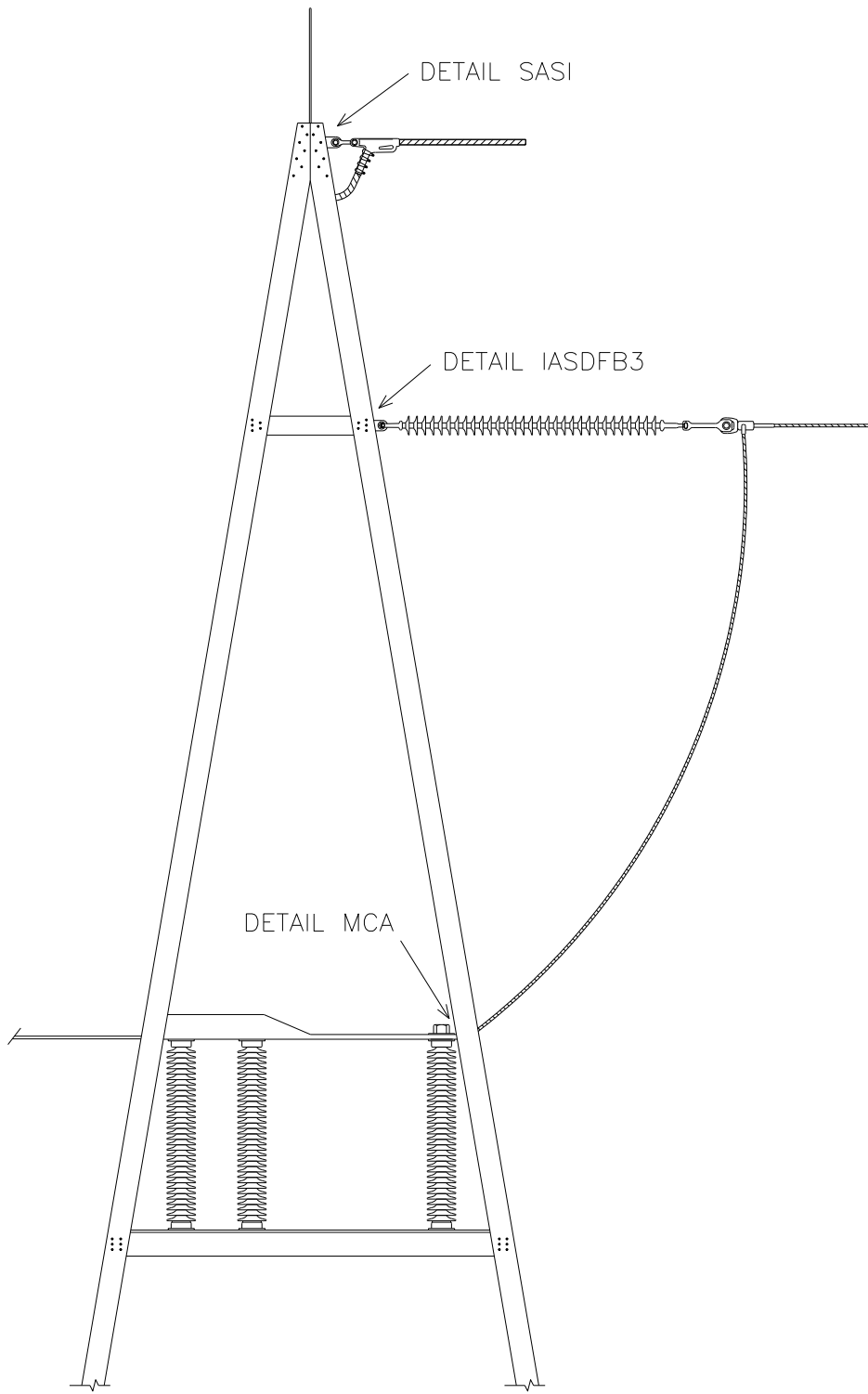


#### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# B3B45C

138KV, FULL TENSION DEADEND FOR SUBSTATION A-FRAME STRUCTURES, 3-PHASE  
CONDUCTOR OPTIONS: 954H, 954S, 1590



## B3B45C PLATES

### B3B45C BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", HOT DIPPED GALV..
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### B3B45C\*954H

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	3	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
30	CNNAJ 010	3	ALUM. JUMPER TERMINAL FOR 954ACSS CONDUCTOR, 0-DEGREE ANGLE
42	DEACB 016	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE

### B3B45C\*954S

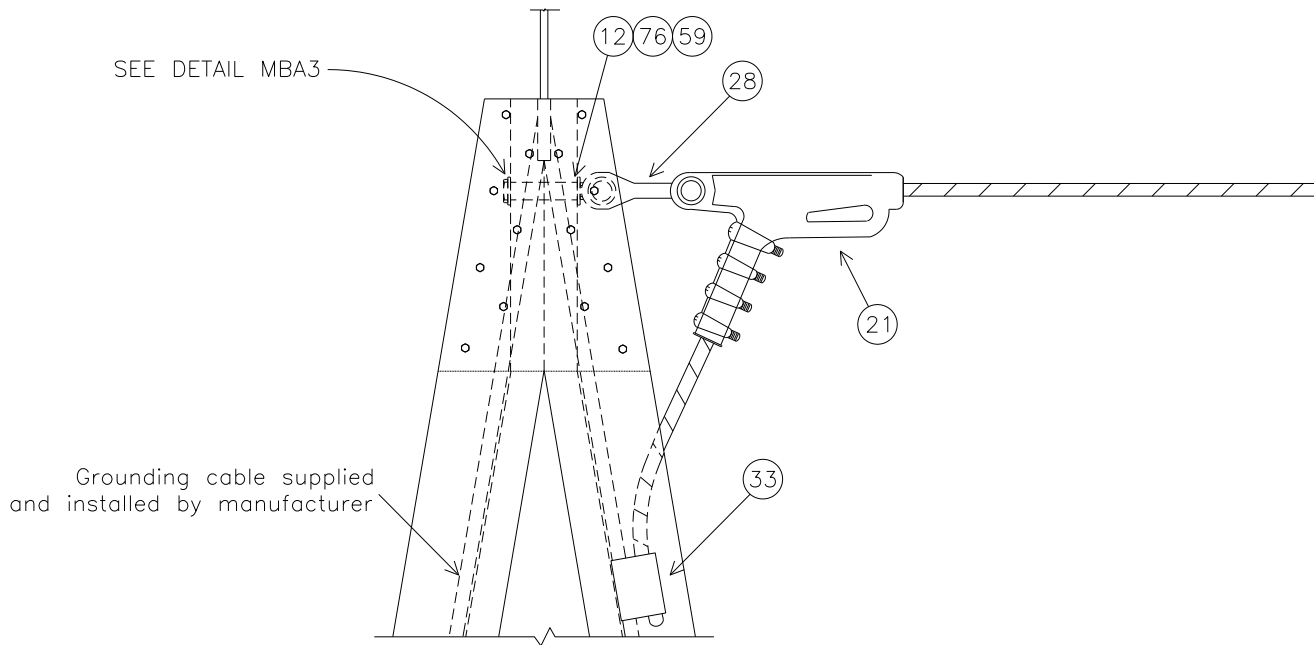
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

### B3B45C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE

## SASI

### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



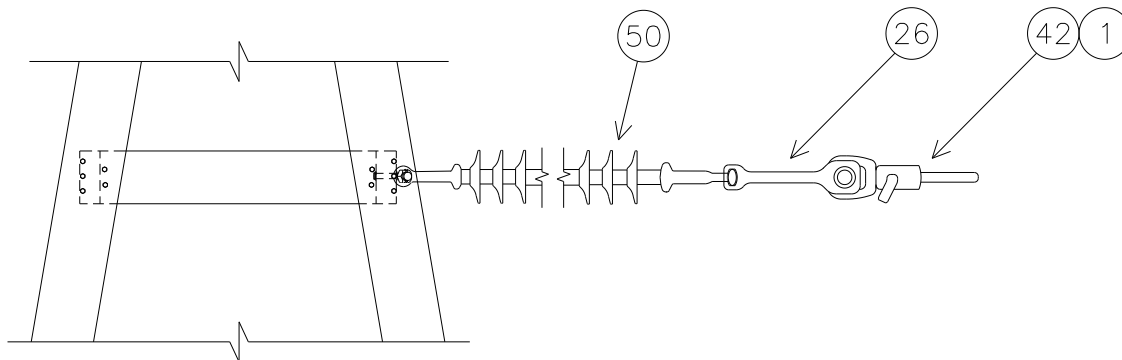
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# IASDFB3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, FULL TENSION FOR SUBSTATION STRUCTURES, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954H, 954S, 1590



## IASDFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", H.D.G..
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11

## IASDFB3\*954H

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 016	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

## IASDFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

## IASDFB3\*1590

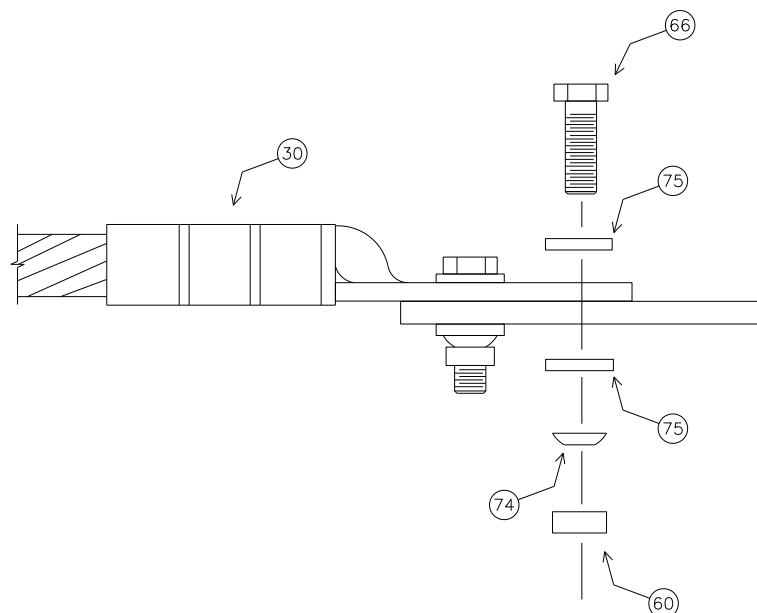
NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE



# MCA

## CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2"BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### MCA\*954H

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 010	3	ALUM. JUMPER TERMINAL FOR 954ACSS CONDUCTOR, 0-DEGREE ANGLE

### MCA\*954S

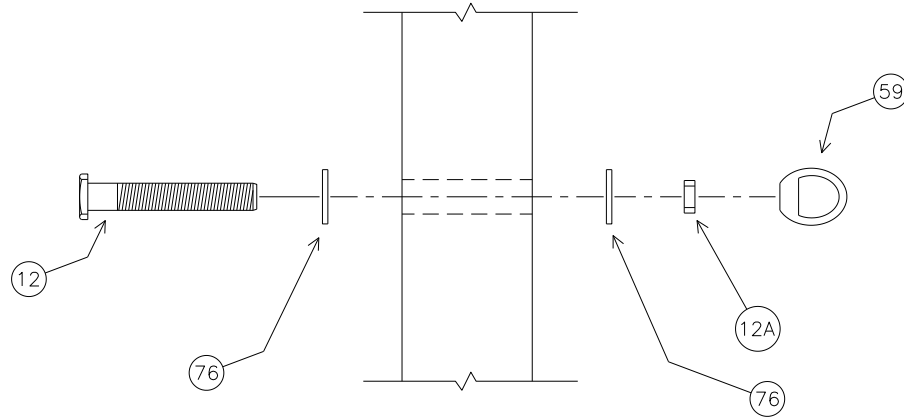
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

## MBA3

### TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES

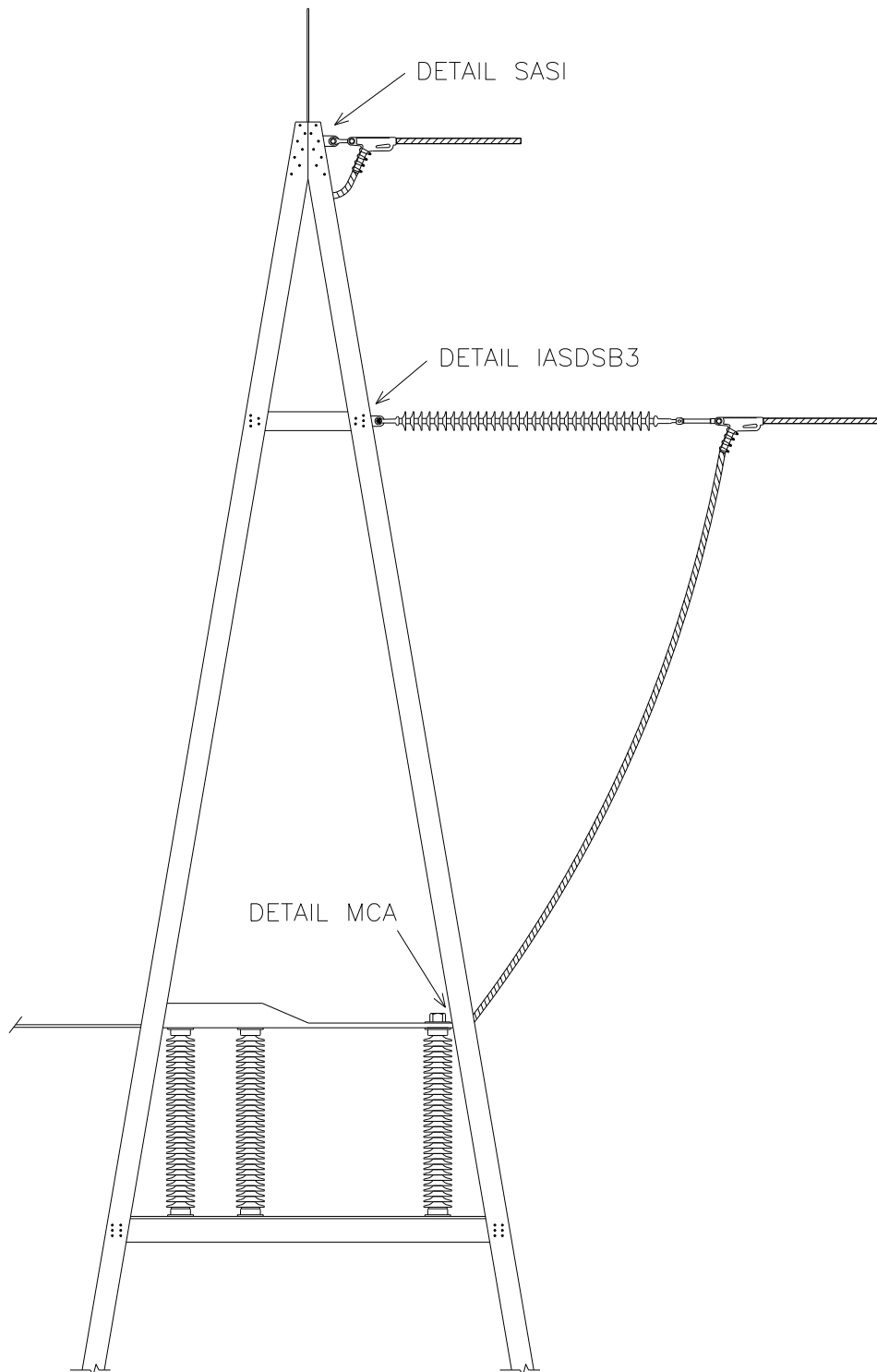


#### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## B3B45Q

138KV, SINGLE DEADEND, SLACK TENSION, SUBSTATION A-FRAME, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



## B3B45Q PLATES

### B3B45Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### B3B45Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### B3B45Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### B3B45Q\*954S

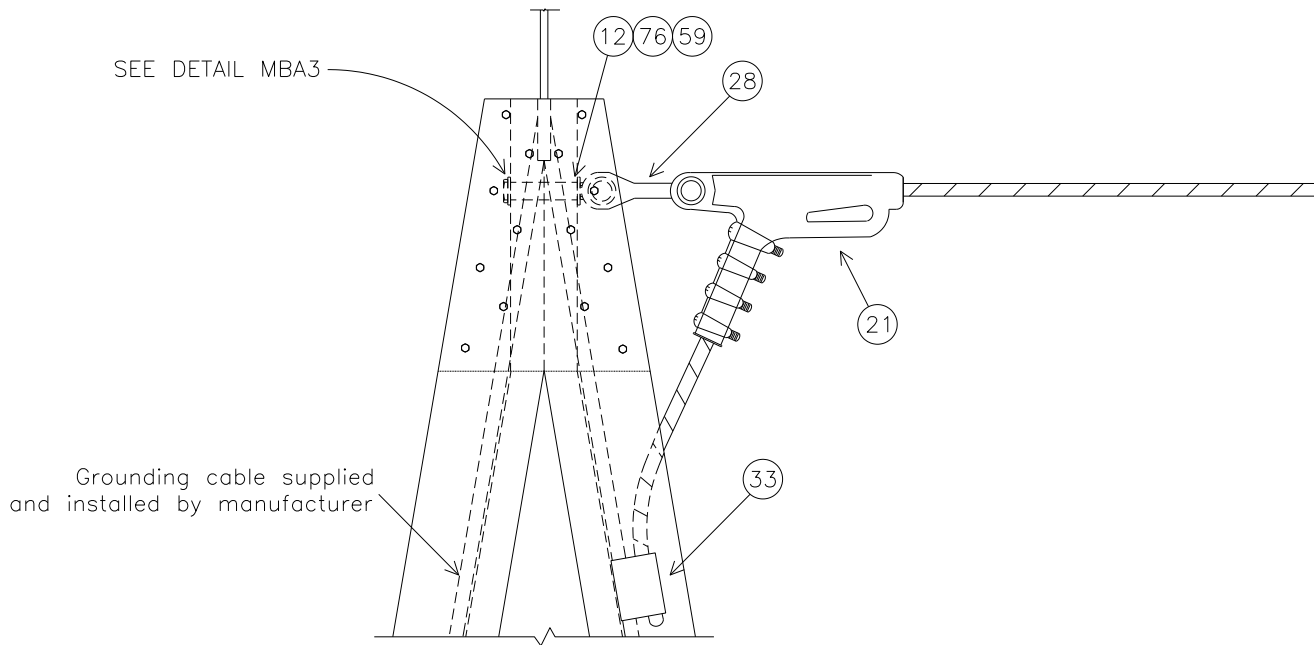
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### B3B45Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE

## SASI

### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



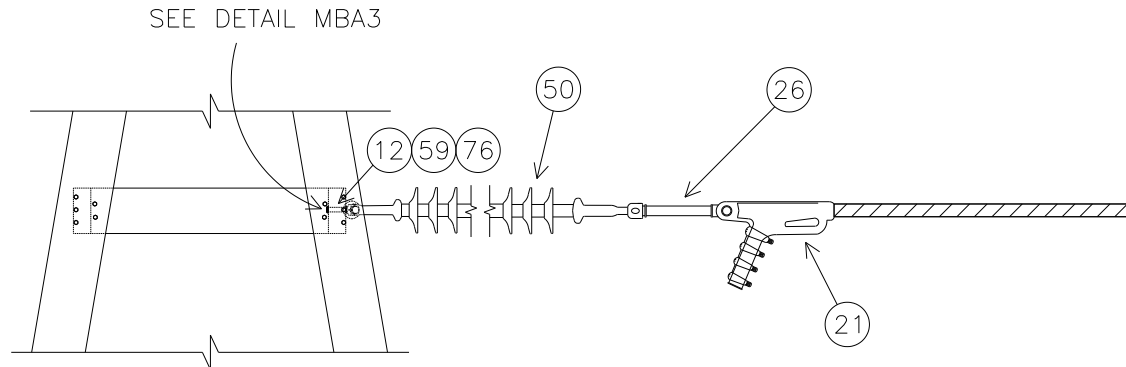
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSB3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, SLACK TENSION FOR SUBSTATION STRUCTURES, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### IASDSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
59	NUTEY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### IASDSB3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

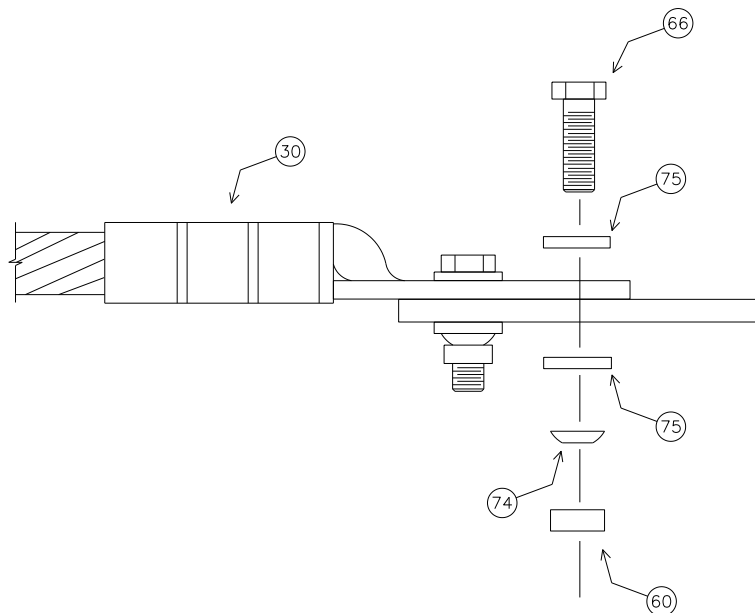
### IASDSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

## MCA

### CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



#### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2"BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

#### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889"- .964" (556-ACSR), 15-DEGREE ANGLE

#### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092"- 1.172" (954 AAC), 0-DEGREE ANGLE

#### MCA\*954S

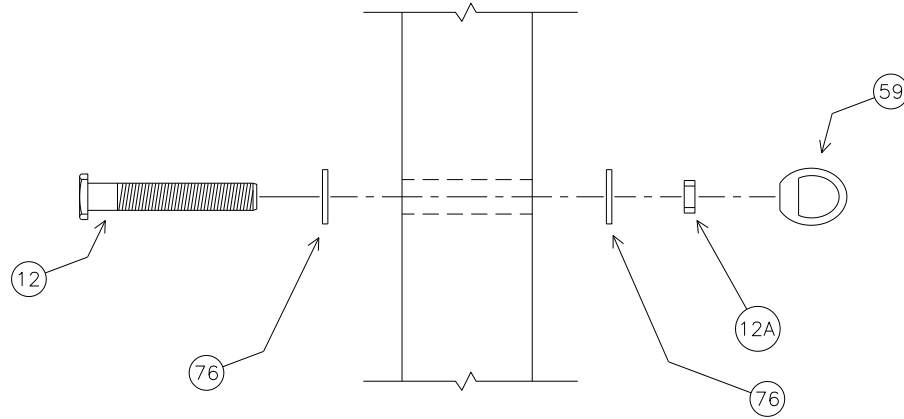
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124"- 1.196" (954-ACSR), 0-DEGREE ANGLE

#### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475"- 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

## MBA3

### TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES



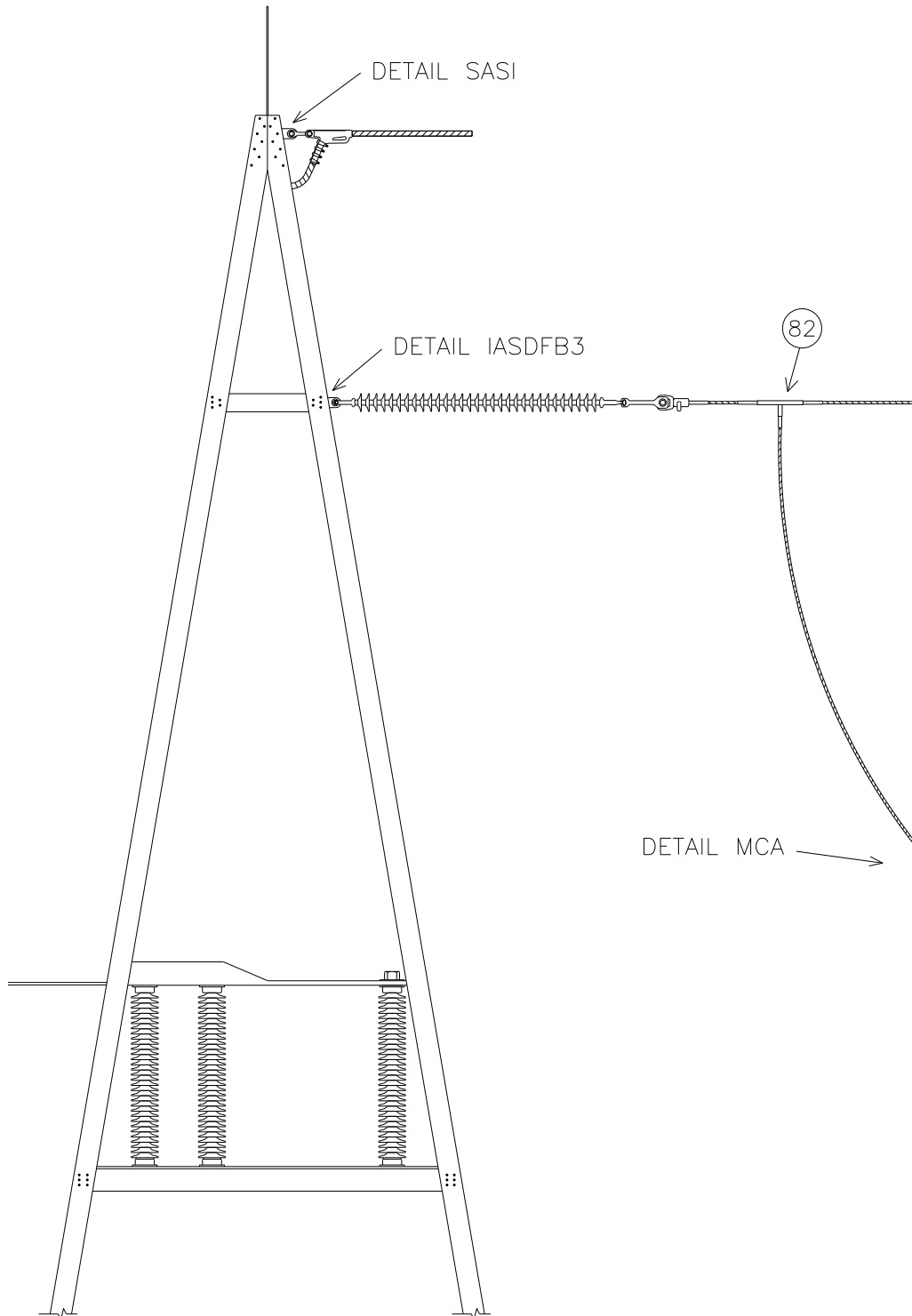
#### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED



# B3B48C

138KV, FULL TENSION DEADEND WITH TEE FOR SUBSTATION A-FRAME STRUCTURES, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



## B3B48C PLATES

### B3B48C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", HOT DIPPED GALV..
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### B3B48C\*954S

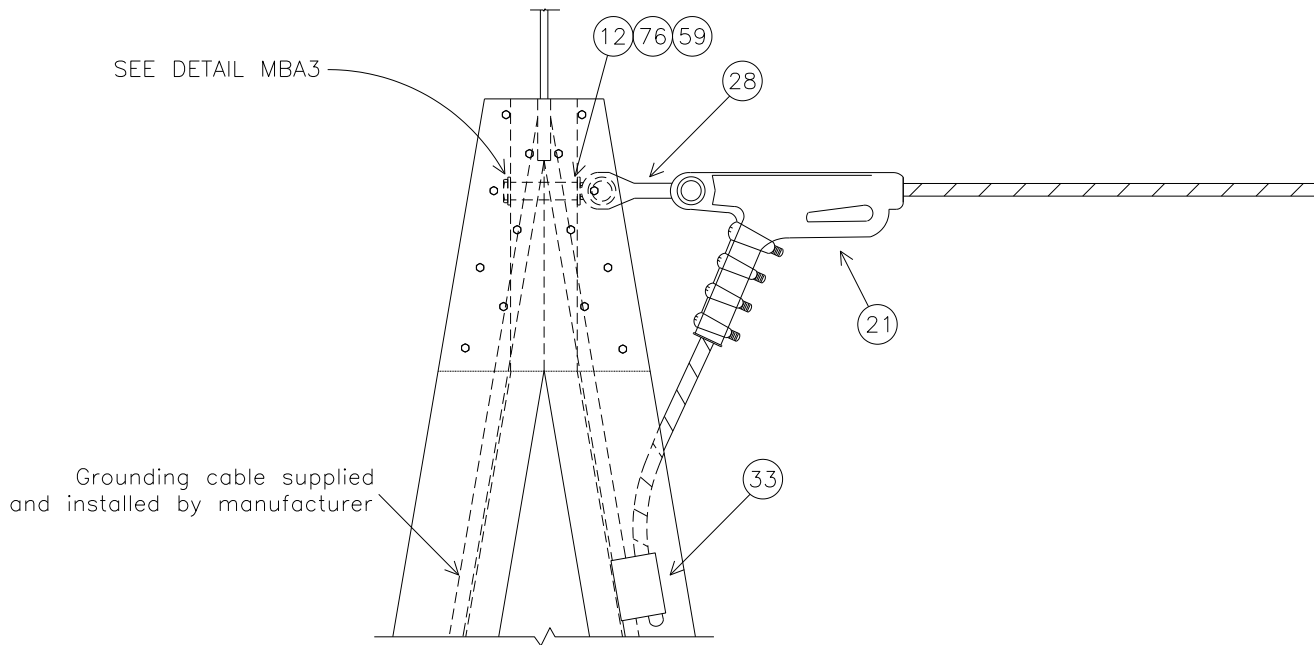
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
82	TEECO 001	3	COMPRESSION TEE FOR 954S CONDUCTOR

### B3B48C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
82	TEECO 002	3	COMPRESSION TEE FOR 1590 CONDUCTOR

## SASI

### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



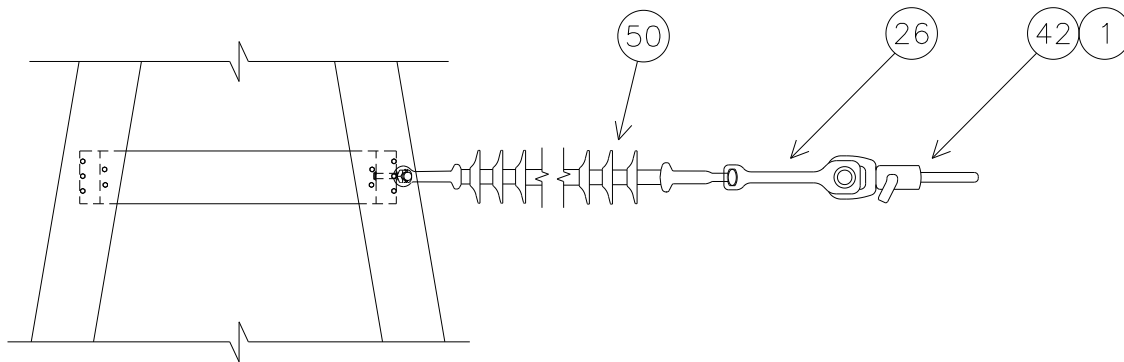
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# IASDFB3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, FULL TENSION FOR SUBSTATION STRUCTURES, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



## IASDFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", H.D.G..
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11

## IASDFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

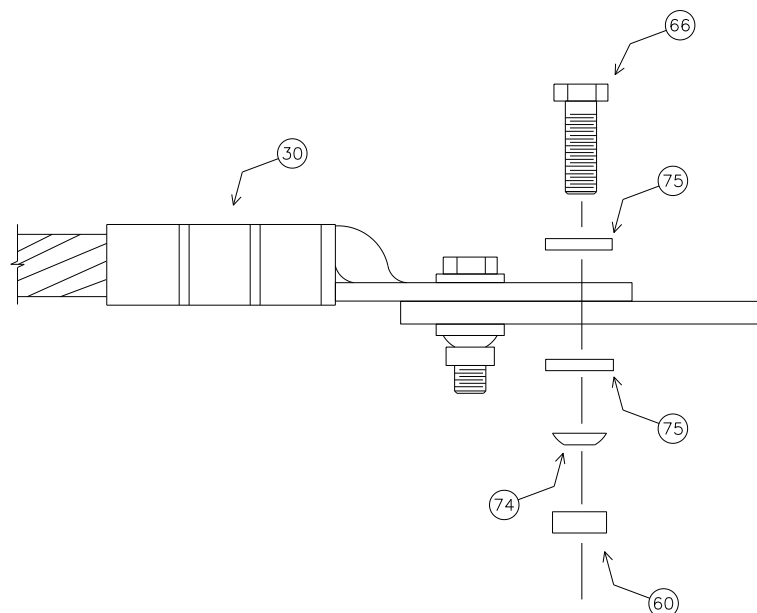
## IASDFB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE

## MCA

### CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



#### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2"BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

#### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889"- .964" (556-ACSR), 15-DEGREE ANGLE

#### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092"- 1.172" (954 AAC), 0-DEGREE ANGLE

#### MCA\*954S

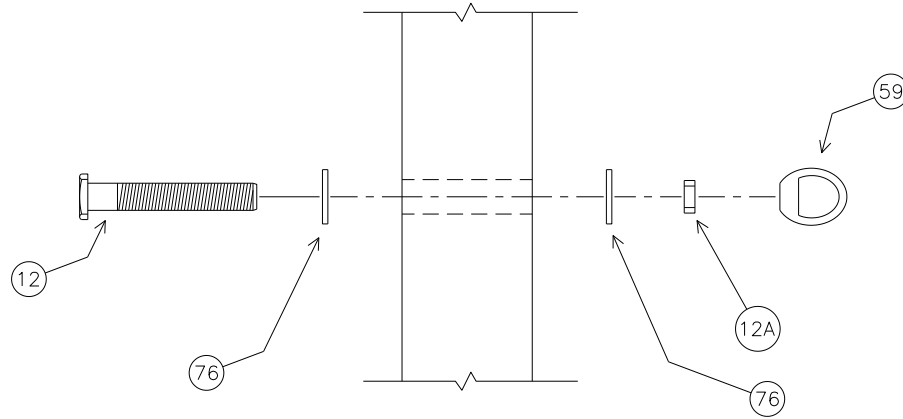
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124"- 1.196" (954-ACSR), 0-DEGREE ANGLE

#### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475"- 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

## MBA3

### TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES

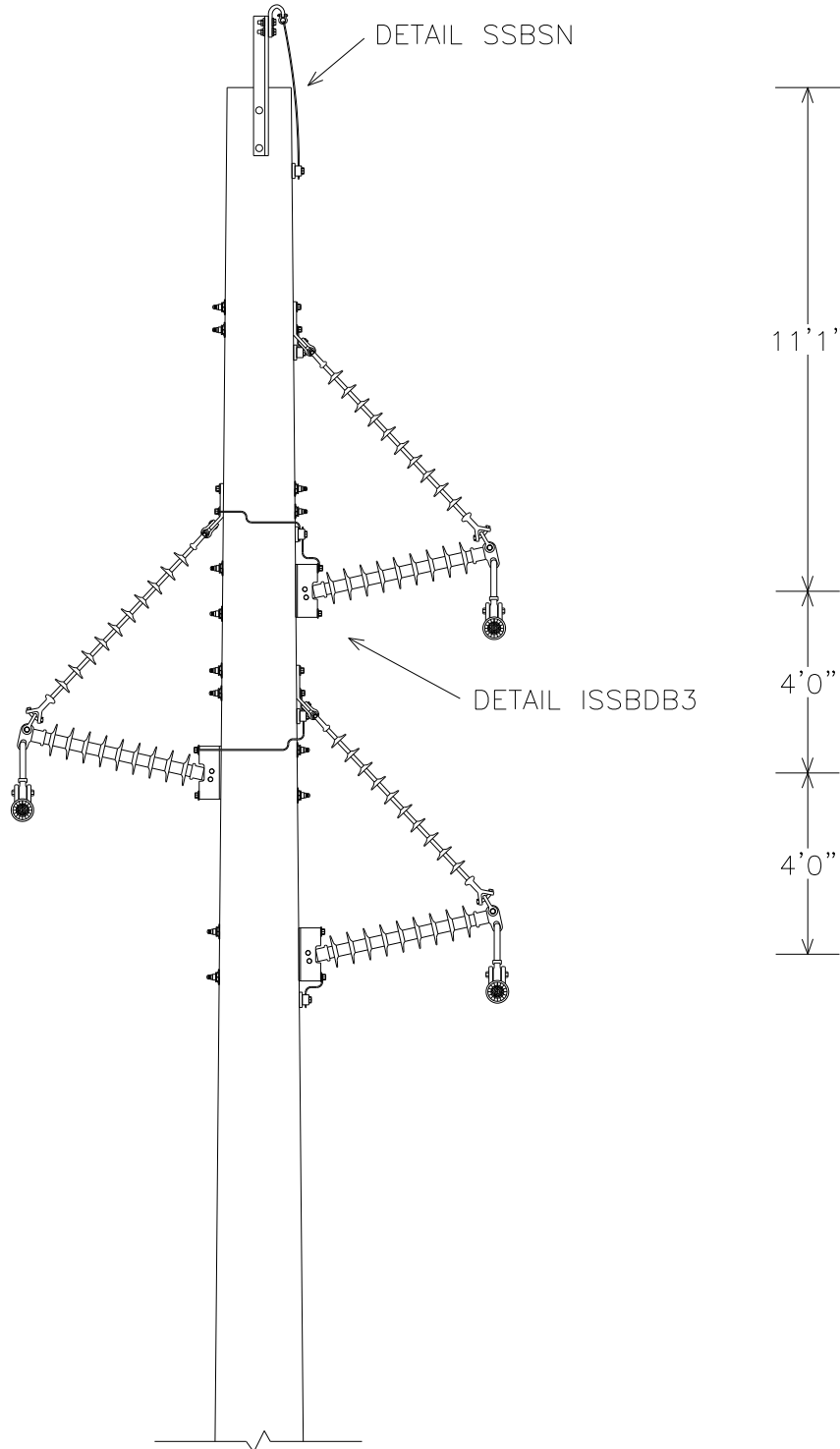


#### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## B6261

138KV, SINGLE BRACED LINE POST, DELTA CONFIGURATION, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S, 1590



## B6261 PLATES

### B6261 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
10	BKTL001	3	BRACKET, 46-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	3	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	5	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE FLAT WASHER FOR 3/4" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE FLAT WASHER FOR 7/8" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### B6261\*954A

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN

### B6261\*954S

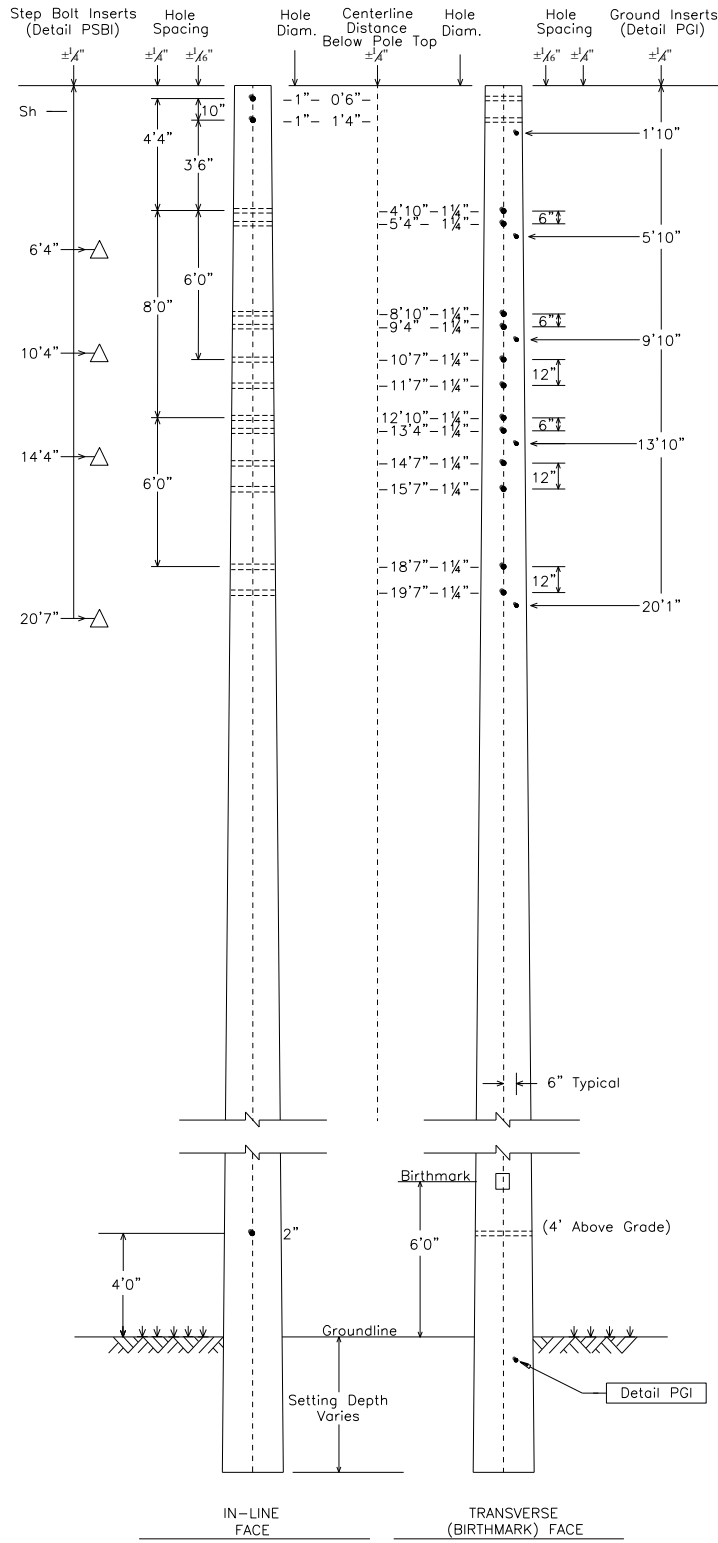
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

### B6261\*1590

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN

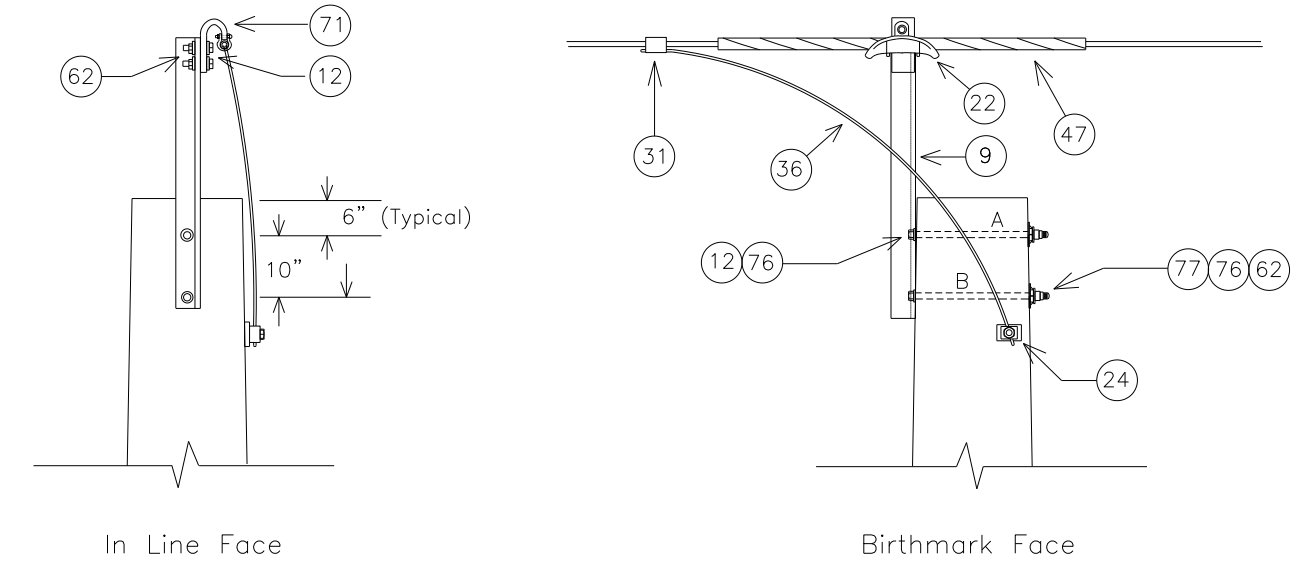


## B6261 DRILLING DETAIL



## SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

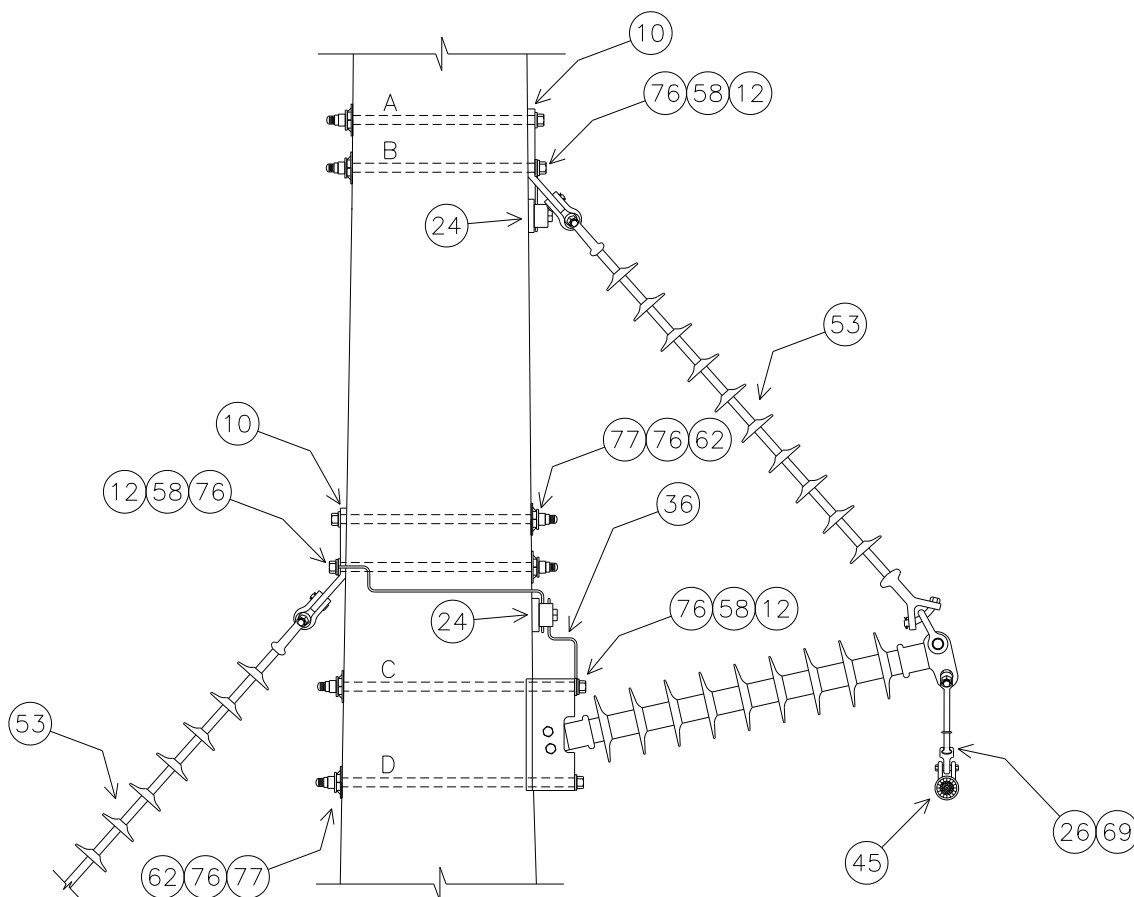
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBDB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE BRACED LINE POST, DELTA CONFIGURATION, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

### VERTICLE CONFIGURATION

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.0	21.4	27.9	27.9
MIDDLE	21.9	22.3	28.8	28.7
BOTTOM	22.8	23.1	29.6	29.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSBDB3 PLATES

### ISSBDB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP001	3	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	3	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	18	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSBDB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBDB3\*954S

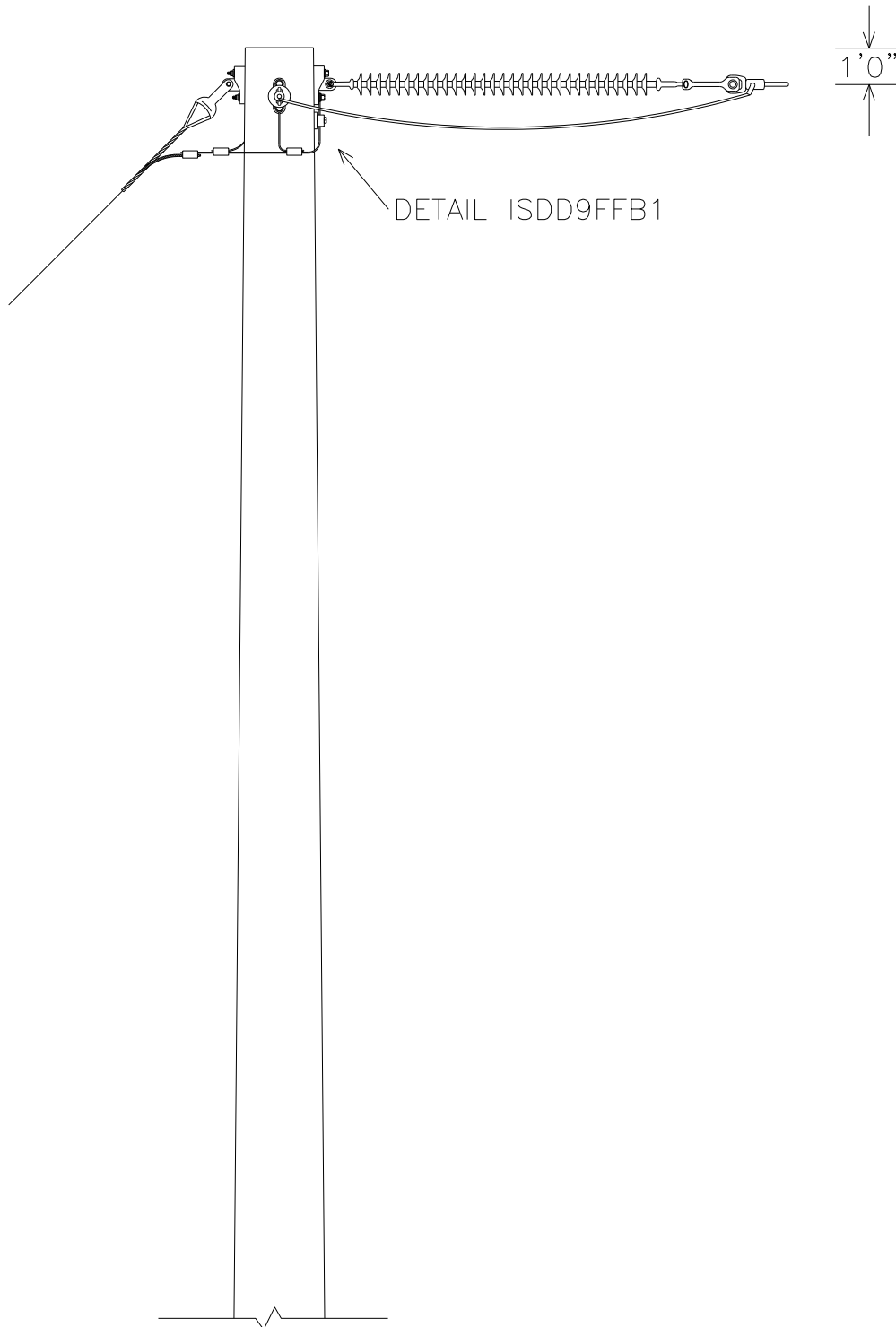
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBDB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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**B7244C**

138KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, NO SHIELD, 1-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



REVISED: OCTOBER 2013

REVISED BY: MLR

APPROVED BY :KKR

**138KV STRUCTURES-NEW CONSTRUCTION**

STS138-138



## B7244C PLATES

### B7244C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

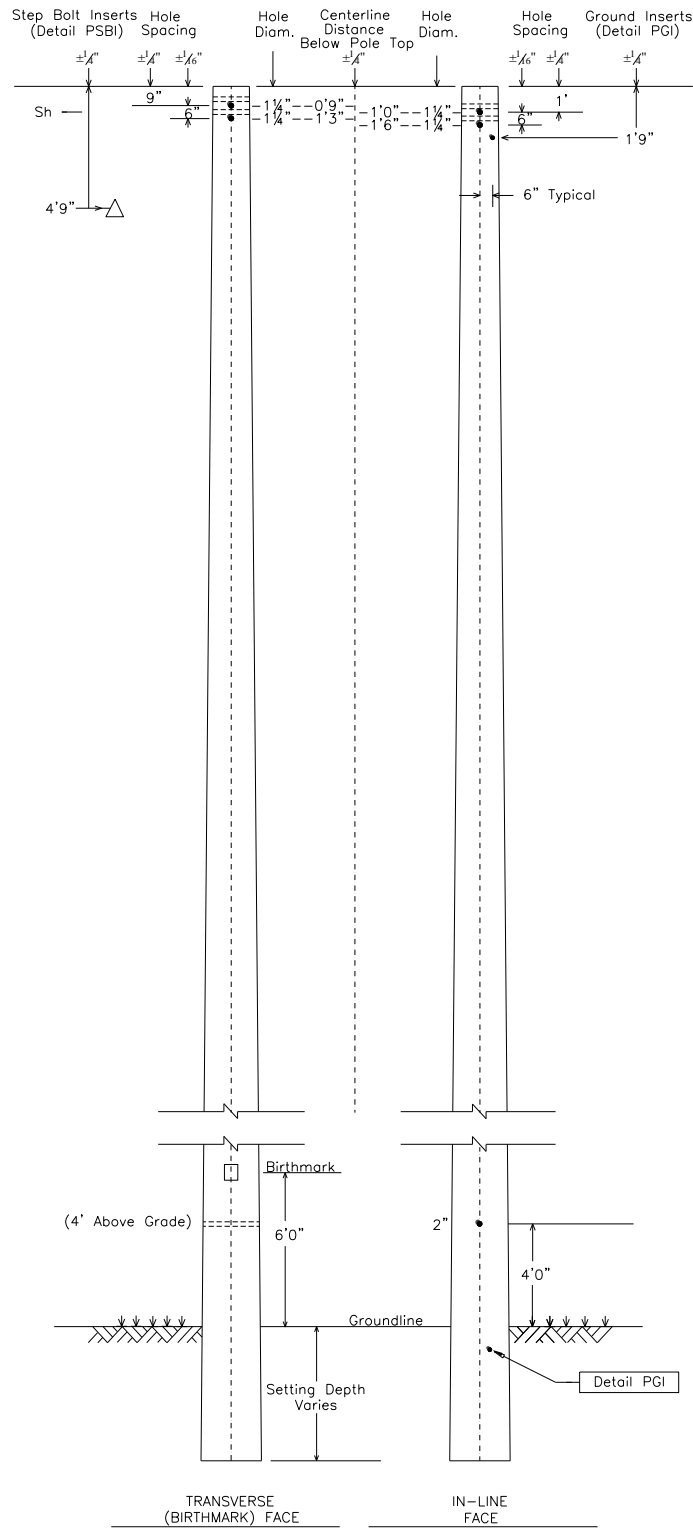
### B7244C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B7244C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	BOLT, MACHINE, GALVANIZED 1 X 22, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	BOLT, MACHINE, GALVANIZED 1 X 24, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B7244C DRILLING DETAIL

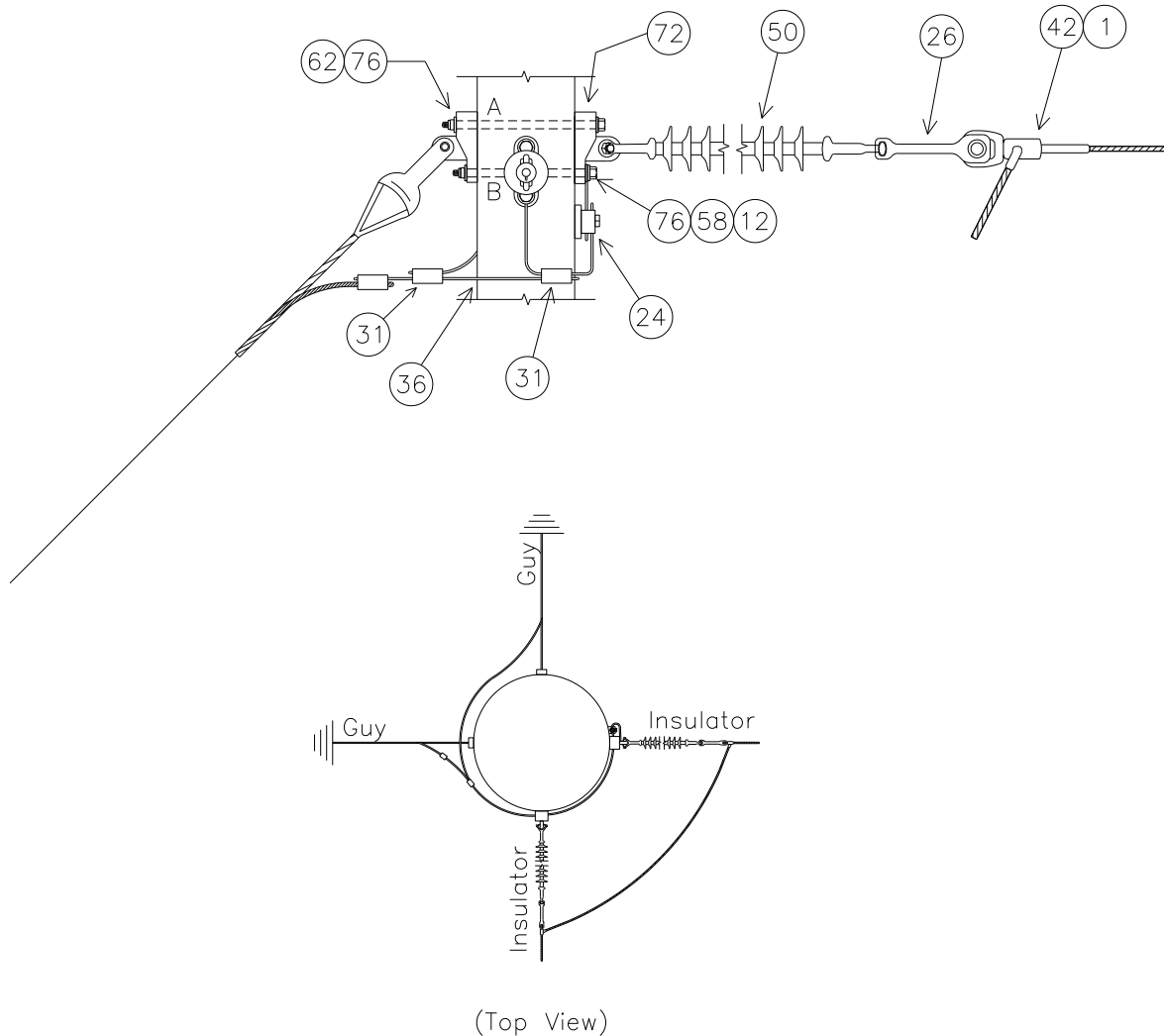


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## ISDD9FFB1

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE DEAD-END 90, FULL TENSION TO FULL TENSION, 138KV, 1-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

WITHOUT SHIELD	'A'	'B'
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.2
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.



## ISDD9FFB1 PLATES

### ISDD9FFB1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

### ISDD9FFB1\*954S

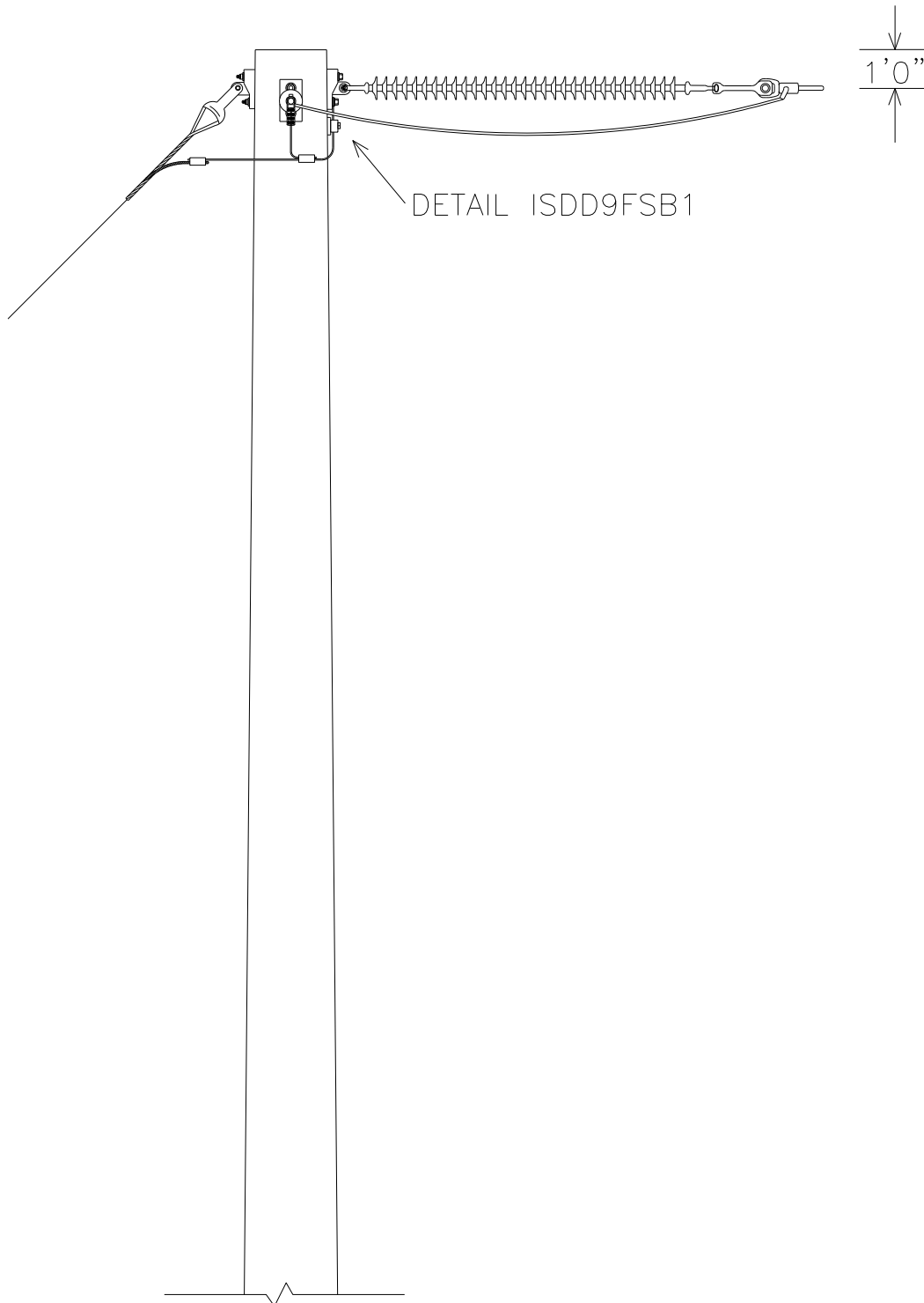
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD9FFB1\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

**B7246C**

138KV, DOUBLE DEADEND 90°, FULL TENSION TO SLACK TENSION, NO SHIELD, 1-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



## B7246C PLATES

### B7246C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

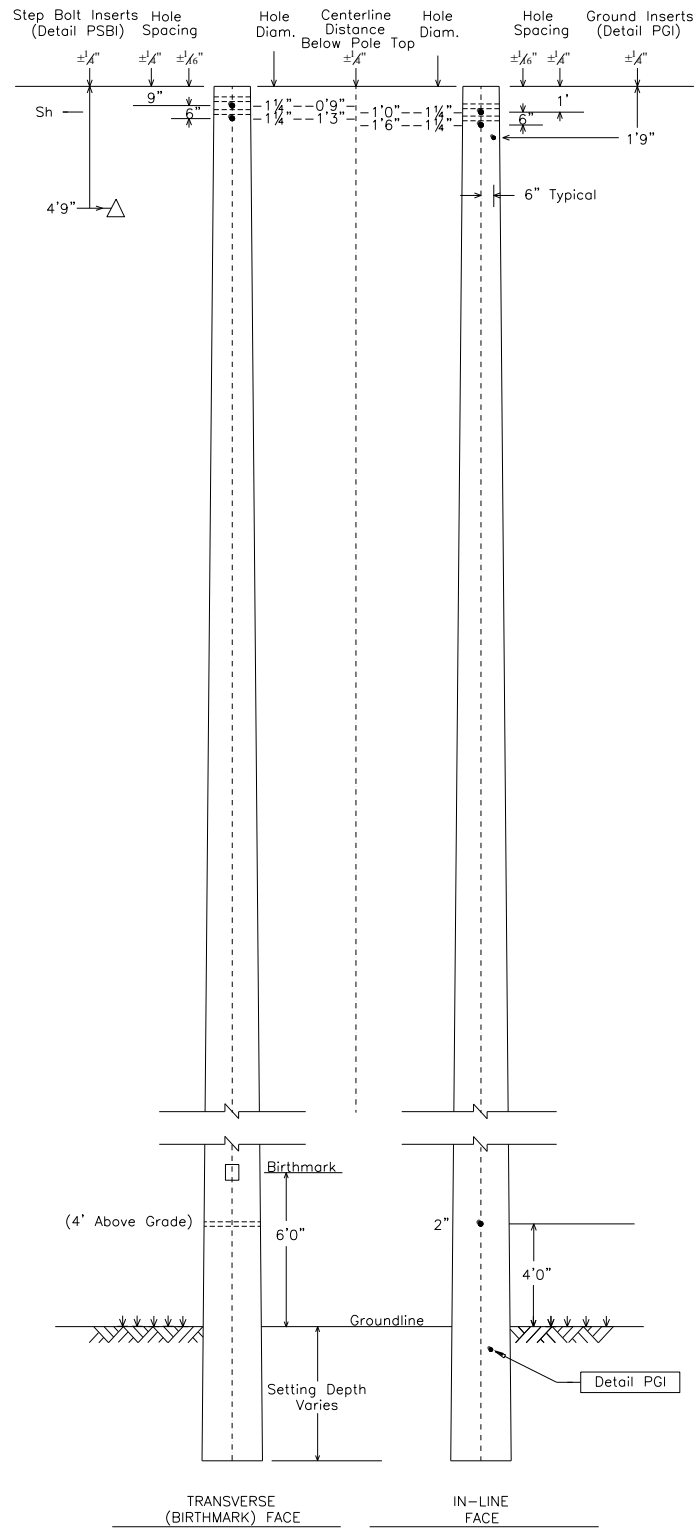
### B7246C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B7246C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	BOLT, MACHINE, GALVANIZED 1 X 22, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	BOLT, MACHINE, GALVANIZED 1 X 24, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B7246C DRILLING DETAIL



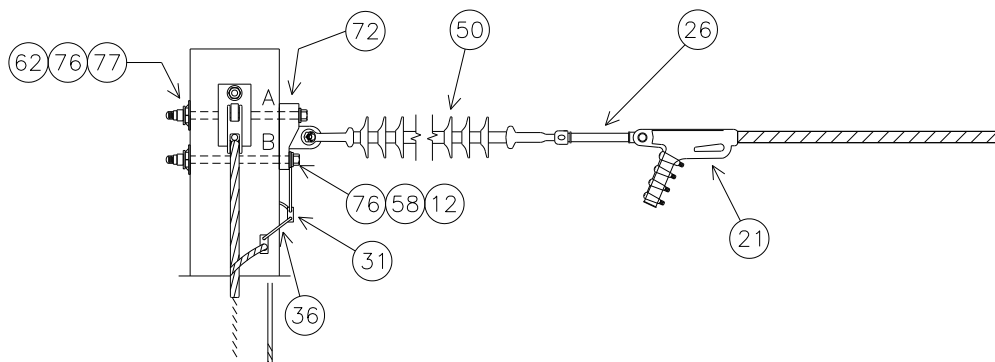
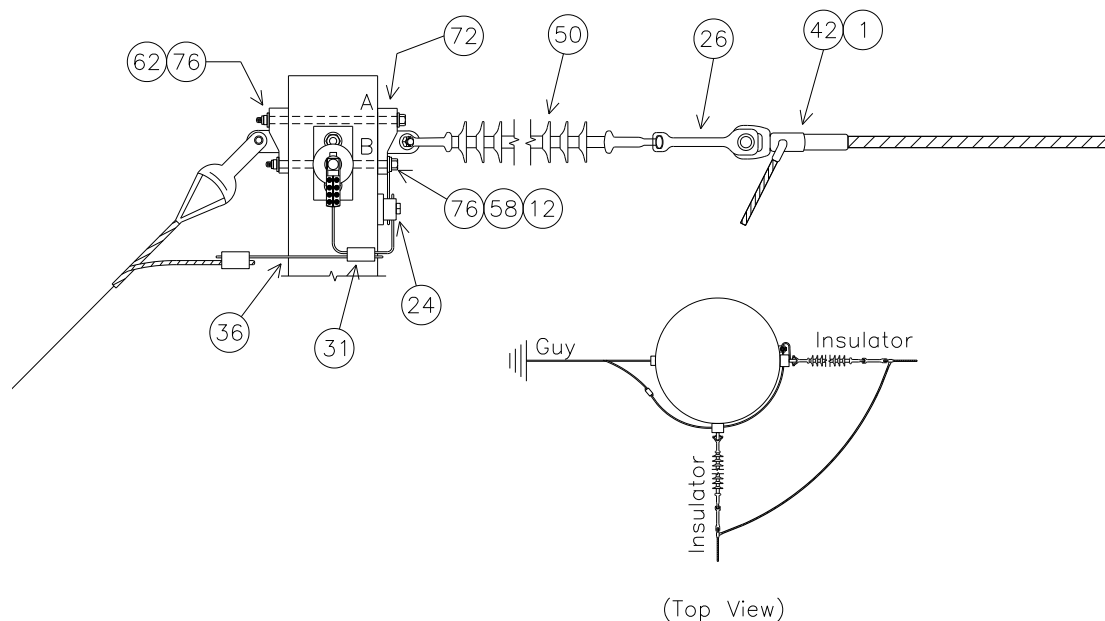
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# ISDD9FSB1

## INSULATOR FOR SPUN CONCRETE POLES

**DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 138KV, 1-PHASE**

**CONDUCTOR OPTIONS: 954S, 1590**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

FULL TENSION SIZES	
SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	22.9
LOWER BOLT 'B' LENGTH (INCHES)	21.2

## SLACK TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	21.5
LOWER BOLT 'B' LENGTH (INCHES)	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

REVISÉ: OCTOBRE 2013

REVISÉ BY: MLR

APPROVED BY :KKR

## ISDD9FSB1 PLATES

### ISDD9FSB1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### ISDD9FSB1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

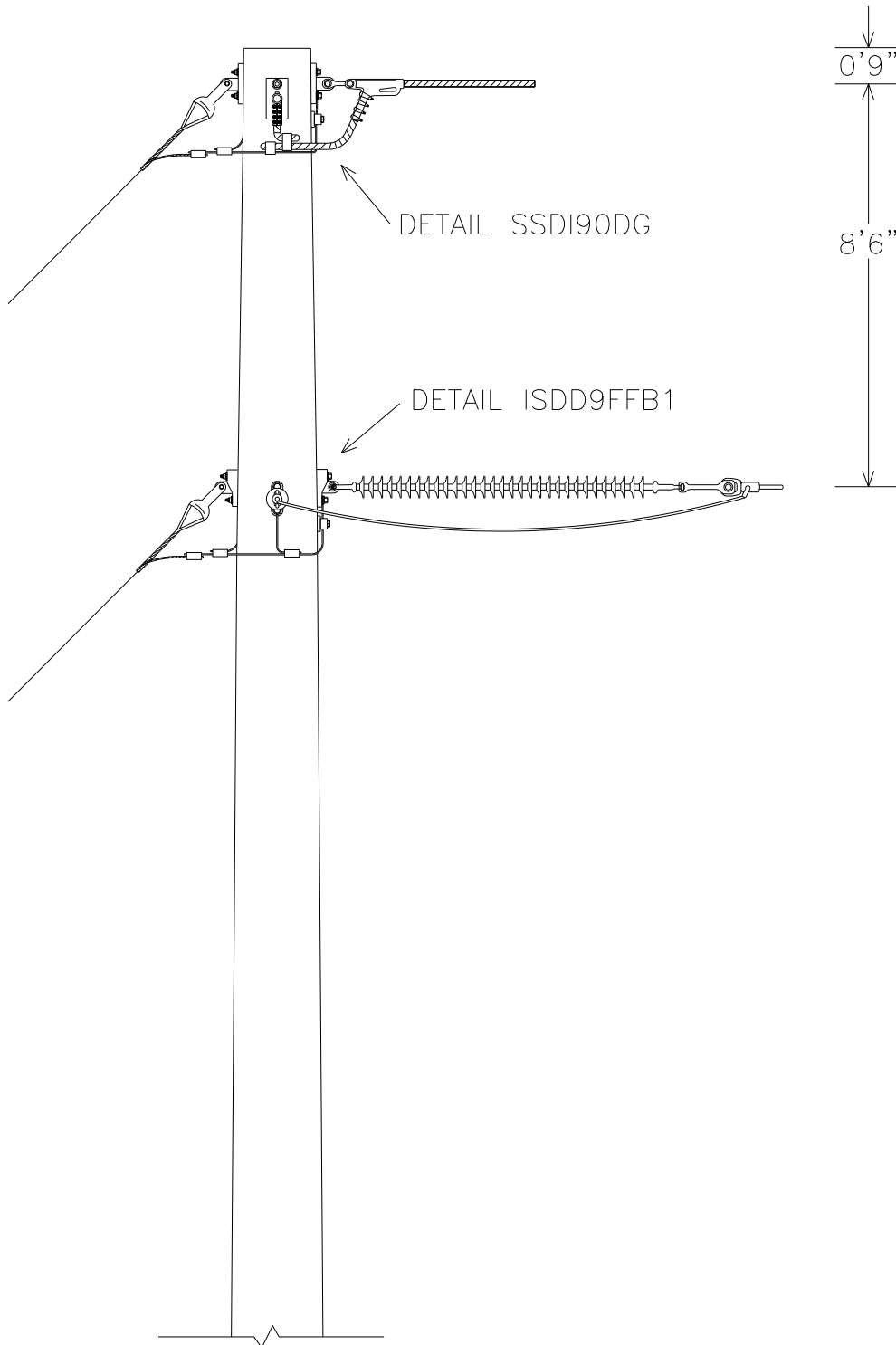
### ISDD9FSB1\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



## B8244C

138KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, WITH SHIELD, 1-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



## B8244C PLATES

### B8244C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	2	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

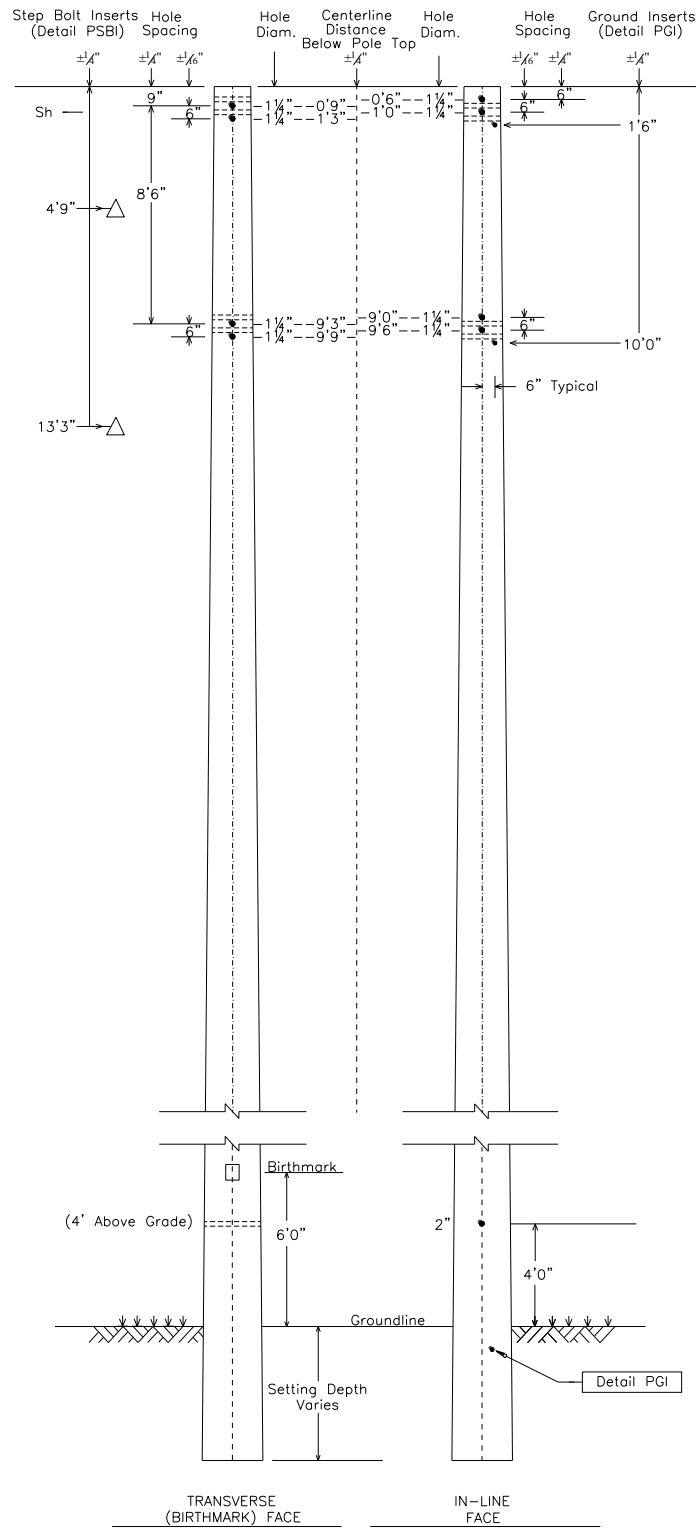
### B8244C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### B8244C\*1590

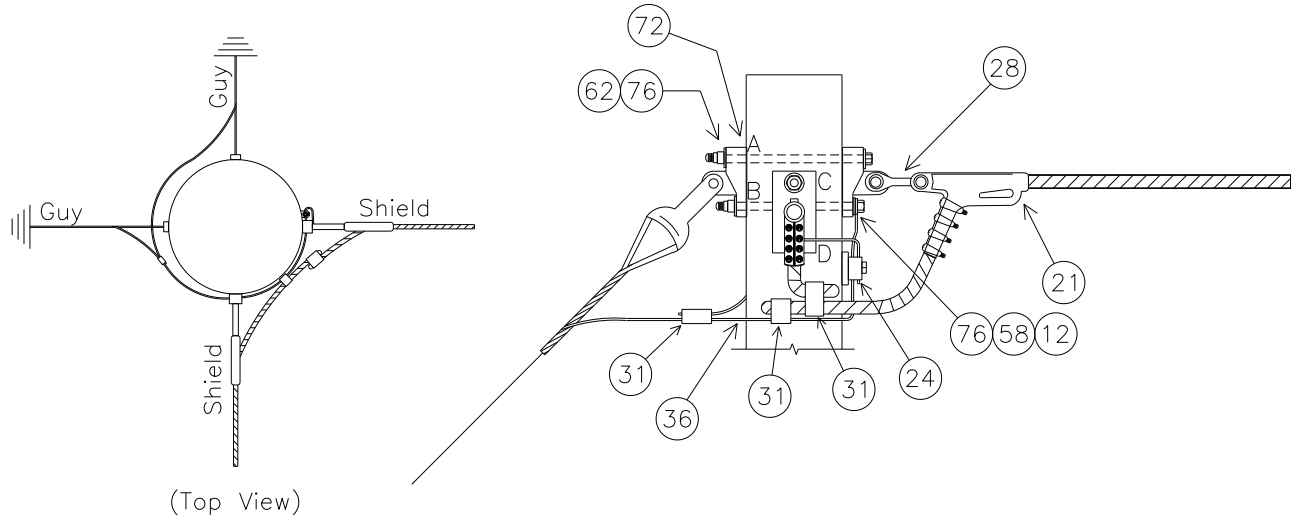
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## B8244C DRILLING DETAIL



## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

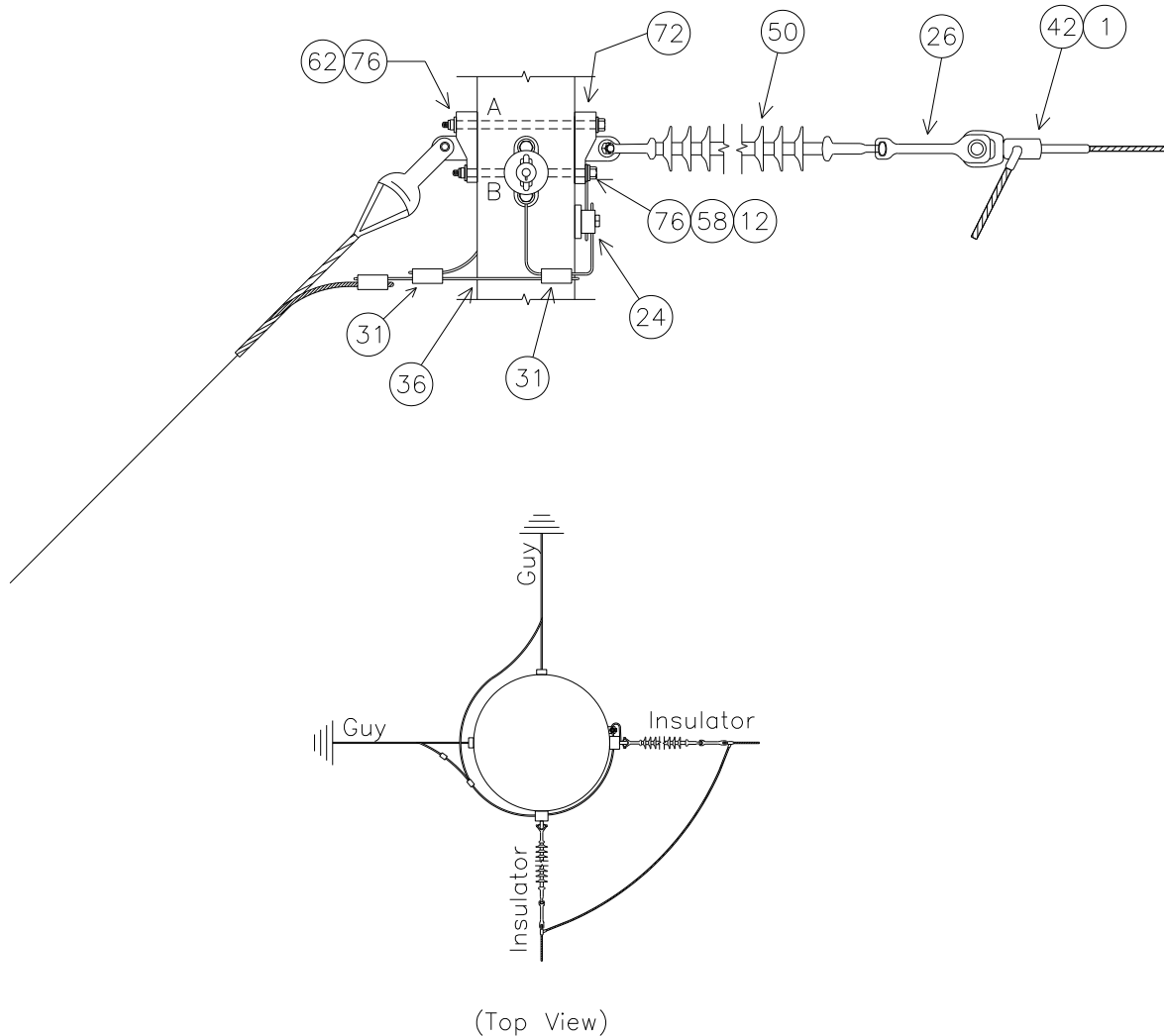
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD9FFB1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 138KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

WITHOUT SHIELD	'A'	'B'
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	24.6	23.0
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	24.7	23.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

## ISDD9FFB1 PLATES

### ISDD9FFB1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

### ISDD9FFB1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD9FFB1\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

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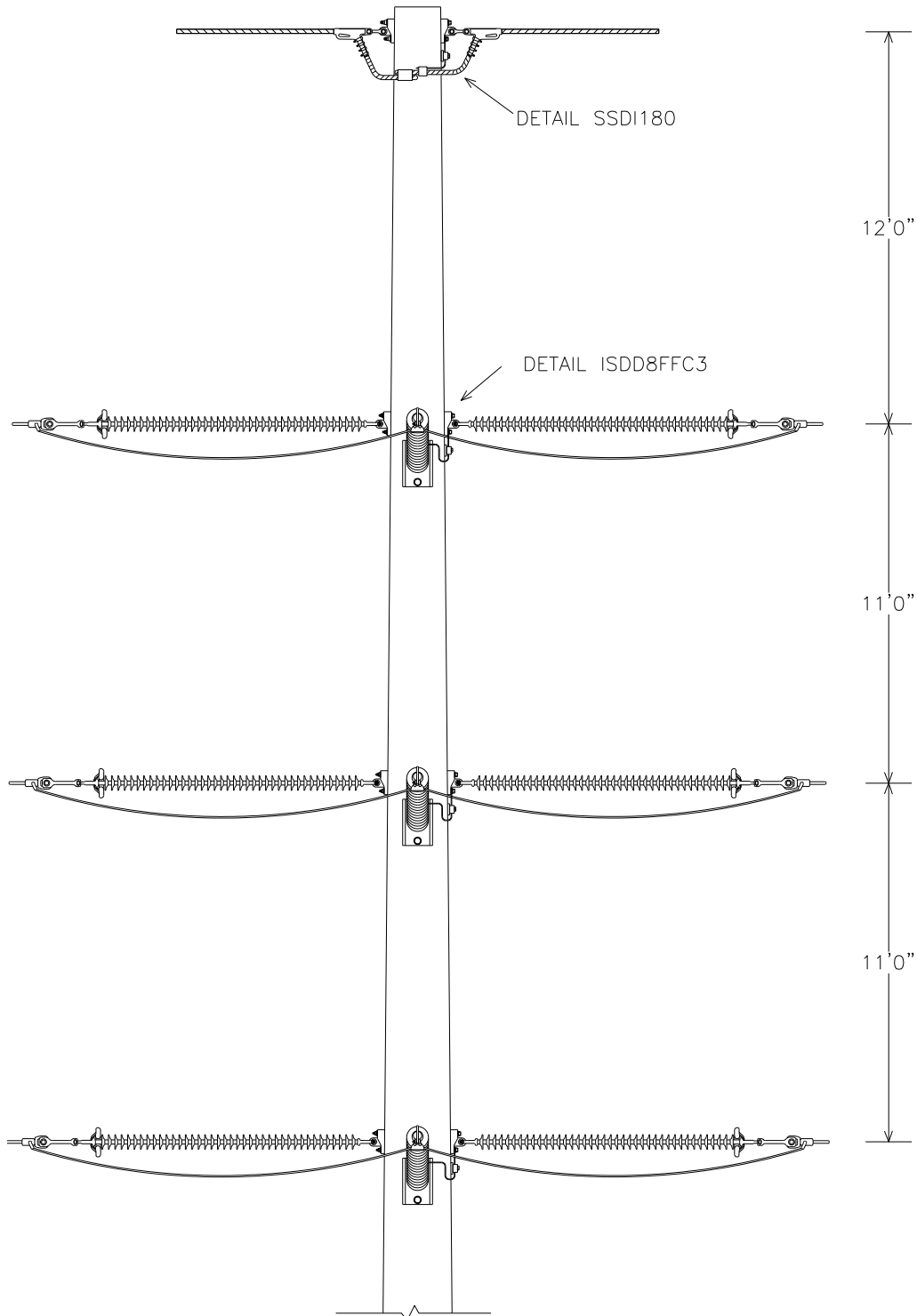
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22. C8244C : DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, WITH SHIELD, 1-PHASE	STS230-140



# C1241C

**230KV, DOUBLE DEADEND 180°, FULL TENSION TO FULL TENSION, 3-PHASE**  
**CONDUCTOR OPTIONS: 954S, 1590**



# C1241C PLATES

## C1241C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST SILICONE INSULATOR, 230KV, L = 86 INCHES, GAIN BASE, 17 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

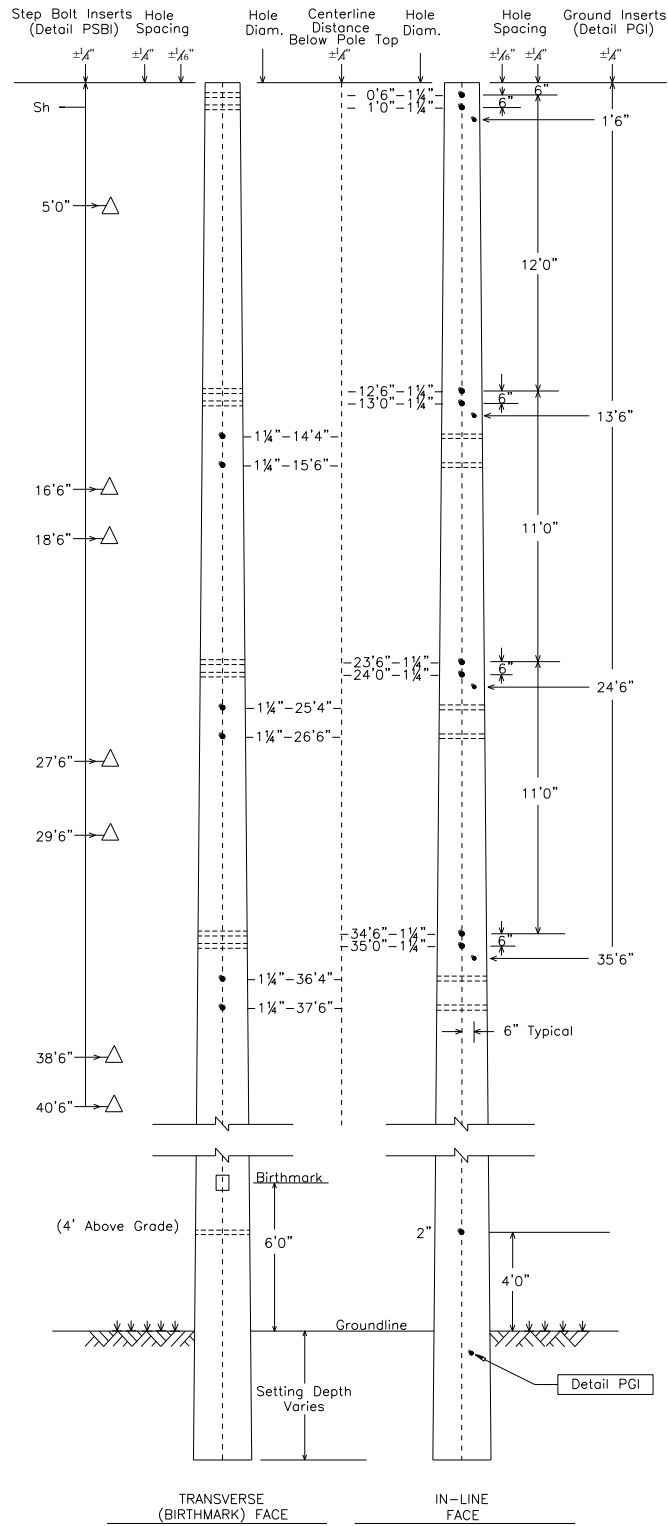
## C1241C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1241C\*1590

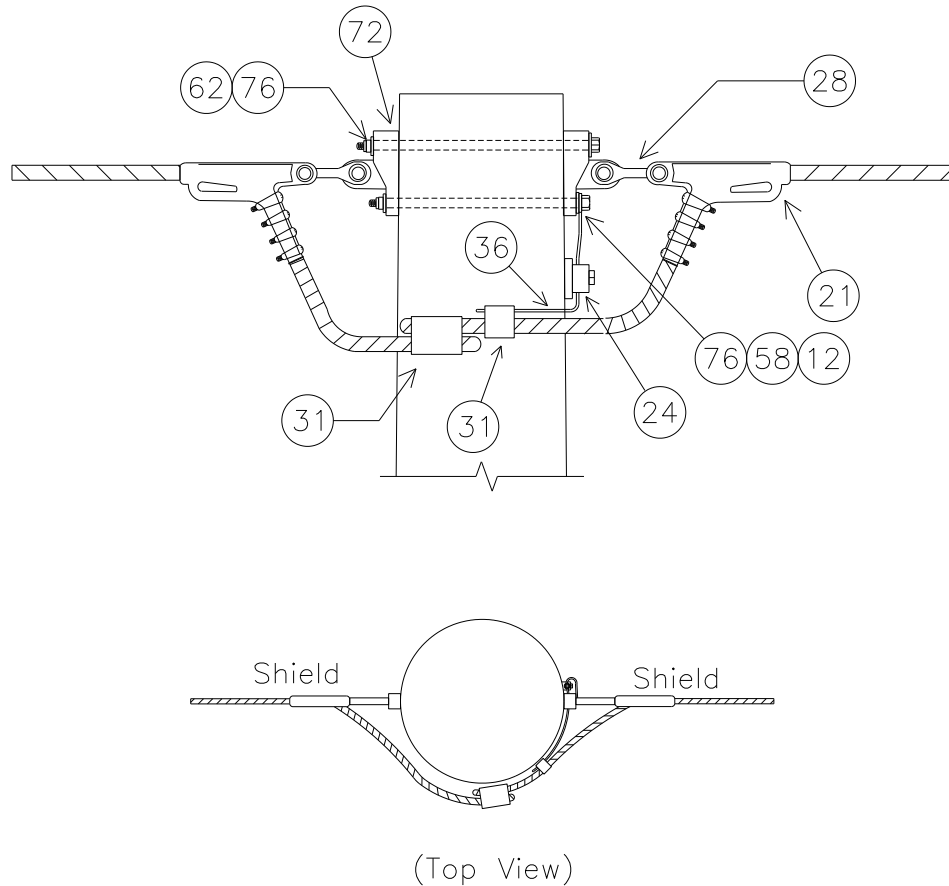
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1241C DRILLING DETAIL



## SSDI180

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	22.6
LOWER BOLT LENGTH (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

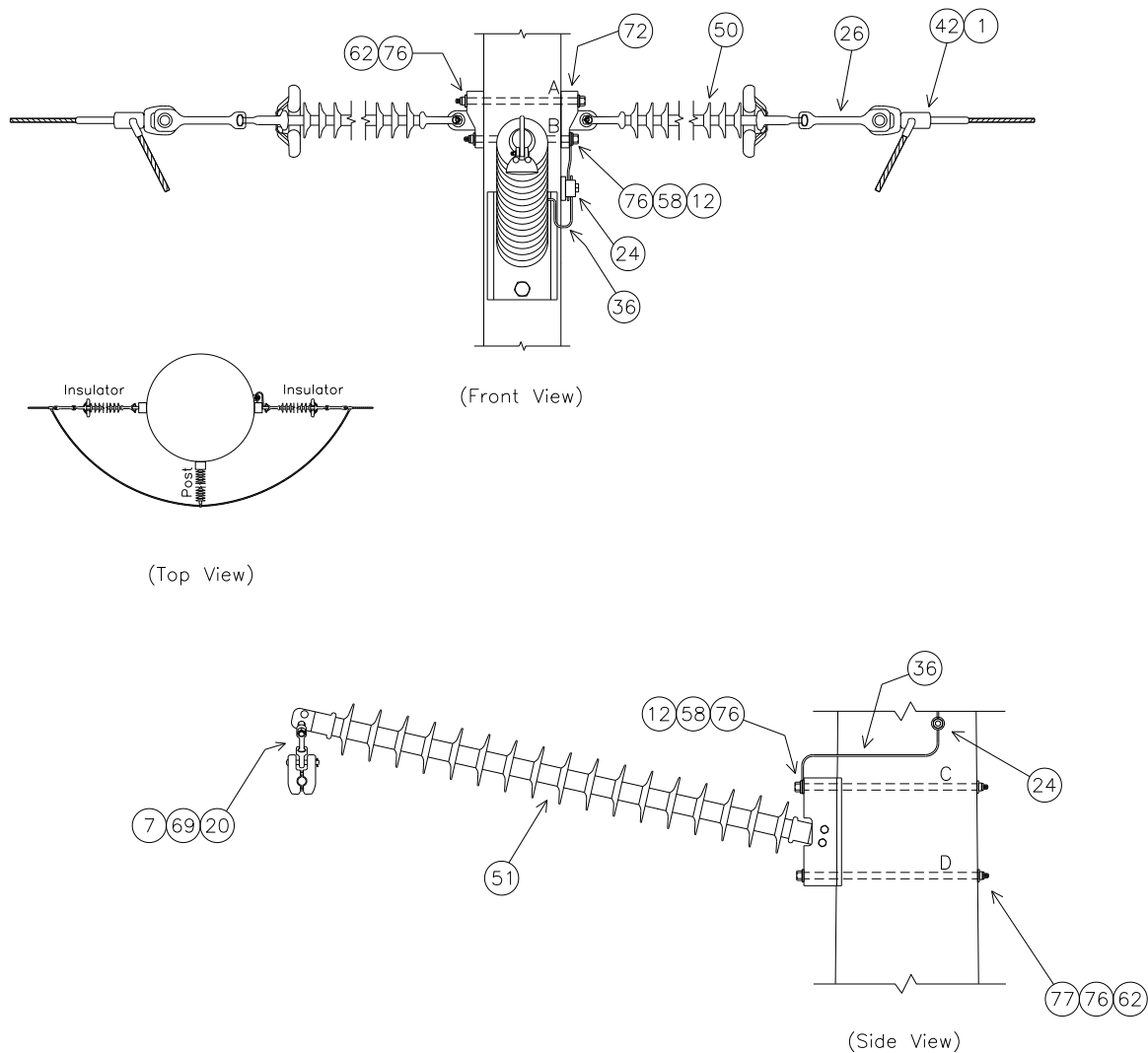
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD8FFC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, FULL TENSION TO FULL TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	28.5	30.8	33.2
LOWER BOLT 'D' LENGTH (INCHES)	29.0	31.3	33.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD8FFC3 PLATES

### ISDD8FFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

### ISDD8FFC3\*954S

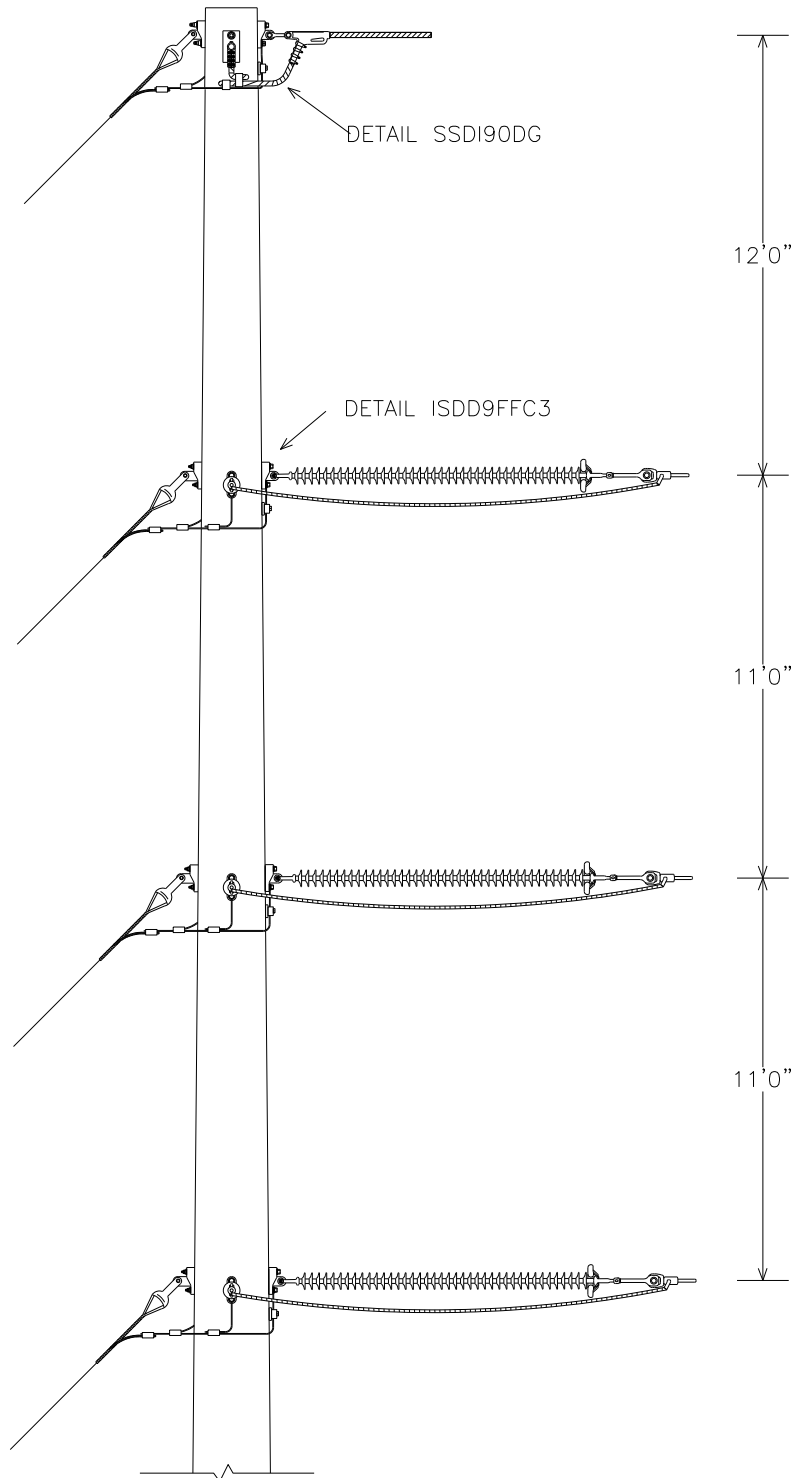
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

### ISDD8FFC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# C1244C

230KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# C1244C PLATES

## C1244C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	16	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## C1244C\*954S

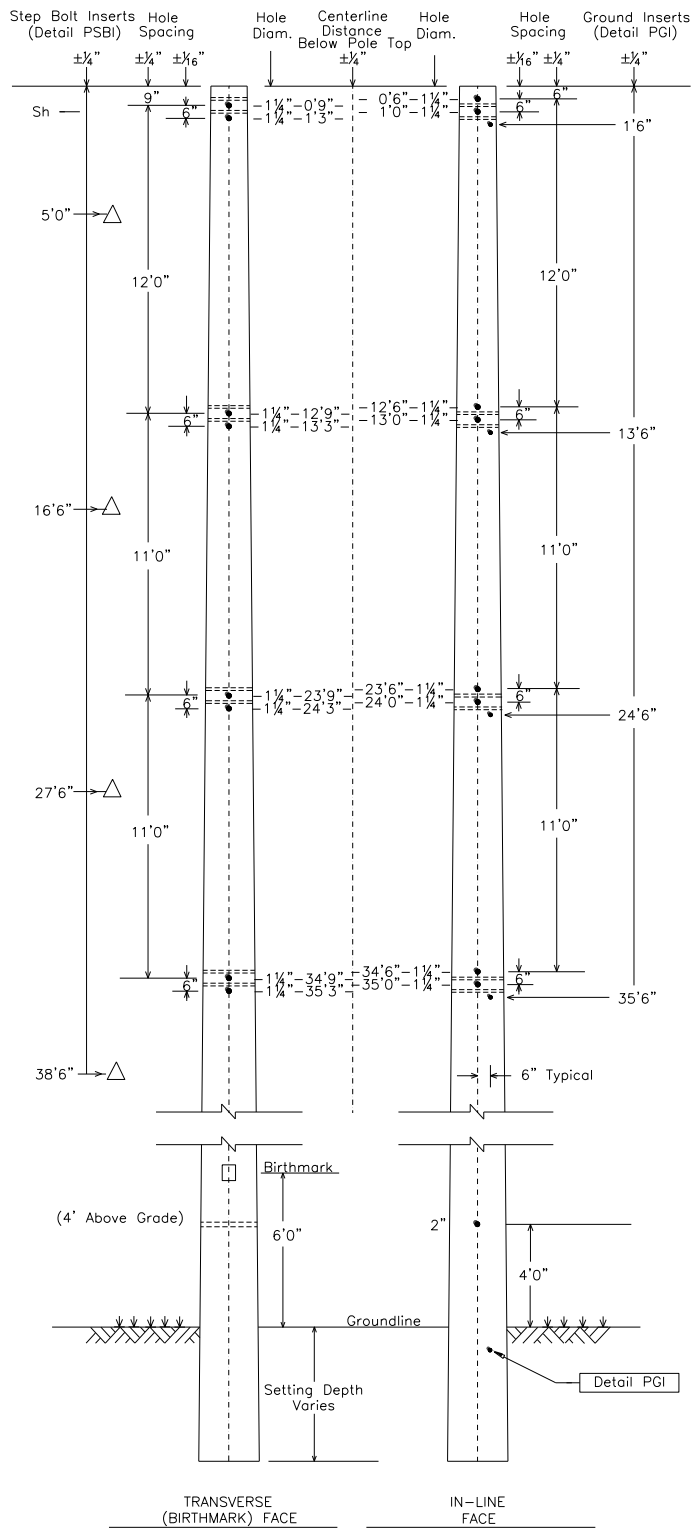
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1244C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	2	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



# C1244C DRILLING DETAIL



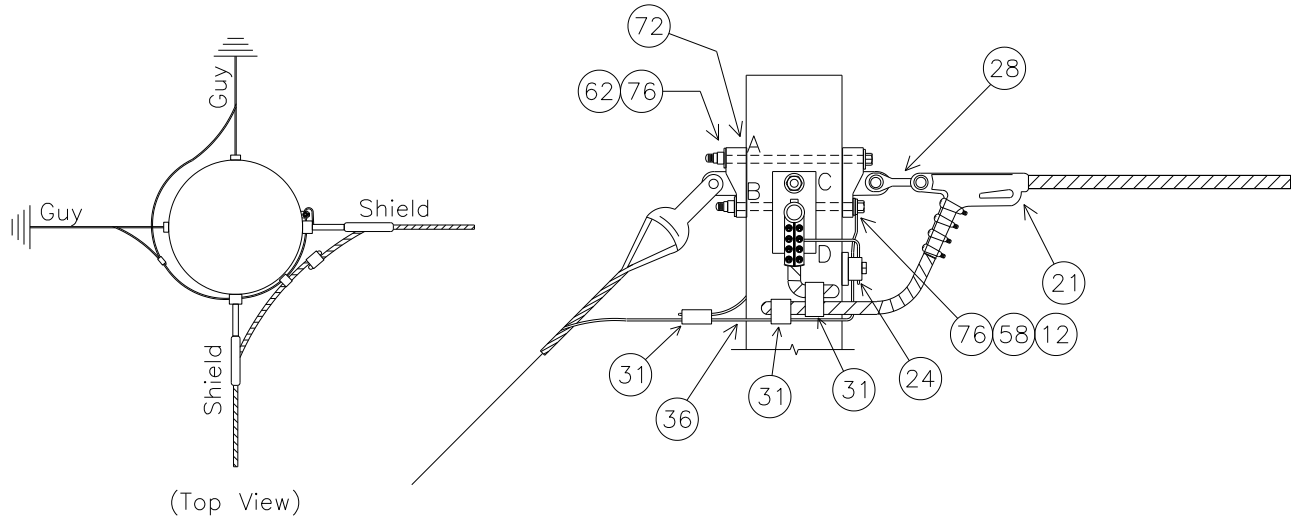
REVISÉ: OCTOBER 2013

REVIEW/REVISED BY: MLR

APPROVED BY: KKR

## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

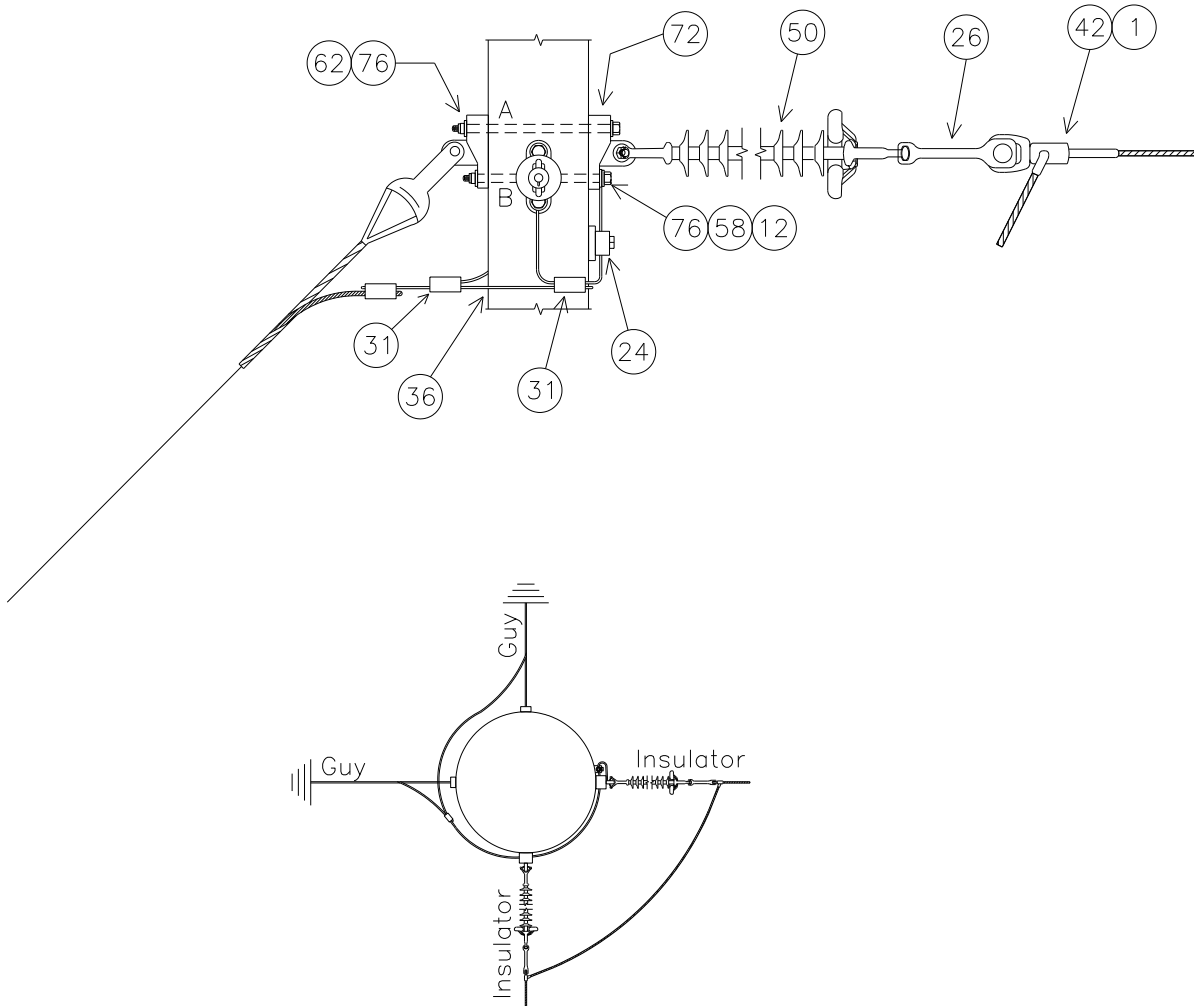
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD9FFC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1	25.4	27.8	30.2
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5	23.8	26.2	28.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FFC3 PLATES

## ISDD9FFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFC3\*954S

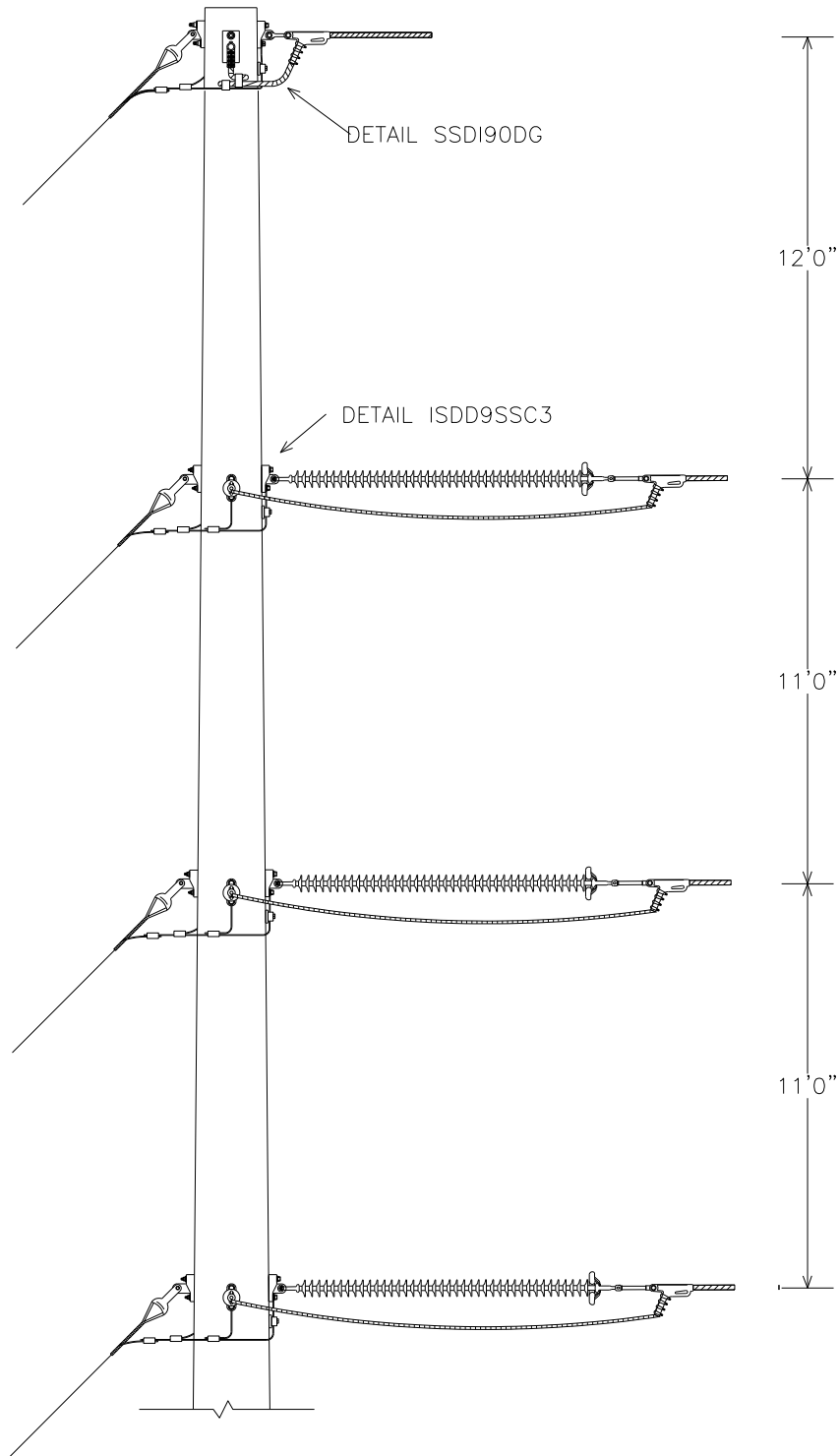
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	2	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# C1244Q

**230KV, DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 3-PHASE**  
**CONDUCTOR OPTIONS: 954A, 954S, 1590**



# C1244Q PLATES

## C1244Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	16	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1244Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

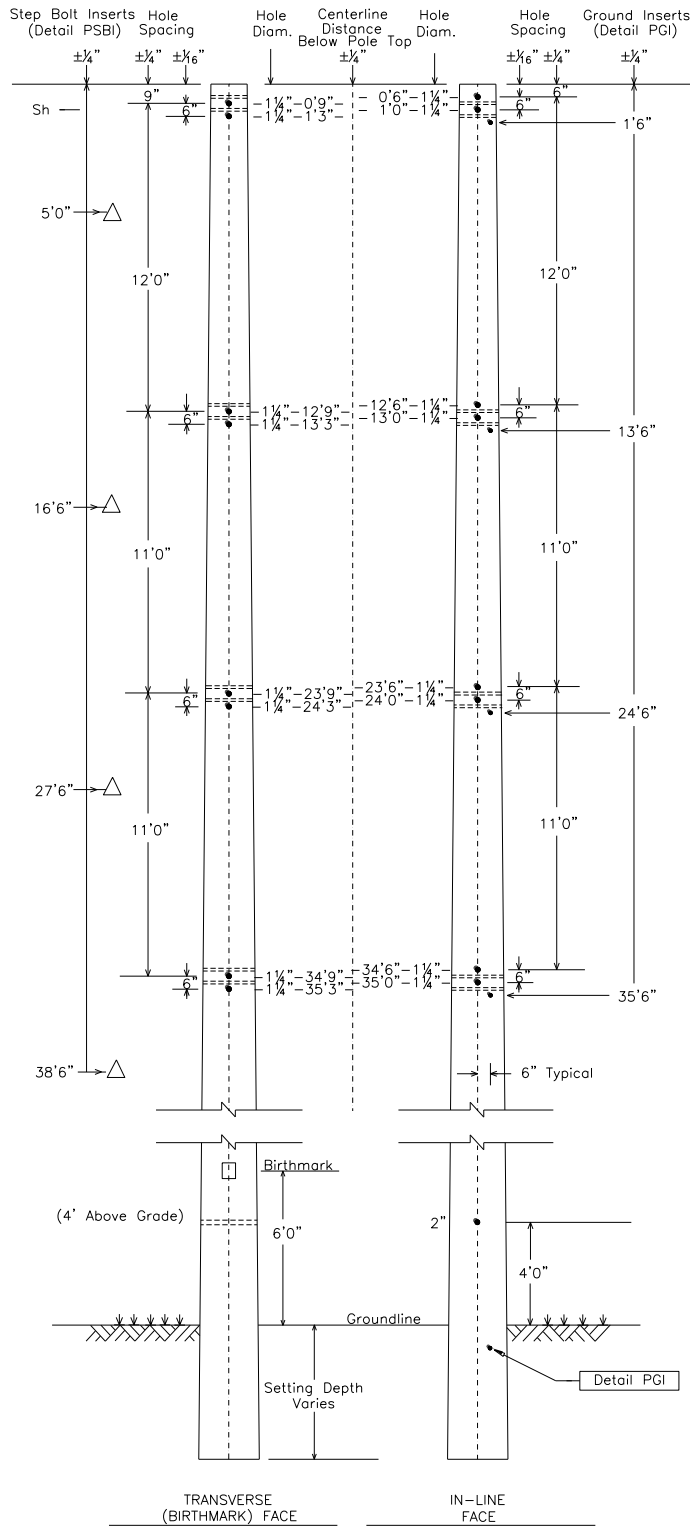
## C1244Q\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## C1244Q\*1590

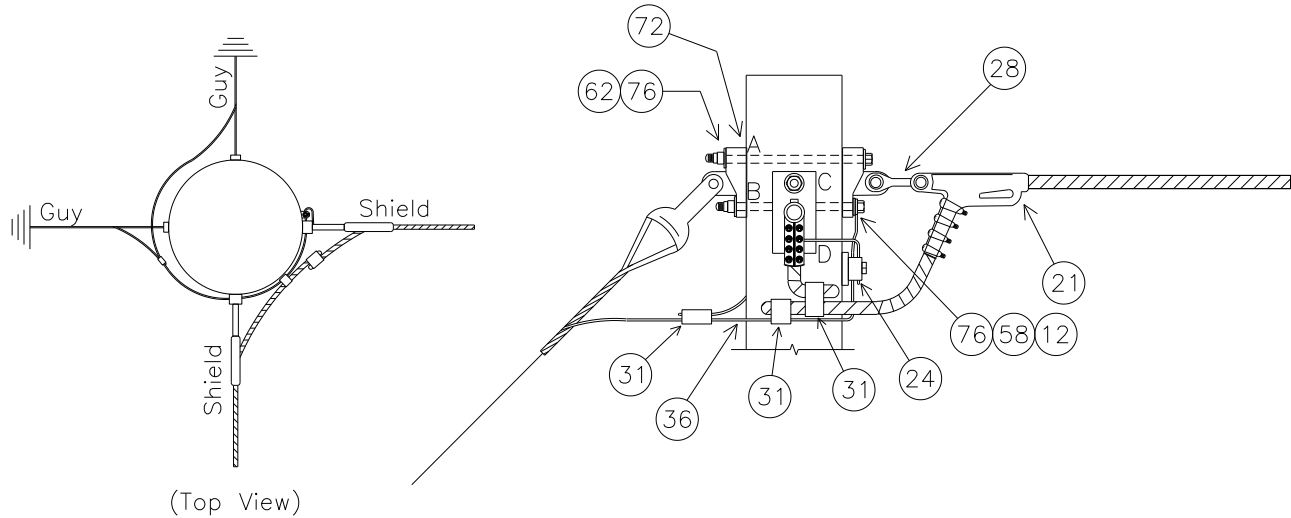
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

## C1244Q DRILLING DETAIL



## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

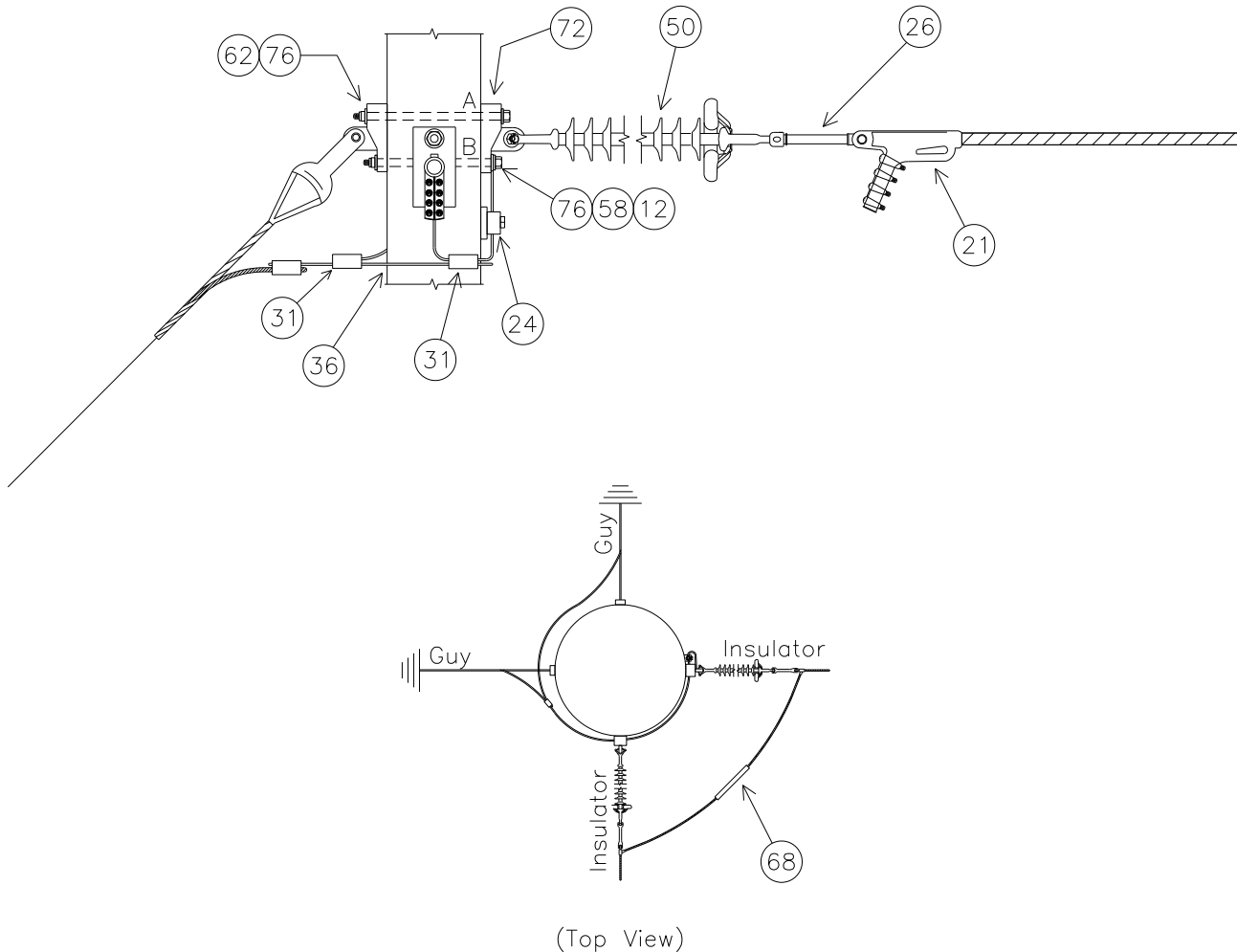


## ISDD9SSC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.3	27.7	30.0	25.3	27.7	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.6	26.0	28.4	23.7	26.1	28.4

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9SSC3 PLATES

## ISDD9SSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9SSC3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

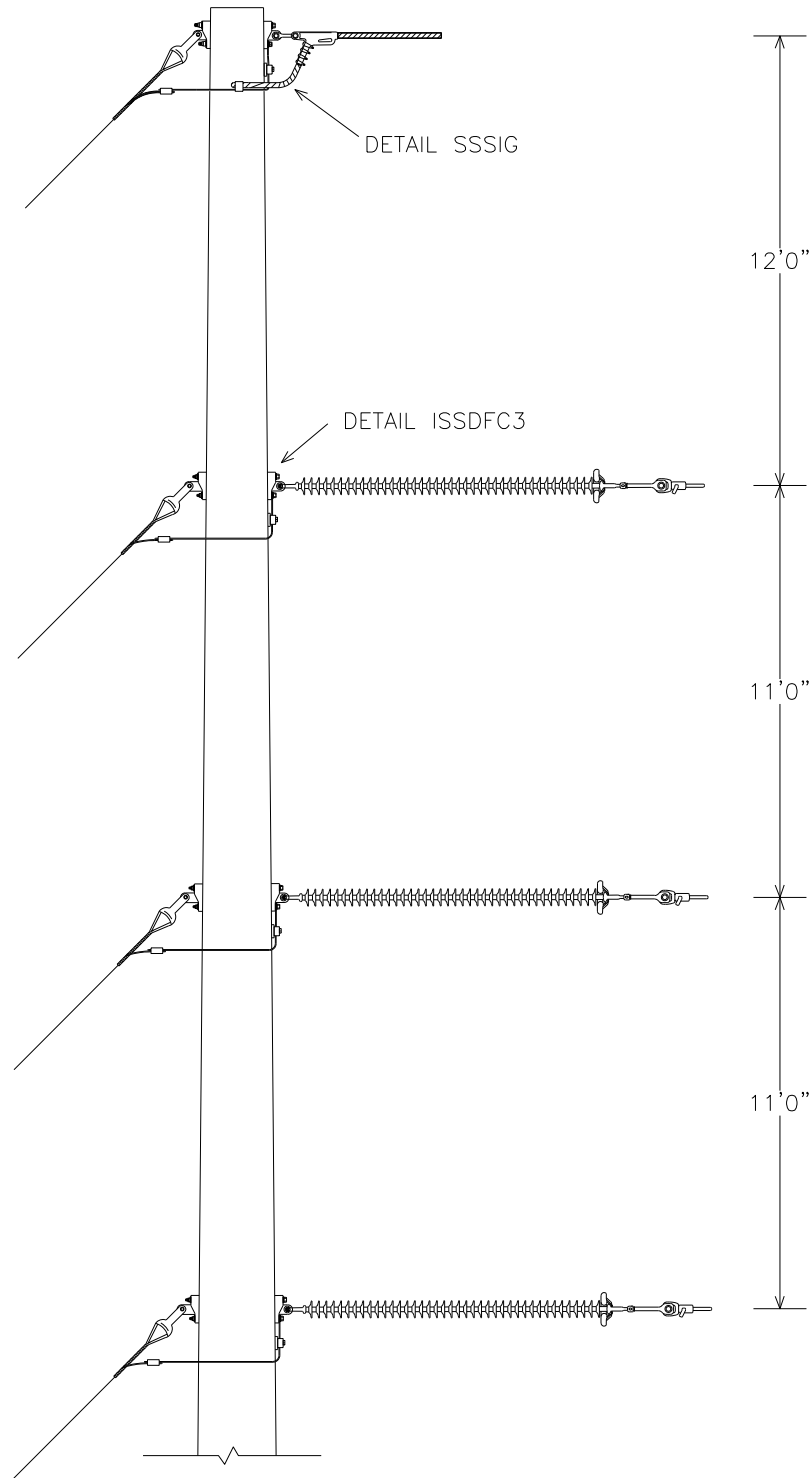
## ISDD9SSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

# C1245C

230KV, SINGLE DEADEND, FULL TENSION, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



# C1245C PLATES

## C1245C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

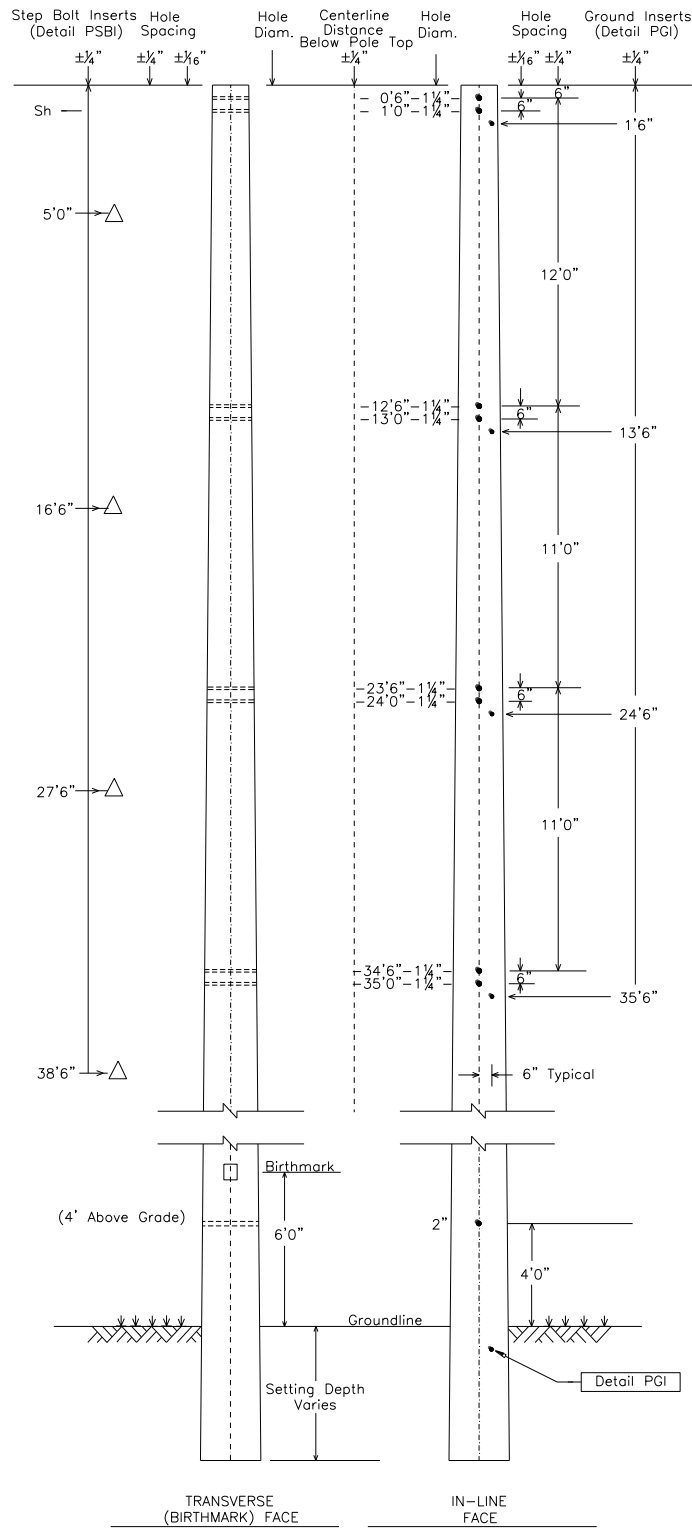
## C1245C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1245C\*1590

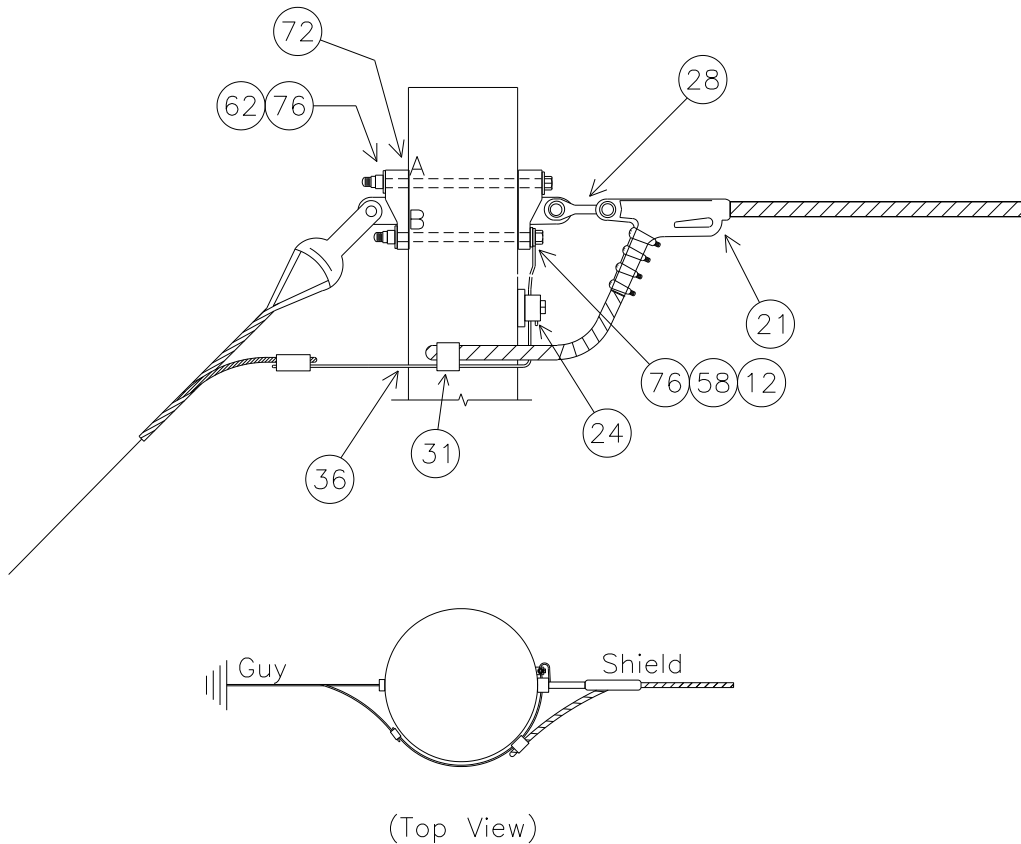
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1245C DRILLING DETAIL



# SSSIG

## SHIELD FOR SPUN CONCRETE POLES SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

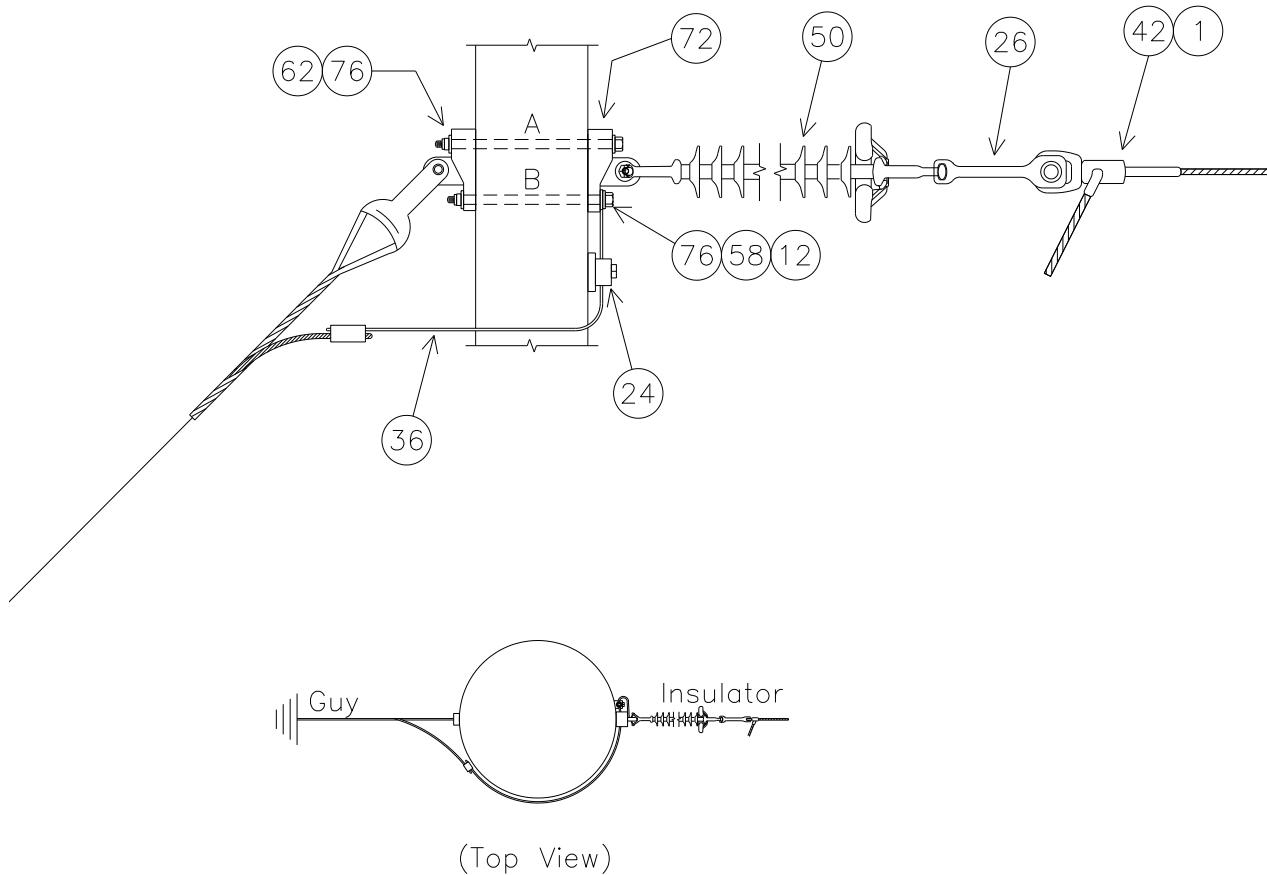
BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDFC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END FULL TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFC3 PLATES

**ISSDFC3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

**ISSDFC3\*954S**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

**ISSDFC3\*1590**

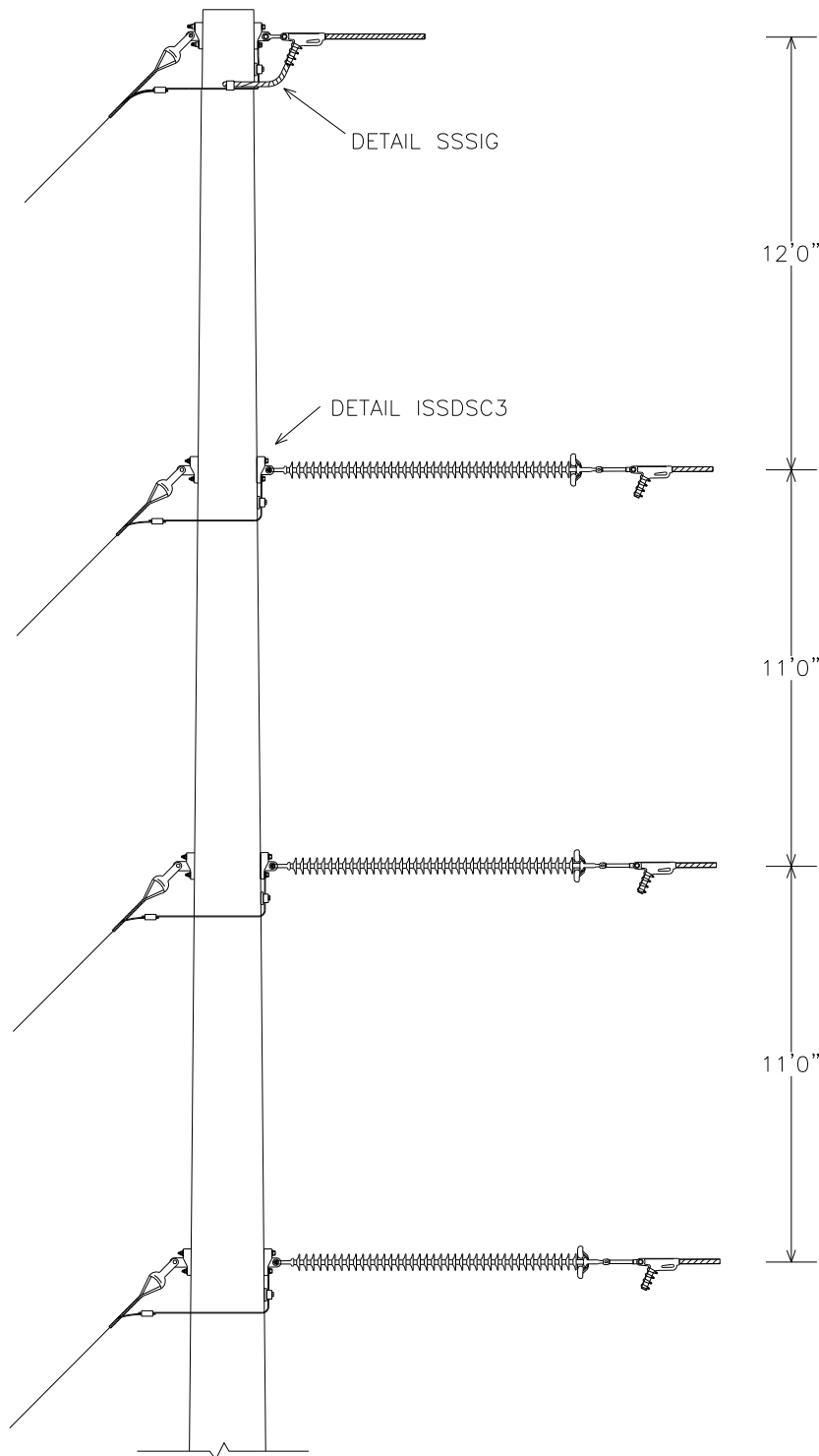
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



# C1245Q

230KV, SINGLE DEADEND, SLACK TENSION, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



# C1245Q PLATES

## C1245Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

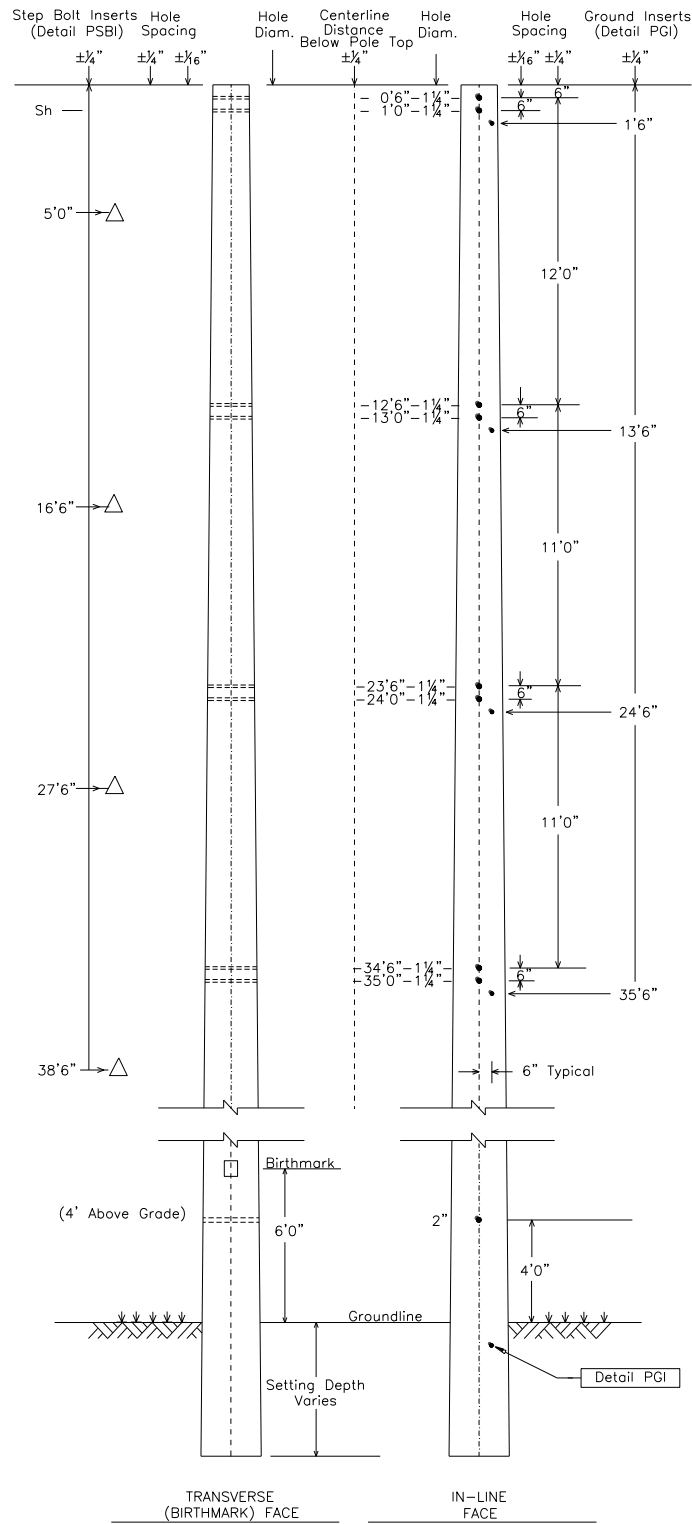
## C1245Q\*954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## C1245Q\*1590

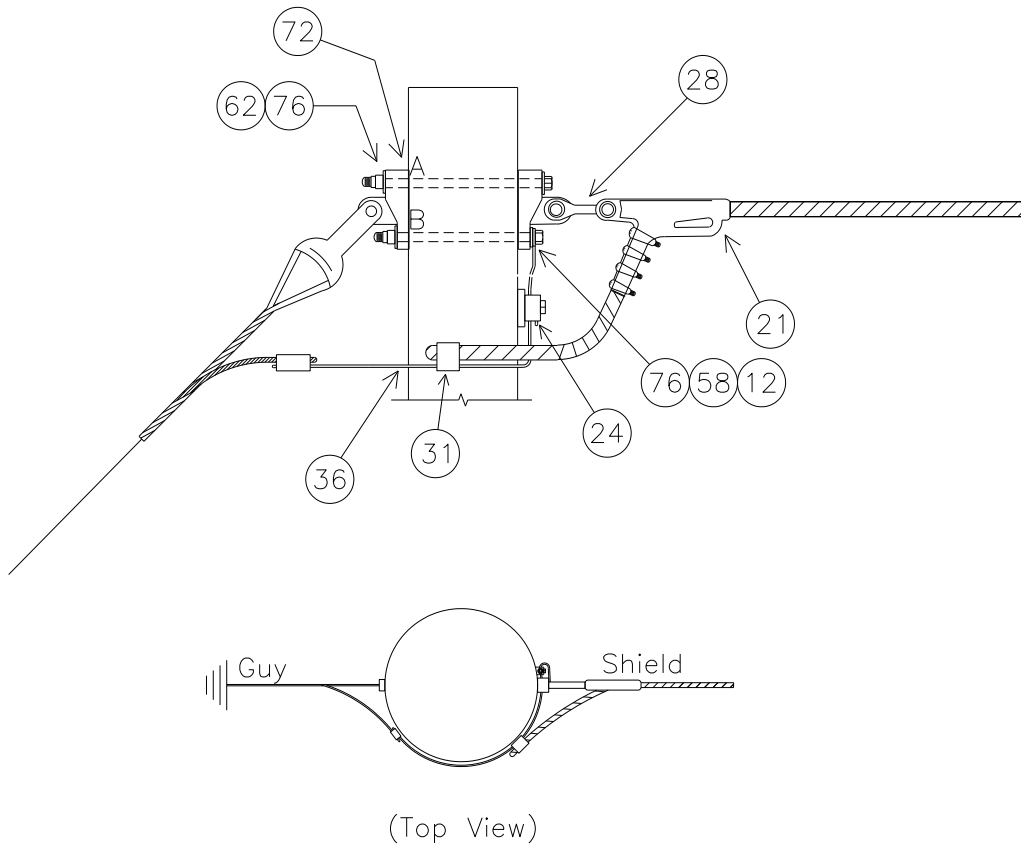
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

## C1245Q DRILLING DETAIL



# SSSIG

## SHIELD FOR SPUN CONCRETE POLES SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

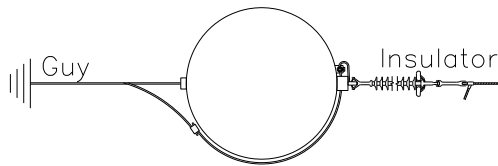
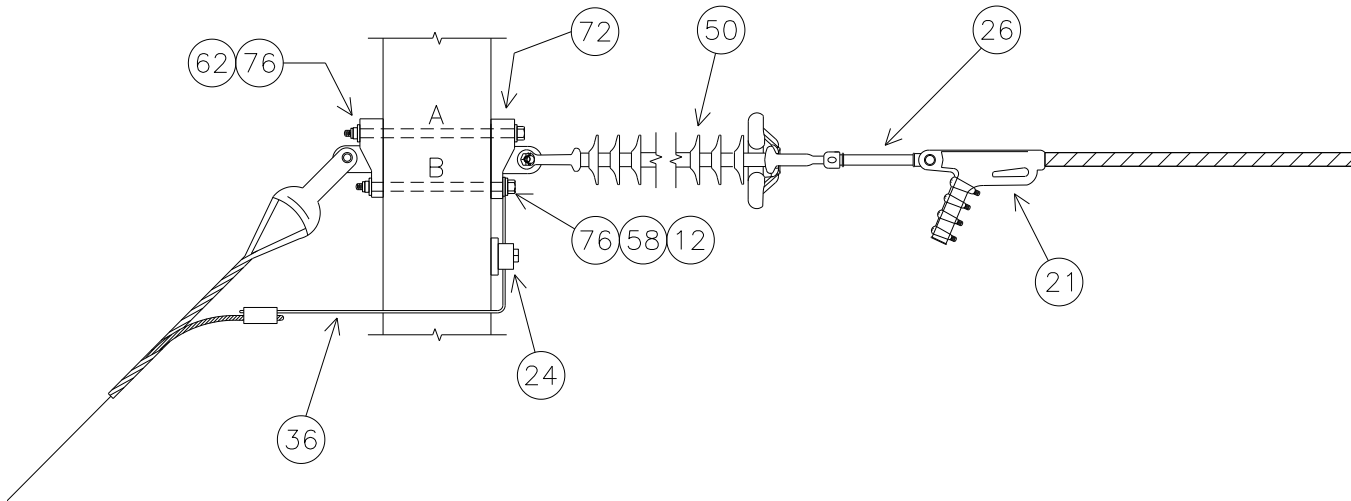
BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDSC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END SLACK TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.3	27.7	30.0
LOWER BOLT 'B' LENGTH (INCHES)	23.7	26.0	28.4

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDSC3 PLATES

## ISSDSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDSC3\*954A, 954S

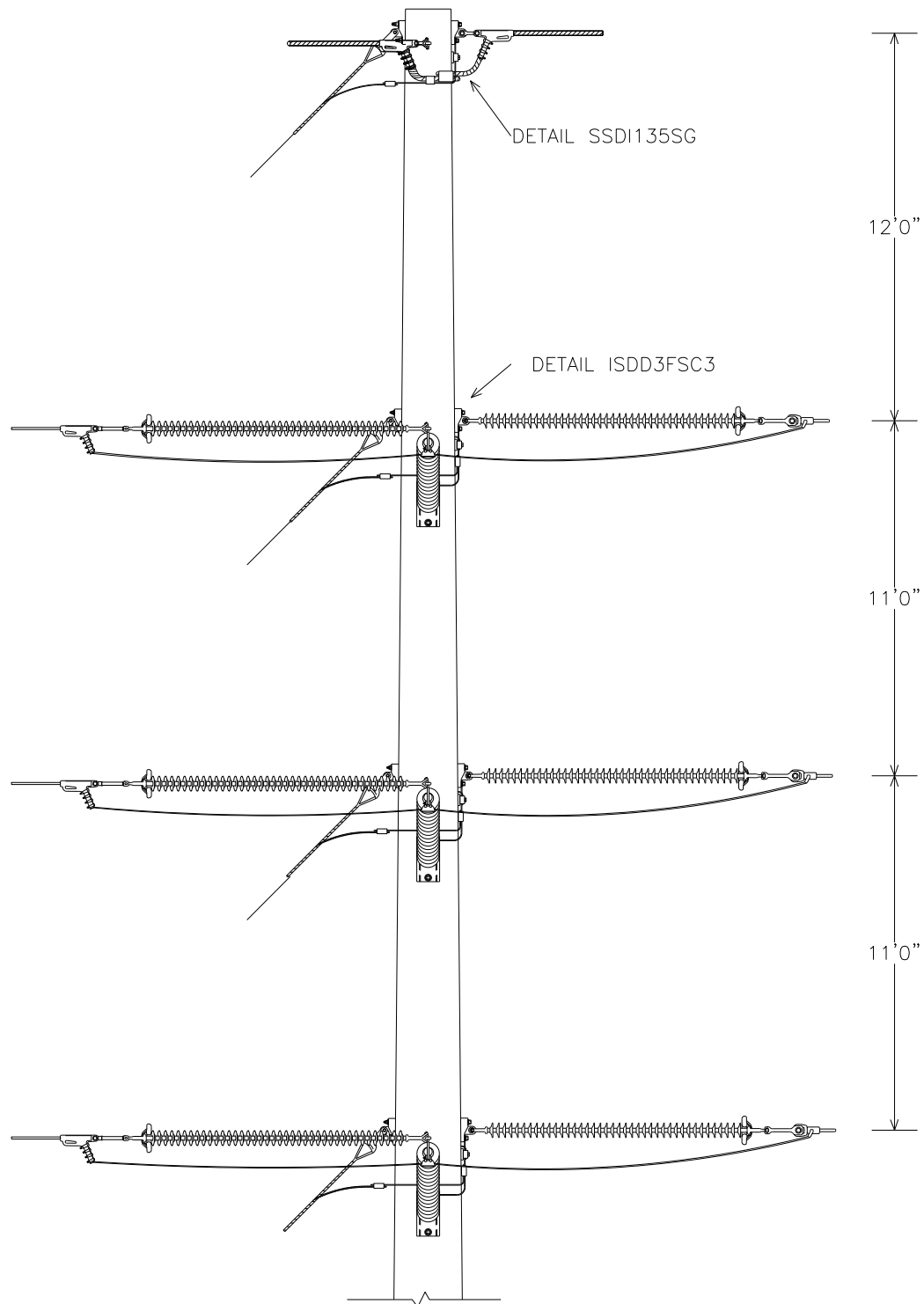
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## ISSDSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# C12462

230KV, DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590





# Overhead Transmission Standards

NO.	ITEM ID	QTY	C12462 BASE DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	2	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 024	1	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90-DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST SILICONE INSULATOR, 230KV, L = 86 INCHES, GAIN BASE, 17 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	11	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	16	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	14	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

NO.	ITEM ID	QTY	C12462*954S DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

NO.	ITEM ID	QTY	C12462*1590 DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

REVISED: OCTOBER 2013

REVIEW/REVISED BY: MLR

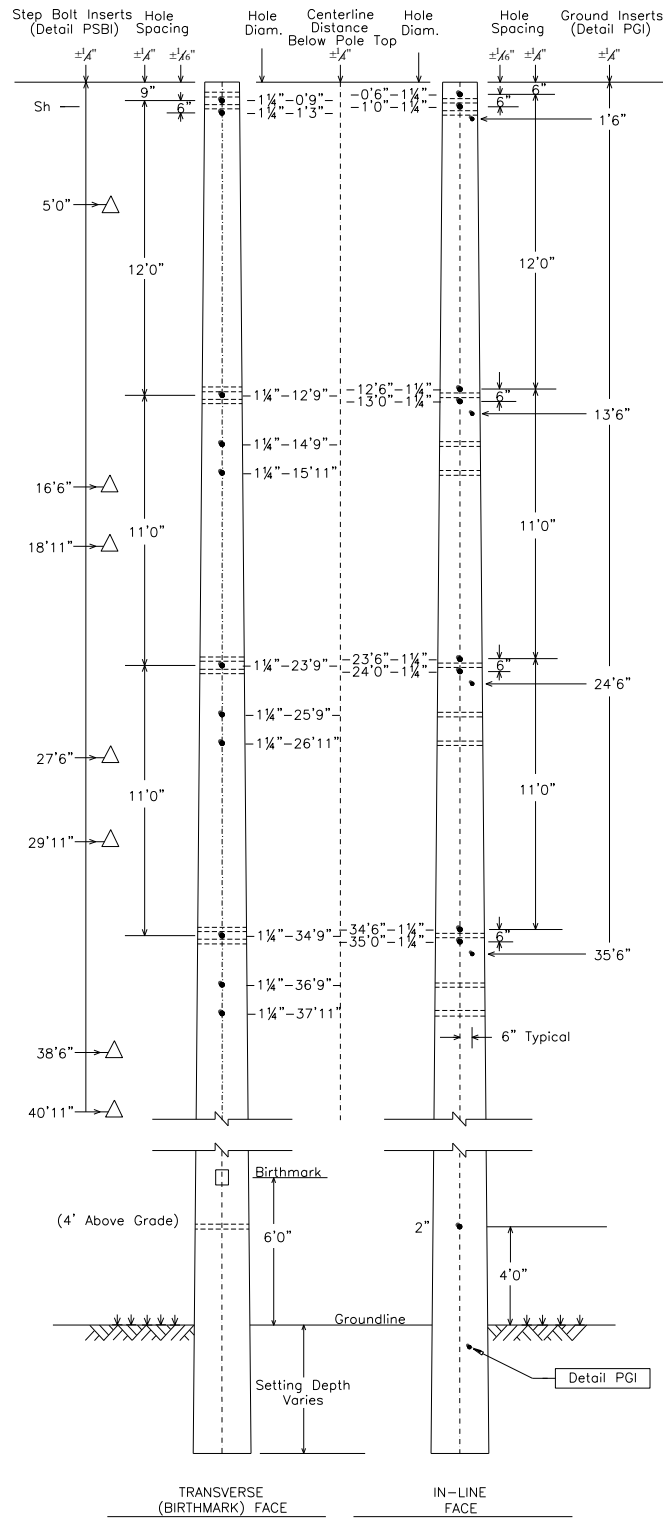
APPROVED BY: KKR

## 230KV STRUCTURES-NEW CONSTRUCTION

STS230-33

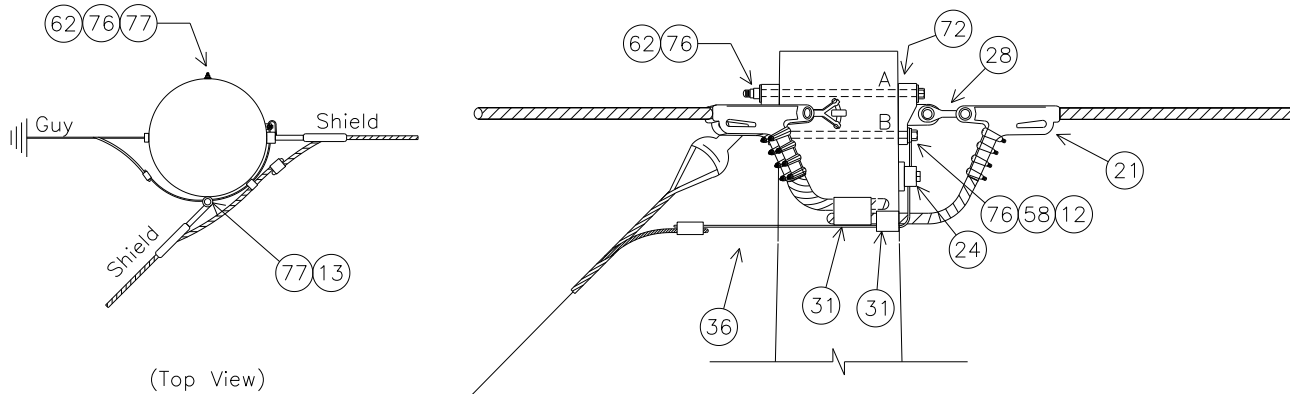


## C12462 DRILLING DETAIL



## SSDI135SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 135°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED SHOULDER EYE BOLT LENGTH (INCHES)	20.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

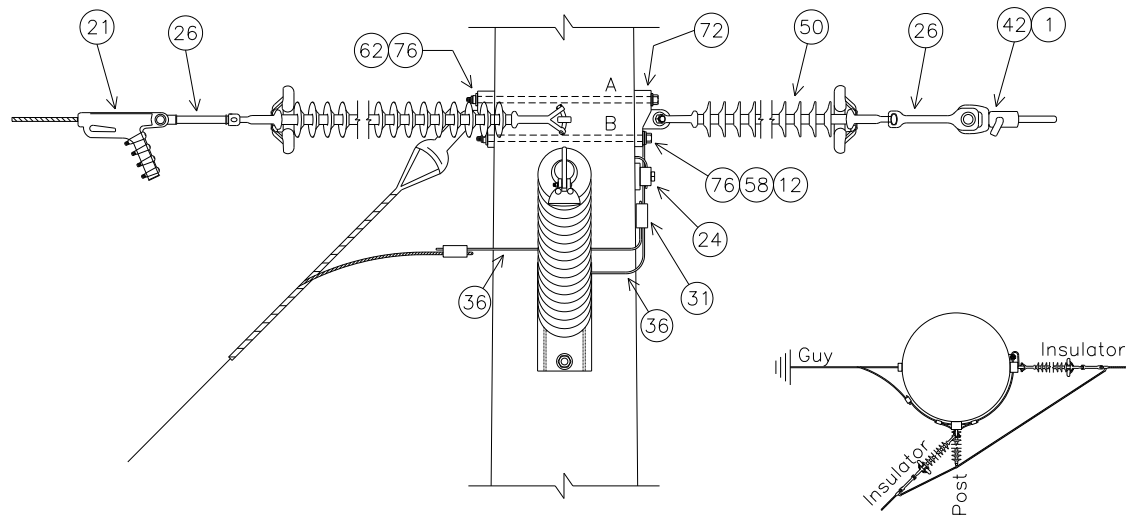
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	SHOULDER BOLTEYE, GALVANIZED, 7/8" X 22" PROVIDED BY CONTRACTOR
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	1	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	1	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD3FSC3

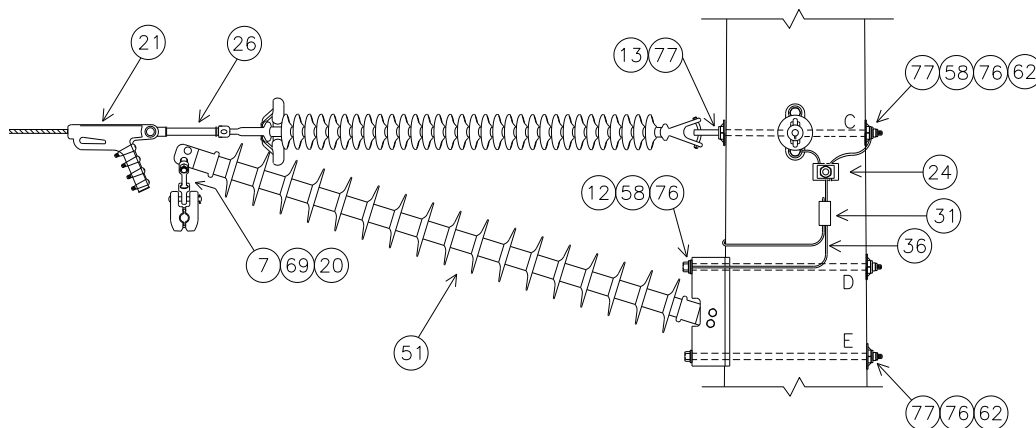
INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



(Top View)



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	TOP	MIDDLE	BOTTOM
BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5
EYEBOLT 'C' LENGTH (INCHES)	22.7	25.1	27.4
BOLT 'D' LENGTH (INCHES)	28.5	30.9	33.3
BOLT 'E' LENGTH (INCHES)	29.1	31.4	33.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD3FSC3 PLATES

### ISDD3FSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 024	1	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST SILICONE INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	9	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE FLAT WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED

### ISDD3FSC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

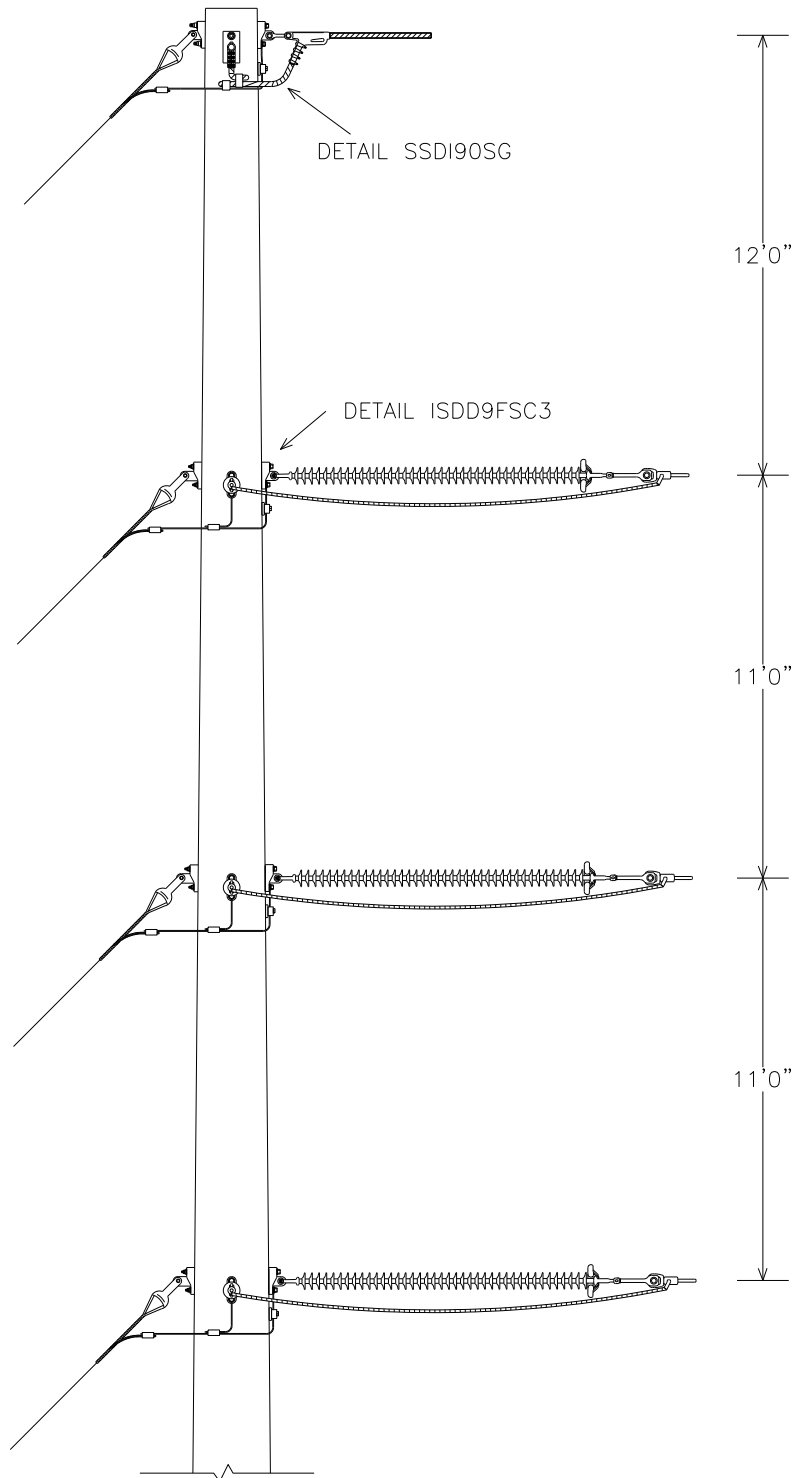
### ISDD3FSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

Note: use 7/8" bolts for Post Insulator and Slack Tension Insulator.

# C1246C

230KV, DOUBLE DEADEND 90, FULL TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# C1246C PLATES

## C1246C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

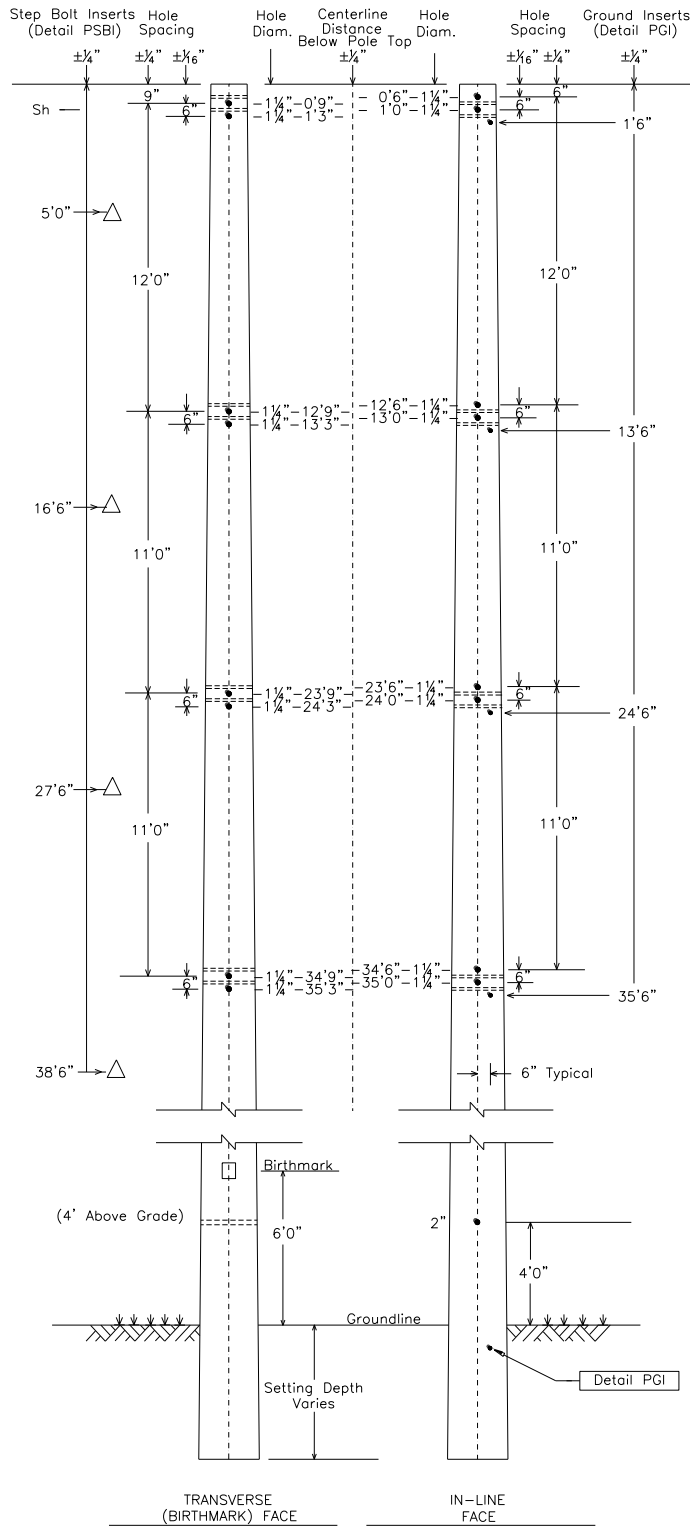
## C1246C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1246C\*1590

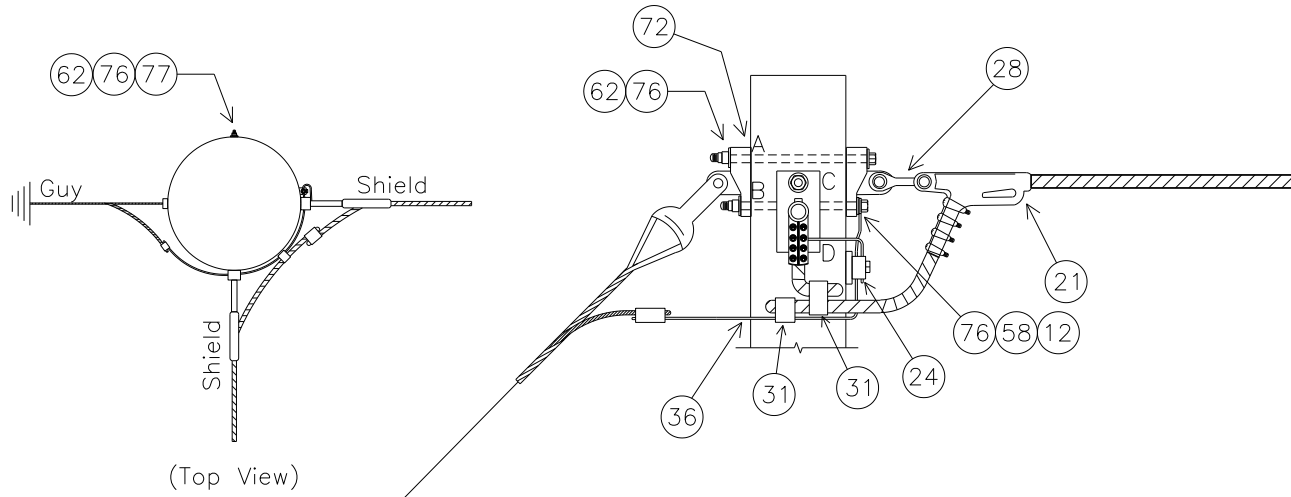
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C1246C DRILLING DETAIL



## SSDI90SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	DOUBLE TEE SIDE	SINGLE TEE SIDE
UPPER BOLT LENGTH (INCHES)	22.6	21.3
LOWER BOLT LENGTH (INCHES)	20.9	20.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4"

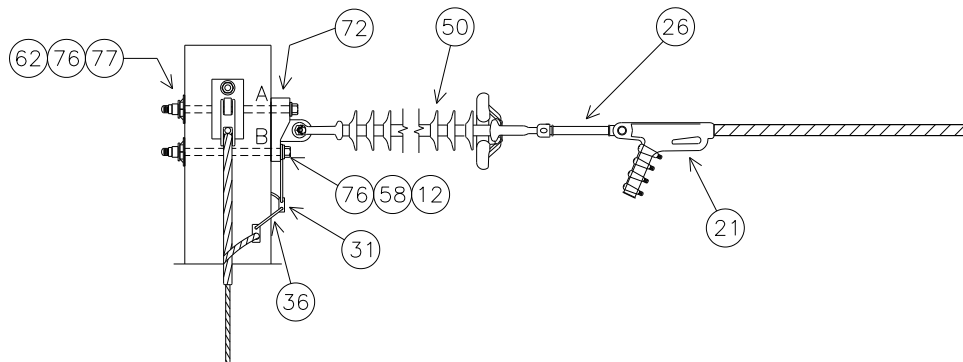
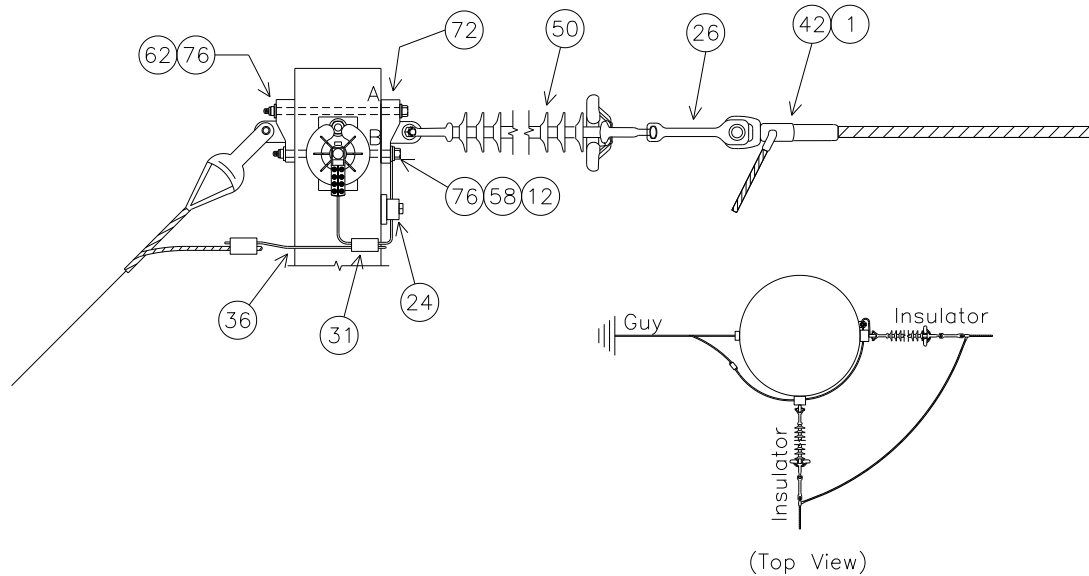


## ISDD9FSC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

### FULL TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5

### SLACK TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.1	26.5	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.4	25.8	28.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD9FSC3 PLATES

### ISDD9FSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	9	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

### ISDD9FSC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

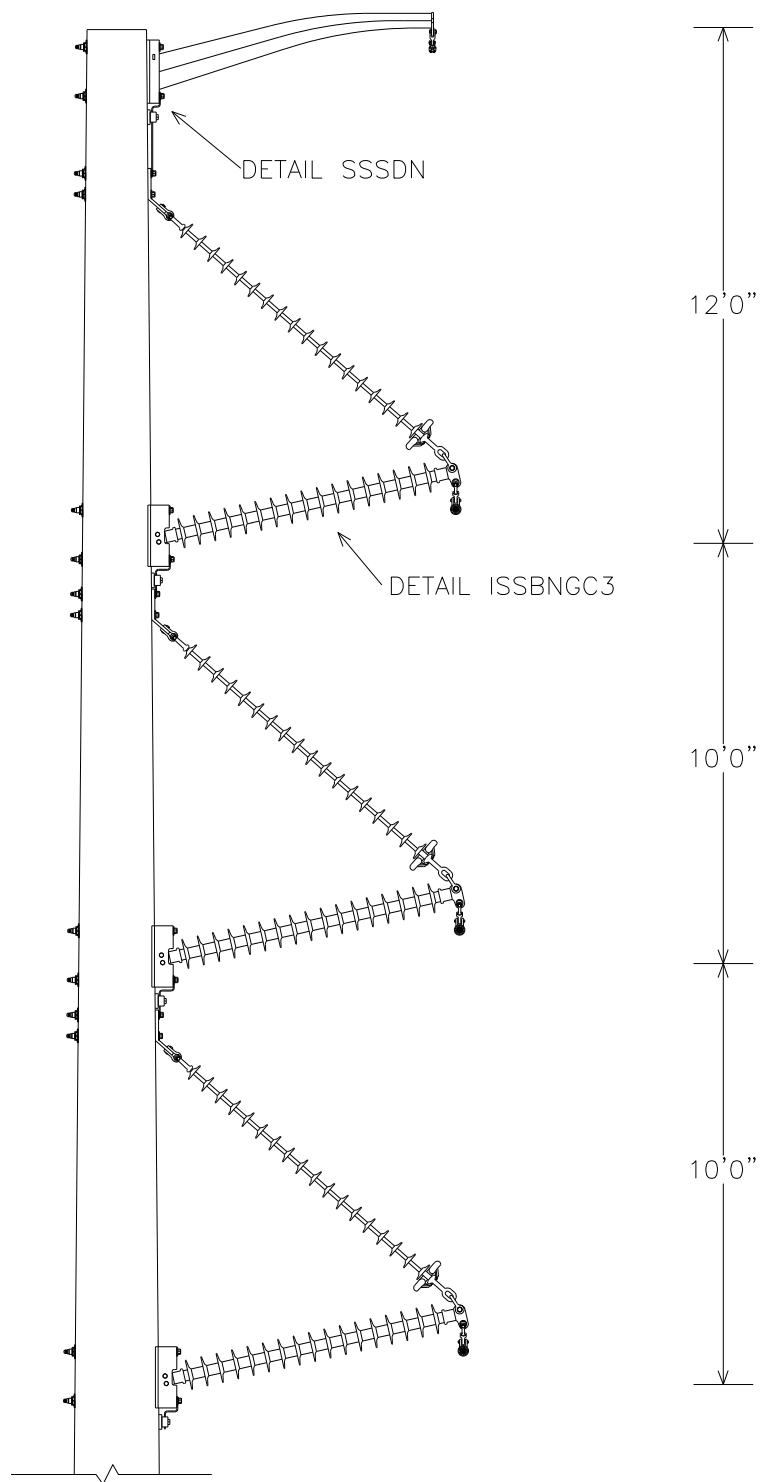
### ISDD9FSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# C1261

## 230KV SINGLE BRACED LINE POST, UNGUYED, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



# C1261 PLATES

## C1261 BASE

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
10	BKTLP 002	3	BRACKET, 53-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	4	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G., 5/8" PIN DIA.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	7	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	14	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	28	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	14	SQUARE CURVED WASHER FOR 7/8" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## C1261\*954A

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN

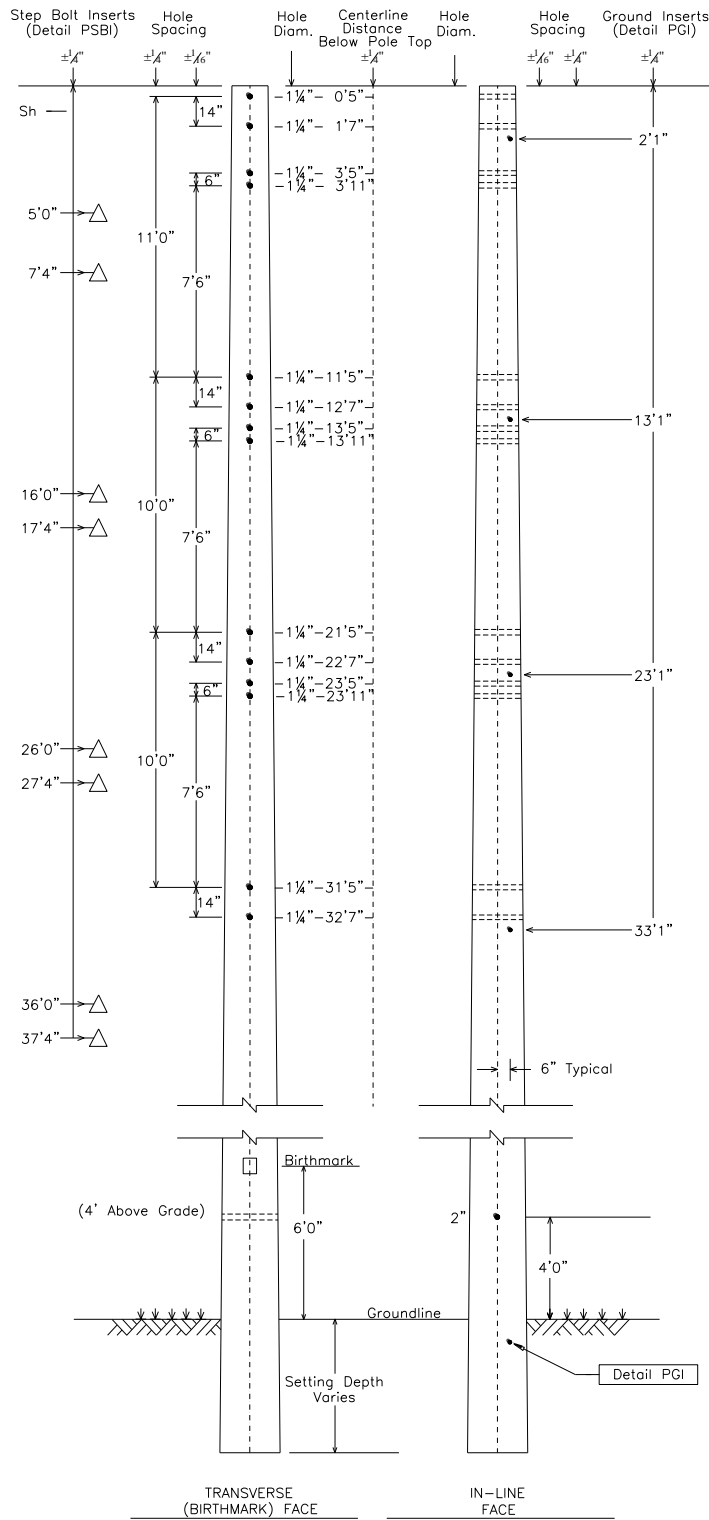
## C1261\*954S

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C1261\*1590

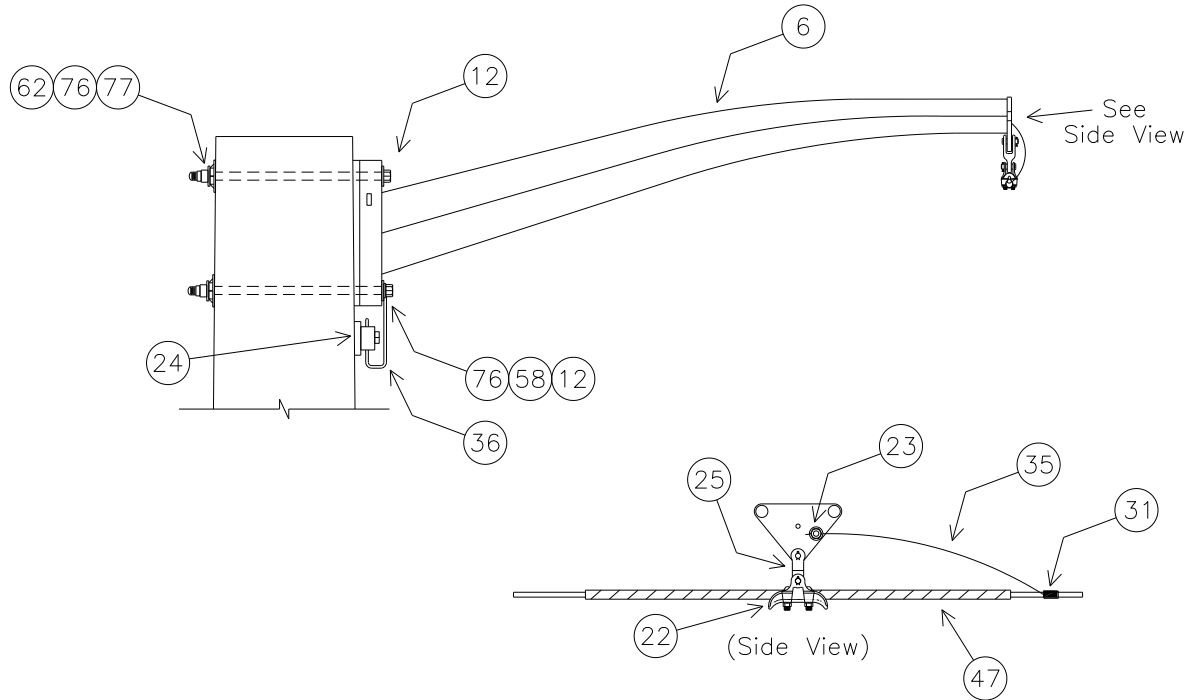
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN

## C1261 DRILLING DETIAL



## SSSDN

SHIELD FOR SPUN CONCRETE POLES  
SINGLE DAVIT ARM, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

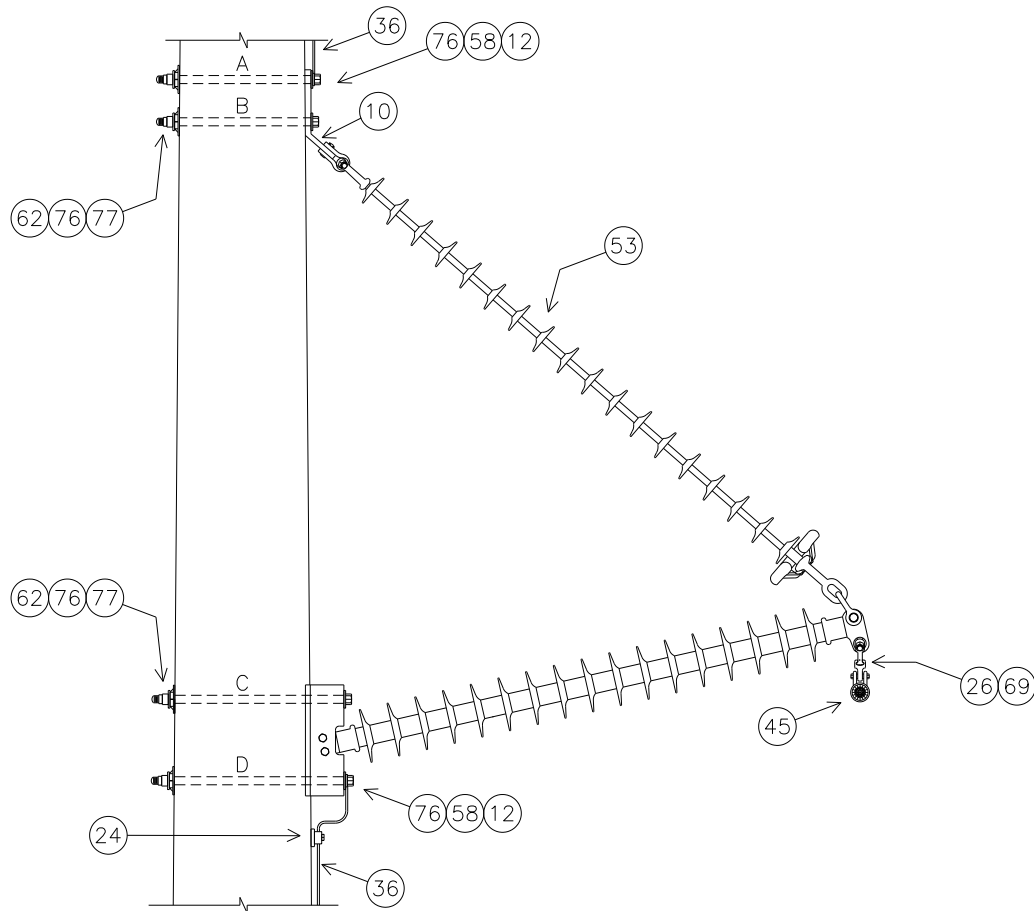
UPPER BOLT LENGTH (INCHES)	20.1
LOWER BOLT LENGTH (INCHES)	20.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBNGC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE BRACED LINE POST, NO GUY, 230KV**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.0	20.9	27.8	28.3
MIDDLE	23.2	23.0	30.0	30.5
BOTTOM	25.3	25.2	32.2	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBNGC3 PLATES

**ISSBNGC3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

**ISSBNGC3\*954A**

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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**ISSBNGC3\*954S**

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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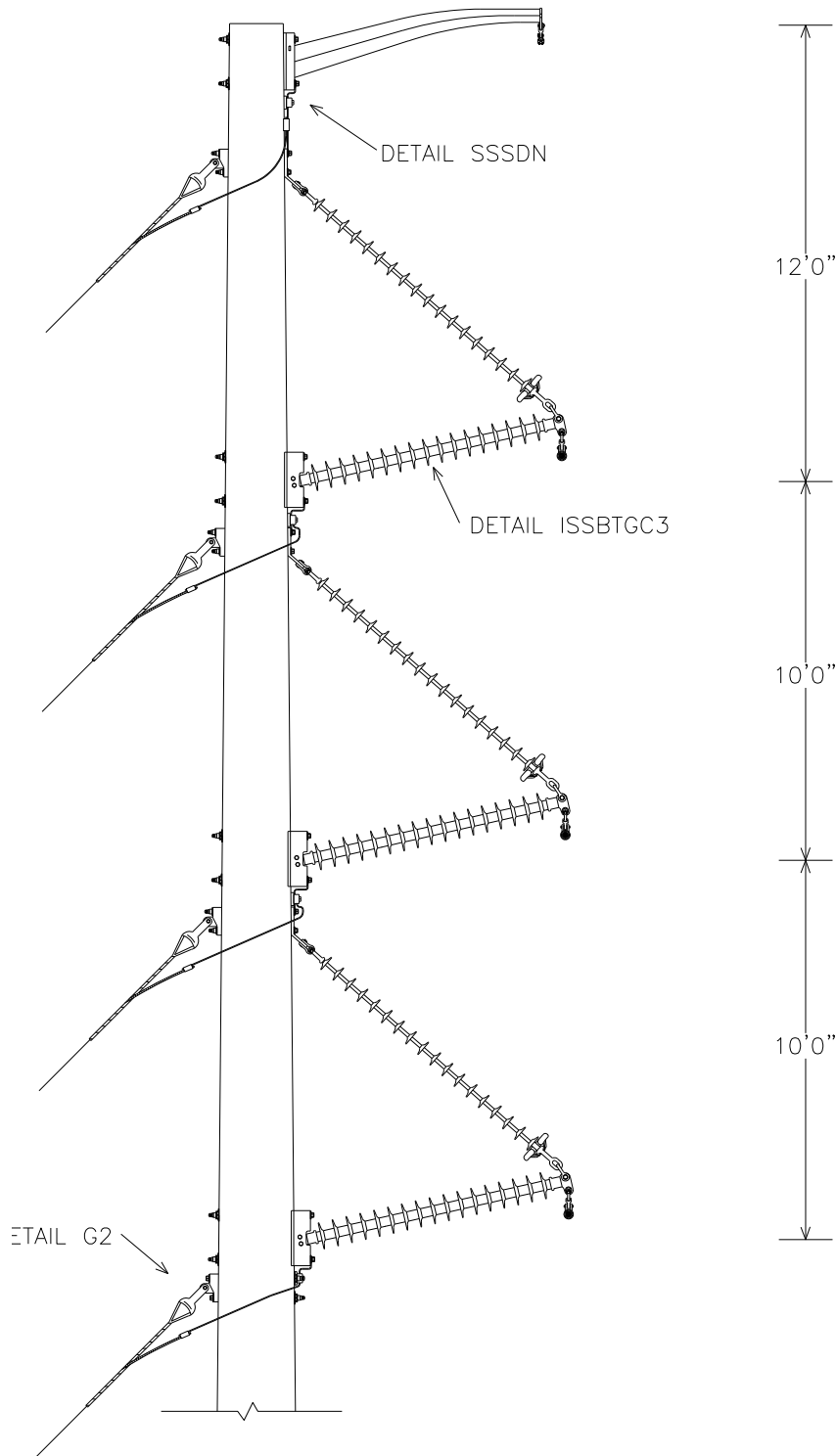
**ISSBNGC3\*1590**

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# C1263A

**230KV, SINGLE BRACED LINE POST, GUYED, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



# C1263A PLATES

## C1263A BASE

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
10	BKTLP 002	3	BRACKET, 53-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	3	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	7	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	14	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	28	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	8	SQUARE FLAT WASHER FOR 7/8" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## C1263A\*954A

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN

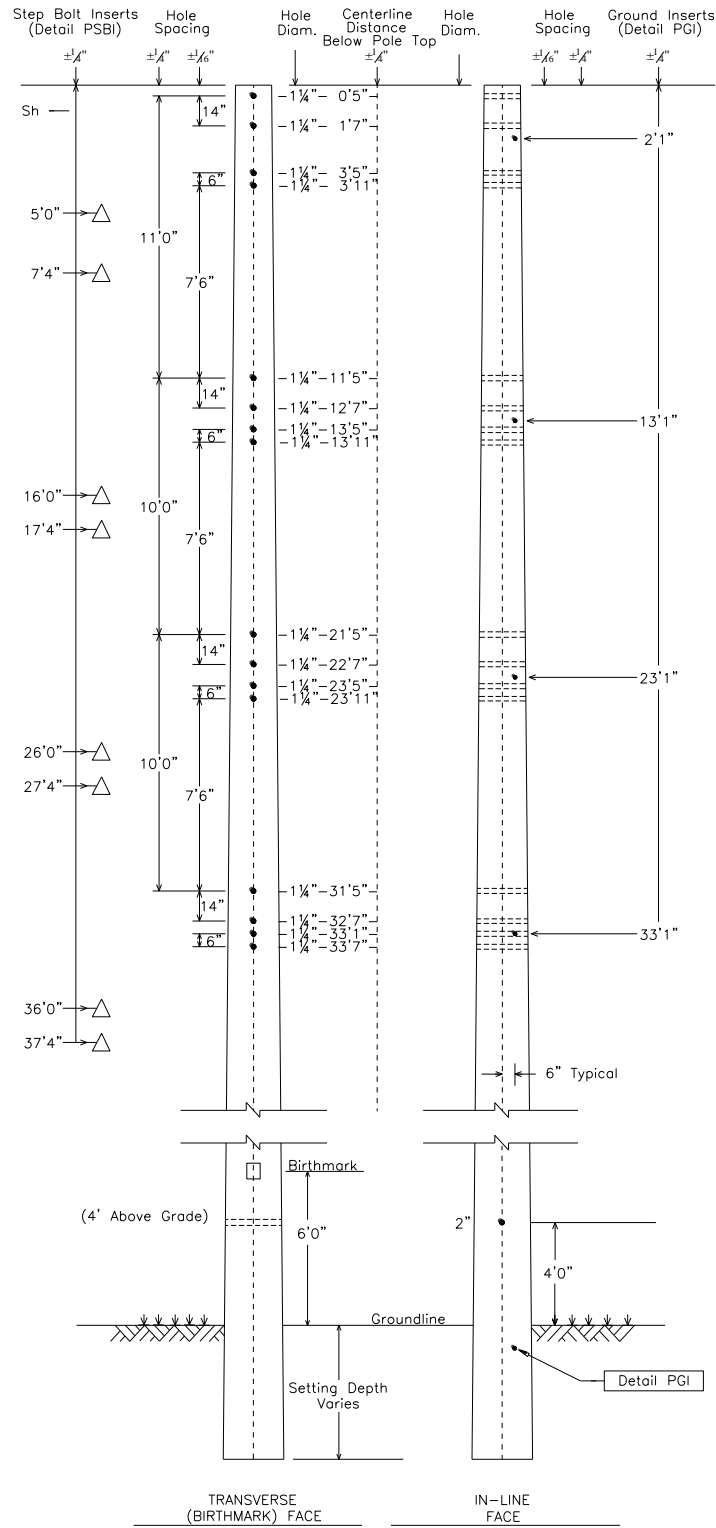
## C1263A\*954S

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C1263A\*1590

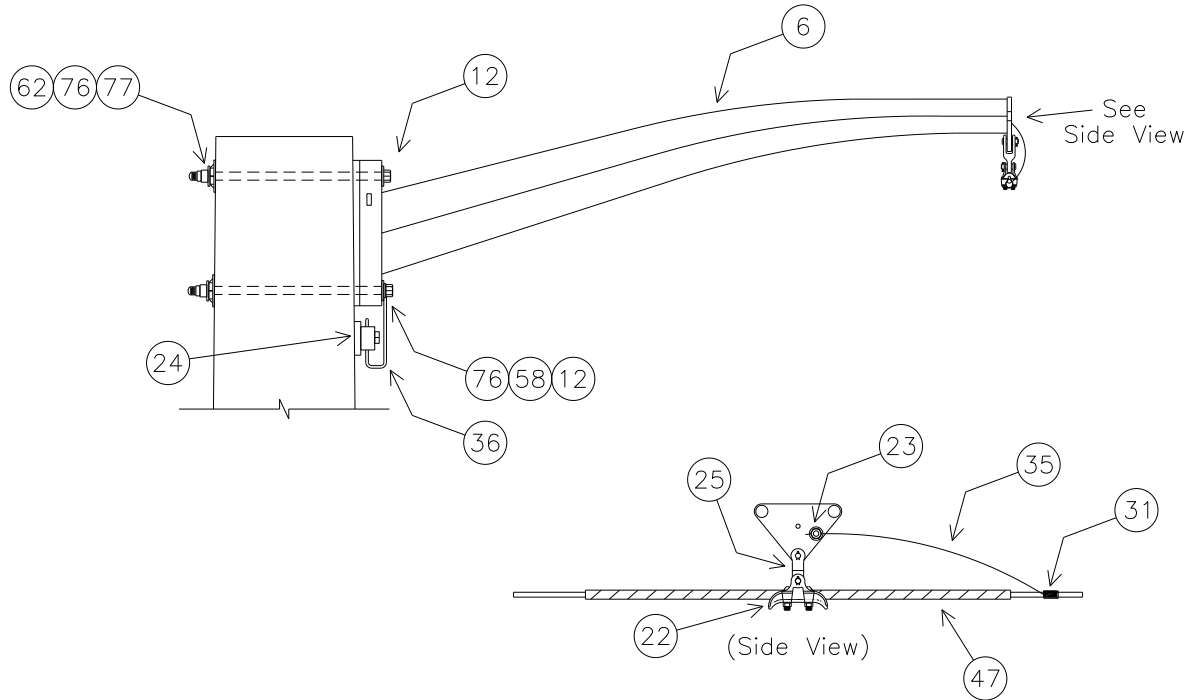
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN

## C1263A DRILLING DETAIL



# SSSDN

SHIELD FOR SPUN CONCRETE POLES  
SINGLE DAVIT ARM, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

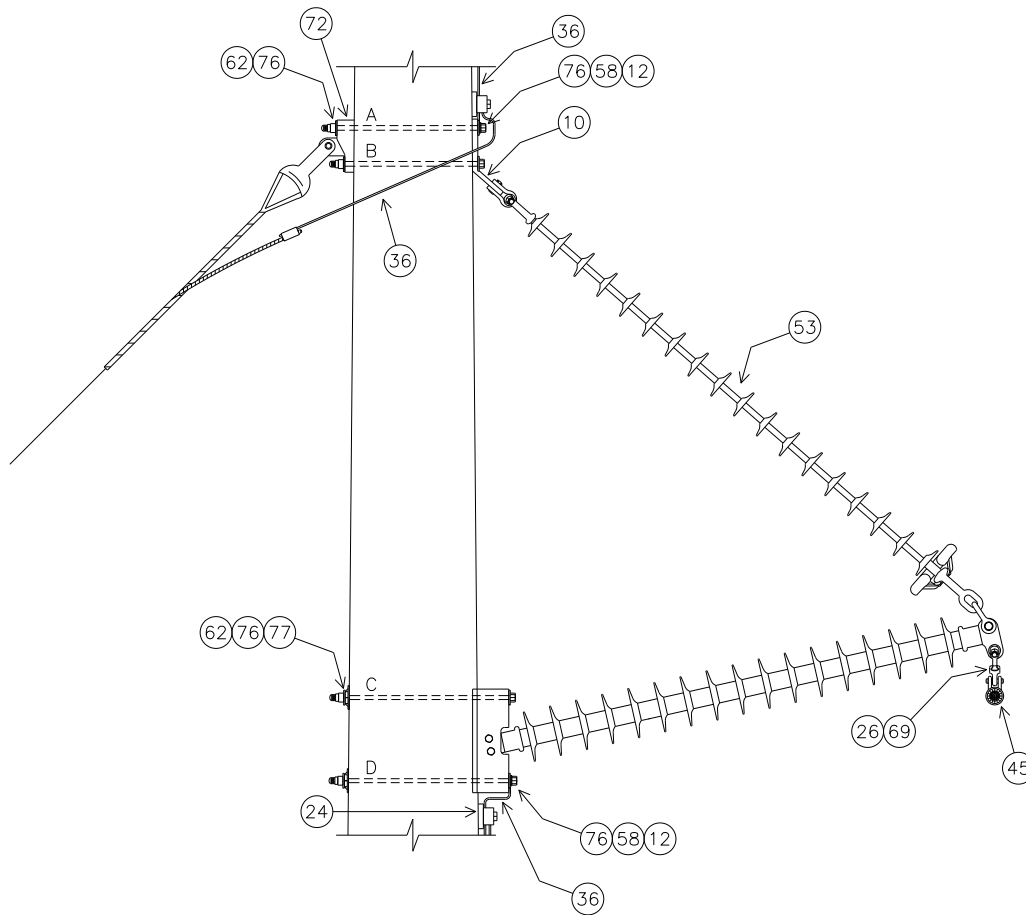
UPPER BOLT LENGTH (INCHES)	20.1
LOWER BOLT LENGTH (INCHES)	20.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBTGC3

INSULATOR FOR SPUN CONCRETE POLES  
SINGLE BRACED LINE POST, TOP GUY, 230KV, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	22.3	21.2	27.8	28.3
MIDDLE	24.5	23.3	30.0	30.5
BOTTOM	26.6	25.5	32.2	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBTGC3 PLATES

## ISSBTGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBTGC3\*954A

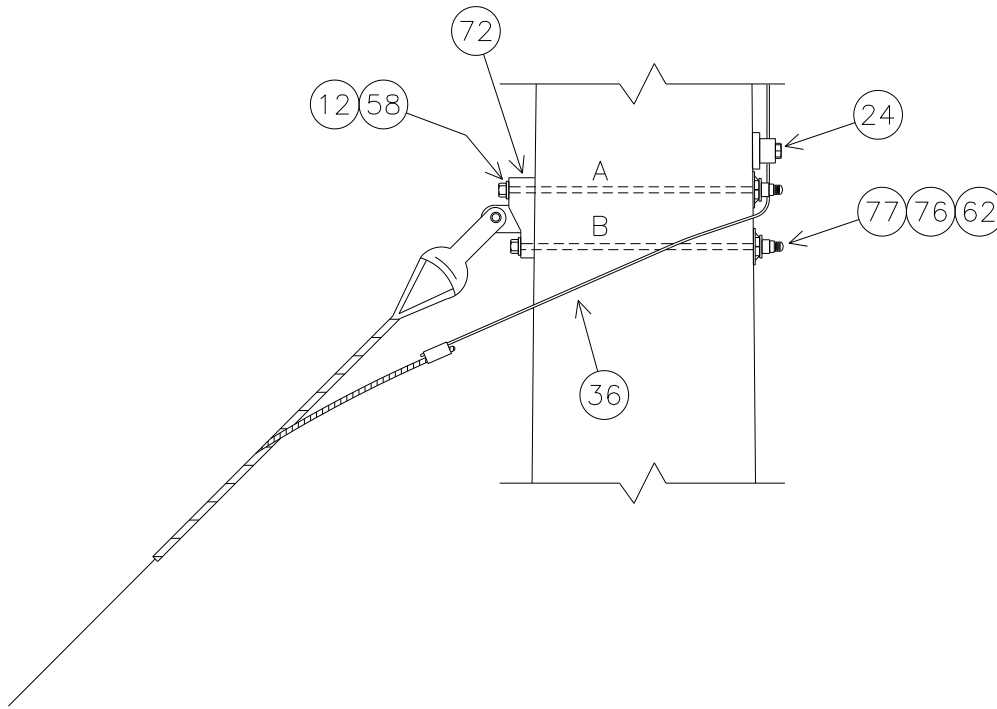
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBTGC3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBTGC3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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**G2****HEAVY GUY**

MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	28.4
'B'	27.8

**G2**

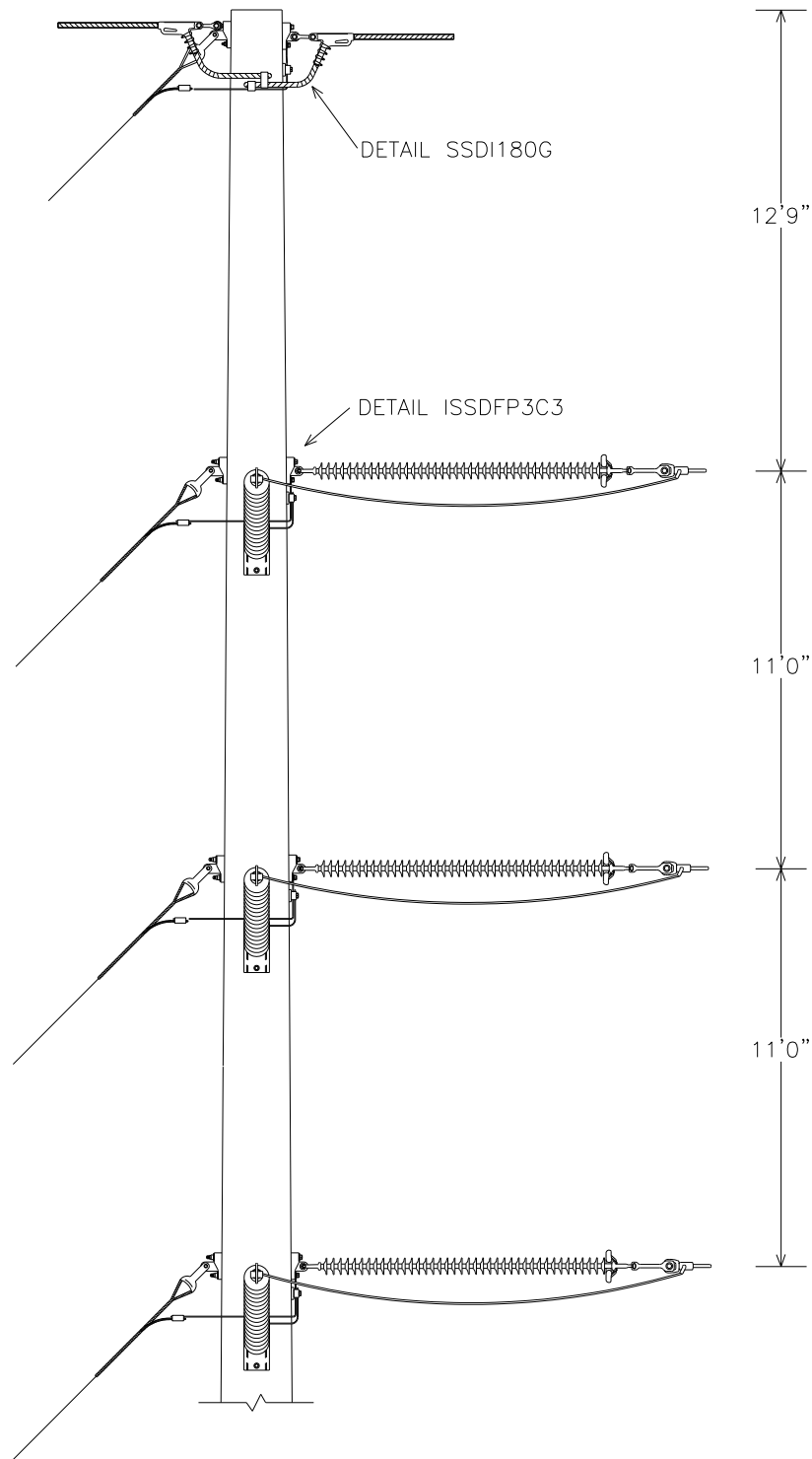
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	0	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS FOR TOP BRACE GROUNDING
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	1	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

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# C1286C

**230KV, SINGLE DEADEND 180°, FULL TENSION TO POST, 3-PHASE**  
**CONDUCTOR OPTIONS: 954S, 1590**



# C1286C PLATES

## C1286C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST INSULATOR, 230KV, L = 86 INCHES, GAIN BASE, 17 DEGREE RISE
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

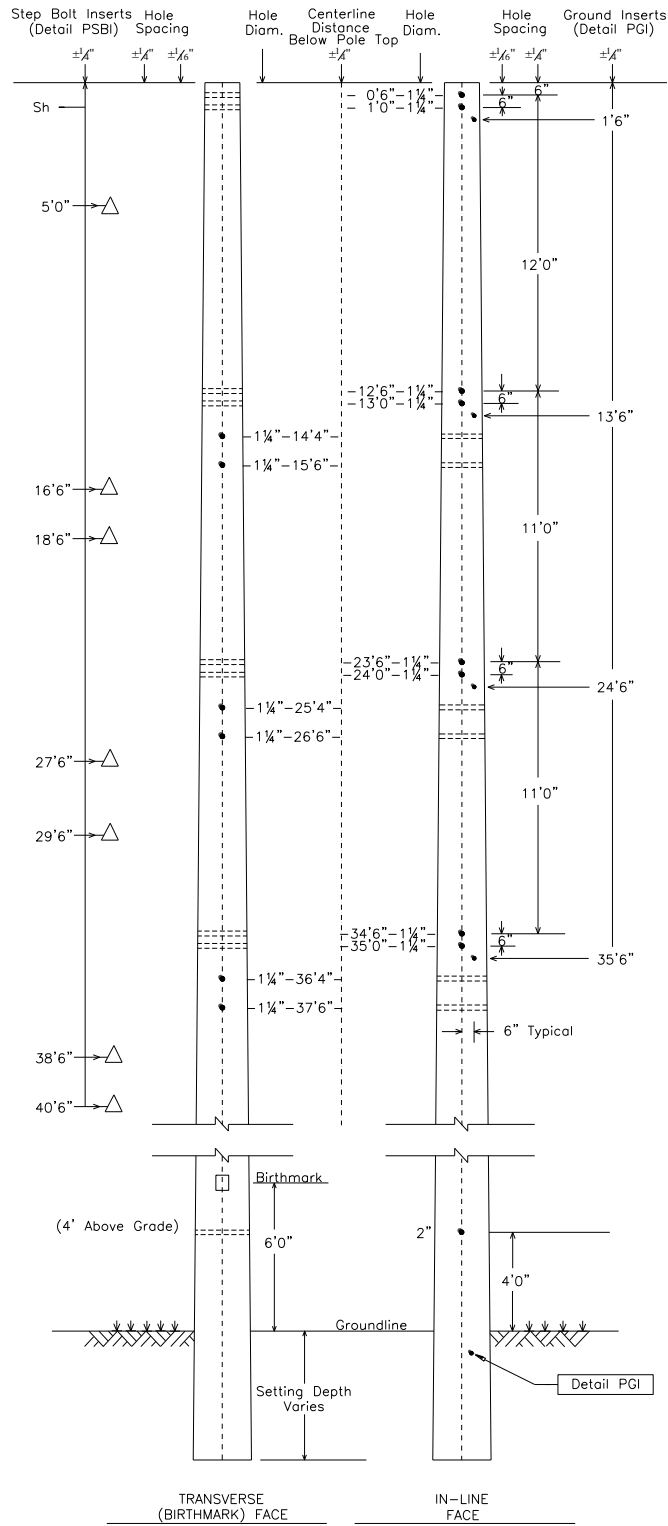
## C1286C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 006	3	CLAMP, SUSPENSION, ALUMINUM, FOR 954 ASCR
28	CLETE 005	3	Y-EYE CLEVIS
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ASCR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ASCR, 100 INCHES

## C1286C\*1590

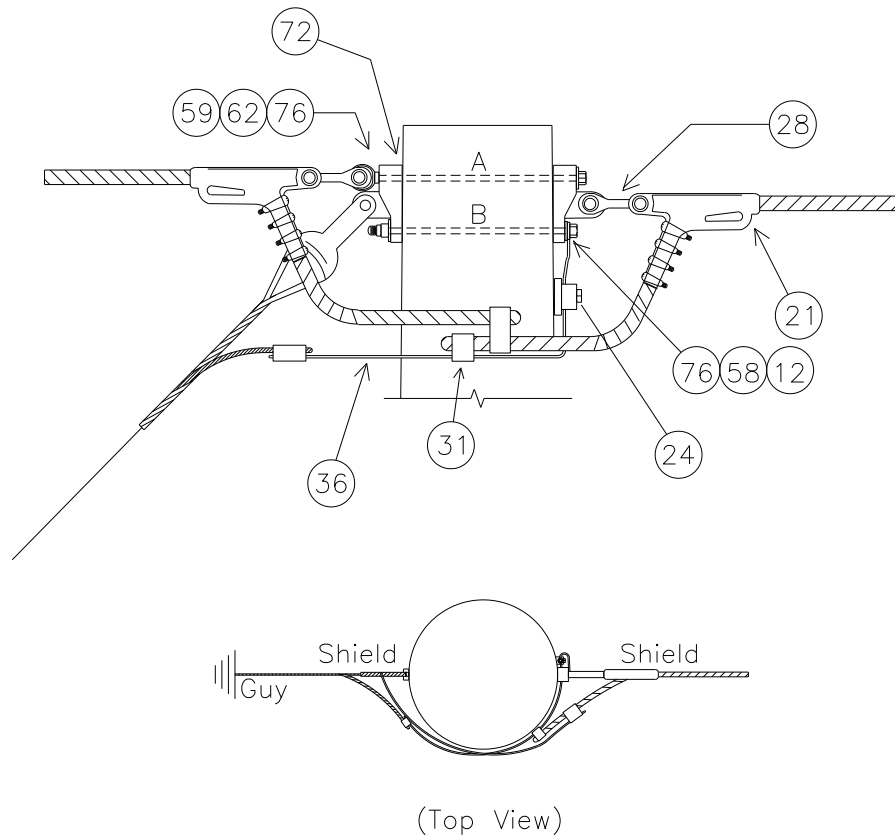
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 007	3	CLAMP, SUSPENSION, ALUMINUM, FOR 1590 ASCR
28	CLETE 006	3	Y-EYE CLEVIS
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ASCR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ASCR, 100 INCHES

## C1286C DRILLING DETAIL



## SSDI180G

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°, GUY



NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	23.6
LOWER BOLT LENGTH (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

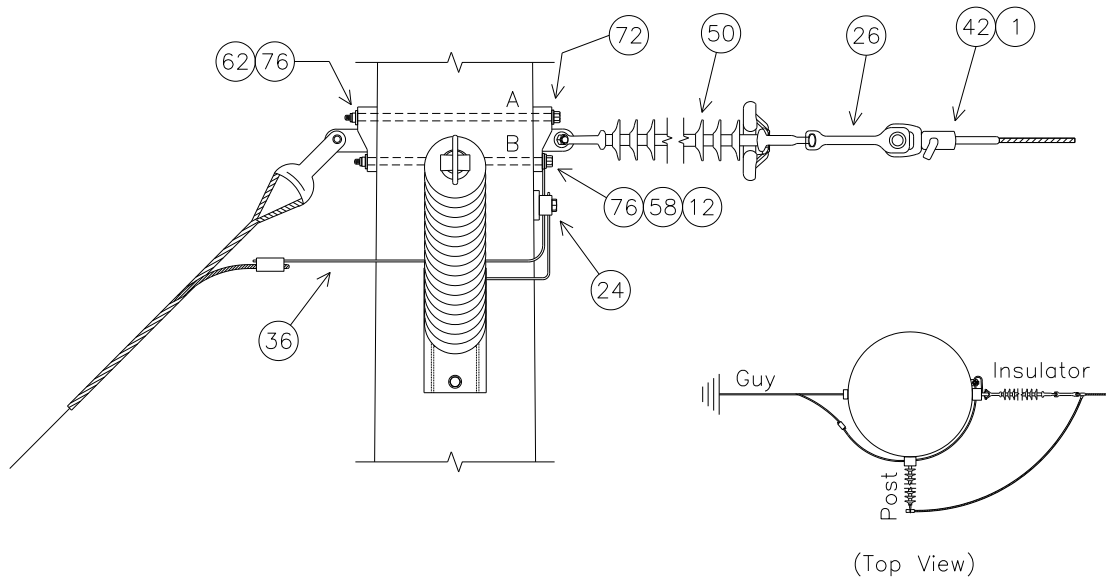
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISSDFP3C3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END, FULL TENSION TO POST, TYPE 3, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5
BOLT 'C' LENGTH (INCHES)	28.5	30.8	33.2
BOLT 'D' LENGTH (INCHES)	29.0	31.3	33.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSDFP3C3 PLATES

### ISSDFP3C3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSDFP3C3\*954S

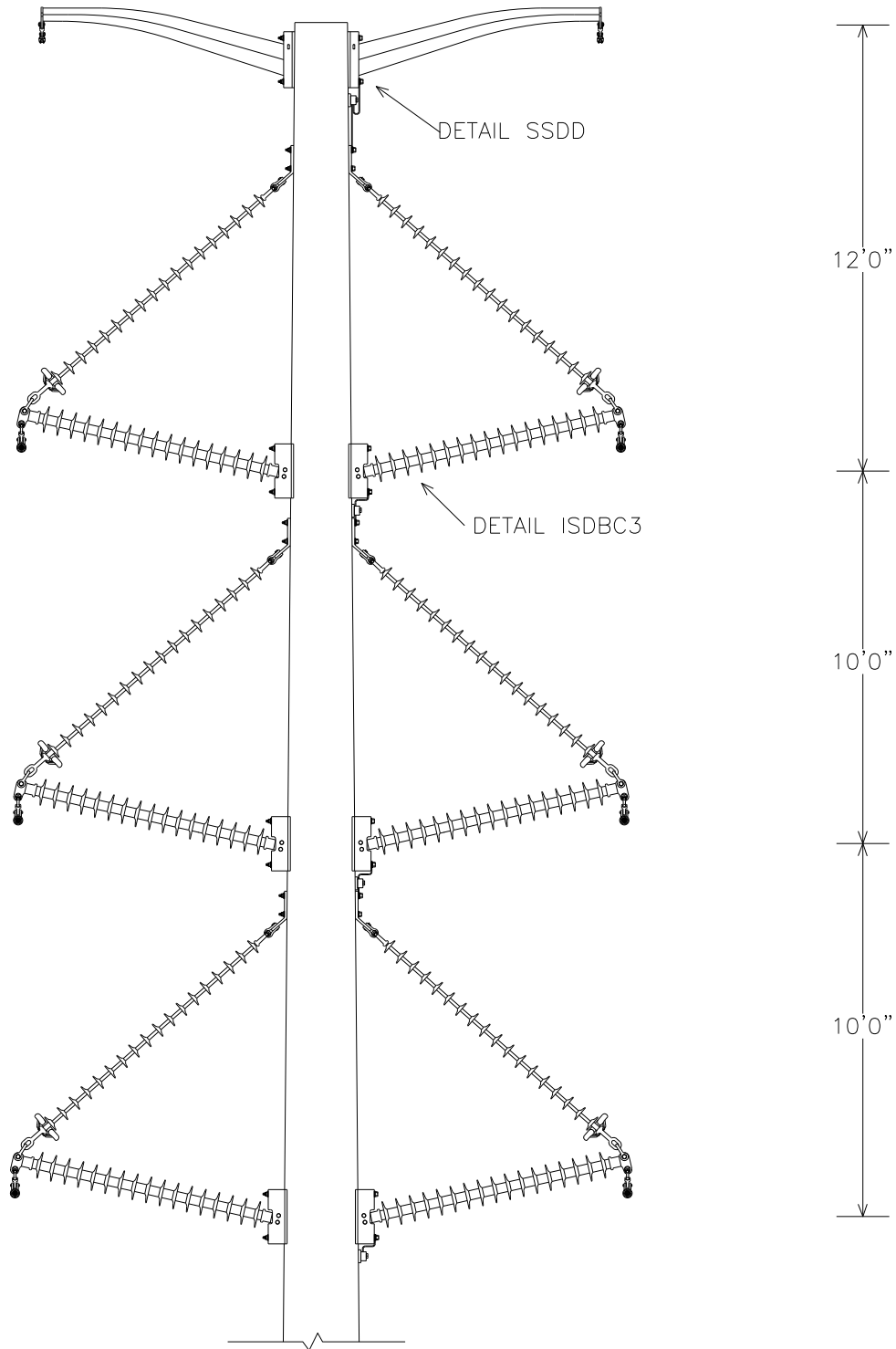
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 006	3	CLAMP, SUSPENSION, ALUMINUM, FOR 954 ASCR
28	CLETE 005	3	Y-EYE CLEVIS
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ASCR, 100"

### ISSDFP3C3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 007	3	CLAMP, SUSPENSION, ALUMINUM, FOR 1590 ASCR
28	CLETE 006	3	Y-EYE CLEVIS
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ASCR, 100"

**C2261****230KV, DOUBLE BRACED LINE POST, 3-PHASE**

CONDUCTOR OPTIONS: 954A, 954S, 1590



# C2261 PLATES

## C2261 BASE

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	2	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
10	BKTLP 002	6	BRACKET, 53-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 043	2	DOUBLE ARMING BOLT, 7/8" X 40", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	4	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	2	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	8 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 014	6	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	7	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	20	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	40	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## C2261\*954A

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C2261\*954S

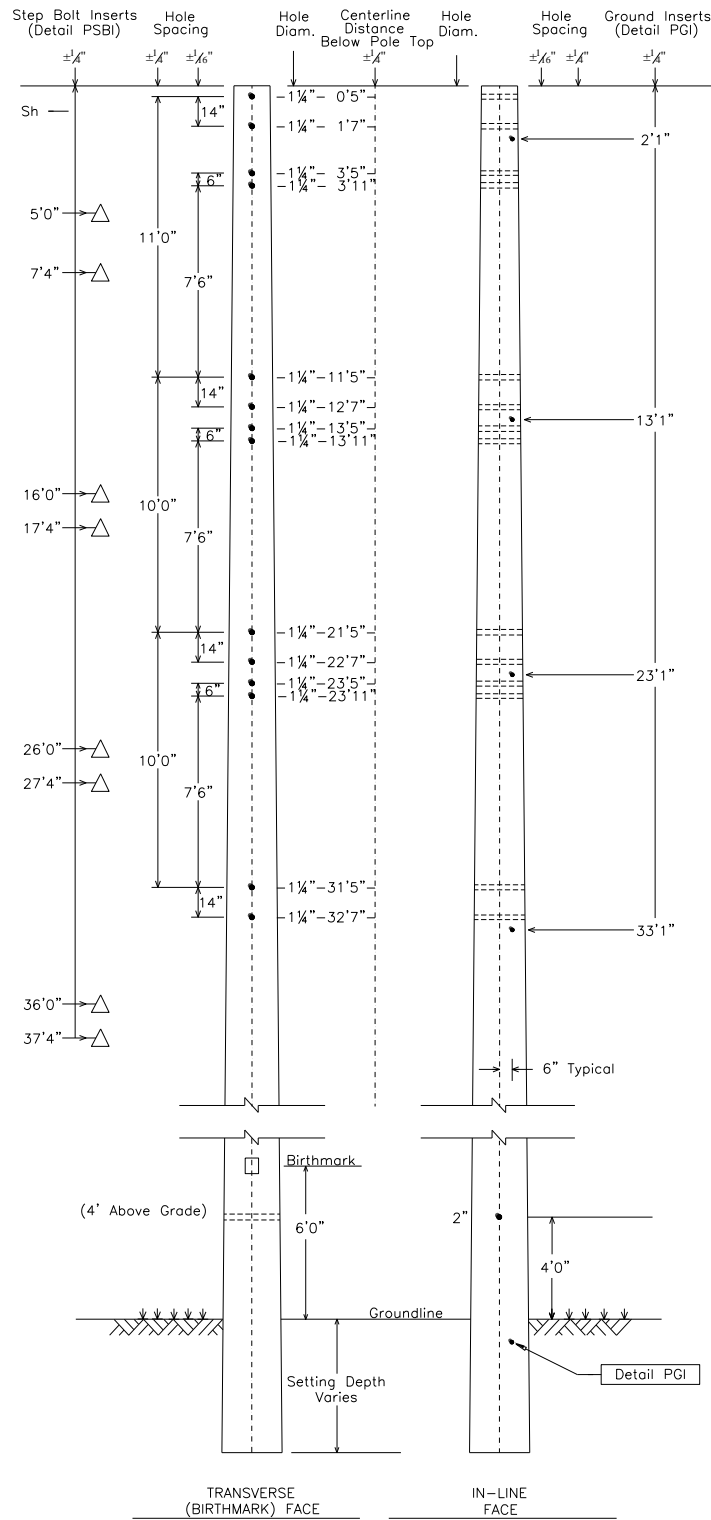
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C2261\*1590

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN

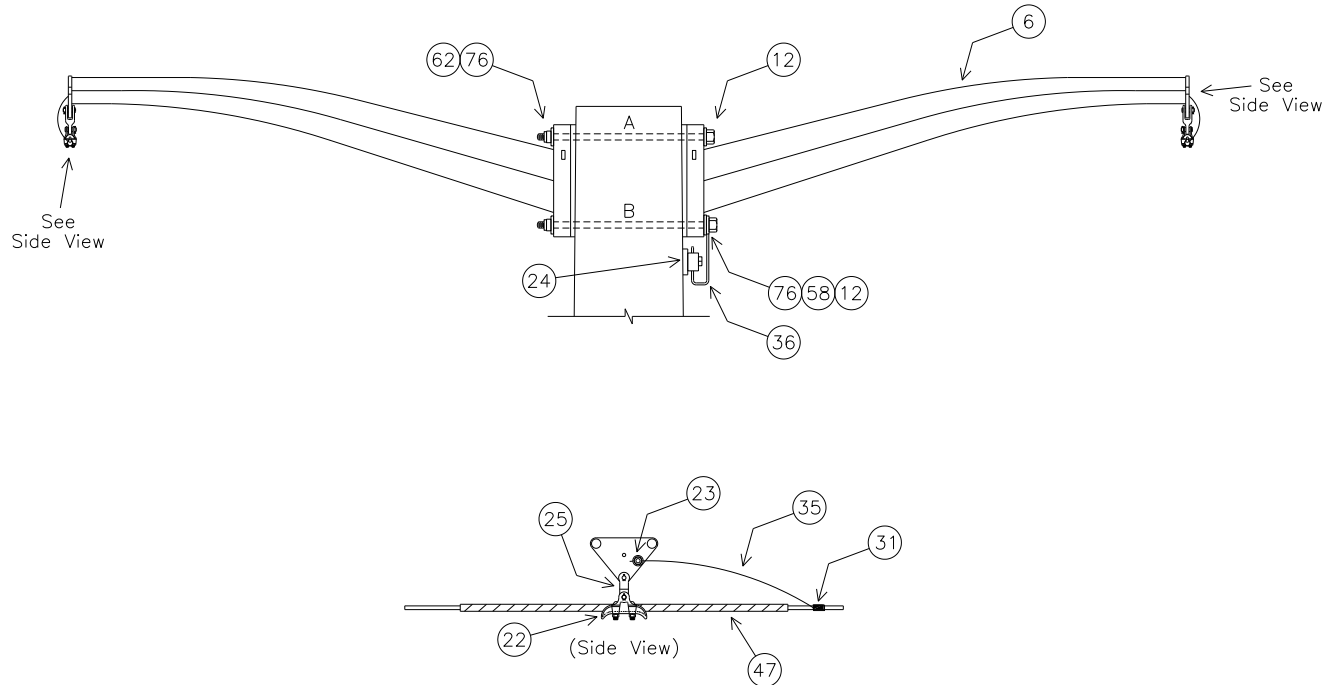


## C2261 DRILLING DETAIL



## SSDD

### SHIELD FOR SPUN CONCRETE POLES DOUBLE DAVIT ARM



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

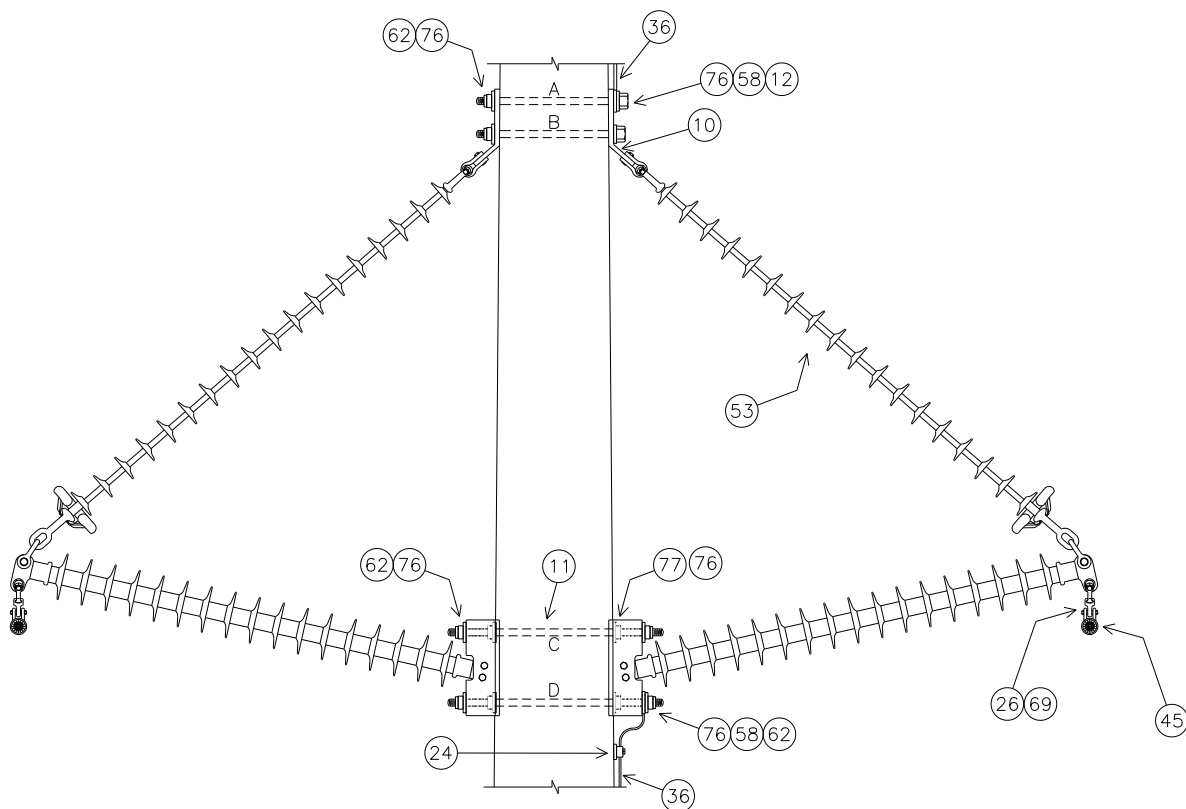
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	20.2
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	2	6.5 FT SHIELD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8" HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	2	90 DEGREE EYE CLEVIS, 30,000#, 1/2" EYE THICKNESS, 11/16" HOLE DIAM. H.D.G., 5/8" PIN DIA.,
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	8 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDBC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE BRACED LINE POST, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS AND MBA2 FOR DOUBLE ARMING BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTHS (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.1	20.9	34.5	35.0
MIDDLE	23.2	23.1	36.7	37.2
BOTTOM	25.4	25.2	38.8	39.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDBC3 PLATES

## ISDBC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	6	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 043	2	DOUBLE ARMING BOLT, 7/8" X 40", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	6	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	36	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDBC3\*954A

45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISDBC3\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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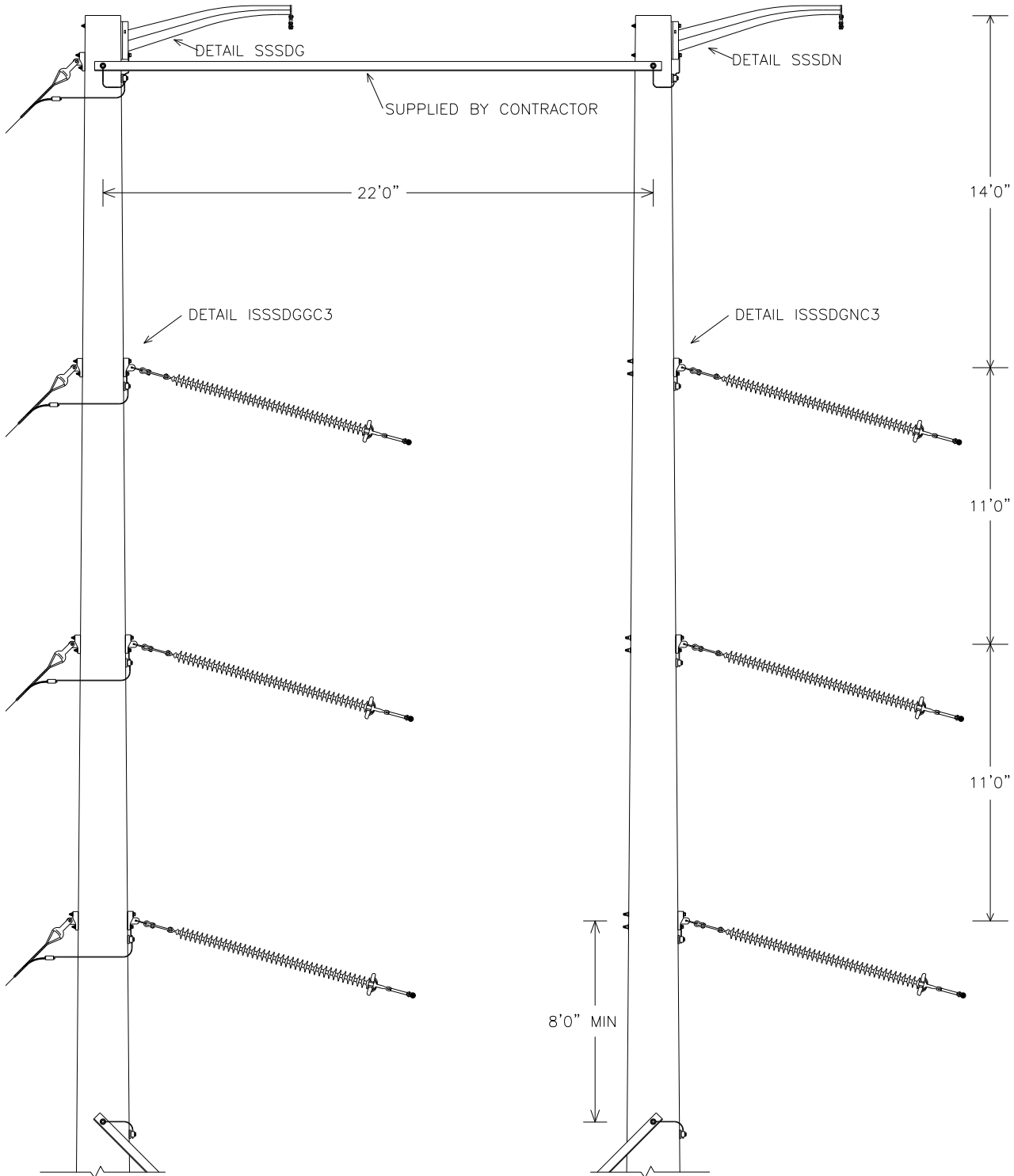
## ISDBC3\*1590

45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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## C2513A

230KV, DOUBLE SUSPENSION TANGENT, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



REVISED: OCTOBER 2013

REVIEW/REVISED BY: MLR

APPROVED BY: KKR

### 230KV STRUCTURES-NEW CONSTRUCTION

STS230-70

## C2513A PLATES

### C2513A BASE

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	2	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	5	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	10	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	2	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
26	CLEHL 007	12	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	8 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
56	INSSU 009	12	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 89 INCHES, CLASS 52-3/5
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	5	LOCKNUT FOR 7/8 INCH BOLT
67	SHAAN 003	12	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	10	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	10	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
80	YOKPL 003	6	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GALVANIZED, 15/16 HOLE DIA.

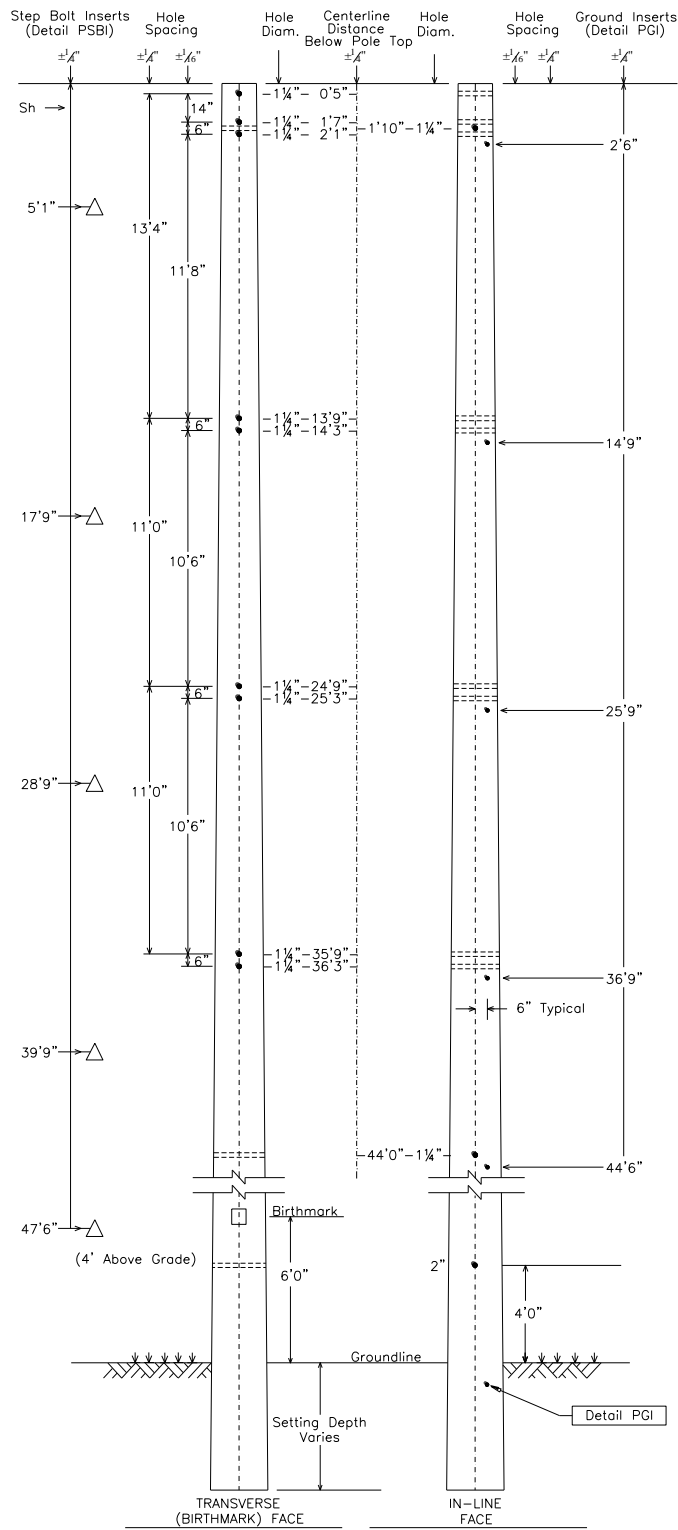
### C2513A\*954A&S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	3	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45 (954A)	GRISA 006	6	DOUBLE AGS UNIT FOR 954A CONDUCTOR
45 (954S)	GRISA 007	6	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

### C2513A\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	3	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	3	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	6	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 003	6	SQUARE CURVED WASHER FOR 1" BOLTS, GALVANIZED, 4" X 4" SIZE

## C2513A DRILLING DETAIL

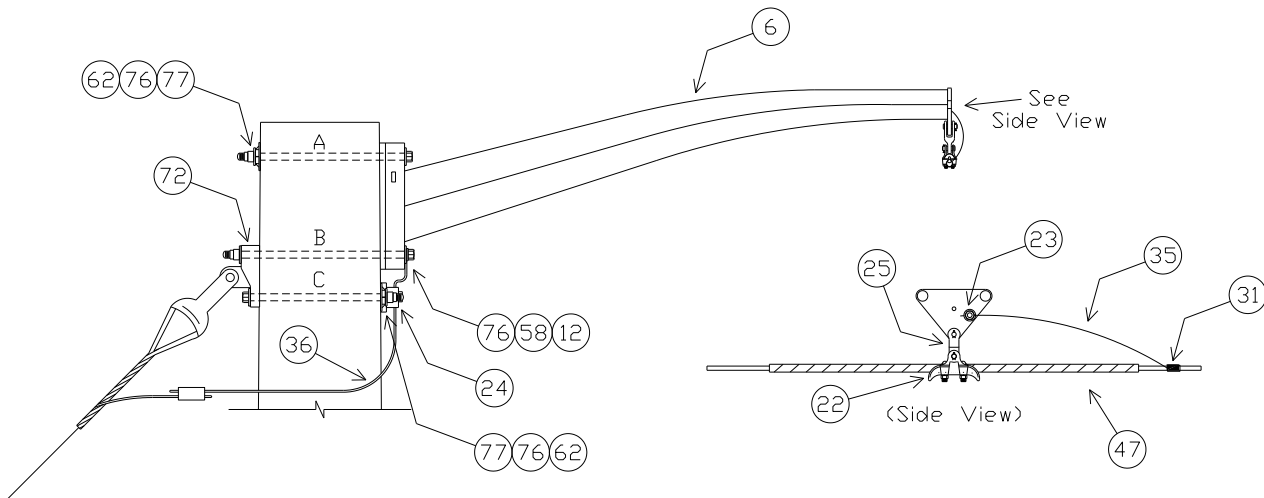


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# SSSDG

## SHIELD FOR SPUN CONCRETE POLES SINGLE DAVIT ARM, GUYED



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

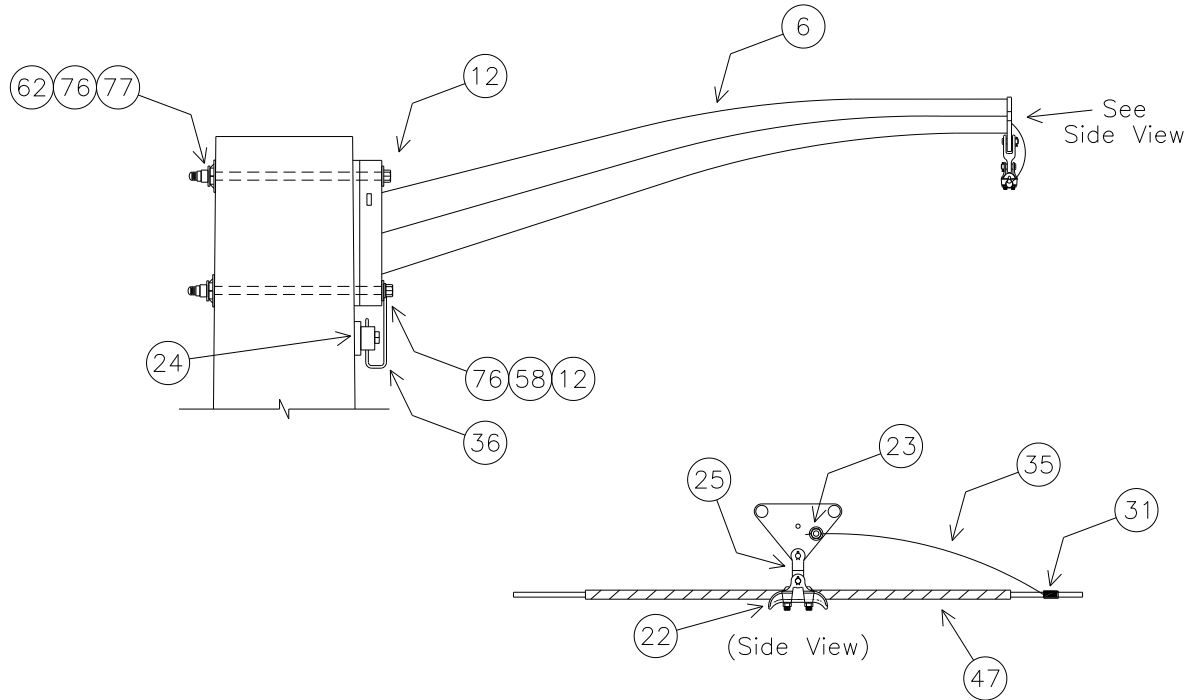
BOLT LENGTH 'A' (INCHES)	20.1
BOLT LENGTH 'B' (INCHES)	21.9
BOLT LENGTH 'C' (INCHES)	20.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	3	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLEEY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	3	LOCKNUT FOR 7/8" BOLT
72	TEEDE 003	1	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16" BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# SSSDN

SHIELD FOR SPUN CONCRETE POLES  
SINGLE DAVIT ARM, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	20.1
LOWER BOLT LENGTH (INCHES)	20.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

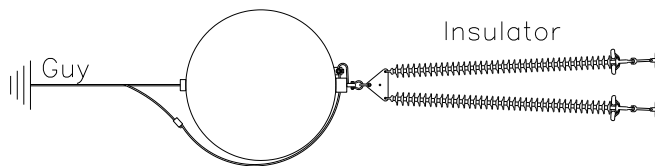
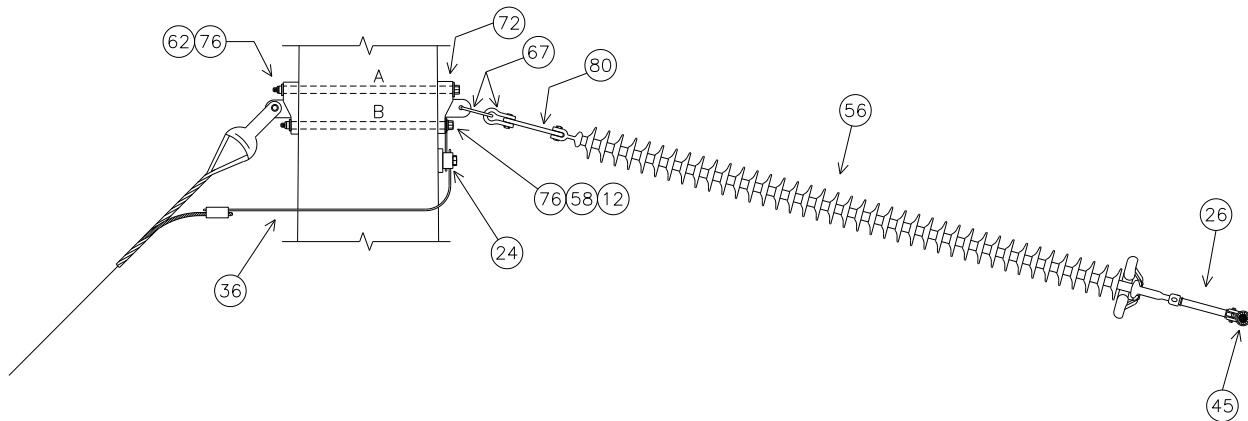
NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSSDGGC3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE SUSPENSION, DOUBLE GRIP, GUYED, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	25.7	28.0	30.4
LOWER BOLT 'B' LENGTH (INCHES)	24.0	26.4	28.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSSDGGC3 PLATES

## ISSSDGGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 009	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 89", CLASS 52-3/5
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GALVANIZED, 15/16" HOLE DIA.

## ISSSDGGC3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGGC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGGC3\*1590

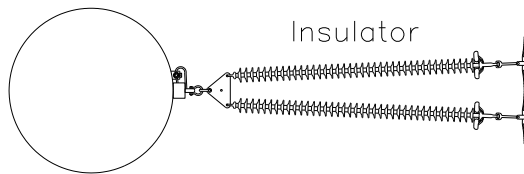
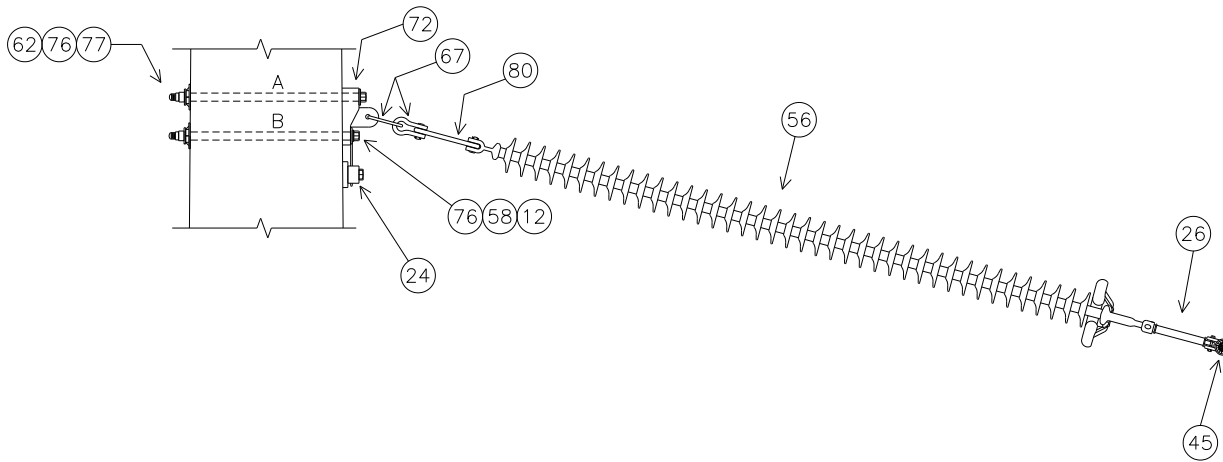
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGNC3

INSULATOR FOR CONCRETE POLES

SINGLE SUSPENSION, DOUBLE GRIP, NO GUY, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.6	27.0	29.3
LOWER BOLT 'B' LENGTH (INCHES)	23.9	26.3	28.7

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER

# ISSSDGNC3 PLATES

## ISSSDGNC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 009	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 89 INCHES, CLASS 52-3/5
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GALVANIZED, 15/16 HOLE DIA.

## ISSSDGNC3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISSSDGNC3\*954S

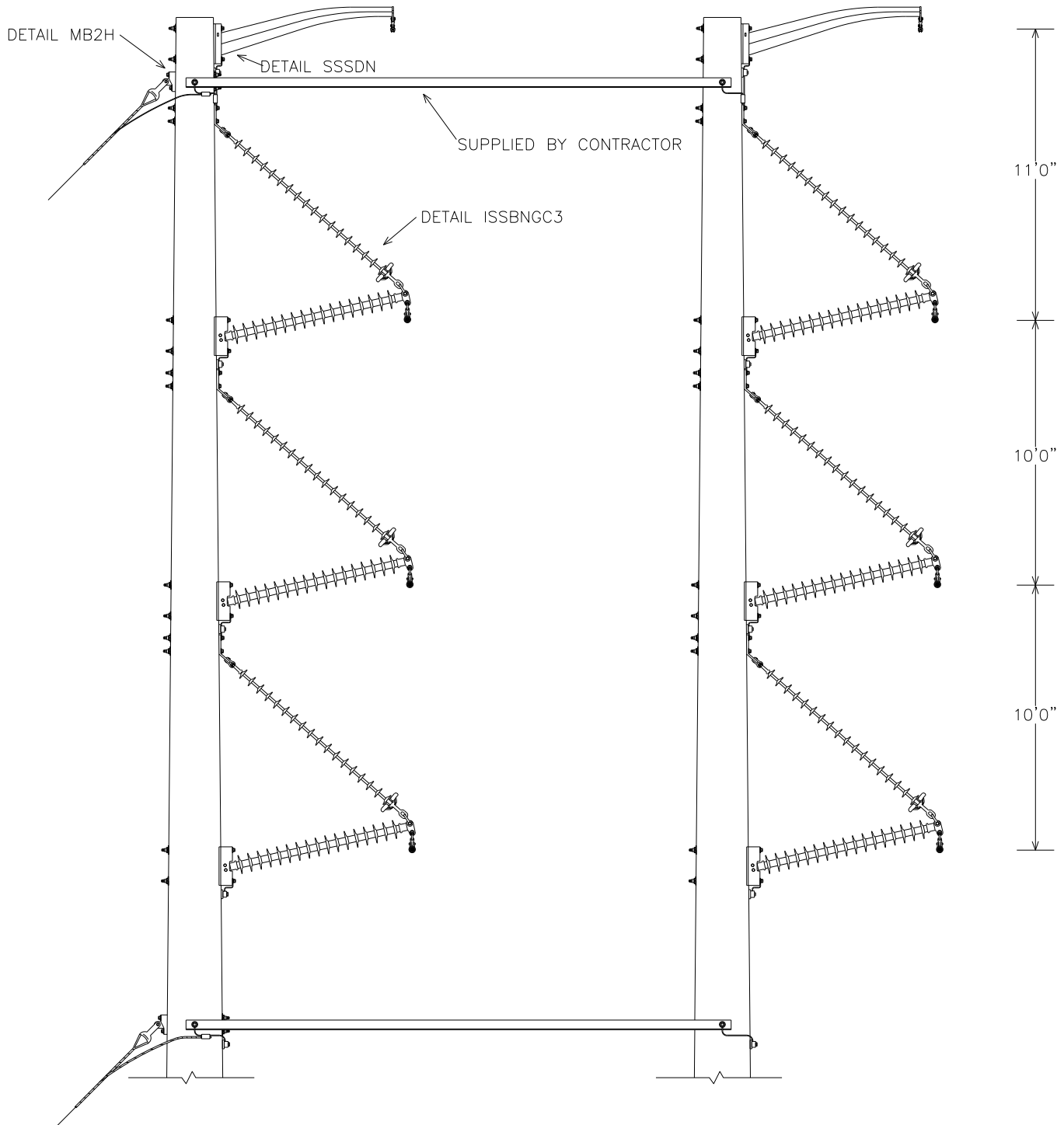
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISSSDGNC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 003	6	SQUARE CURVED WASHER FOR 1" BOLTS, GALVANIZED, 4" X 4" SIZE

# C2562A

230KV, DOUBLE BRACED LINE POST, H STRUCTURE, LIGHT GUY, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



REVISED: OCTOBER 2013

REVIEW/REVISED BY: MLR

APPROVED BY: KKR

**230KV STRUCTURES-NEW CONSTRUCTION**

STS230-80

# C2562A PLATES

## C2562A BASE

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	2	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
10	BKTLP 002	6	BRACKET, 53-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	12	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	4	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	4	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	10	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	2	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., (.204"-.258") - (.128"-.204")
35	COBAS 005	8 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	33 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 014	6	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	20	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	36	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	2	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	72	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	32	SQUARE FLAT WASHER FOR 7/8" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## C2562A\*954S

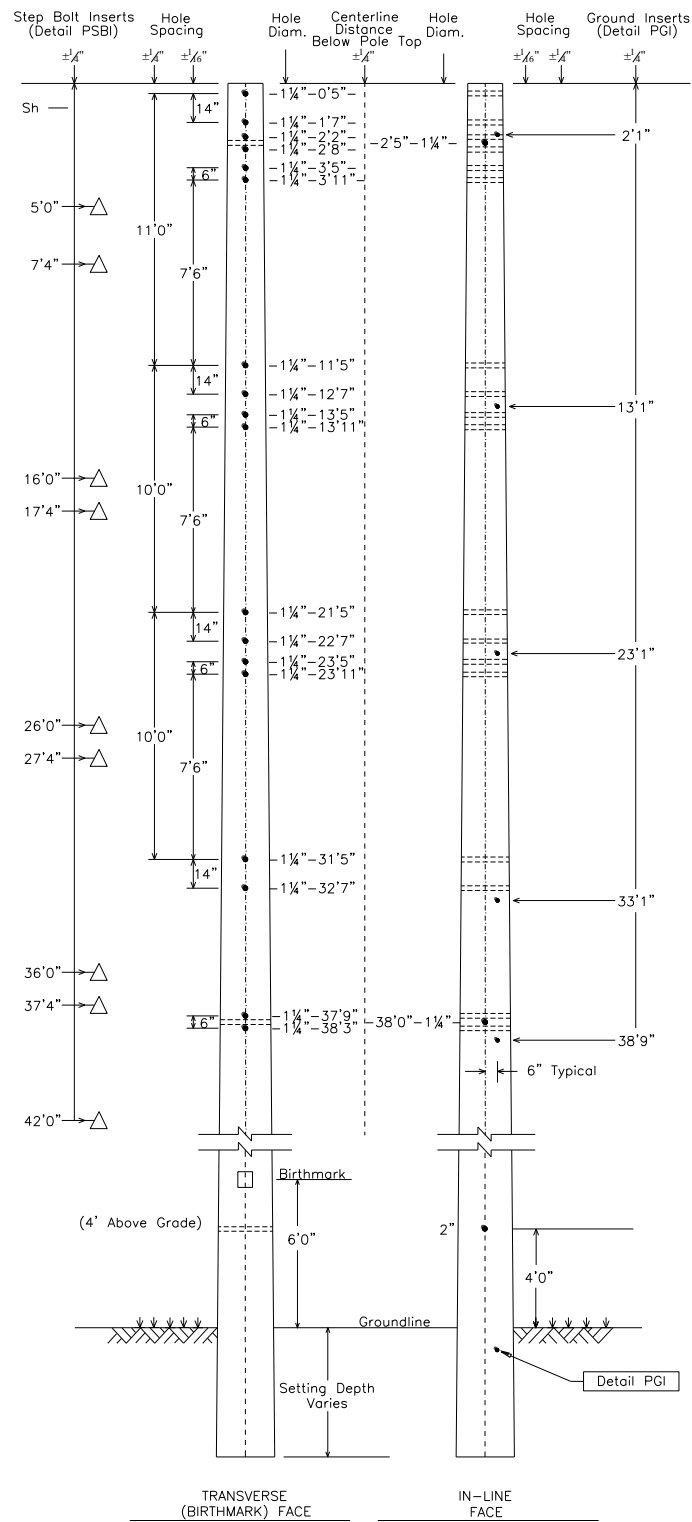
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C2562A\*1590

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN



## C2562A DRILLING DETAIL



REVISÉ: OCTOBER 2013

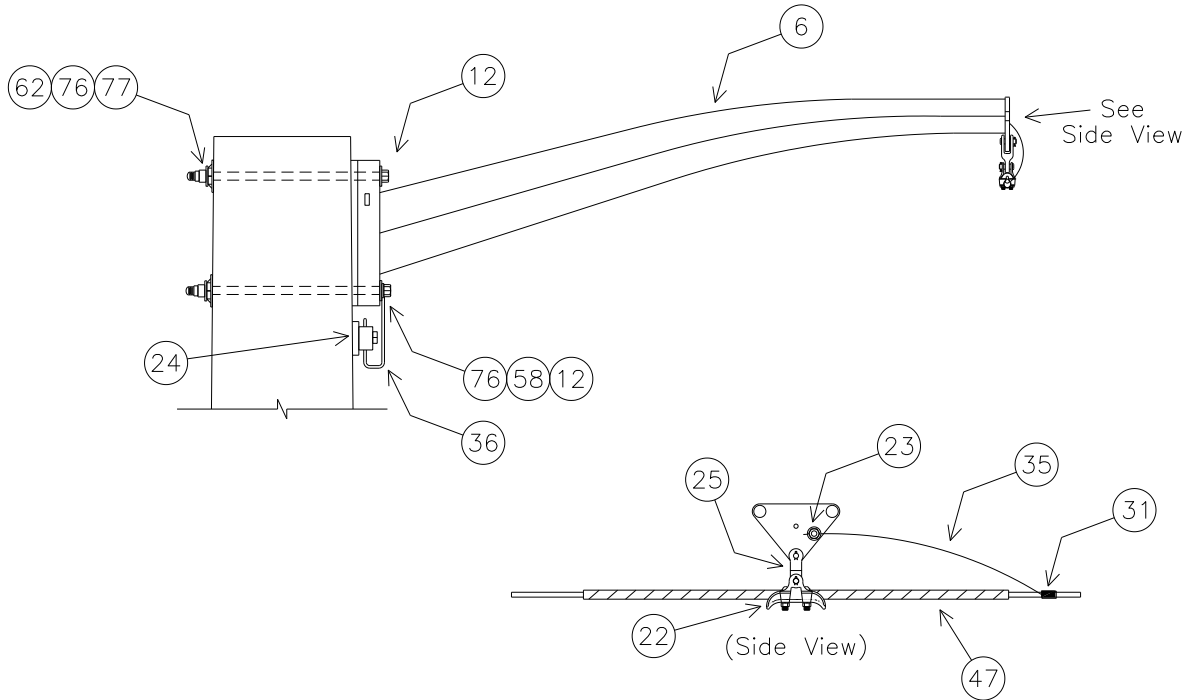
REVIEW/REVISED BY: MLR

APPROVED BY: KKR

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## SSSDN

**SHIELD FOR SPUN CONCRETE POLES  
SINGLE DAVIT ARM, NO GUY  
(2X)**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

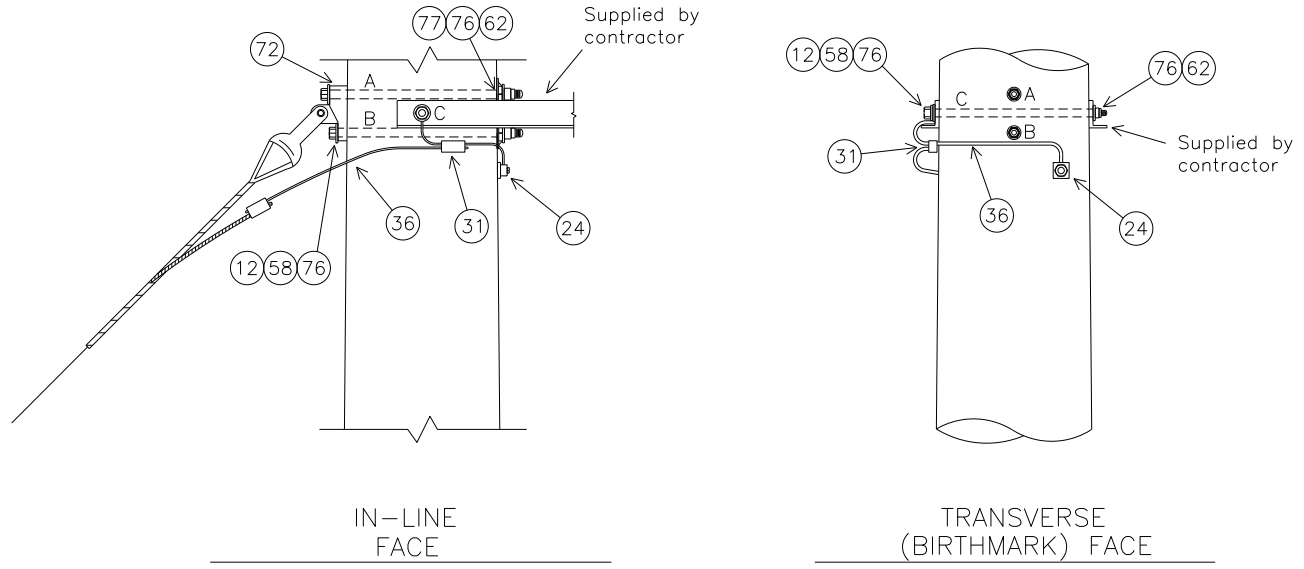
UPPER BOLT LENGTH (INCHES)	20.1
LOWER BOLT LENGTH (INCHES)	20.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## MB2H

BRACING WITH 2 HORIZONTAL SUPPORTS, GUYED, 230KV



STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)		
	'A'	'B'	'C'
TOP	21.7	21.1	20.4
BOTTOM	29.4	28.8	28.0

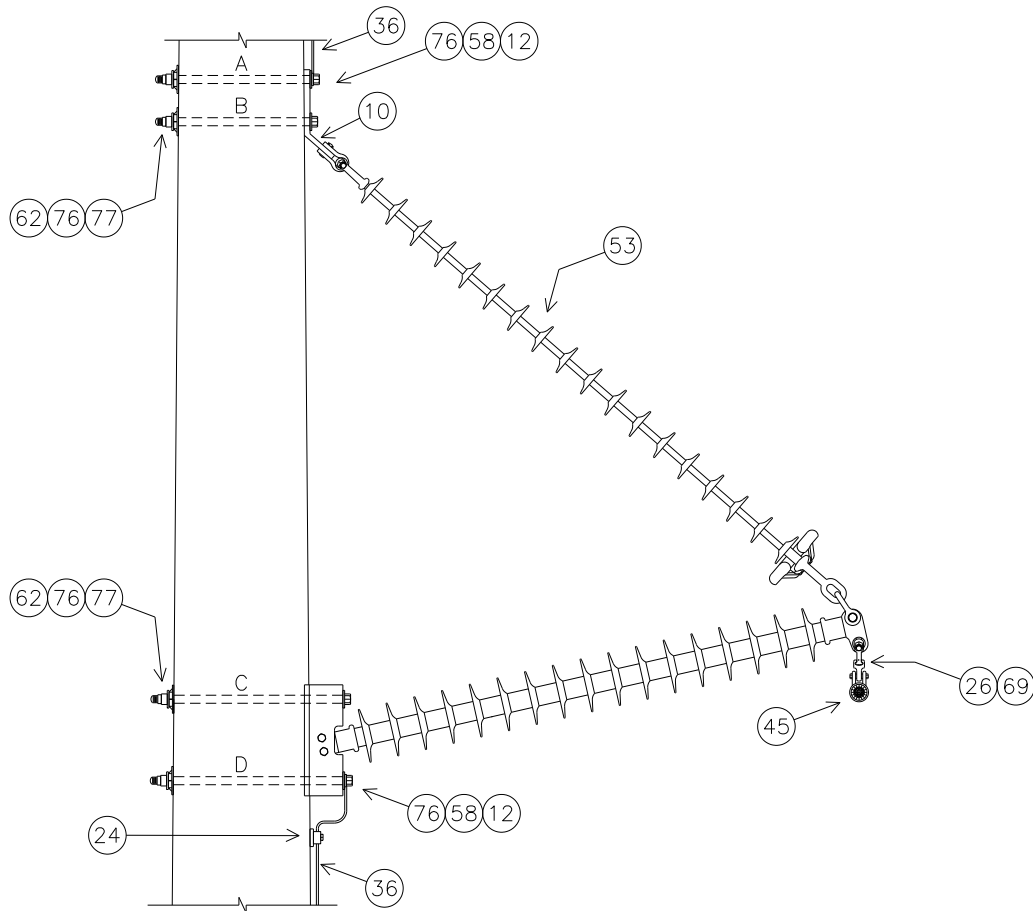
NOTE: BOLT CALCULATIONS ASSUMES A 17 INCH POLE TOP DIAMETER AND MOUNTING HEIGHTS OF 2.5 FT FOR TOP STRUCTURE AND 38 FT FOR BOTTOM STRUCTURE

### MB2H

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	4	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	2	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS FOR TOP BRACE GROUNDING
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., (.204"-.258") - (.128"-.204")
36	COBCO 028	10 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	8	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	16	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBNGC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE BRACED LINE POST, NO GUY, 230KV**  
 CONDUCTOR OPTIONS: 954S, 1590  
 (2X)



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.0	20.9	27.8	28.3
MIDDLE	23.2	23.0	30.0	30.5
BOTTOM	25.3	25.2	32.2	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBNGC3 PLATES

**ISSBNGC3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

**ISSBNGC3\*954S**

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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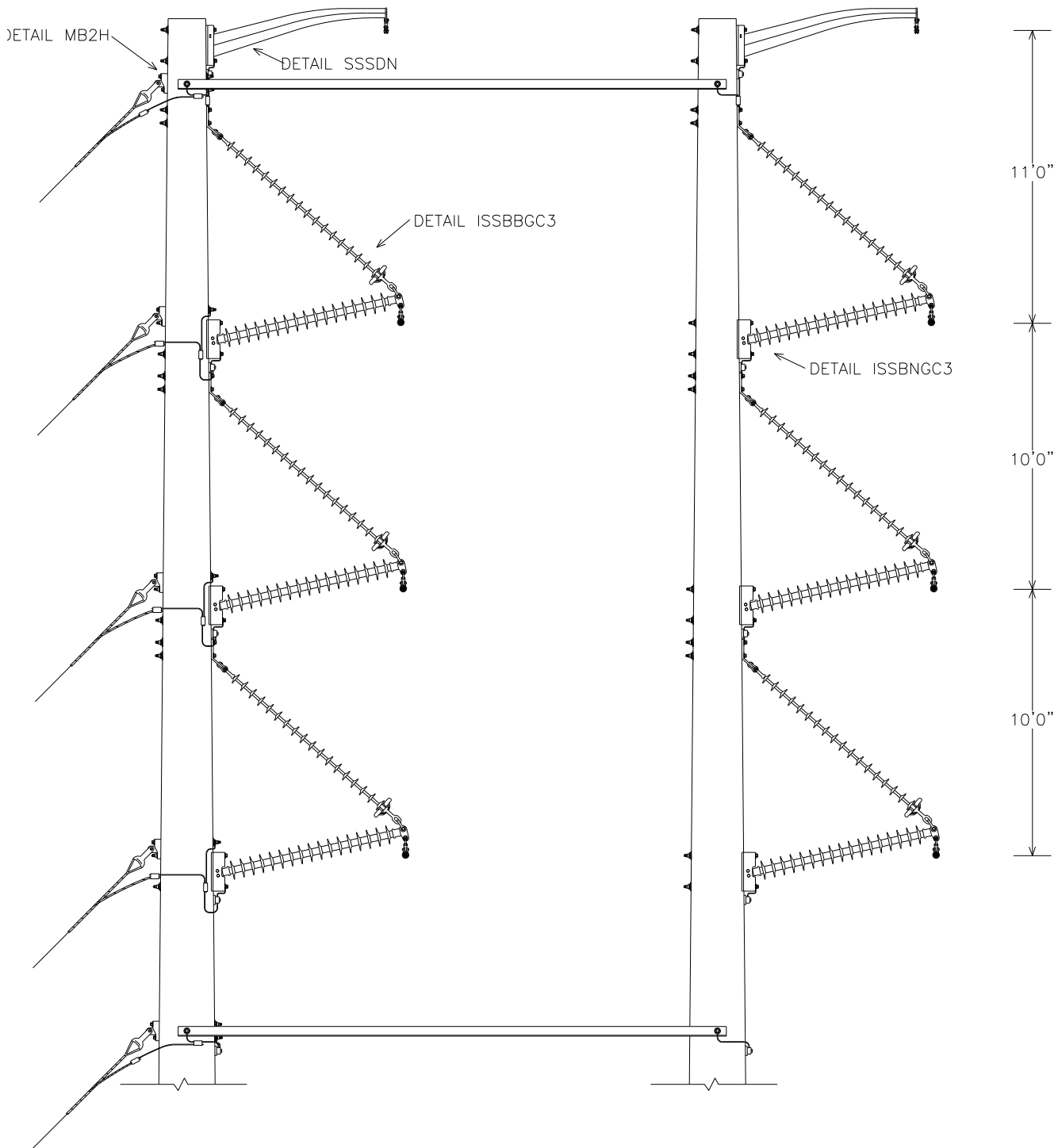
**ISSBNGC3\*1590**

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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## C2562B

230KV, SINGLE BRACED LINE POST, H-FRAME, HEAVY GUY, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



REVISED: OCTOBER 2013

REVIEW/REVISED BY: MLR

APPROVED BY: KKR

### 230KV STRUCTURES-NEW CONSTRUCTION

STS230-88

# C2562B PLATES

## C2562B BASE

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	2	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
10	BKTLP 002	6	BRACKET, 53-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	1	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 038	1	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	12	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	5	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	5	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	3	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	10	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	2	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
35	COBAS 005	8 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	36 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 014	6	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	20	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	42	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	5	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	81	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	35	SQUARE FLAT WASHER FOR 7/8" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## C2562B\*954S

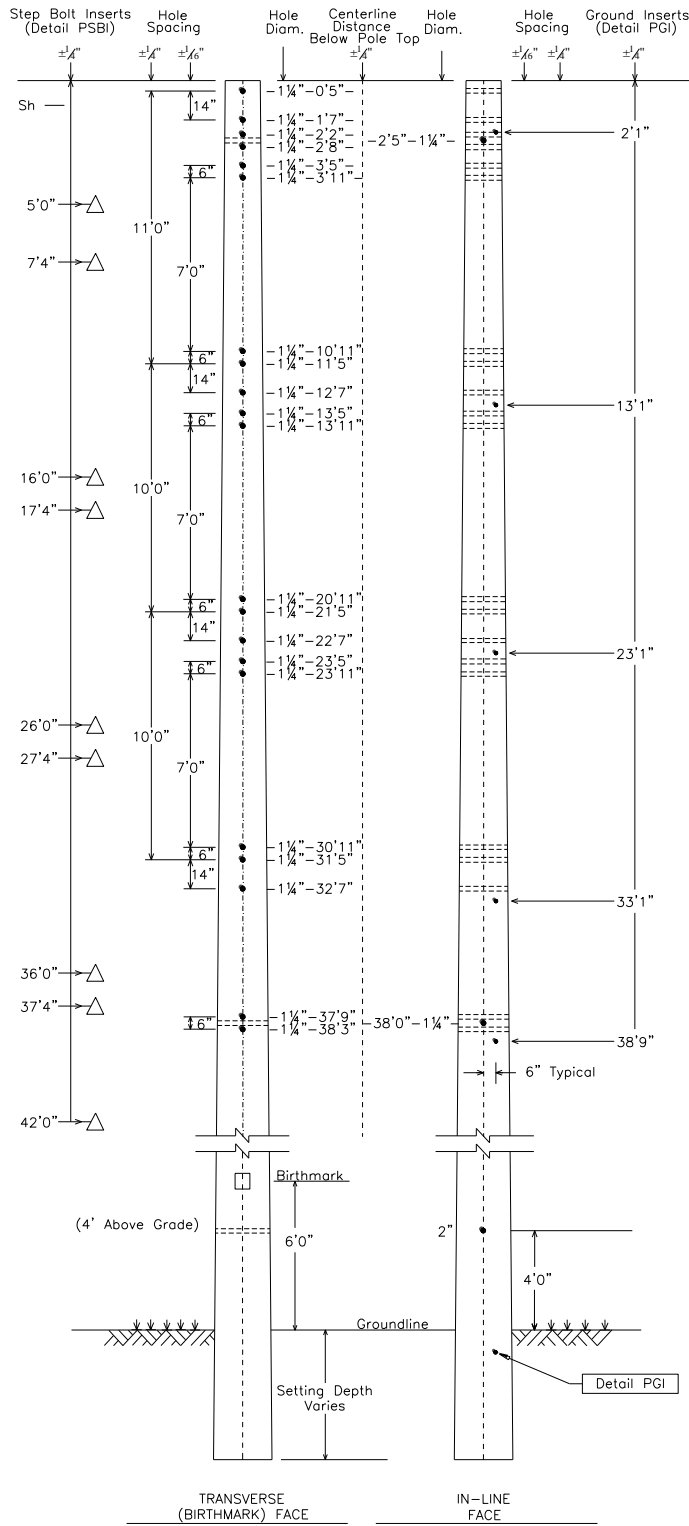
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C2562B\*1590

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN



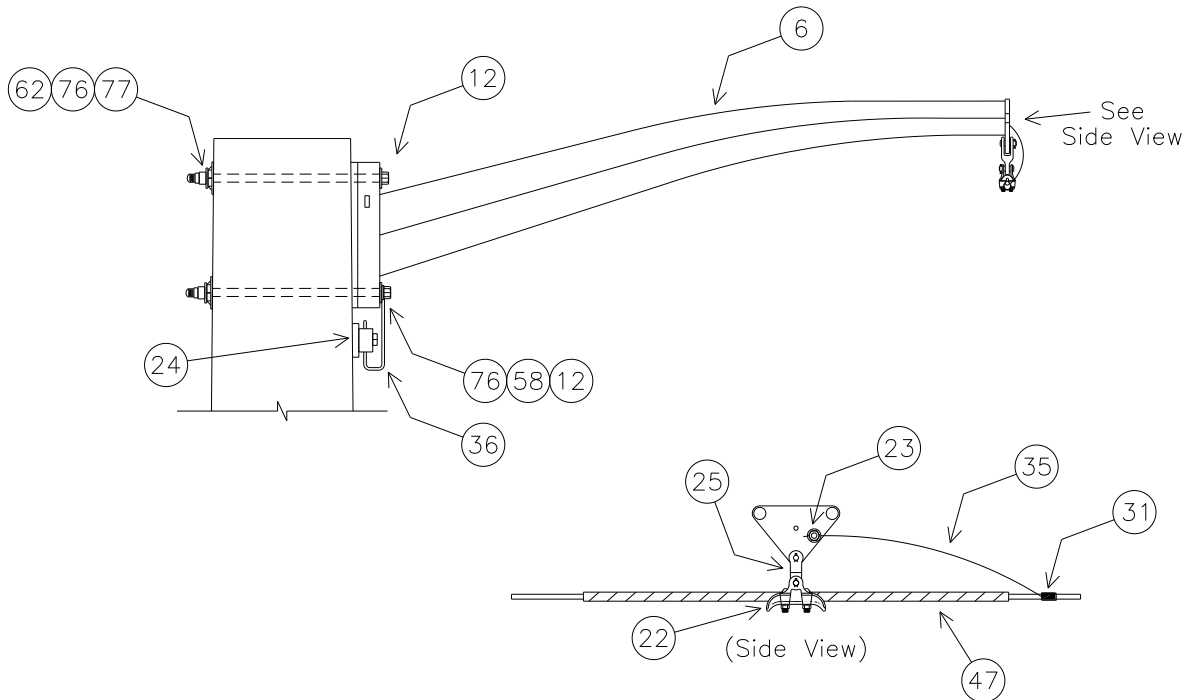
## C2562B DRILLING DETAIL



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## SSSDN

**SHIELD FOR SPUN CONCRETE POLES  
SINGLE DAVIT ARM, NO GUY  
(2X)**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

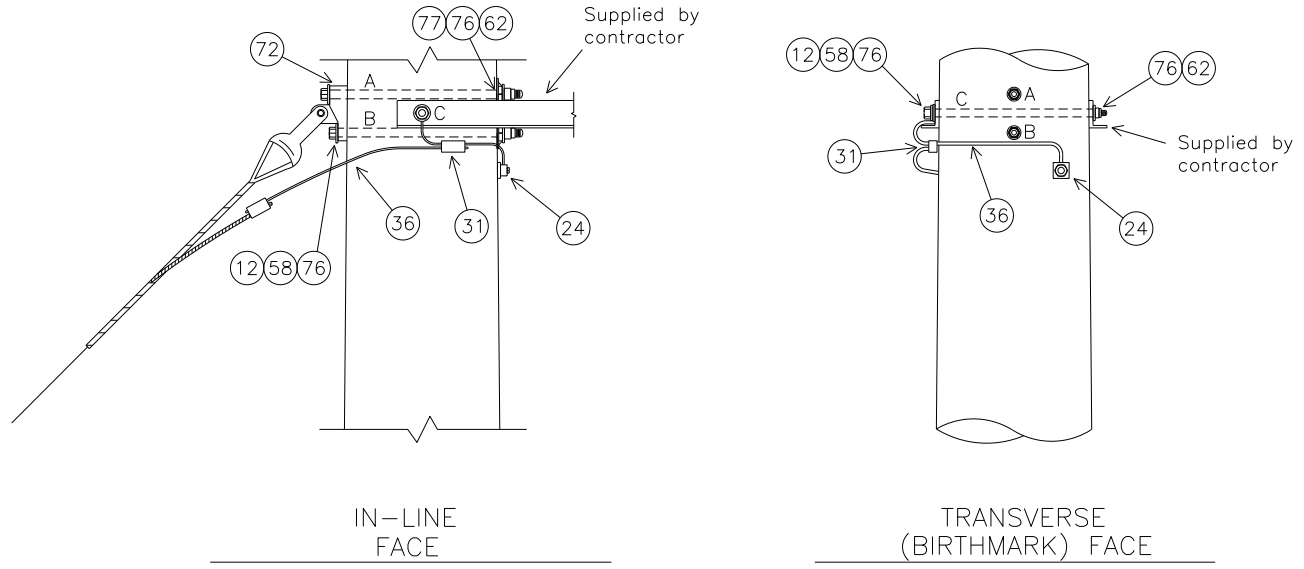
UPPER BOLT LENGTH (INCHES)	20.1
LOWER BOLT LENGTH (INCHES)	20.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## MB2H

BRACING WITH 2 HORIZONTAL SUPPORTS, GUYED, 230KV



STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)		
	'A'	'B'	'C'
TOP	21.7	21.1	20.4
BOTTOM	29.4	28.8	28.0

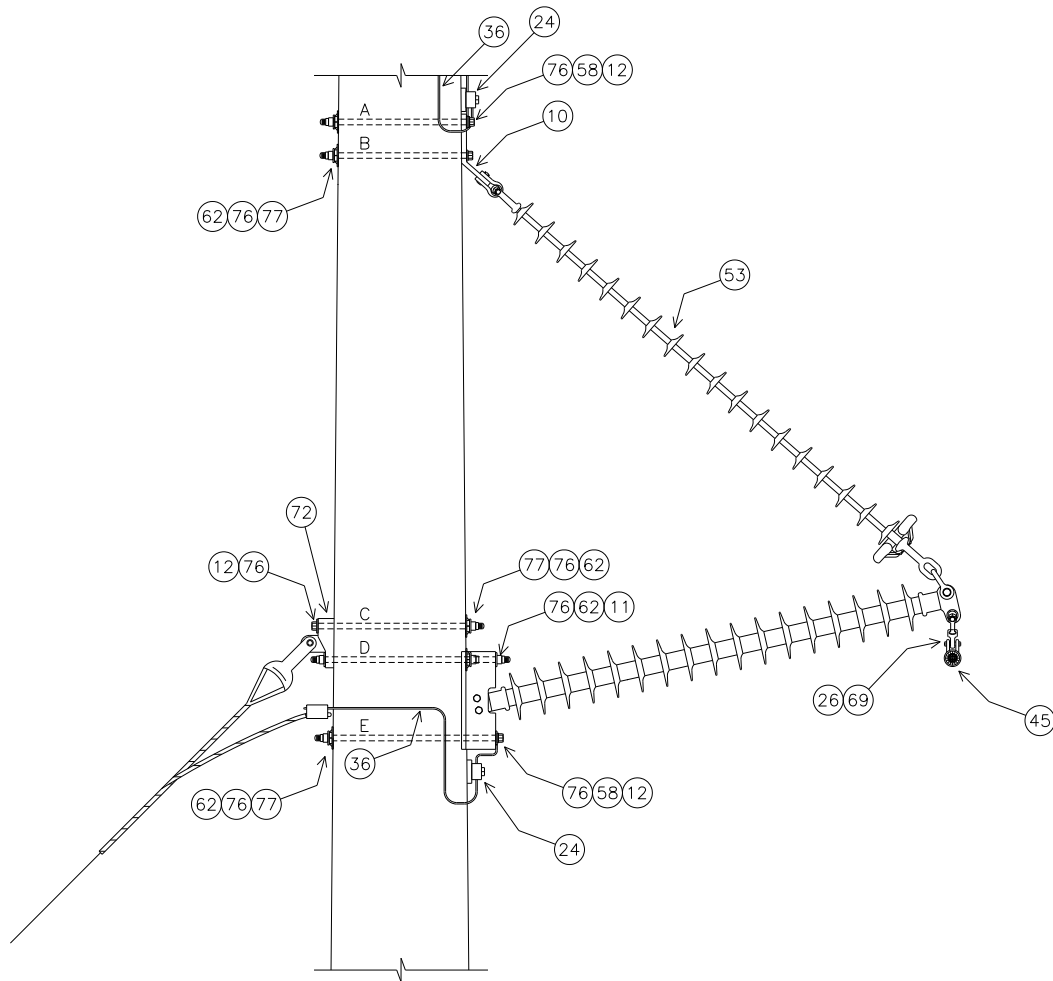
NOTE: BOLT CALCULATIONS ASSUMES A 17 INCH POLE TOP DIAMETER AND MOUNTING HEIGHTS OF 2.5 FT FOR TOP STRUCTURE AND 38 FT FOR BOTTOM STRUCTURE

### MB2H

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	4	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	2	GROUND CLAMP, USE CLAMP PROVIDED WITH INSULATORS FOR TOP BRACE GROUNDING
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., (.204"-.258") - (.128"-.204")
36	COBCO 028	10 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	8	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	2	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	16	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBBGC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE BRACED LINE POST BOTTOM GUY, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)				
	'A'	'B'	'C'	'D'	'E'
TOP	21.0	20.9	23.6	28.2	28.3
MIDDLE	23.2	23.0	25.8	30.3	30.5
BOTTOM	25.3	25.2	28.0	32.5	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBBGC3 PLATES

## ISSBBGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	1	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 038	1	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	3	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	1	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	33	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	15	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBBGC3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBBGC3\*954S

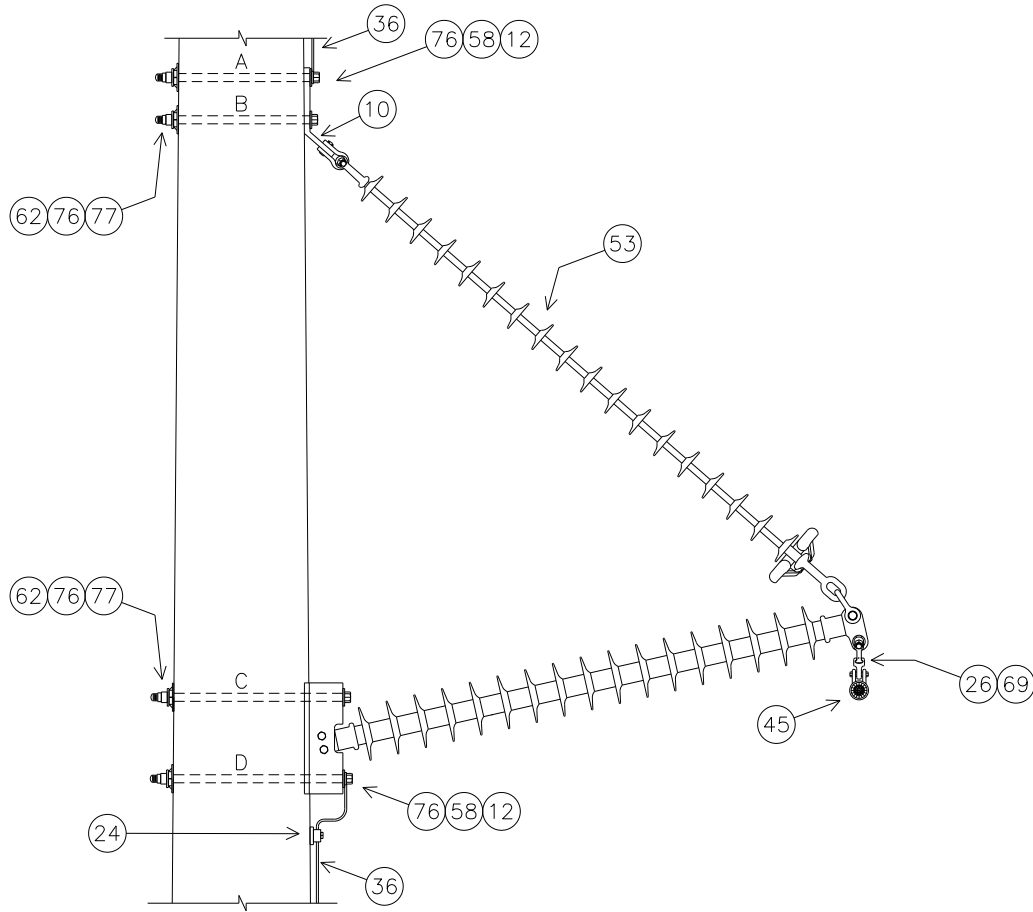
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBBGC3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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## ISSBNGC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE BRACED LINE POST, NO GUY, 230KV**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.0	20.9	27.8	28.3
MIDDLE	23.2	23.0	30.0	30.5
BOTTOM	25.3	25.2	32.2	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSBNGC3 PLATES

### ISSBNGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

### ISSBNGC3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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### ISSBNGC3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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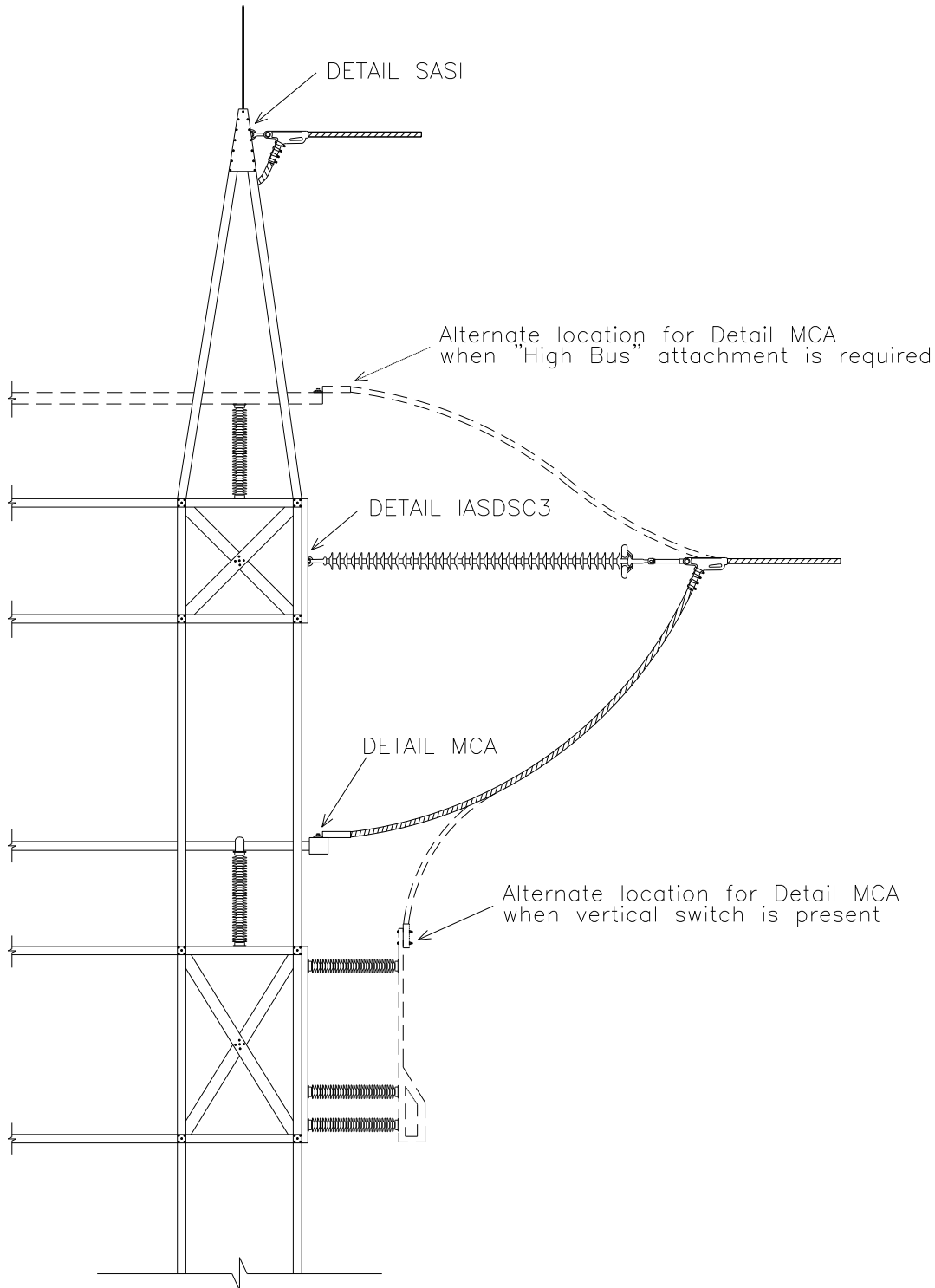
### ISSBNGC3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# C3A45Q

230KV, SINGLE DEADEND, SLACK TENSION, SUBSTATION LATTICE STRUCTURE, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# C3A45Q PLATES

## C3A45Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## C3A45Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

## C3A45Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

## C3A45Q\*954S

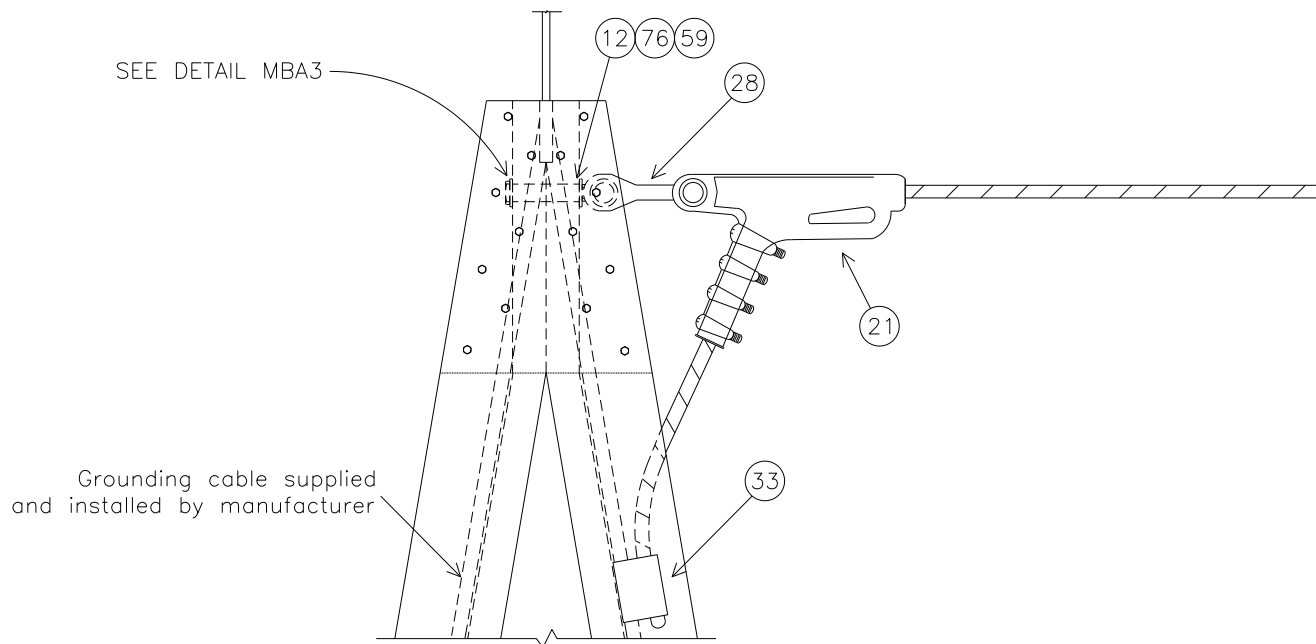
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

## C3A45Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE

## SASI

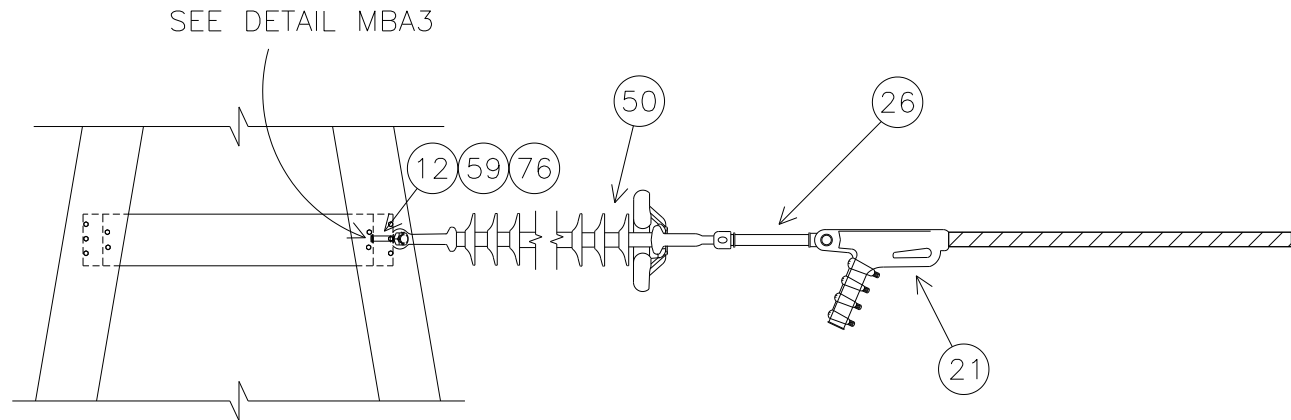
### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# IASDSC3

**INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES**  
**SINGLE DEAD-END, SLACK TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



## IASDSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
59	NUTEY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSC3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

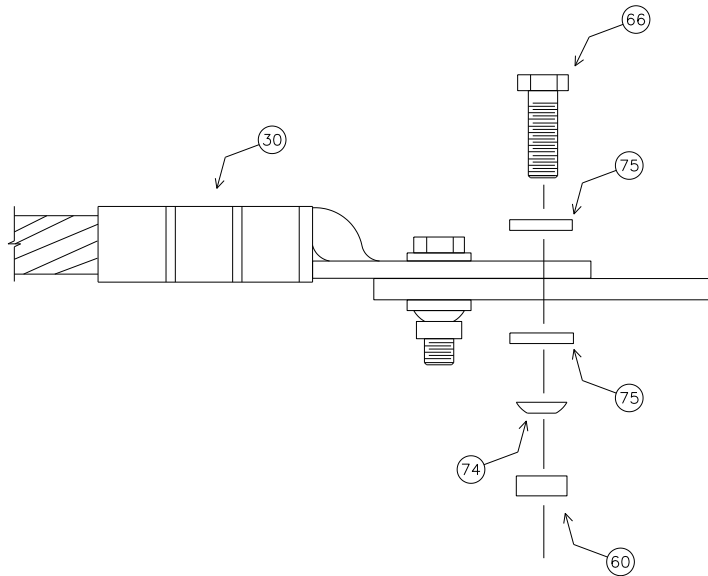
## IASDSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# MCA

## CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### MCA\*954S

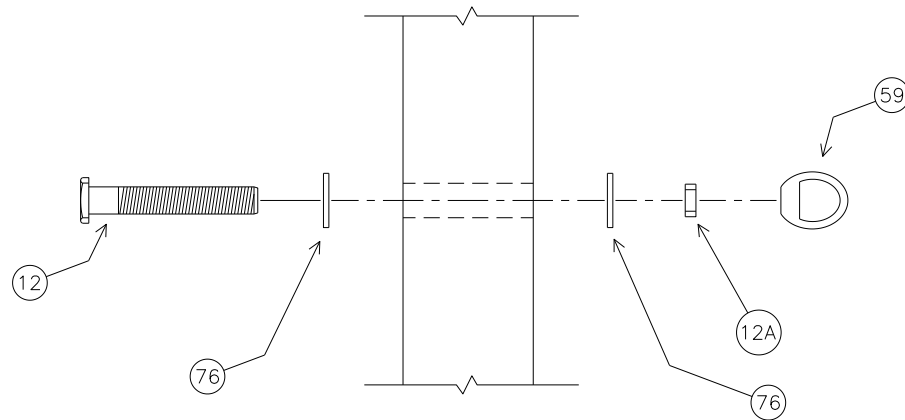
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

# MBA3

## TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES

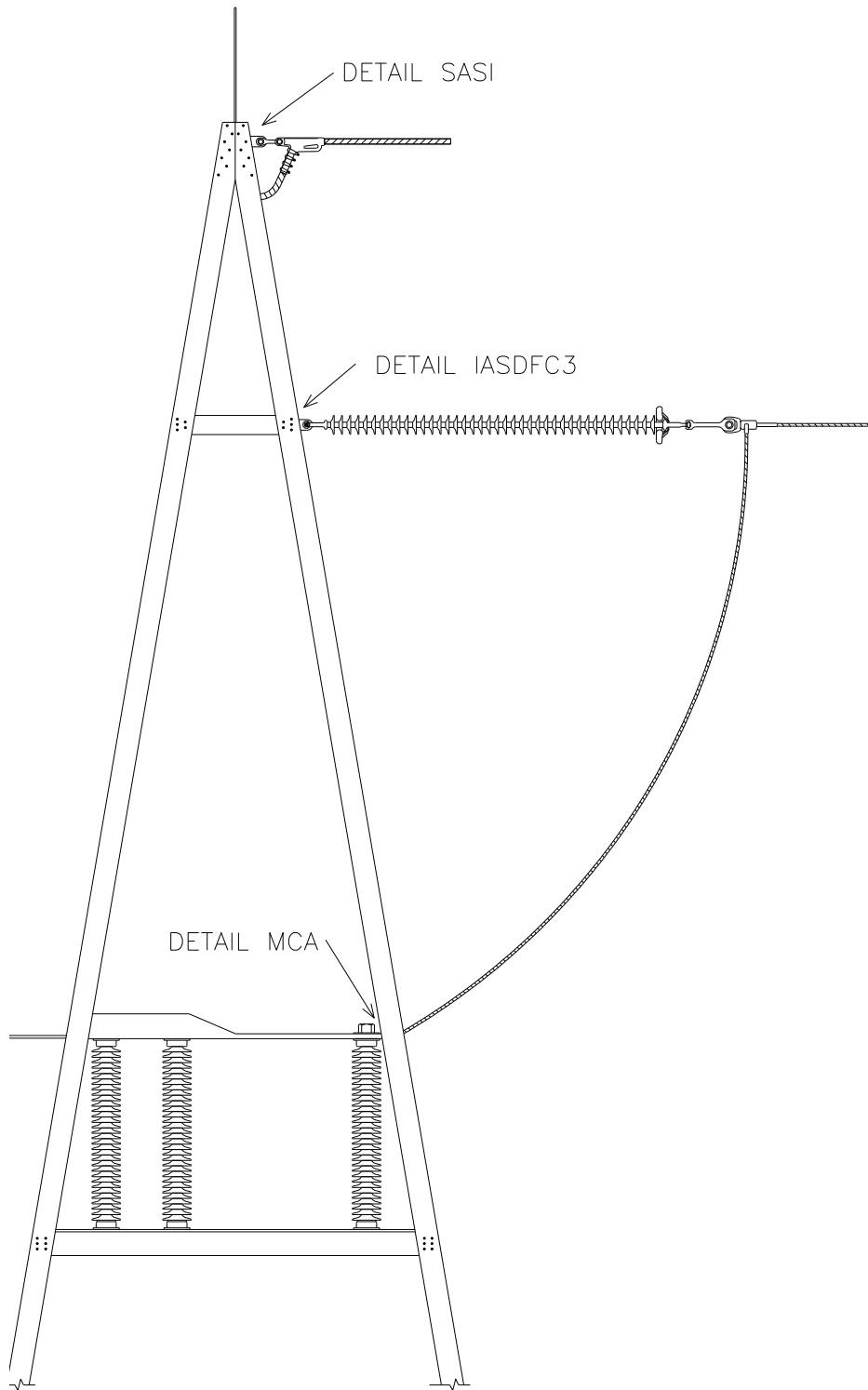


### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# C3B45C

230KV, SINGLE DEADEND, FULL TENSION, SUBSTATION A-FRAME STRUCTURES, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# C3B45C PLATES

**C3B45C BASE**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", HOT DIPPED GALV..
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 1/2" X 2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2"BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

**C3B45C\*954S**

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

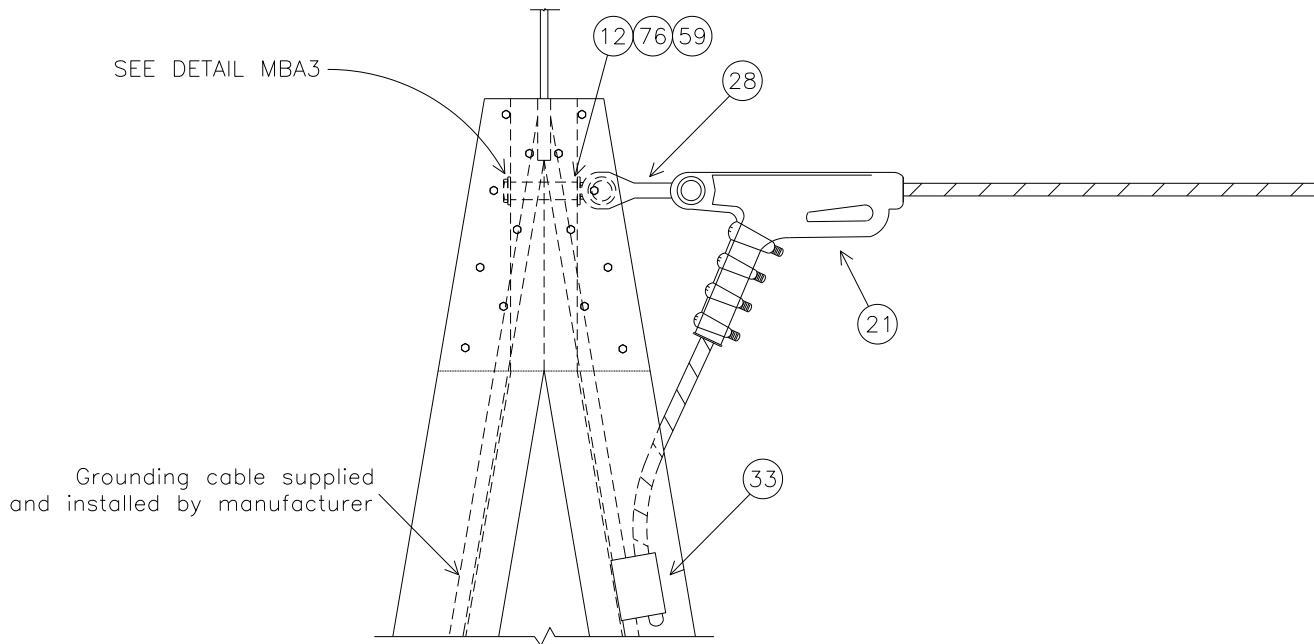
**C3B45C\*1590**

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE



## SASI

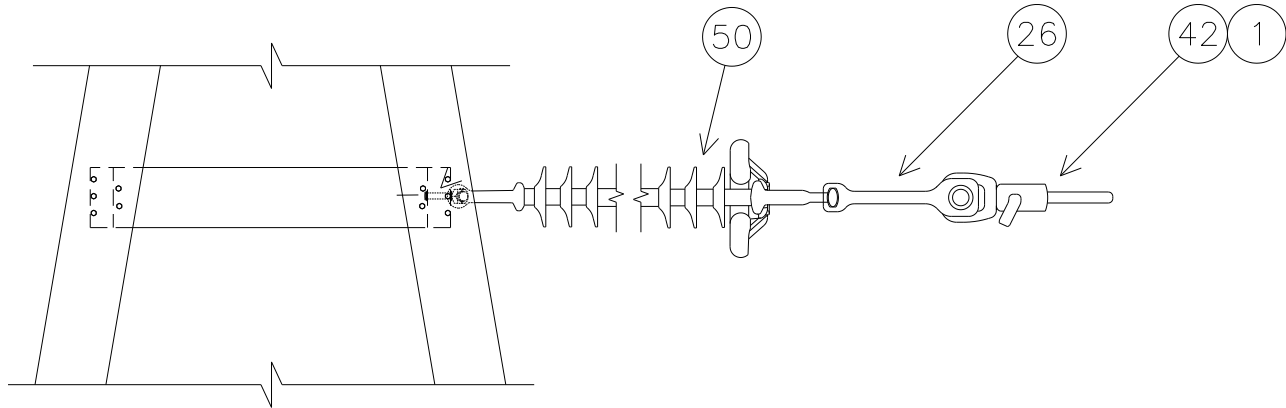
### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# IASDFC3

**INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES**  
**SINGLE DEAD-END, FULL TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



## IASDFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", H.D.G..
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11

## IASDFC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

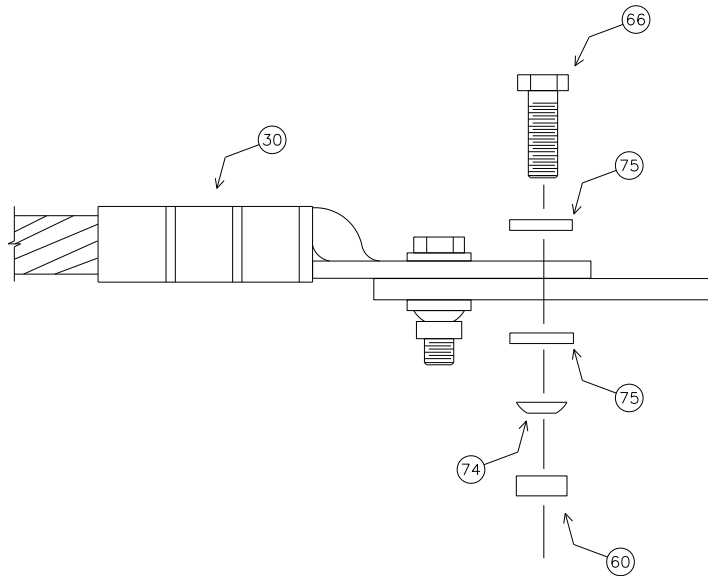
## IASDFC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE

# MCA

## CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### MCA\*954S

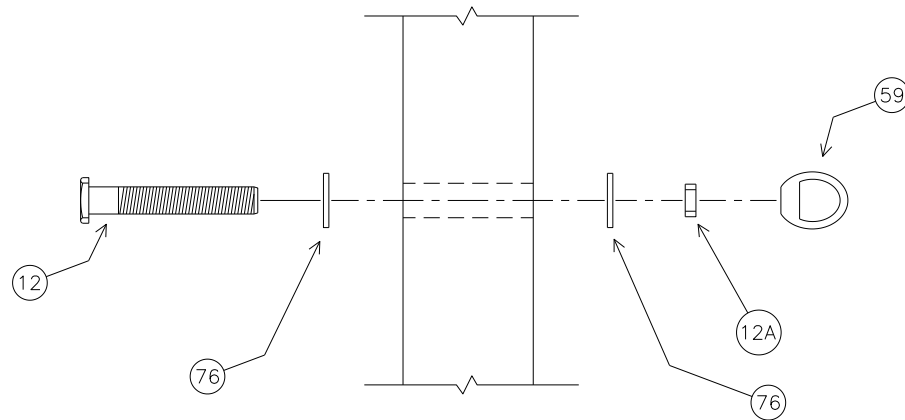
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

# MBA3

## TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES



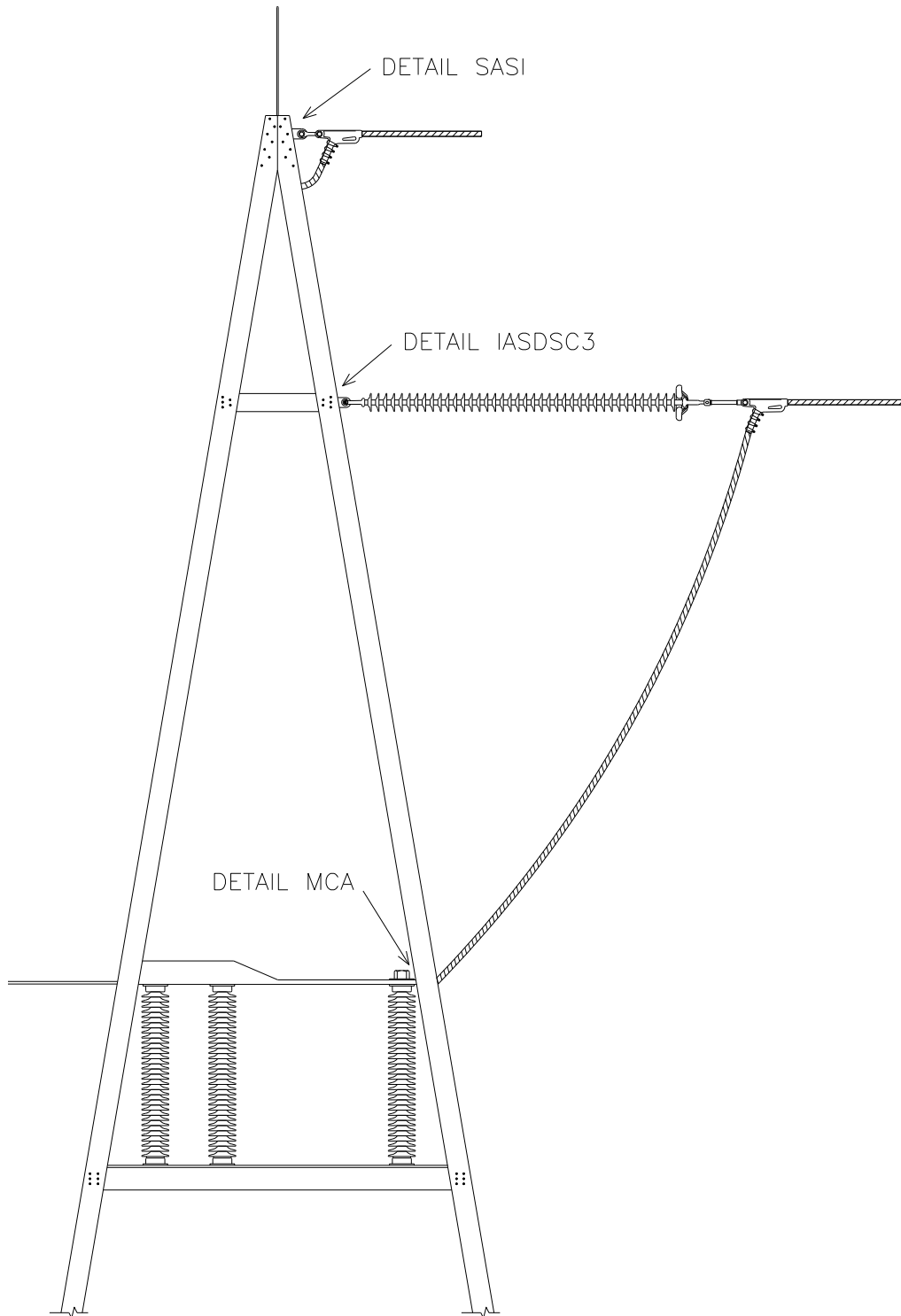
### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# C3B45Q

230KV, SINGLE DEADEND, SLACK TENSION, SUBSTATION A-FRAME, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



# C3B45Q PLATES

## C3B45Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## C3B45Q\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

## C3B45Q\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

## C3B45Q\*954S

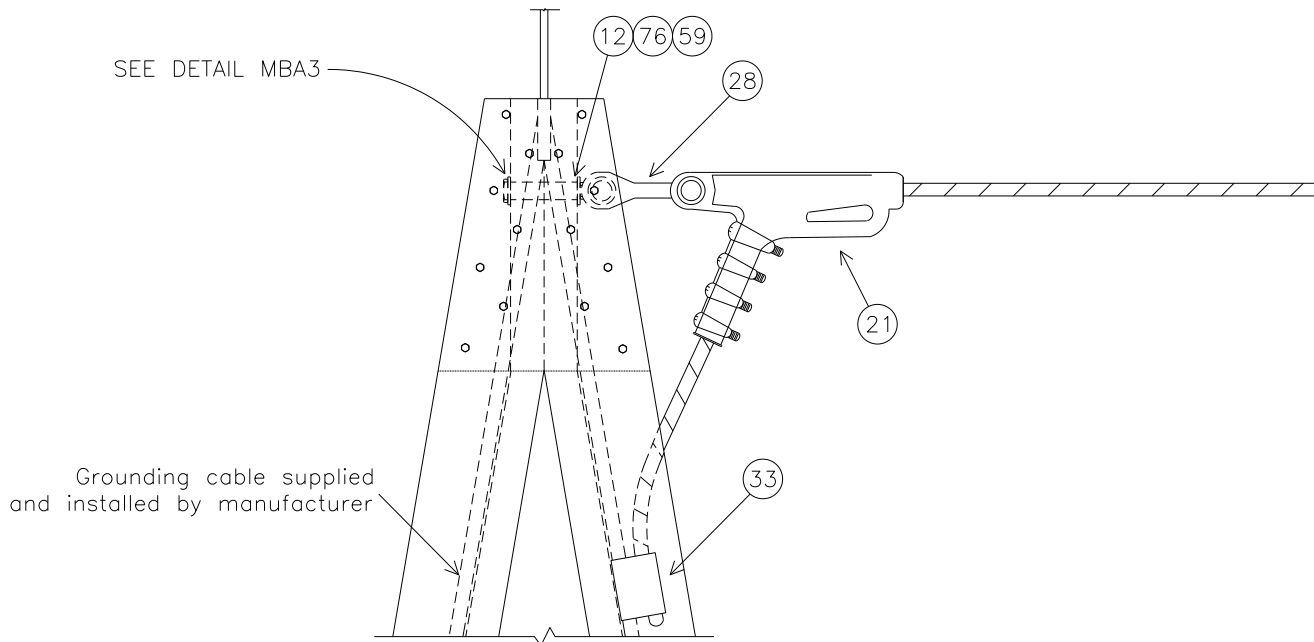
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

## C3B45Q\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE

## SASI

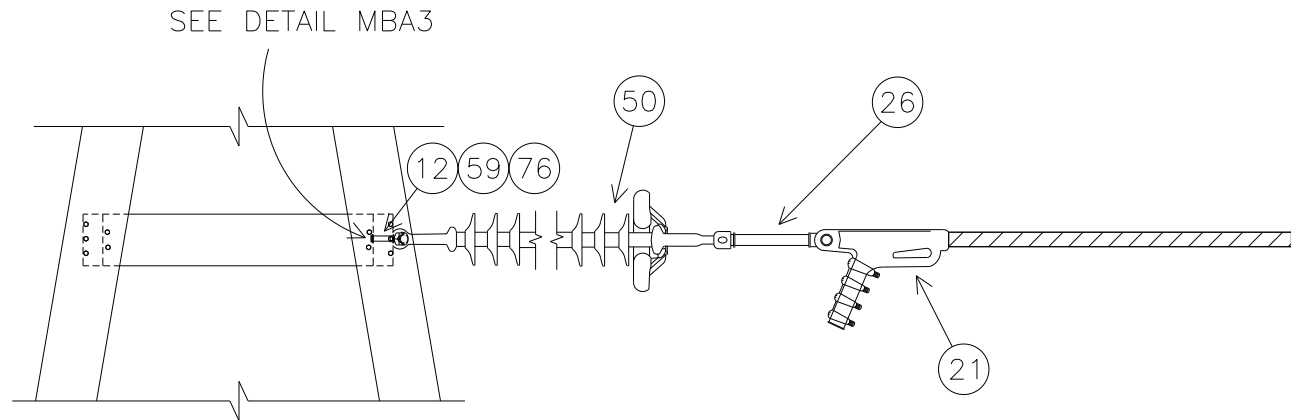
### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# IASDSC3

**INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES**  
**SINGLE DEAD-END, SLACK TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



## IASDSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
59	NUTEY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSC3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## IASDSC3\*1590

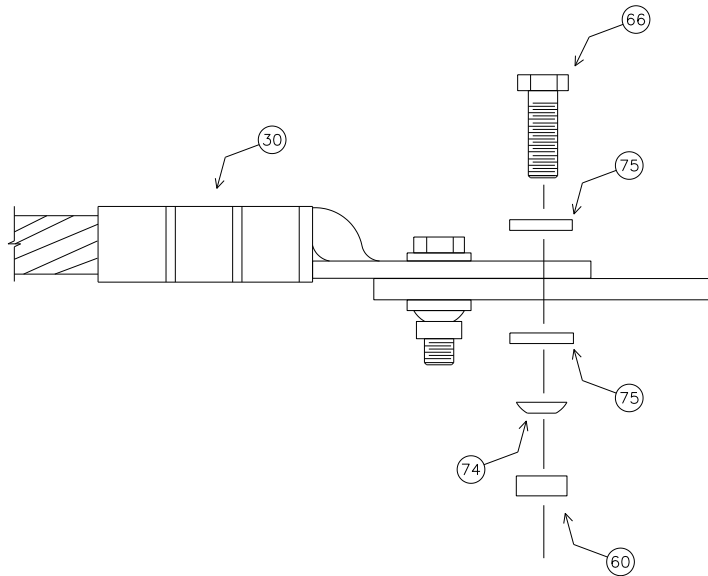
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"



# MCA

## CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

### MCA\*954S

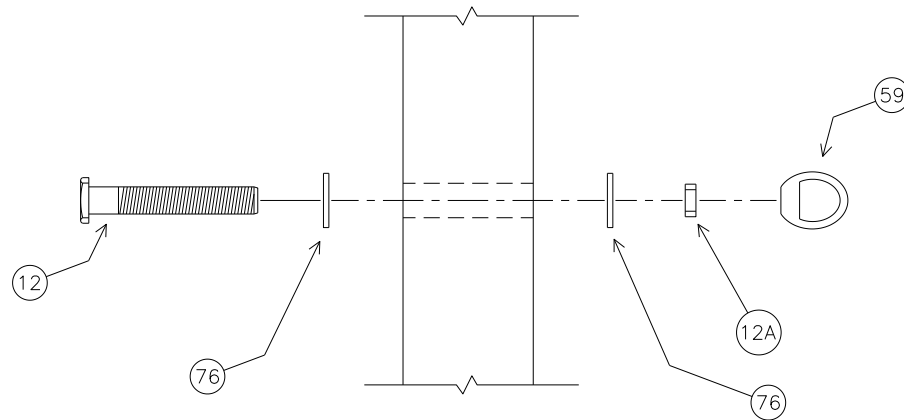
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

# MBA3

## TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES

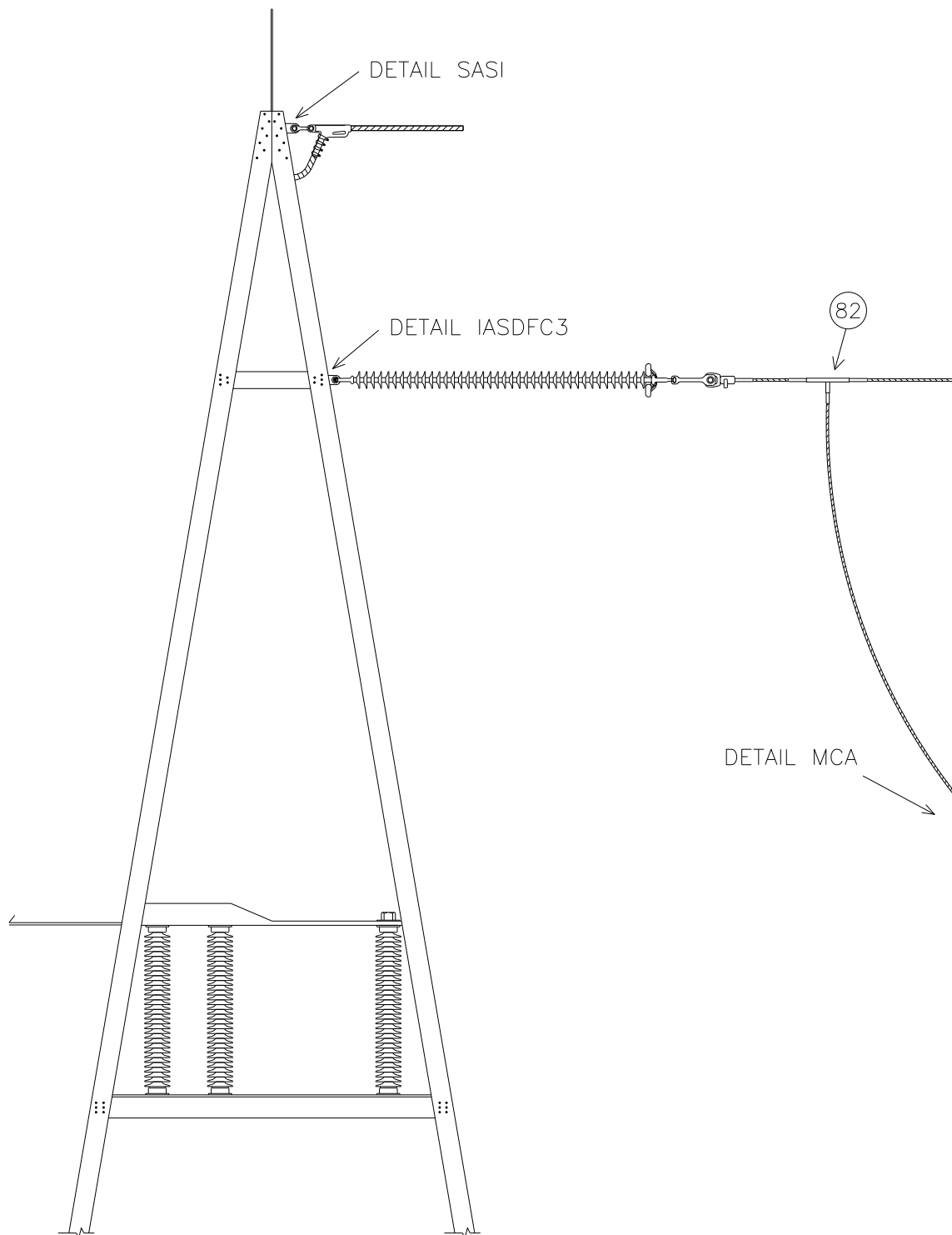


### MBA3 PLATE

NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# C3B48C

230KV, SINGLE DEADEND, FULL TENSION WITH TEE FOR SUBSTATION A-FRAME, 3-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# C3B48C PLATES

**C3B48C BASE**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", HOT DIPPED GALV..
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

**C3B48C\*954S**

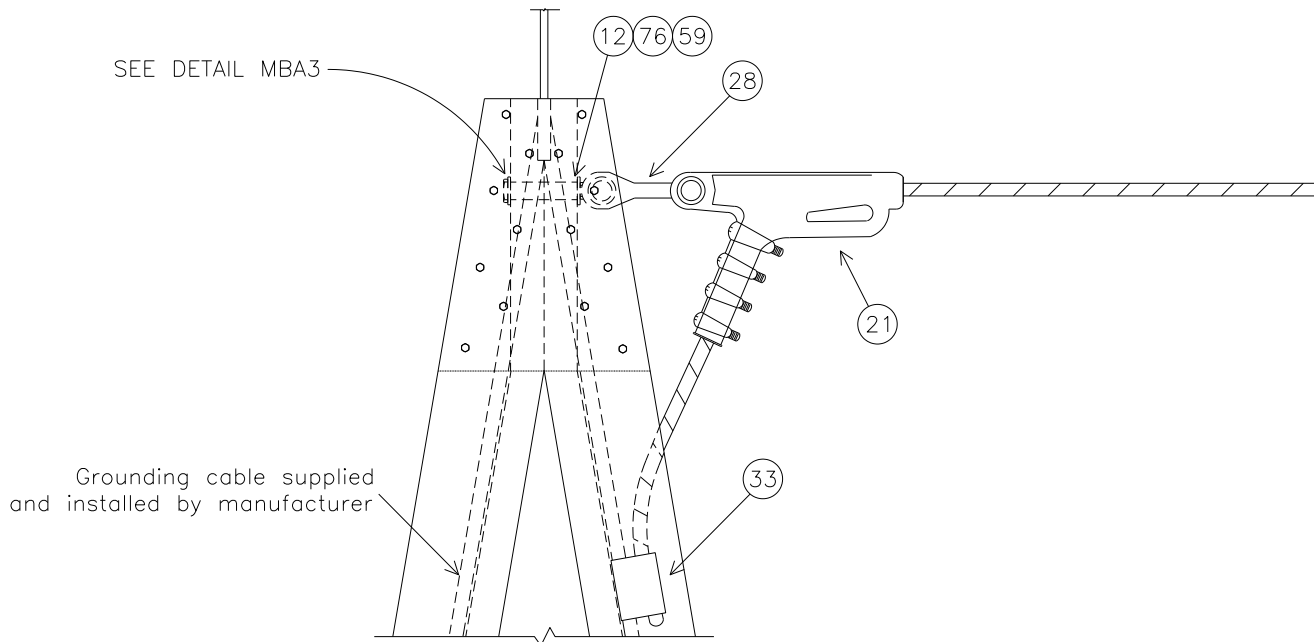
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
82	TEECO 001	3	COMPRESSION TEE FOR 954S CONDUCTOR

**C3B48C\*1590**

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
82	TEECO 002	3	COMPRESSION TEE FOR 1590 CONDUCTOR

## SASI

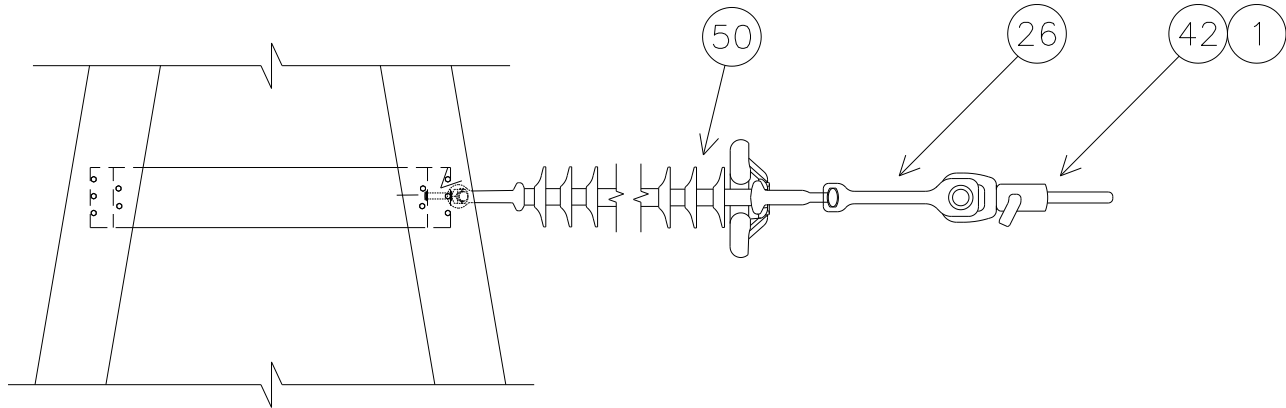
### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

# IASDFC3

**INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES**  
**SINGLE DEAD-END, FULL TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



## IASDFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", H.D.G..
50	INSD 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11

## IASDFC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

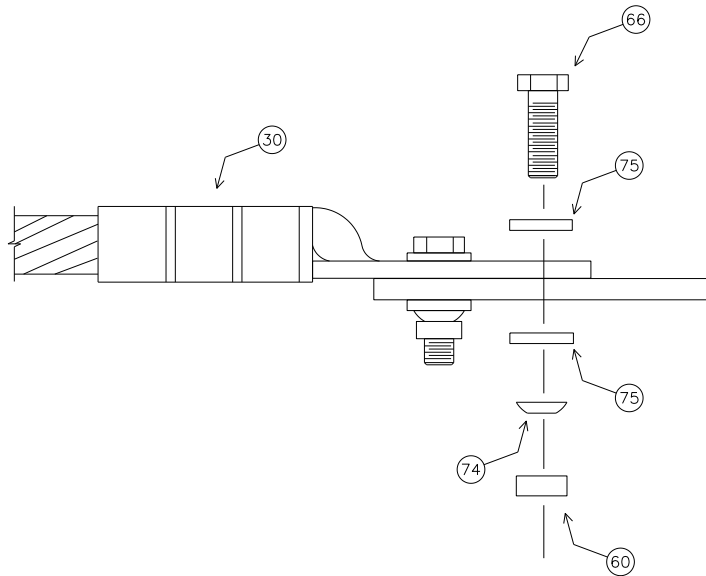
## IASDFC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE

## MCA

### CONDUCTOR ATTACHMENT FOR SUBSTATION STRUCTURES

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



#### MCA BASE

NO.	ITEM ID	QTY	DESCRIPTION
60	NUTBC 500	12	SILICONE BRONZE NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO
66	SCWHI 519	12	STAINLESS STEEL BOLT, 2 1/2" X 1/2"
74	WASBA 500	12	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS
75	WASFG 500	24	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS

#### MCA\*556S

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 002	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR), 15-DEGREE ANGLE

#### MCA\*954A

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 006	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE

#### MCA\*954S

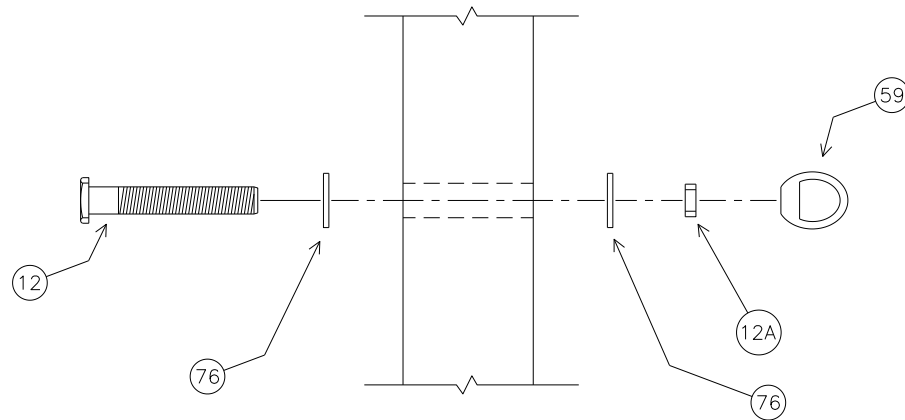
NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 007	3	ALUM. JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE

#### MCA\*1590

NO.	ITEM ID	QTY	DESCRIPTION
30	CNNAJ 008	3	ALUM. JUMPER TERM. FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE, 4-HOLE PAD COMPRESSION CONNECTION

# MBA3

## TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES



### MBA3 PLATE

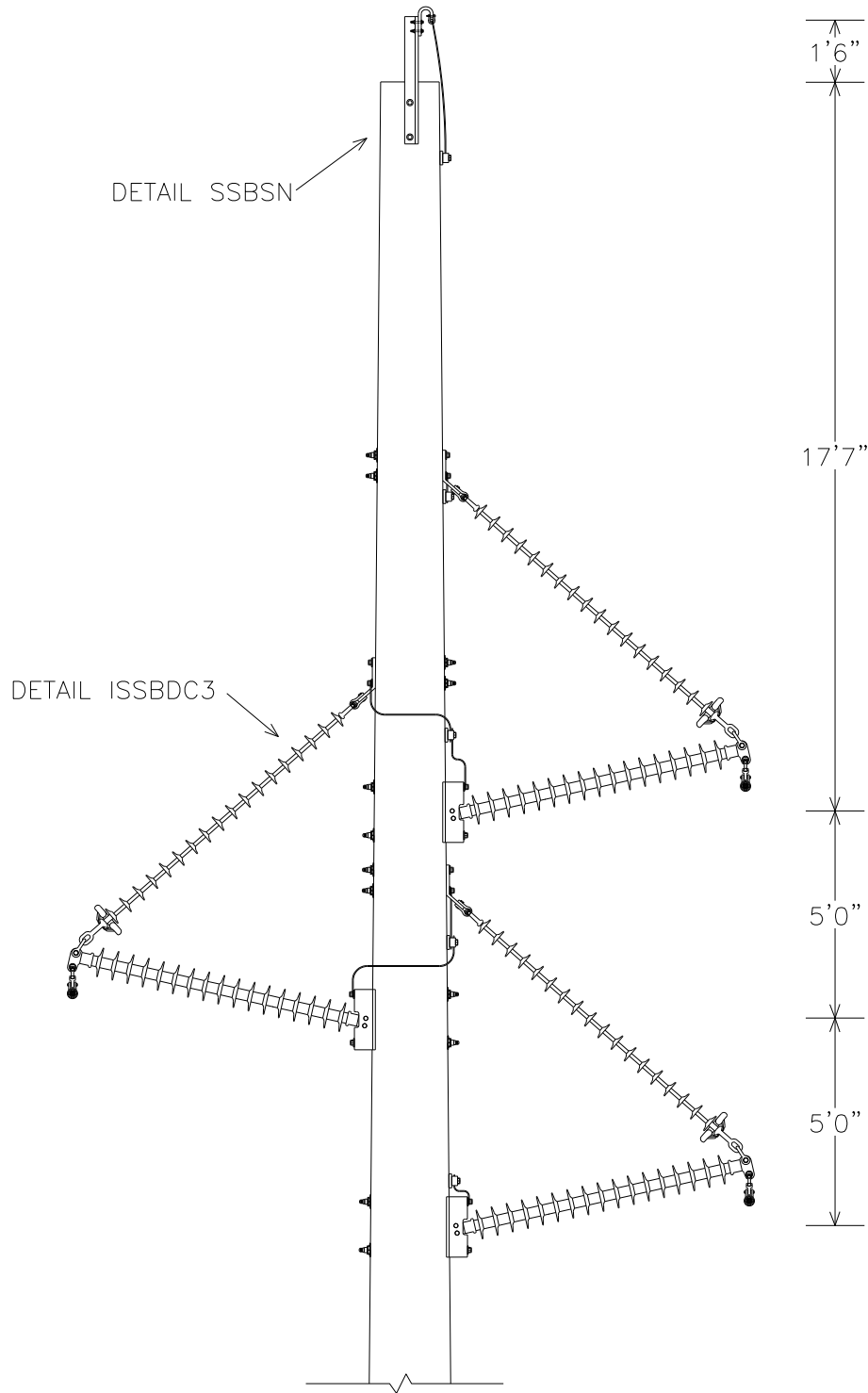
NO.	ITEM ID	QTY	DESCRIPTION
12,12A	BOLMS 016	5	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
59	NUTEY 002	5	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED
76	WASRD 004	10	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED



# C6261

230KV, SINGLE BRACED LINE POST, DELTA CONFIGURATION, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



# C6261 PLATES

## C6261 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
10	BKTLP 002	3	BRACKET, 53-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	4	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	5	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 003	4	ROUND WASHER FOR 1/2" BOLT, 1 3/8" DIAMETER, GALVANIZED
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE FLAT WASHER FOR 3/4" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE FLAT WASHER FOR 7/8" BOLT, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## C6261\*954A

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN

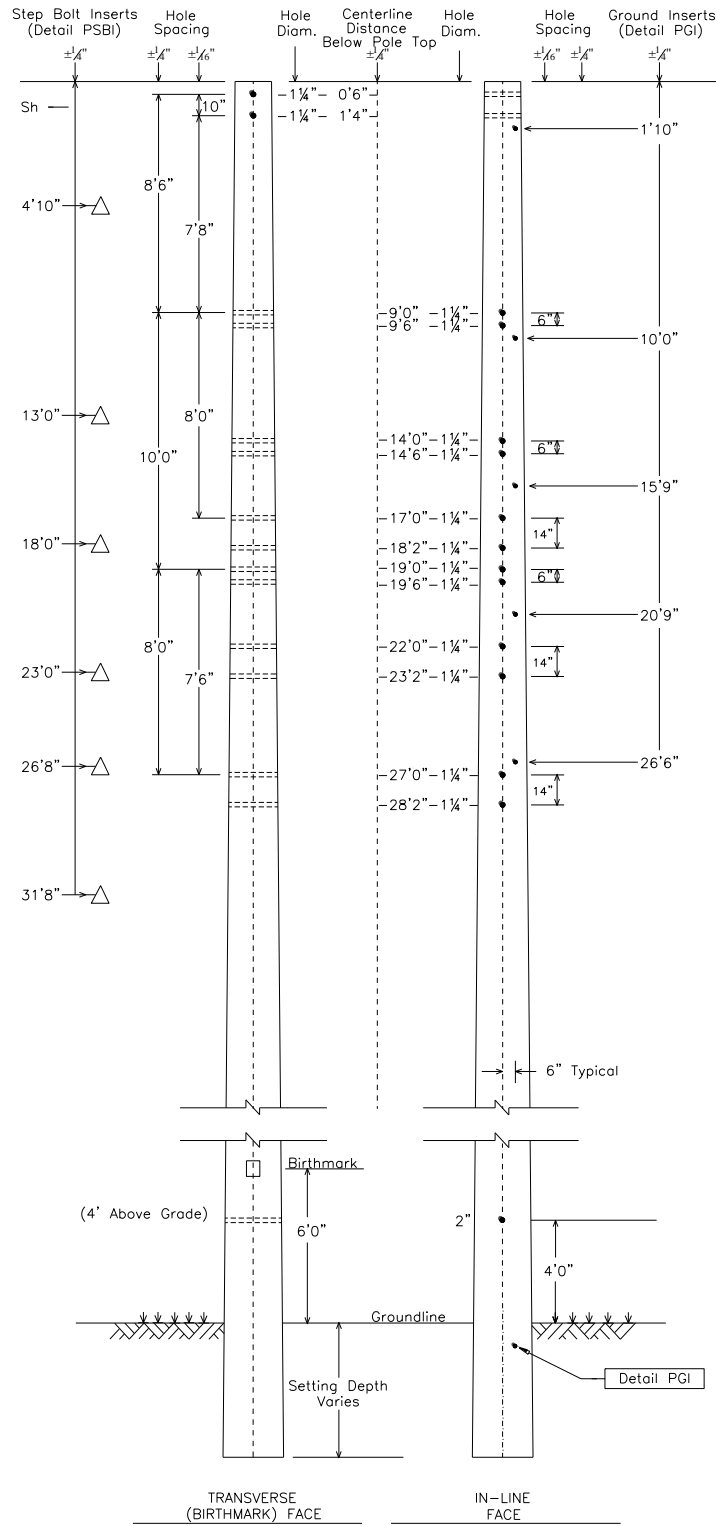
## C6261\*954S

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN

## C6261\*1590

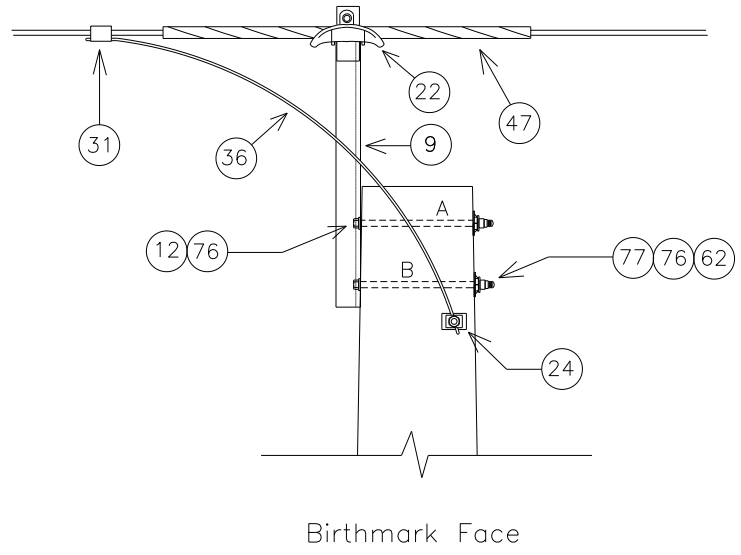
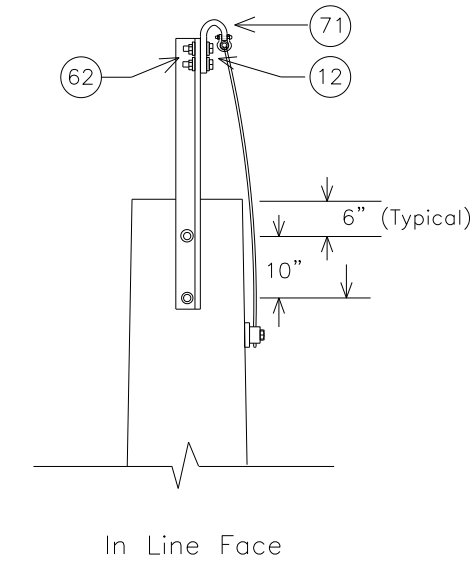
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88 INCHES, 1 3/8" GAP, 3/4" PIN

## C6261 DRILLING DETAIL



## SSBSN

**SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

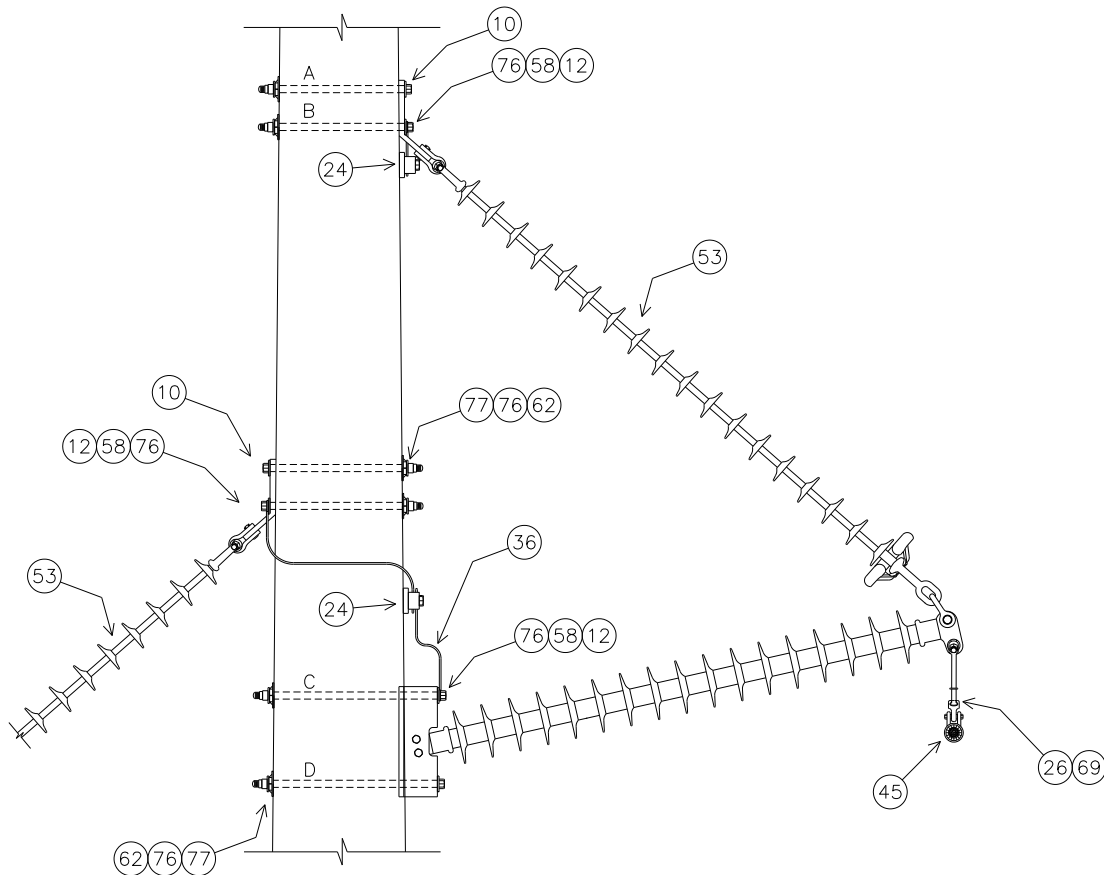
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBDC3

### INSULATOR FOR SPUN CONCRETE POLES

#### SINGLE BRACED LINE POST, DELTA CONFIGURATION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.9	22.3	29.3	29.3
MIDDLE	23.0	23.4	30.4	30.4
BOTTOM	24.1	24.4	31.4	31.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBDC3 PLATES

**ISSBDC3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	4	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

**ISSBDC3\*954A**

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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**ISSBDC3\*954S**

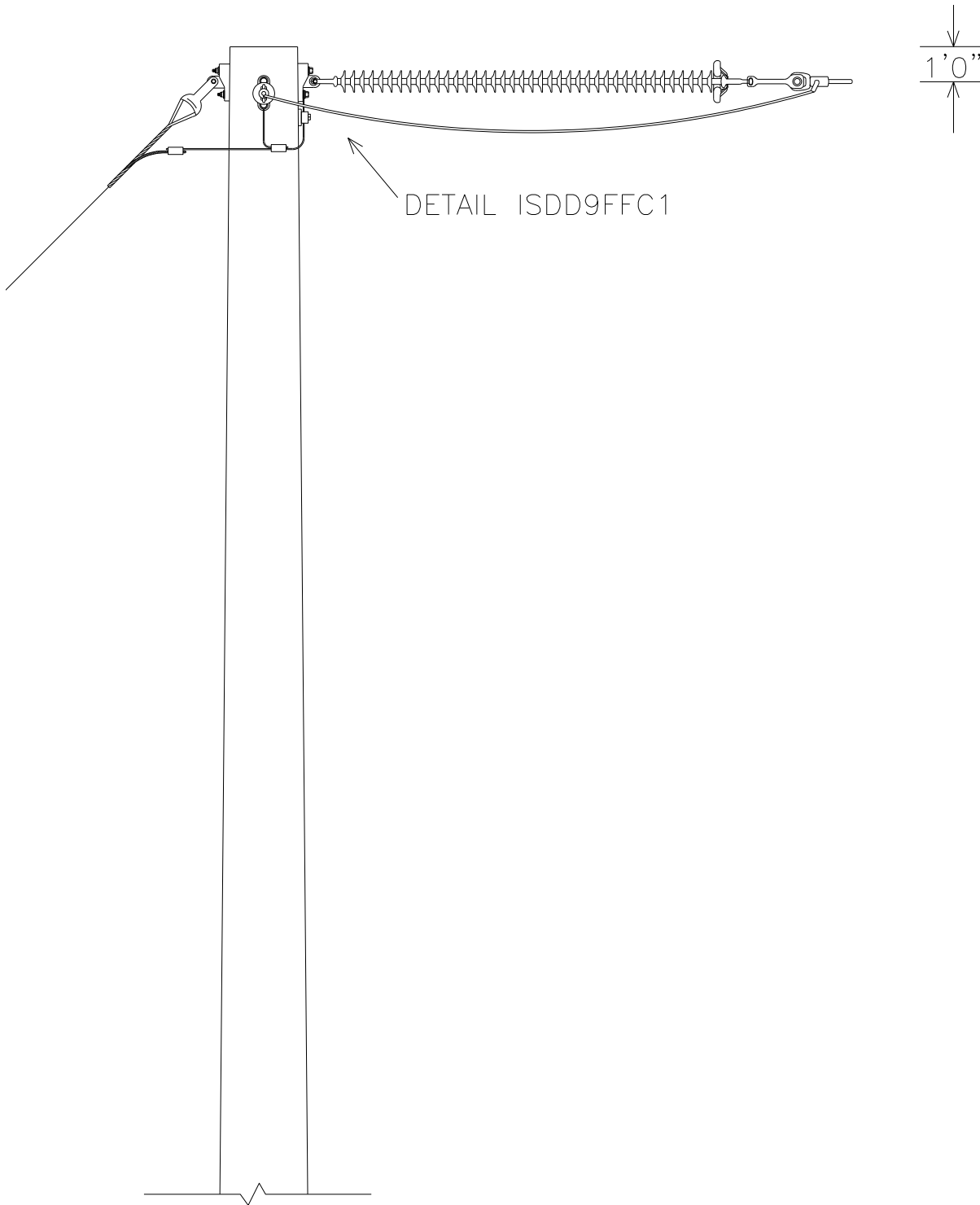
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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**ISSBDC3\*1590**

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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**C7244C**

**230KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, NO SHIELD, 1-PHASE**  
CONDUCTOR OPTIONS: 954S, 1590



# C7244C PLATES

**C7244C BASE**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

**C7244C\*954S**

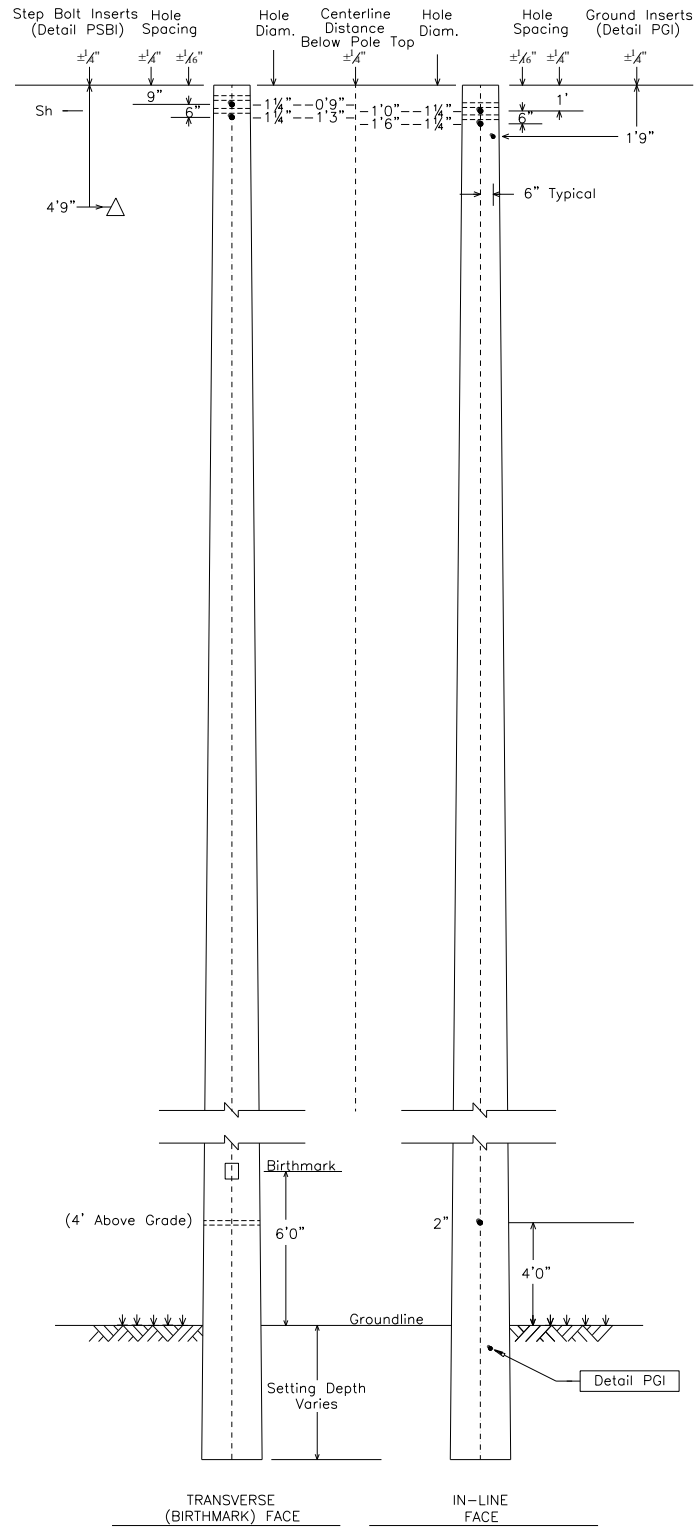
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

**C7244C\*1590**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



## C7244C DRILLING DETAIL



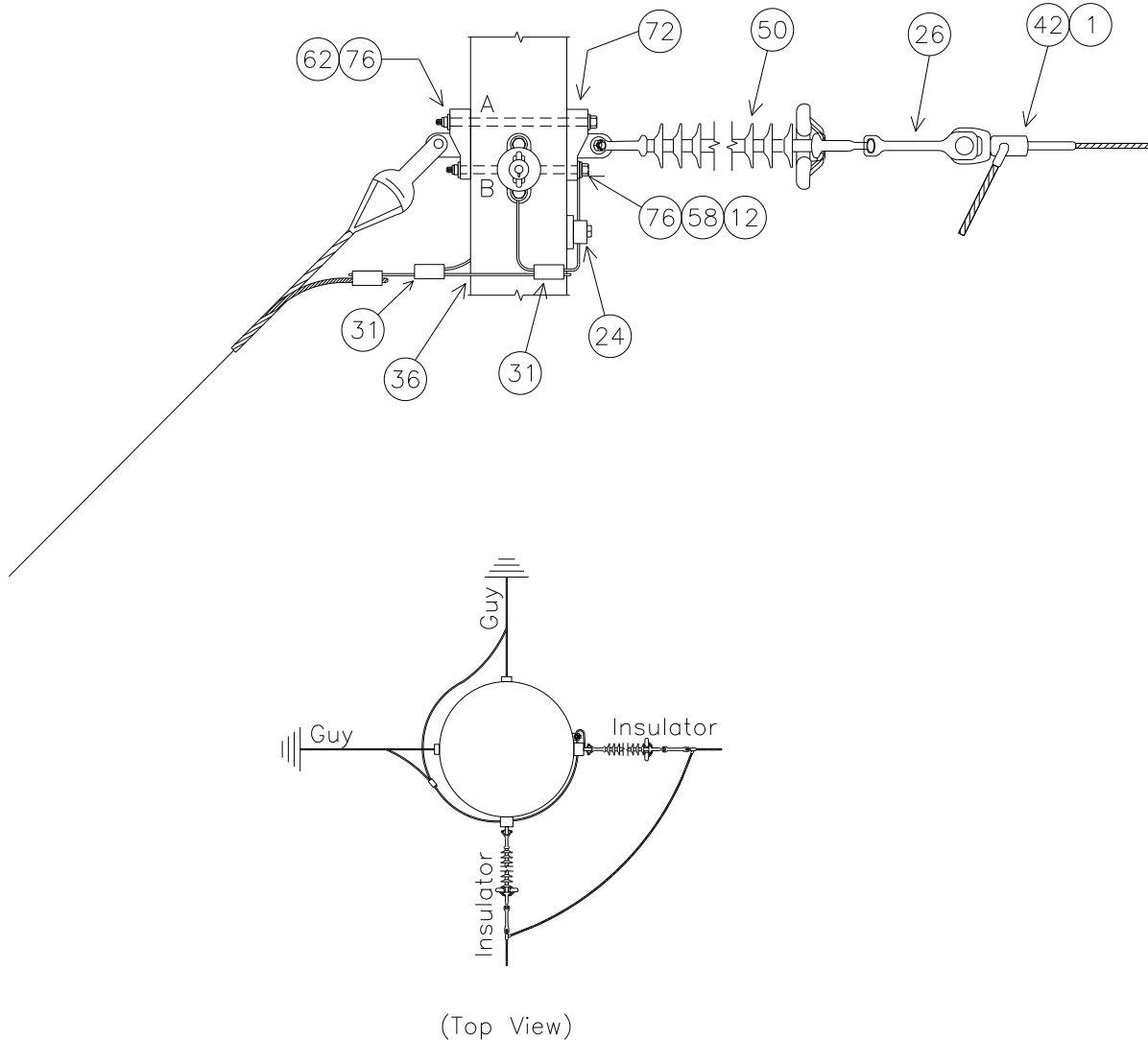
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## ISDD9FFC1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 230KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	'A'	'B'
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.2
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDD9FFC1 PLATES

## ISDD9FFC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFC1\*954S

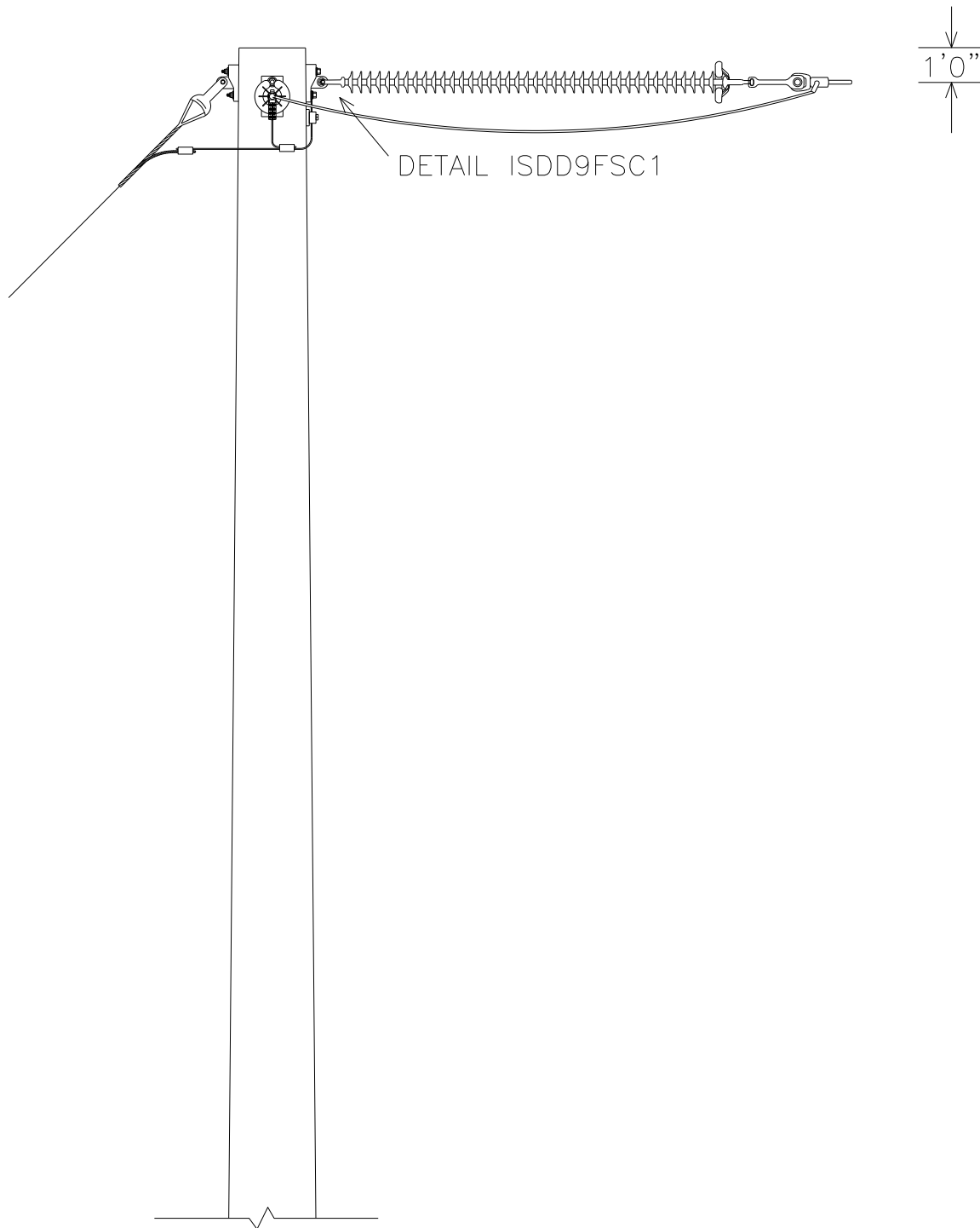
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFC1\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# C7246C

230KV, DOUBLE DEADEND 90°, FULL TENSION TO SLACK TENSION, NO SHIELD, 1-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# C7246C PLATES

## C7246C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

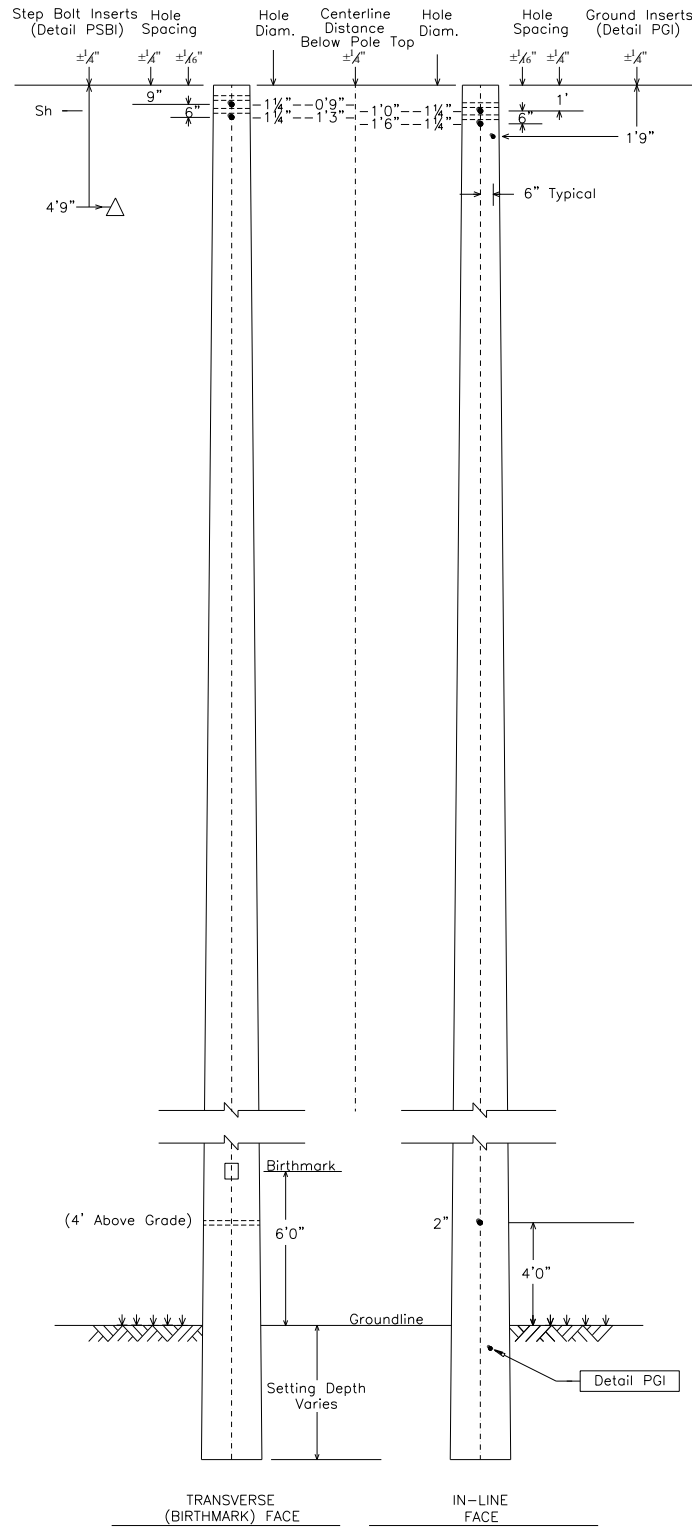
## C7246C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C7246C\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 – 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C7246C DRILLING DETAIL



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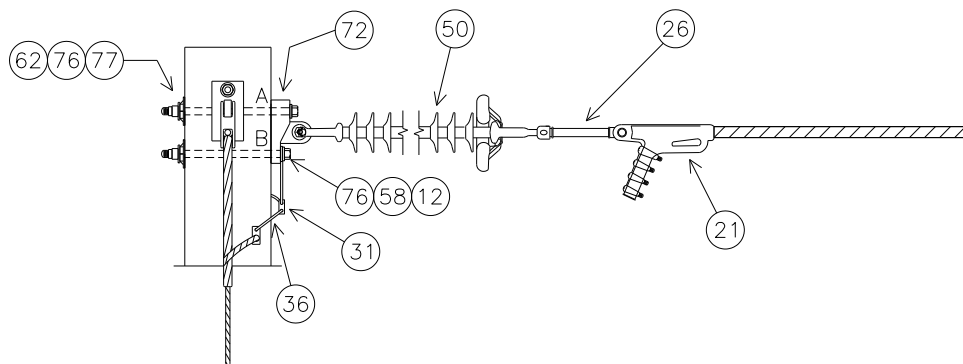
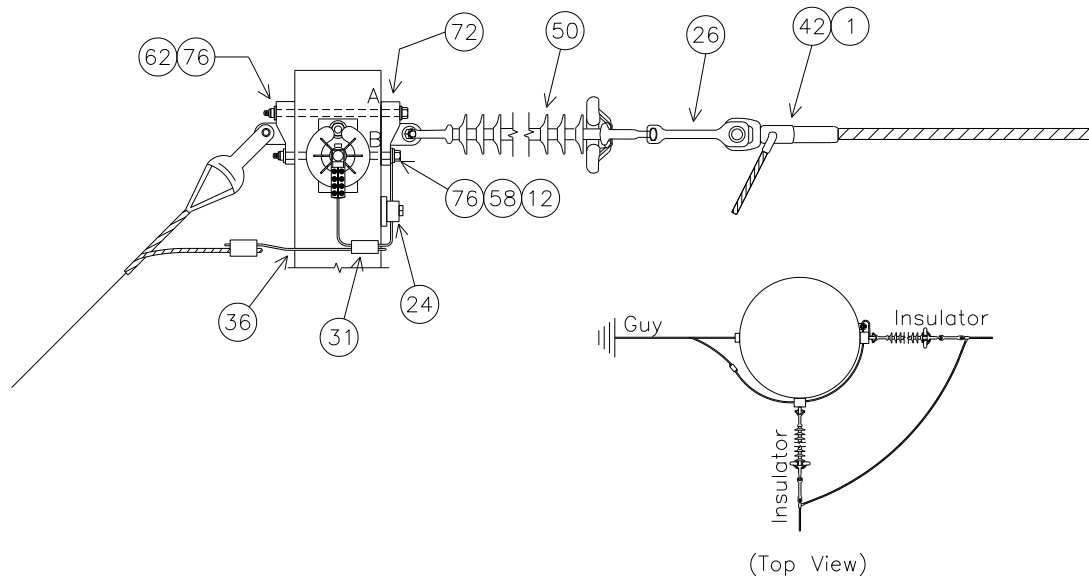


## ISDD9FSC1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 230KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

### FULL TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	22.9
LOWER BOLT 'B' LENGTH (INCHES)	21.2

### SLACK TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	21.5
LOWER BOLT 'B' LENGTH (INCHES)	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FSC1 PLATES

## ISDD9FSC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSC1\*954S

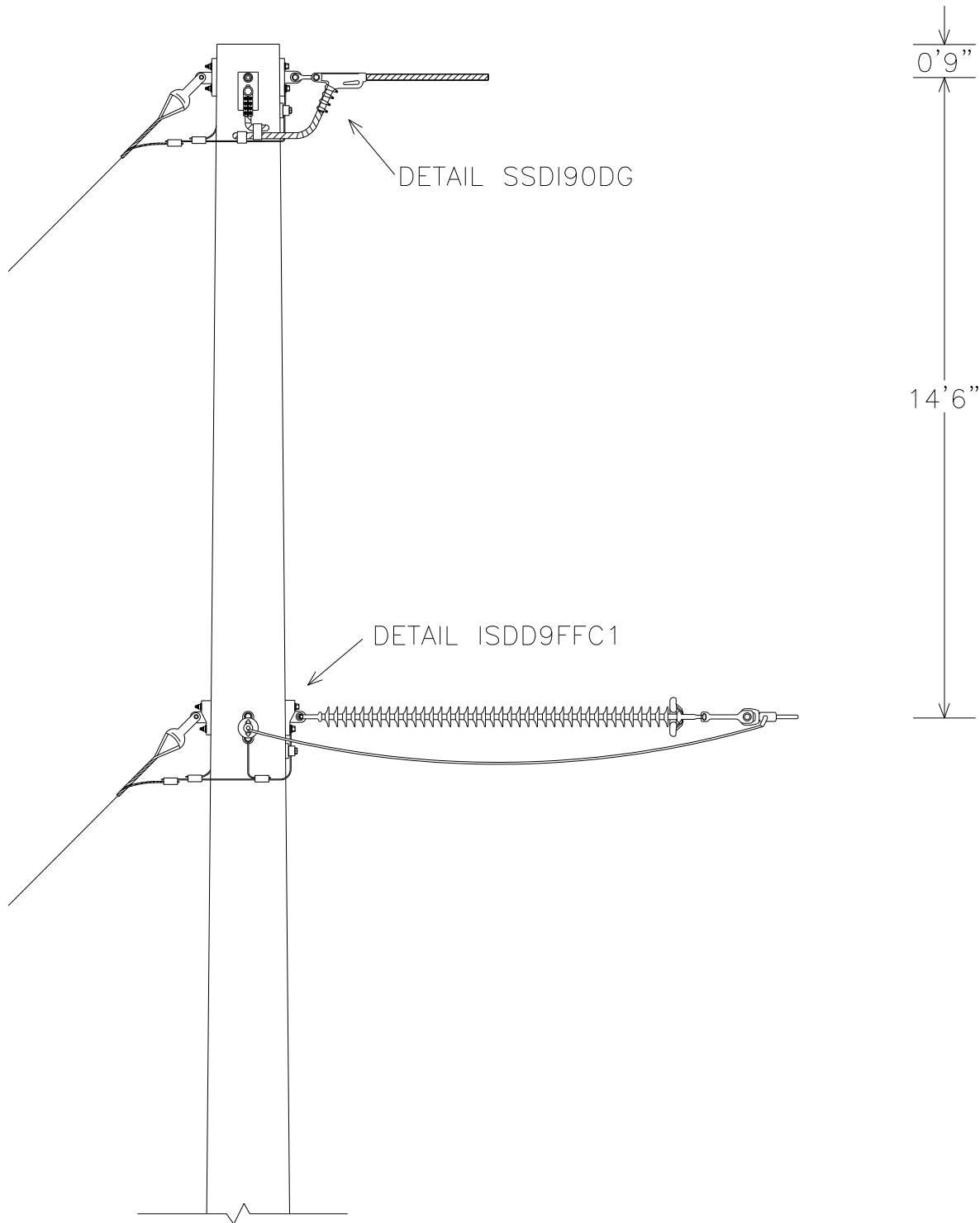
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSC1\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# C8244C

230KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, WITH SHIELD, 1-PHASE  
CONDUCTOR OPTIONS: 954S, 1590



# C8244C PLATES

## C8244C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	2	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, HOT DIPPED GALV.
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111 INCHES, CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 003	8	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

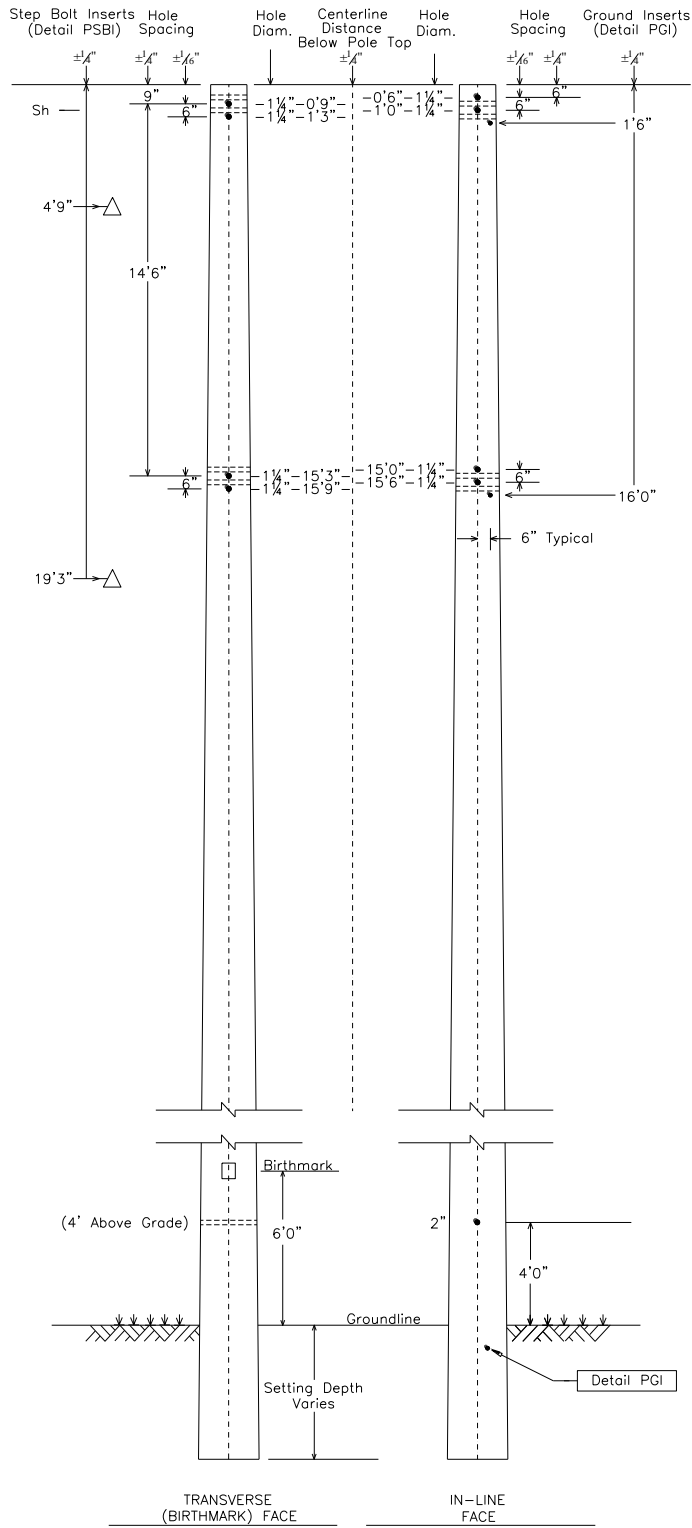
## C8244C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C8244C\*1590

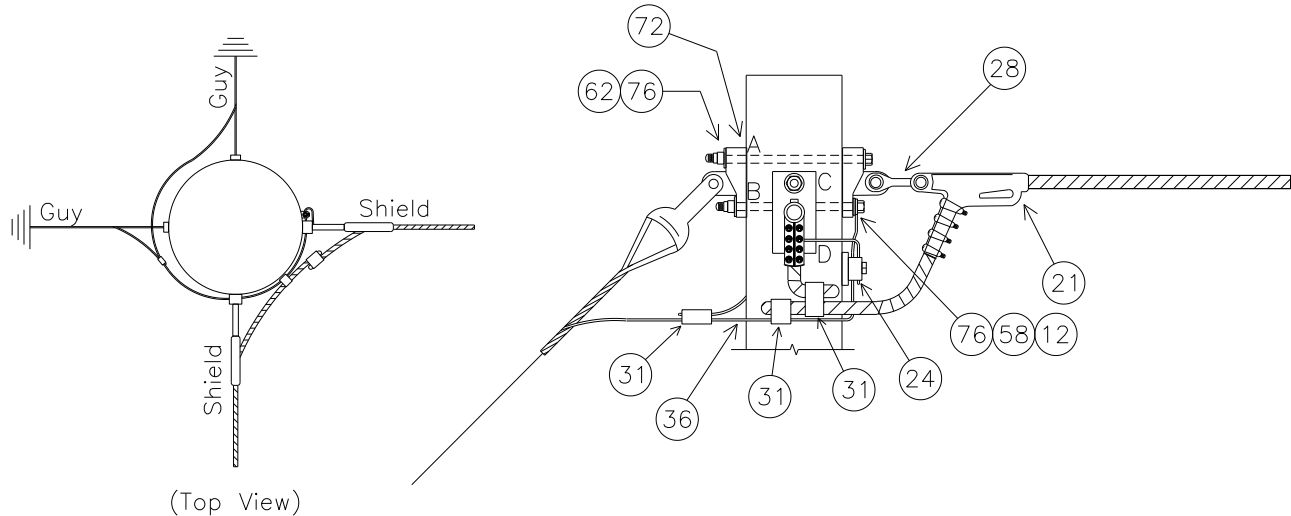
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## C8244C DRILLING DETAIL



## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

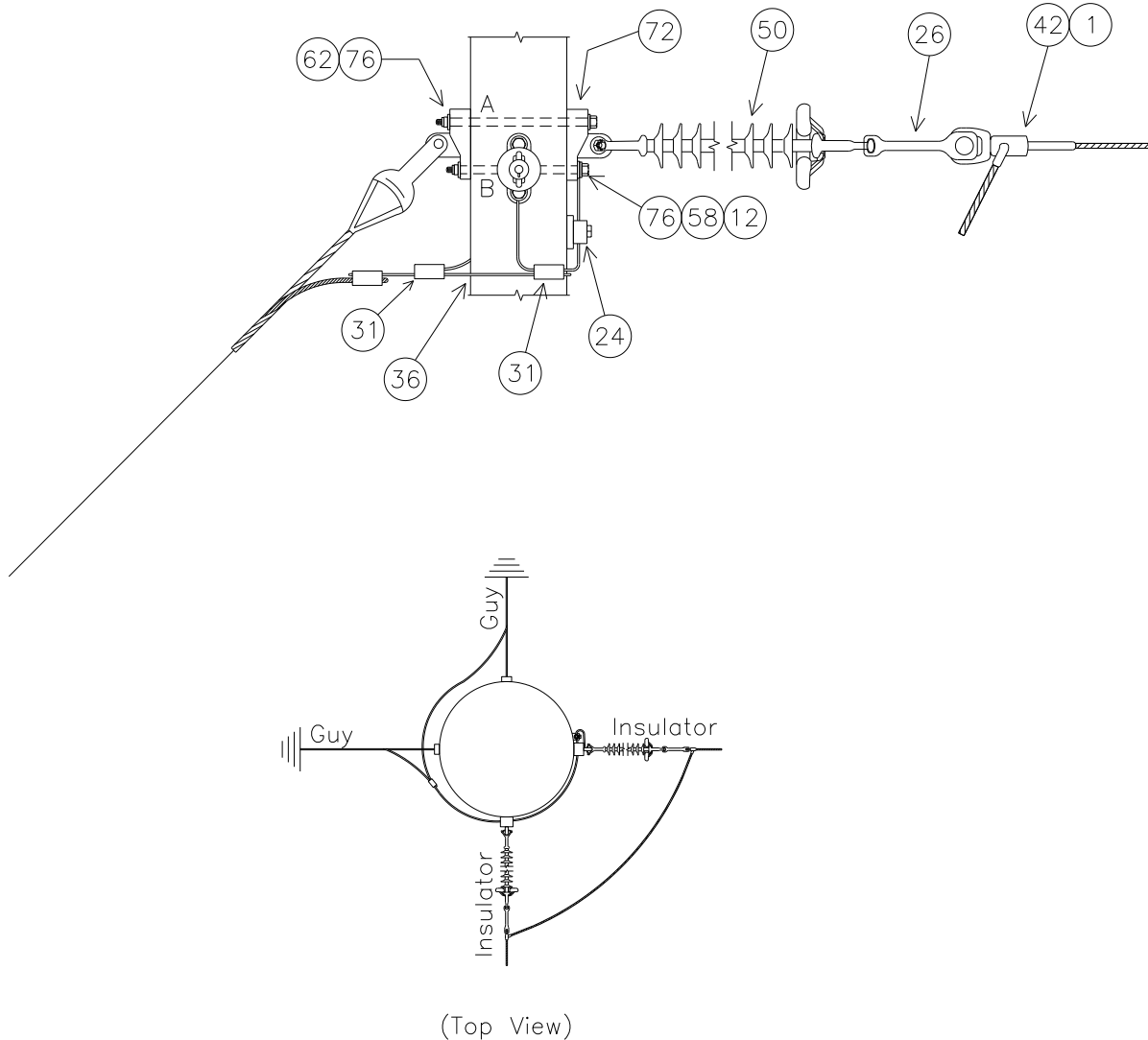
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## ISDD9FFC1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 230KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	'A'	'B'
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	25.9	24.3
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	26.0	24.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDD9FFC1 PLATES

## ISDD9FFC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFC1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFC1\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED



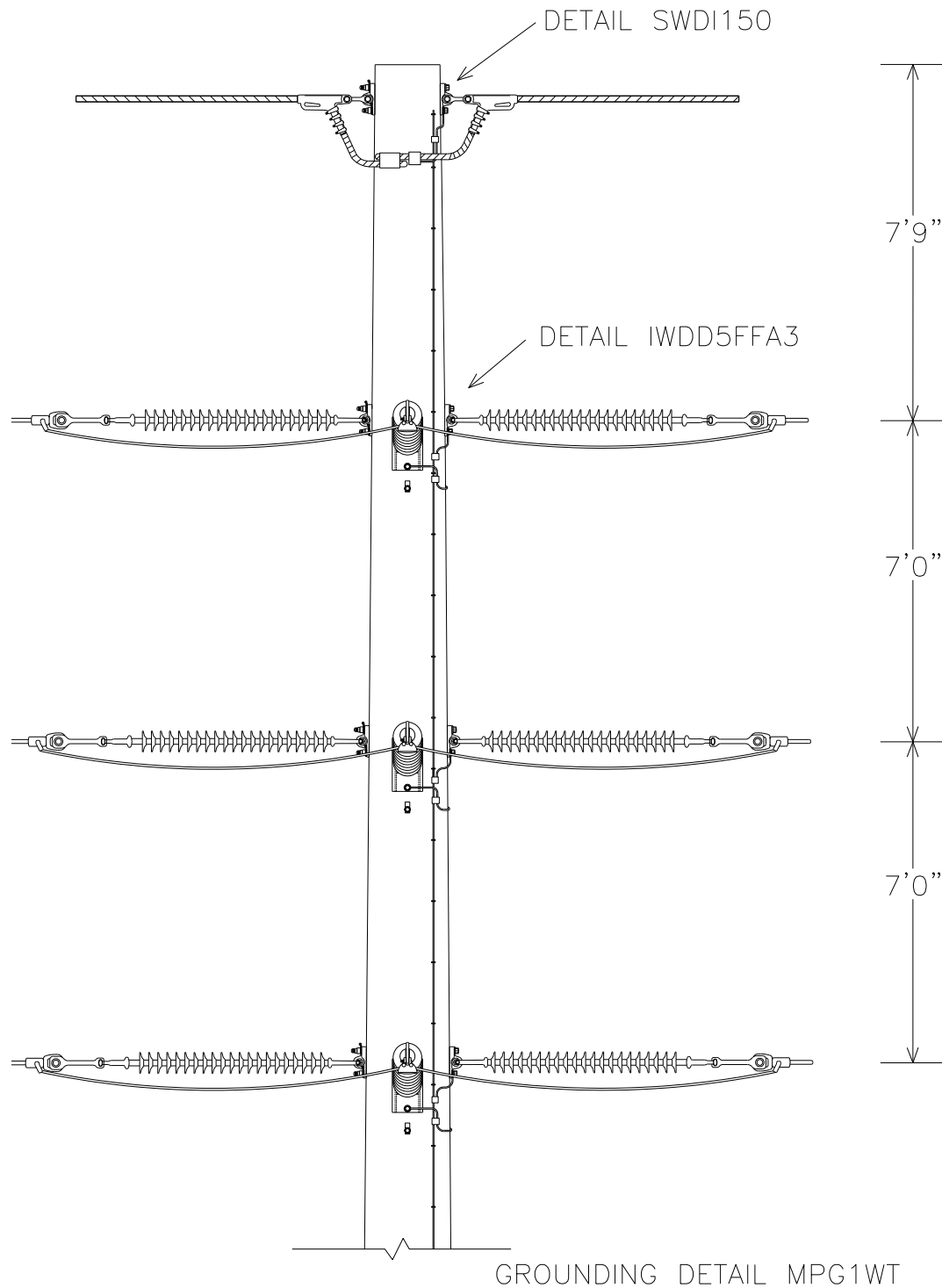
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# A1142C

69KV, DOUBLE DEADEND 150°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



# A1142C PLATES

## A1142C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	3	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	4	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	14	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	11	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	11	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	14	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

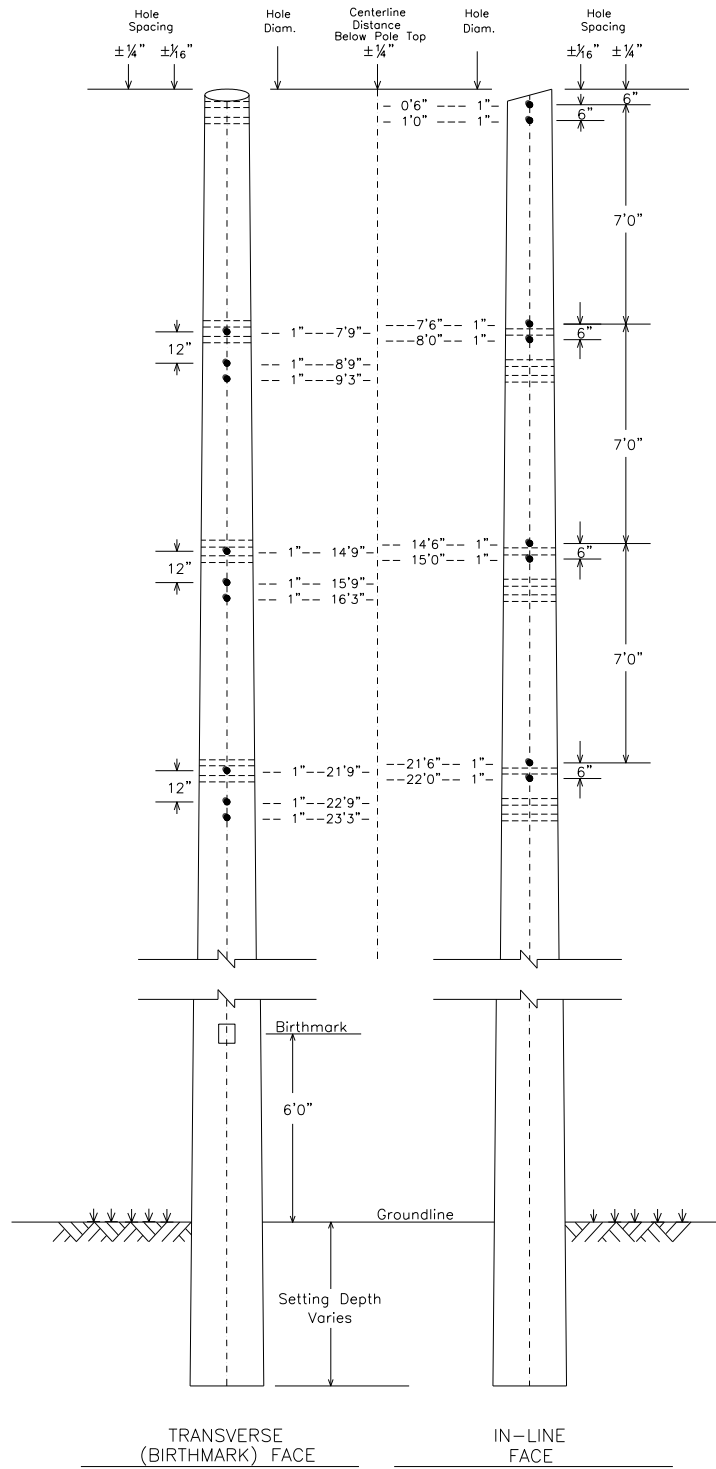
## A1142C\*556S

20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

## A1142C\*954S

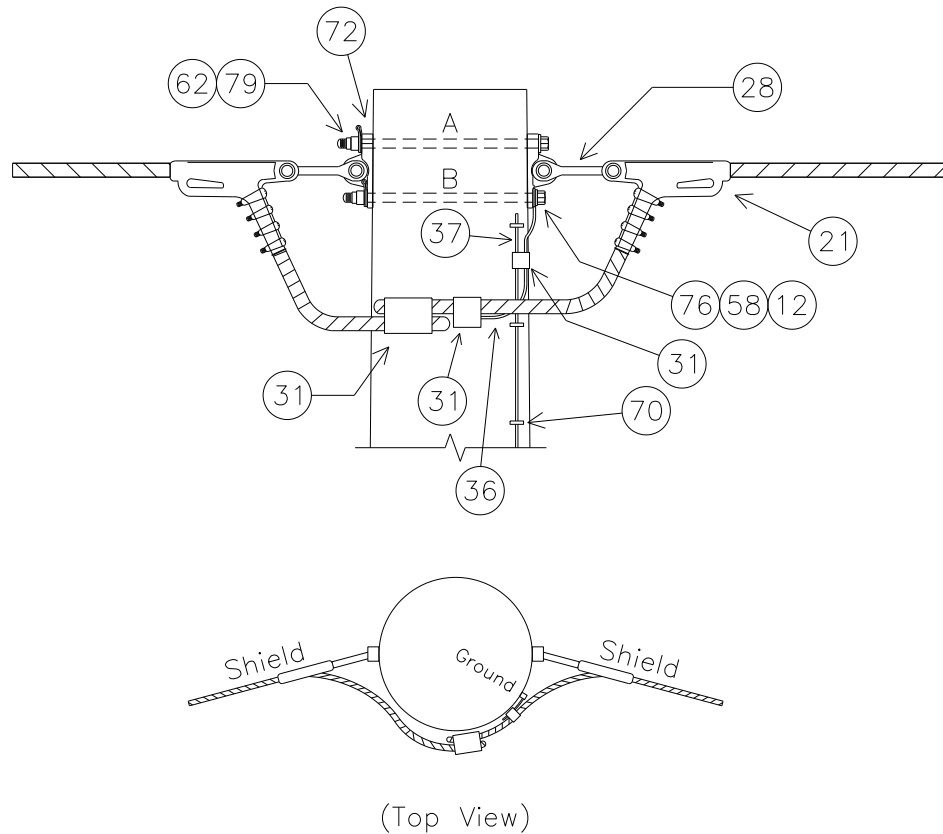
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDI 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

# A1142C DRILLING DETAIL



## SWDI150

SHIELD FOR WOOD POLES  
DOUBLE INLINE 150°



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

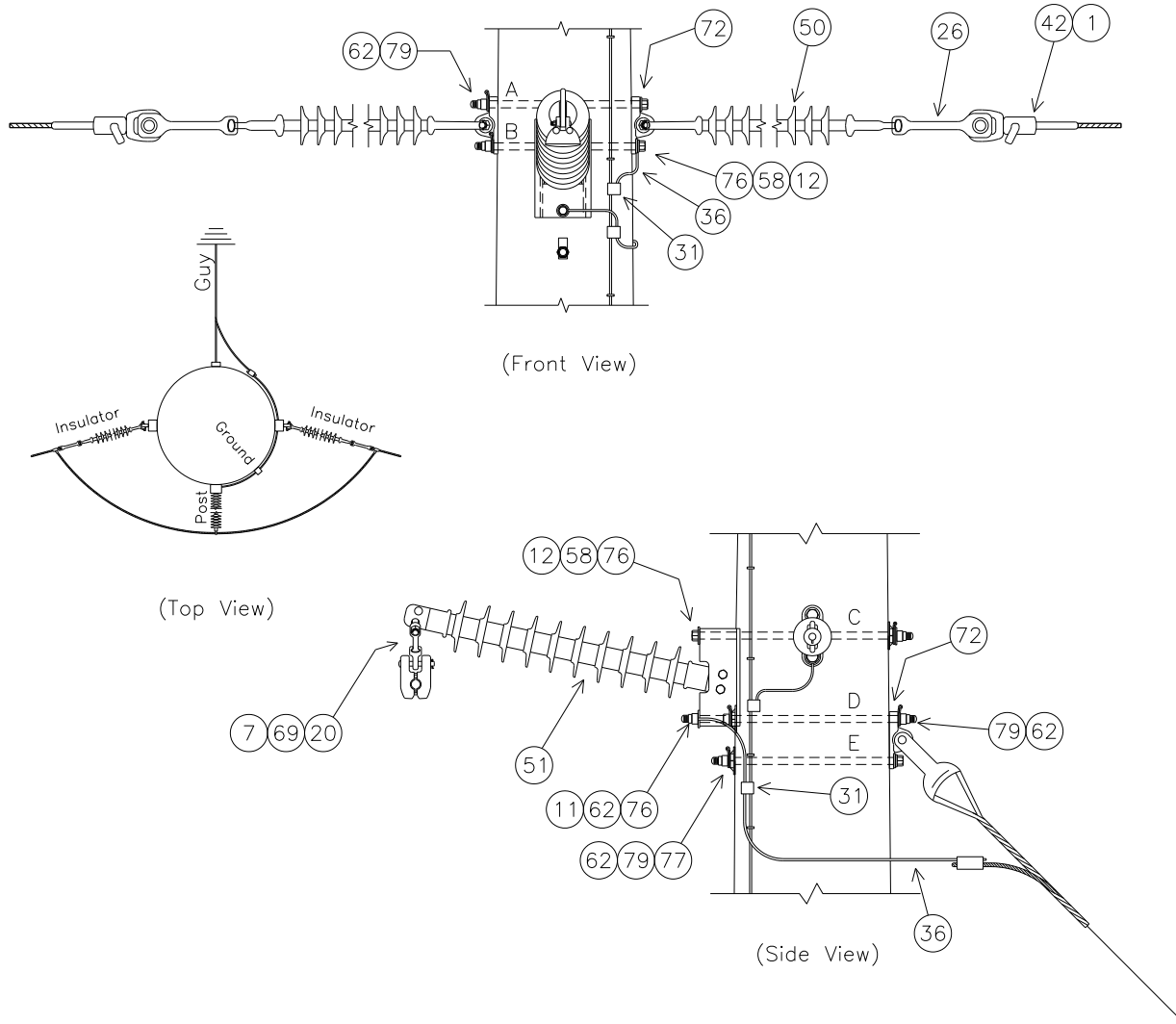
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## IWDD5FFA3

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 150°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR 7/8"	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.8	15.6	16.4
LOWER BOLT 'B' LENGTH (INCHES)	13.4	14.2	15.0

POST INSULATOR 3/4"	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	18.9	19.7
MIDDLE BOLT 'D' LENGTH (INCHES) DA	19.4	20.2	21.0
LOWER BOLT 'E' LENGTH (INCHES)	12.9	13.7	14.5

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

## IWDD5FFA3 PLATES

## IWDD5FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	3	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	12	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	9	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	9	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	12	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD5FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

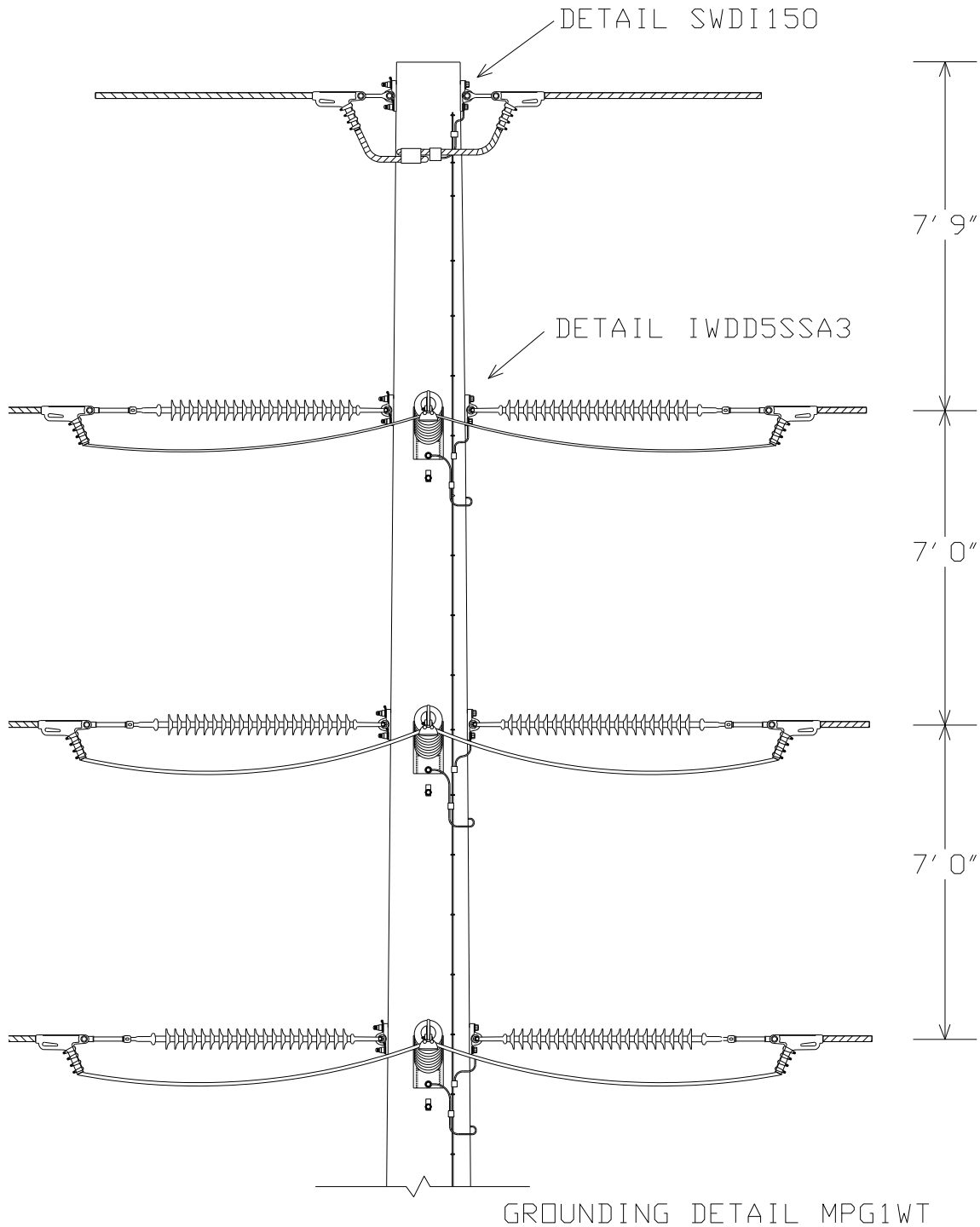
## IWDD5FFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDI 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11



# A1142Q

69KV, DOUBLE DEADEND 150°, SLACK TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



# A1142Q PLATES

## A1142Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	3	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	4	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	14	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	11	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	11	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	14	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

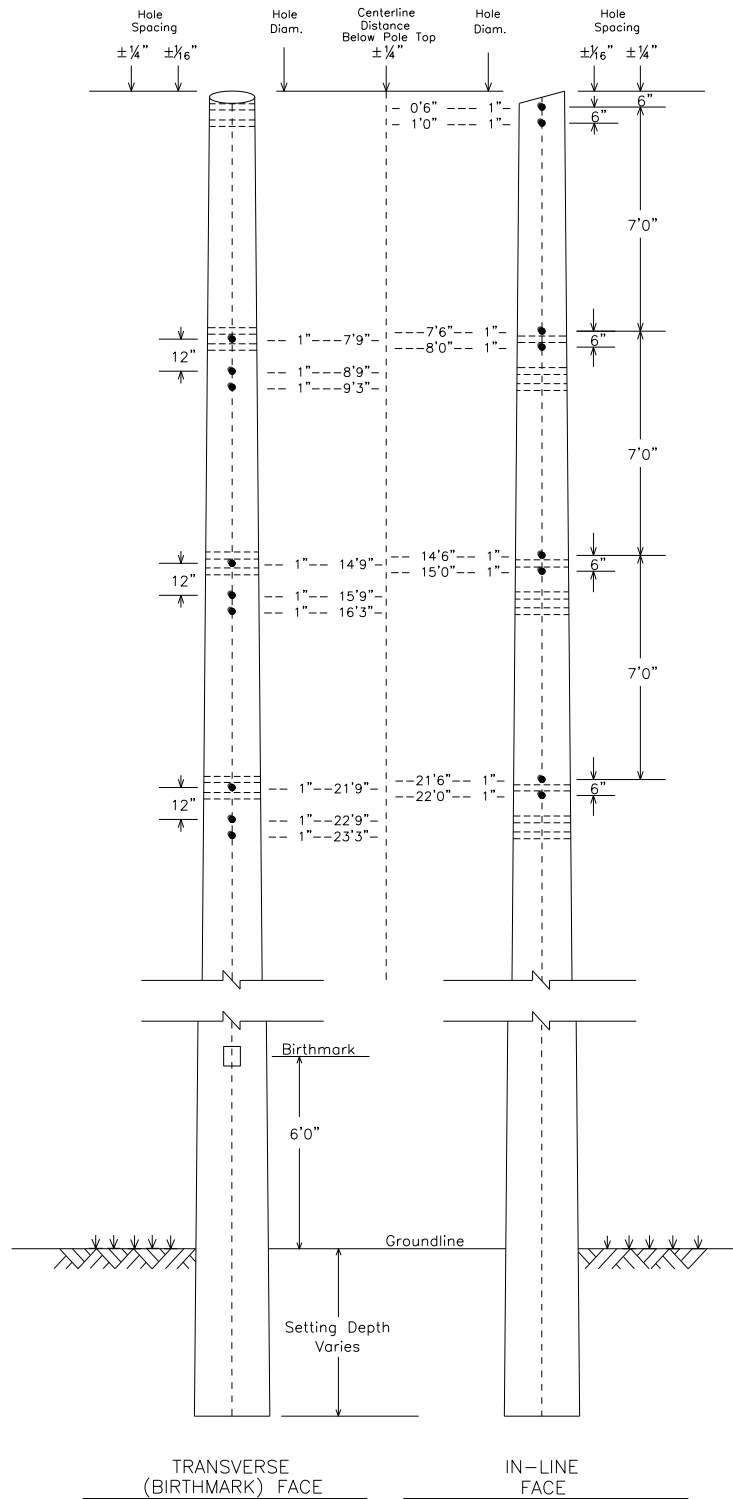
## A1142C\*556S

20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## A1142C\*954S

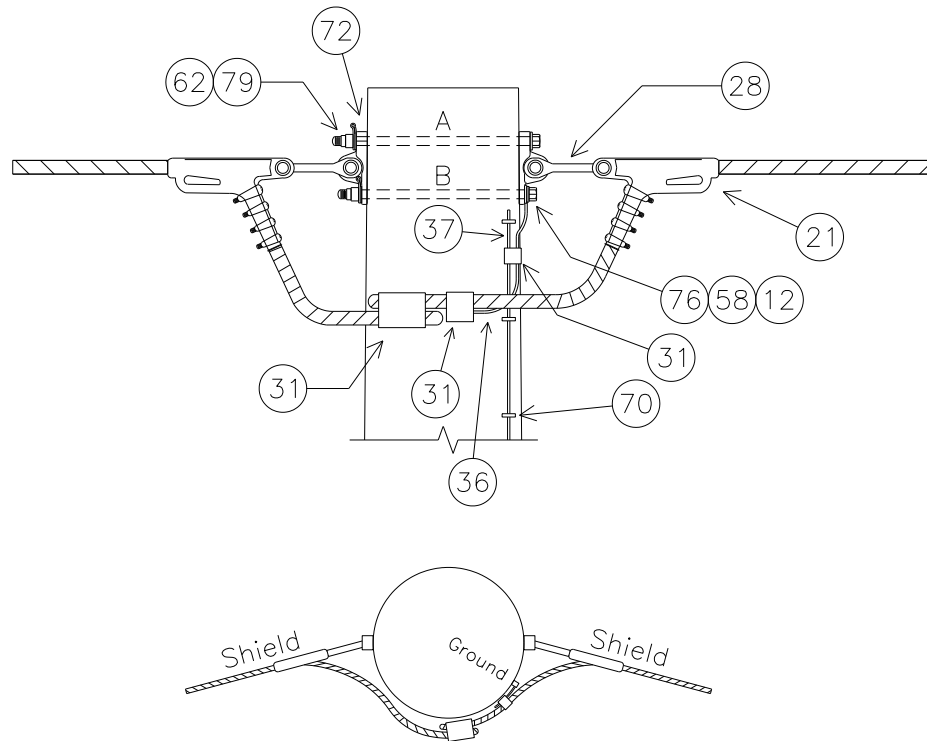
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

# A1142Q DRILLING DETAIL



## SWDI150

SHIELD FOR WOOD POLES  
DOUBLE INLINE 150°



(Top View)

NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

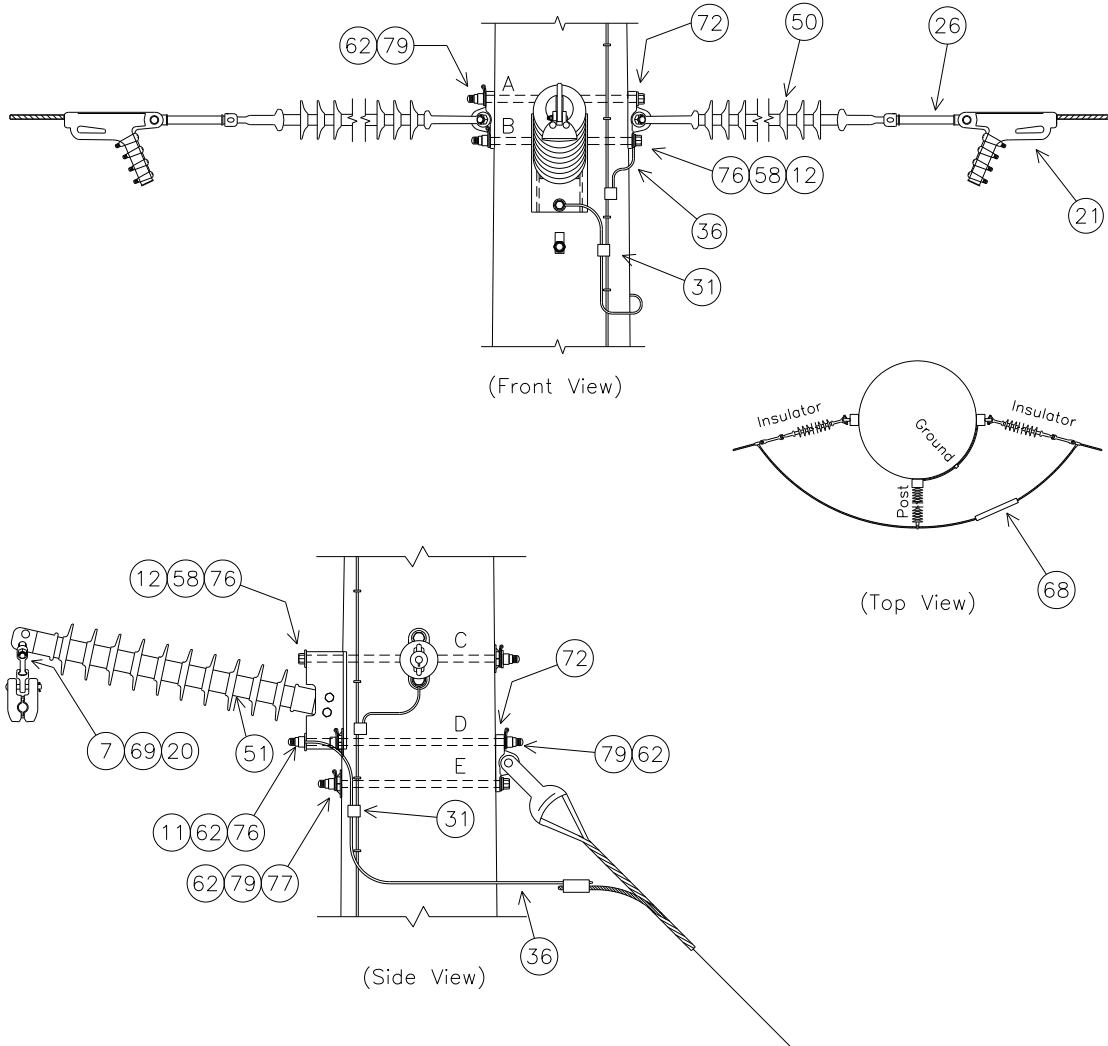
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## IWDD5SSA3

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 150°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR 7/8"	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.8	15.6	16.4
LOWER BOLT 'B' LENGTH (INCHES)	13.4	14.2	15.0

POST INSULATOR 3/4"	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	18.9	19.7
MIDDLE BOLT 'D' LENGTH (INCHES) DA	19.4	20.2	21.0
LOWER BOLT 'E' LENGTH (INCHES)	12.9	13.7	14.5

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD5SSA3 PLATES

## IWDD5SSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	3	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	12	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	9	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	9	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	12	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD5SSA3\*556S

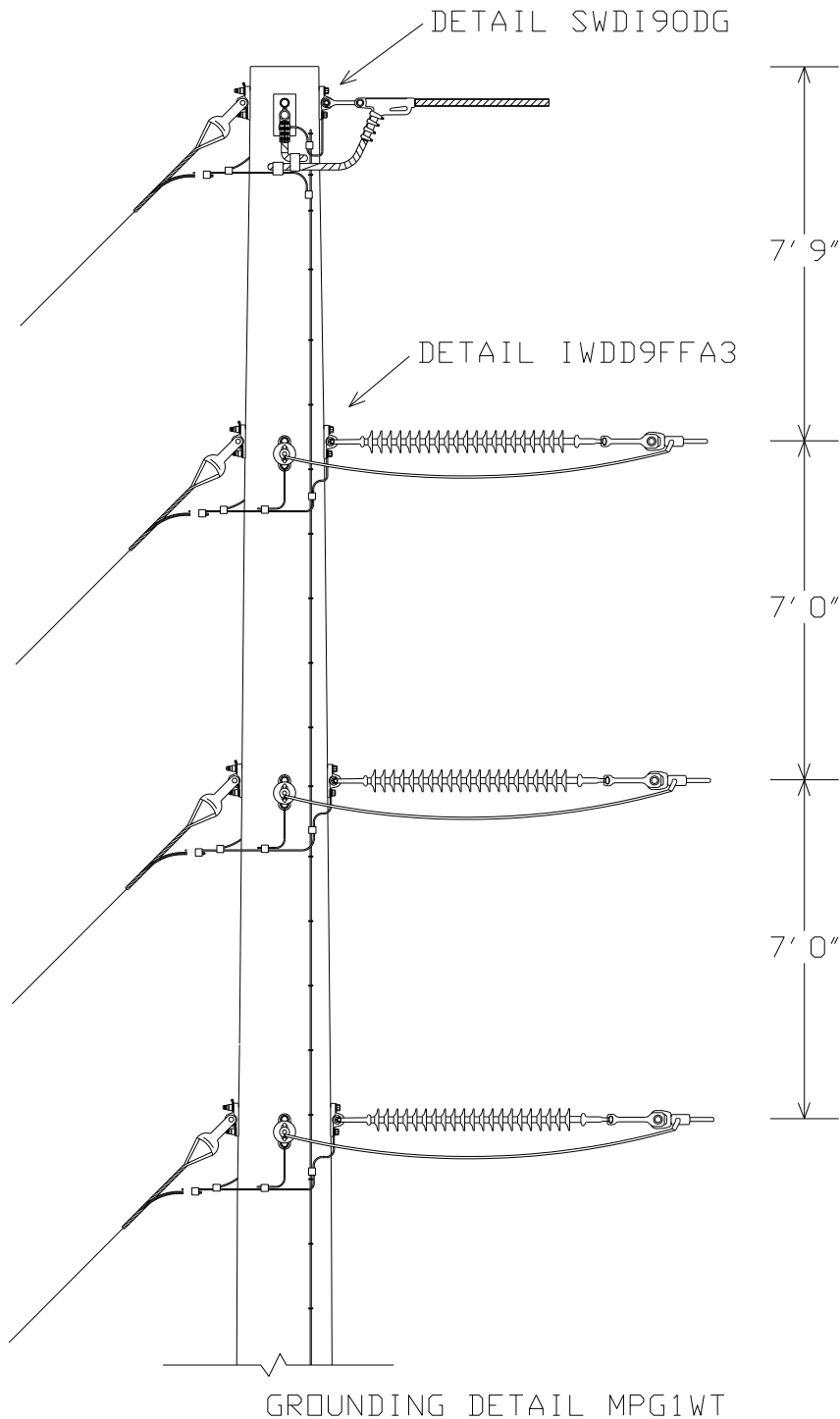
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD5SSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

# A1144C

69KV, DOUBLE DEADEND 90°, FULL TENSION TO FULL TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



# A1144C PLATES

## A1144C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	11	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	37 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	16	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A1144C\*556S

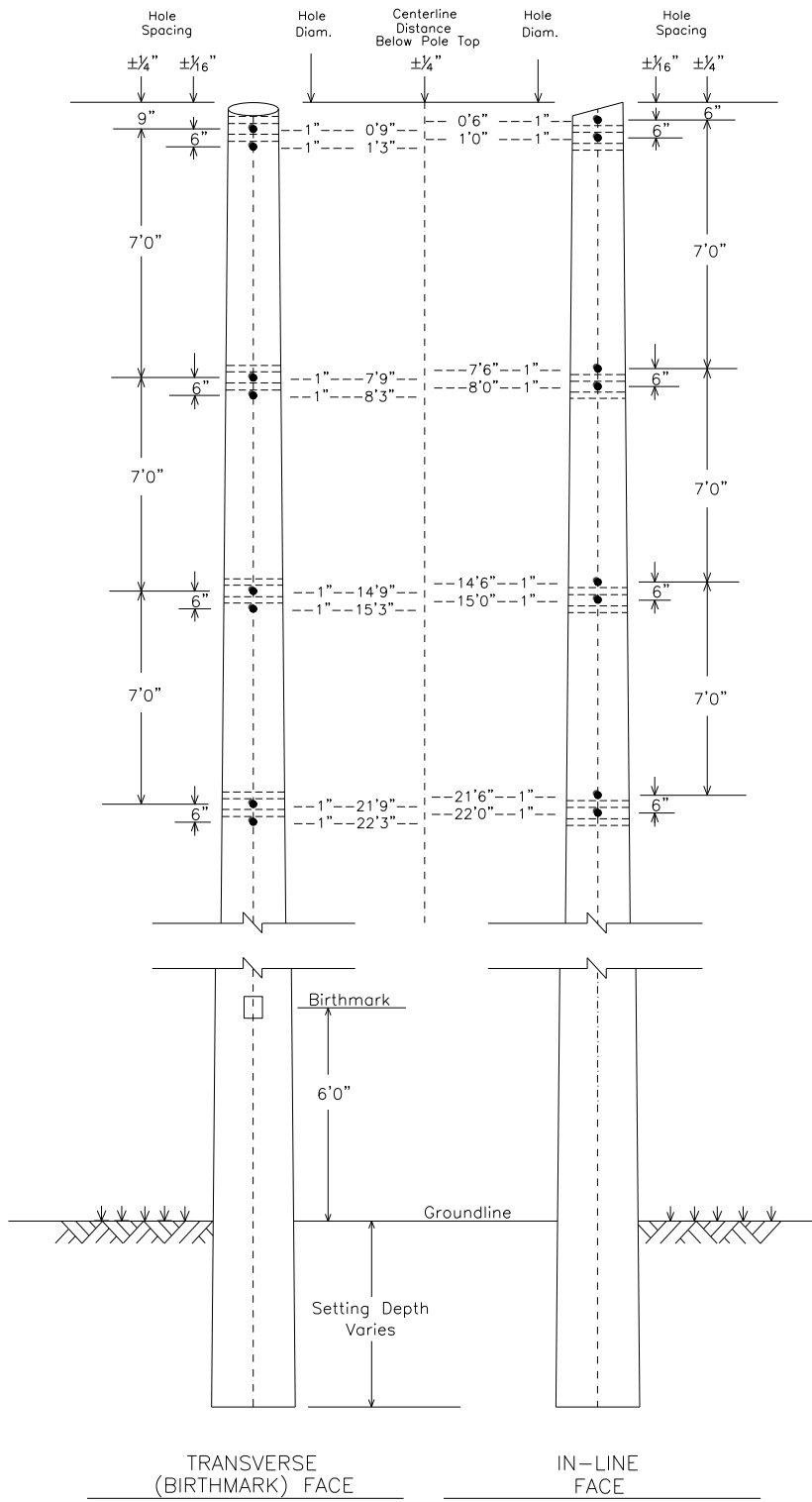
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

## A1144C\*954S

26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11



# A1144C DRILLING DETAIL



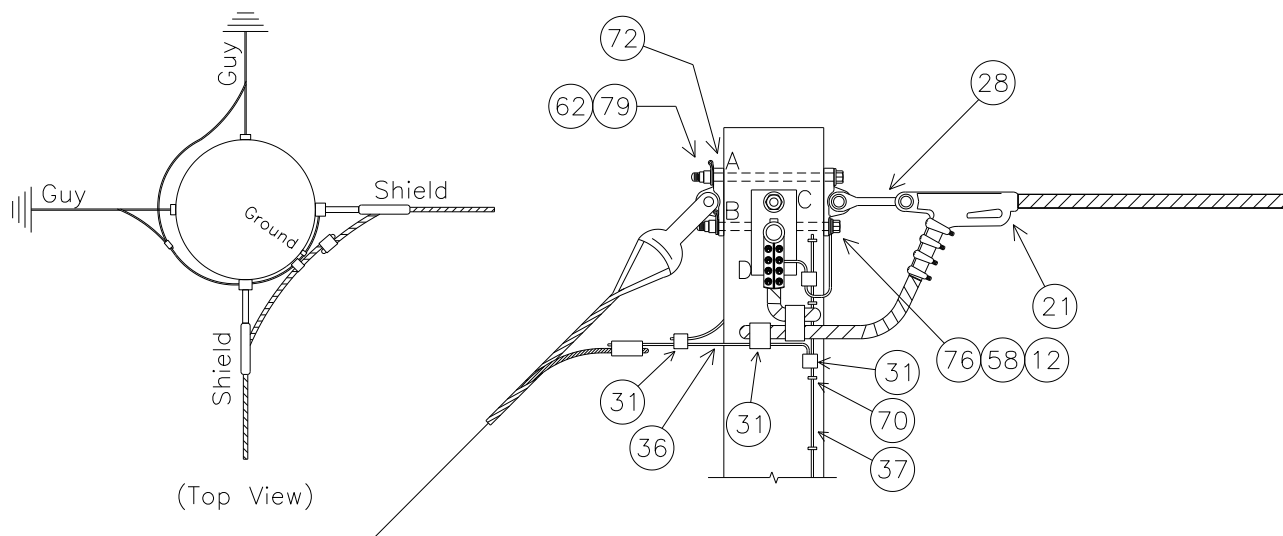
REVISÉ/REVIEWÉ: OCTOBRE 2013

REVISÉ/REVIEWÉ PAR: MLR

APPROVED BY: KKR

## SWDI90DG

SHIELD FOR WOOD POLES  
DOUBLE INLINE 90° WITH DOUBLE GUY



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	12.5
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	12.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

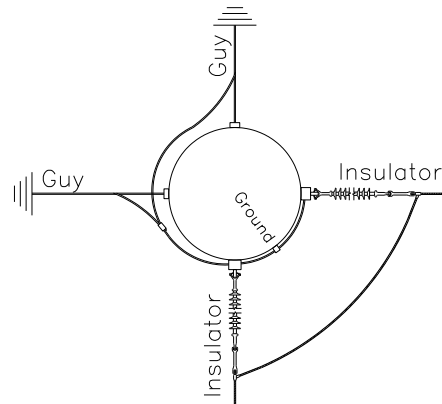
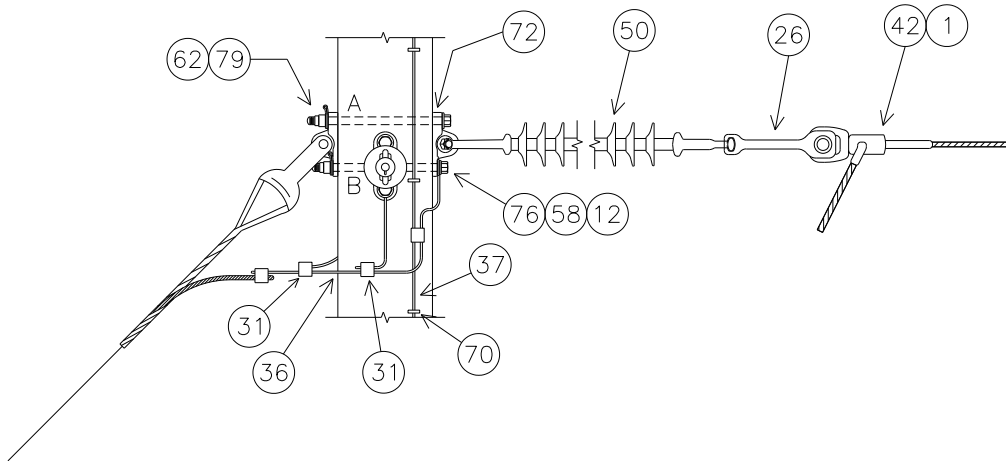
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	4	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## IWDD9FFA3

INSULATOR FOR WOOD STRUCTURES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	14.6	15.5	16.3	14.7	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8	13.3	14.1	14.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9FFA3 PLATES

**IWDD9FFA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	9	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	30 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	12	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**IWDD9FFA3\*556S**

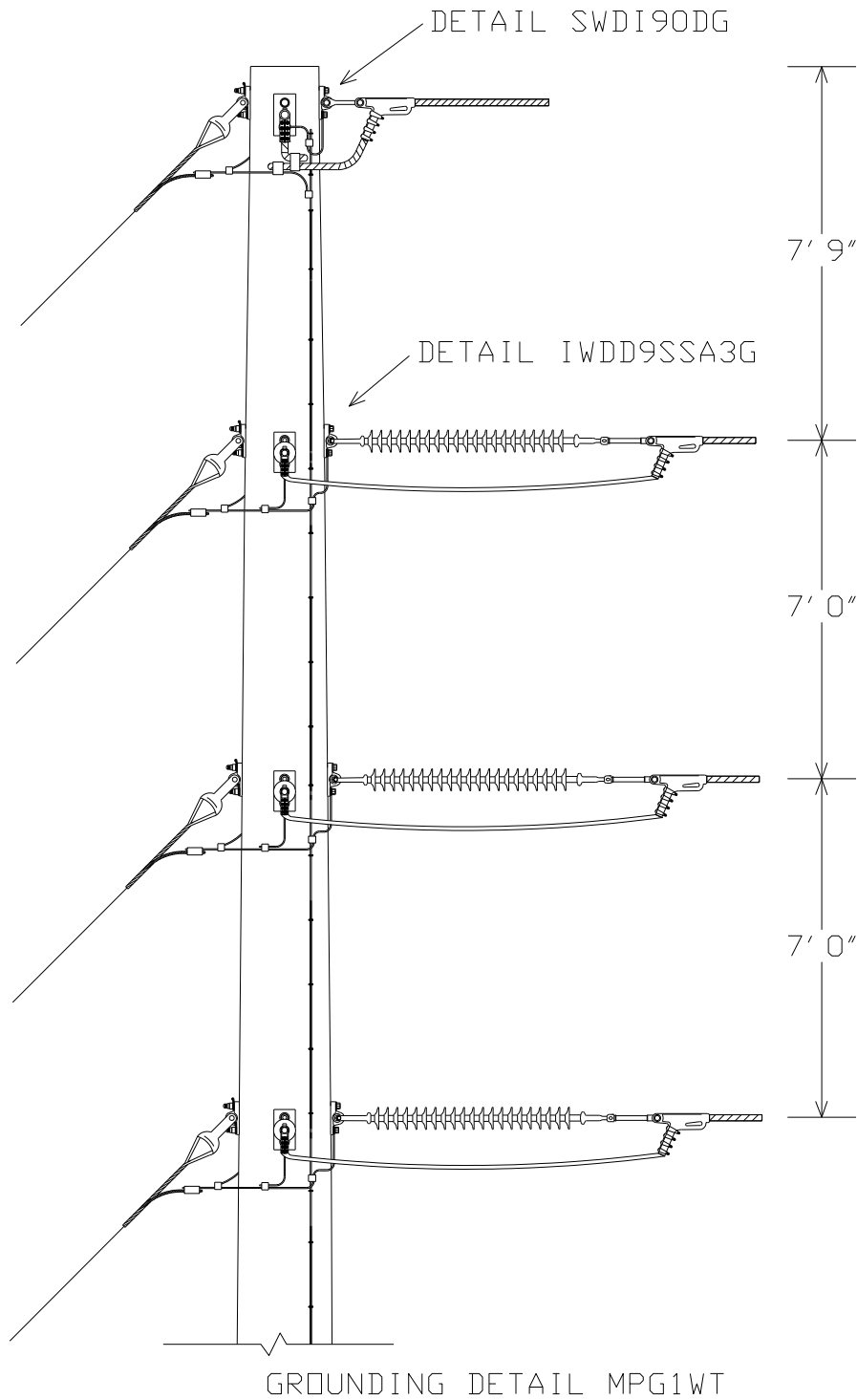
NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

**IWDD9FFA3\*954S**

NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

# A1144Q

69KV, DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954A, 954S



# A1144Q PLATES

## A1144Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	11	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	37 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	16	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A1144Q\*556S

21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

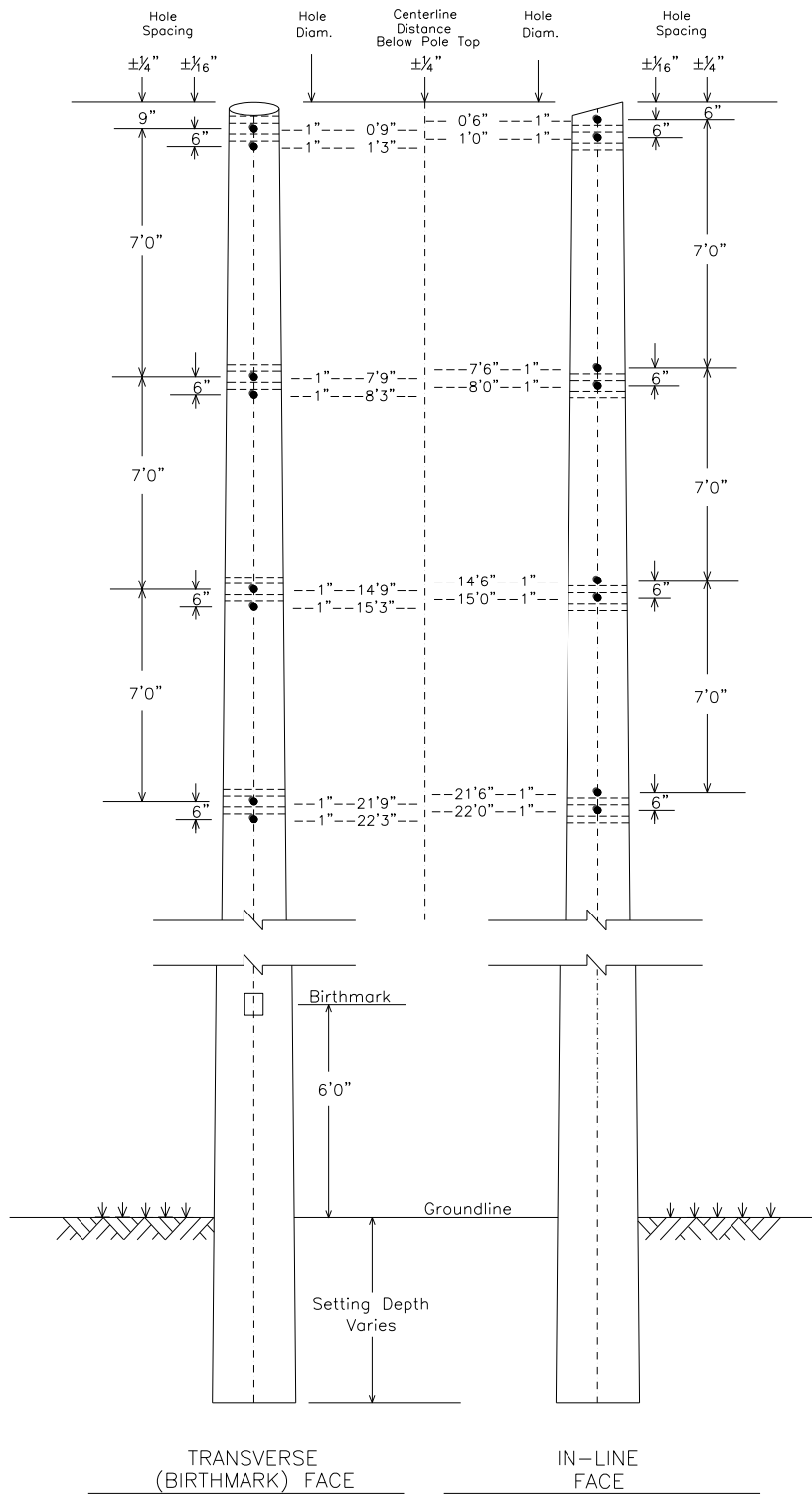
## A1144Q\*954A

21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC, COMPRESSION SPLICE, NON-TENSION ONLY

## A1144Q\*954S

21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## A1144Q DRILLING DETAIL



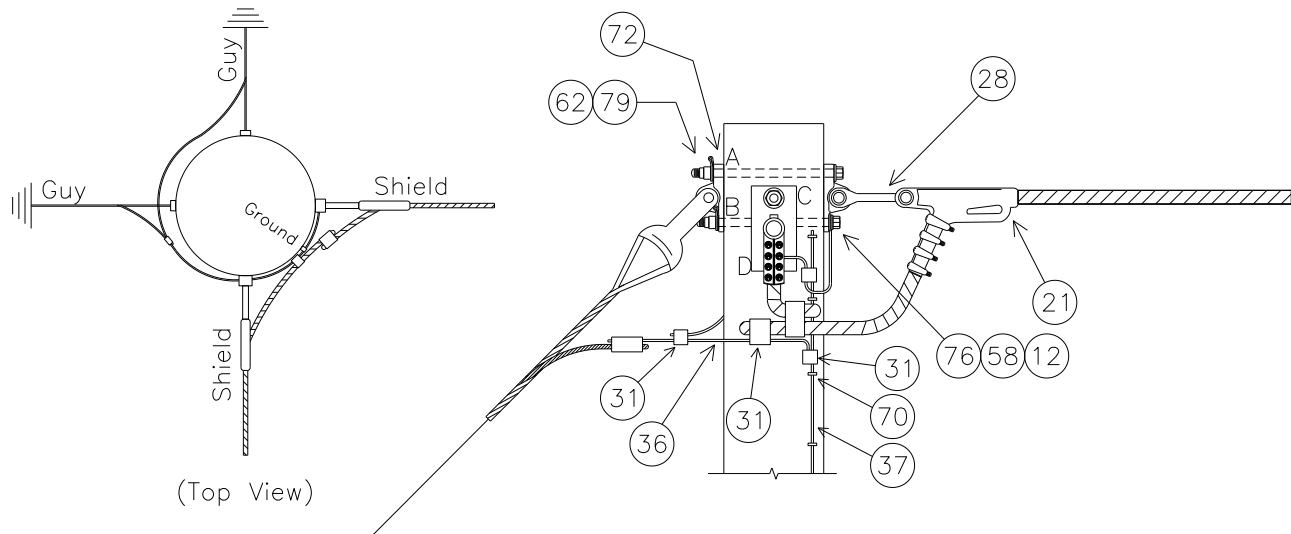
REVISÉ/REVISÉ: OCTOBRE 2013

REVISÉ/REVIEWÉ PAR: MLR

APPROVED BY: KKR

# SWDI90DG

SHIELD FOR WOOD POLES  
DOUBLE INLINE 90° WITH DOUBLE GUY



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	12.5
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	12.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	4	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

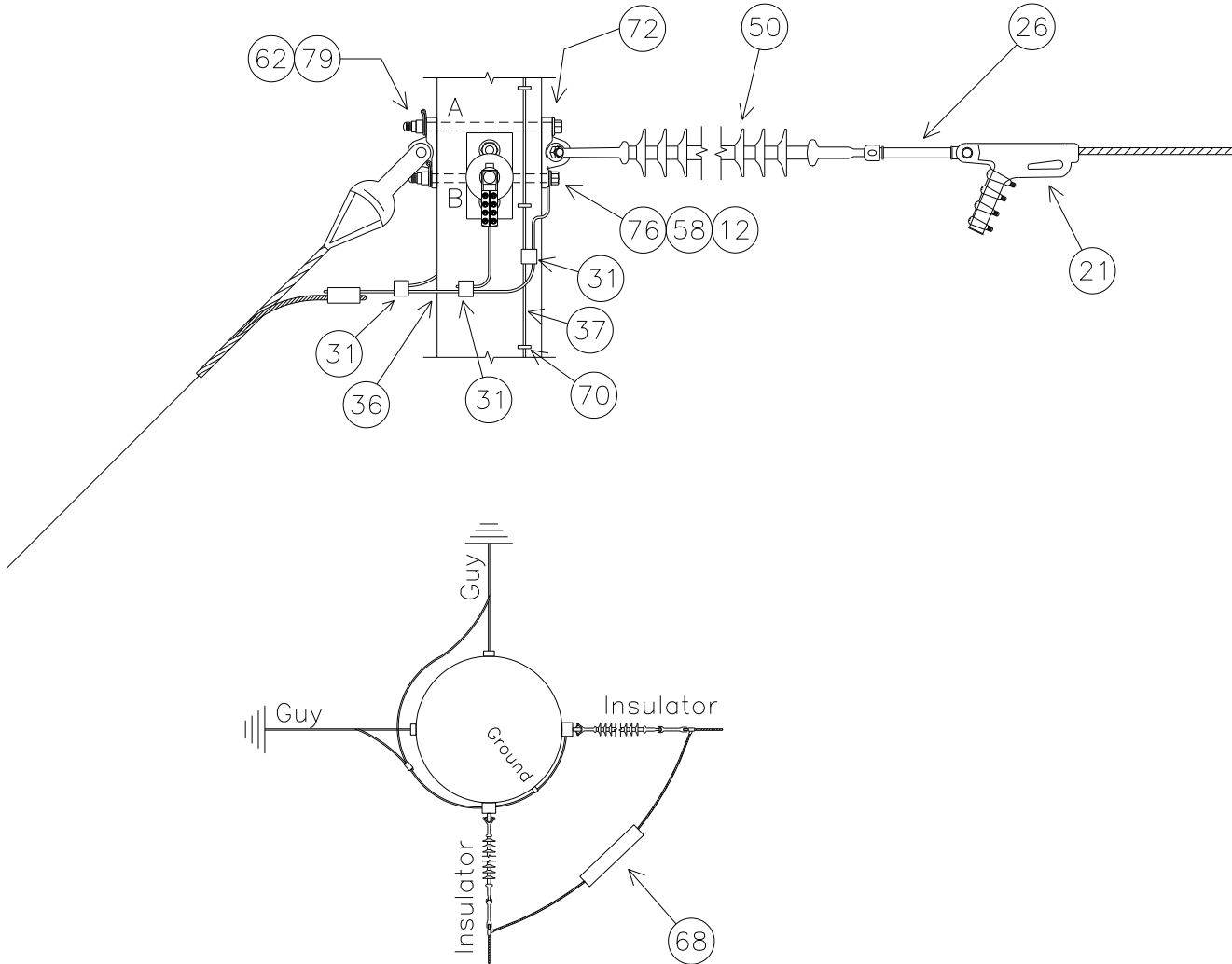


# IWDD9SSA3G

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE, GUYED

CONDUCTOR OPTIONS: 556S, 954A, 954S



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.5	16.3	14.7	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8	13.3	14.1	14.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9SSA3G PLATES

## IWDD9SSA3G BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	9	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	30 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	12	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD9SSA3G\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9SSA3G\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC, COMPRESSION SPLICE, NON-TENSION ONLY

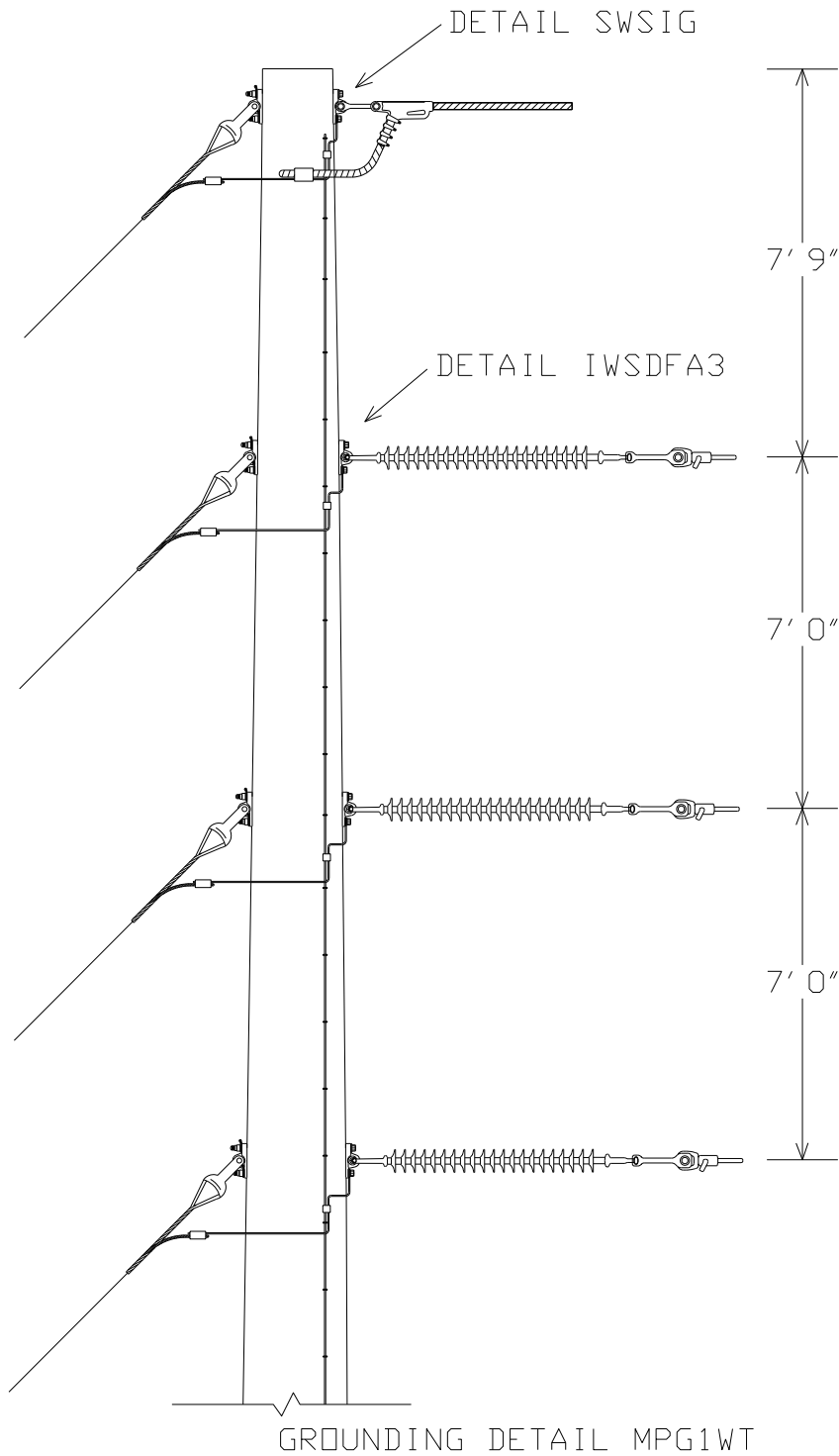
## IWDD9SSA3G\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ASCR, COMPRESSION SPLICE, NON-TENSION ONLY

# A1145C

69KV, SINGLE DEADEND, FULL TENSION, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



# A1145C PLATES

## A1145C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	8	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

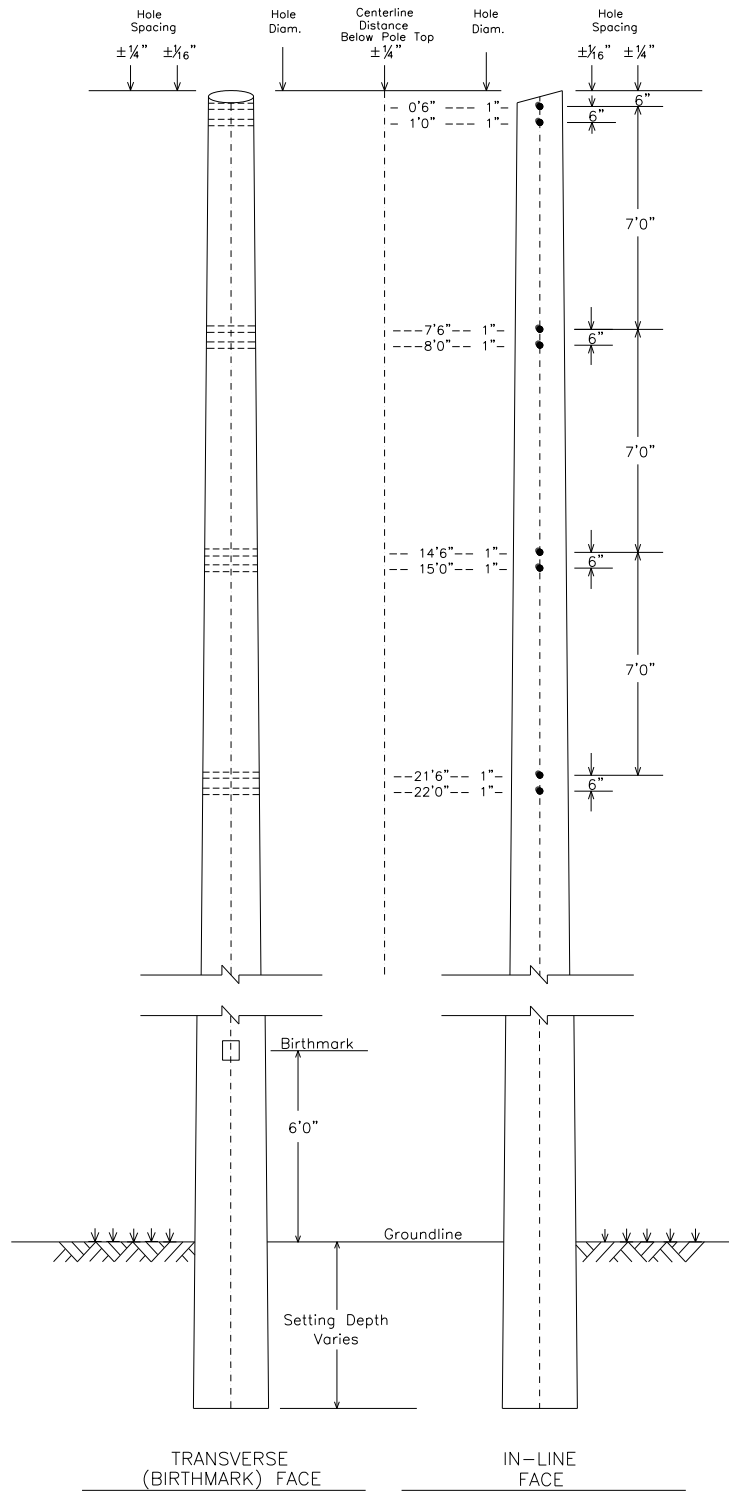
## A1145C\*556S

26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", HOT DIPPED GALV.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

## A1145C\*954S

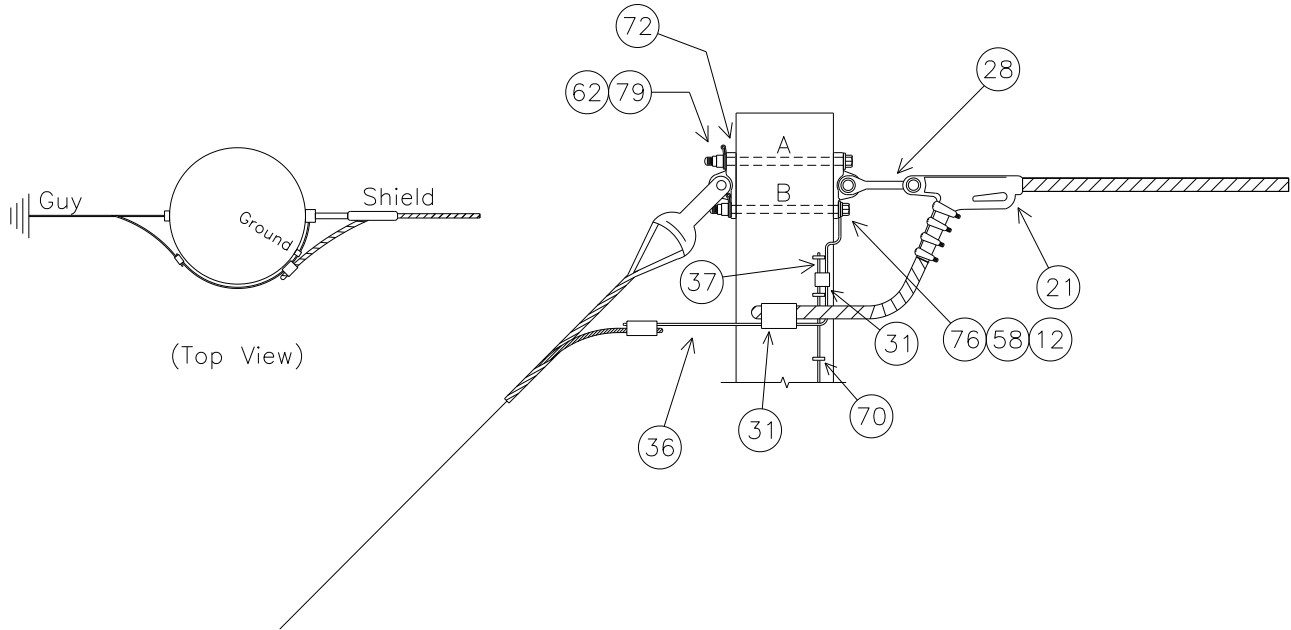
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSD 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

# A1145C DRILLING DETAIL



# SWSIG

SHIELD FOR WOOD POLES  
SINGLE INLINE, GUYED



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

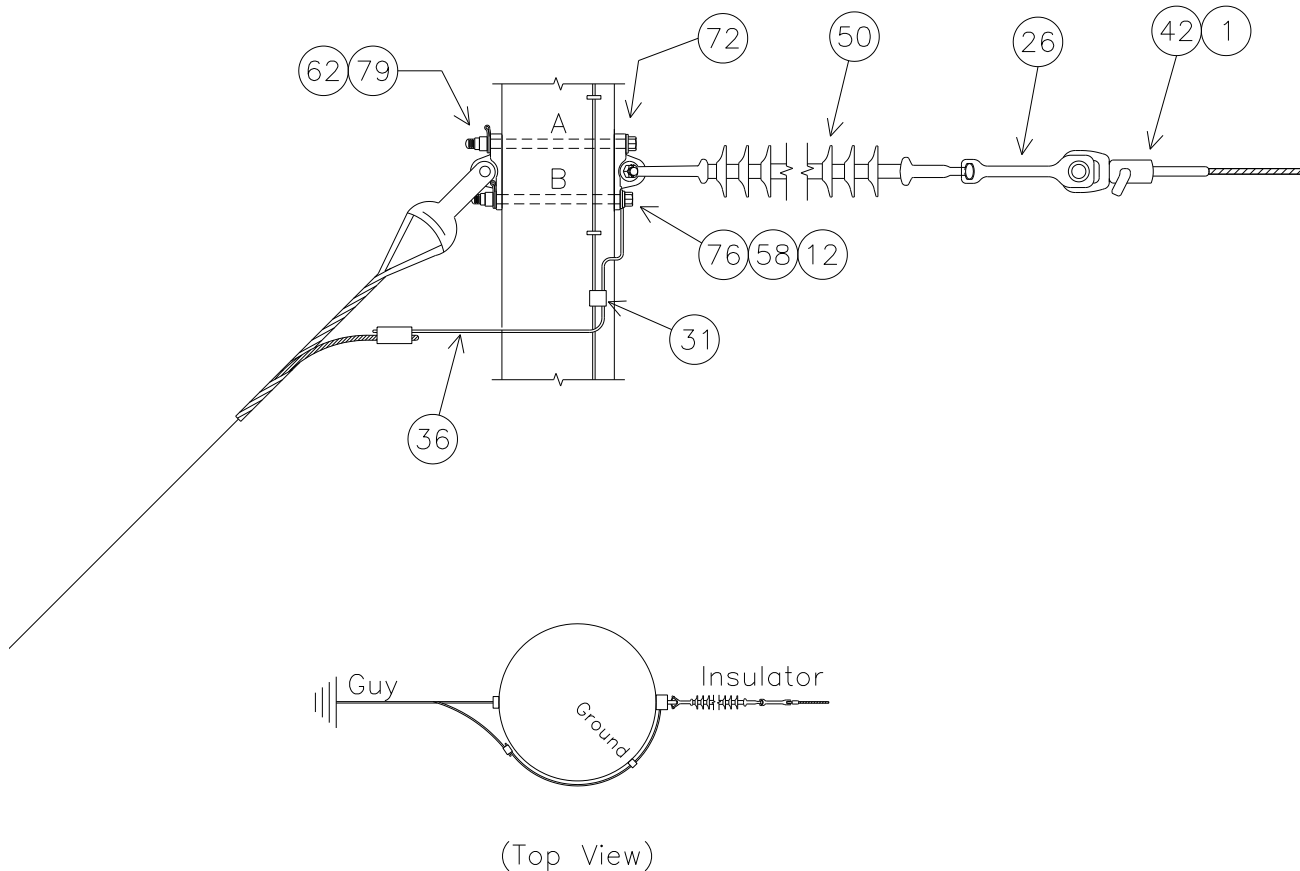
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## IWSDFA3

INSULATOR FOR WOOD POLES

SINGLE DEAD-END, FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.6	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWSDFA3 PLATES

## IWSDFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSDFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", HOT DIPPED GALV.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

## IWSDFA3\*954S

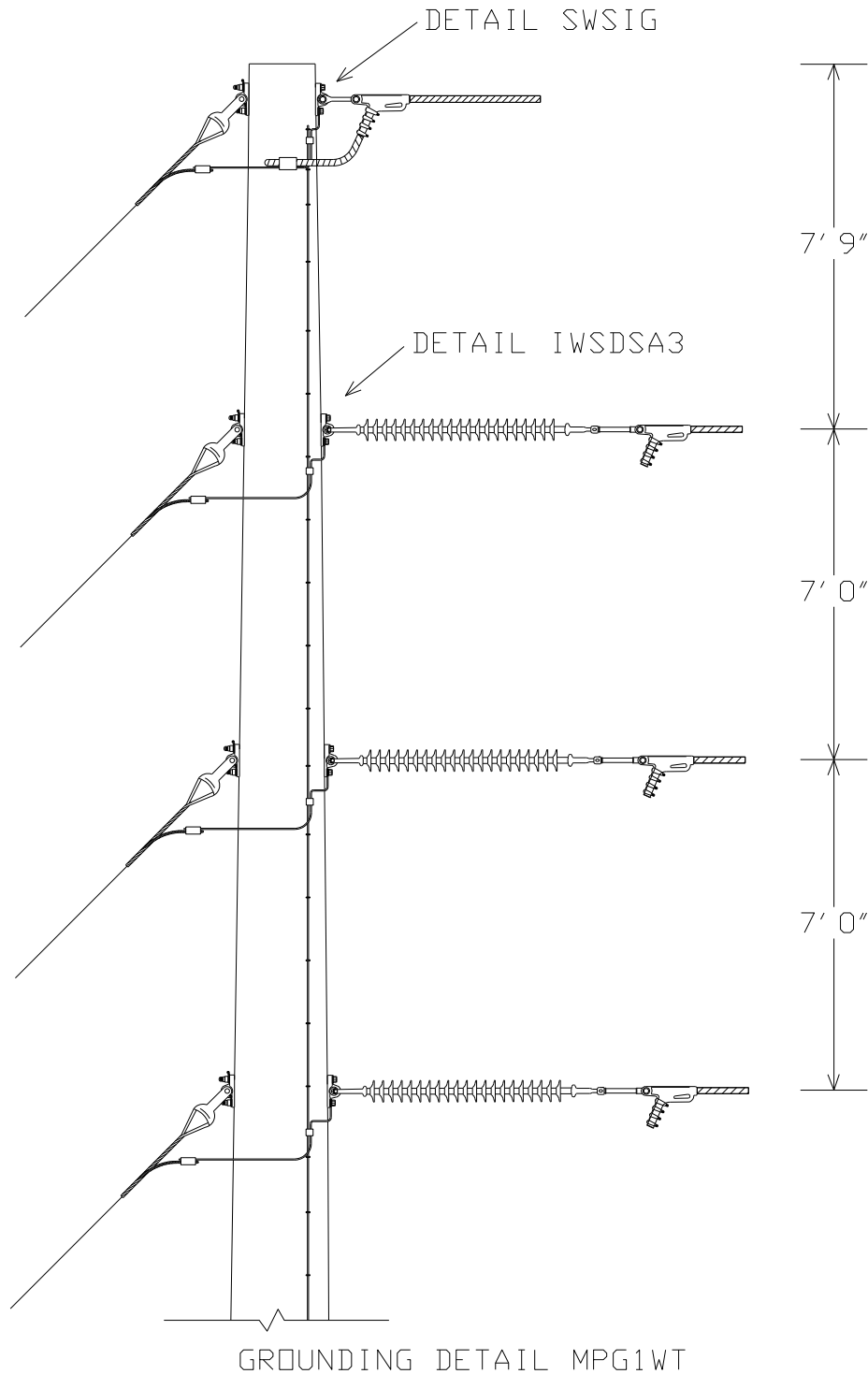
NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSD 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11



# A1145Q

69KV, SINGLE DEADEND, SLACK TENSION, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



# A1145Q PLATES

## A1145Q BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	8	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A1145Q\*556S

21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
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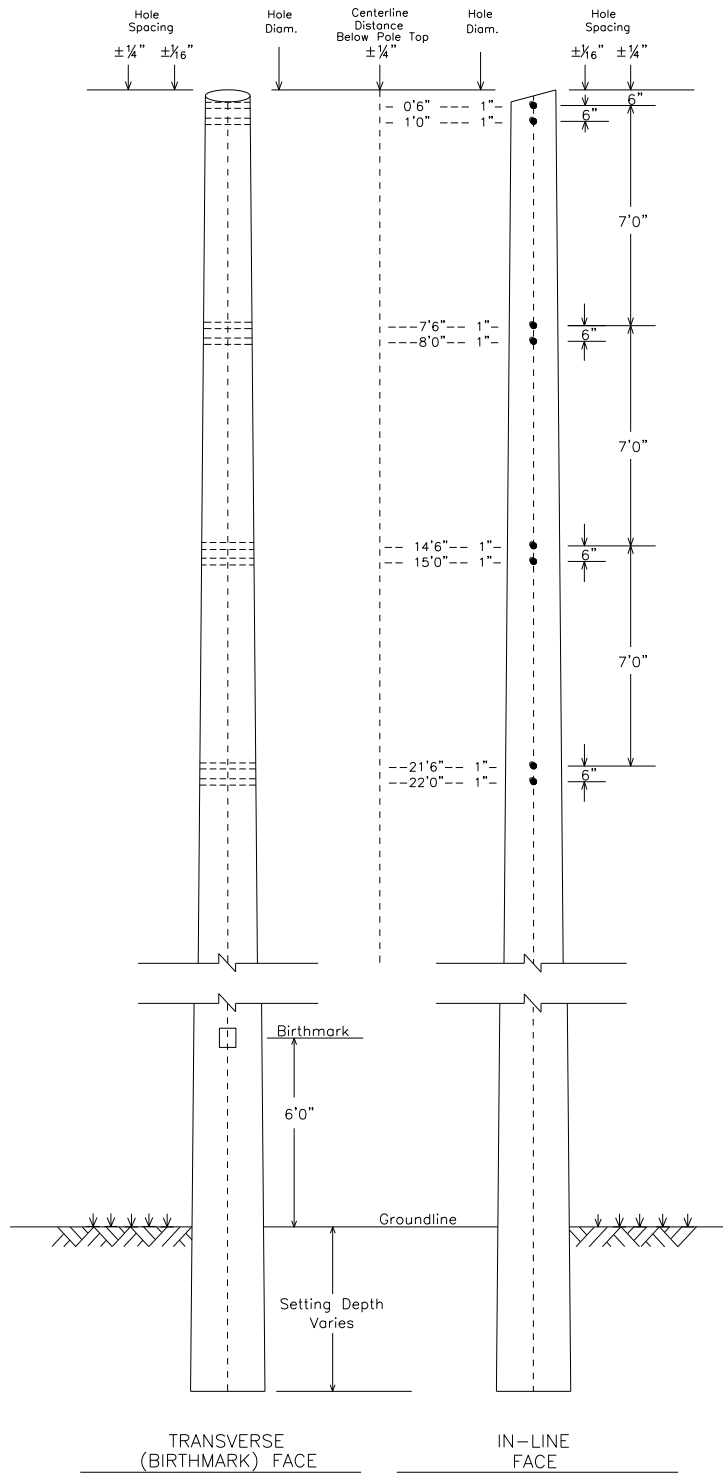
## A1145Q\*954A

21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
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## A1145Q\*954S

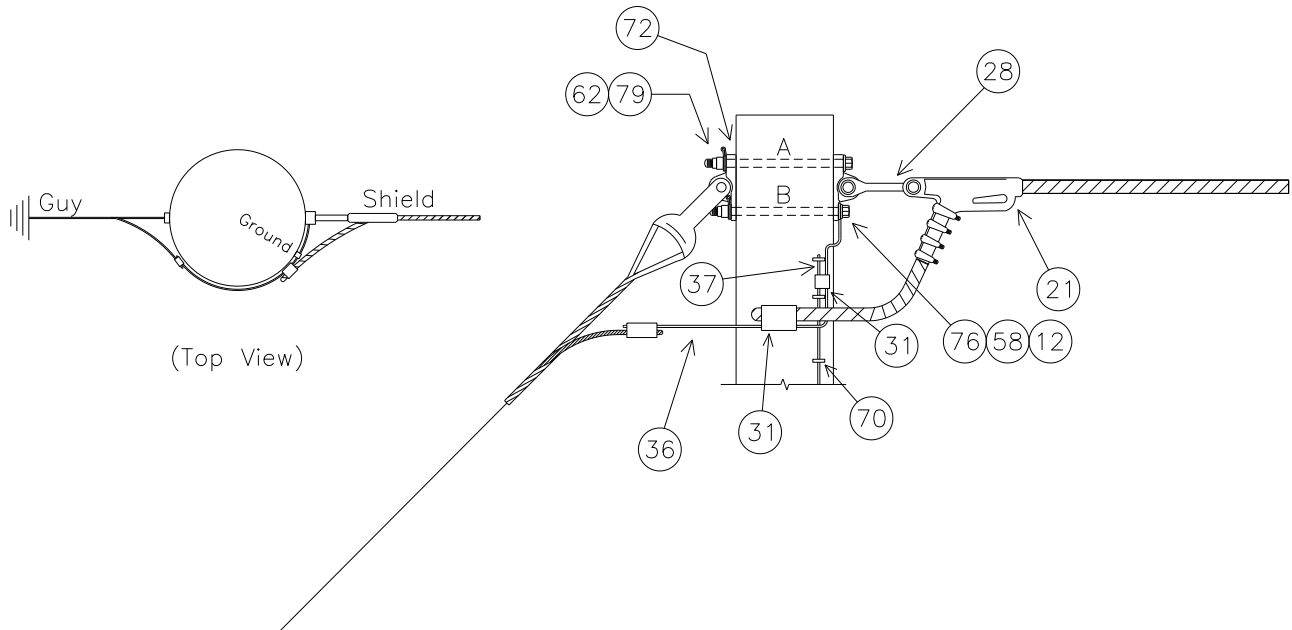
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
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# A1145Q DRILLING DETAIL



# SWSIG

SHIELD FOR WOOD POLES  
SINGLE INLINE, GUYED



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

REVISED/REVIEWED: OCTOBER 2013

REVISED/REVIEWED BY: MLR

APPROVED BY: KKR

**69KV WOOD STRUCTURES-NEW CONSTRUCTION**

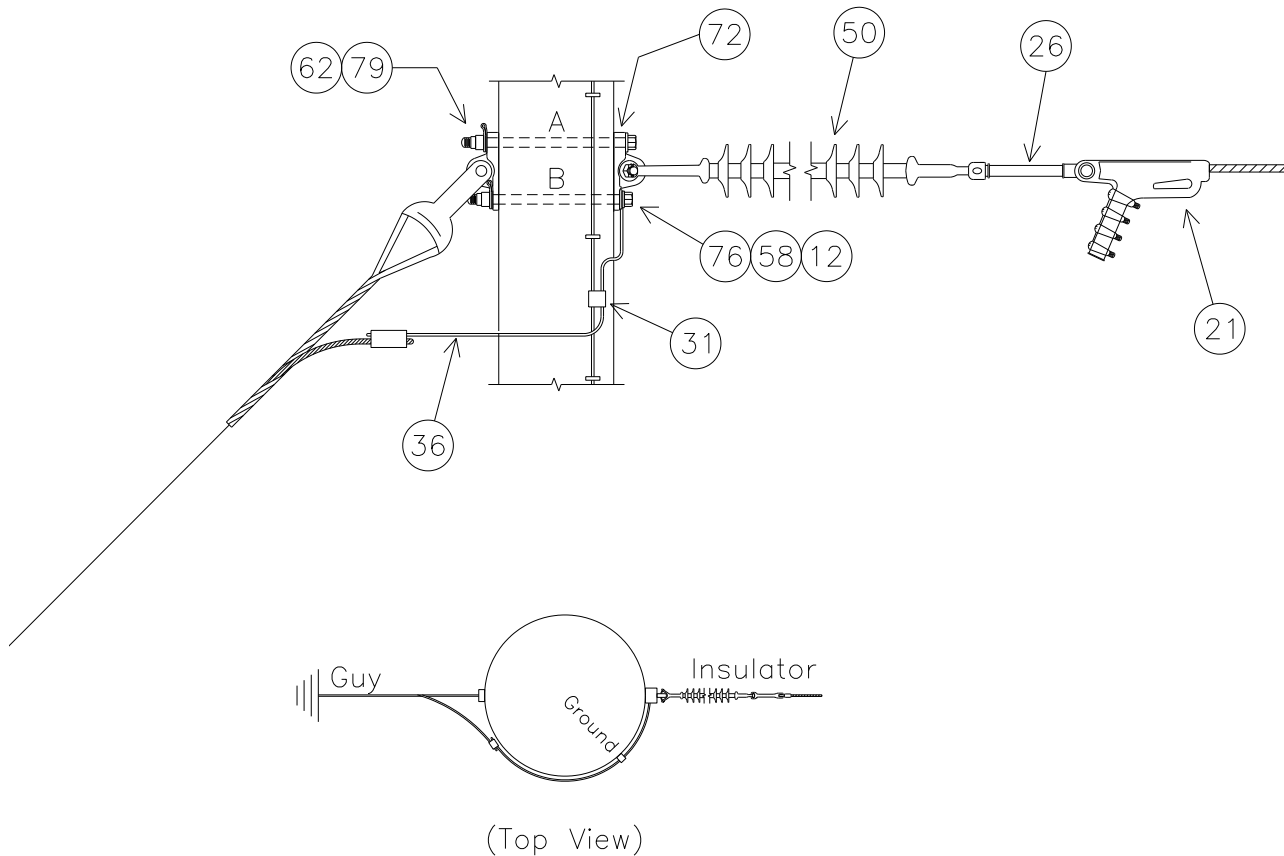
STW69-35

## IWSDSA3

INSULATOR FOR WOOD POLES

SINGLE DEAD-END, SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWSDSA3 PLATES

## IWSDSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSDSA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## IWSDSA3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

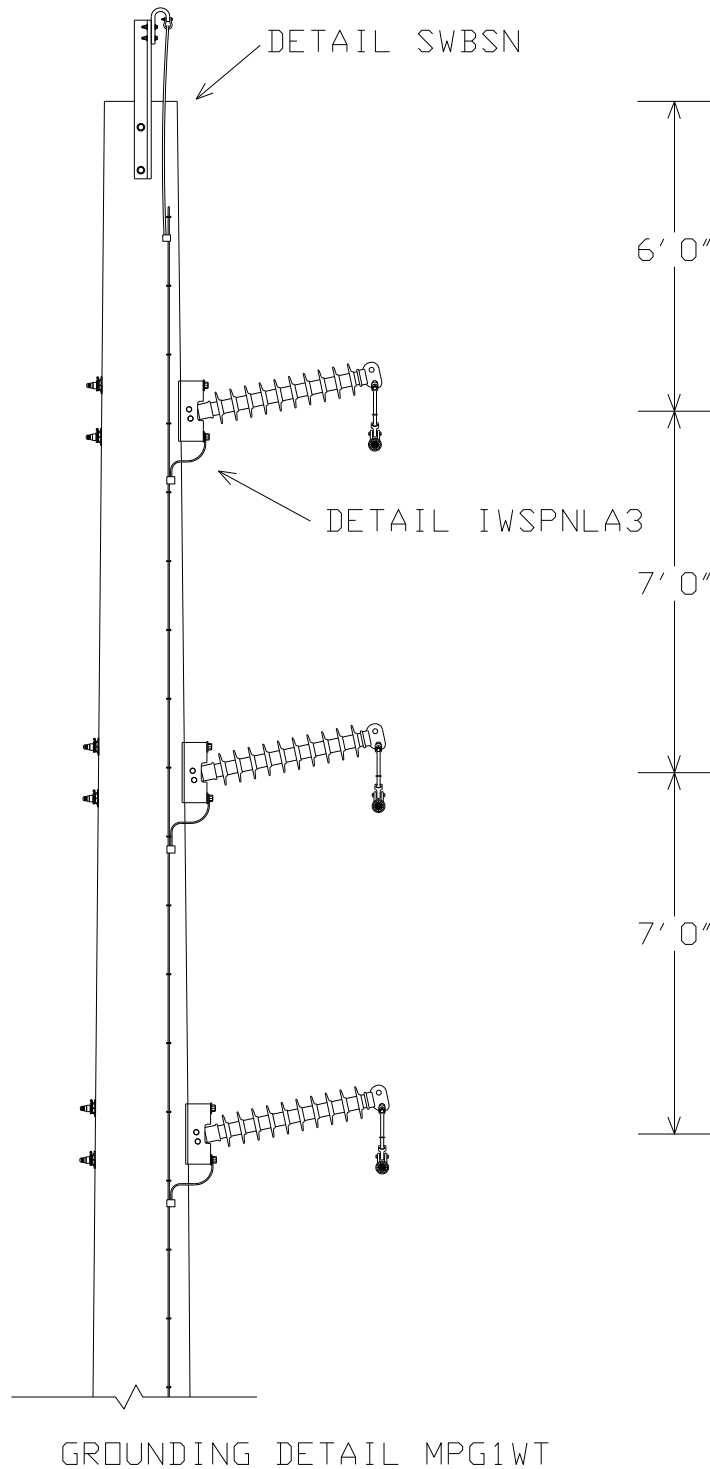
## IWSDSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

# A1151

69KV SINGLE POST, UNGUYED, TANGENT SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



# A1151 PLATES

## A1151 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 051	6	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	10 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A1151\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", GALV.

## A1151\*954A

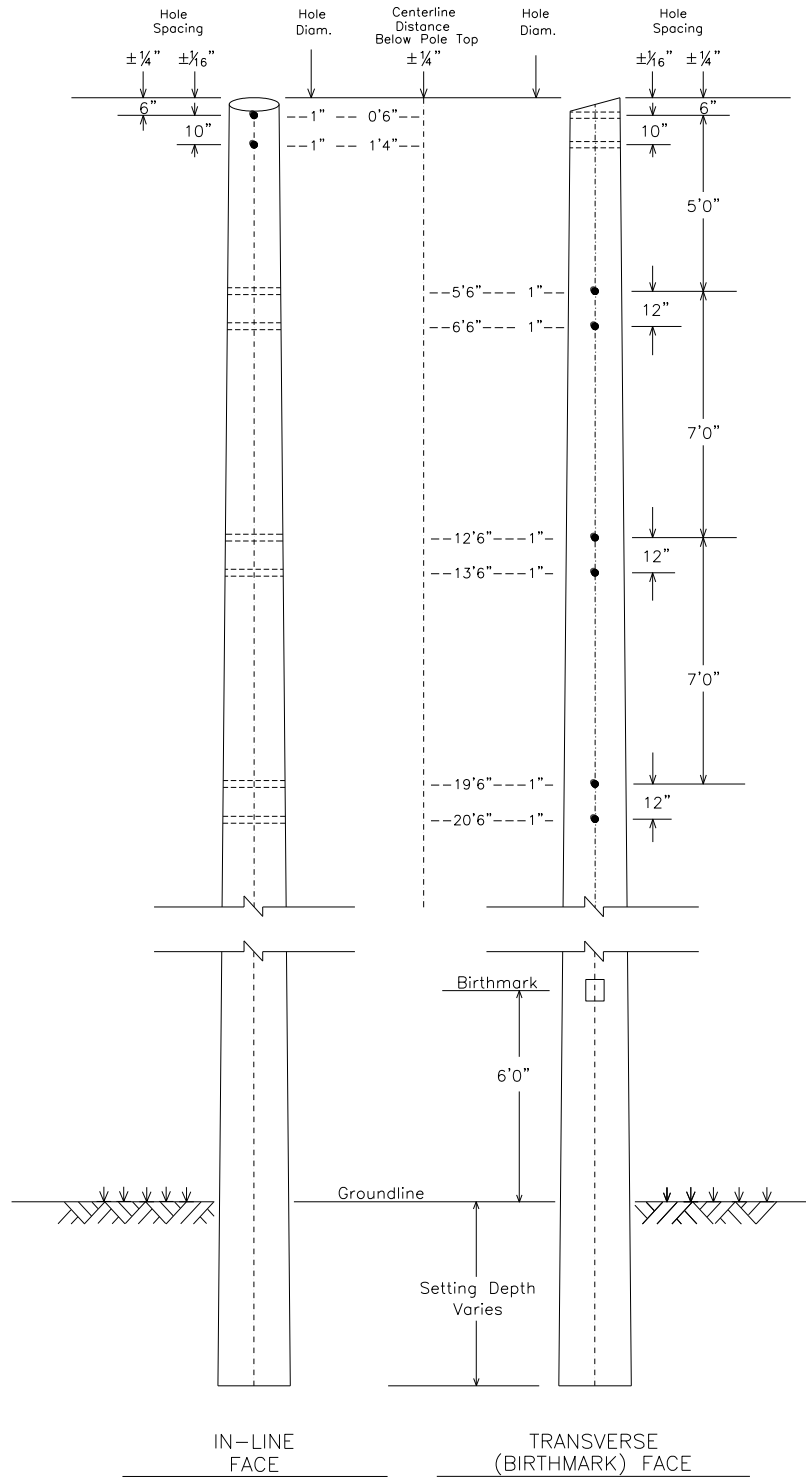
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## A1151\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.



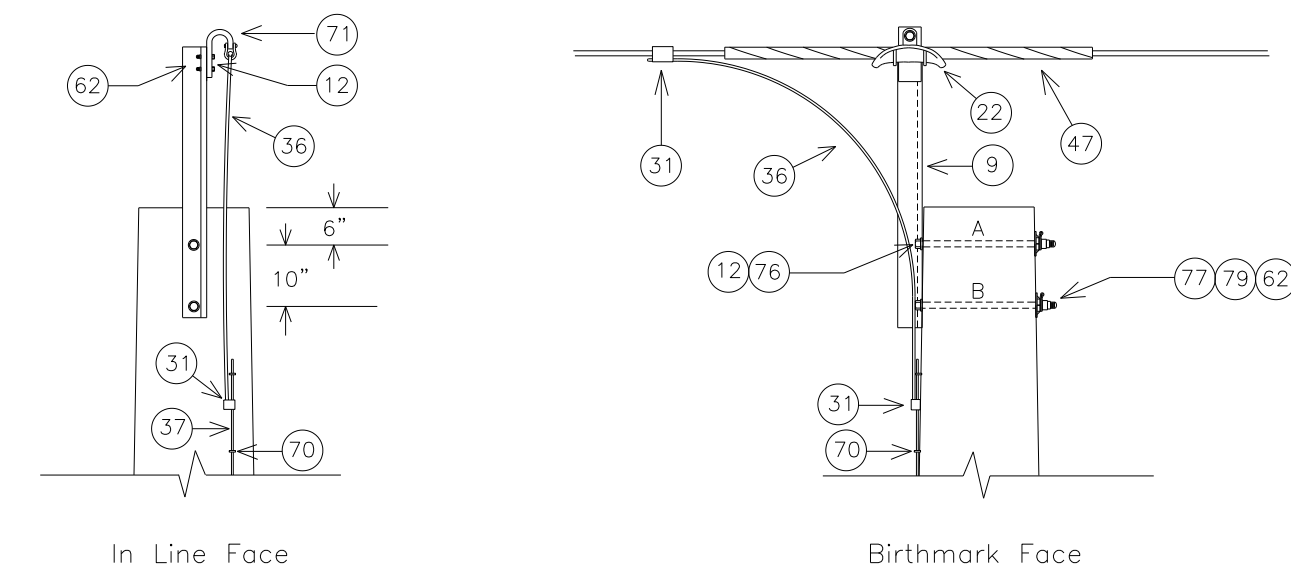
# A1151 DRILLING DETAIL



## SWBSN

SHIELD FOR WOOD POLES

BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.5
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	11.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

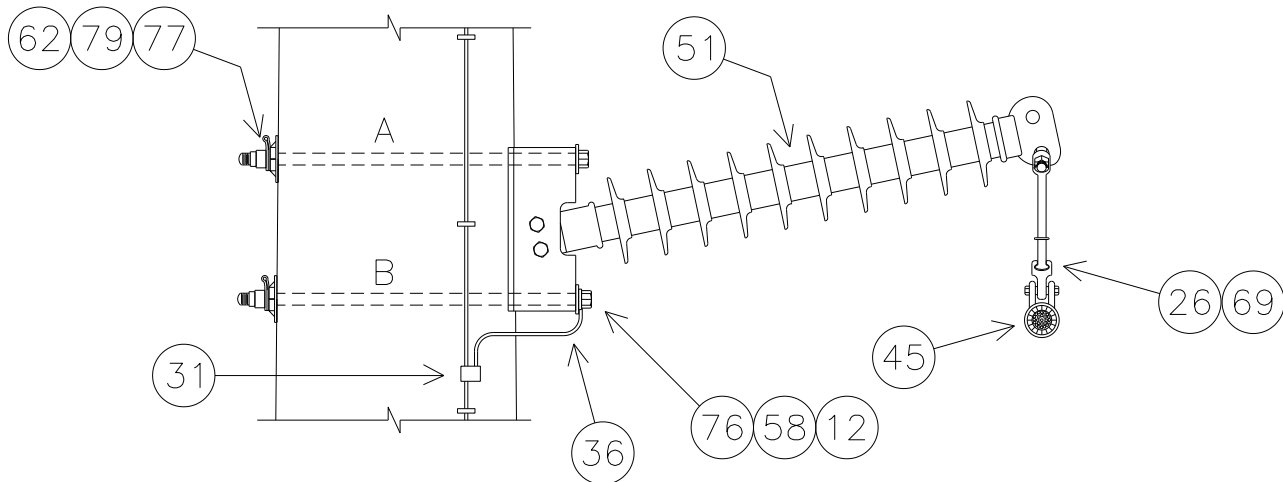
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# IWSPNLA3

INSULATOR FOR WOOD POLES

SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	18.0	18.8	19.6
BOLT 'B' LENGTH (INCHES)	18.4	19.2	20.0

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWSPNLA3 PLATES

## IWSPNLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 051	6	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPNLA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

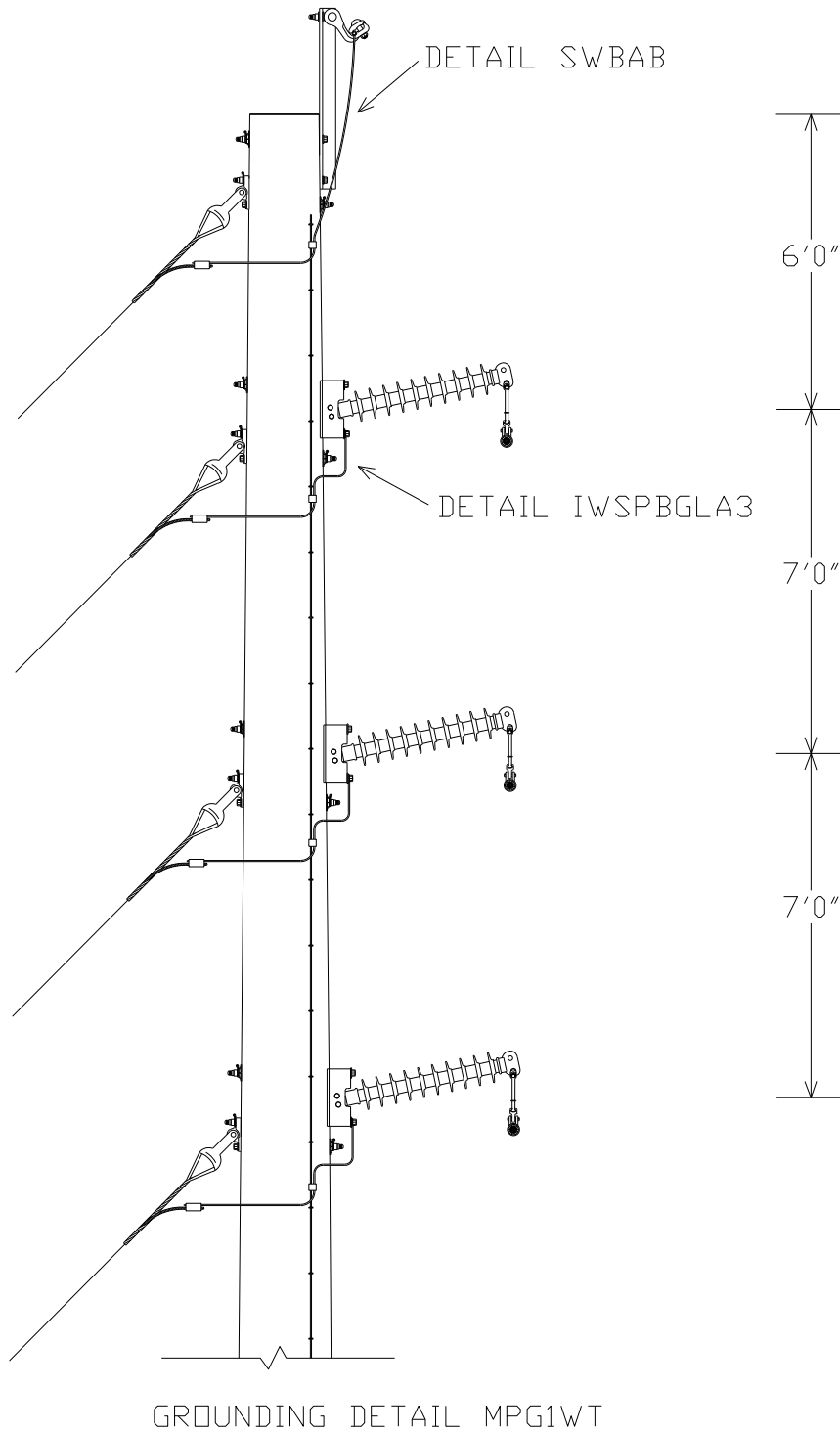
## IWSPNLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# A1152A

69KV SINGLE POST, BACK GUYED, ANGLE SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



# A1152A PLATES

## A1152A BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
11	BOLDA 034	3	DOUBLE ARMING BOLT, 7/8" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 036	1	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	1	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 051	3	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	13 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 1/2", EYE = 13/16", FORGED STEEL, GALV.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	4	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	5	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	9	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	3	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A1152A\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
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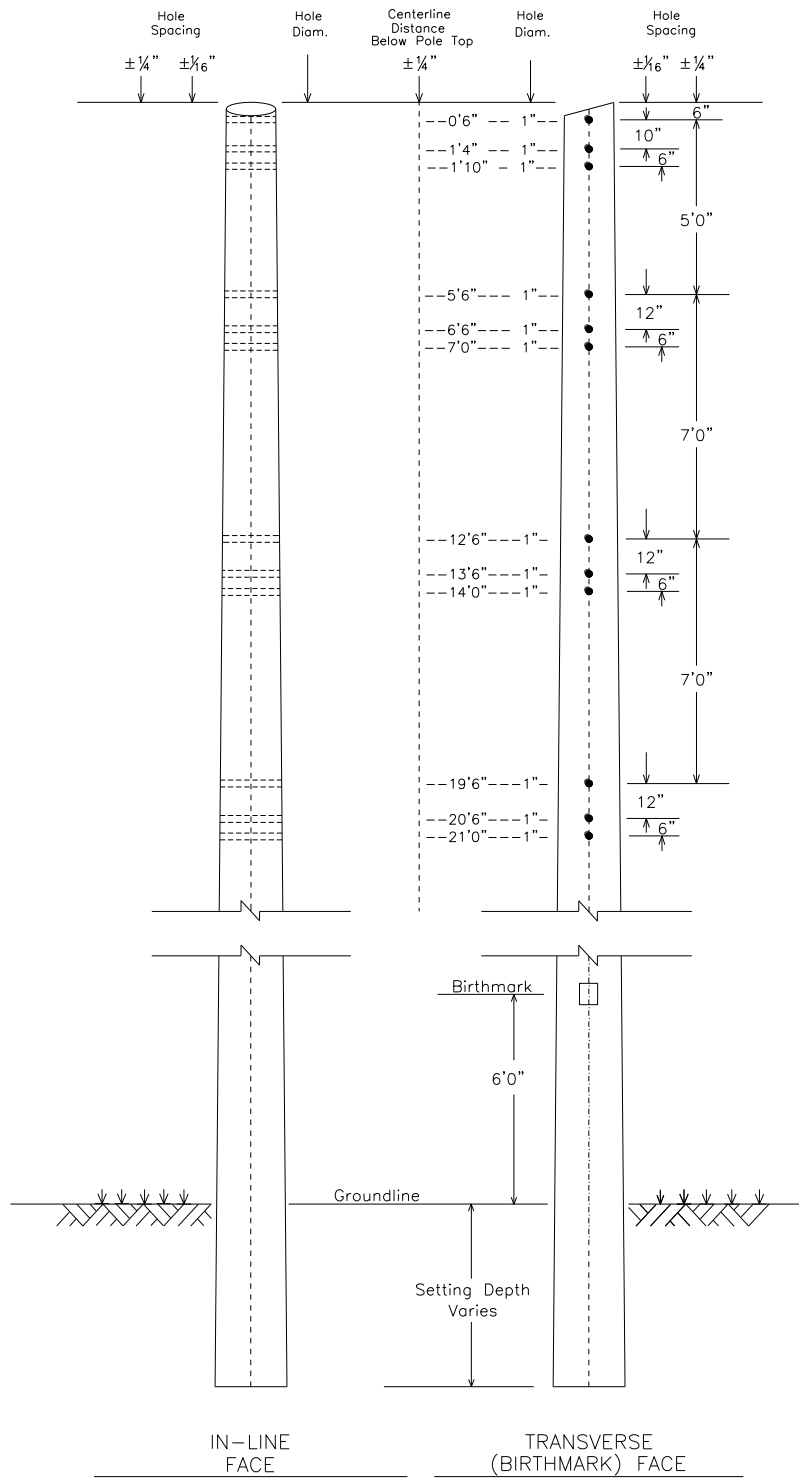
## A1152A\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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## A1152A\*954S

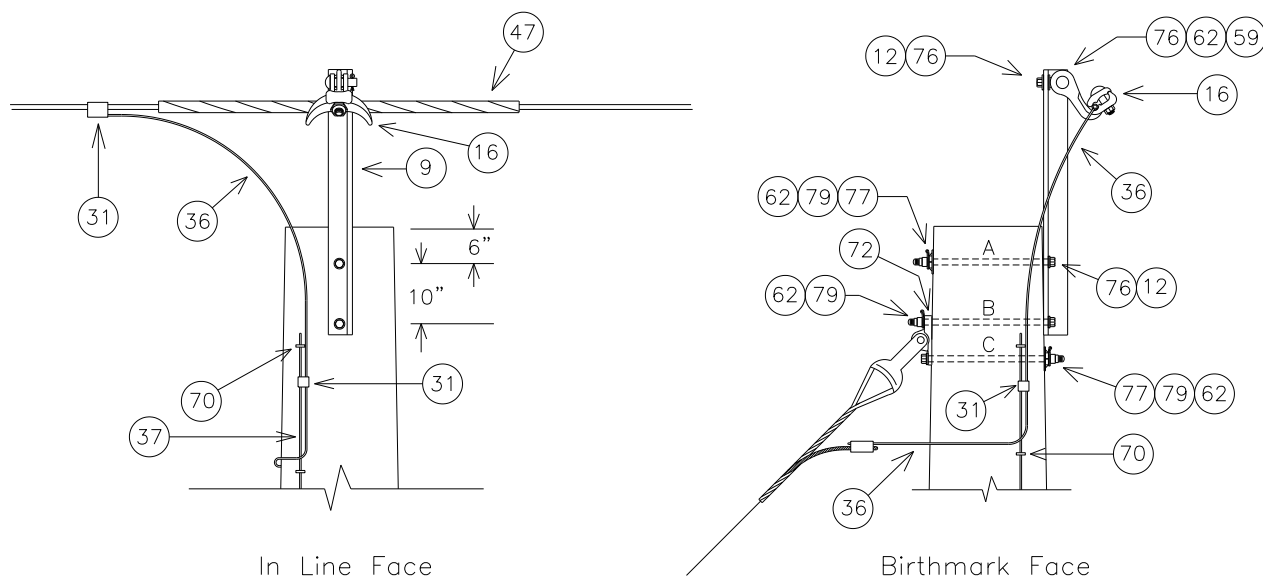
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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# A1152A DRILLING DETAIL



## SWBAB

SHIELD FOR WOOD POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUYED



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.4
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	12.4
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	11.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 036	1	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	5	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	3	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

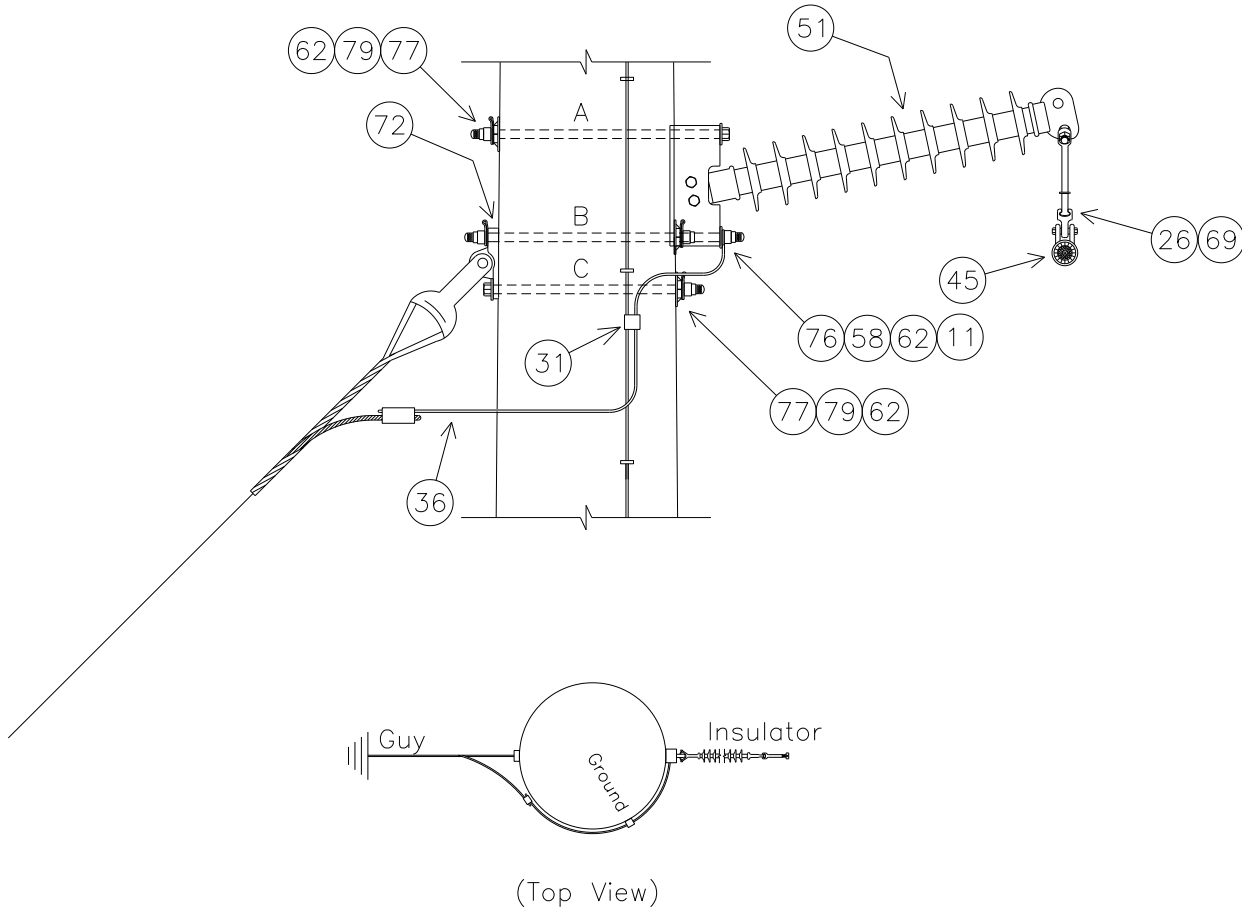


# IWSPBGLA3

INSULATOR FOR WOOD POLES

SINGLE POST, BOTTOM GUYED, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	18.0	18.8	19.6
BOLT 'B' LENGTH (INCHES) DA	19.3	20.1	20.9
BOLT 'C' LENGTH (INCHES)	13.1	13.9	14.7

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWSPBGLA3 PLATES

## IWSPBGLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 034	3	DOUBLE ARMING BOLT, 7/8" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	1	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 051	3	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 1/2", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	9	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPBGLA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
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## IWSPBGLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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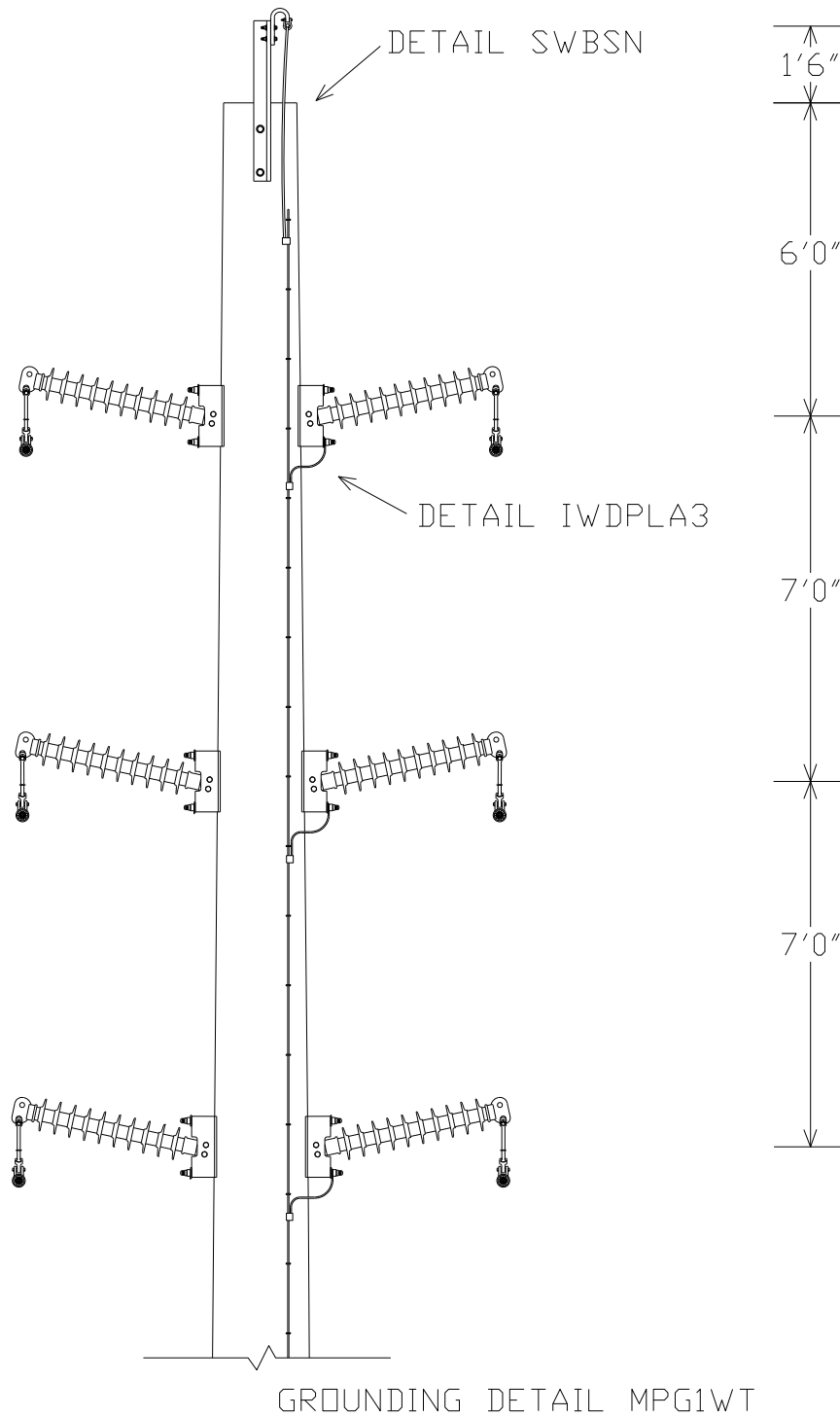
## IWSPBGLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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# A2151

69KV DOUBLE POST, UNGUYED, TANGENT SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



# A2151 PLATES

## A2151 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
11	BOLDA 041	3	DOUBLE ARMING BOLT, 7/8" X 28", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 042	3	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	13 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - .366"
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

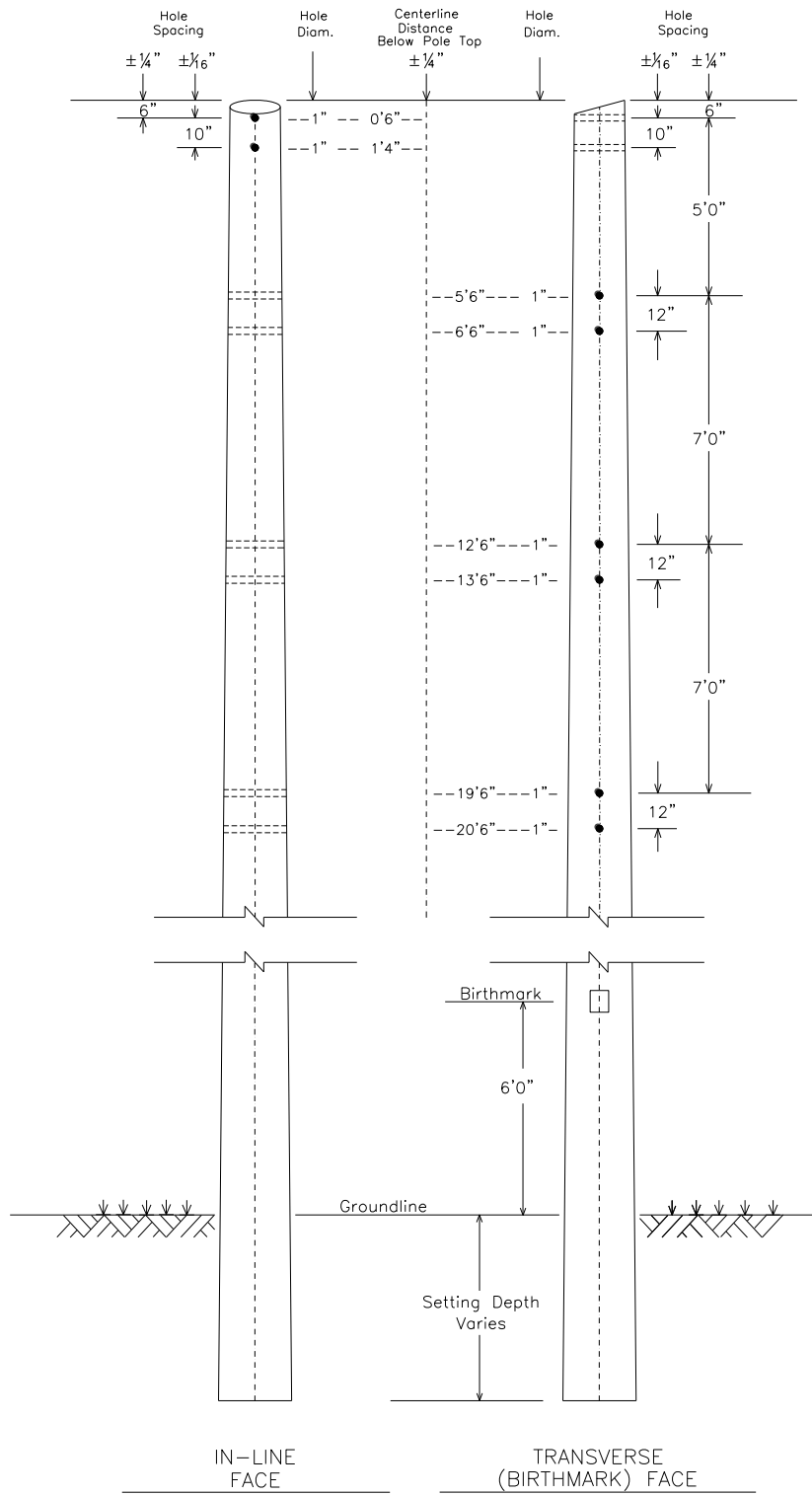
## A2151\*556S

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4

## A2151\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16

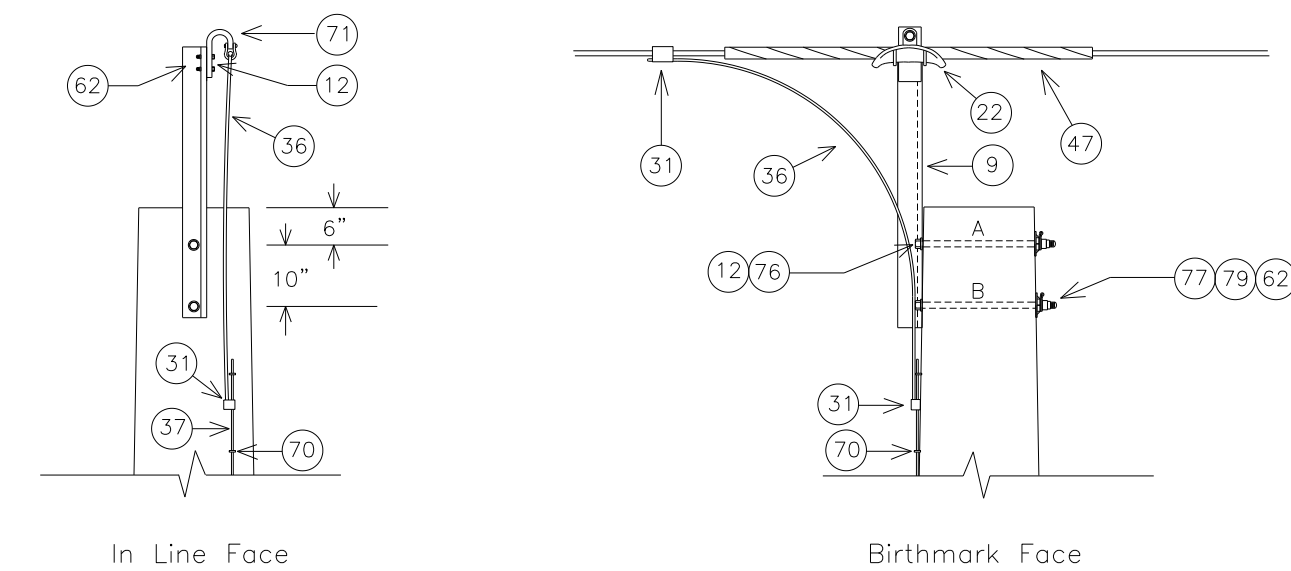
# A2151 DRILLING DETAILS



## SWBSN

SHIELD FOR WOOD POLES

BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.5
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	11.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

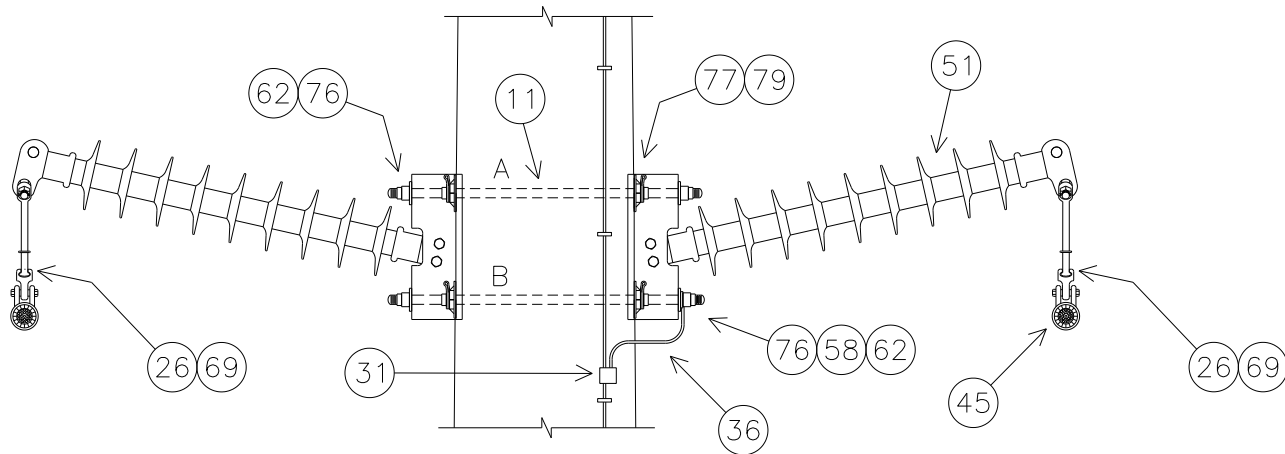
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# IWDPLA3

INSULATOR FOR WOOD POLES

DOUBLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	24.9	25.7	26.5
BOLT 'B' LENGTH (INCHES)	25.3	26.1	26.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWDPLA3 PLATES

## IWDPLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 041	3	DOUBLE ARMING BOLT, 7/8" X 28", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 042	3	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDPLA3\*556S

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

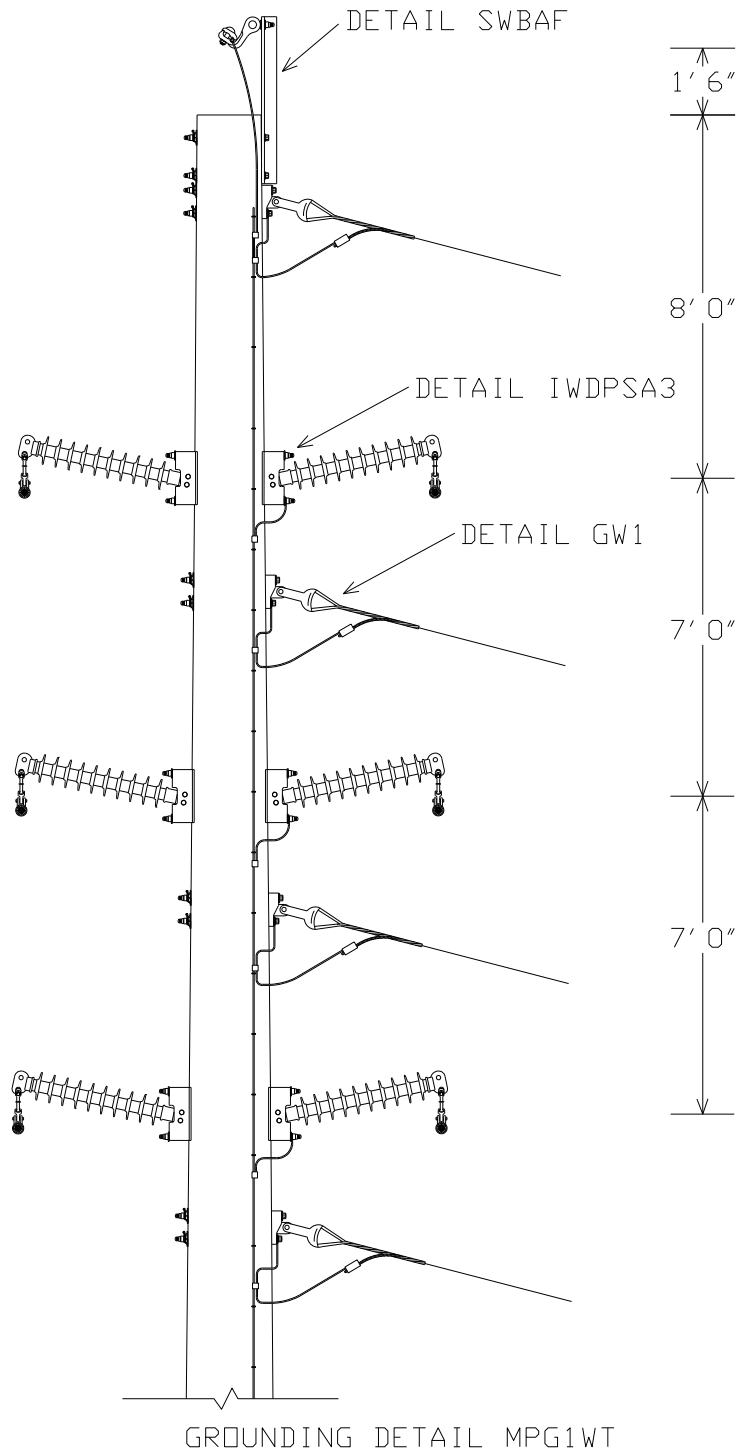
## IWDPLA3\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"



# A2153

69KV DOUBLE POST, FRONT GUYED, ANGLE SHIELD, 3-PHASE  
CONDUCTOR OPTIONS: 556S



# A2153 PLATES

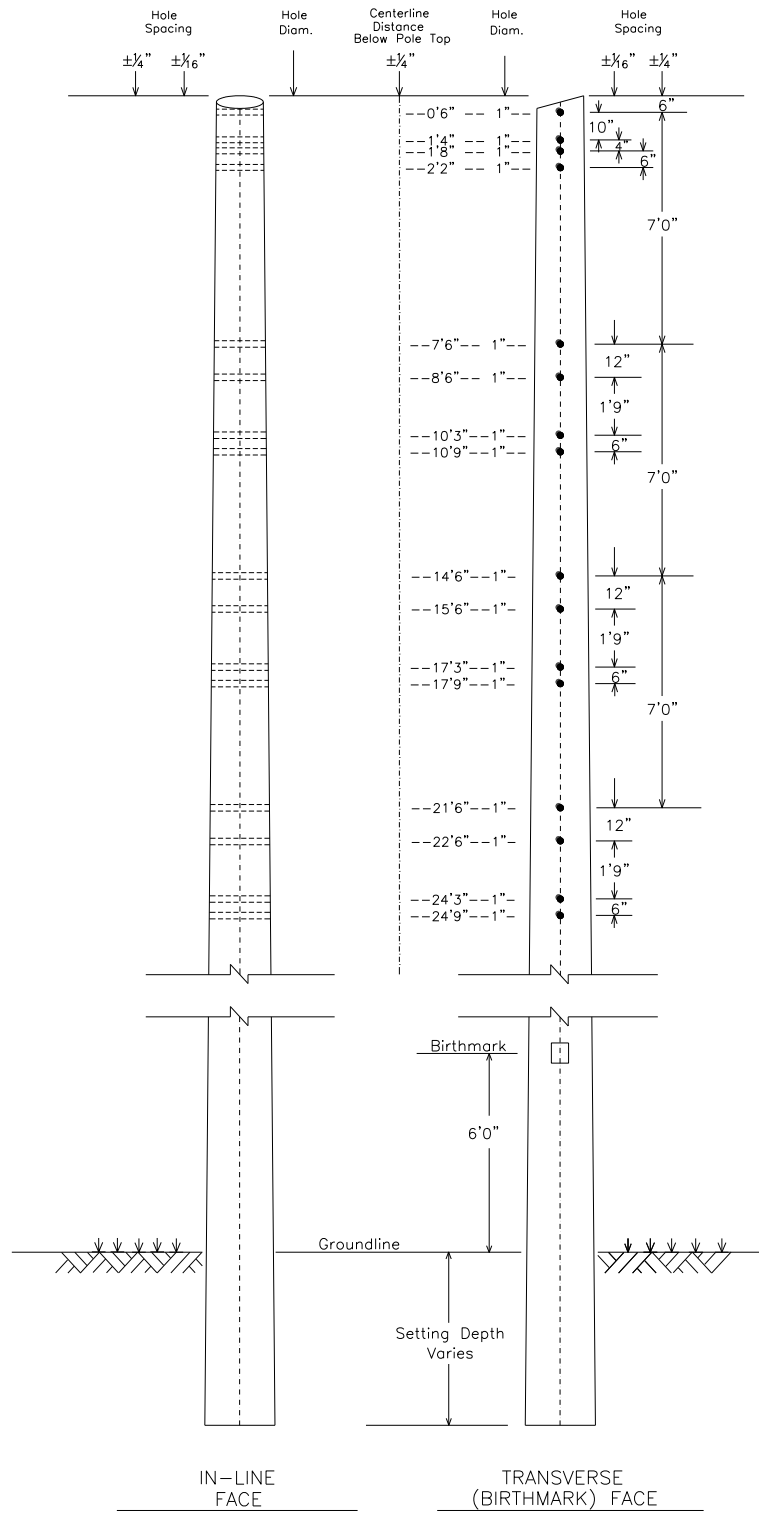
## A2153 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
11	BOLDA 041	3	DOUBLE ARMING BOLT, 7/8" X 28", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 042	3	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	4	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	7	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	20	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
72	TEEDE 002	4	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	20	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	20	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	20	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A2153\*556S

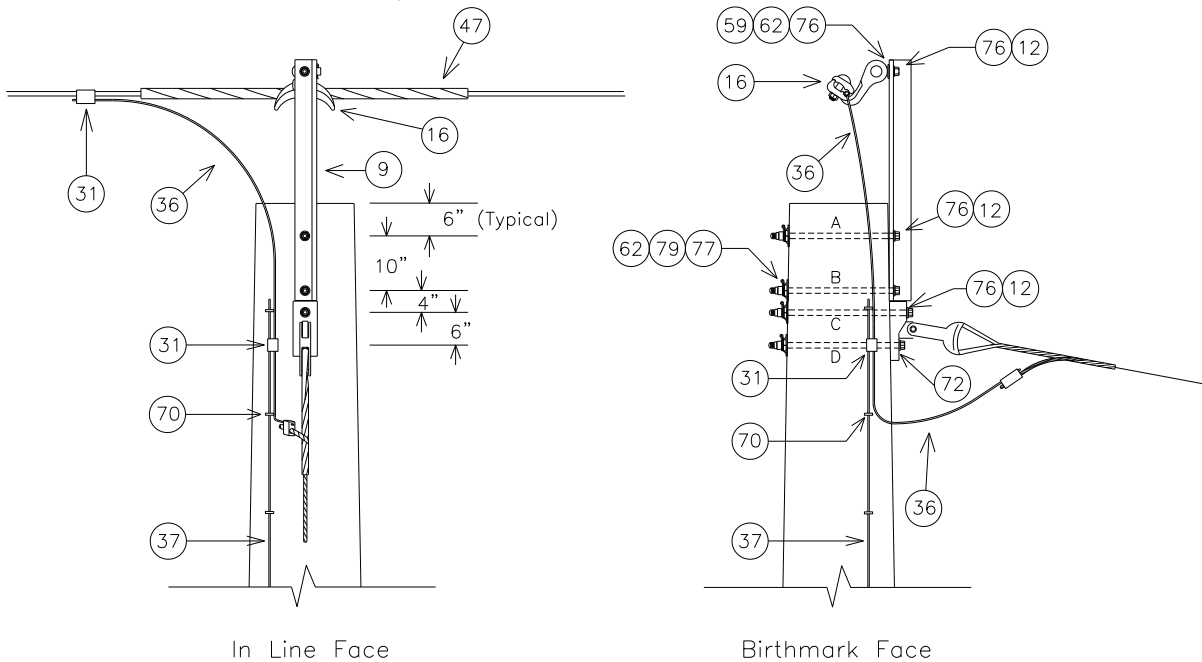
45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ACSR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 1/2", EYE = 13/16", FORGED STEEL, GALV.

# A2153 DRILLING DETAILS



## SWBAF

SHIELD FOR WOOD POLES  
BAYONET WITH ANGLE CLAMP, FRONT GUYED



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	'A'	'B'	'C'	'D'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	11.5	11.6	13.0	12.2

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER;  
USE  $\frac{3}{4}$ " BOLTS FOR 'A' & 'B' AND  $\frac{7}{8}$ " FOR BOLTS 'C' & 'D'

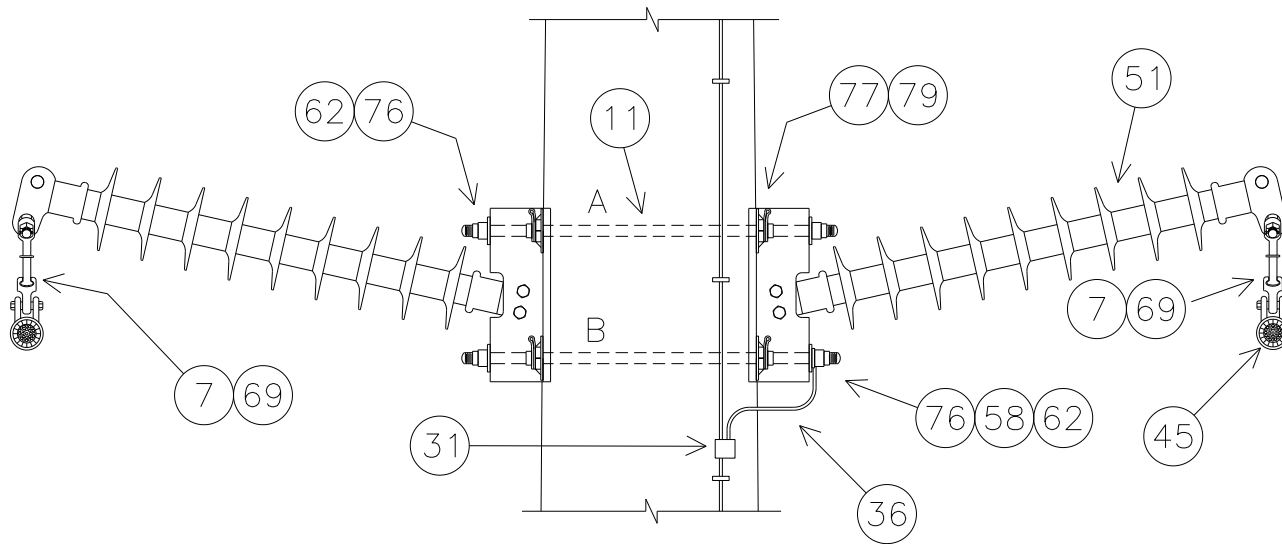
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	2	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	2	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

# IWDPSA3

INSULATOR FOR WOOD POLES

DOUBLE POST, NO GUY, SHORT CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	24.9	25.7	26.5
BOLT 'B' LENGTH (INCHES)	25.3	26.1	26.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWDPSA3 PLATES

## IWDPSA3 BASE

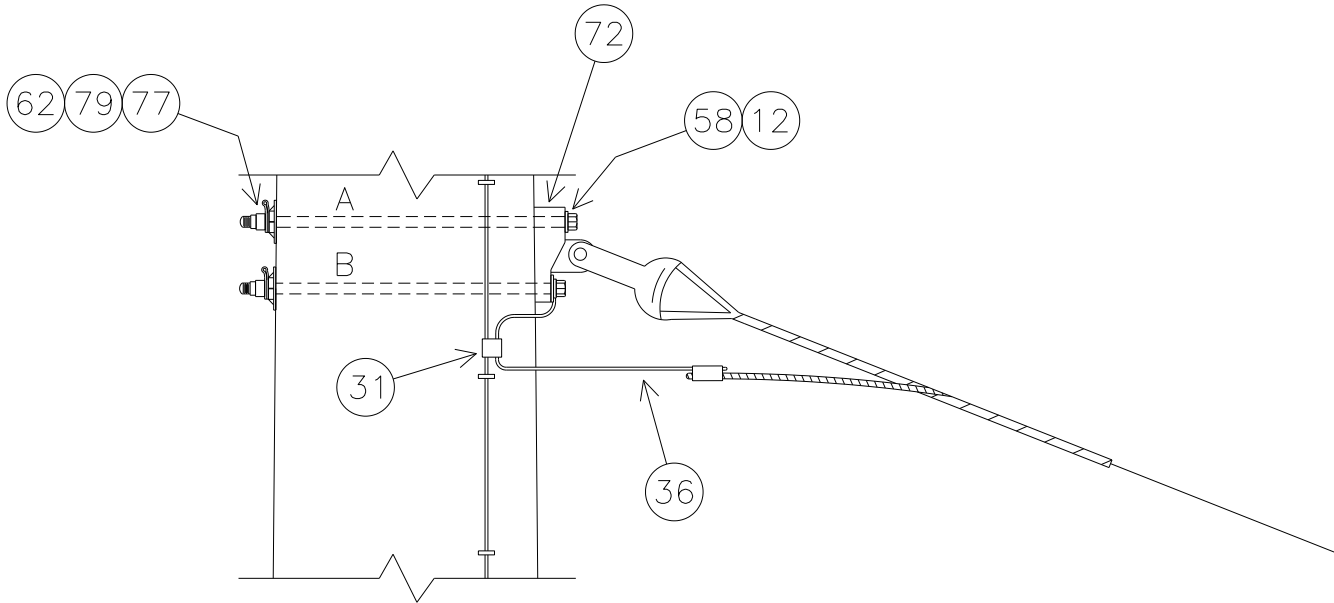
NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
11	BOLDA 041	3	DOUBLE ARMING BOLT, 7/8" X 28", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 042	3	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDPSA3\*556S

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

# GW1

WOOD GUY, 3 SETS



MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	13.8	14.6	15.4
'B'	13.2	14.0	14.9

NOTE: BOLT CALCULATIONS ASSUMES A 9 INCH POLE TOP DIAMETER

## WG1-3

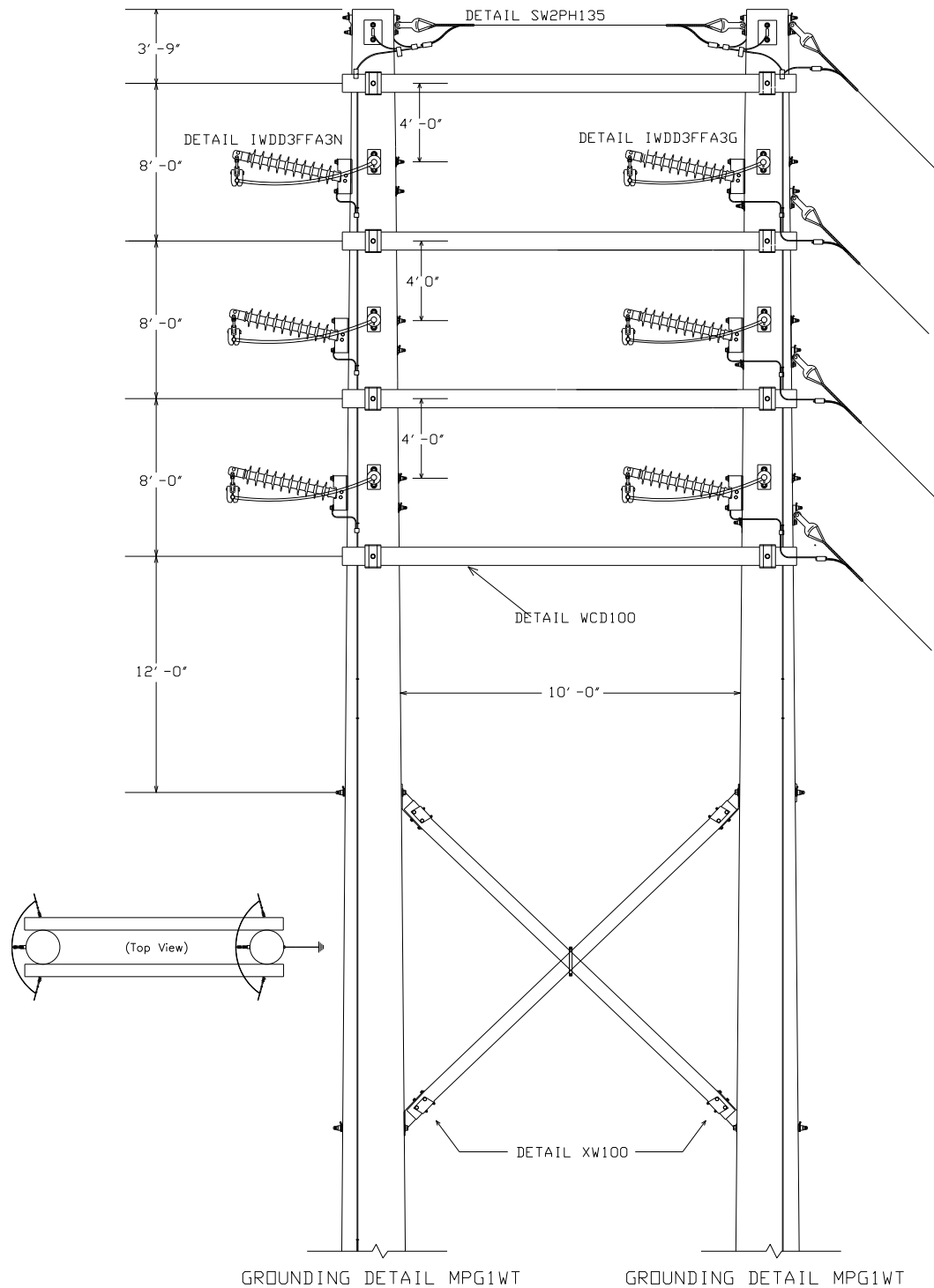
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 002	3	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

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# A2443

69KV, DOUBLE DEADEND, FULL TENSION TO FULL TENSION, DOUBLE CIRCUIT, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



# A2443 PLATES

## A2443 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	12	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	6	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
11	BOLDA 023	8	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
12	BOLMS 036	10	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	6	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	6	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 001	1 PR	BRACE, WOOD, X, 10' POLE SPACING CENTER TO CENTER
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	4	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	13	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
36	COBCO 028	37 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
40	CXAWO 008	8	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11'
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	10 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	6	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	42	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	16	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
64	PLACR 001	16	PLATE, CROSSARM REINFORCING
69	SOCEY 003	6	SOCKET EYE, CLASS 52-3/5
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	22	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	39	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	16	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	17	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	42	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	16	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

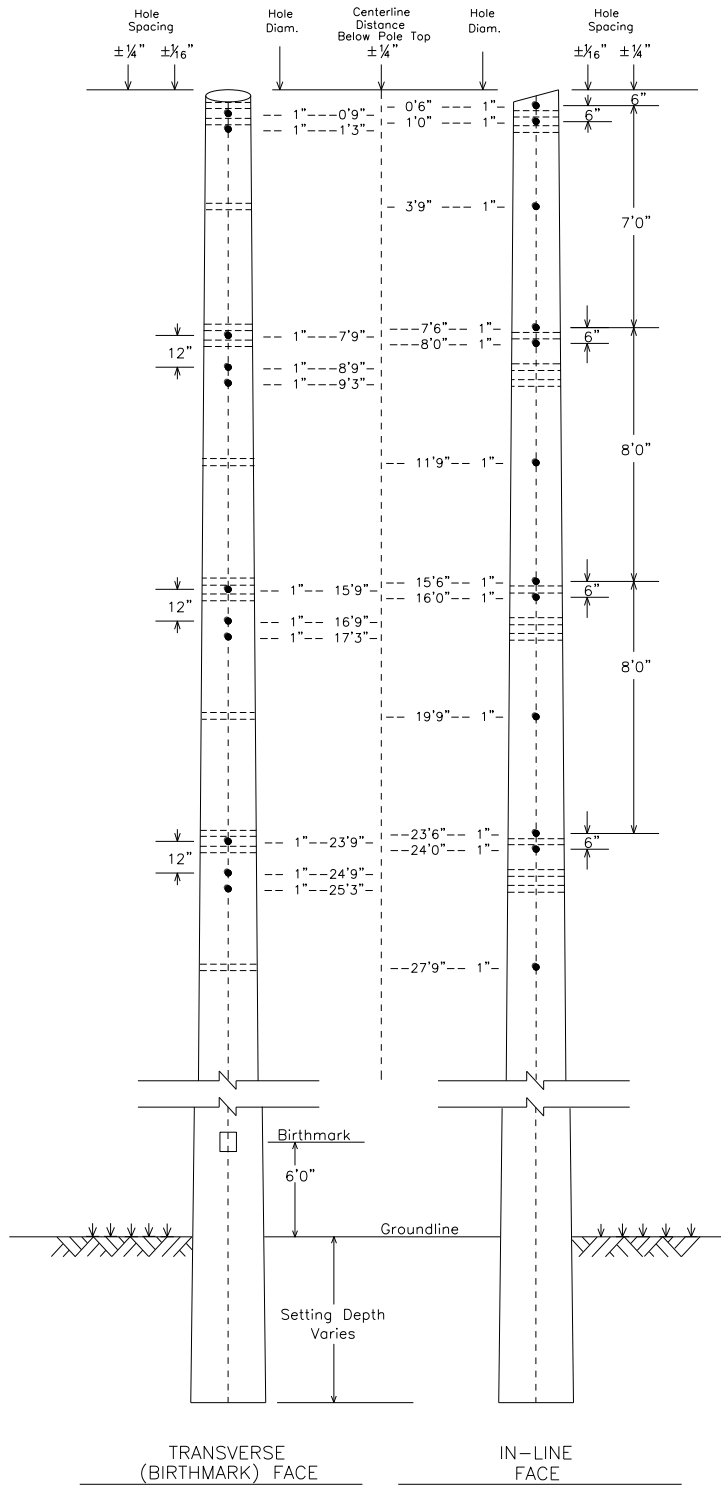
## A2443\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	6	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	12	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	12	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	12	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

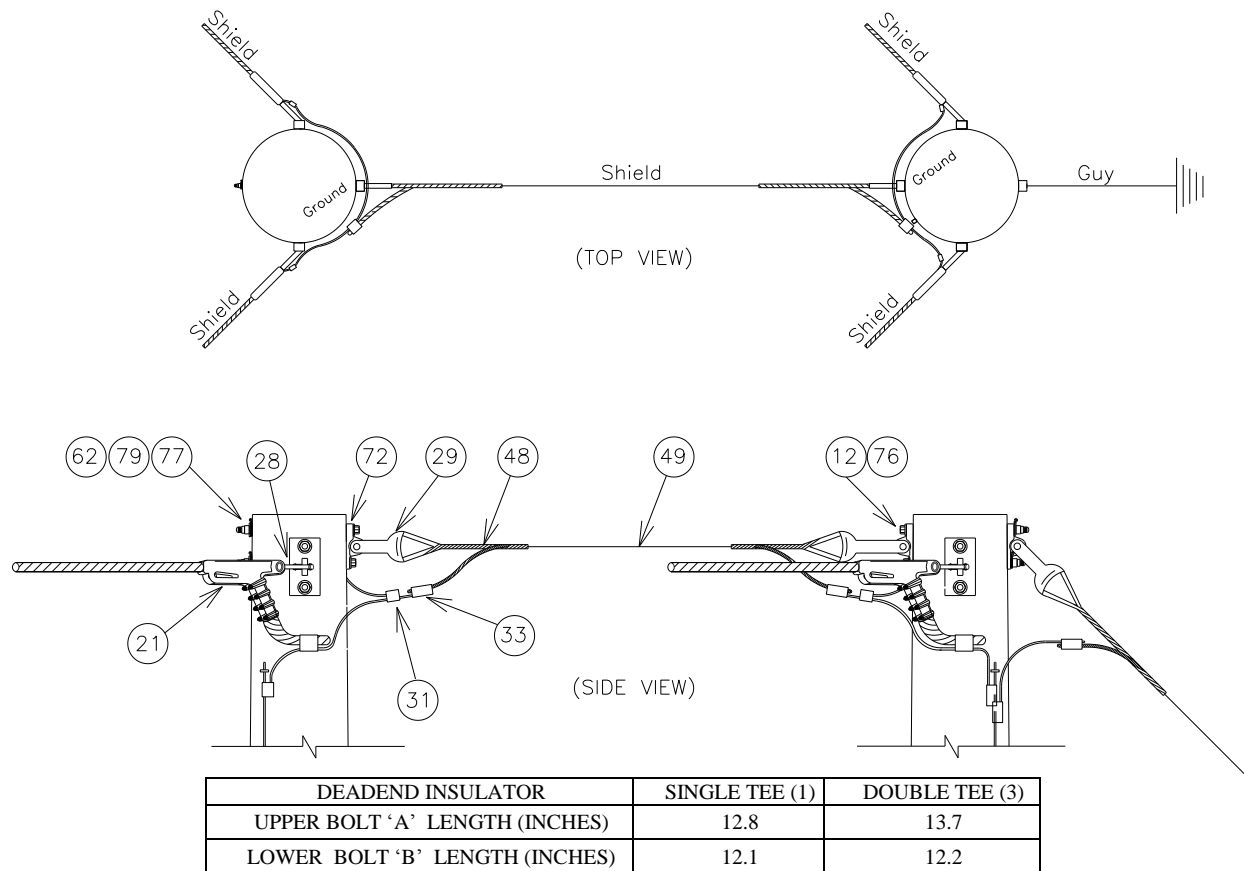
## A2443\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	6	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	12	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	12	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDI 004	12	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

# A2443 DRILLING DETAILS



# SW2PH135

**SHIELD FOR WOOD POLES**
**2-POLE, H-FRAME, 135 DEGREE TURN**


NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	8	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	4	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
36	COBCO 028	10 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	10 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
62	NUTSL 004	8	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	7	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	8	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

REVISED/REVIEWED: OCTOBER 2013

REVISED/REVIEWED BY: MLR

APPROVED BY: KKR

## 69KV WOOD STRUCTURES-NEW CONSTRUCTION

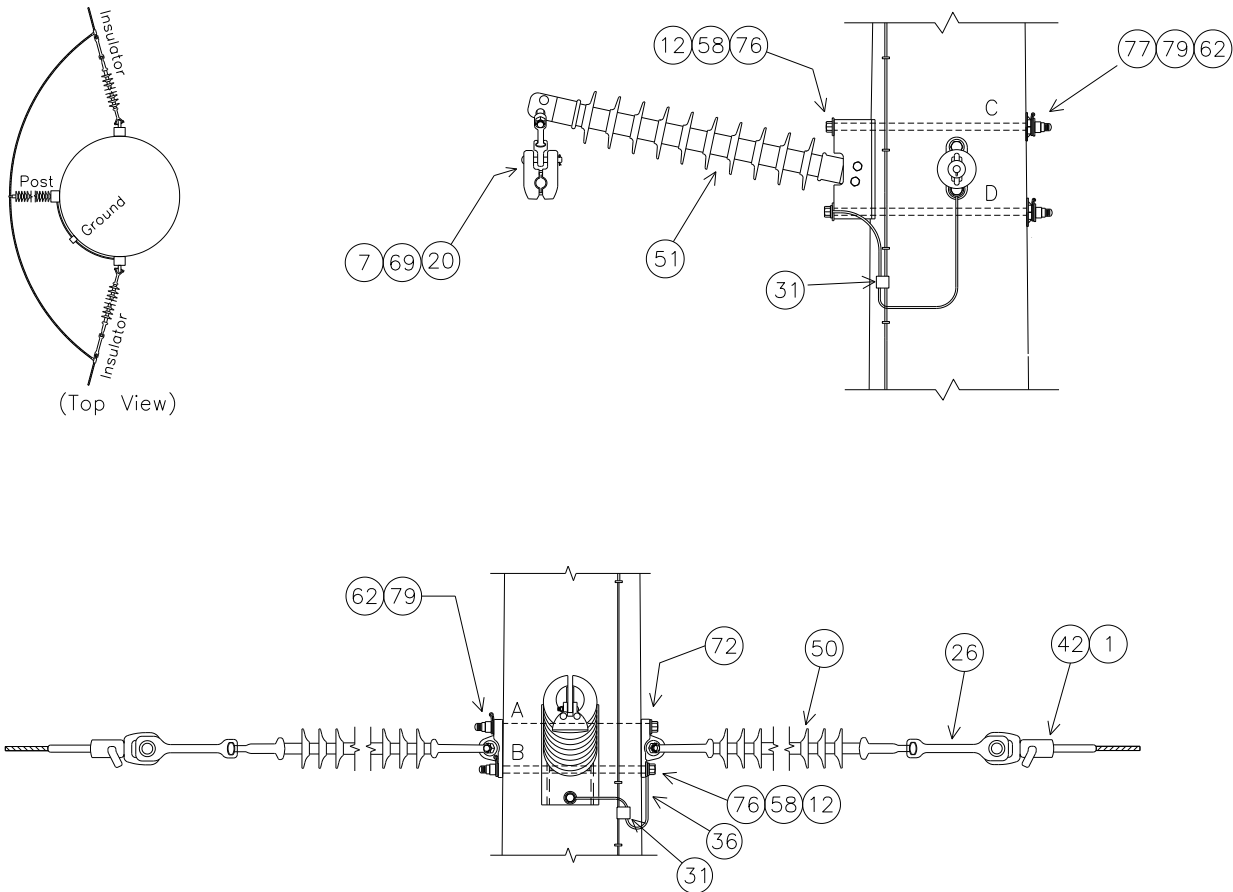
STW69-67

## IWDD3FFA3N

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 135, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE, NO GUY

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.6	16.5
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.2	15.1

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	19.0	20.0
LOWER BOLT 'D' LENGTH (INCHES)	18.5	19.4	20.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD3FFA3N PLATES

## IWDD3FFA3N BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 039	4	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	6	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	6	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	6	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD3FFA3N\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

## IWDD3FFA3N\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

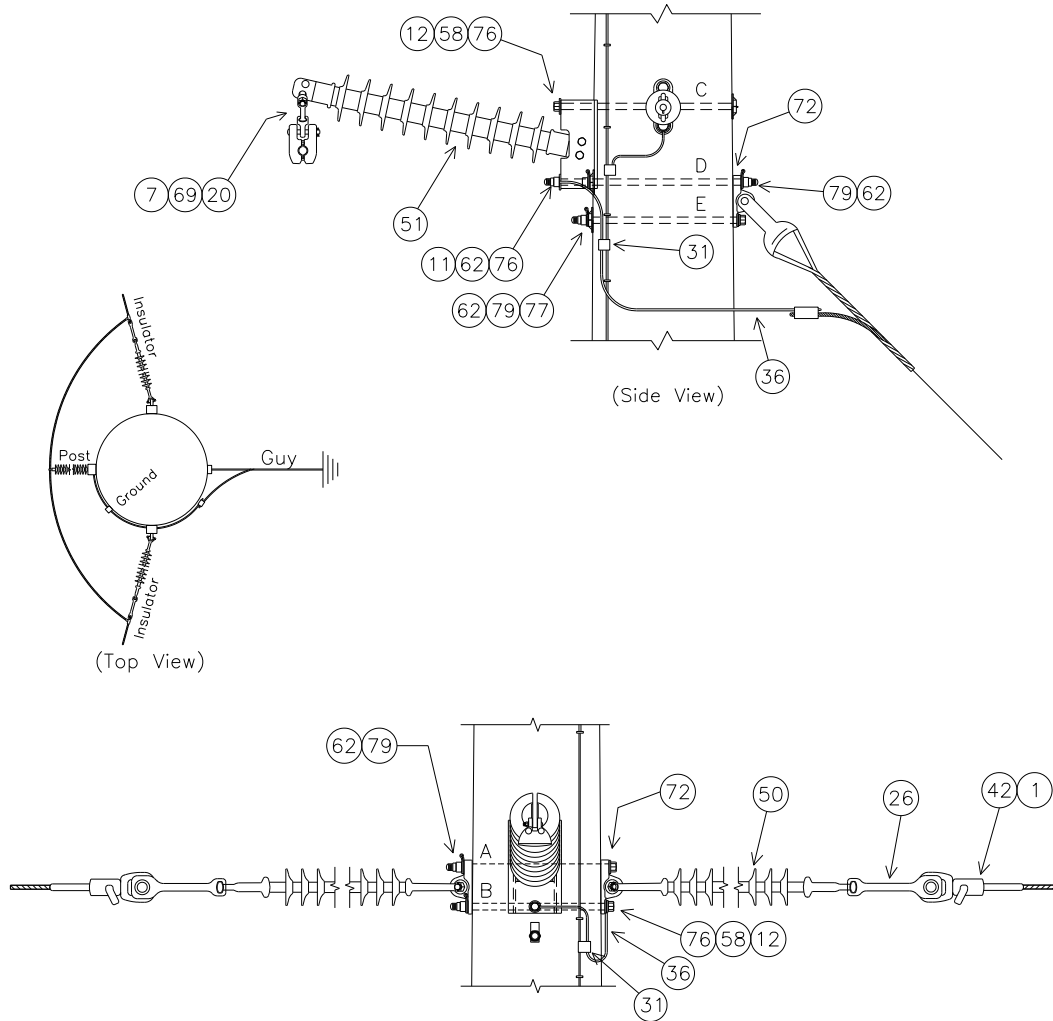
**NOTE: USE 3/4" BOLTS FOR POST INSULATORS AND 7/8" BOLTS FOR DEADEND INSULATORS**

## IWDD3FFA3G

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 135, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE, GUYED

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR 7/8"	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.6	16.5
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.2	15.1

POST INSULATOR 3/4"	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	19.0	20.0
MIDDLE BOLT 'D' LENGTH (INCHES) DA	19.4	20.3	21.3
LOWER BOLT 'E' LENGTH (INCHES)	12.9	13.8	14.8

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD3FFA3G PLATES

## IWDD3FFA3G BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	12	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	9	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	9	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	12	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD3FFA3G\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

## IWDD3FFA3G\*954S

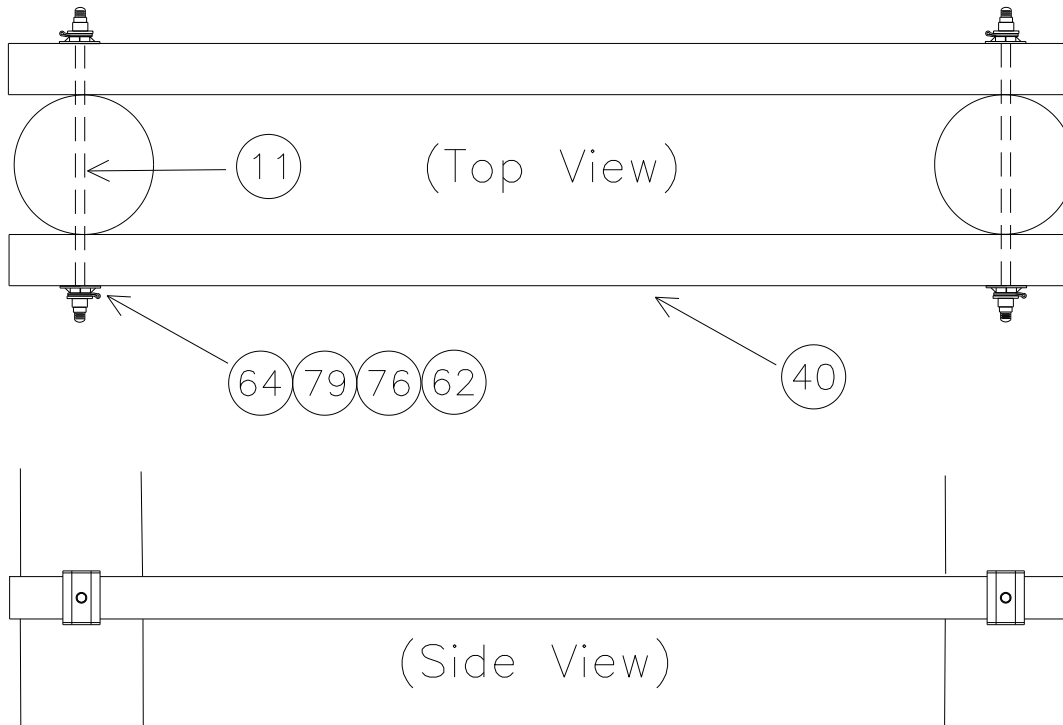
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDI 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

NOTE: USE 3/4" BOLTS FOR POST INSULATORS AND 7/8" BOLTS FOR DEADEND INSULATORS



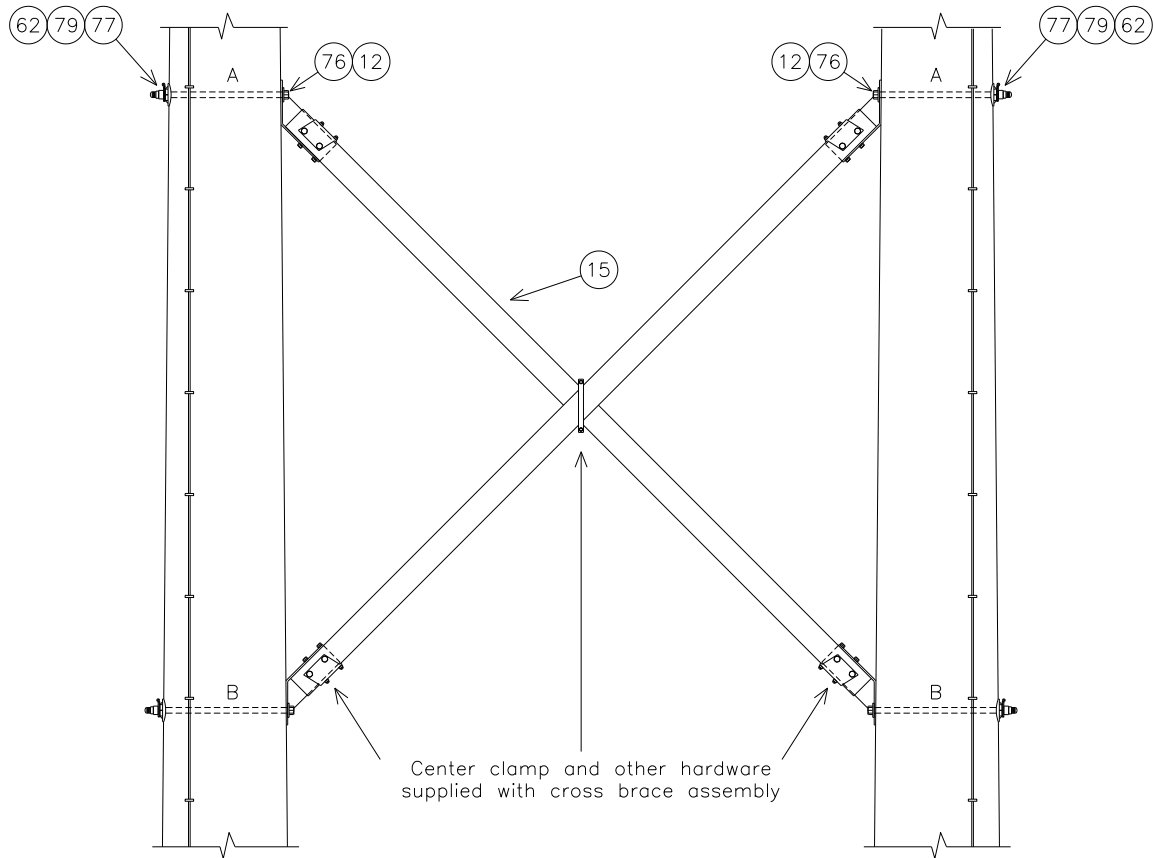
# WCD100

WOOD CROSS ARM, DOUBLE  
10'0" FEET CENTER TO CENTER



## WC1 – 4 SETS

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 022	8	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
40	CXAWO 008	8	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11'
62	NUTSL 004	16	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	16	PLATE, CROSSARM REINFORCING
76	WASRD 005	16	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	16	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

**XW100****X BRACE FOR WOOD POLES 10'0" CENTER TO CENTER SPACING**

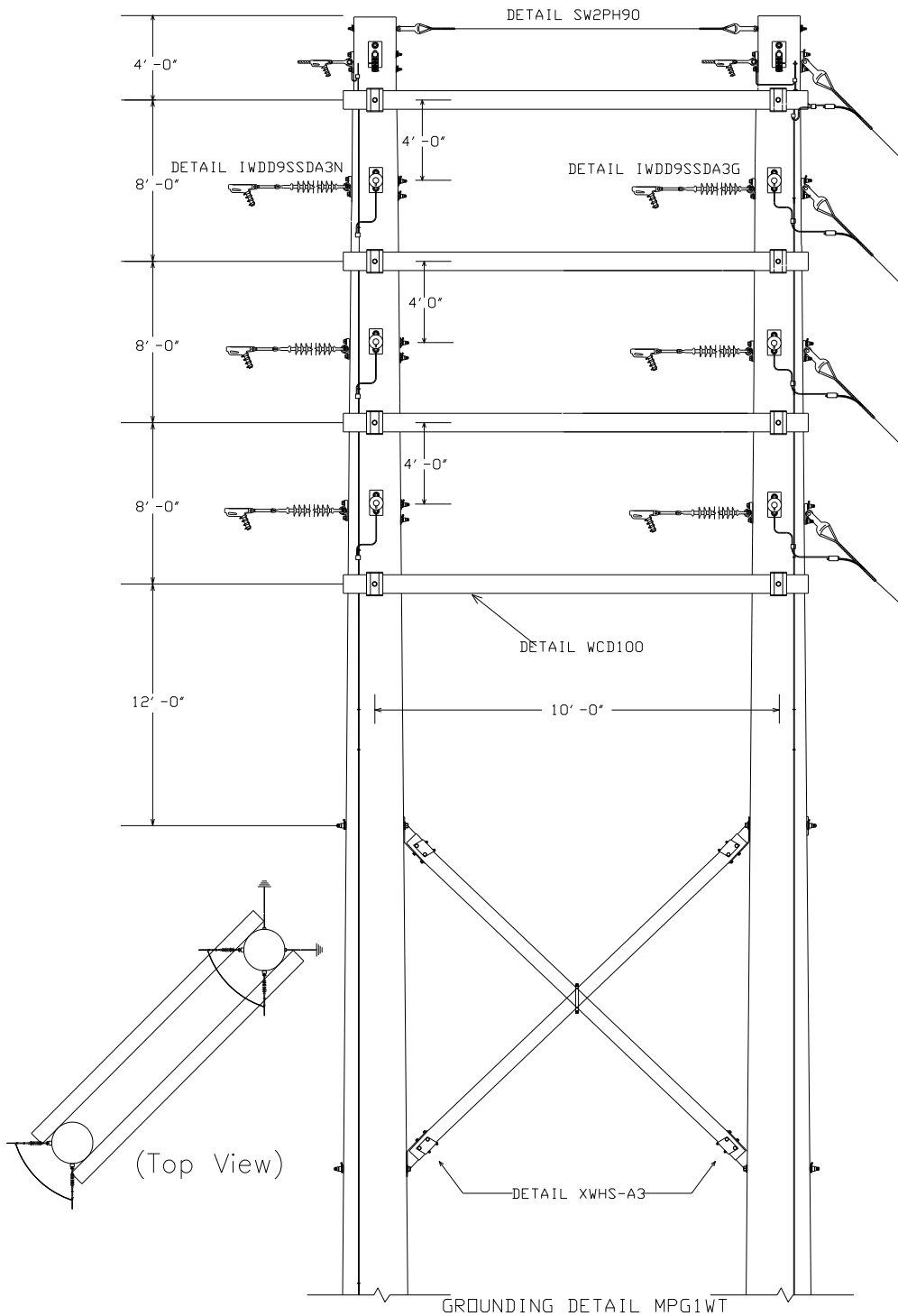
NOTE: DRILL ALL HOLES AS PART OF THIS SUBSTRUCTURE

**XWHS A3**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 050	4	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 001	1 PR	BRACE, WOOD, X, 10' POLE SPACING CENTER TO CENTER
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**A2444**

**69KV, 90° DOUBLE DEADEND, SLACK TENSION TO SLACK TENSION, DOUBLE CIRCUIT, 3-PHASE**  
**CONDUCTOR OPTIONS: 556S, 954S**



# A2444 PLATES

## A2444 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 022	8	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
12	BOLMS 036	8	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	6	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	16	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	6	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 010	2	SHOULDER EYE BOLT, 3/4" X 12", WITH SQUARE NUT ATTACHED
15	BRCCX 001	1 PR	BRACE, WOOD, X, 10' POLE SPACING CENTER TO CENTER
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
26	CLEHL 008	12	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	5	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
31	CNNCP 016	16	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
36	COBCO 028	45 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
40	CXAWO 008	8	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11'
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	10 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
50	INSDE 004	12	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	12	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	26	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	28	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
64	PLACR 001	16	PLATE, CROSSARM REINFORCING
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	24	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	24	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	28	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	6	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	16	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	22	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	28	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

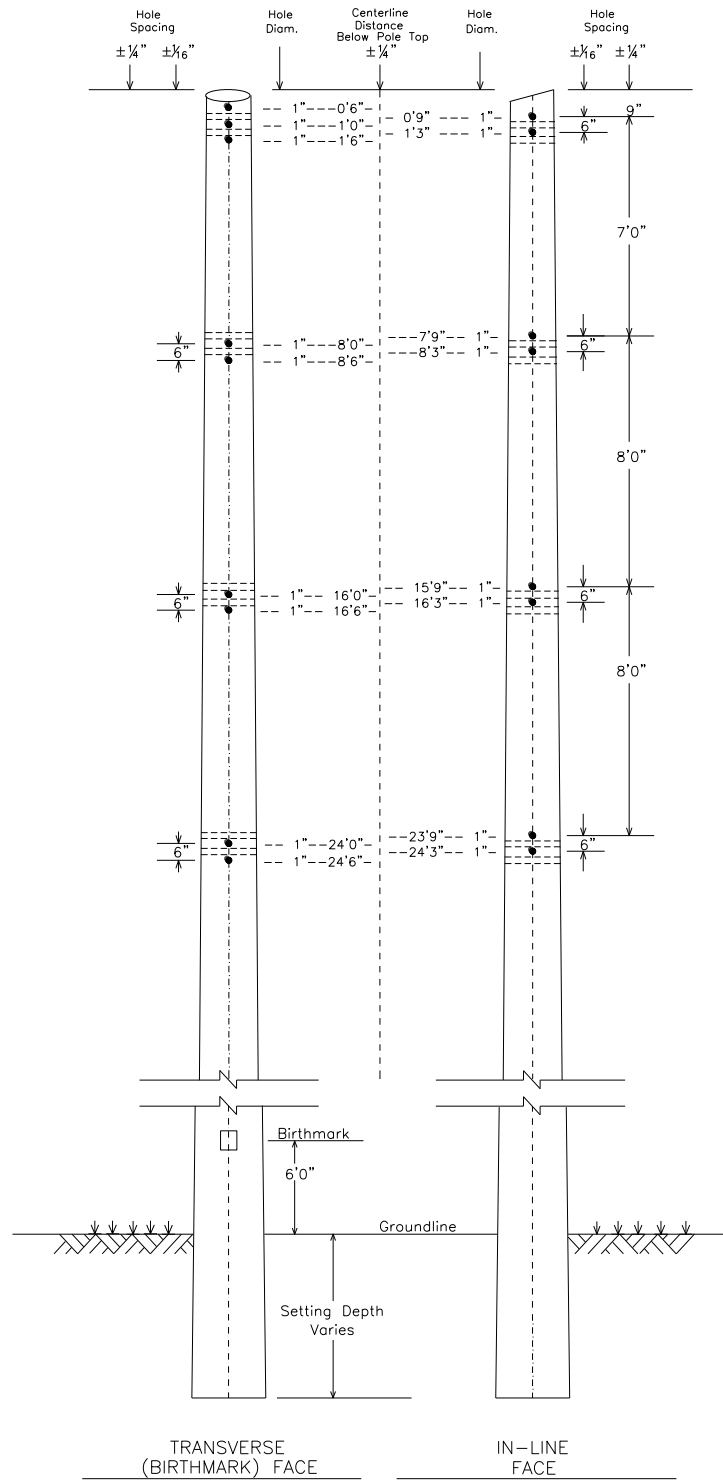
## A2444\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	12	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	6	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

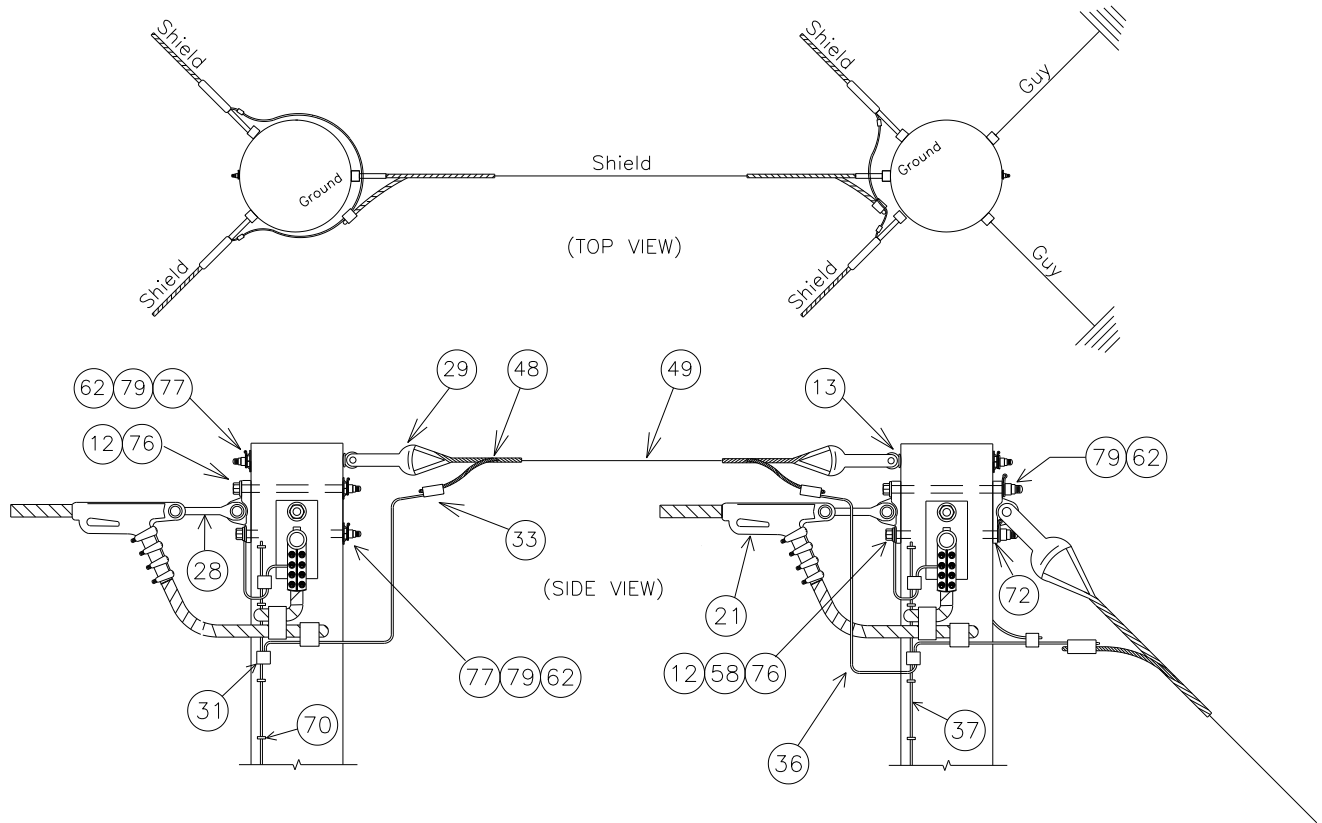
## A2444\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	12	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	6	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

# A2444 DRILLING DETAILS



# SW2PH90

**SHIELD FOR WOOD POLES**
**2-POLE, H-FRAME, 90° DEGREE TURN**


NOTE: DRILL HOLES FOR GUY SPAN AS PART OF THIS SUBSTRUCTURE

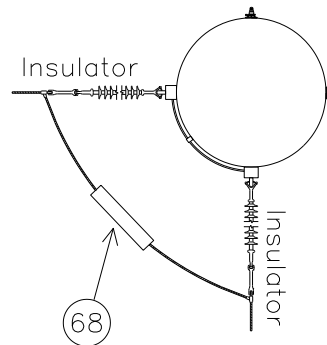
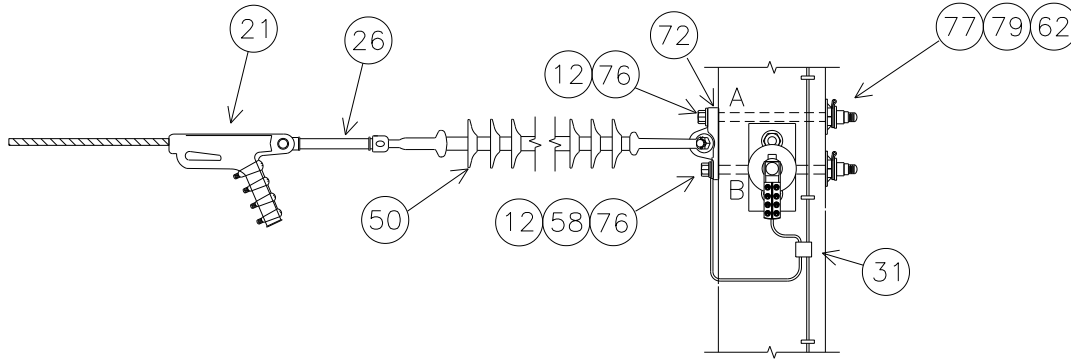
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	8	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 010	2	SHOULDER EYE BOLT, 3/4" X 12", WITH SQUARE NUT ATTACHED
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	5	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	10 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	10	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	6	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	6	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# IWDD9SSA3N

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE, NO GUY

CONDUCTOR OPTIONS: 556S, 954S



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	13.8	14.7	15.6	13.8	14.7	15.6
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.1	15.0	13.2	14.1	15.0

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9SSA3N PLATES

## IWDD9SSA3N BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	4	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD9SSA3N\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9SSA3N\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

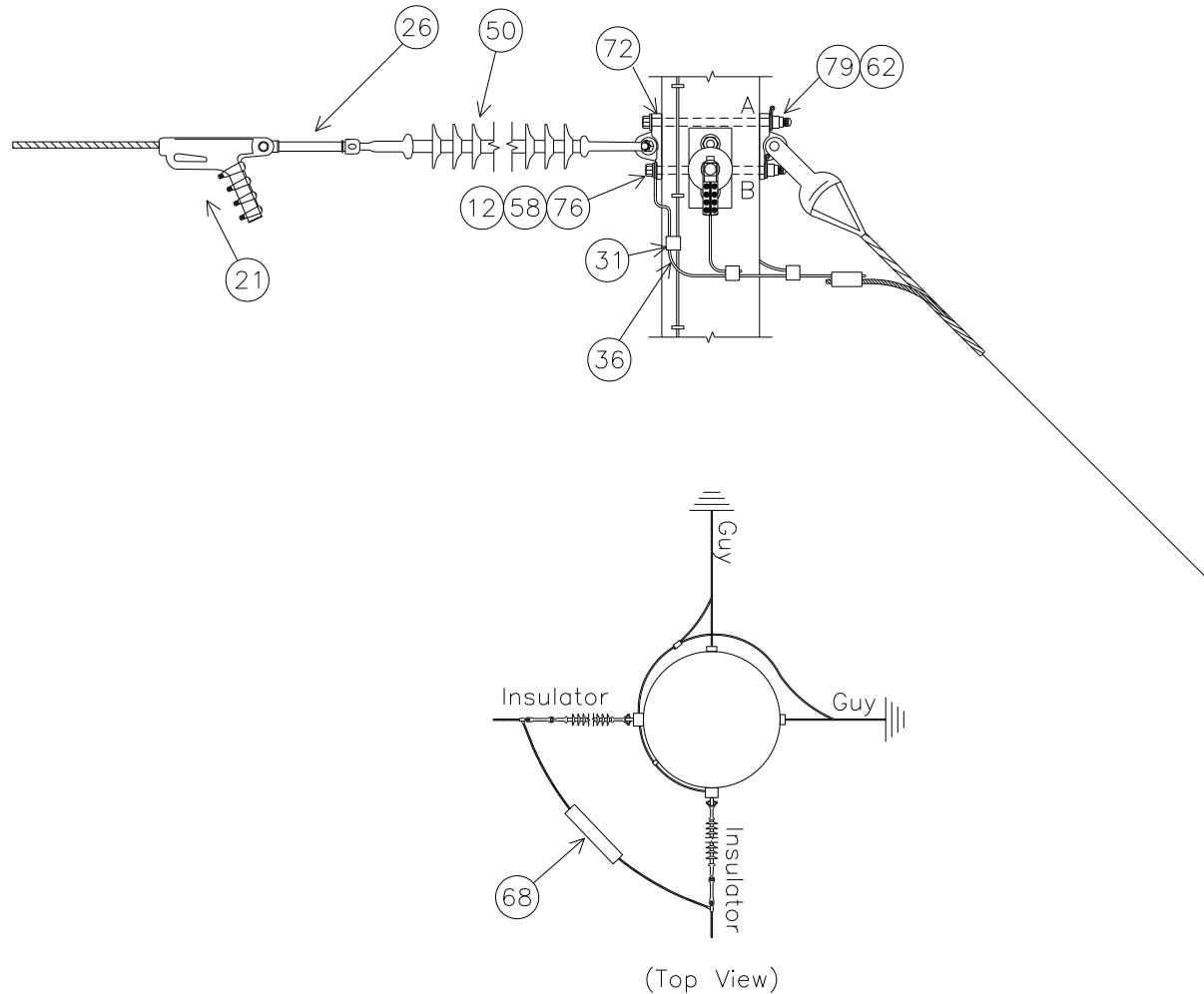


## IWDD9SSA3G

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE, GUYED

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.6	16.5	14.7	15.6	16.5
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.2	15.1	13.2	14.2	15.1

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9SSA3G PLATES

## IWDD9SSA3G BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	9	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	24 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	12	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD9SSA3G\*556S

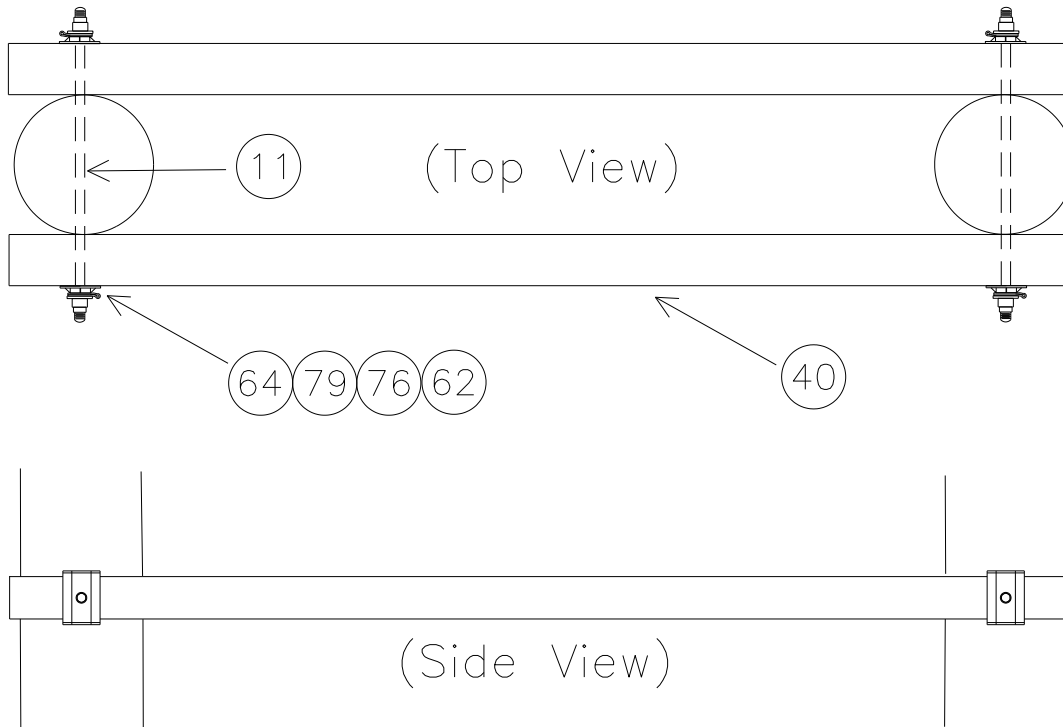
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9SSA3G\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

# WCD100

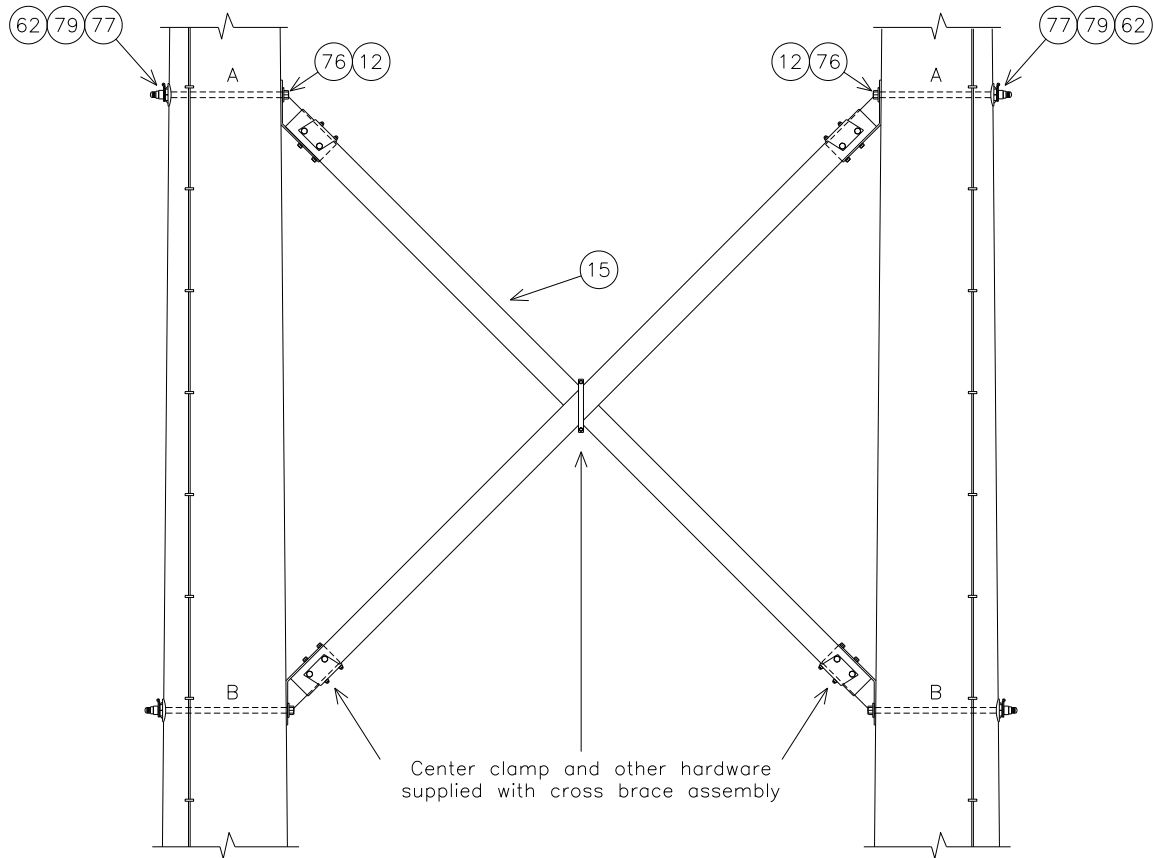
WOOD CROSS ARM, DOUBLE  
10'0" FEET CENTER TO CENTER



NOTE: DRILL HOLES AS PART OF THIS SUBSTRUCTURE

## WC1 – 4 SETS

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 022	8	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
40	CXAWO 008	8	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11'
62	NUTSL 004	16	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	16	PLATE, CROSSARM REINFORCING
76	WASRD 005	16	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	16	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

**XW100****X BRACE FOR WOOD POLES 10'0" CENTER TO CENTER SPACING**

NOTE: DRILL ALL HOLES AS PART OF THIS SUBSTRUCTURE

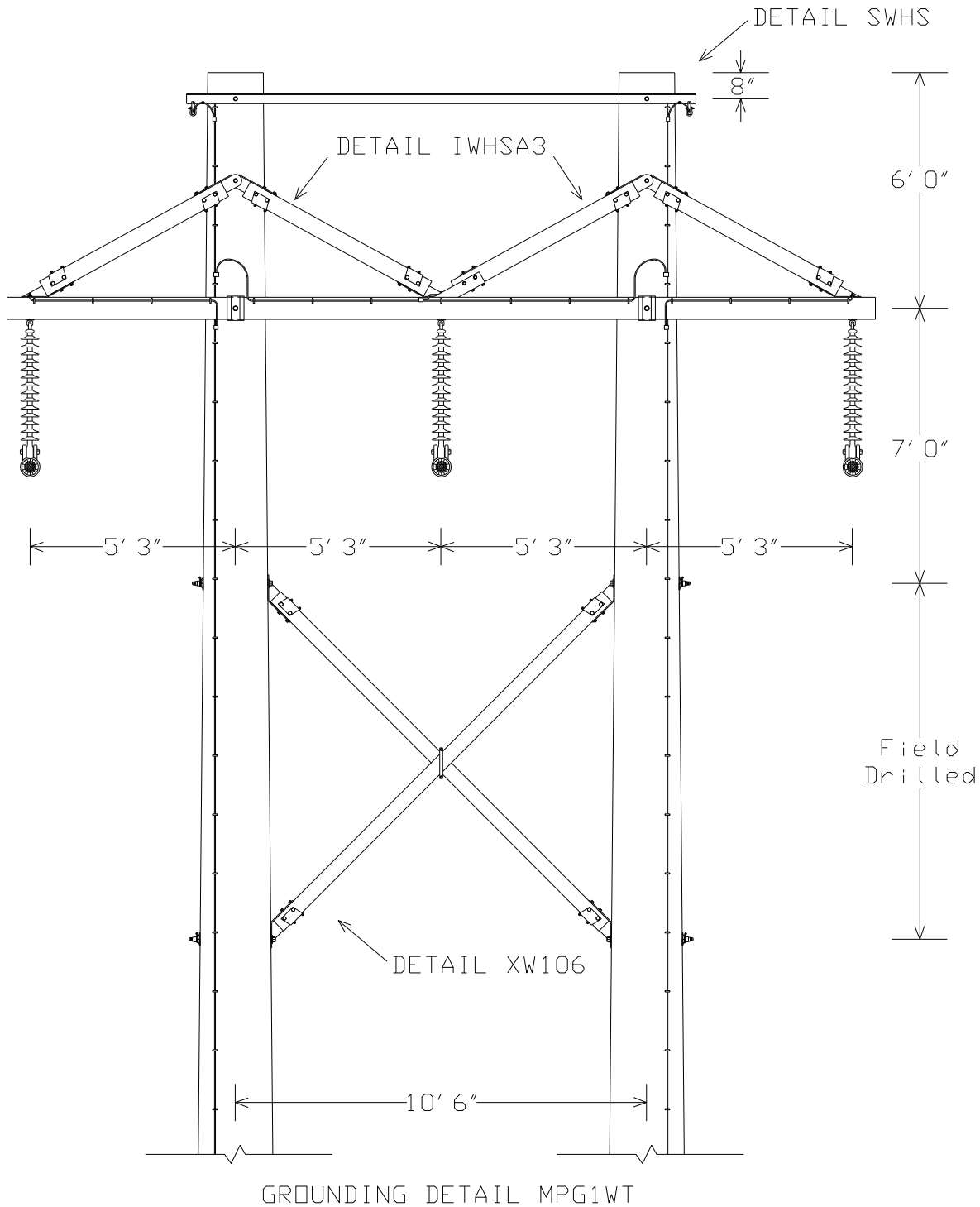
**XWHS A3**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 050	4	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 001	1 PR	BRACE, WOOD, X, 10' POLE SPACING CENTER TO CENTER
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

# A3411

69KV, HORIZONTAL SUSPENSION, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



# A3411 PLATES

## A3411 BASE

NO.	ITEM ID	QTY	DESCRIPTION
A		1	ANGLE STEEL, 3" X 3" X 1/4" X 13', PROVIDED BY CONTRACTOR
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	4	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 009	3	BOLT, SHOULDER EYE, 3/4" X 10"
14	BRCCF 001	2 PR	BRACE, CROSSARM, 3' 6" DROP, 9' SPAN, PENTA TREATED, GALV. END FITTINGS
15	BRCCX 002	1 PR	BRACE, WOOD, X, 10' 6" POLE SPACING CENTER TO CENTER
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 90 DEGREE, 3/4" PIN, 5/8" EYE THICKNESS, H.D.G.
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	7	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
35	COBAS 005	6 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	180 ft	#4 COPPERWELD CONDUCTOR
39	CXAGA 001	2	CROSSARM GAIN, GALV.
40	CXAWO 010	1	22' WOOD CROSSARM, TREATED SOUTHERN YELLOW PINE
46	GUAGW 001	2	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
56	INSSU 007	3	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	5	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	9	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
64	PLACR 001	2	PLATE, CROSSARM REINFORCING
70	STAPL 002	90	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	32	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
76	WASRD 005	12	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	6	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	6	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

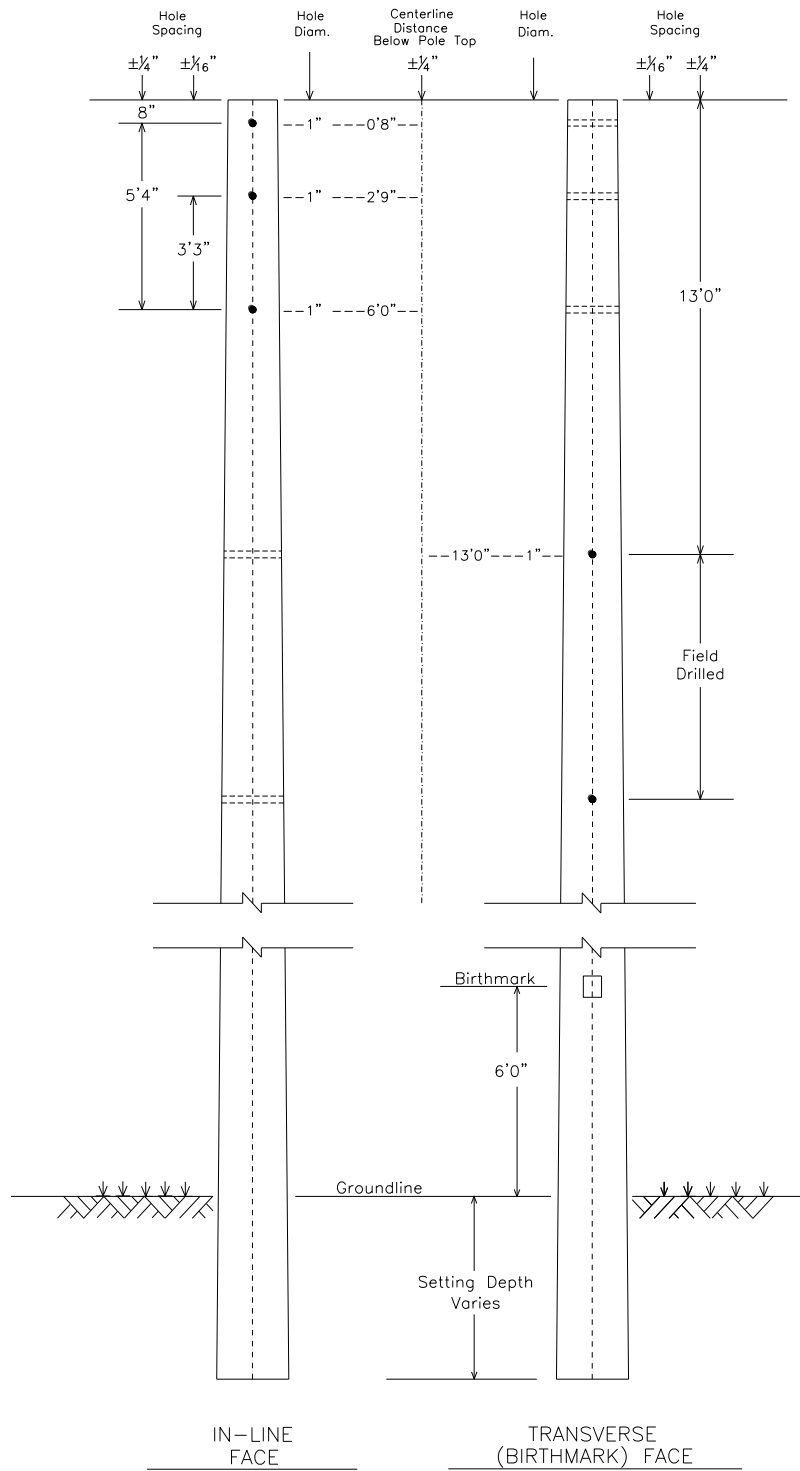
## A3411\*556S

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## A3411\*954S

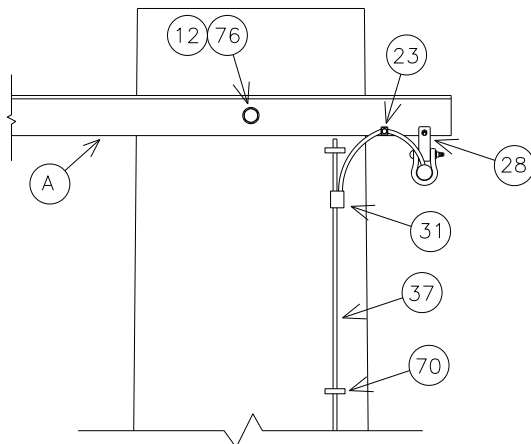
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ASCR
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## A3411 DRILLING DETAILS

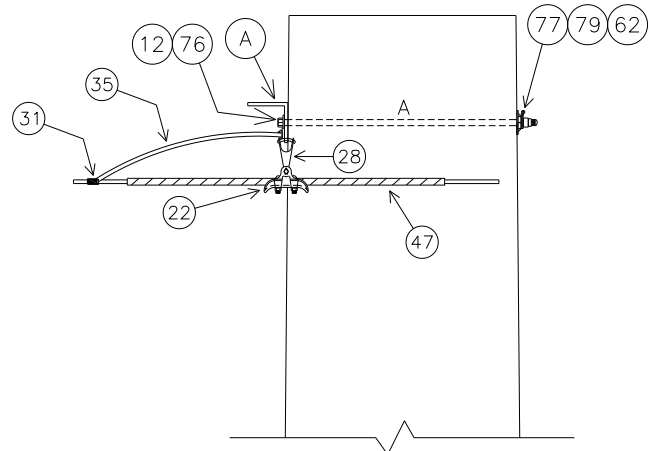


# SWHS

## SHIELD FOR WOOD POLES HORIZONTAL SUSPENSION



Front View



Side View

BOLT LENGTH (INCHES)

11.6

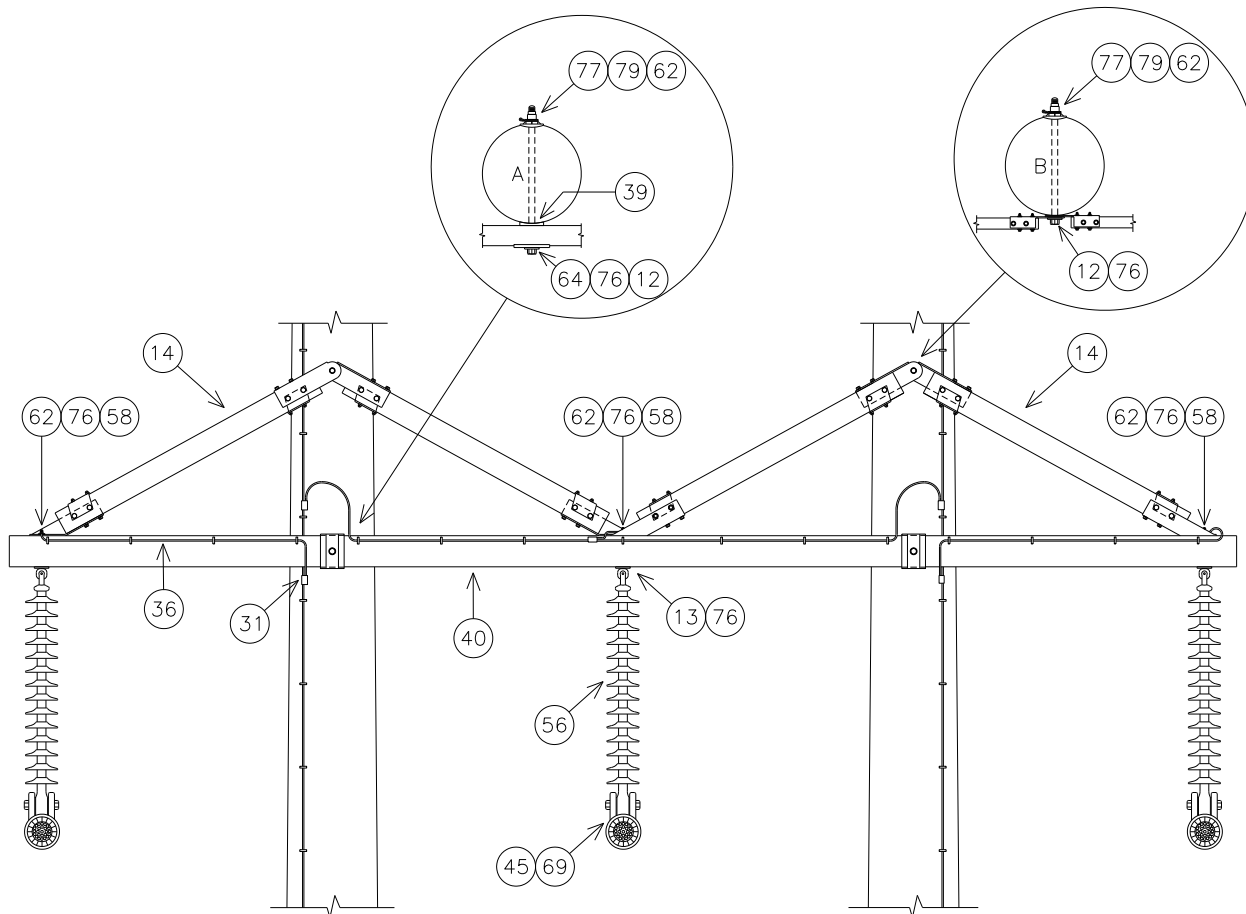
NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
A		1	ANGLE STEEL, 3" X 3" X 1/4" X 13', PROVIDED BY CONTRACTOR
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 90 DEGREE, 3/4" PIN, 5/8" EYE THICKNESS, H.D.G.
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
35	COBAS 005	6 ft	CONDUCTOR, 3#6 AW
37	COBCW 014	180 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	90	STAPLE, COPPERWELD, 3/8" X 1 1/2"
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED



# IWHS A3

INSULATOR FOR WOOD POLES  
HORIZONTAL SUSPENSION, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



SUBSTRUCTURE	
CROSSARM BOLT LENGTH (INCHES)	18.4
EYE-BOLT LENGTH (INCHES)	9.6
BRACE BOLT LENGTH (INCHES)	12.3

# IWWSA3 PLATES

## IWWSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 009	3	BOLT, SHOULDER EYE, 3/4" X 10"
14	BRCCF 001	2 PR	BRACE, CROSSARM, 3' 6" DROP, 9' SPAN, PENTA TREATED, GALV. END FITTINGS
31	CNNCP 016	5	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
39	CXAGA 001	2	CROSSARM GAIN, GALV.
40	CXAWO 010	1	22' WOOD CROSSARM, TREATED SOUTHERN YELLOW PINE
56	INSSU 007	3	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	7	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	2	PLATE, CROSSARM REINFORCING
76	WASRD 005	10	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	4	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## IWWSA3\*556S

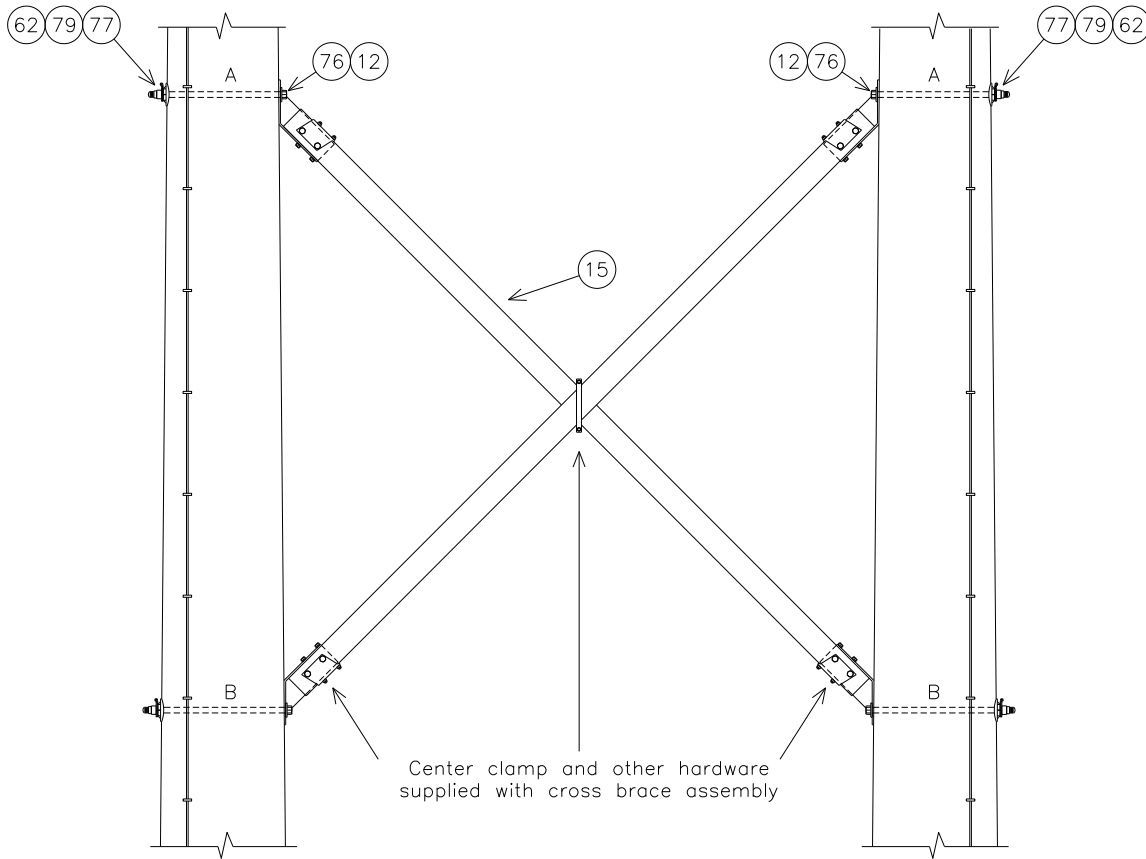
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## IWWSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ASCR
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

# XW106

X BRACE FOR WOOD POLES 10' 6" CENTER TO CENTER SPACING  
HORIZONTAL SUSPENSION, 69KV, 3-PHASE



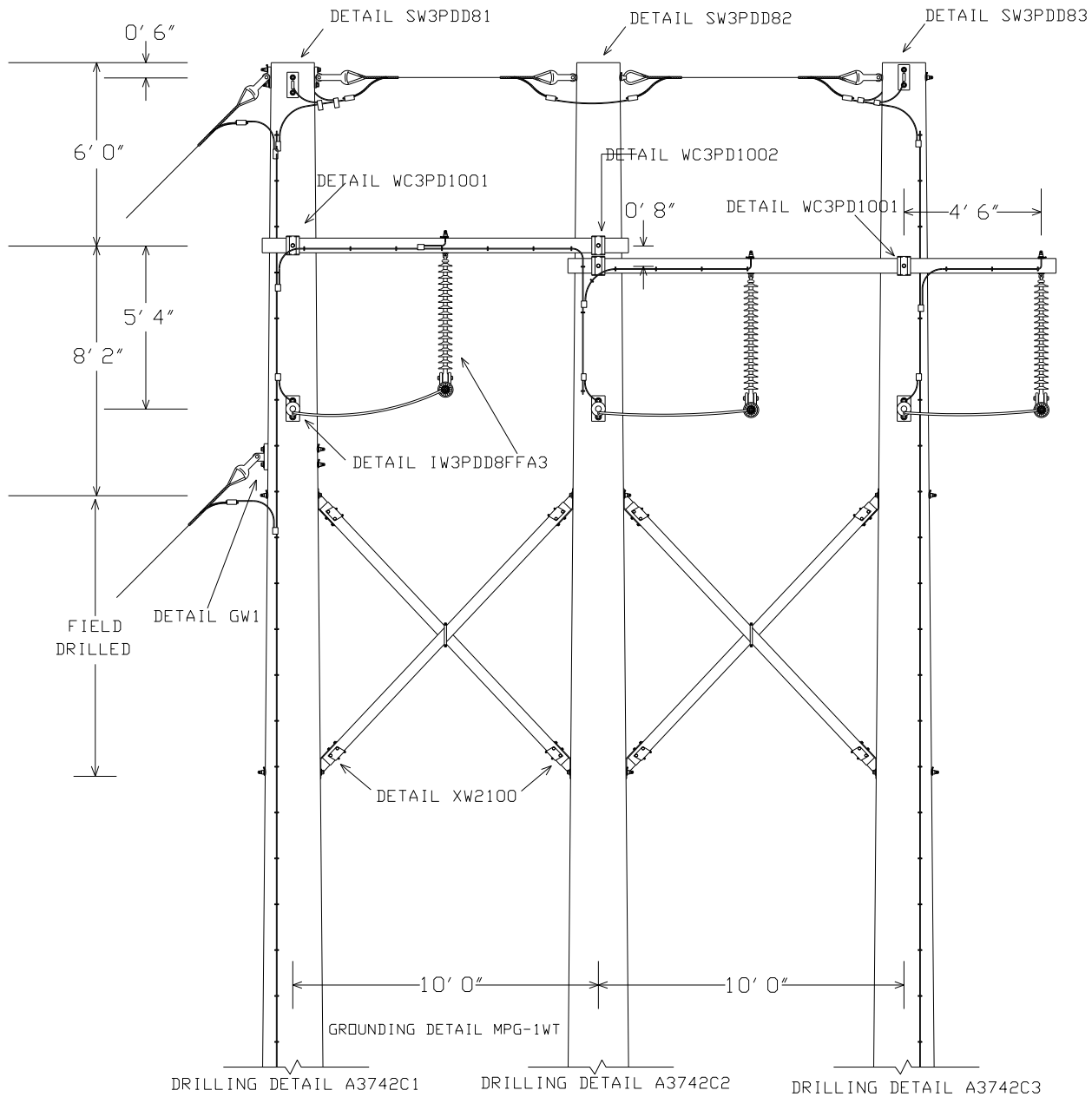
## XWHA3

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 050	4	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 002	1 PR	BRACE, WOOD, X, 10' 6" POLE SPACING CENTER TO CENTER
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

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## A3742C

69KV, H-FRAME, DOUBLE DEADEND 180, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



REVISED/REVIEWED: OCTOBER 2013

REVISED/REVIEWED BY: MLR

APPROVED BY: KKR

### 69KV WOOD STRUCTURES-NEW CONSTRUCTION

STW69-92

# A3742C PLATES

## A3742C BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
11	BOLDA 022	4	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
12	BOLMS 036	6	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	5	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	3	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	6	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 009	3	EYE-BOLT, 3/4" X 10", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 010	2	EYEBOLT, 3/4" X 12", GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 001	2 PR	CROSS BRACE, WOOD, 10' POLE SPACING CENTER TO CENTER
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
29	CLETH 001	4	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	6	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	11	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	80 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
39	CXAGA 001	8	CROSSARM GAIN, GALV.
40	CXAWO 008	2	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11' PROVIDED WITH WC3 PLATE
40	CXAWO 009	2	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 15'6" PROVIDED WITH WC3 PLATE
48	GUYGR 002	4	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	20 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
56	INSSU 007	3	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	7	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
58	LUGGR 002	4	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUT, EYE, 3/4", H.D.G.
62	NUTSL 004	19	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	14	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
64	PLACR 001	8	PLATE, CROSSARM REINFORCING
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	13	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	14	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	14	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	5	SQUARE CURVED WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	15	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	14	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

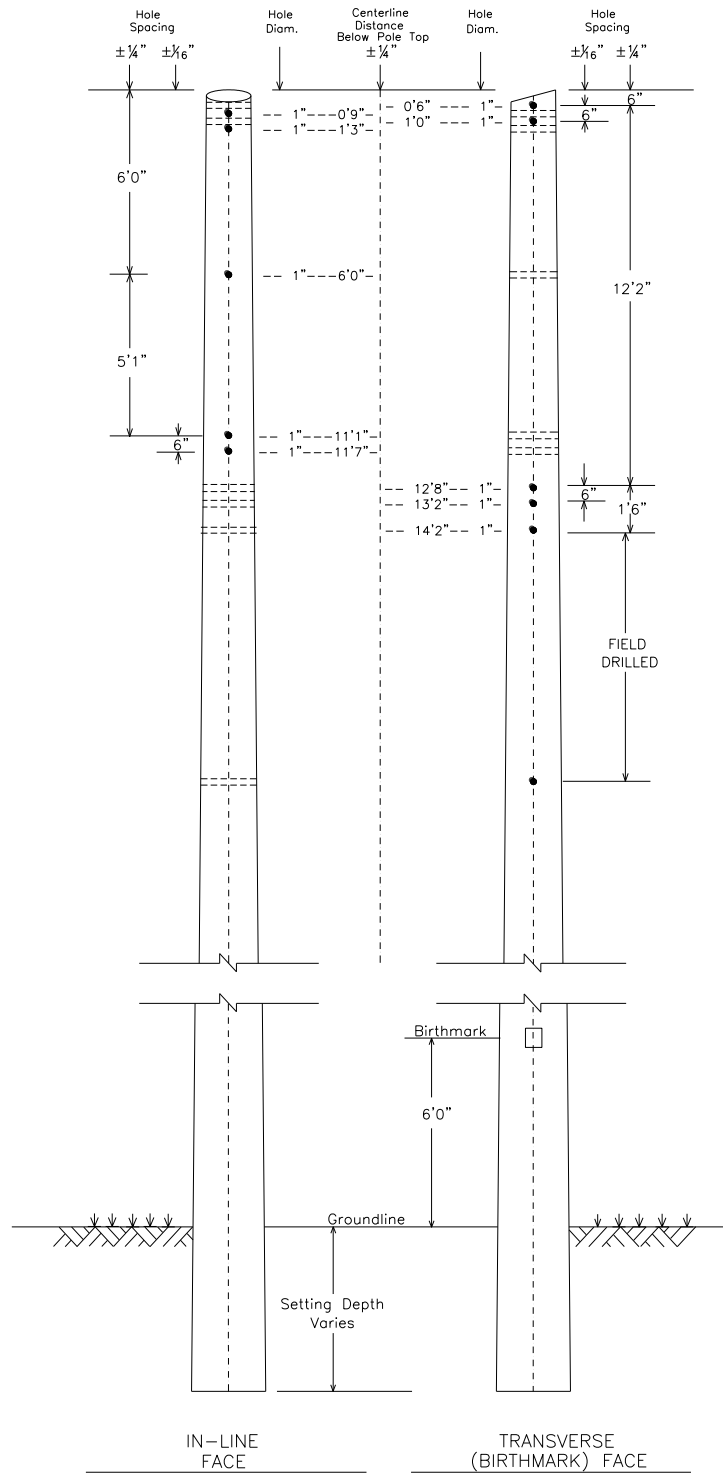
## A3742C\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## A3742C\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSD 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

# A3472C1 DRILLING DETAIL



REVISÉ/REVIEWÉ: OCTOBRE 2013

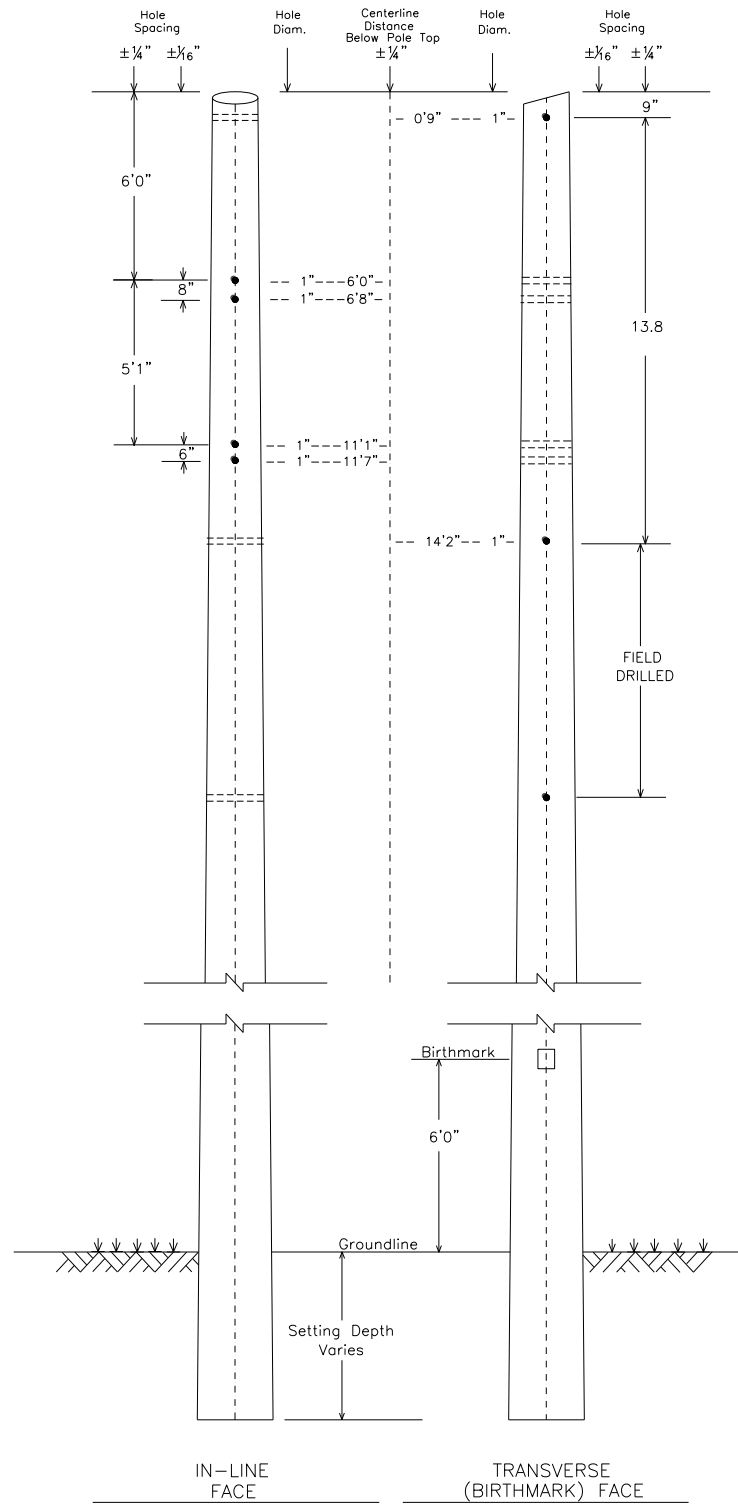
REVISÉ/REVIEWÉ PAR: MLR

APPROVED BY: KKR

## 69KV WOOD STRUCTURES-NEW CONSTRUCTION

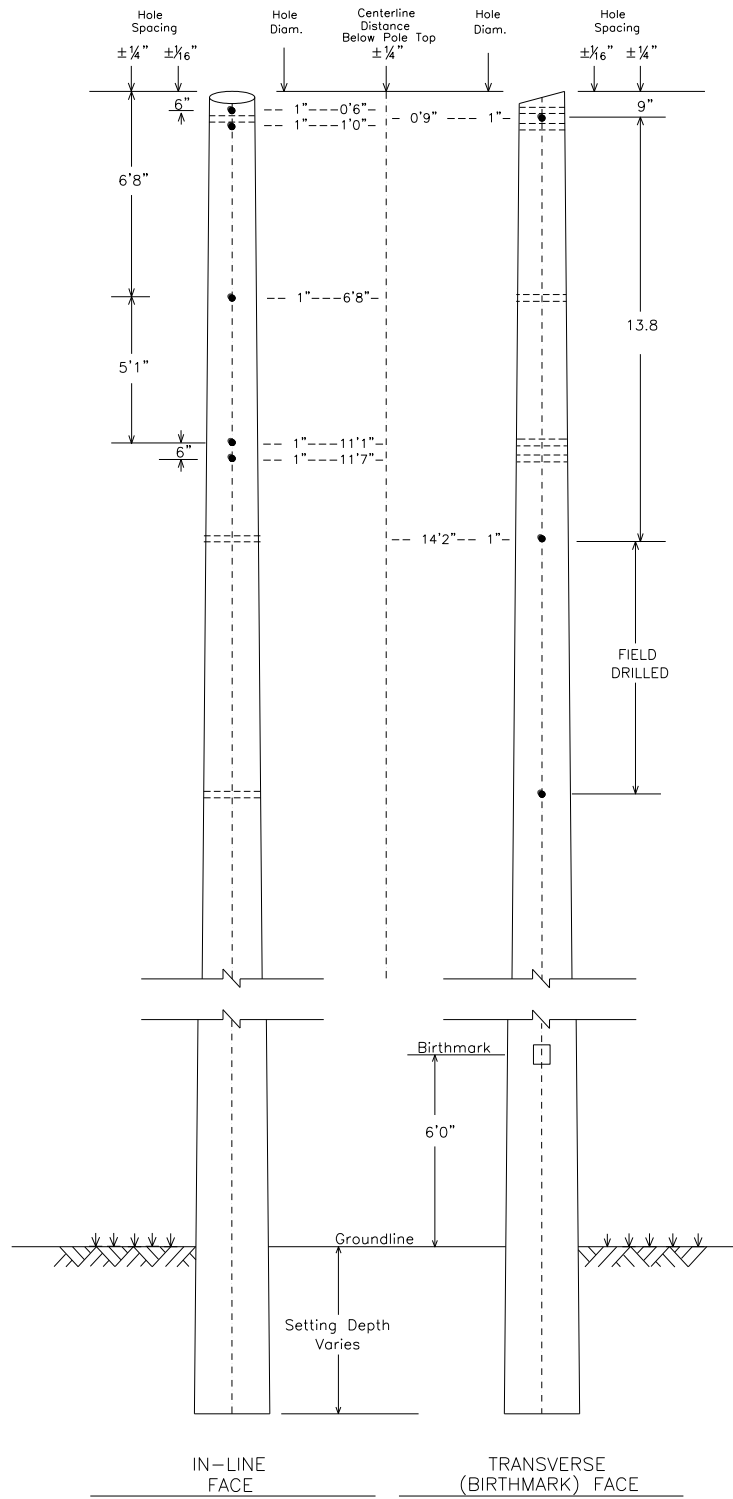
STW69-94

# A3742C2 DRILLING DETAIL





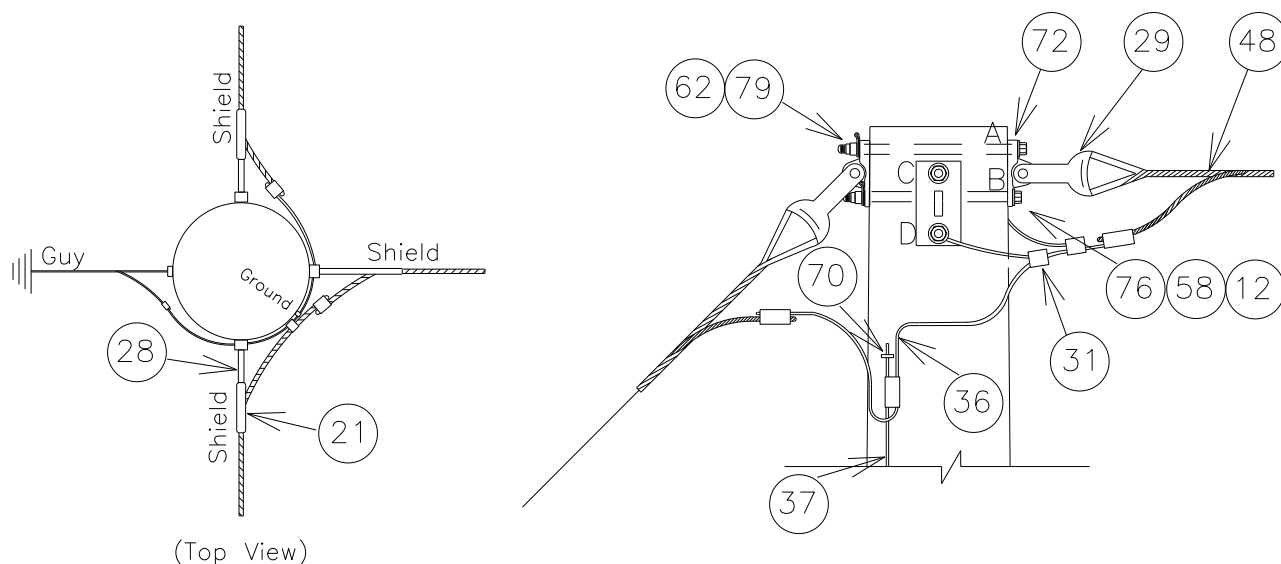
# A3742C3 DRILLING DETAIL



# SW3PDD81

## SHIELD FOR WOOD POLES

### 3 POLE HORIZONTAL CONSTRUCTION, DOUBLE DEADEND, LEFT GUYED



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	12.5
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	12.6

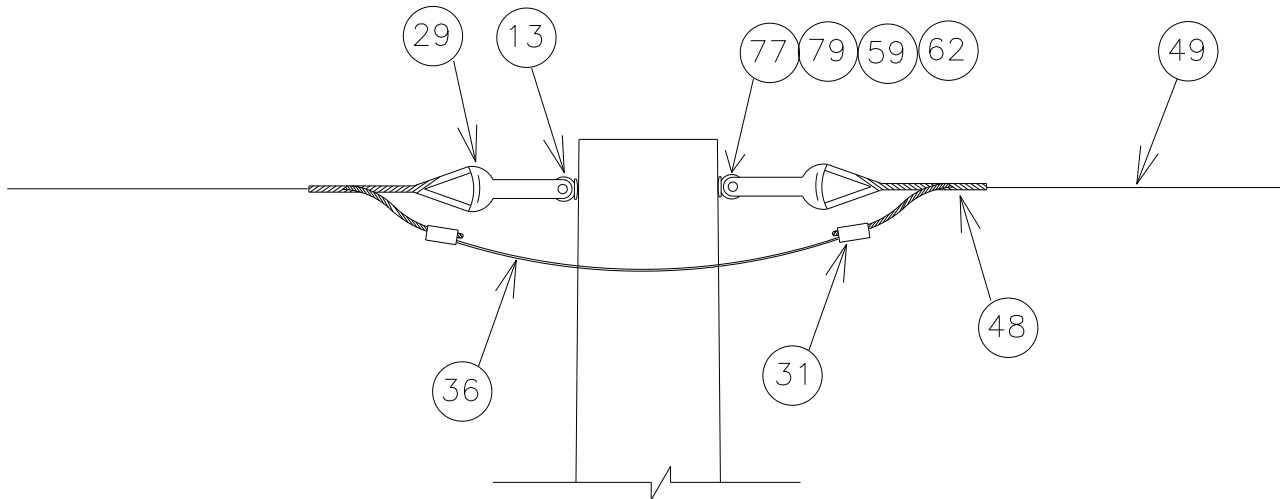
NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
29	CLETH 001	1	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
48	GUYGR 002	1	GRIP, GUY, 7/16", GREEN, GALVANIZED
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	4	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# SW3PDD82

SHIELD FOR WOOD POLES

3 POLE HORIZONTAL CONSTRUCTION, DOUBLE DEADEND, 180 DEGREE, CENTER



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED EYE BOLT LENGTH 'A' (INCHES)	11.0
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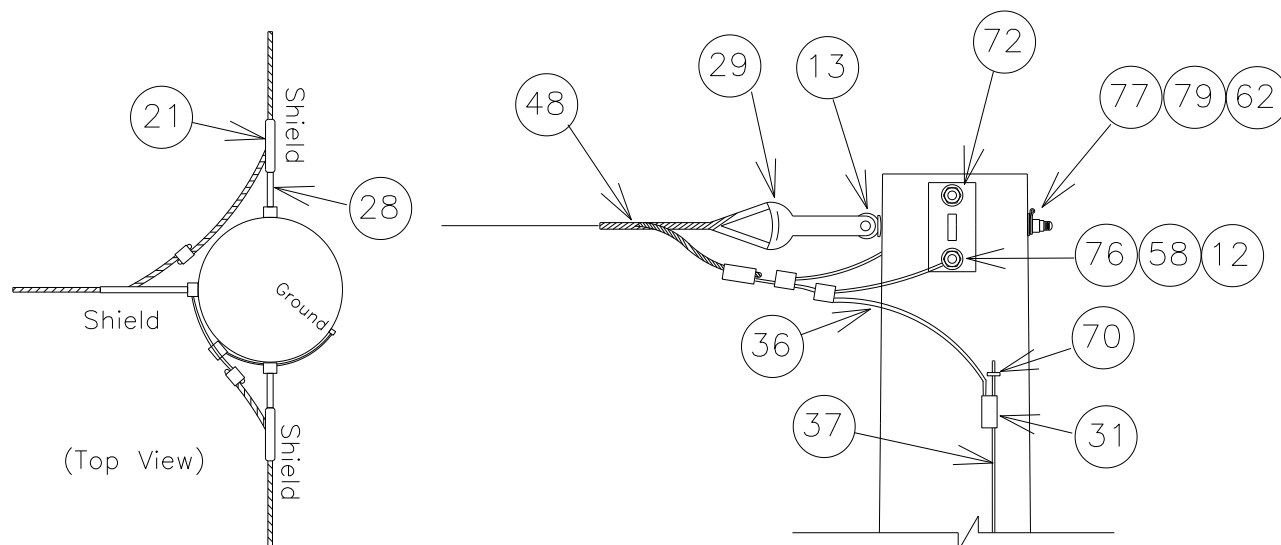
NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
13	BOLSE 010	1	EYEBOLT, 3/4" X 12", GALVANIZED, WITH SQUARE NUT ATTACHED
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	20 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
59	NUTEY 003	1	NUT, EYE, 3/4", H.D.G.
62	NUTSL 004	1	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
77	WASSC001	1	SQUARE CURVED WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	1	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## SW3PDD83

SHIELD FOR WOOD POLES

3 POLE HORIZONTAL CONSTRUCTION, DOUBLE DEADEND, 180 DEGREE, RIGHT



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

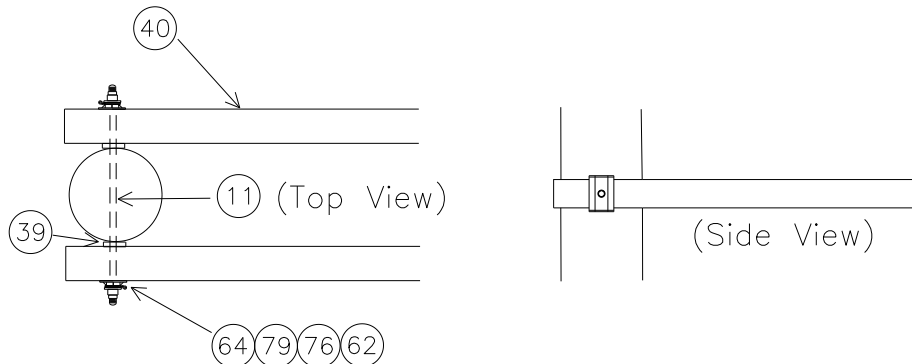
UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.5
EYE-BOLT LENGTH (INCHES)	11.0

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 010	1	EYEBOLT, 3/4" X 12", GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
29	CLETH 001	1	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
48	GUYGR 002	1	GRIP, GUY, 7/16", GREEN, GALVANIZED
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC001	1	SQUARE CURVED WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	3	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# WC3PD1001

WOOD CROSS ARM, 3 POLE CONSTRUCTION, DOUBLE, 10'0" CENTER TO CENTER, TYPE 1

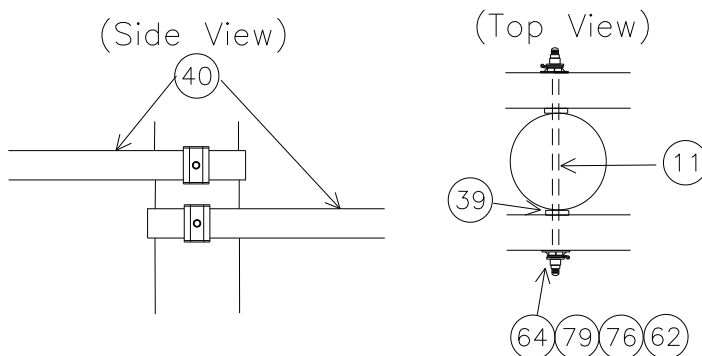


## WC3PD1001 – 2 SETS

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 022	2	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
39	CXAGA 001	4	CROSSARM GAIN, GALV.
40	CXAWO 008	0	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11' PROVIDED WITH WC3 PLATE
40	CXAWO 009	0	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 15'6" PROVIDED WITH WC3 PLATE
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	4	PLATE, CROSSARM REINFORCING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# WC3PD1002

WOOD CROSS ARM, 3 POLE CONSTRUCTION, DOUBLE, 10'0" CENTER TO CENTER, TYPE 2

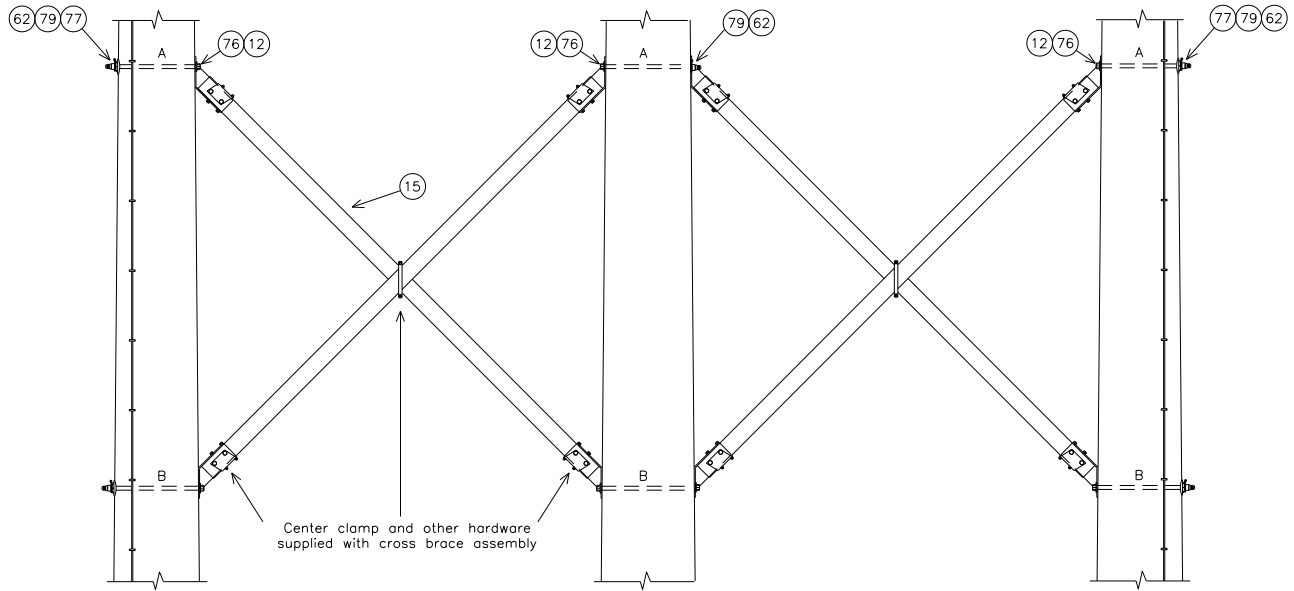


## WC3PD1002

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 022	2	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
36	COBCO 028	25 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
39	CXAGA 001	4	CROSSARM GAIN, GALV.
40	CXAWO 008	2	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 11' PROVIDED WITH WC3 PLATE
40	CXAWO 009	2	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 15'6" PROVIDED WITH WC3 PLATE
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	4	PLATE, CROSSARM REINFORCING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# XW2100

X BRACE FOR WOOD POLES 10' CENTER TO CENTER SPACING  
3-POLE HORIZONTAL CONSTRUCTION, 69KV, 3-PHASE



## XW2100

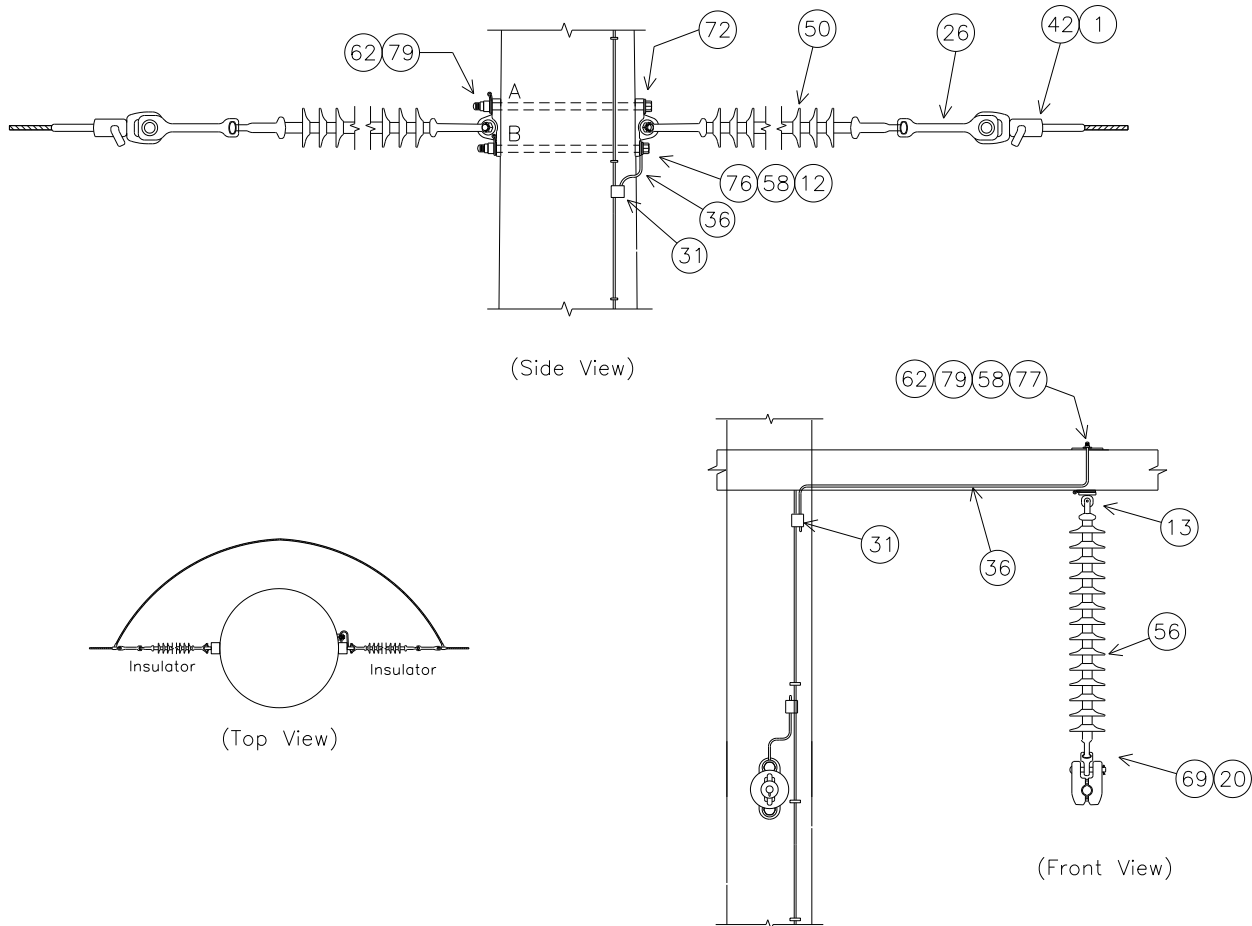
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 050	6	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 001	2 PR	CROSS BRACE, WOOD, 10' POLE SPACING CENTER TO CENTER
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

# IW3PDD8FFA3

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 180, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	
UPPER BOLT 'A' LENGTH (INCHES)	15.0
LOWER BOLT 'B' LENGTH (INCHES)	13.7
EYEBOLT LENGTH (INCHES)	9.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IW3PDD8FFA3 PLATES

## IW3PDD8FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 048	3	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	3	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 009	3	EYE-BOLT, 3/4" X 10", GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	27 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 007	3	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	3	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	3	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IW3PDD8FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

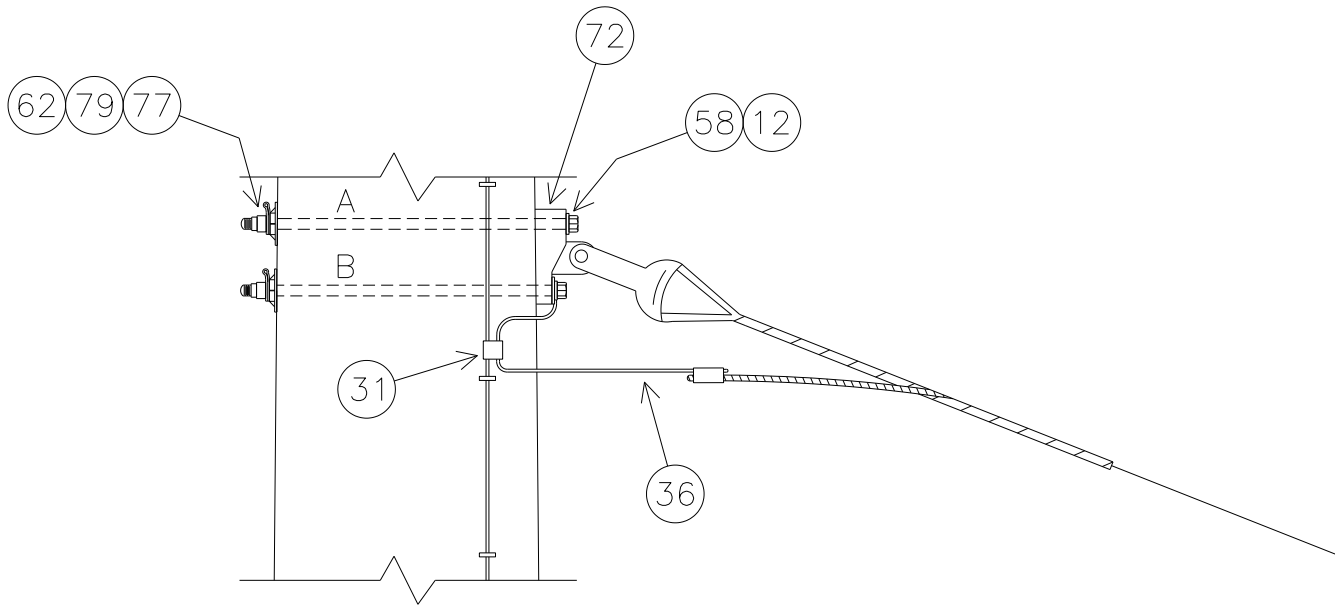
## IW3PDD8FFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11



**GW1**

WOOD GUY,



MINIMUM REQUIRED BOLT LENGTH  
(INCHES)

'A'	13.9
'B'	13.3

NOTE: BOLT CALCULATIONS ASSUMES A 9 INCH POLE TOP DIAMETER

**WG1**

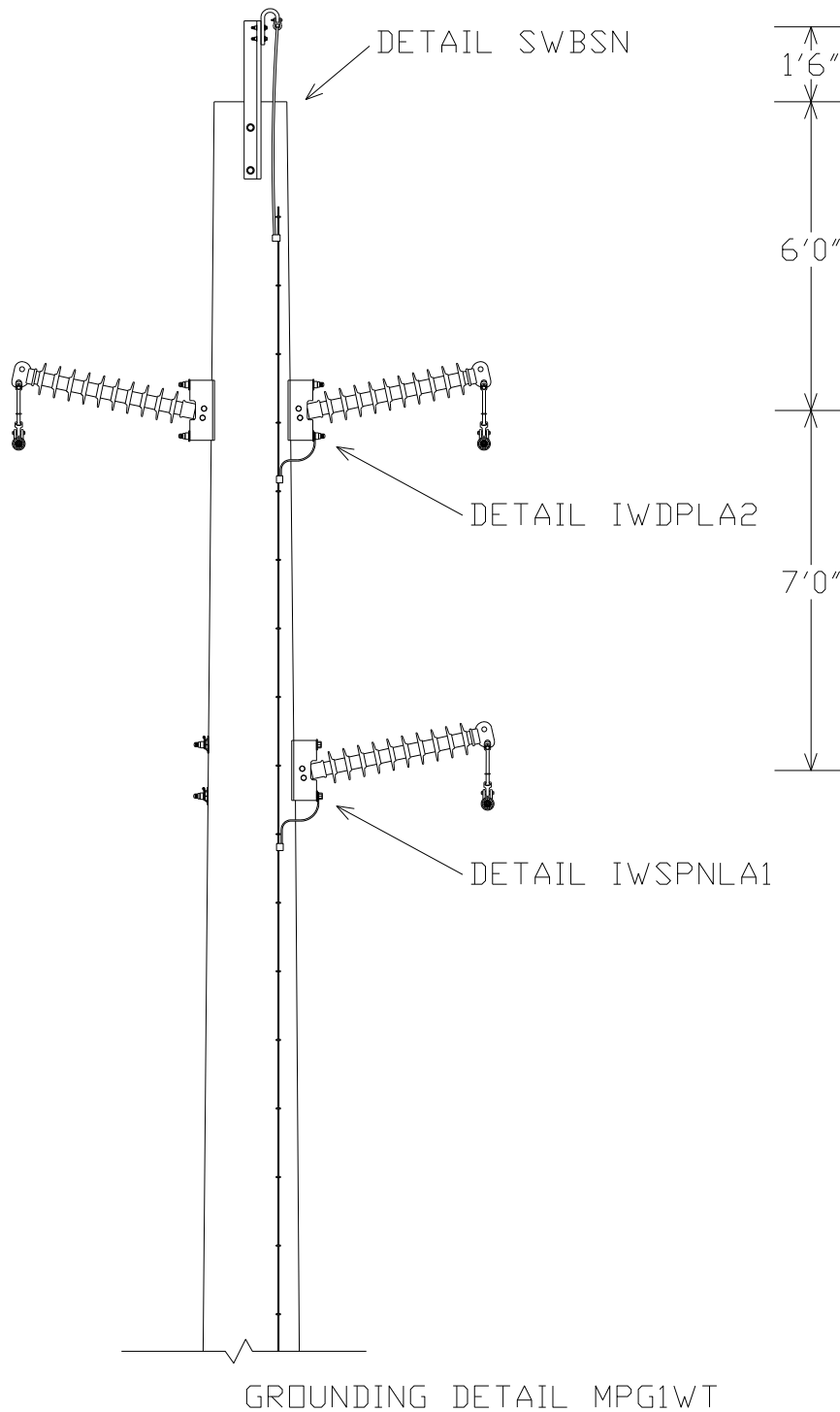
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	2	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	2	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

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# A5151

## 69KV MODIFIED DELTA POST, TANGENT SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



# A5151 PLATES

## A5151 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
11	BOLDA 042	2	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 051	2	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	7 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A5151\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4

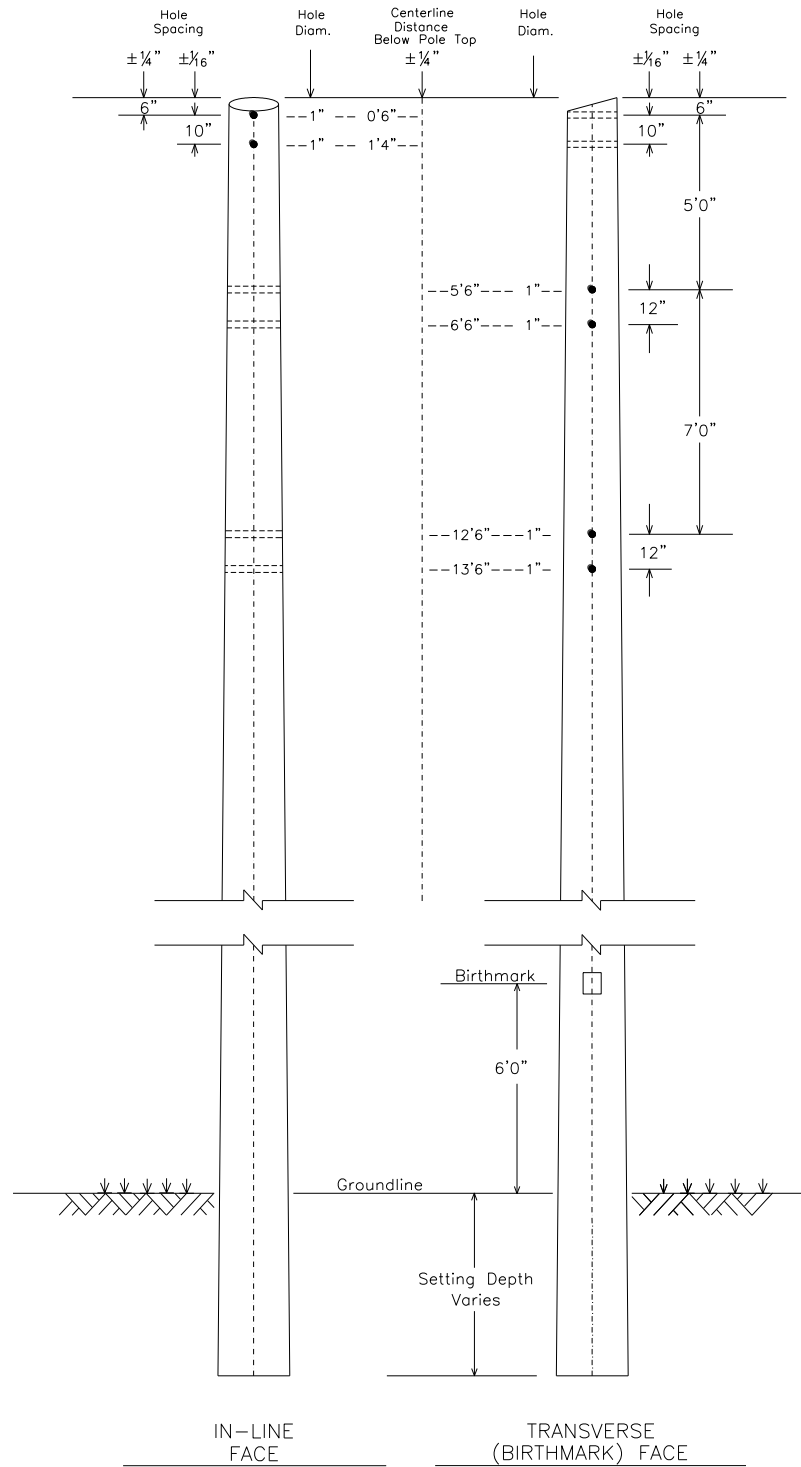
## A5151\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16

## A5151\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16

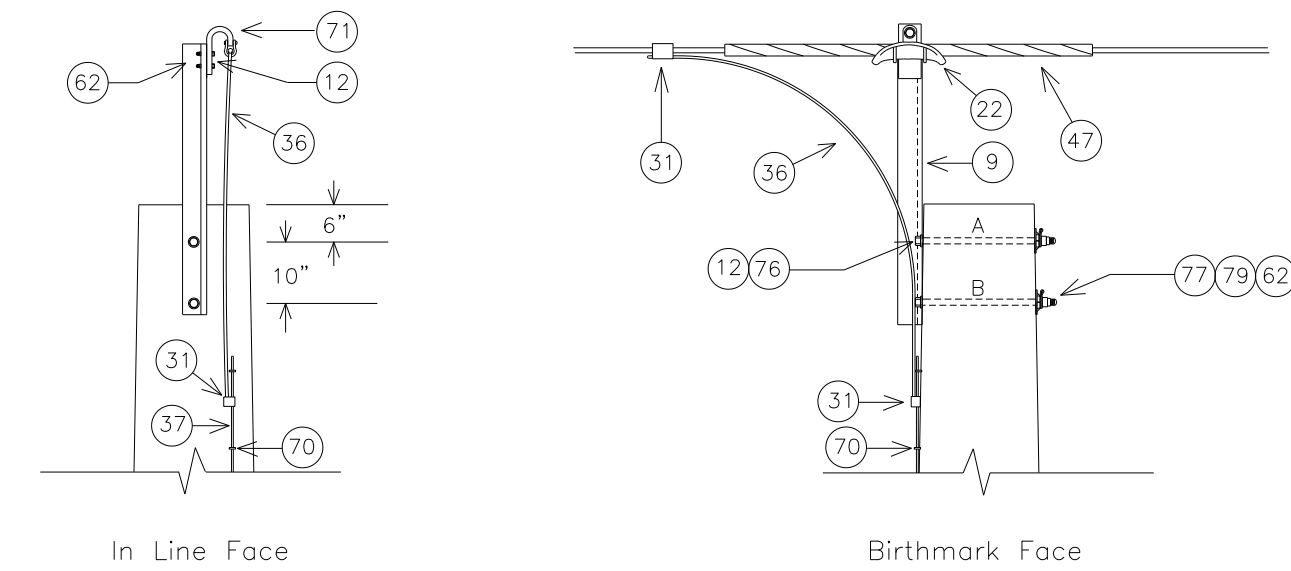
# A5151 DRILLING DETAIL



## SWBSN

SHIELD FOR WOOD POLES

BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.5
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	11.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

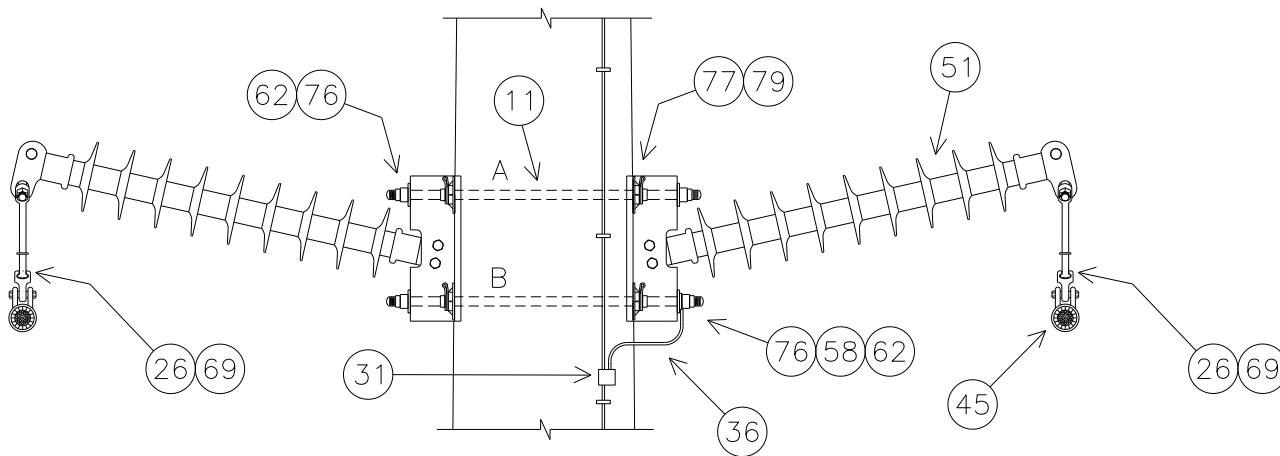
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# IWDPLA2

INSULATOR FOR WOOD POLES

DOUBLE POST, NO GUY, LONG CLEVIS, 69KV, 2-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top
BOLT 'A' LENGTH (INCHES)	24.9
BOLT 'B' LENGTH (INCHES)	25.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWDPLA2 PLATES

**IWDPLA2 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 042	2	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
26	CLEHL 001	2	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	2	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**IWDPLA2\*556S**

45	GRISA 001	2	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	2	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

**IWDPLA2\*954S**

45	GRISA 004	2	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	2	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"

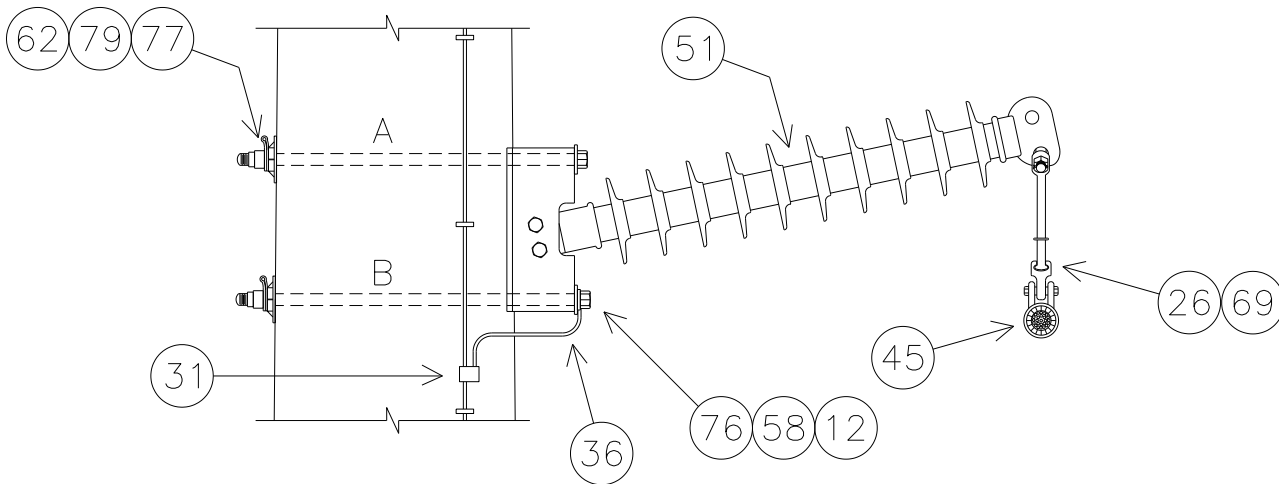


## IWSPNLA1

INSULATOR FOR WOOD POLES

SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	
BOLT 'A' LENGTH (INCHES)	18.8
BOLT 'B' LENGTH (INCHES)	19.2

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWSPNLA1 PLATES

## IWSPNLA1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 051	2	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	1	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	2 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	1	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	2	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	2	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPNLA1\*556S

45	GRISA 001	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA1\*954A

45	GRISA 003	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

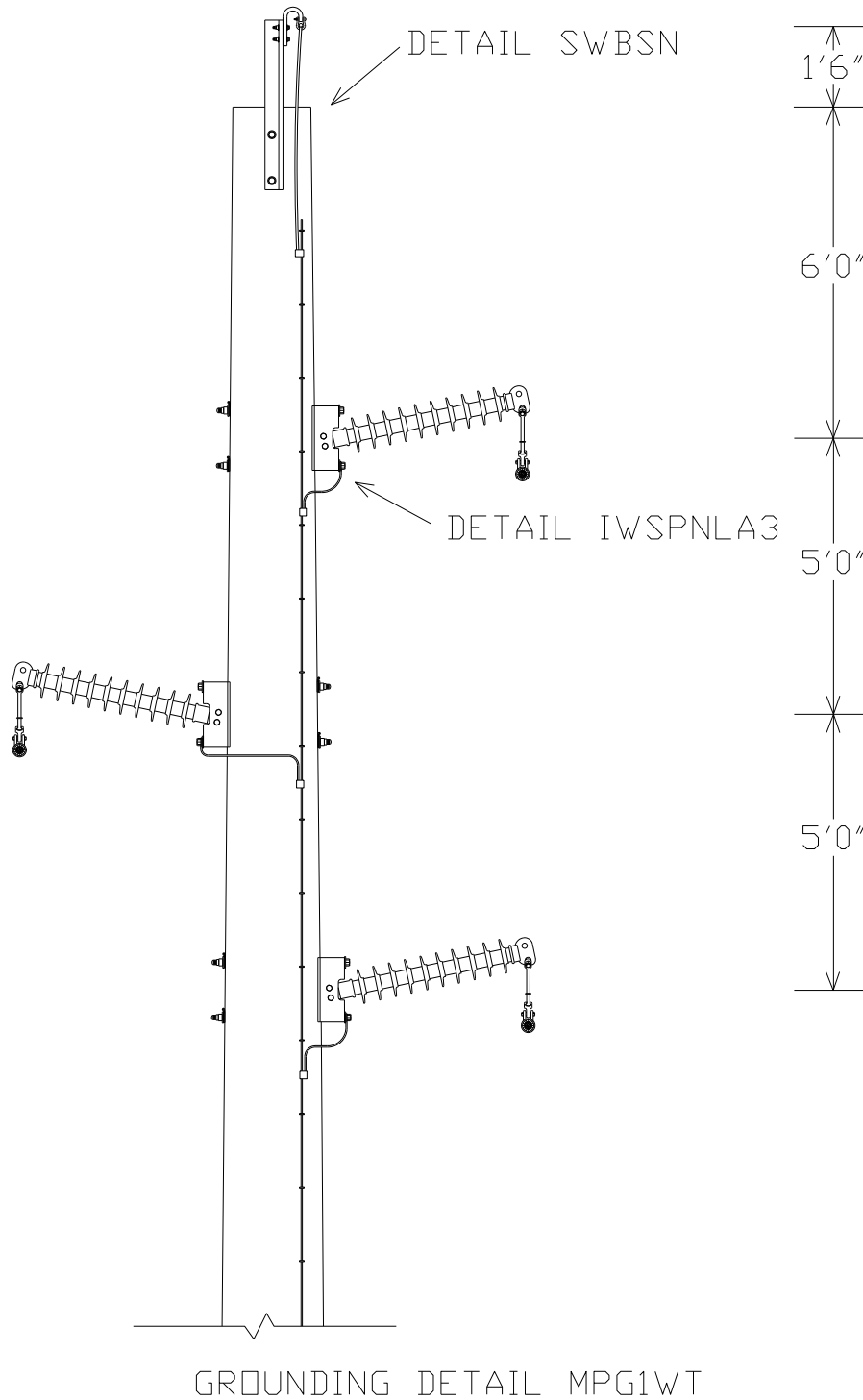
## IWSPNLA1\*954S

45	GRISA 004	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# A6151

69KV DELTA POST, TANGENT SHIELD, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



# A6151 PLATES

## A6151 BASE

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 019	2	MACHINE BOLT, 5/8" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 051	6	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	16 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
46	GUAGW 001	1	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 003	2	SQUARE LOCK NUT FOR 5/8" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
70	STAPL 003	16	STAPLE, COPPERWELD, 1/2" X 2" FOR GROUND WIRE MOLDING
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2 INCH MACHINE BOLTS AND LOCK NUTS
76	WASRD 004	2	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 004	2	SPRING WASHER FOR 5/8" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## A6151\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4

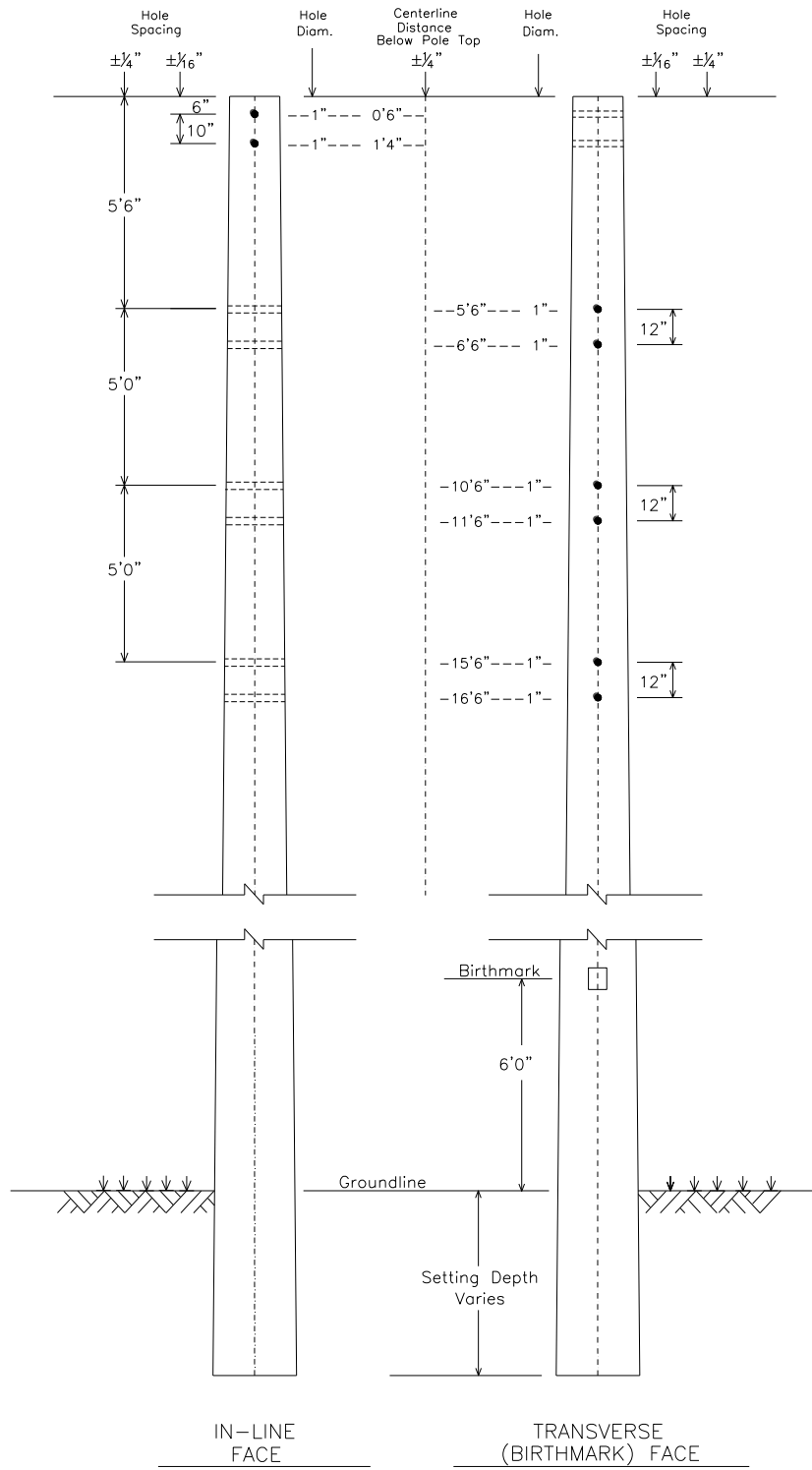
## A6151\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16

## A6151\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16

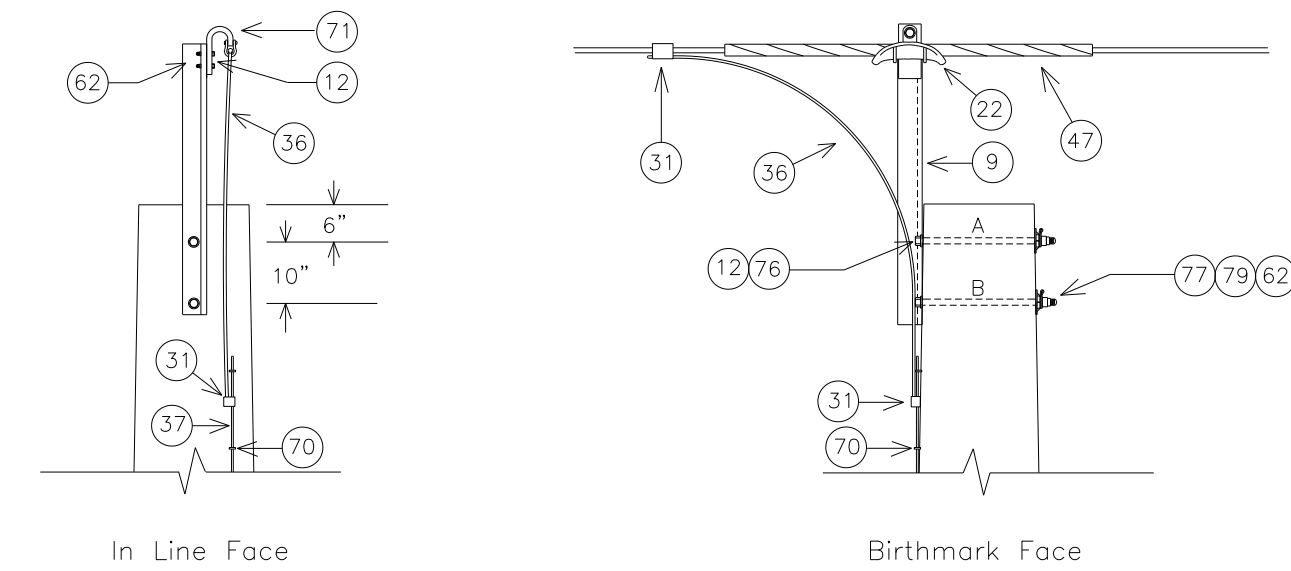
# A6151 DRILLING DETAIL



## SWBSN

SHIELD FOR WOOD POLES

BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.5
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	11.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

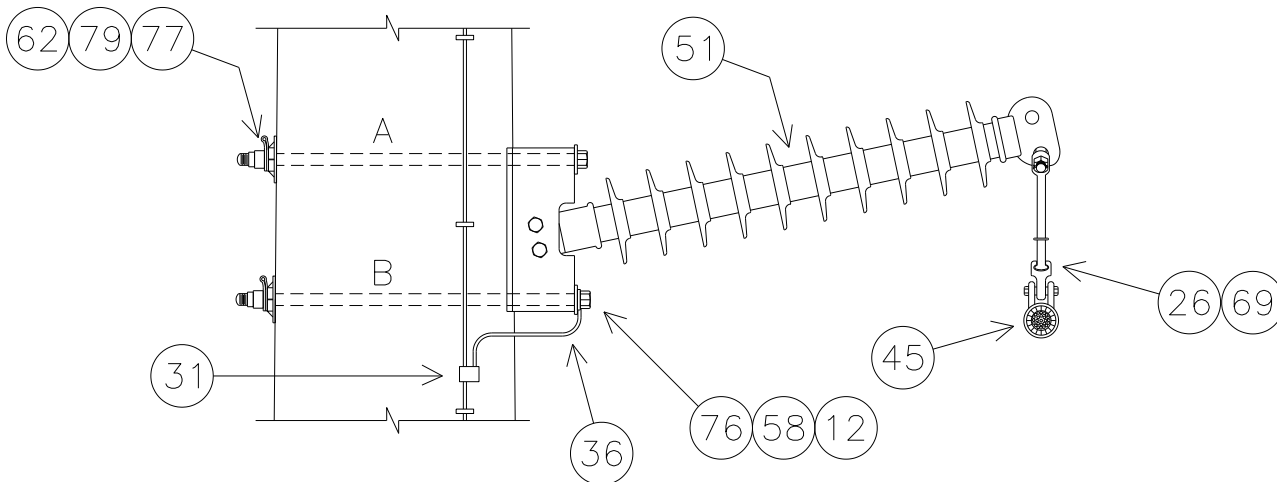
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# IWSPNLA3

INSULATOR FOR WOOD POLES

SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	
BOLT 'A' LENGTH (INCHES)	18.8
BOLT 'B' LENGTH (INCHES)	19.2

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWSPNLA3 PLATES

## IWSPNLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 051	6	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPNLA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.



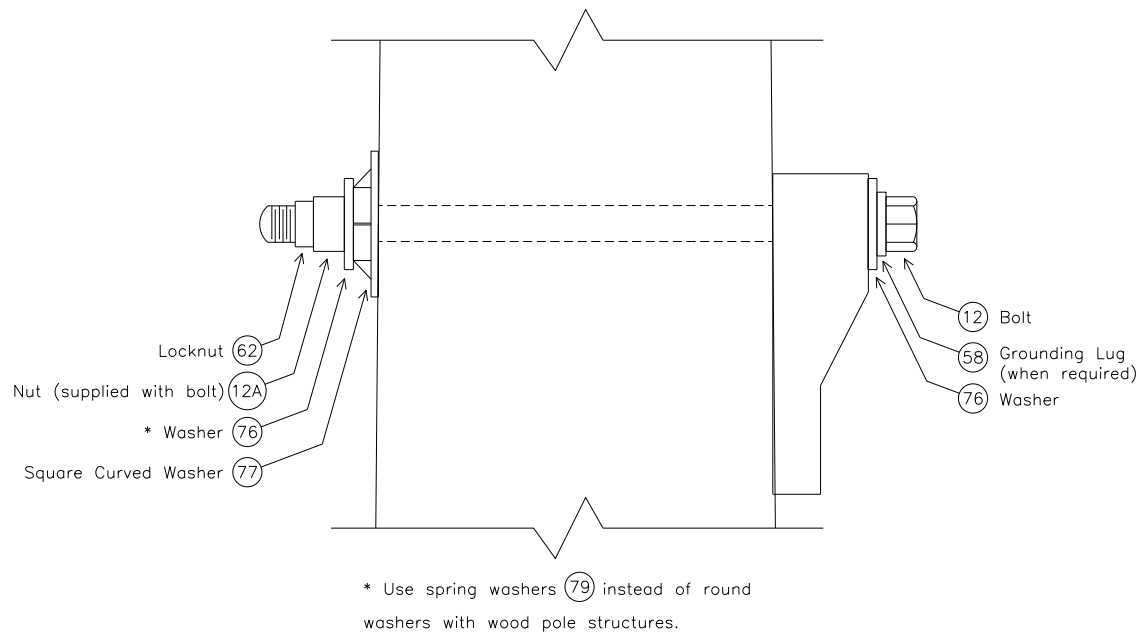
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# MISCELLANEOUS CONSTRUCTION PLATES & INFORMATION

	PAGE
<b>BOLTS</b>	
MBA1: Typical machine bolt assembly	STM-2
MBA2: Typical double arming bolt assembly	STM-3
MBA3: Typical bolt assembly for substation structures	STM-3
<b>BRACING AND CROSSARMS</b>	
WCD100: Double cross-arm for 10'0" center to center pole spacing	STM-4
XW100: X Cross bracing for 10'0" center to center pole spacing	STM-5
<b>GUYING</b>	
MGA: Guying with anchors	STM-6
MGN: Guying without anchors	STM-8
<b>POLE DRILLING &amp; INSERT DETAILS</b>	
PGI: Ground insert details	STM-10
PSBI: Step bolt inserts	STM-11
UDA: Drilling detail for under-built distribution with phase A at 39'11"	STM-12
UDB: Drilling detail for under-built distribution with phase A at 42'5"	STM-13
<b>POLE GROUNDING</b>	
MPG-1C/S: Pole grounding details for concrete/steel poles	STM-14
MPG-1FT: Pole grounding details for steel pole foundations	STM-15
MPG-1WT: Pole grounding details for wood poles	STM-16
<b>VIBRATION DAMPER PLATES</b>	
MVDDI: Vibration damper (double) for dead-end insulators	STM-17
MVDDS: Vibration damper (double) for dead-end shield	STM-18
MVDTI: Vibration damper (double) for tangent insulators	STM-19
MVDTS: Vibration damper (double) for tangent shield	STM-20
MVSDI: Vibration damper (single) for dead-end insulators	STM-21
MVSDS: Vibration damper (single) for dead-end shield	STM-22
MVSTI: Vibration damper (single) for tangent insulators	STM-23
MVSTS: Vibration damper (single) for tangent shield	STM-24
<b>IDENTIFICATION PLATES</b>	
VN - VNC Pole Address	STM-25
VNCS: Vertical numbering for spun concrete poles.	STM-26
VNCW: Vertical numbering for wood poles.	STM-27

# MBA1

## TYPICAL MACHINE BOLT ASSEMBLY

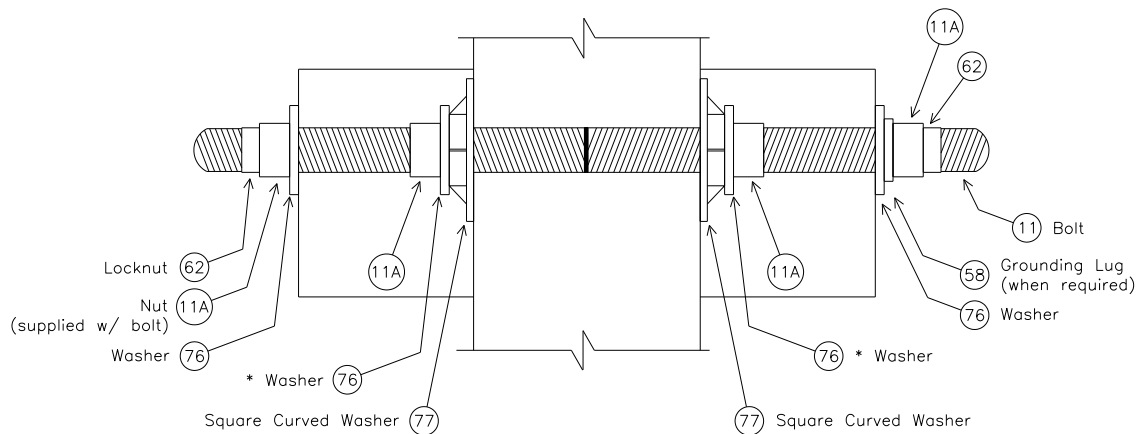


Notes: Bolts are sized to handle construction loads (i.e. hoist, etc.) which are often higher than normal loading loads.

1. Use 1" bolts to support insulators for dead-end full tension structures with 1590 conductor.
2. Use  $\frac{7}{8}$ " bolts to support insulators for dead-end full tension structures with 954 or 556 conductors. Also use  $\frac{7}{8}$ " bolts for all tangent structures and shield arms.
3. Use  $\frac{3}{4}$ " bolts to support all dead-end shield brackets TEEDE 001, TEEDE 002.

## MBA2

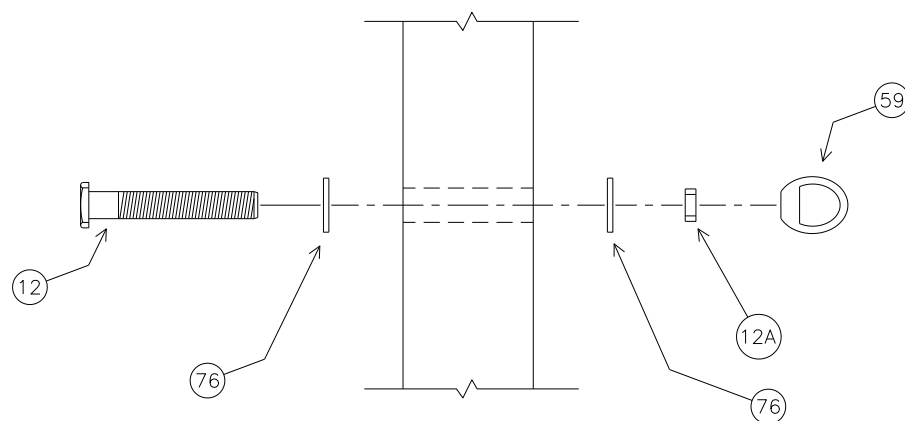
### TYPICAL DOUBLE ARMING BOLT ASSEMBLY



\* Use spring washers (79) instead of round washers with wood pole structures.

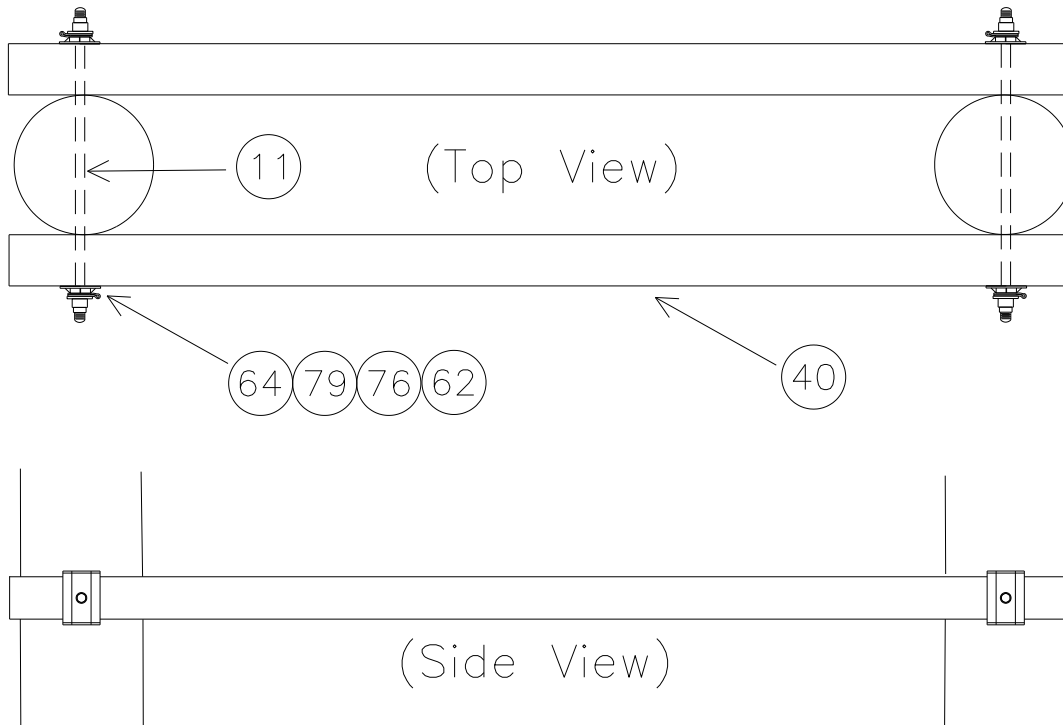
## MBA3

### TYPICAL BOLT ASSEMBLY FOR SUBSTATION STRUCTURES



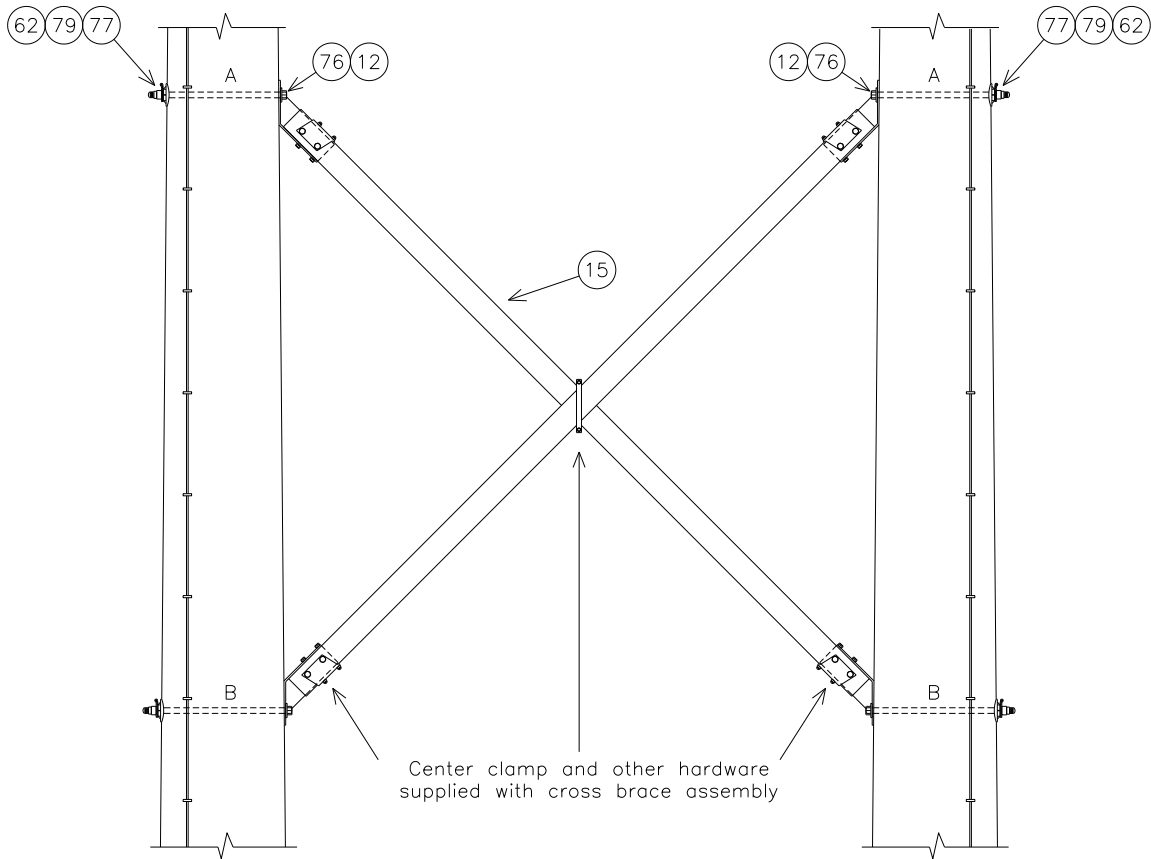
# WCD100

WOOD CROSS ARM, DOUBLE  
10'0" FEET CENTER TO CENTER



## WC1 – 4 SETS

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 022	8	DOUBLE ARMING BOLT, 3/4" X 30", GALVANIZED, WITH 4 SQUARE NUT ATTACHED
40	CXAWO 008	8	CROSSARM, WOOD, 5 3/4" X 7 3/4" X 11'
62	NUTSL 004	16	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	16	PLATE, CROSSARM REINFORCING
76	WASRD 005	16	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	16	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

**XW100****X BRACE FOR WOOD POLES 10'0" CENTER TO CENTER SPACING**

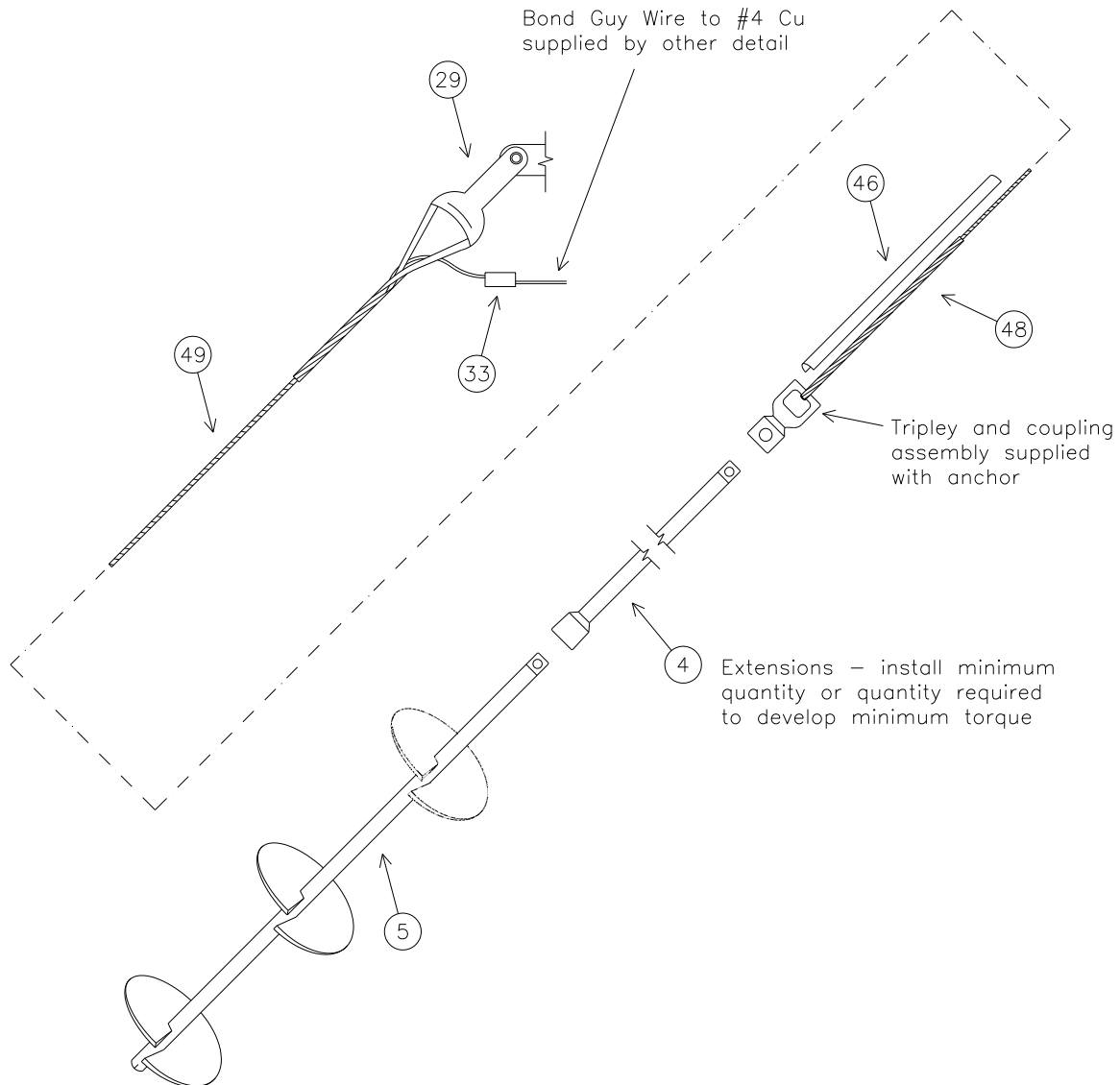
NOTE: DRILL ALL HOLES AS PART OF THIS SUBSTRUCTURE

**XWHA3**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 050	4	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
15	BRCCX 001	1 PR	BRACE, WOOD, X, 10' POLE SPACING CENTER TO CENTER
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

# MGA

## GUYING WITH ANCHORS



GUY TYPE	MINIMUM REQUIRED 5' EXTENSIONS	MINIMUM INSTALLED TORQUE REQUIRED	MAXIMUM WORKING LOAD	ULTIMATE HOLDING POWER	GUY TYPE
E1-21	3	3,000 ft-lbs	12,000 lbs	20,800 lbs	E1-21
E1-35	3	3,000 ft-lbs	20,000 lbs	35,000 lbs	E1-35
E1-58	4	4,600 ft-lbs	32,000 lbs	58,000 lbs	E1-58

## MGA PLATES

### MGAE1-21

NO.	ITEM ID	QTY	DESCRIPTION
4	ANCEX 002	1	42" ANCHOR EXTENSION, GALVANIZED, MULTI-HELIX, 1-1/2" SQ SHAFT, W/ BOLT
4	ANCEX 003	*3	60" ANCHOR EXTENSION, GALVANIZED, MULTI-HELIX, 1-1/2" SQ SHAFT, W/ BOLT
5	ANCMS 002	1	5 FT. MULTI-HELIX (10", 11.3") SCREW ANCHOR, WITH TRIPLEYE AND COUPLING ASSEMBLY, HDG
29	CLETH 001	1	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
33	CNNTB 001	1	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
46	GUAGW 002	1	8' PVC YELLOW GUY GUARD 1 1/2" O.D.
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	100 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)

### MGAE1-35

NO.	ITEM ID	QTY	DESCRIPTION
4	ANCEX 002	1	42" ANCHOR EXTENSION, GALVANIZED, MULTI-HELIX, 1-1/2" SQ SHAFT, W/ BOLT
4	ANCEX 003	*3	60" ANCHOR EXTENSION, GALVANIZED, MULTI-HELIX, 1-1/2" SQ SHAFT, W/ BOLT
5	ANCMS 003	1	7.5 FT. MULTI-HELIX (10", 11.3, 13.5") SCREW ANCHOR, W/ TRIPLEYE AND COUPLING ASSEM., HDG
29	CLETH 002	1	40,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 3/4", USED WITH 1/2" & 9/16"
33	CNNTB 002	1	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 250-350 MAIN, 8-350 TAP
46	GUAGW 003	1	8' PVC YELLOW GUY GUARD 2" O.D.
48	GUYGR 004	2	GRIP, GUY, 9/16", YELLOW, GALVANIZED
49	GUYST 007	100 ft	9/16" DIAMETER GUY STRAND, 7 PER STRAND, GALVANIZED, CLASS C. CODE 378 (1000' REEL)

### MGAE1-58

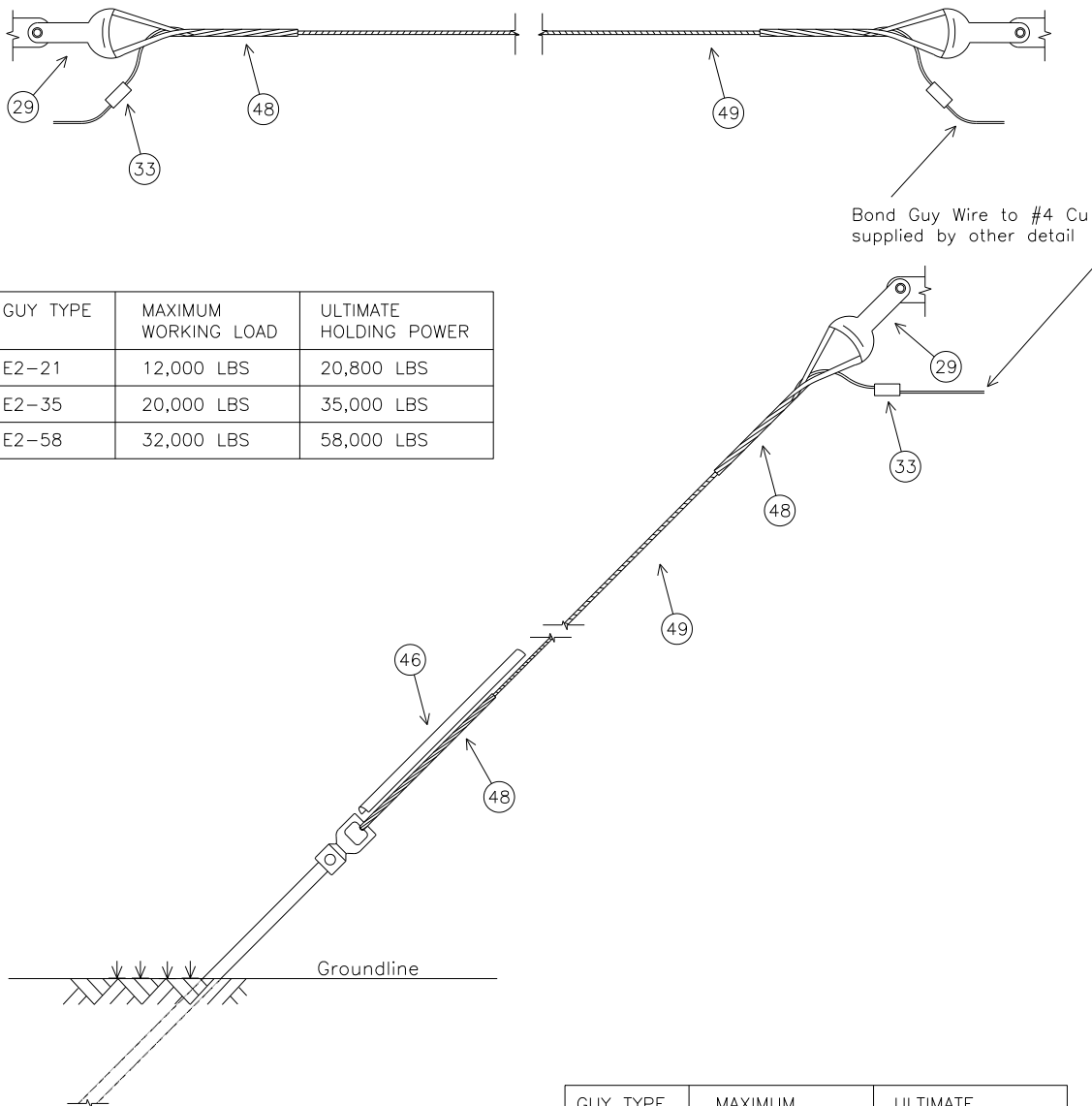
NO.	ITEM ID	QTY	DESCRIPTION
4	ANCEX 002	1	42" ANCHOR EXTENSION, GALVANIZED, MULTI-HELIX, 1-1/2" SQ SHAFT, W/ BOLT
4	ANCEX 003	*4	60" ANCHOR EXTENSION, GALVANIZED, MULTI-HELIX, 1-1/2" SQ SHAFT, W/ BOLT
5	ANCMS 003	1	7.5 FT. MULTI-HELIX (10", 11.3, 13.5") SCREW ANCHOR, W/ TRIPLEYE AND COUPLING ASSEM., HDG
29	CLETH 003	1	60,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 1", USED WITH 5/8" & 3/4"
33	CNNTB 003	1	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 400-500 MAIN, 8-500 TAP
46	GUAGW 004	1	8' PVC YELLOW GUY GUARD 2 1/2" O.D.
48	GUYGR 005	2	GRIP, GUY, 3/4", ORANGE, GALVANIZED
49	GUYST 008	100 ft	3/4" DIAMETER GUY STRAND, 19 PER STRAND, GALVANIZED, CLASS "C" GALV. (1000'/REEL)

\*THESE ITEMS ARE MINIMUM QUANTITIES, MORE MAY BE REQUIRED TO DEVELOP PROPER TORQUE



## MGN

### GUYING WITHOUT ANCHORS



GUY TYPE	MAXIMUM WORKING LOAD	ULTIMATE HOLDING POWER
E2-21	12,000 LBS	20,800 LBS
E2-35	20,000 LBS	35,000 LBS
E2-58	32,000 LBS	58,000 LBS

GUY TYPE	MAXIMUM WORKING LOAD	ULTIMATE HOLDING POWER
E1-22	12,000 LBS	20,800 LBS
E1-36	20,000 LBS	35,000 LBS
E1-59	32,000 LBS	58,000 LBS

# MGN PLATES

## E1

### MGNE1-22

NO.	ITEM ID	QTY	DESCRIPTION
29	CLETH 001	1	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
33	CNNTB 001	1	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
46	GUAGW 002	1	8' PVC YELLOW GUY GUARD 1 1/2" O.D.
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	100 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)

### MGNE1-36

NO.	ITEM ID	QTY	DESCRIPTION
29	CLETH 002	1	40,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 3/4", USED WITH 1/2" & 9/16"
33	CNNTB 002	1	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 250-350 MAIN, 8-350 TAP
46	GUAGW 003	1	8' PVC YELLOW GUY GUARD 2" O.D.
48	GUYGR 004	2	GRIP, GUY, 9/16", YELLOW, GALVANIZED
49	GUYST 007	100 ft	9/16" DIAMETER GUY STRAND, 7 PER STRAND, GALVANIZED, CLASS C. CODE 378 (1000' REEL)

### MGNE1-59

NO.	ITEM ID	QTY	DESCRIPTION
29	CLETH 003	1	60,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 1", USED WITH 5/8" & 3/4"
33	CNNTB 003	1	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 400-500 MAIN, 8-500 TAP
46	GUAGW 003	1	8' PVC YELLOW GUY GUARD 2" O.D.
48	GUYGR 005	2	GRIP, GUY, 3/4", ORANGE, GALVANIZED
49	GUYST 008	100 ft	3/4" DIAMETER GUY STRAND, 19 PER STRAND, GALVANIZED, CLASS "C" GALV. (1000'/REEL)

## E2

### MGNE2-21

NO.	ITEM ID	QTY	DESCRIPTION
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	100 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)

### MGNE2-35

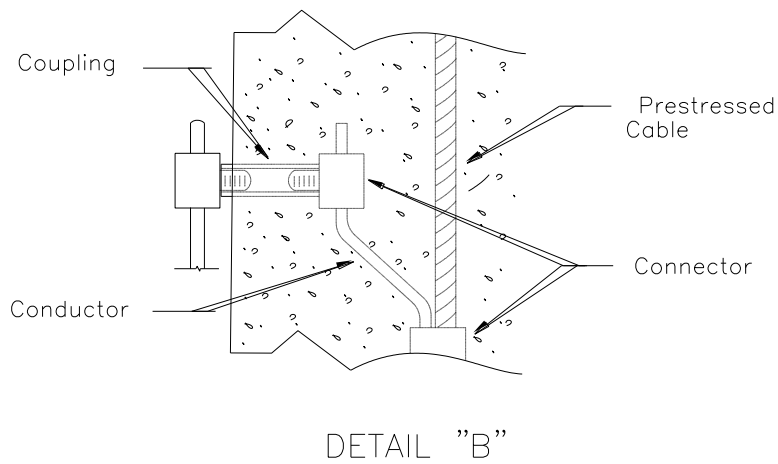
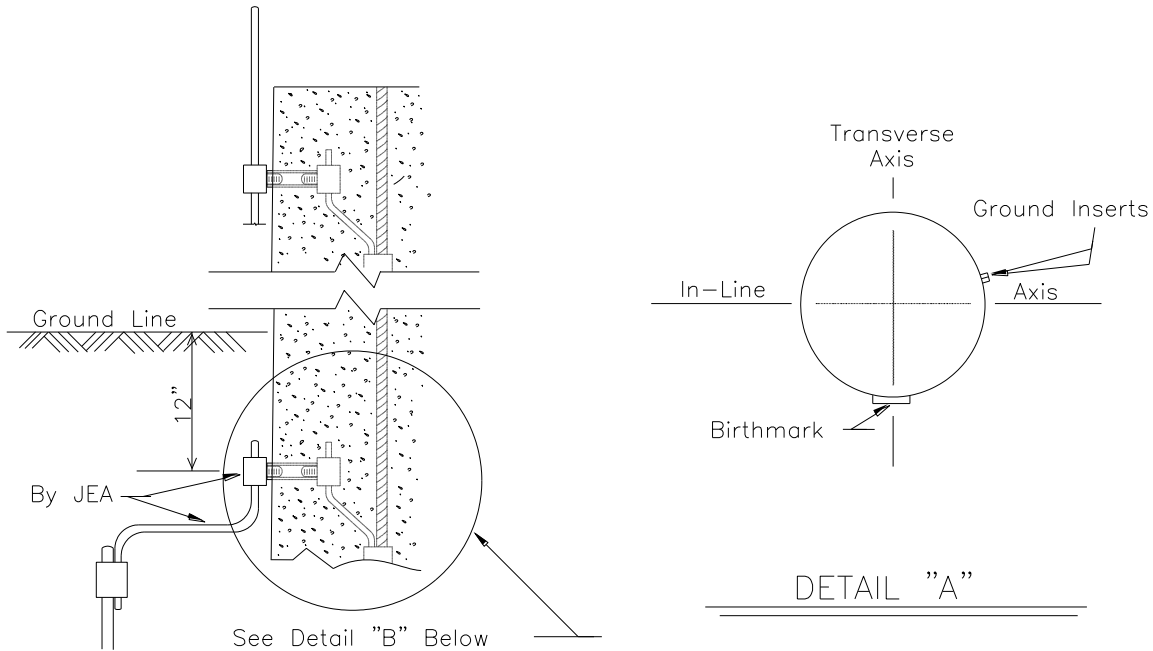
NO.	ITEM ID	QTY	DESCRIPTION
29	CLETH 002	2	40,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 3/4", USED WITH 1/2" & 9/16"
33	CNNTB 002	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 250-350 MAIN, 8-350 TAP
48	GUYGR 004	2	GRIP, GUY, 9/16", YELLOW, GALVANIZED
49	GUYST 007	100 ft	9/16" DIAMETER GUY STRAND, 7 PER STRAND, GALVANIZED, CLASS C. CODE 378 (1000' REEL)

### MGNE2-58

NO.	ITEM ID	QTY	DESCRIPTION
29	CLETH 003	2	60,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 1", USED WITH 5/8" & 3/4"
33	CNNTB 003	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 400-500 MAIN, 8-500 TAP
48	GUYGR 005	2	GRIP, GUY, 3/4", ORANGE, GALVANIZED
49	GUYST 008	100 ft	3/4" DIAMETER GUY STRAND, 19 PER STRAND, GALVANIZED, CLASS "C" GALV. (1000'/REEL)

## PGI

### GROUND INSERT DETAILS

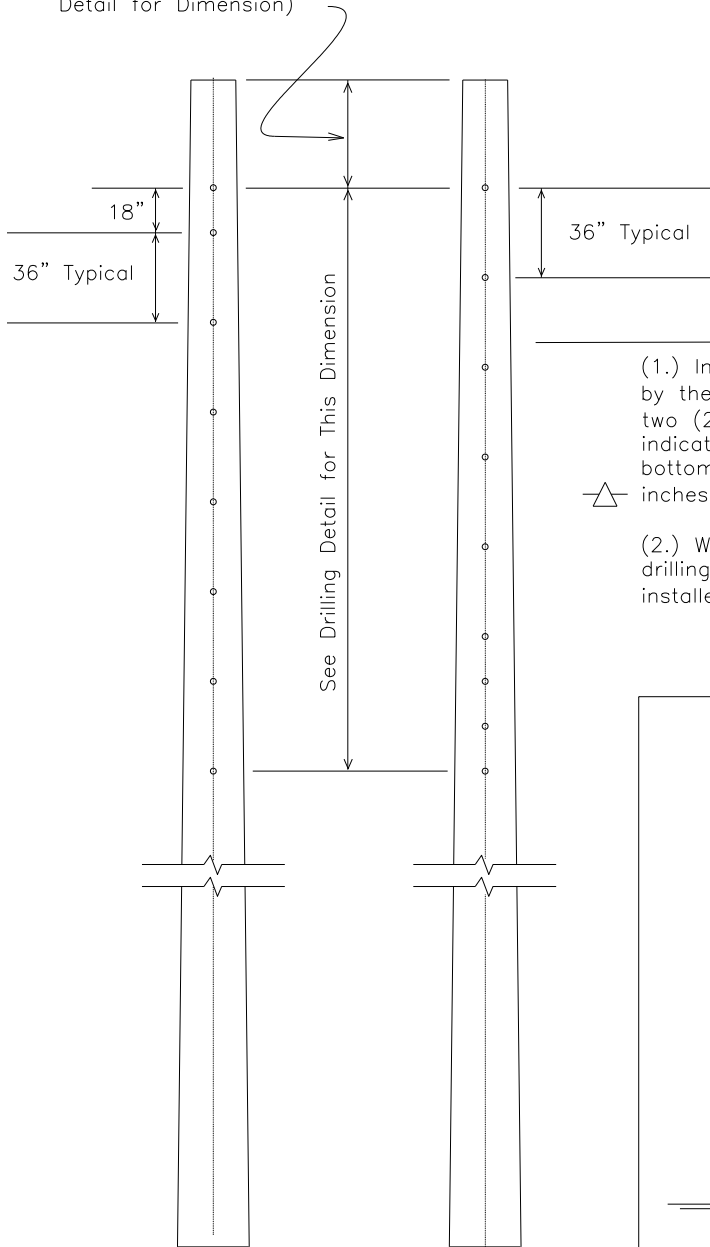


Note: Coupling and Internal Cable with Connectors To Be Furnished By Pole Manufacturer

# PSBI

## STEP BOLT INSERTS

No Inserts In This Area.  
(Refer to Pole Drilling  
Detail for Dimension)



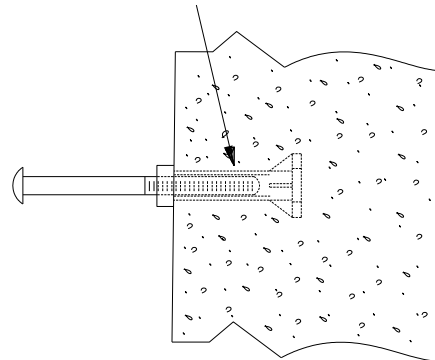
### Notes

(1.) In general, step inserts shall be installed by the pole manufacturer 18" on center on two (2) adjacent faces, within the area indicated on the pole drilling detail. The bottom insert shall be a minimum of 72 inches below "C" phase.



(2.) When this symbol occurs on the pole drilling detail, the step inserts shall be installed on all four (4) pole faces.

Step Inserts Star  
Catalog No. P56T



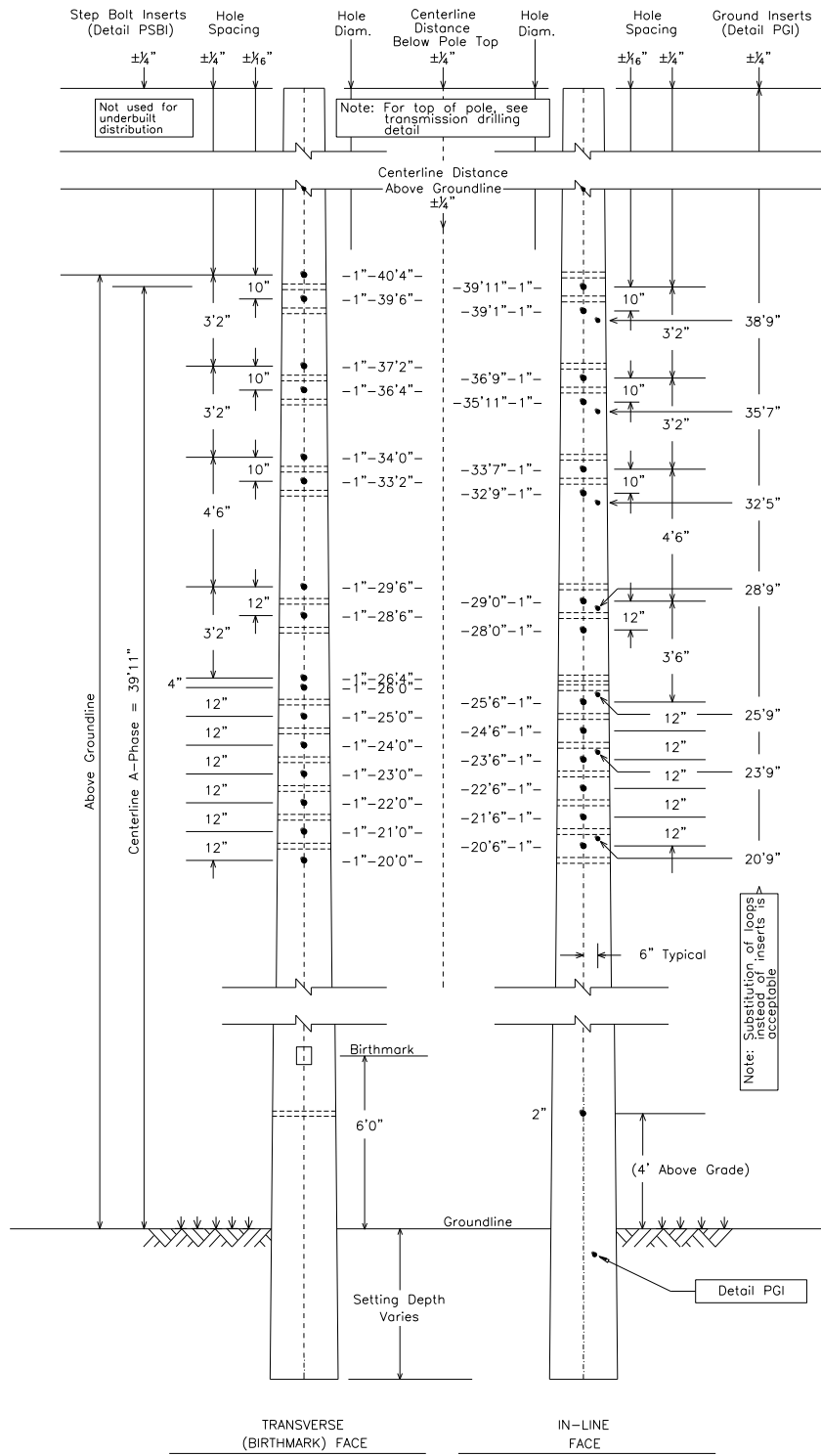
Step Bolt and Insert Installation

IN-LINE  
FACE

TRANSVERSE  
(BIRTHMARK) FACE

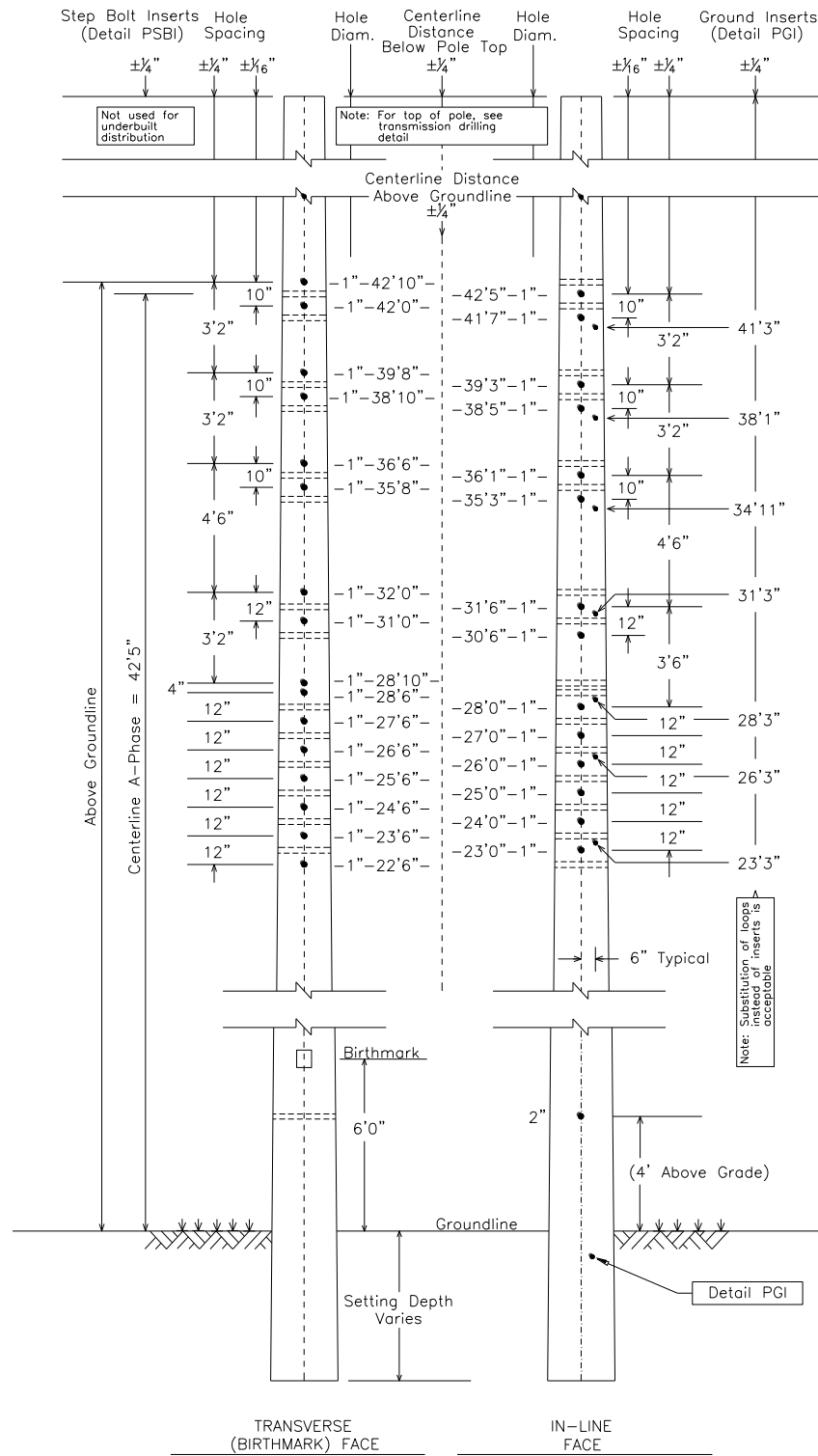
## UDA

### UNDER-BUILT DISTRIBUTION WITH PHASE A AT 39'11"



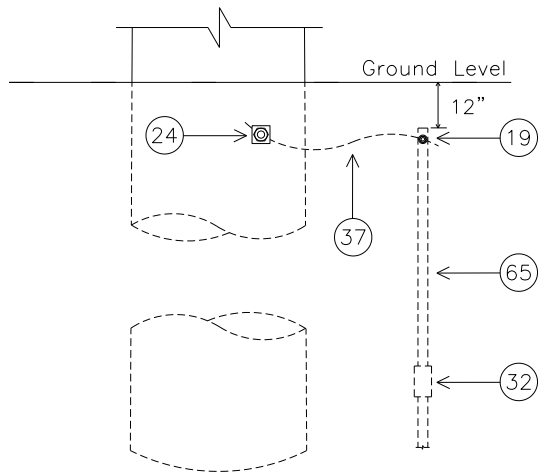
# UDB

### UNDER-BUILT DISTRIBUTION WITH PHASE A AT 42'5"

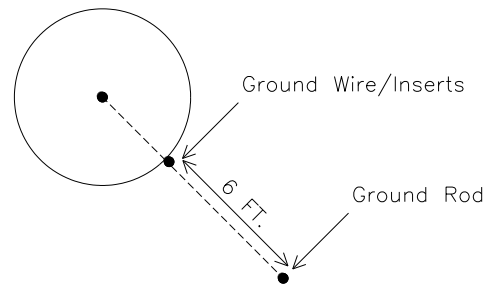


## MPG-1C/S

### POLE GROUNDING FOR DIRECT BURIED CONCRETE/STEEL POLES



Direct Buried Concrete or Steel Pole



TOP VIEW

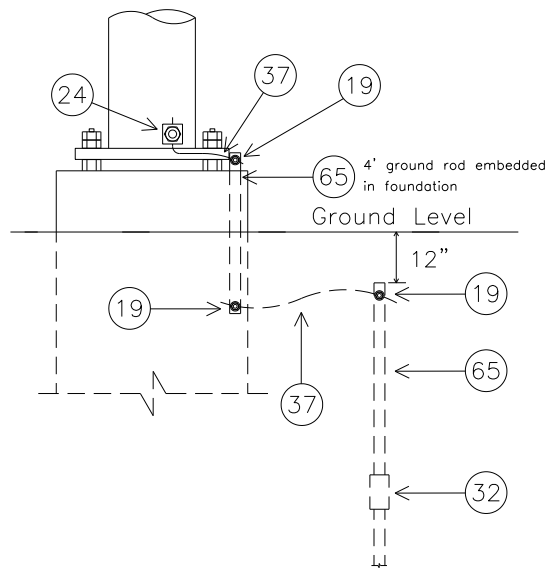
## MPG-1C/S

NO.	ITEM ID	QTY	DESCRIPTION
19	CLAGR 001	1	5/8" GROUND ROD CLAMP, BRONZE
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
32	CNNGR 002	*2	THREADEDLESS COUPLING FOR 5/8" GROUND ROD, 2 3/4", BRONZE
37	COBCW 014	8ft	CONDUCTOR, #4 CW
65	RODGR 003	*3	5/8" GROUND ROD, "THREADLESS", L= 8'

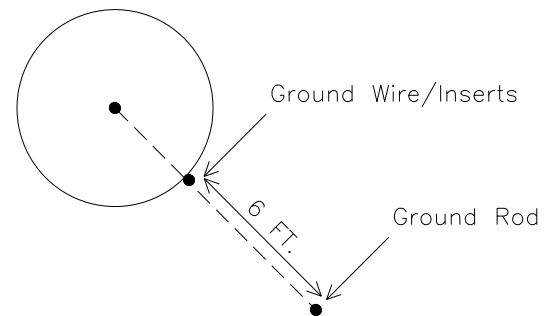
\* These items are minimum quantities; more may be required for proper resistance.

# MPG-1FT

## POLE GROUNDING FOR STEEL POLES ON FOUNDATION



Steel Pole on Foundation



TOP VIEW

### MPG-1FT

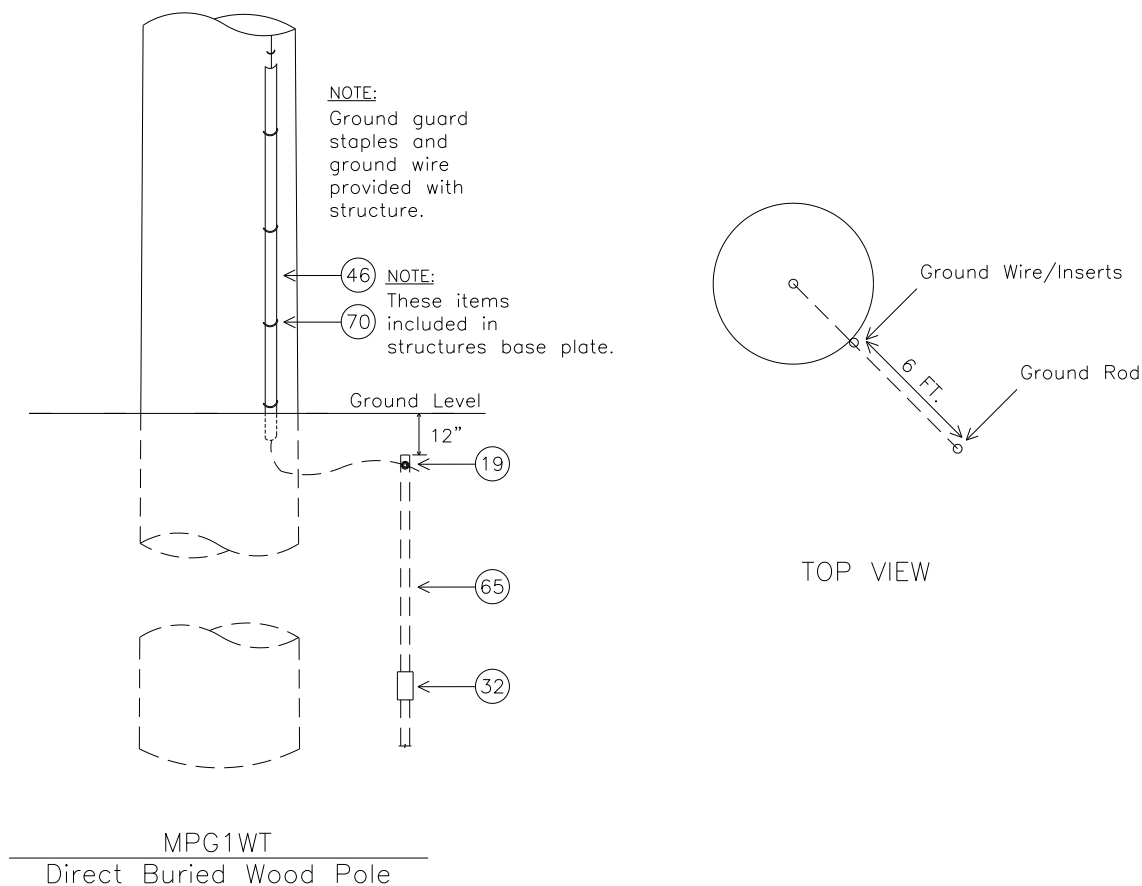
NO.	ITEM ID	QTY	DESCRIPTION
19	CLAGR 001	3	5/8" GROUND ROD CLAMP, BRONZE
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
32	CNNGR 002	*2	THREADEDLESS COUPLING FOR 5/8" GROUND ROD, 2 3/4", BRONZE
37	COBCW 014	8ft	CONDUCTOR, #4 CW
65	RODGR 003	*4	5/8" GROUND ROD, "THREADLESS", L= 8'

\* These items are minimum quantities; more may be required for proper resistance.



## MPG-1WT

### POLE GROUNDING FOR WOOD POLES



#### MPG-1WT

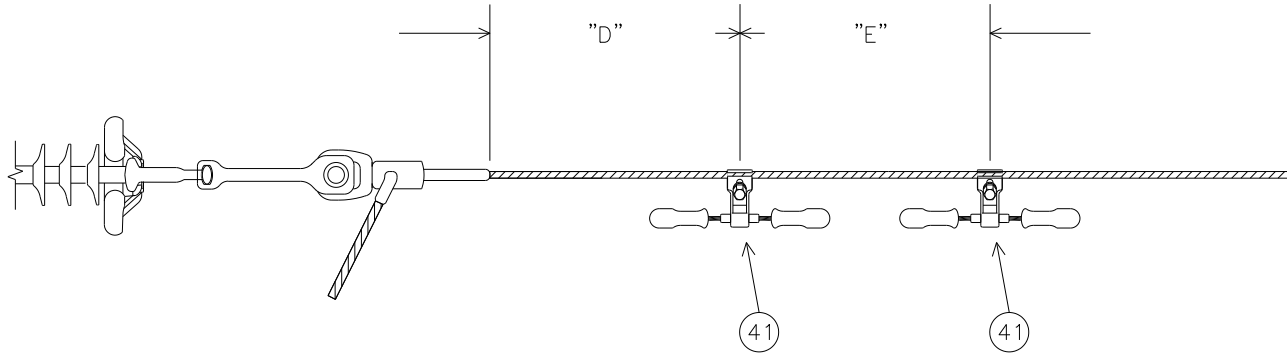
NO.	ITEM ID	QTY	DESCRIPTION
19	CLAGR 001	1	5/8" GROUND ROD CLAMP, BRONZE
32	CNNGR 002	*2	THREADLESS COUPLING FOR 5/8" GROUND ROD, 2 3/4", BRONZE
65	RODGR 003	*3	5/8" GROUND ROD, "THREADLESS", L= 8'

\* These items are minimum quantities; more may be required for proper resistance.

# MVDDI

## VIBRATION DAMPER (DOUBLE) FOR DEAD-END INSULATORS

CONDUCTOR OPTIONS: 556ACSR, 954AAC, 954 ACSR, 1590 ACSR



DAMPER LOCATION		
CONDUCTOR SIZE	"D"	"E"
556 ACSR	2' 8"	N/A
954 AAC	3' 0"	2' 0"
954 ACSR	3' 11"	2' 8"
1590 ACSR	4' 11"	3' 4"

### MVDDI\*556S

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 003	1	VIBRATION DAMPER FOR 556-MCM ACSR

### MVDDI\*954A

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 004	2	VIBRATION DAMPER FOR 954-MCM ACSR

### MVDDI\*954S

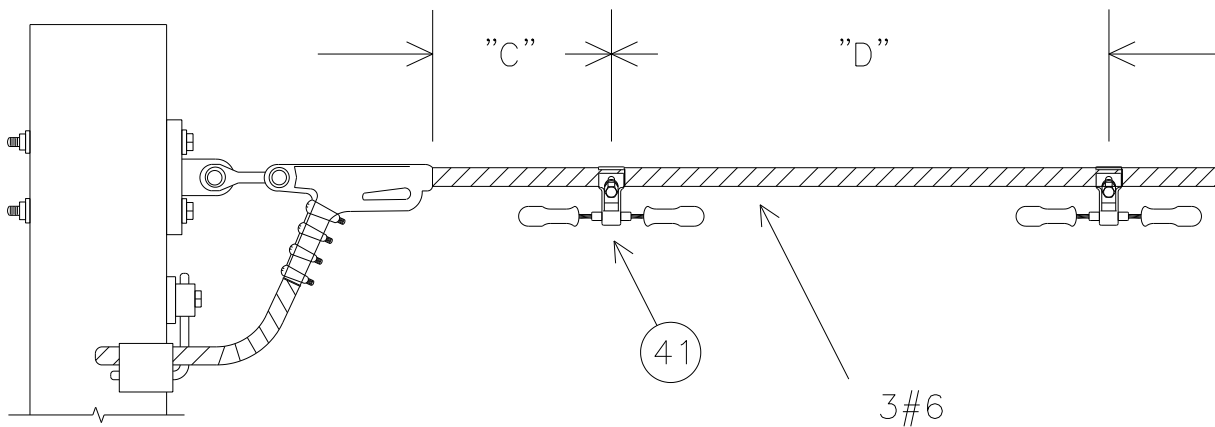
NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 004	2	VIBRATION DAMPER FOR 954-MCM ACSR

### MVDDI\*1590

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 005	2	VIBRATION DAMPER FOR 1590-MCM ACSR

# MVDDS

## VIBRATION DAMPER (DOUBLE) FOR DEAD-END SHIELD



DAMPER LOCATION		
CONDUCTOR SIZE	"C"	"D"
3#6	1' 5"	1' 0"

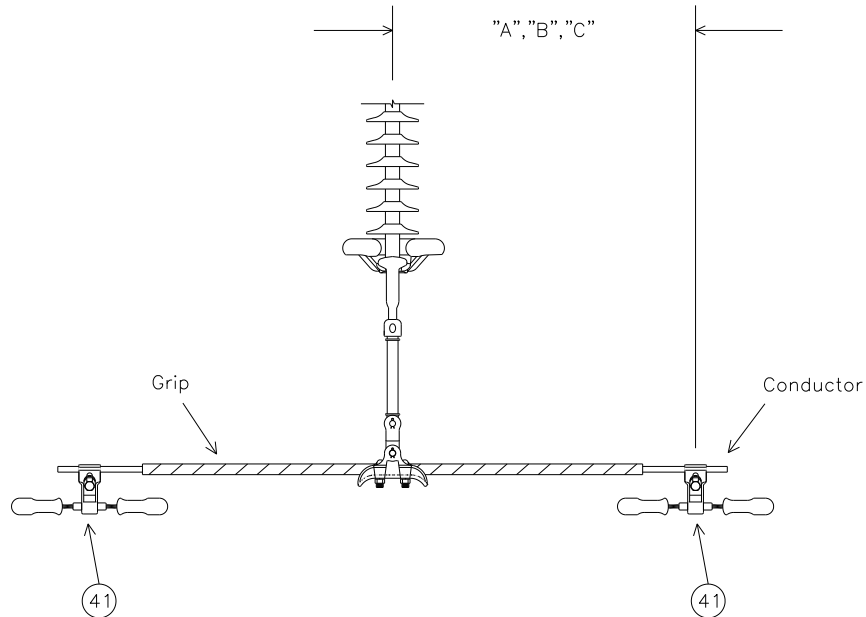
### MVDDS

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI001	2	VIBRATION DAMPER FOR 3#6AW & 7#10AW

## MVDTI

### VIBRATION DAMPER (DOUBLE) FOR TANGENT INSULATORS

CONDUCTOR OPTIONS: 556 ACSR, 954AAC, 954 ACSR, 1590 ACSR



DAMPER LOCATION			
CONDUCTOR SIZE	"A" WITHOUT ARMOR RODS OR AGS UNIT	"B" WITH ARMOR RODS	"C" WITH AGS UNIT
556 ACSR	2' 8"	3' 7"	2' 10"
954 AAC	3' 0"	4' 5"	3' 8"
954 ACSR	3' 11"	4' 5"	4' 0"
1590 ACSR	4' 11"	4' 5"	4' 5"

#### MVDTI\*556S

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI003	2	VIBRATION DAMPER FOR 556-MCM ACSR

#### MVDTI\*954A

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI004	2	VIBRATION DAMPER FOR 954-MCM ACSR

#### MVDTI\*954S

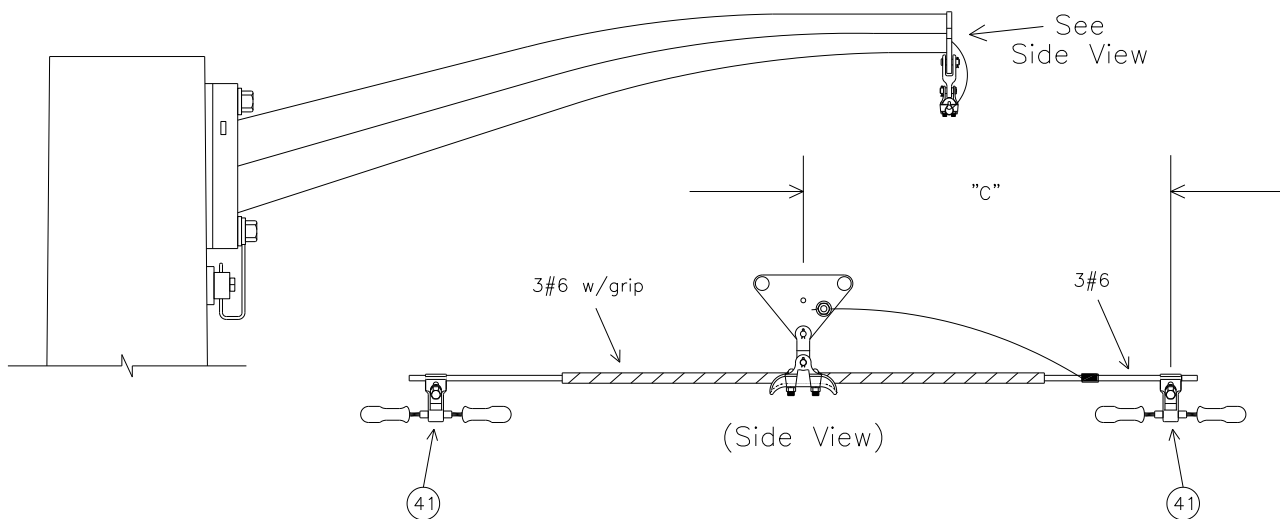
NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI004	2	VIBRATION DAMPER FOR 954-MCM ACSR

#### MVDTI\*1590

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI005	2	VIBRATION DAMPER FOR 1590-MCM ACSR

# MVDTS

## VIBRATION DAMPER (DOUBLE) FOR TANGENT SHIELD



DAMPER LOCATION	
CONDUCTOR SIZE	"C"
3#6	1' 7"

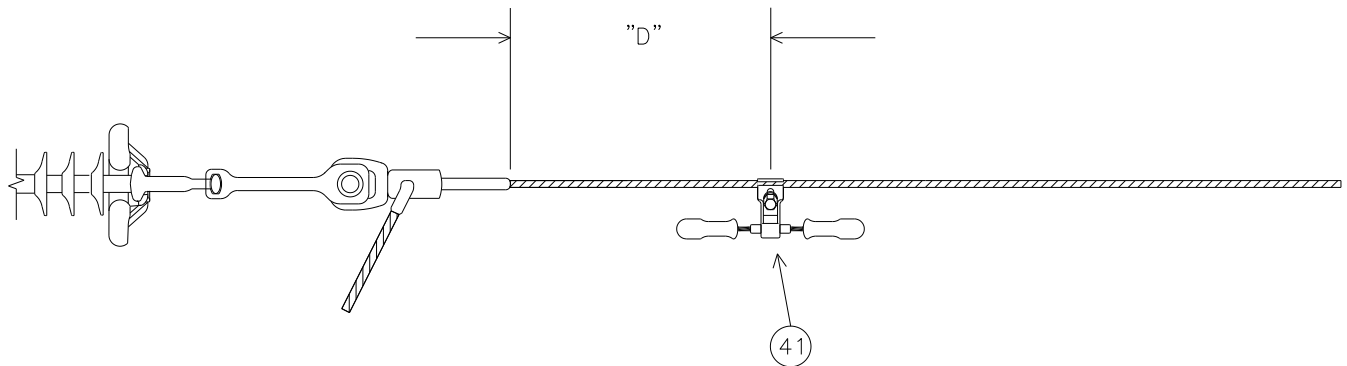
### MVDTS

NO.	ITEM ID	QTY	DESCRIPTION
1	DAPVI 001	2	VIBRATION DAMPER FOR 3#6AW & 7#10AW

# MVSDI

## VIBRATION DAMPER (SINGLE) FOR DEAD-END INSULATORS

CONDUCTOR OPTIONS: 556ACSR, 954AAC, 954 ACSR, 1590 ACSR



DAMPER LOCATION	
CONDUCTOR SIZE	"D"
556 ACSR	2' 8"
954 AAC	3' 0"
954 ACSR	3' 11"
1590 ACSR	4' 11"

### MVSDI\*556S

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 003	1	VIBRATION DAMPER FOR 556-MCM ACSR

### MVSDI\*954A

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 004	1	VIBRATION DAMPER FOR 954-MCM ACSR

### MVSDI\*954S

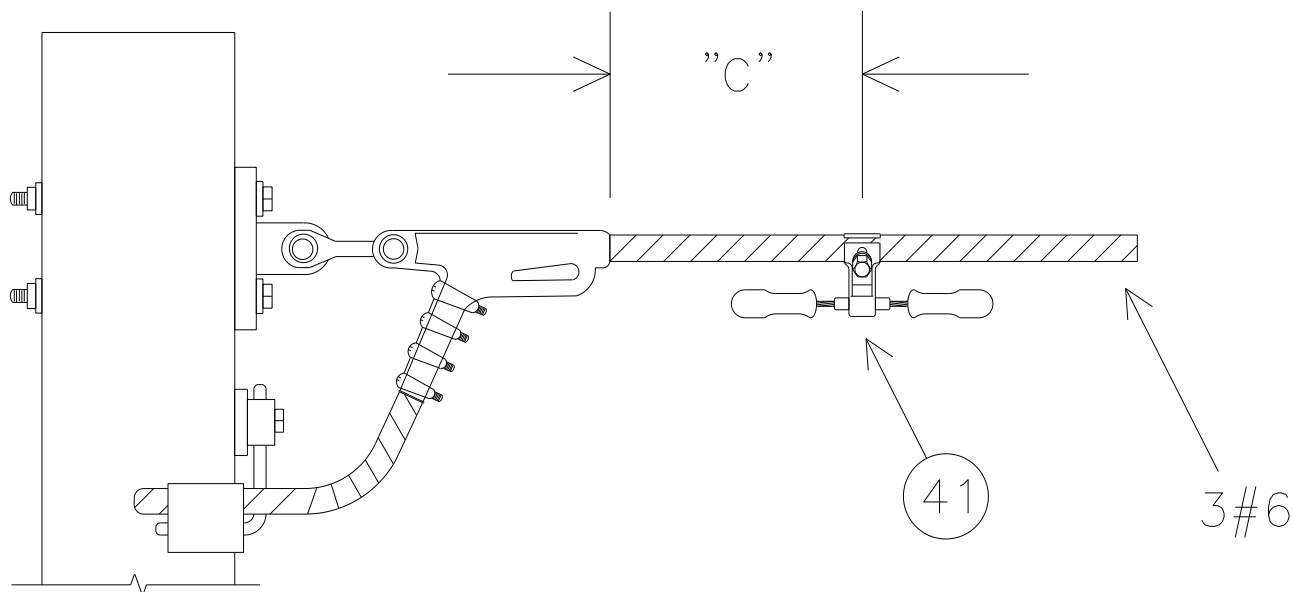
NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 004	1	VIBRATION DAMPER FOR 954-MCM ACSR

### MVSDI\*1590

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 005	1	VIBRATION DAMPER FOR 1590-MCM ACSR

## MVSDS

## VIBRATION DAMPER (SINGLE) FOR DEAD-END SHIELD



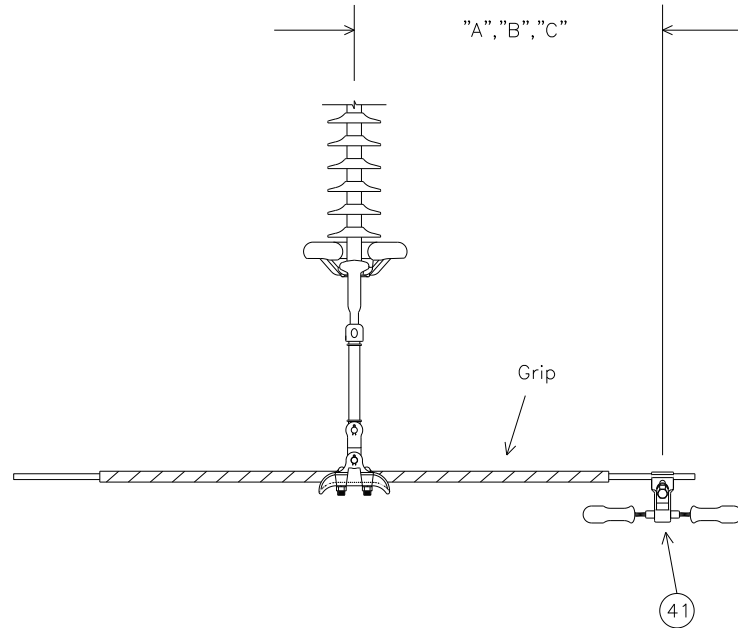
DAMPER LOCATION	
CONDUCTOR SIZE	"C"
3#6	1' 5"

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI002	1	VIBRATION DAMPER FOR 3#6AW WITH GRIP

# MVSTI

## VIBRATION DAMPER (SINGLE) FOR TANGENT INSULATORS

CONDUCTOR OPTIONS: 556ACSR, 954AAC, 954 ACSR, 1590 ACSR



DAMPER LOCATION			
CONDUCTOR SIZE	"A" WITHOUT ARMOR RODS OR AGS UNIT	"B" WITH ARMOR RODS	"C" WITH AGS UNIT
556 ACSR	2' 8"	3' 7"	2' 10"
954 AAC	3' 0"	4' 5"	3' 8"
954 ACSR	3' 11"	4' 5"	4' 0"
1590 ACSR	4' 11"	4' 5"	4' 5"

### MVSTI\*556S

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 003	1	VIBRATION DAMPER FOR 556 MCM ACSR

### MVSTI\*954A

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 004	1	VIBRATION DAMPER FOR 954-MCM ACSR

### MVSTI\*954S

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 004	1	VIBRATION DAMPER FOR 954-MCM ACSR

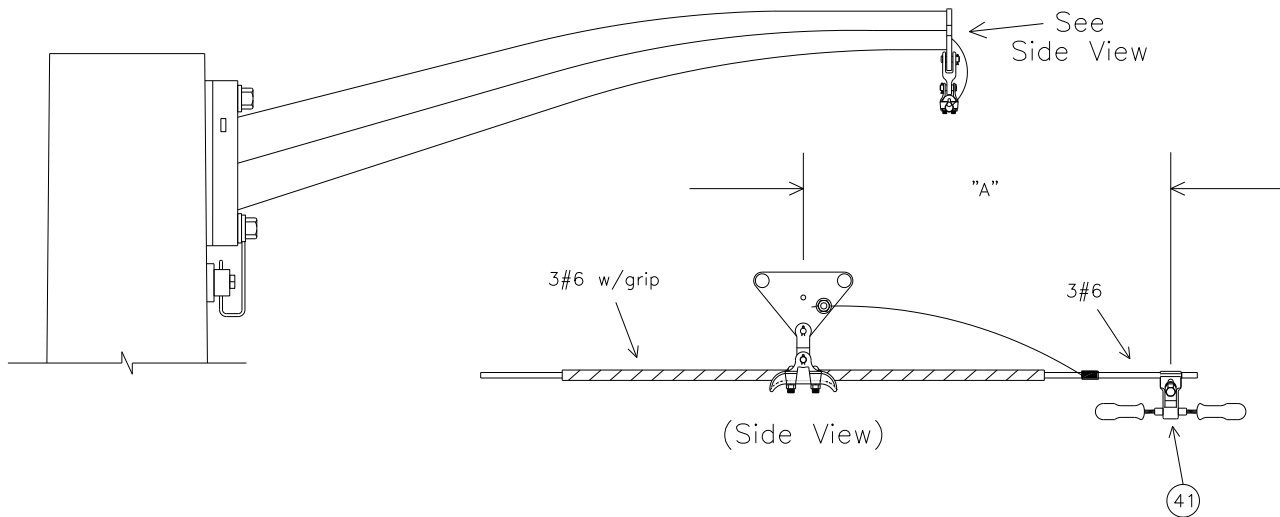
### MVSTI\*1590

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI 005	1	VIBRATION DAMPER FOR 1590-MCM ACSR



# MVSTS

## VIBRATION DAMPER (SINGLE) FOR TANGENT SHIELD



DAMPER LOCATION	
CONDUCTOR SIZE	"A"
3#6	1' 7"

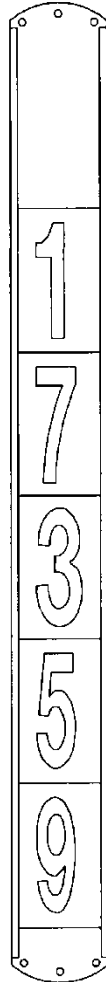
### MVSTS

NO.	ITEM ID	QTY	DESCRIPTION
41	DAPVI001	1	VIBRATION DAMPER FOR 3#6AW & 7#10AW

VN

VNC

POLE ADDRESS



VN

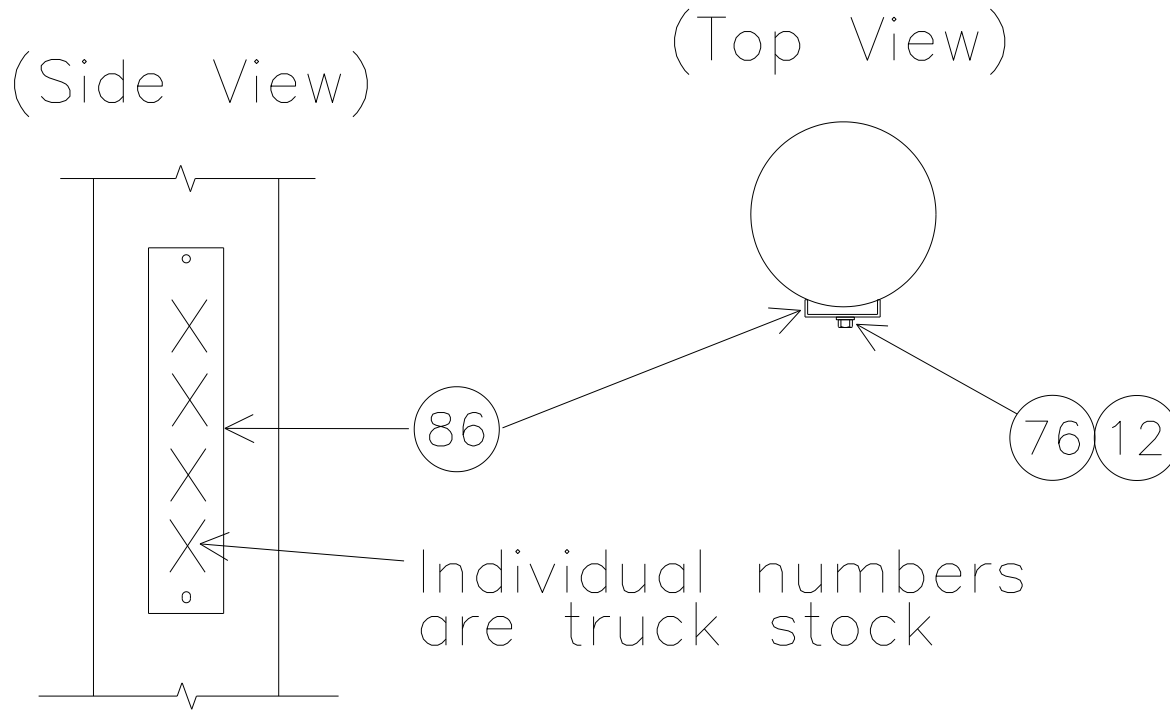
NO	ITEM ID	QTY	DESCRIPTION
1	TAG HO 001	1	TAG HOLDER, 6 CHARACTER, VERTICAL, FOR 2 IN. TAGS
2	TAG NA 002	2	ALUMINUM NAILS SUPPLIED BY TRUCK STOCK
3	TAG YX ***	*	TAGS SUPPLIED BY TRUCK STOCK

VNC

1	ADC MI 001	1	ADHESIVE FOR POLE TAG HOLDER
2	TAG HO 001	1	TAG HOLDER, 6 CHARACTER, VERTICAL, FOR 2 IN. TAGS
3	TAG YX ***	*	TAGS SUPPLIED BY TRUCK STOCK

## VNCS

### VERTICAL NUMBERING FOR SPUN CONCRETE POLES



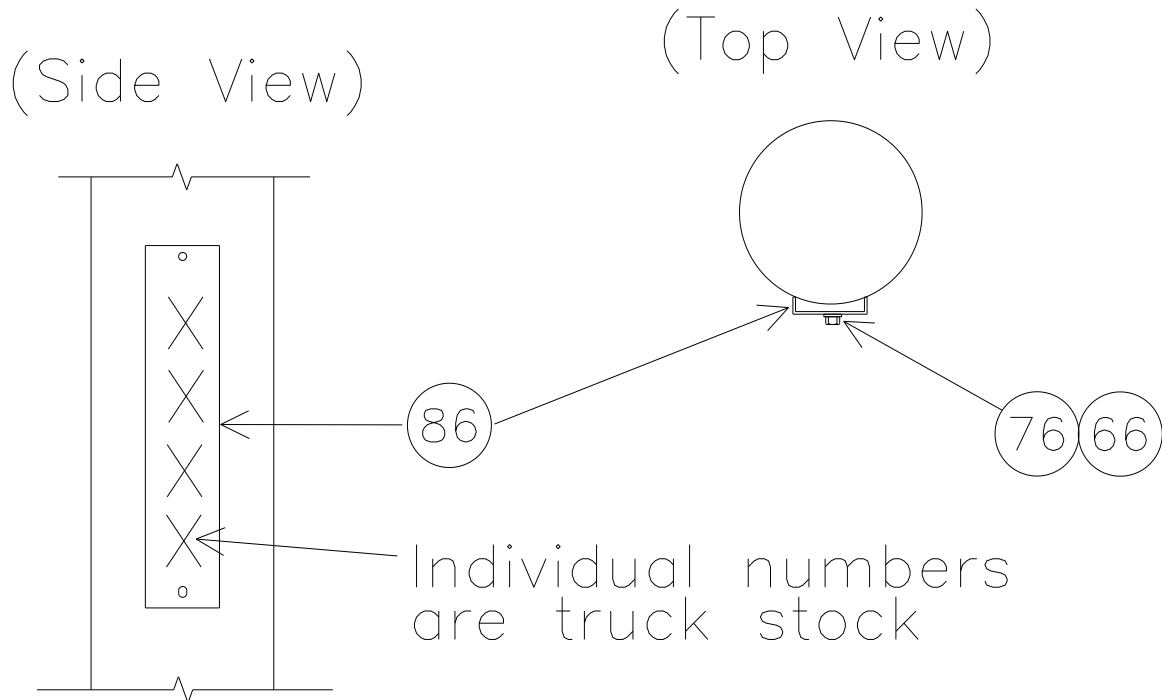
**NOTE: INSTALL BELOW C PHASE IN STEP BOLT INSERTS. MOUNT ON NORTH OR EAST SIDE ONLY**

#### VNC1

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
76	WASRD 004	2	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED
86	TAGHO 009	1	TAG HOLDER, FIBERGLASS 39.5" L X 6" W
X	TAGRT 001	0	TAG NUMBER "1", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 002	0	TAG NUMBER "2", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 003	0	TAG NUMBER "3", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 004	0	TAG NUMBER "4", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 005	0	TAG NUMBER "5", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 006	0	TAG NUMBER "6", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 007	0	TAG NUMBER "7", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 008	0	TAG NUMBER "8", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 009	0	TAG LETTER "T", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 010	0	TAG NUMBER "0", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25

# VNCW

## VERTICAL NUMBERING FOR WOOD POLES



**NOTE: INSTALL BELOW C PHASE. MOUNT ON NORTH OR EAST SIDE ONLY**

### VNC1

NO.	ITEM ID	QTY	DESCRIPTION
66	SCWLA 002	2	SCREW, LAG, 1/2" X 4", GALVANIZED,
76	WASRD 003	2	ROUND WASHER FOR 1/2" BOLT, 1 3/8" DIAMETER, GALVANIZED
86	TAGHO 008	1	TAG HOLDER, FIBERGLASS 33" L X 6" W
X	TAGRT 001	0	TAG NUMBER "1", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 002	0	TAG NUMBER "2", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 003	0	TAG NUMBER "3", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 004	0	TAG NUMBER "4", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 005	0	TAG NUMBER "5", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 006	0	TAG NUMBER "6", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 007	0	TAG NUMBER "7", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 008	0	TAG NUMBER "8", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 009	0	TAG LETTER "T", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25
X	TAGRT 010	0	TAG NUMBER "0", YELLOW WITH BLACK BACKGROUND, 7" L X 5" W, BAG OF 25

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# 69kV INSULATOR PLATE INDEX

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| 2. IASDSA3: SINGLE DEAD-END, SLACK TENSION, 3-PHASE | AIN-5 |

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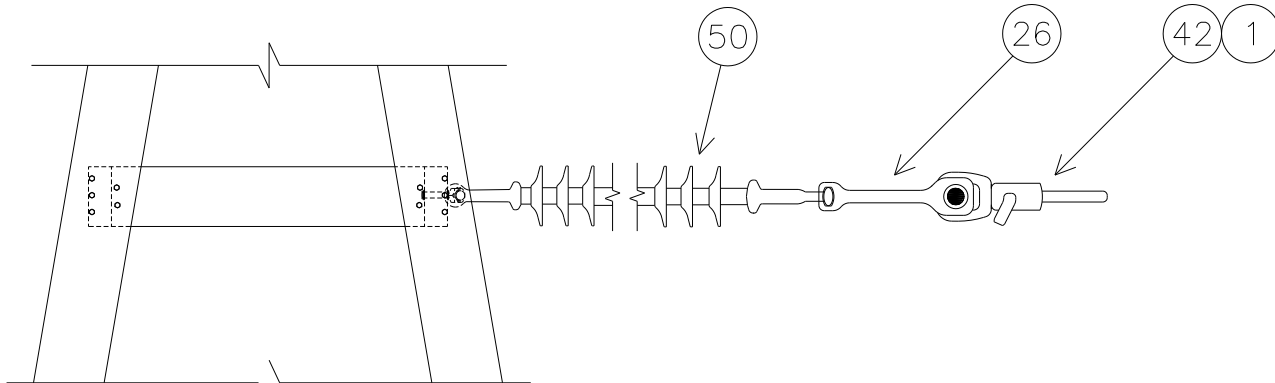
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# IASDFA3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES  
SINGLE DEAD-END, FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



## IASDFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8, H. D. G.
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

## IASDFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

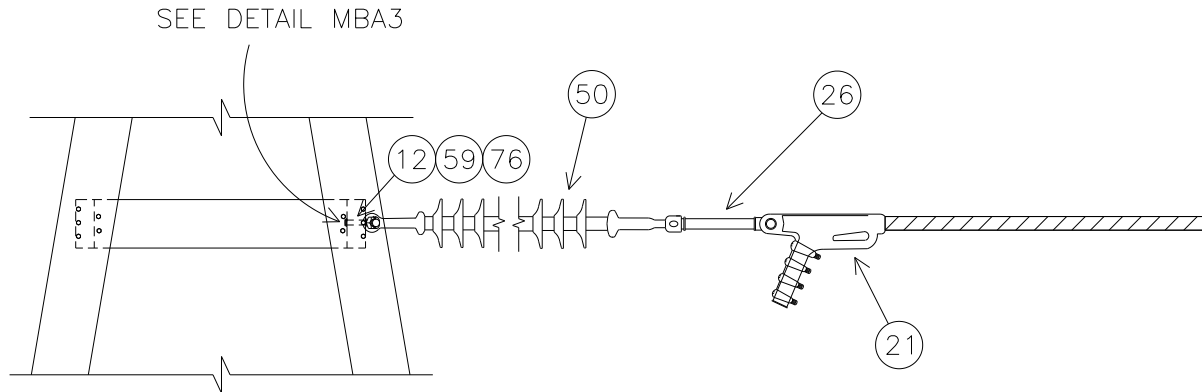
## IASDFA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE

## IASDSA3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES  
SINGLE DEAD-END, SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



### IASDSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
59	NUTEY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

### IASDSA3\*556S, 954A, 954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

### IASDSA3\*1590

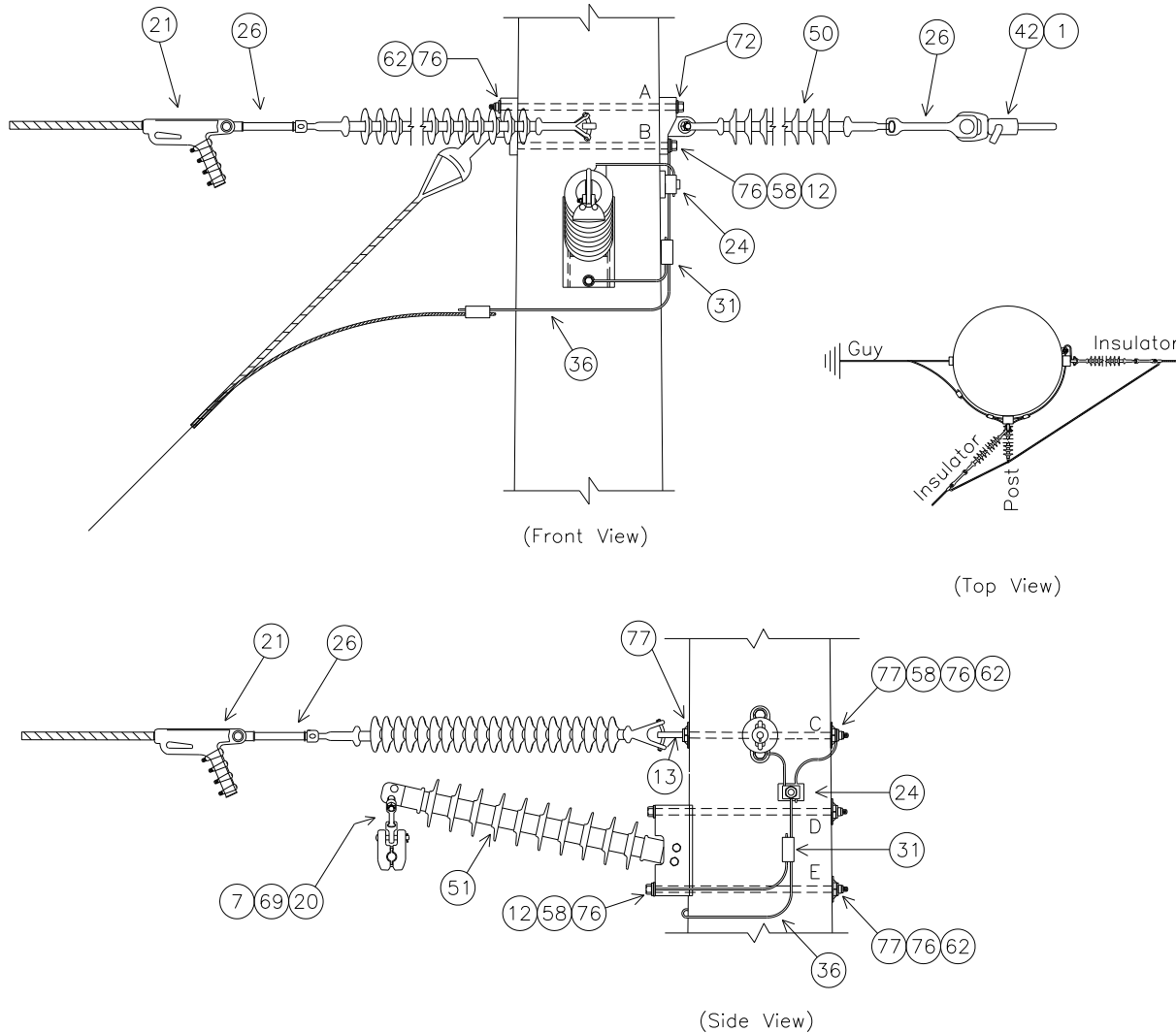
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# ISDD3FSA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEADEND 135, FULL TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	SECTION		
	TOP	MIDDLE	BOTTOM
BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7
SHOULDER EYEBOLT 'C' LENGTH (INCHES)	21.6	23.1	24.6
BOLT 'D' LENGTH (INCHES)	27.2	28.8	30.3
BOLT 'E' LENGTH (INCHES)	27.7	29.2	30.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD3FSA3 PLATES

## ISDD3FSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	1	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST SILICONE INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	9	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	FLAT CURVED WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED

## ISDD3FSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD3FSA3\*1590

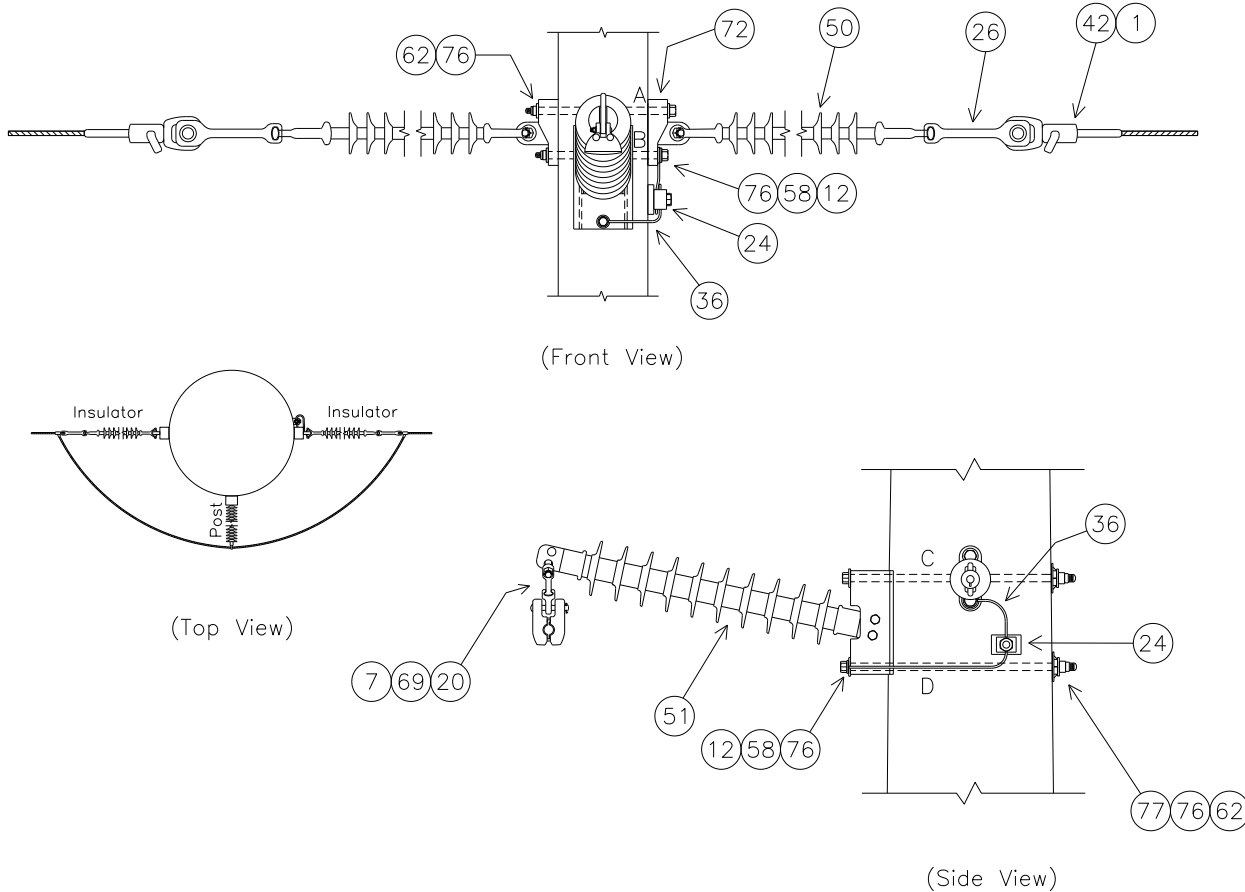
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD8FFA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.0	28.5	30.1
LOWER BOLT 'D' LENGTH (INCHES)	27.5	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD8FFA3 PLATES

## ISDD8FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALF007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD8FFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD8FFA3\*1590

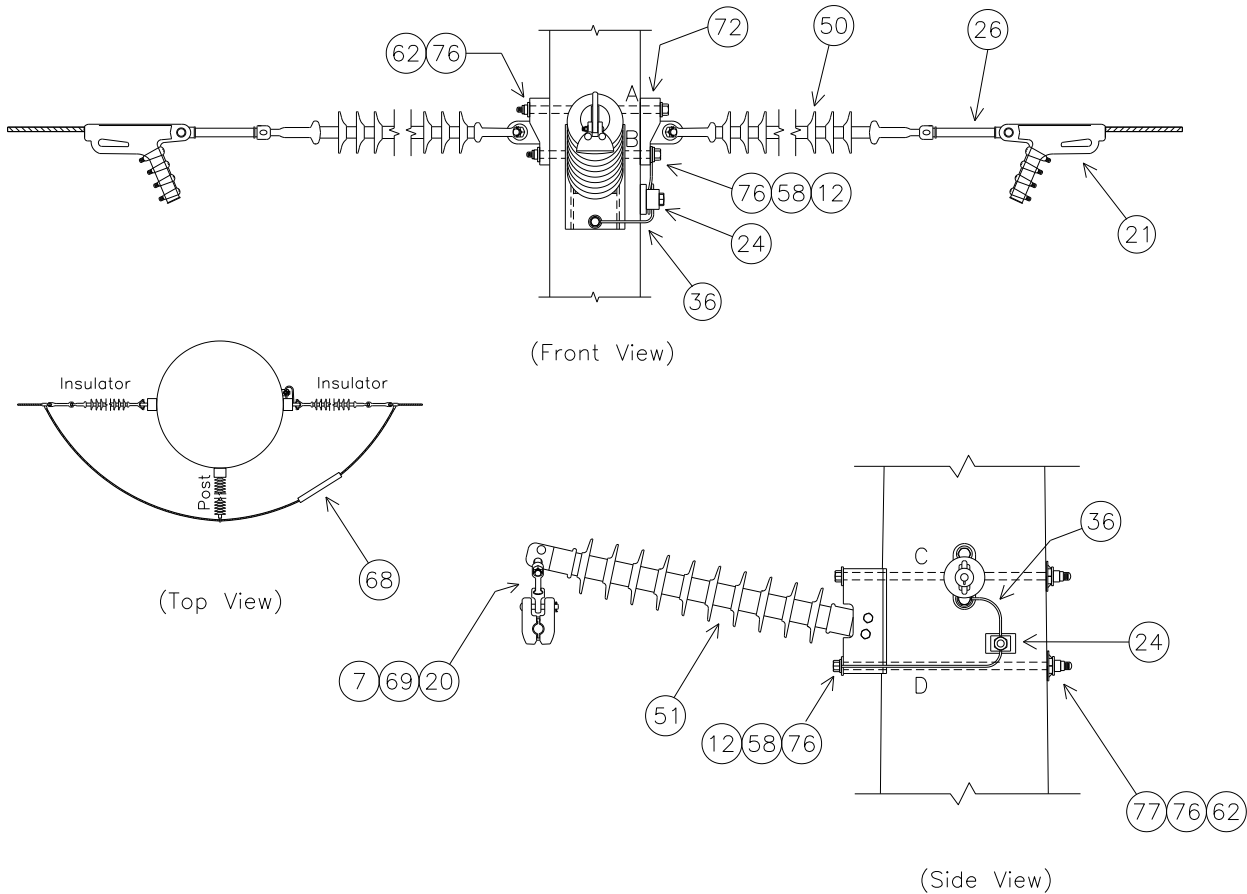
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD8SSA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.0	28.5	30.1
LOWER BOLT 'D' LENGTH (INCHES)	27.5	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD8SSA3 PLATES

## ISDD8SSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8SSA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSA3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 006	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 AAC
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

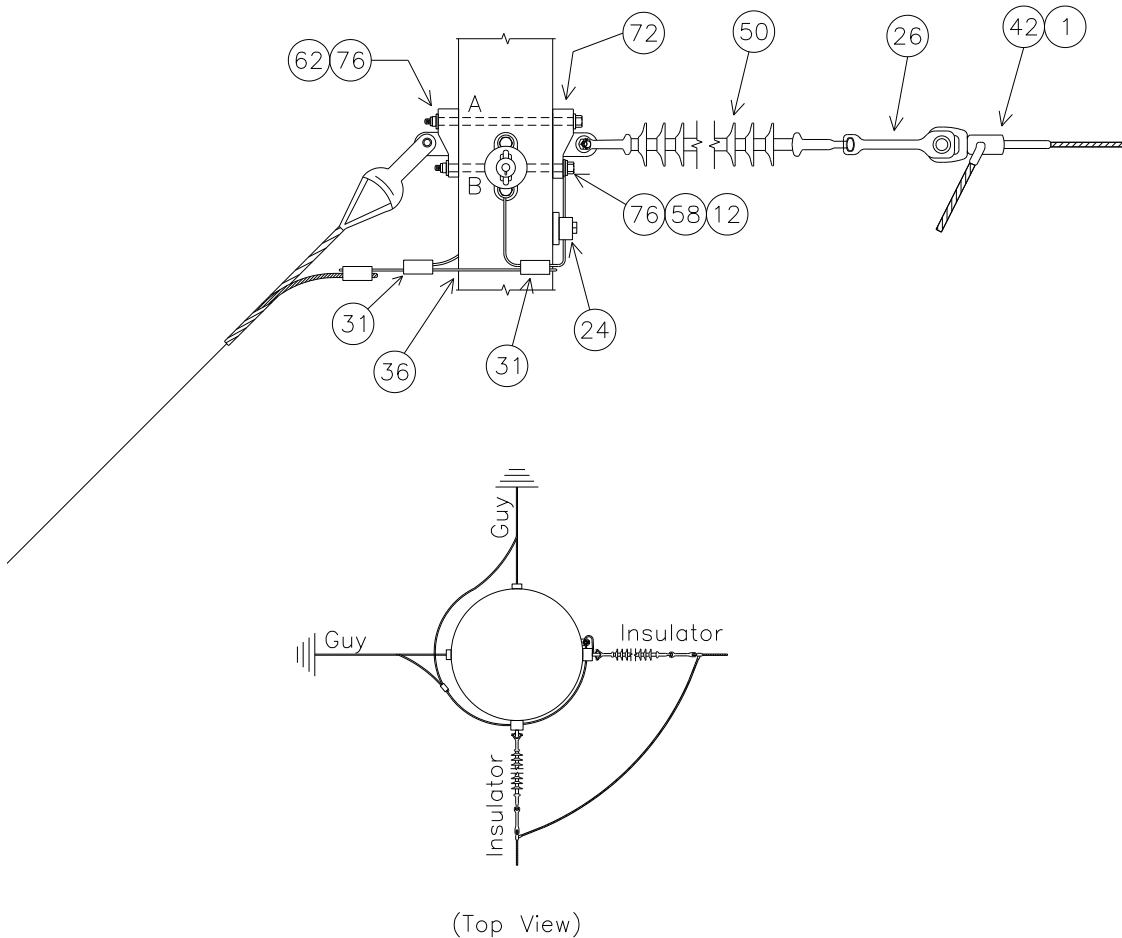


# ISDD9FFA1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90, FULL TENSION TO FULL TENSION, 69KV, 1-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

WITHOUT SHIELD	'A'	'B'
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	22.8	21.2
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD9FFA1

## ISDD9FFA1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFA1\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	2	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	2	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU008	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFA1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFA1\*1590

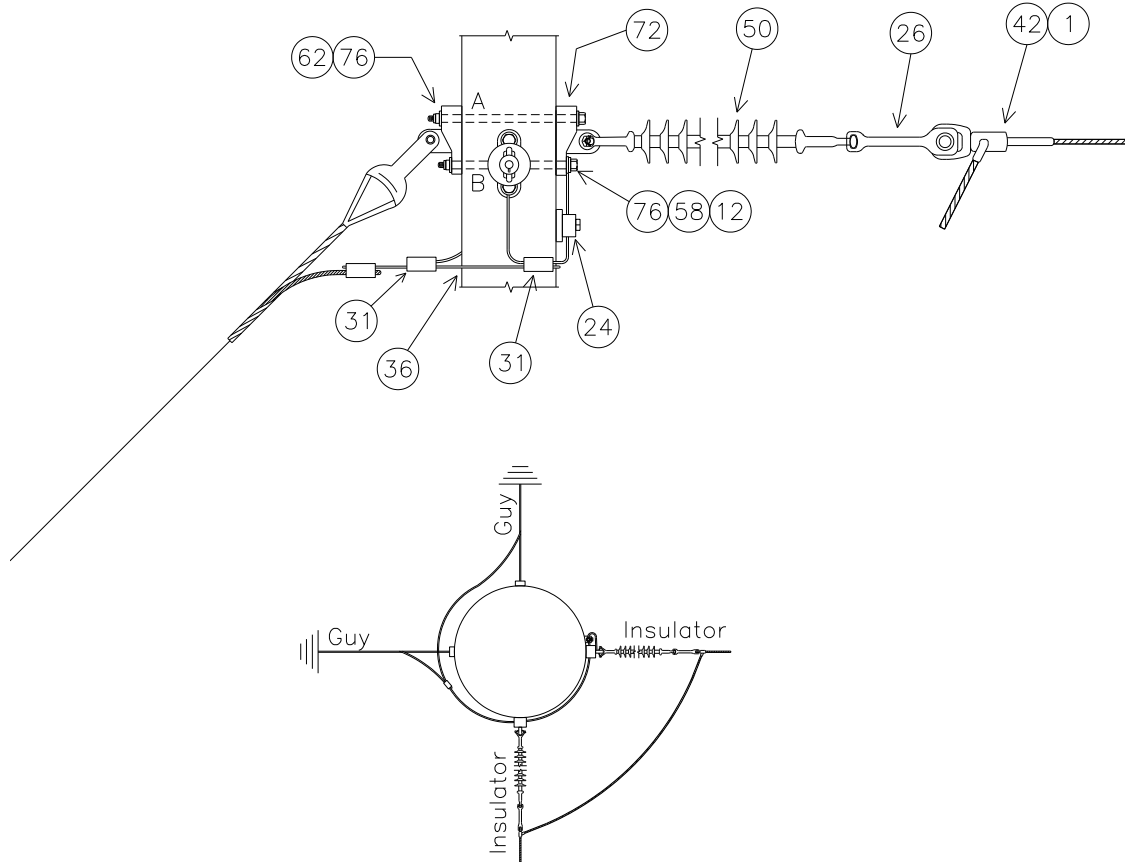
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FFA3

**INSULATOR FOR SPUN CONCRETE POLES**

**DOUBLE DEAD-END 90, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE**

CONDUCTOR OPTIONS: 556S, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3	24.4	25.9	27.4
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7	22.7	24.2	25.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FFA3 PLATES

## ISDD9FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	27 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFA3\*1590

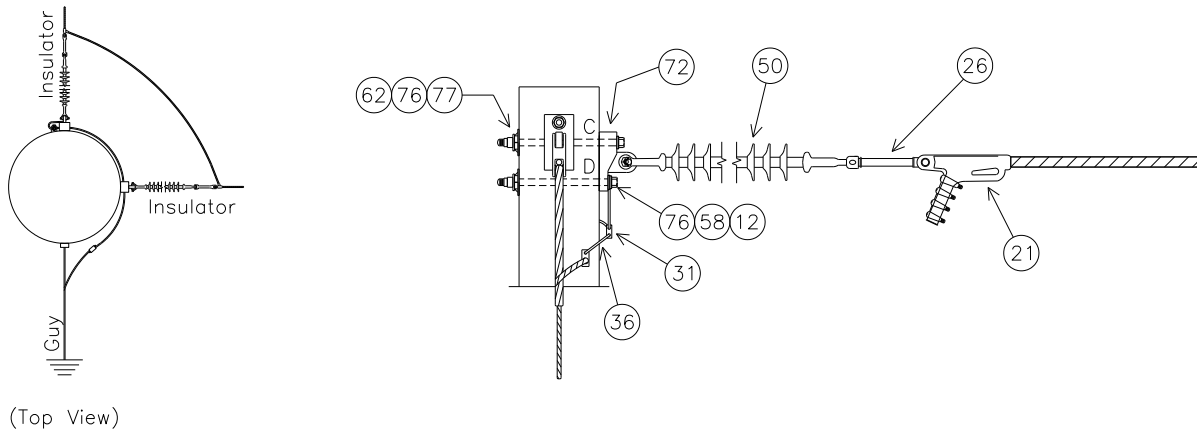
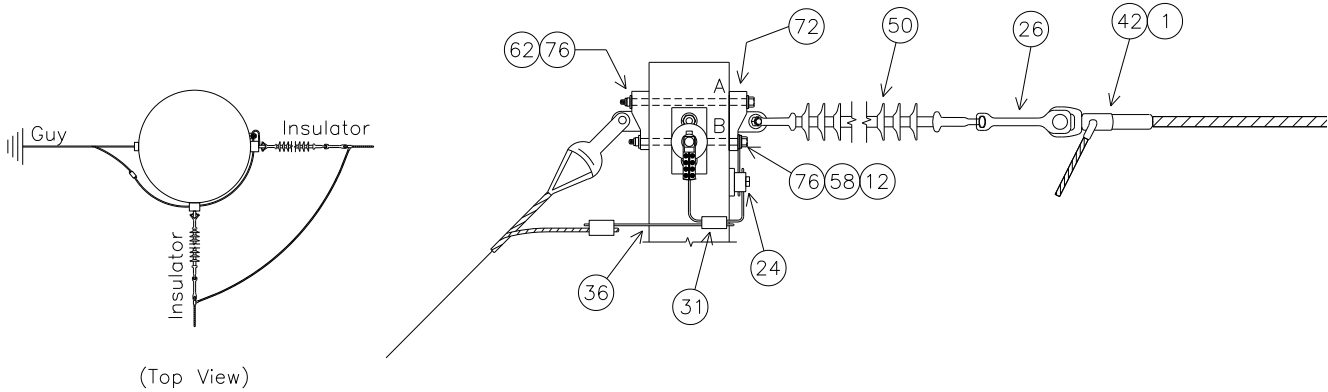
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	8	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FSA1

**INSULATOR FOR SPUN CONCRETE POLES**

**DOUBLE DEAD-END 90, FULL TENSION TO SLACK TENSION, 69KV, 1-PHASE**

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDE

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	22.8
LOWER BOLT 'B' LENGTH (INCHES)	21.2

## SLACK TENSION SIDE

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	21.4
LOWER BOLT 'B' LENGTH (INCHES)	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISDD9FSA1

## ISDD9FSA1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSA1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSA1\*1590

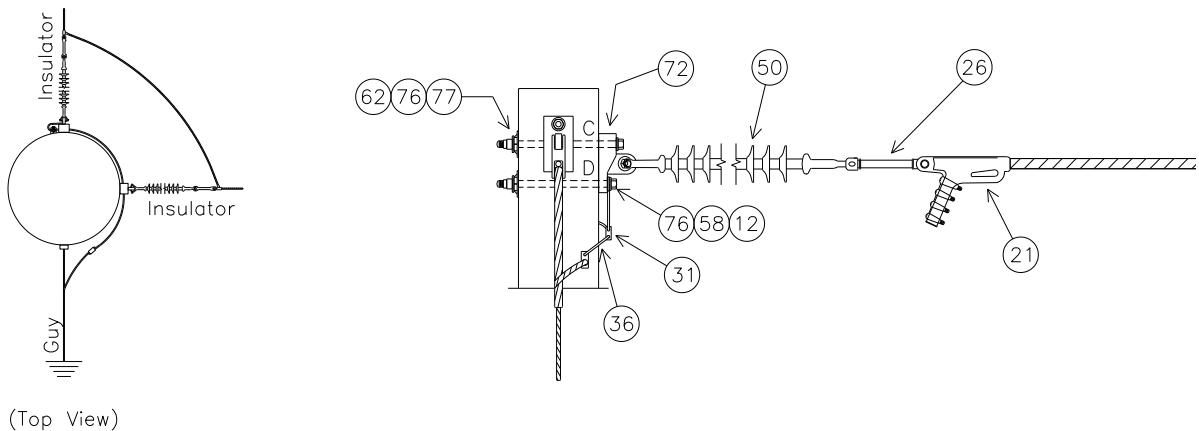
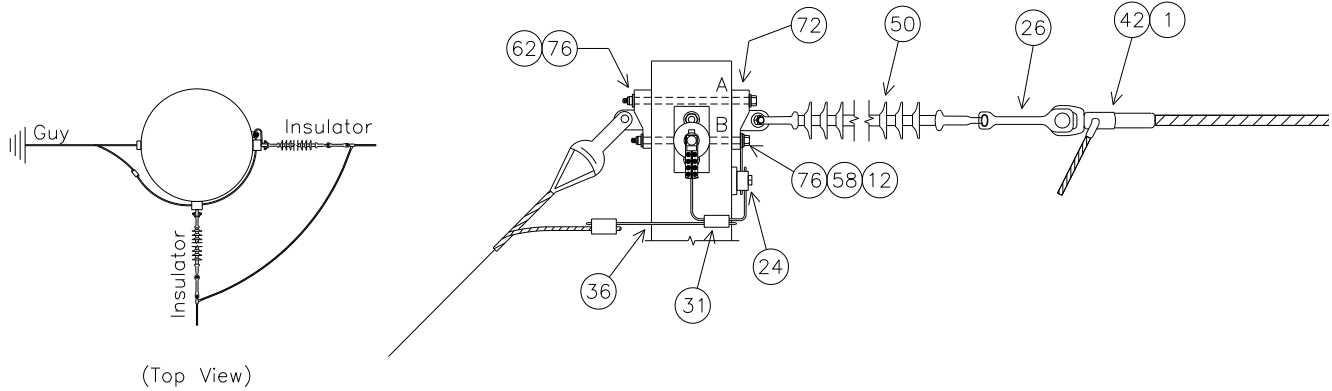
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FSA3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90, FULL TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT (A) LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT (B) LENGTH (INCHES)	22.7	24.2	25.7

## SLACK TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT (A) LENGTH (INCHES)	23.0	24.6	26.1
LOWER BOLT (B) LENGTH (INCHES)	22.3	23.8	25.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FSA3 PLATES

## ISDD9FSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	9	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

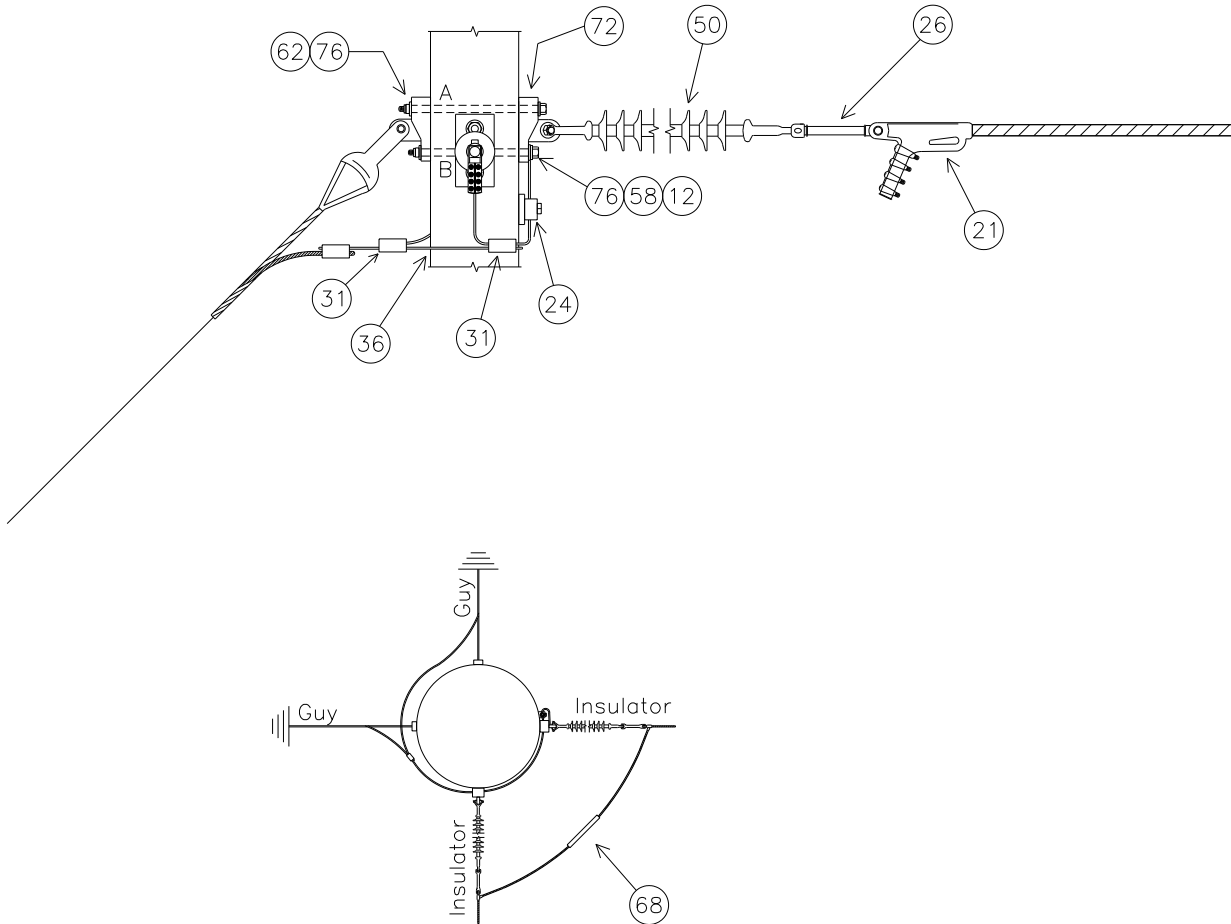


# ISDD9SSA3

**INSULATOR FOR SPUN CONCRETE POLES**

**DOUBLE DEAD-END 90, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE**

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6	22.7	24.2	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9SSA3 PLATES

## ISDD9SSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	8	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9SSA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSA3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSA3\*954S

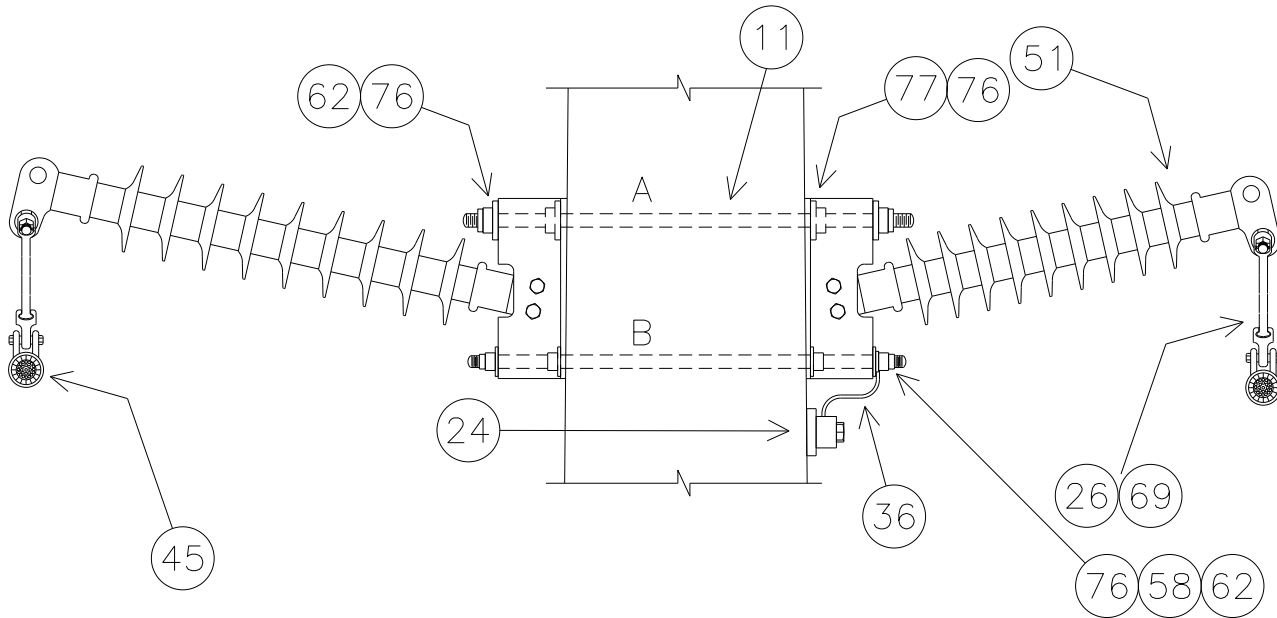
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSA3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

# ISDPLA3

INSULATOR FOR SPUN CONCRETE POLES  
 DOUBLE POST, LONG CLEVIS, 69KV, 3-PHASE  
 CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA2 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	33.2	34.7	36.2
BOLT 'B' LENGTH (INCHES)	33.7	35.2	36.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDPLA3 PLATES

## ISDPLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
12	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L ≈ 10", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDPLA3\*556S

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## ISDPLA3\*954S

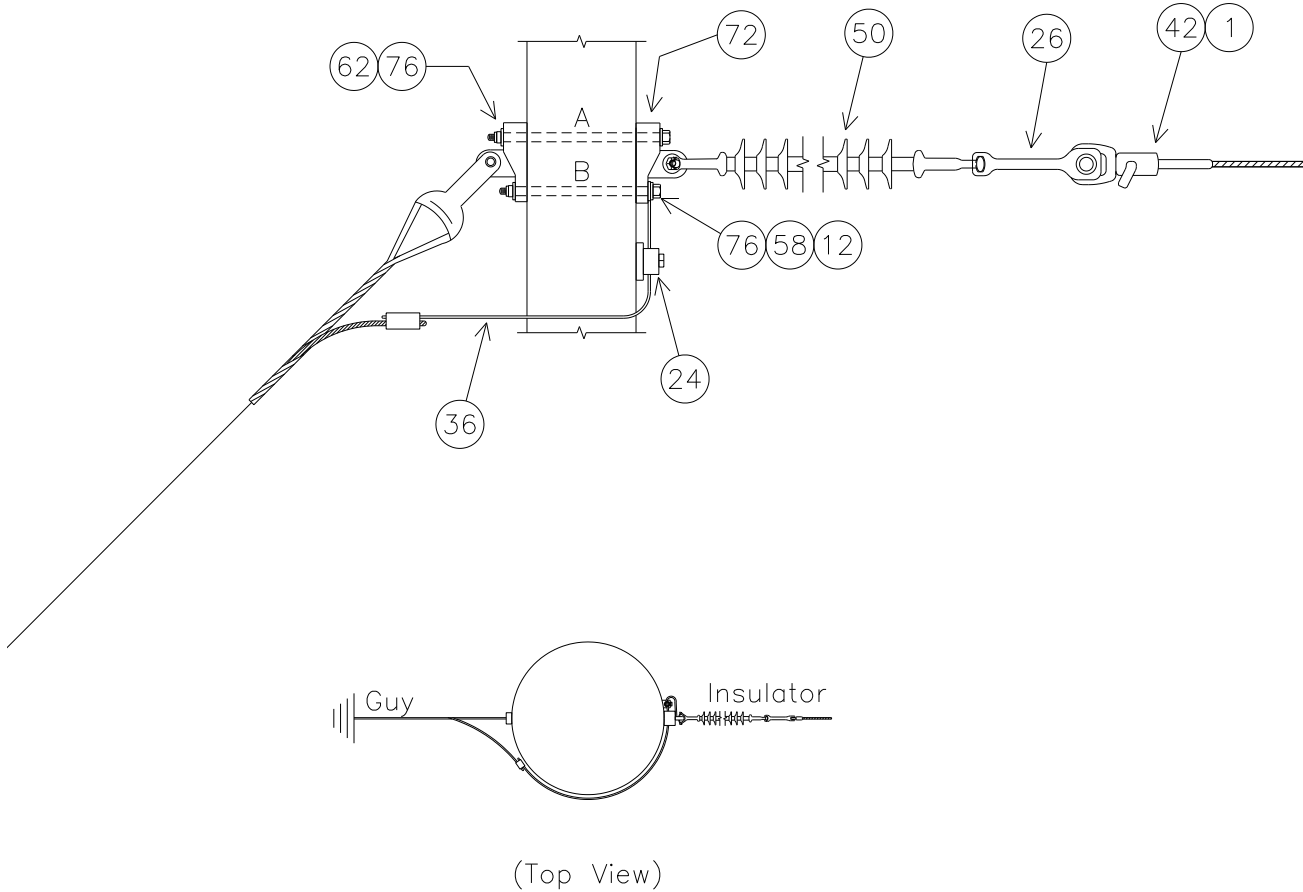
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"

# ISSDFA3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END, FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFA3 PLATES

## ISSDFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISSDFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDFA3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDFA3\*1590

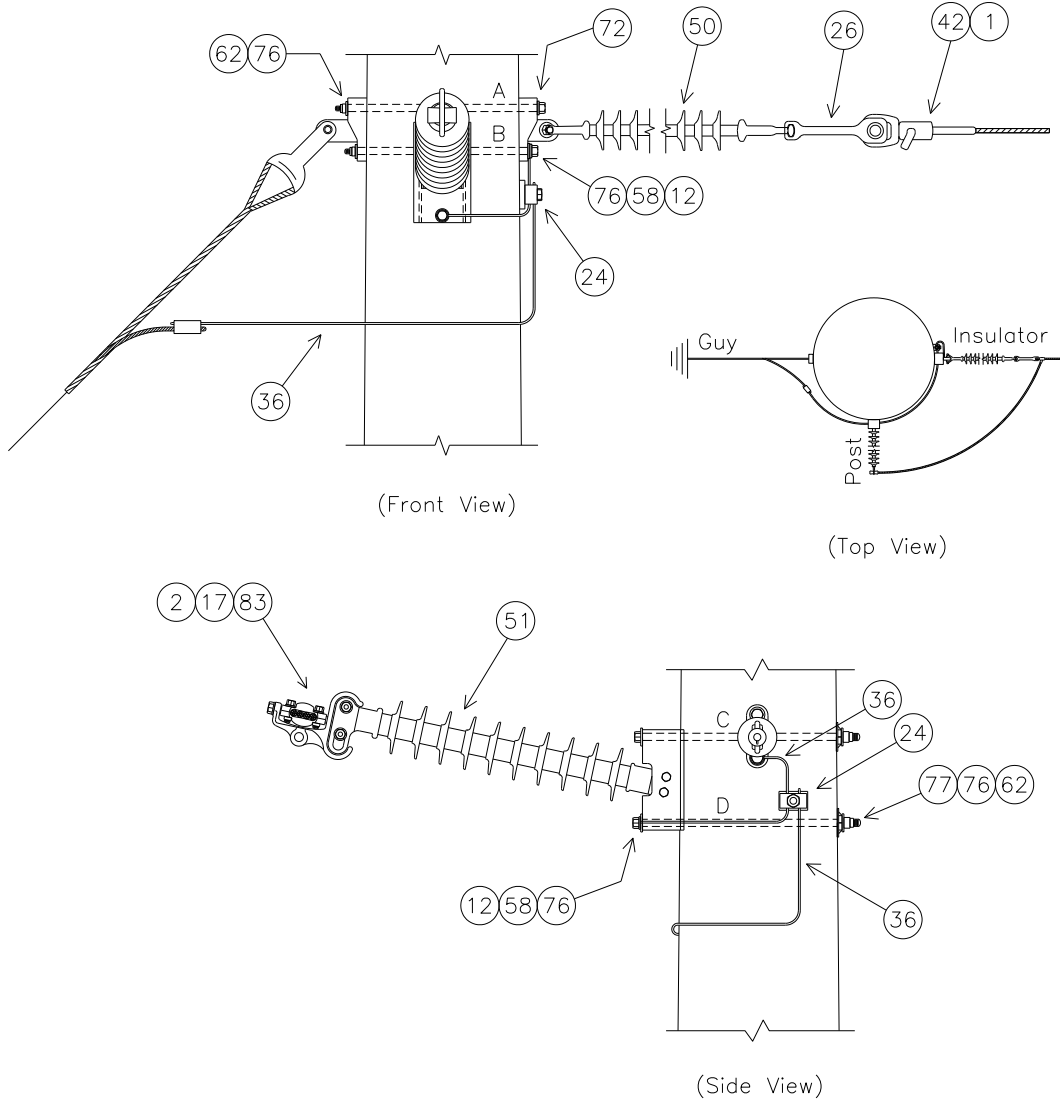
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISSDFP1A3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END FULL TENSION TO POST, TYPE1, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	24.3	25.8	27.3
BOLT 'B' LENGTH (INCHES)	22.7	24.2	25.7
BOLT 'C' LENGTH (INCHES)	27.0	28.5	30.1
BOLT 'D' LENGTH (INCHES)	27.5	29.0	30.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFP1A3 PLATES

## ISSDFP1A3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
2	ADPCT 001	3	CLAMP-TOP ADAPTER, CONVERTS TWO HOLE BLADE TO CLAMP TOP POST
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSDFP1A3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 004	3	CLAMP, ALUMINUM, FOR 556ASCR
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", PIN = 7/8", H.D.G.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 005	3	ARMOR ROD FOR 556 ACSR, 80"

## ISSDFP1A3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 005	3	CLAMP, ALUMINUM, FOR 954ASCR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ACSR, 100"

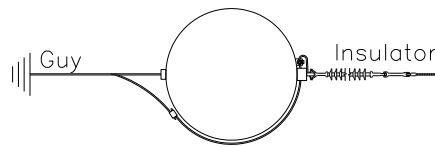
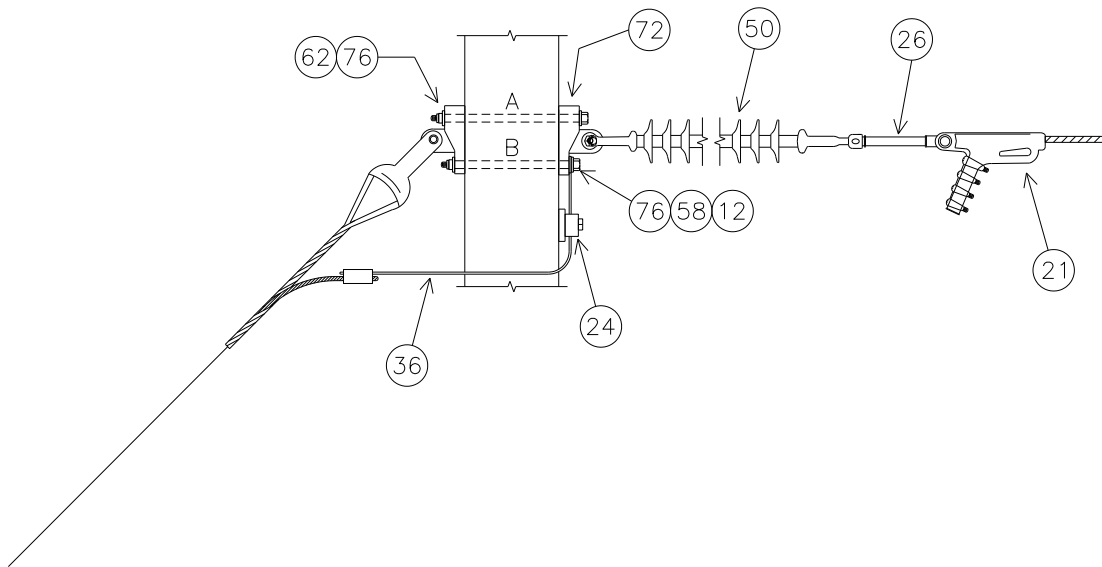
## ISSDFP1A3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 006	3	CLAMP, ALUMINUM, FOR 1590ASCR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ACSR, 100"



# ISSDSA3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END, SLACK TENSION, 69KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDSA3 PLATES

**ISSDSA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

**ISSDSA3\*556S, 954A, 954S**

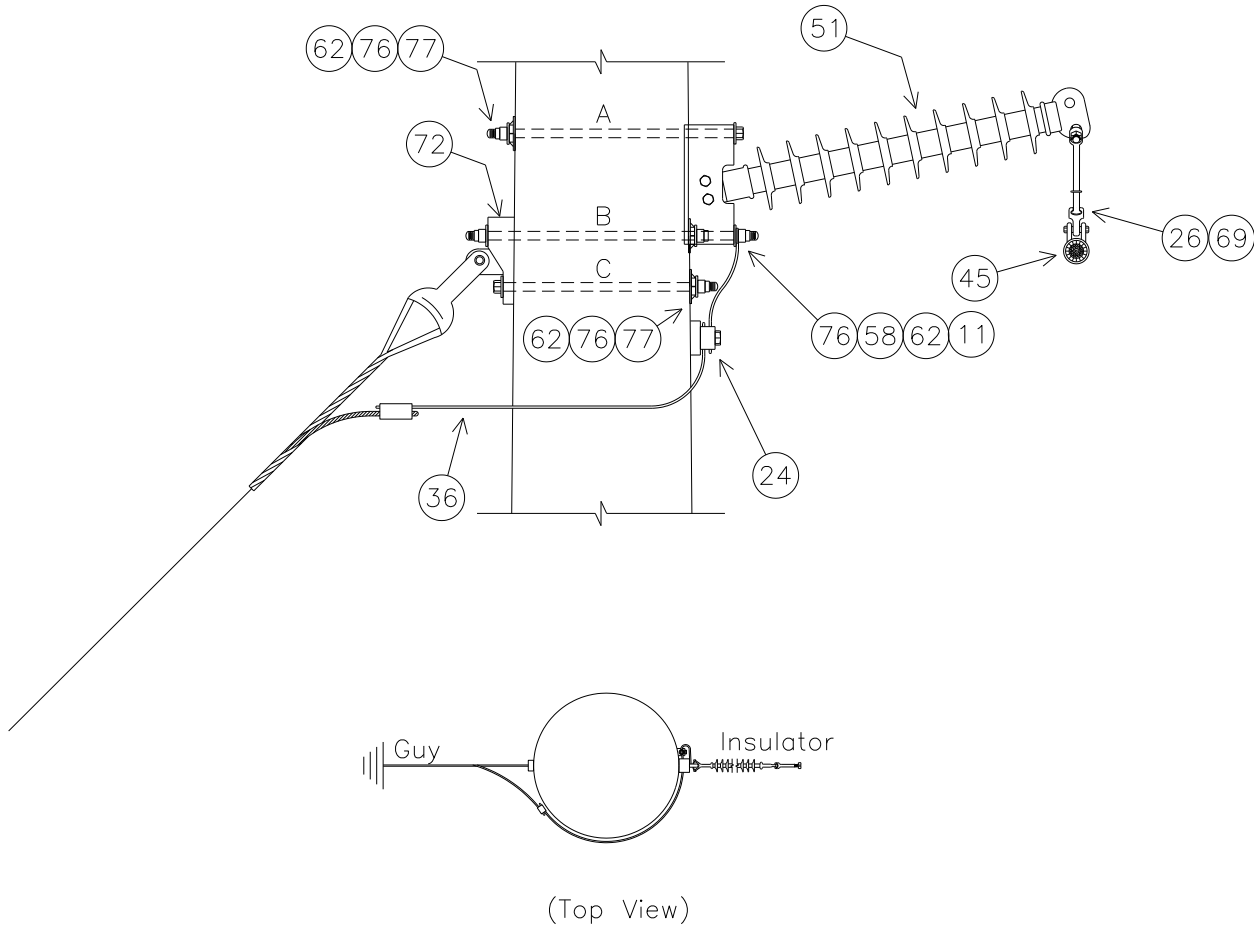
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

**ISSDSA3\*1590**

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# ISSPBGA3

INSULATOR FOR SPUN CONCRETE POLES  
SINGLE POST, BOTTOM GUYED, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	28.1	29.6
DA BOLT 'B' LENGTH (INCHES)	28.3	29.9	31.4
BOLT 'C' LENGTH (INCHES)	21.8	23.3	24.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSPBGA3 PLATES

**ISSPBGA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	2	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	21	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

**ISSPBGA3\*954A**

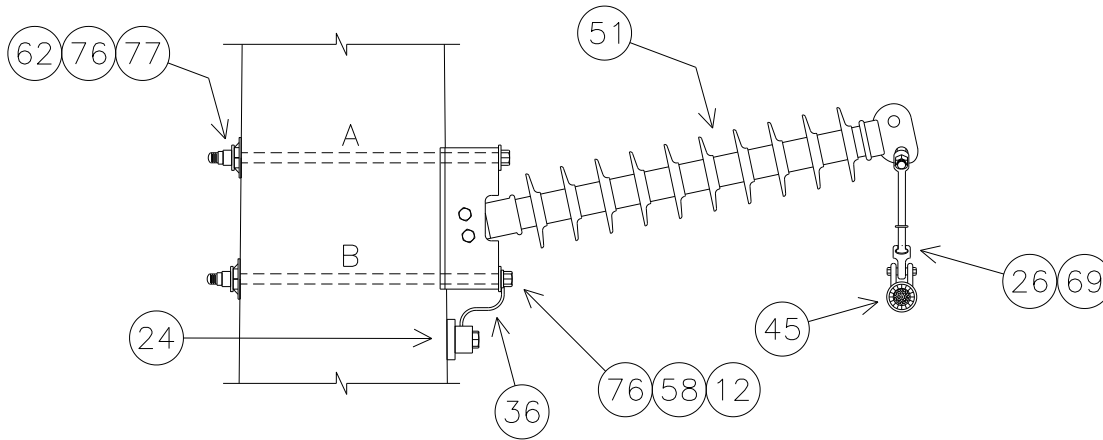
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

**ISSPBGA3\*954S**

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# ISSPNLA3

INSULATOR FOR SPUN CONCRETE POLES  
SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	28.1	29.6
BOLT 'B' LENGTH (INCHES)	27.0	28.5	30.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISSPNLA3 PLATES

## ISSPNLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNLA3\*954A

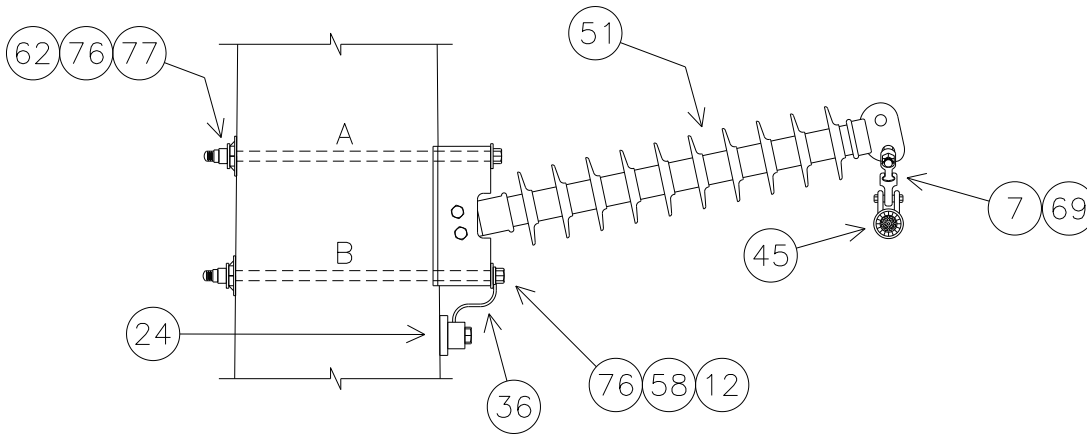
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSPNLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# ISSPNSA3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, NO GUY, SHORT CLEVIS, 69KV, 3-PHASE**  
**CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	26.5	27.9	29.4
BOLT 'B' LENGTH (INCHES)	27.0	28.4	29.8

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER.

# ISSPNSA3 PLATES

## ISSPNSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45 INCHES, GAIN BASE, 12 DEGREE RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNSA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 3/4

## ISSPNSA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

## ISSPNSA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16

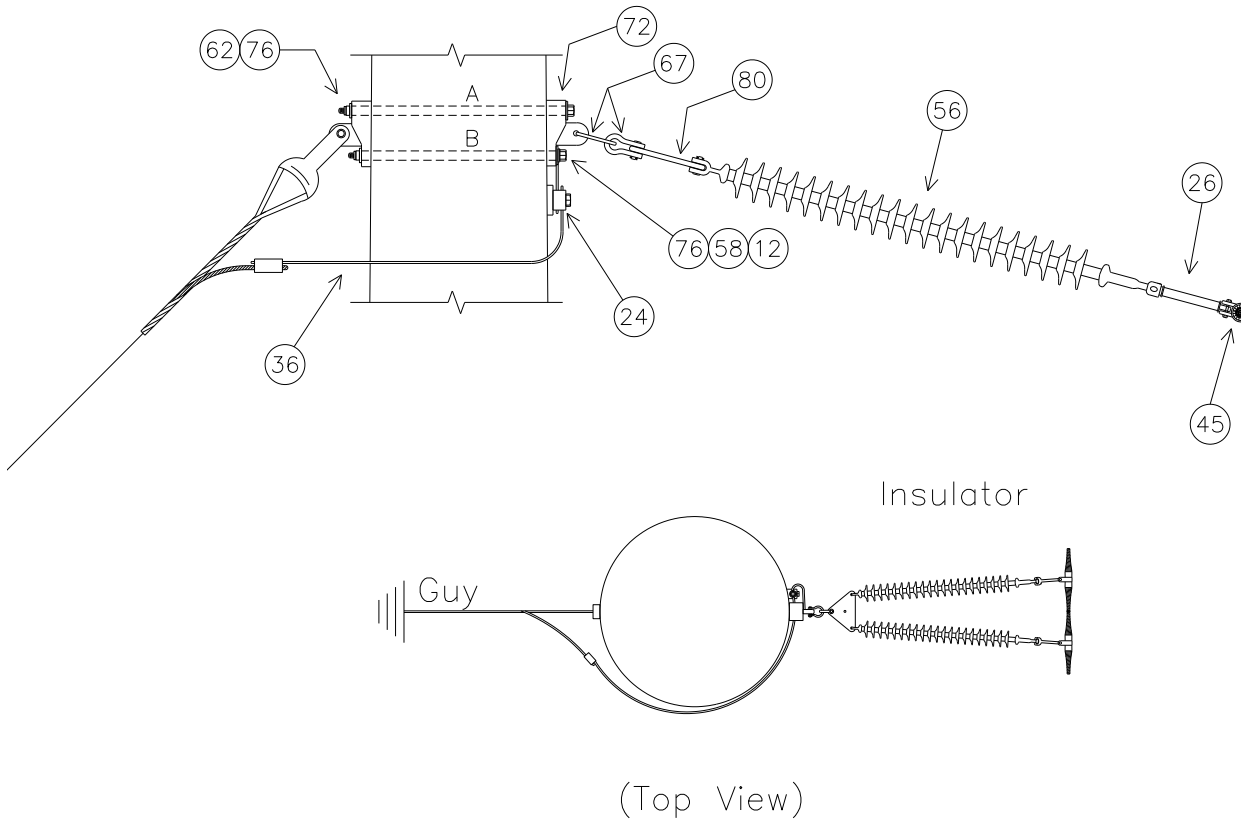
## ISSPNSA3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ASCR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T= 1 1/16



# ISSSDGGA3

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE SUSPENSION, DOUBLE GRIP, GUYED, 69KV, 3-PHASE**  
**CONDUCTOR OPTIONS: 954A, 954S, 1590**



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT (A) LENGTH (INCHES)	24.3	25.8	27.3
LOWER BOLT (B) LENGTH (INCHES)	22.7	24.2	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSSDGGA3 PLATES

## ISSSDGGA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 007	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-3/5
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GALVANIZED, 15/16 HOLE DIA.

## ISSSDGGA3\*954A

12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGGA3\*954S

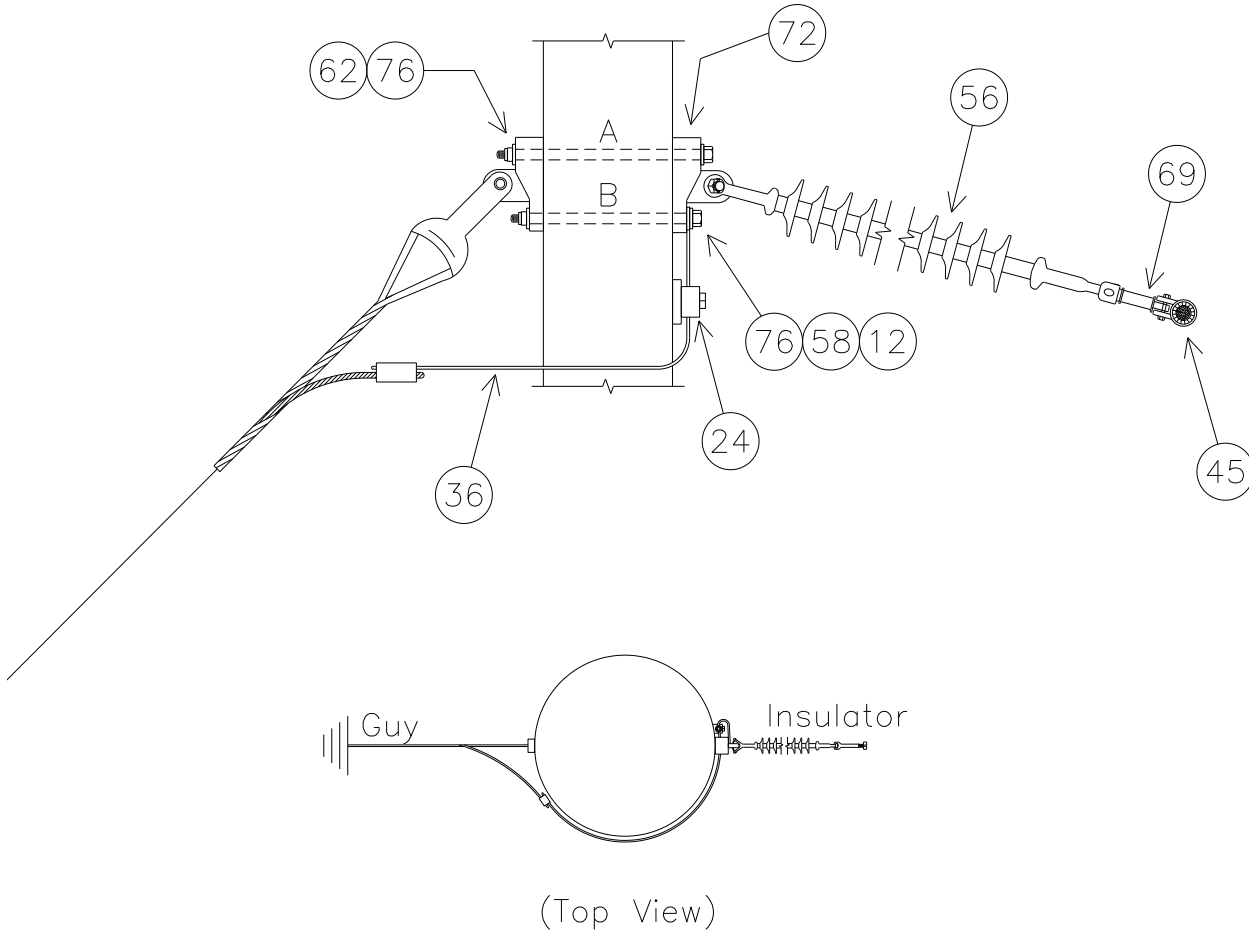
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGGA3\*1590

12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	1	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISSSSGGA3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE SUSPENSION, SINGLE GRIP, GUYED, 69KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.2	25.7	27.2
LOWER BOLT 'B' LENGTH (INCHES)	22.6	24.1	25.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSSSGGA3 PLATES

## ISSSSGGA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/ SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 007	3	SUSPENSION INSULATOR, SILICONE, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSSGGA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 20,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSSSGGA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSSSGGA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSSSGGA3\*1590

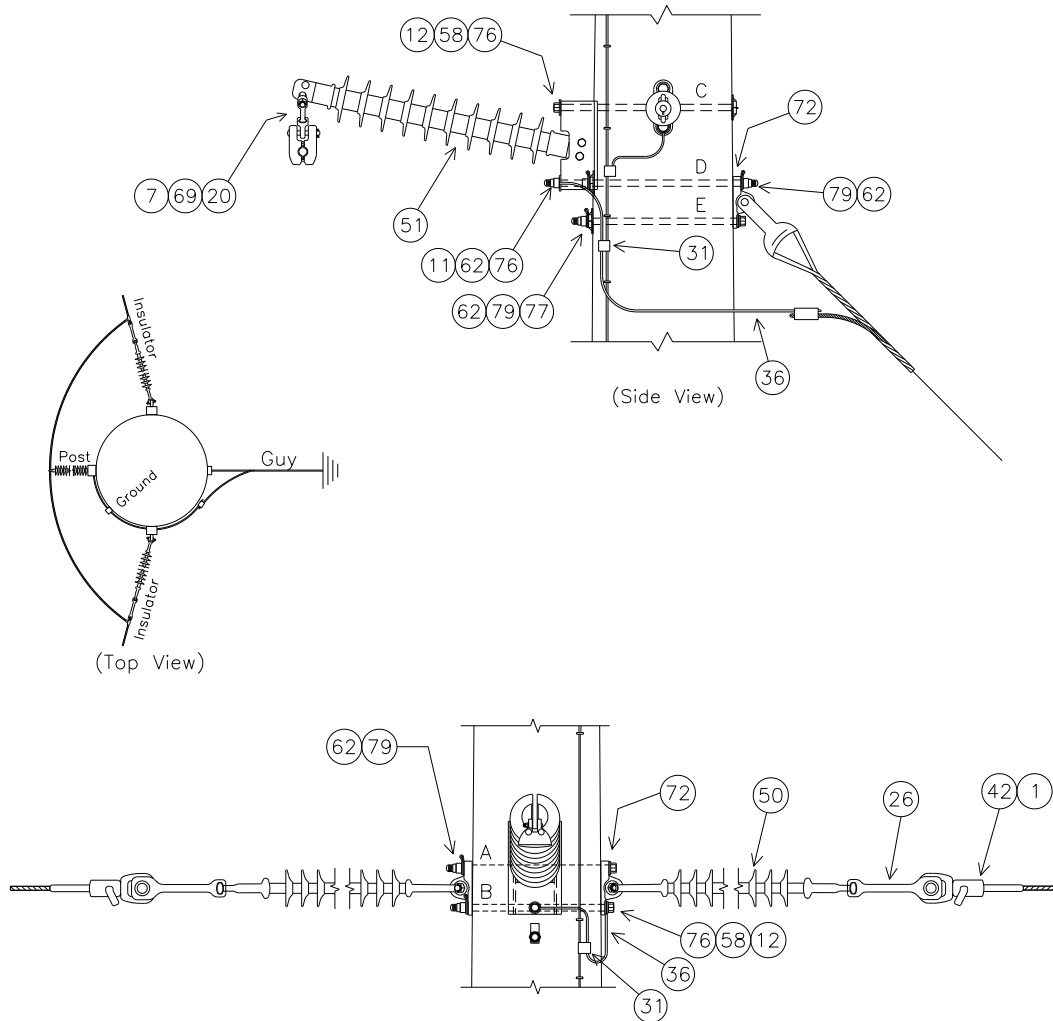
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# IWDD3FFA3G

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 135°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE, GUYED

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR $\frac{7}{8}$ "	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.6	16.5
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.2	15.1

POST INSULATOR $\frac{3}{4}$ "	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	19.0	20.0
MIDDLE BOLT 'D' LENGTH (INCHES) DA	19.4	20.3	21.3
LOWER BOLT 'E' LENGTH (INCHES)	12.9	13.8	14.8

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD3FFA3G PLATES

## IWDD3FFA3G BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	12	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	9	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	9	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	12	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD3FFA3G\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

## IWDD3FFA3G\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDI 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

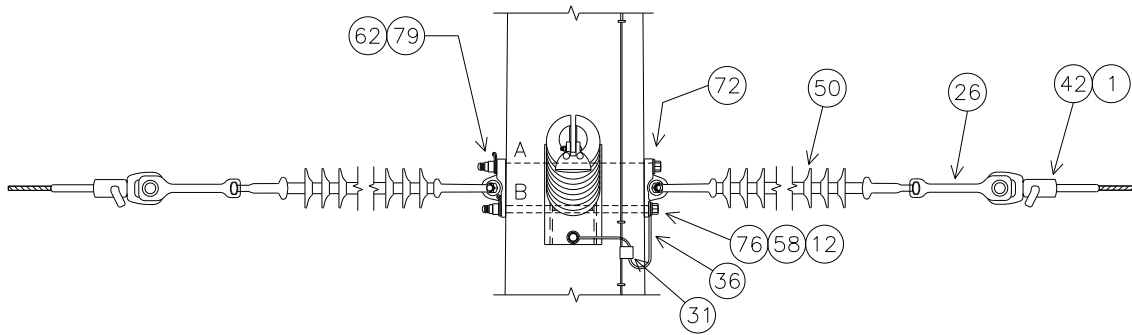
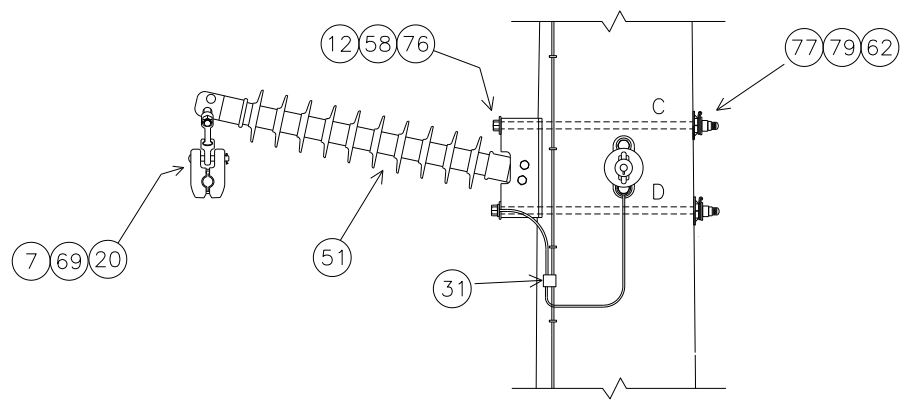
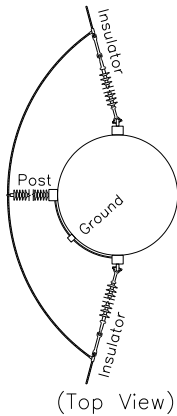
NOTE: USE 3/4" BOLTS FOR POST INSULATORS AND 7/8" BOLTS FOR DEADEND INSULATORS

# IWDD3FFA3N

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 135°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE, NO GUY

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.6	16.5
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.2	15.1

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	19.0	20.0
LOWER BOLT 'D' LENGTH (INCHES)	18.5	19.4	20.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD3FFA3N PLATES

## IWDD3FFA3N BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 039	4	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	6	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	6	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	6	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD3FFA3N\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

## IWDD3FFA3N\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

NOTE: USE 3/4" BOLTS FOR POST INSULATORS AND 7/8" BOLTS FOR DEADEND INSULATORS

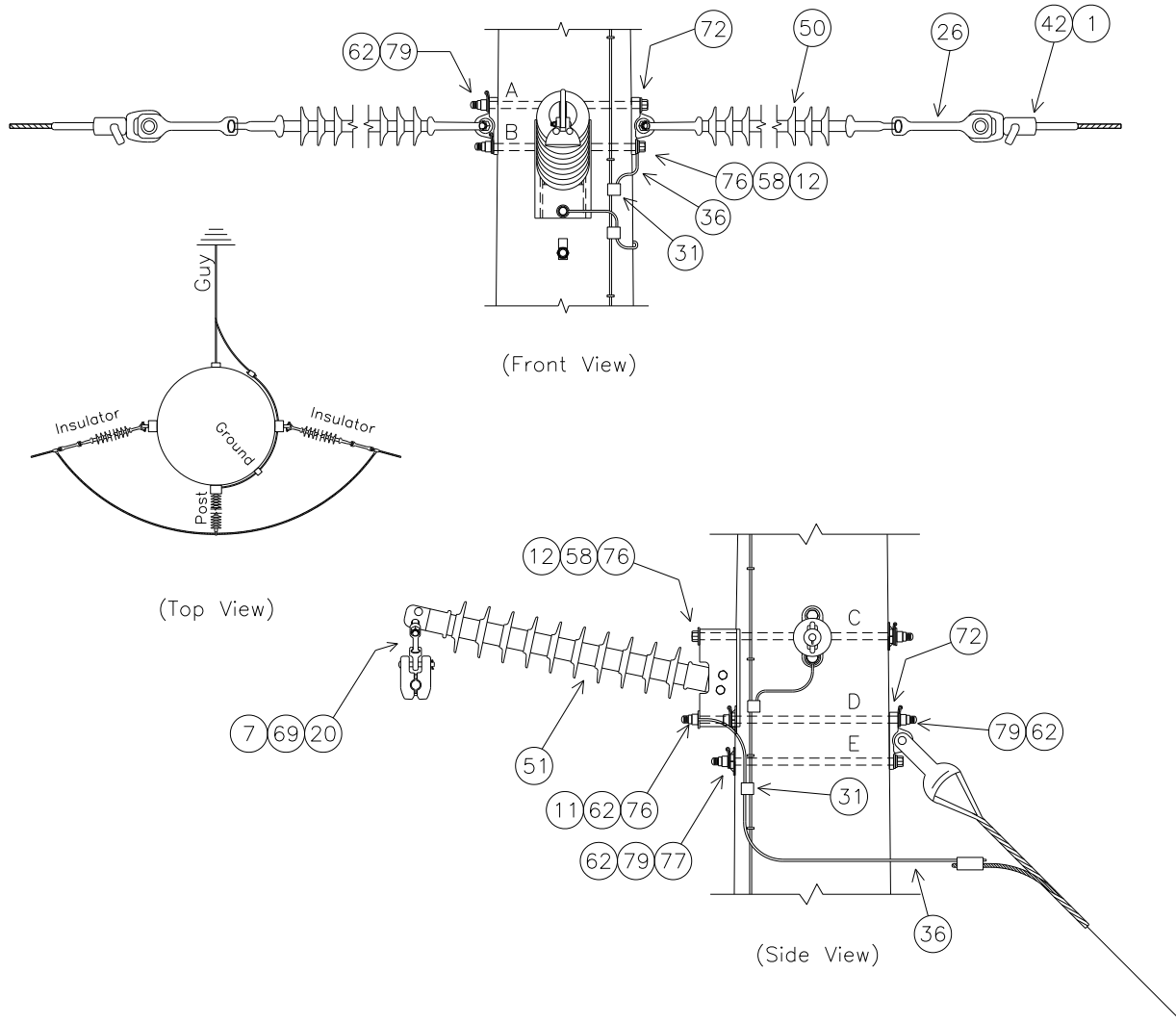


# IWDD5FFA3

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 150°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR $\frac{7}{8}$ "	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.8	15.6	16.4
LOWER BOLT 'B' LENGTH (INCHES)	13.4	14.2	15.0

POST INSULATOR $\frac{3}{4}$ "	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	18.9	19.7
MIDDLE BOLT 'D' LENGTH (INCHES) DA	19.4	20.2	21.0
LOWER BOLT 'E' LENGTH (INCHES)	12.9	13.7	14.5

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD5FFA3 PLATES

## IWDD5FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	3	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	12	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	9	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	9	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	12	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD5FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
26	CLEHL 004	6	SOCKET-Y CLEVIS, CLASS 52-3, L = 11", PIN = 5/8" HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-5

## IWDD5FFA3\*954S

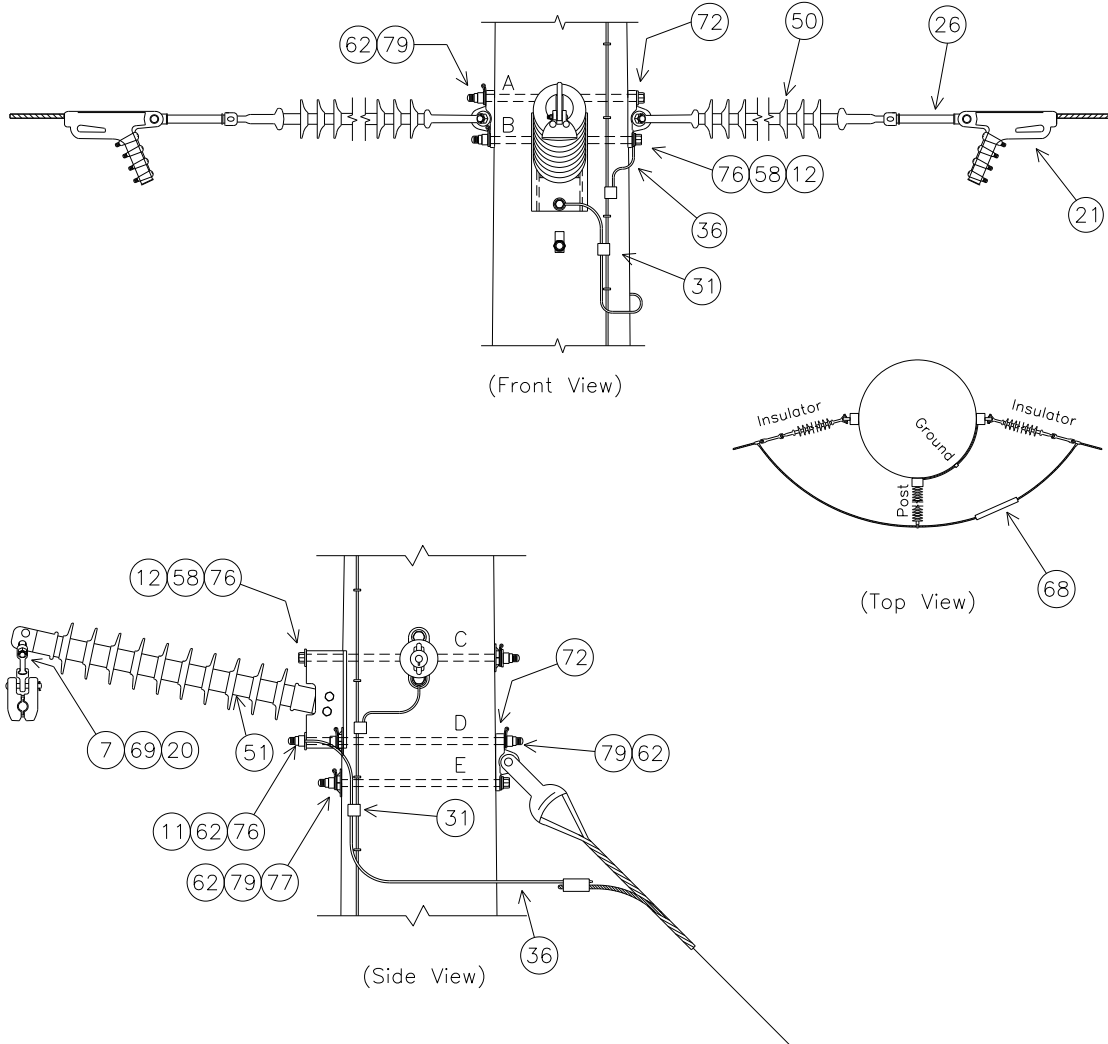
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDU 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

# IWDD5SSA3

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 150°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR $\frac{7}{8}$ "	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.8	15.6	16.4
LOWER BOLT 'B' LENGTH (INCHES)	13.4	14.2	15.0

POST INSULATOR $\frac{3}{4}$ "	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	18.1	18.9	19.7
MIDDLE BOLT 'D' LENGTH (INCHES) DA	19.4	20.2	21.0
LOWER BOLT 'E' LENGTH (INCHES)	12.9	13.7	14.5

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD5SSA3 PLATES

## IWDD5SSA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
11	BOLDA 019	3	DOUBLE ARMING BOLT, 3/4" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 037	1	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	3	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	12	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 002	9	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	9	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 001	9	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	12	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD5SSA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 005	3	CUSHION GRIP SUSPENSION CLAMP FOR 556 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD5SSA3\*954S

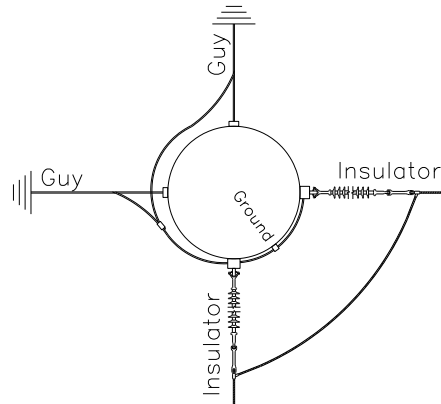
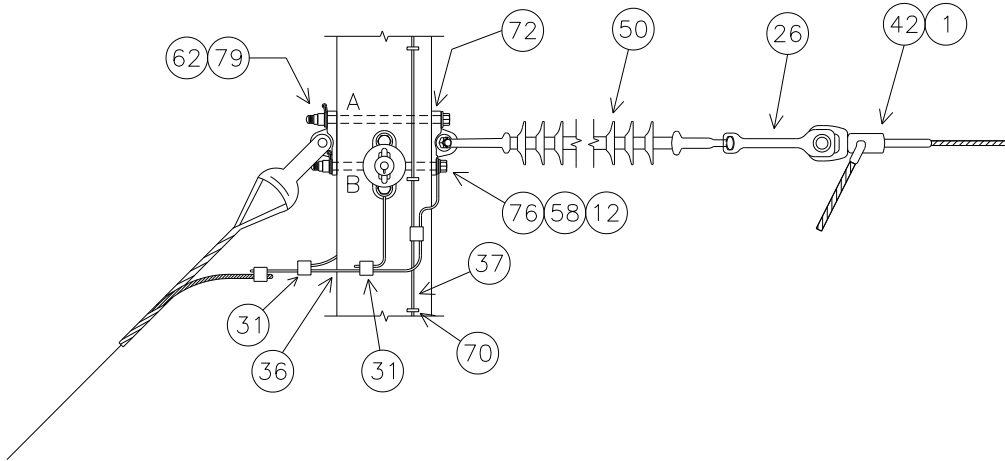
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9FFA3

INSULATOR FOR WOOD STRUCTURES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT (A) LENGTH (INCHES)	14.6	15.5	16.3	14.7	15.5	16.3
LOWER BOLT (B) LENGTH (INCHES)	13.2	14.0	14.8	13.3	14.1	14.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9FFA3 PLATES

## IWDD9FFA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	9	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	30 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	12	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD9FFA3\*556S

NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", HOT DIPPED GALV.
42	DEACB 003	6	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	6	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

## IWDD9FFA3\*954S

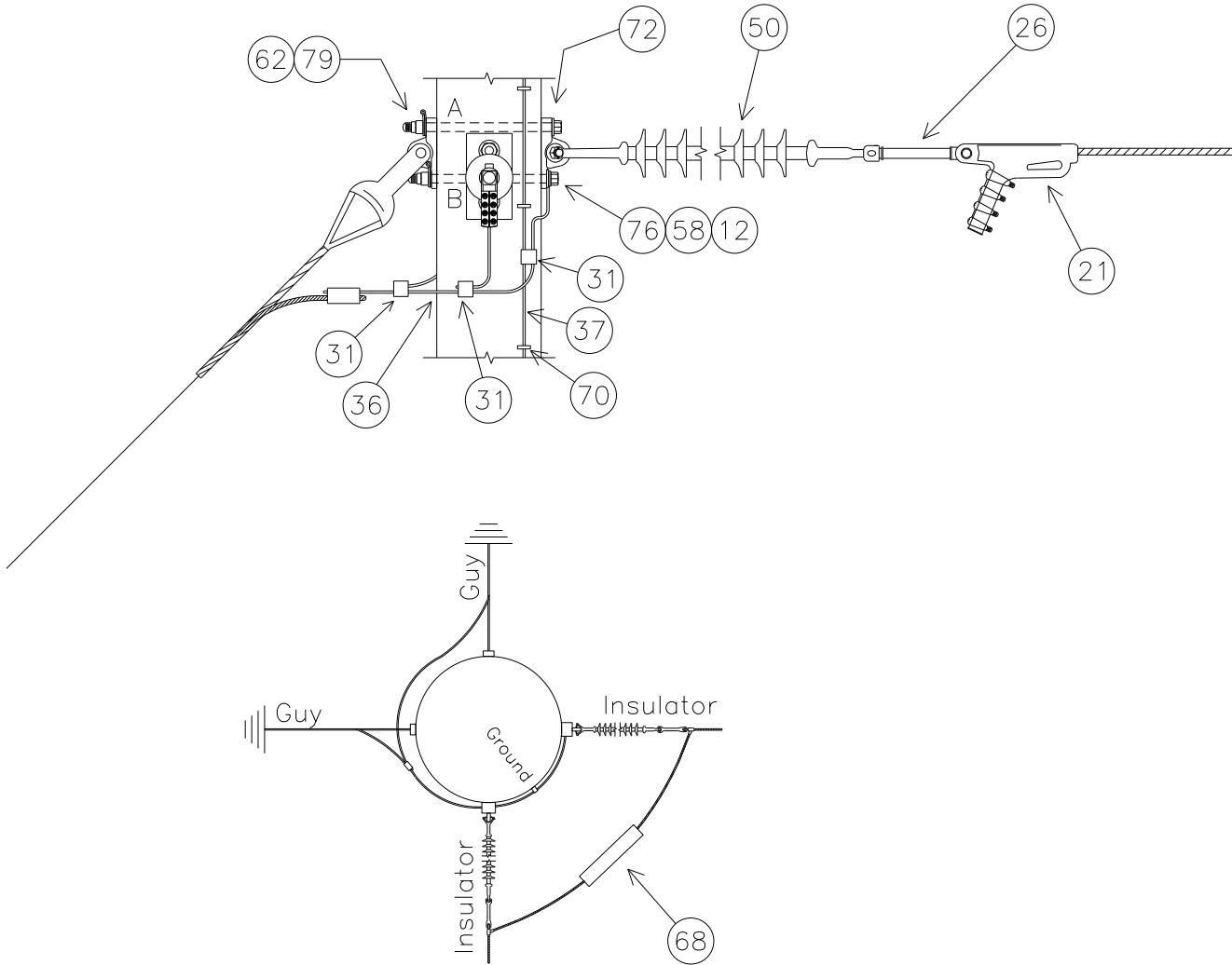
NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

# IWDD9SSA3G

INSULATOR FOR WOOD POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE, GUYED

CONDUCTOR OPTIONS: 556S, 954A, 954S



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.5	16.3	14.7	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8	13.3	14.1	14.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9SSA3G PLATES

## IWDD9SSA3G BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	2	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	9	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	30 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	12	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD9SSA3G\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9SSA3G\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9SSA3G\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ASCR, COMPRESSION SPLICE, NON-TENSION ONLY

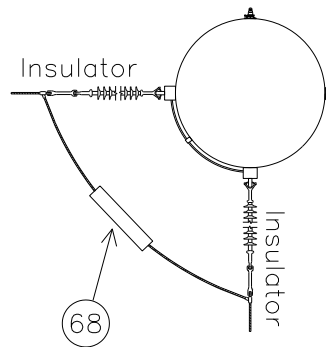
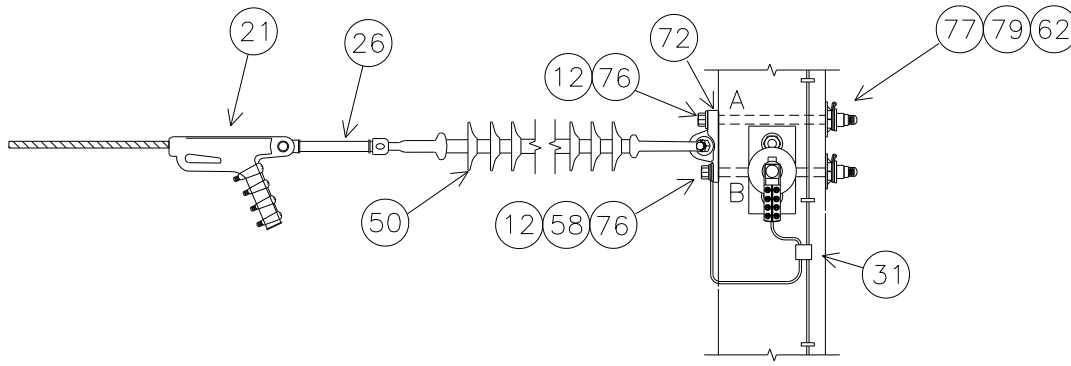


# IWDD9SSA3N

INSULATOR FOR WOOD POLES

DOUBLE DEADEND 90°, SLACK TENSION TO SLACK TENSION, 69KV, 3-PHASE, NO GUY

CONDUCTOR OPTIONS: 556S, 954S



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER BRACKET			LOWER BRACKET		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	13.8	14.7	15.6	13.8	14.7	15.6
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.1	15.0	13.2	14.1	15.0

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWDD9SSA3N PLATES

## IWDD9SSA3N BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	4	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	8	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWDD9SSA3N\*556S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 003	3	ALUM. SLEEVE JUMPER FOR 556 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

## IWDD9SSA3N\*954S

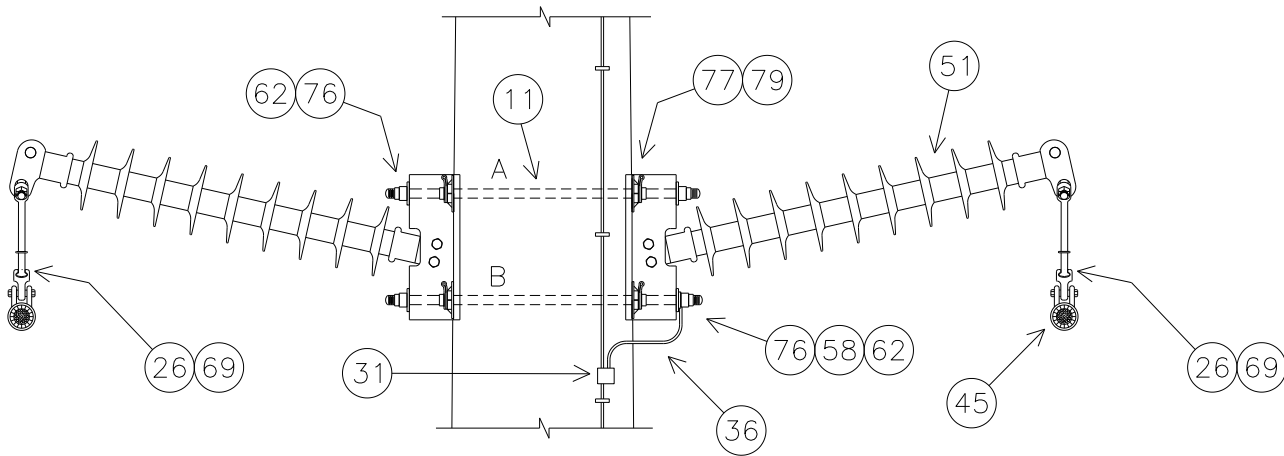
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR, COMPRESSION SPLICE, NON-TENSION ONLY

# IWDPLA2

INSULATOR FOR WOOD POLES

DOUBLE POST, NO GUY, LONG CLEVIS, 69KV, 2-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top
BOLT 'A' LENGTH (INCHES)	24.9
BOLT 'B' LENGTH (INCHES)	25.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWDPLA2 PLATES

**IWDPLA2 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 042	2	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
26	CLEHL 001	2	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	2	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	4	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	4	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**IWDPLA2\*556S**

45	GRISA 001	2	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	2	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

**IWDPLA2\*954S**

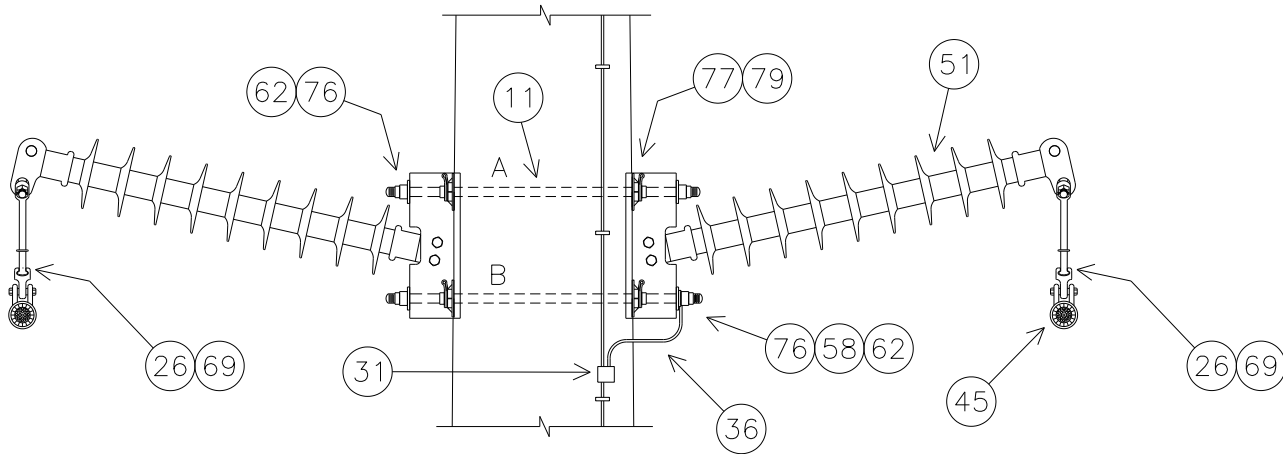
45	GRISA 004	2	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	2	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"

# IWDPLA3

INSULATOR FOR WOOD POLES

DOUBLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	24.9	25.7	26.5
BOLT 'B' LENGTH (INCHES)	25.3	26.1	26.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWDPLA3 PLATES

**IWDPLA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 041	3	DOUBLE ARMING BOLT, 7/8" X 28", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 042	3	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**IWDPLA3\*556S**

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

**IWDPLA3\*954S**

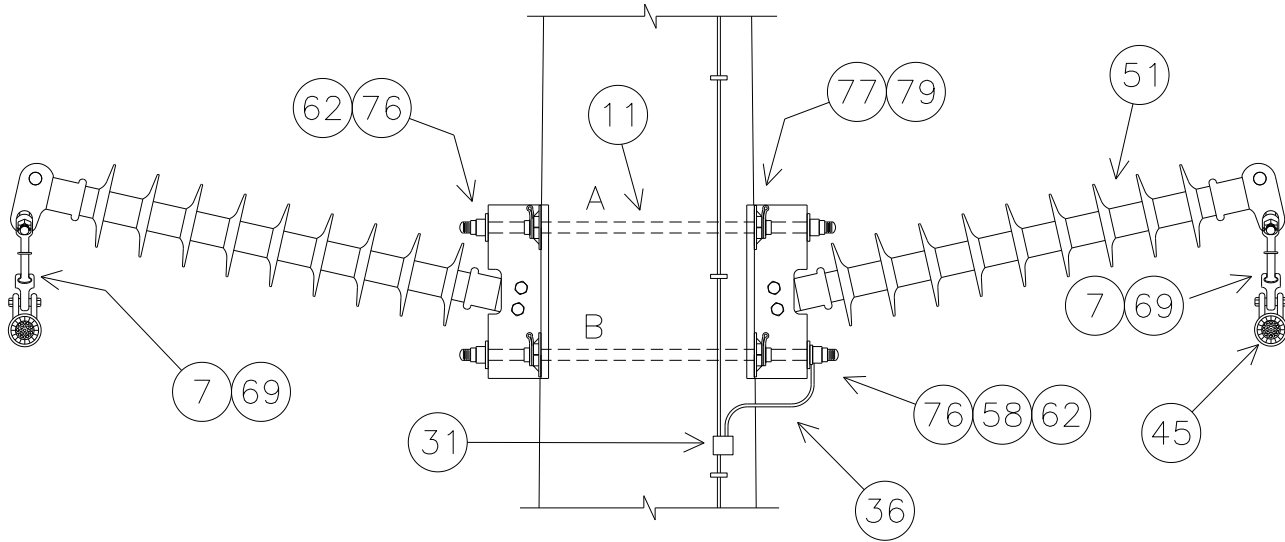
45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=1 1/16"

# IWDPSA3

INSULATOR FOR WOOD POLES

DOUBLE POST, NO GUY, SHORT CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	24.9	25.7	26.5
BOLT 'B' LENGTH (INCHES)	25.3	26.1	26.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWDPSA3 PLATES

**IWDPSA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, PIN = 3/4", HOT DIPPED GALV.
11	BOLDA 041	3	DOUBLE ARMING BOLT, 7/8" X 28", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 042	3	DOUBLE ARMING BOLT, 7/8" X 26", WITH 4 SQUARE NUTS ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	6	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

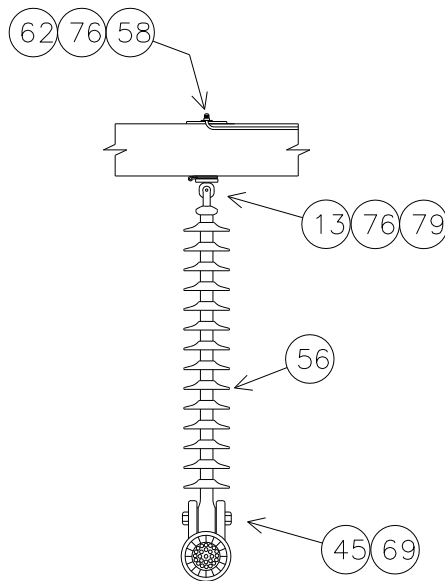
**IWDPSA3\*556S**

45	GRISA 001	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"



# IWHS A1

INSULATOR FOR WOOD POLES  
HORIZONTAL SUSPENSION, 69KV, 1-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



## IWHS A1 PLATES

### IWHS A1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
13	BOLSE 009	1	BOLT, SHOULDER EYE, 3/4" X 10"
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 007	1	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	1	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	1	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

### IWHS A1\*556S

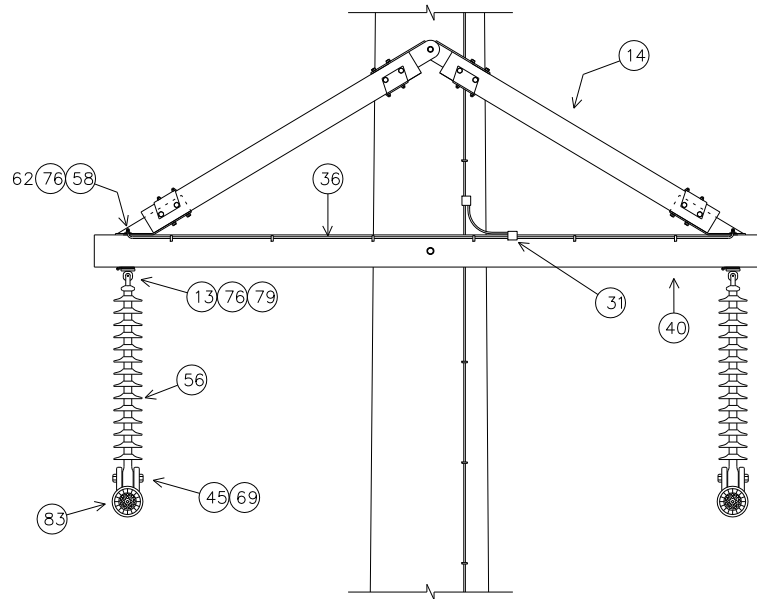
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 001	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

### IWHS A1\*954S

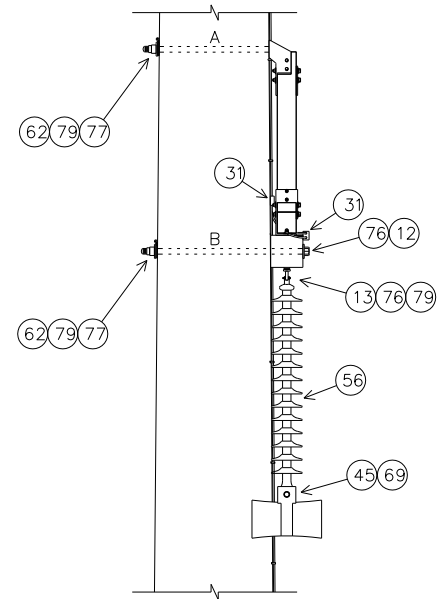
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ASCR
69	SOCEY 003	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

# IWHS A2

**INSULATOR FOR WOOD POLES  
HORIZONTAL SUSPENSION, 69KV, 2-PHASE  
CONDUCTOR OPTIONS: 556S, 954S**



IN-LINE  
FACE



BIRTHMARK  
FACE

# IWWSA2 PLATES

**IWWSA2 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 009	2	BOLT, SHOULDER EYE, 3/4" X 10"
14	BRCCF 001	1 PR	BRACE, CROSSARM, 3' 6" DROP, 9' SPAN, PENTA TREATED, GALV. END FITTINGS
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
40	CXAWO 005	1	10' WOOD CROSSARM, TREATED SOUTHERN YELLOW PINE
56	INSSU 007	2	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

**IWWSA2\*556S**

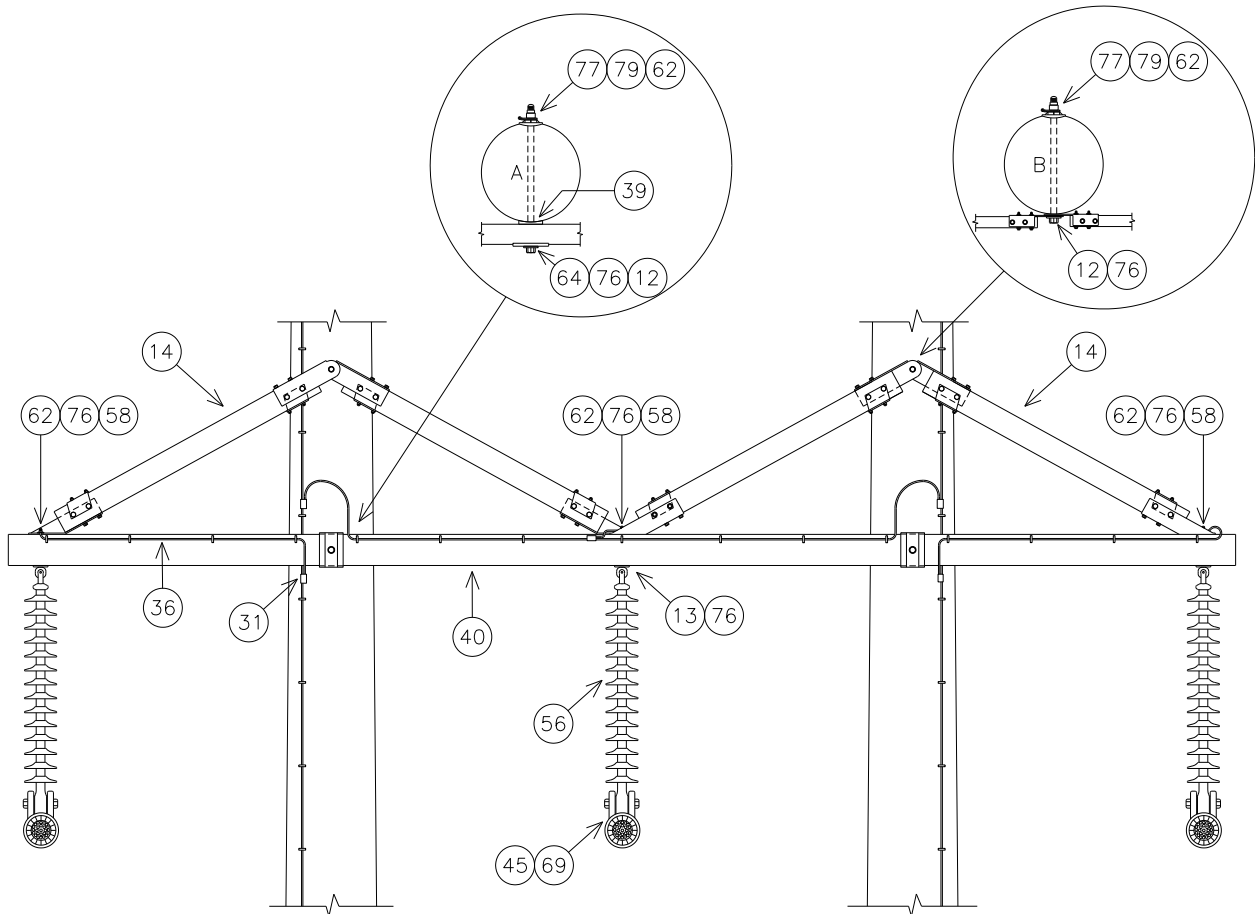
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 001	2	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	2	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

**IWWSA2\*954S**

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	2	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ASCR
69	SOCEY 003	2	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

# IWHS A3

INSULATOR FOR WOOD POLES  
HORIZONTAL SUSPENSION, 69KV, 3-PHASE  
CONDUCTOR OPTIONS: 556S, 954S



SUBSTRUCTURE	
CROSSARM BOLT LENGTH (INCHES)	18.4
EYE-BOLT LENGTH (INCHES)	9.6
BRACE BOLT LENGTH (INCHES)	12.3

# IWHS A3 PLATES

**IWHS A3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 009	3	BOLT, SHOULDER EYE, 3/4" X 10"
14	BRCCF 001	2 PR	BRACE, CROSSARM, 3' 6" DROP, 9' SPAN, PENTA TREATED, GALV. END FITTINGS
31	CNNCP 016	5	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
39	CXAGA 001	2	CROSSARM GAIN, GALV.
40	CXAWO 010	1	22' WOOD CROSSARM, TREATED SOUTHERN YELLOW PINE
56	INSSU 007	3	SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 43", CLASS 52-5
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	7	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
64	PLACR 001	2	PLATE, CROSSARM REINFORCING
76	WASRD 005	10	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	4	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

**IWHS A3\*556S**

NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

**IWHS A3\*954S**

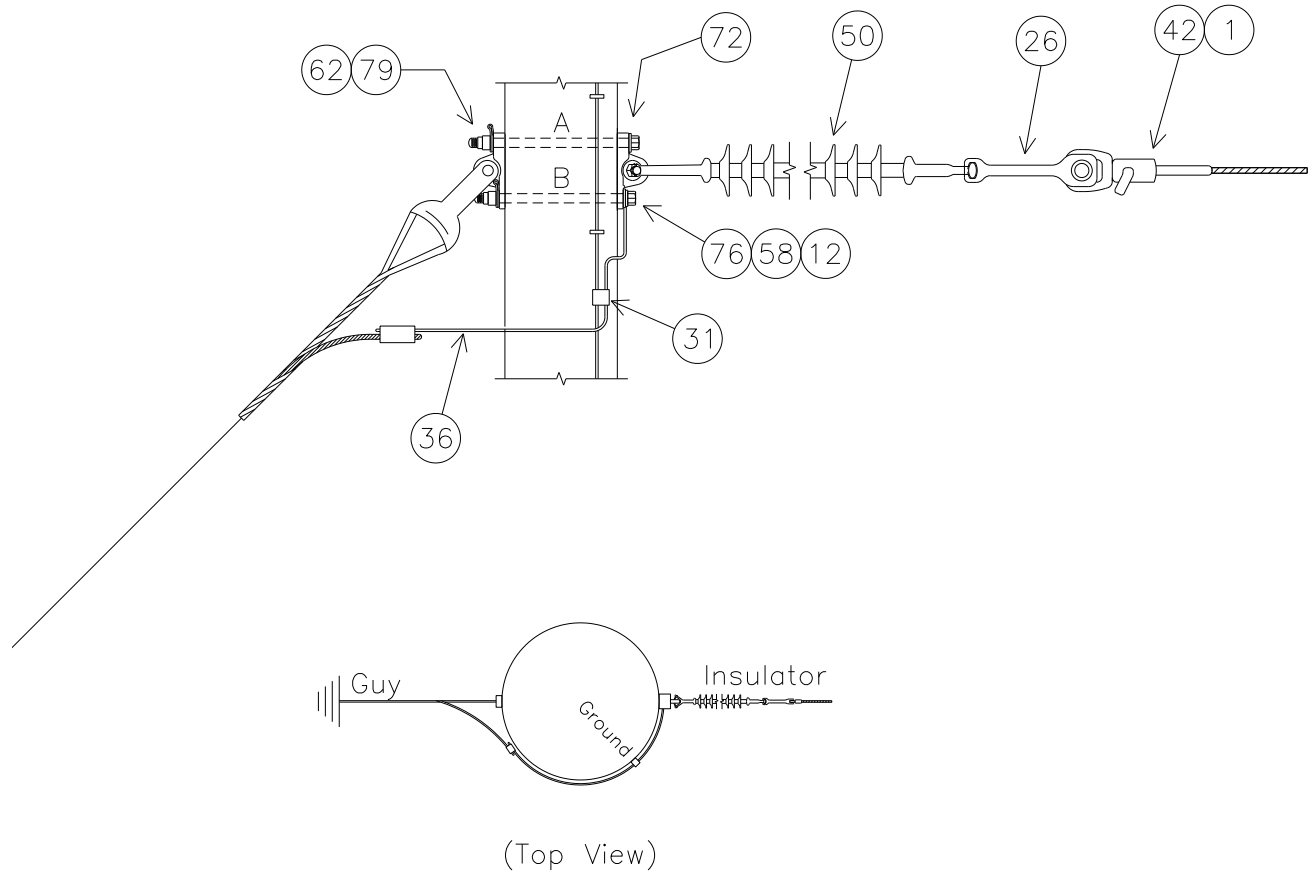
NO.	ITEM ID	QTY	DESCRIPTION
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ASCR
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV. T=3/4"

## IWSDFA3

INSULATOR FOR WOOD POLES

SINGLE DEAD-END, FULL TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.6	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWSDFA3 PLATES

**IWSDFA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**IWSDFA3\*556S**

NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 004	3	SOCKET-Y CLEVIS, CLASS 52-3/5, L = 11", HOT DIPPED GALV.
42	DEACB 003	3	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE
50	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-3/5

**IWSDFA3\*954S**

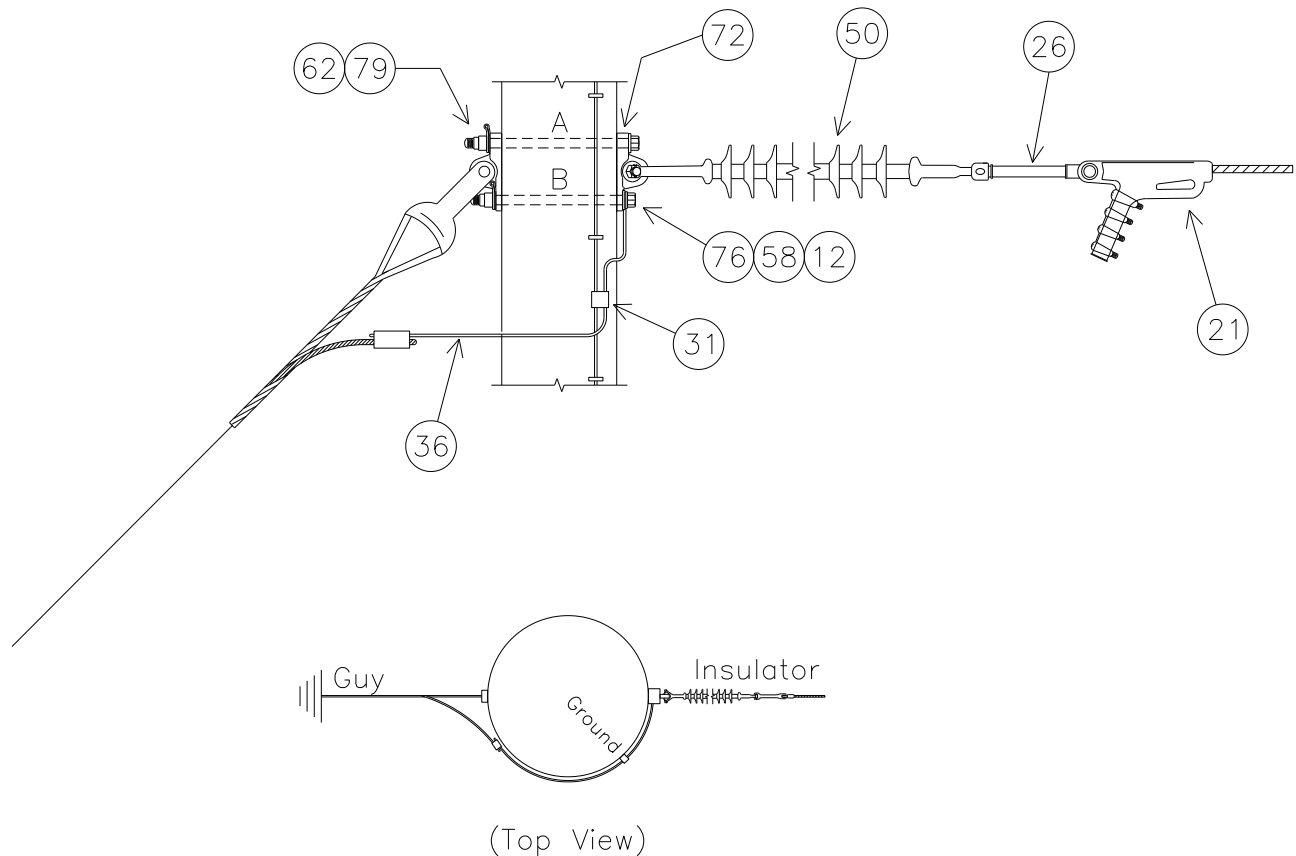
NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8" HOT DIPPED GALV.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11

## IWSDSA3

INSULATOR FOR WOOD POLES

SINGLE DEAD-END, SLACK TENSION, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	14.7	15.5	16.3
LOWER BOLT 'B' LENGTH (INCHES)	13.2	14.0	14.8

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER



# IWSDSA3 PLATES

**IWSDSA3 BASE**

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 048	1	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	4	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 050	1	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16 OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 004	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 69KV, L = 66", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

**IWSDSA3\*556S**

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

**IWSDSA3\*954A**

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

**IWSDSA3\*954S**

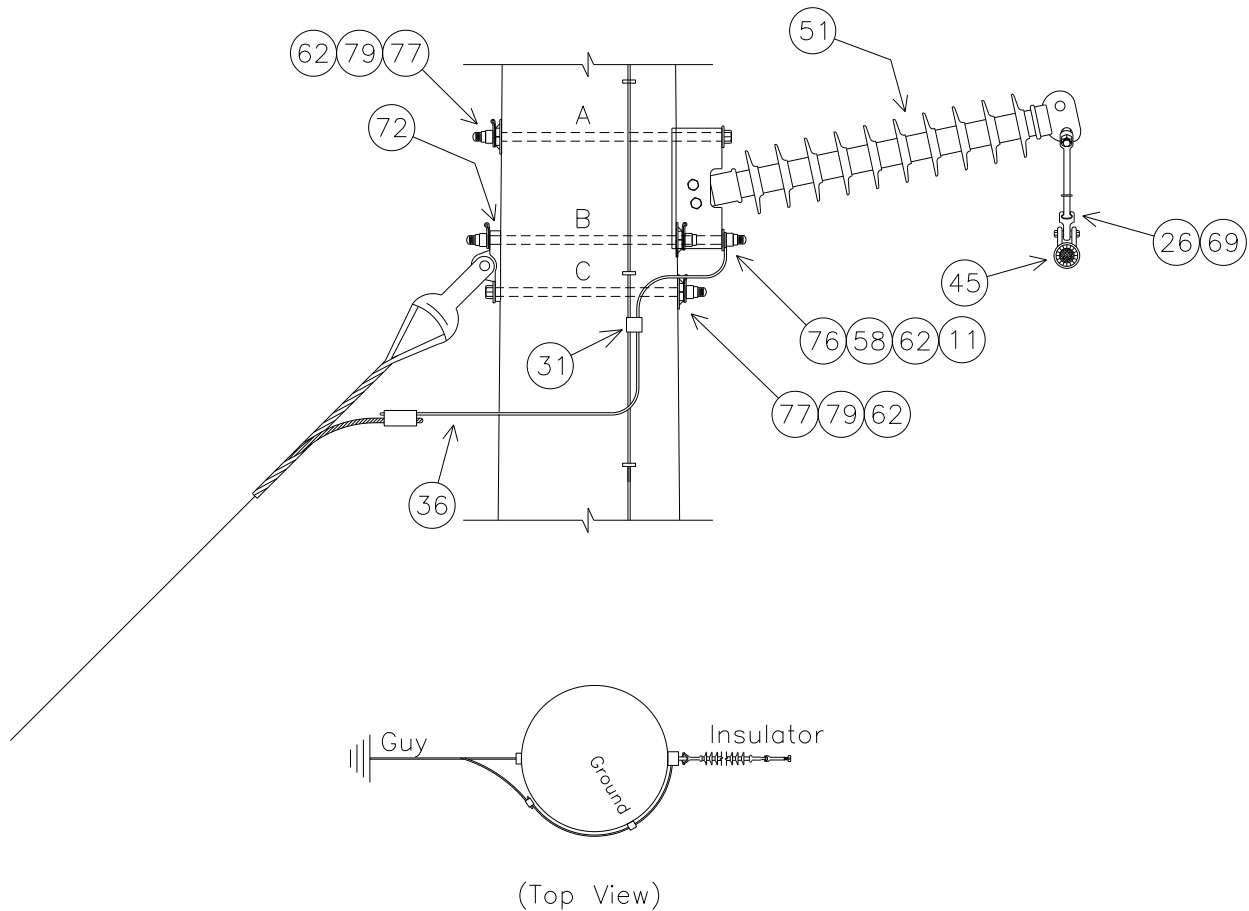
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## IWSPBGLA3

INSULATOR FOR WOOD POLES

SINGLE POST, BOTTOM GUYED, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	18.0	18.8	19.6
BOLT 'B' LENGTH (INCHES) DA	19.3	20.1	20.9
BOLT 'C' LENGTH (INCHES)	13.1	13.9	14.7

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

# IWSPBGLA3 PLATES

## IWSPBGLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 034	3	DOUBLE ARMING BOLT, 7/8" X 22", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 049	1	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 051	3	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 1/2", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 006	9	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	12	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPBGLA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
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## IWSPBGLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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## IWSPBGLA3\*954S

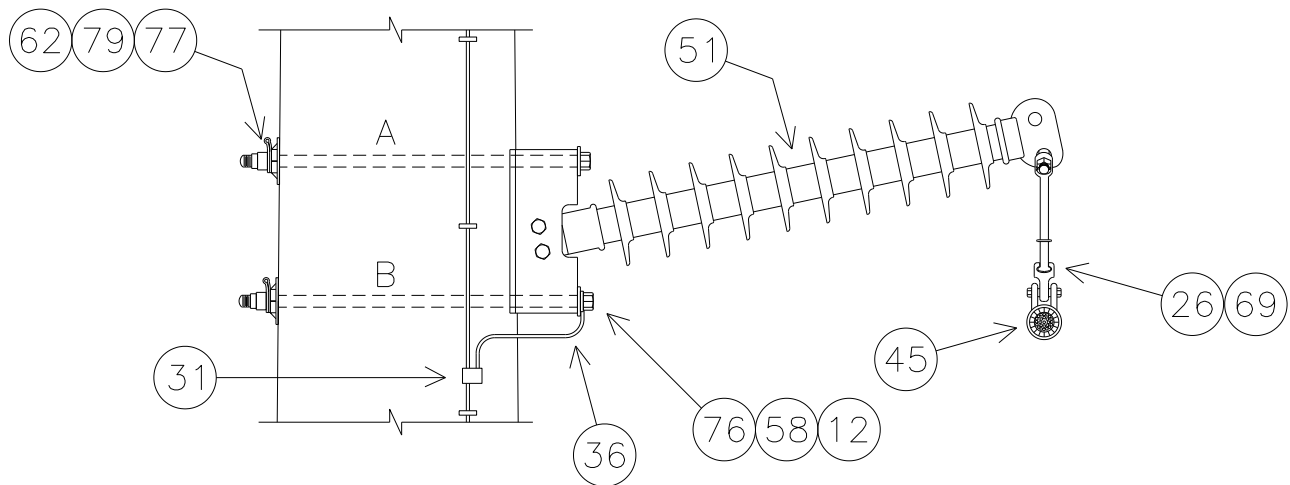
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
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## IWSPNLA1

INSULATOR FOR WOOD POLES

SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	
BOLT 'A' LENGTH (INCHES)	18.8
BOLT 'B' LENGTH (INCHES)	19.2

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWSPNLA1 PLATES

## IWSPNLA1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 051	2	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	1	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	2 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	1	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	2	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	2	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPNLA1\*556S

45	GRISA 001	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA1\*954A

45	GRISA 003	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA1\*954S

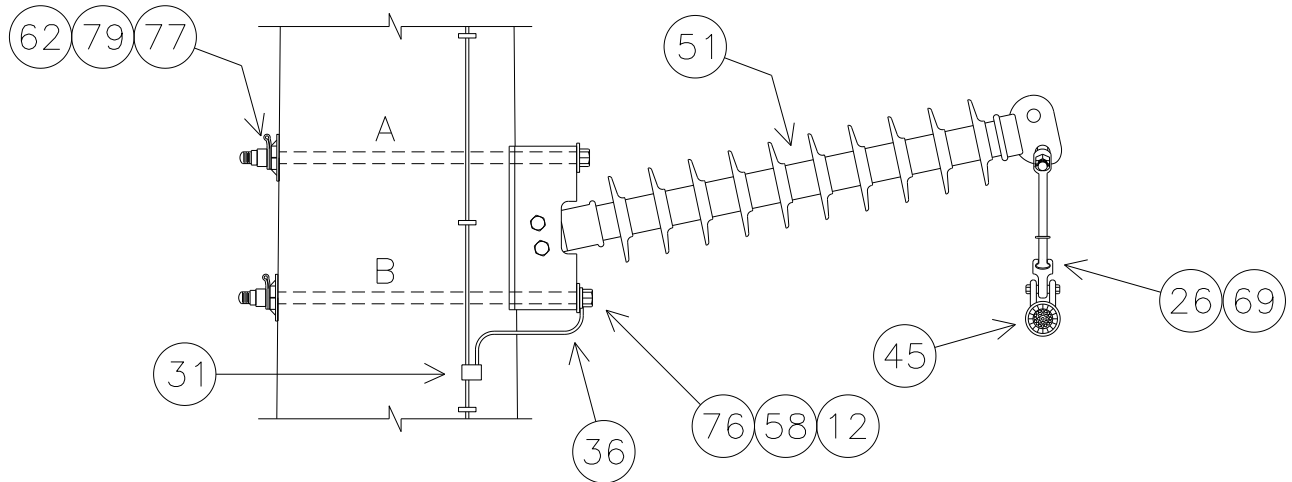
45	GRISA 004	1	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	1	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA3

INSULATOR FOR WOOD POLES

SINGLE POST, NO GUY, LONG CLEVIS, 69KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	18.0	18.8	19.6
BOLT 'B' LENGTH (INCHES)	18.4	19.2	20.0

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER.

# IWSPNLA3 PLATES

## IWSPNLA3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 051	6	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", HOT DIPPED GALV.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 020	3	HORIZONTAL POST INSULATOR, 69KV, L = 45", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 006	6	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

## IWSPNLA3\*556S

45	GRISA 001	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 556 ASCR
69	SOCEY 004	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## IWSPNLA3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82 INCHES, 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

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# 138kV INSULATOR PLATE INDEX

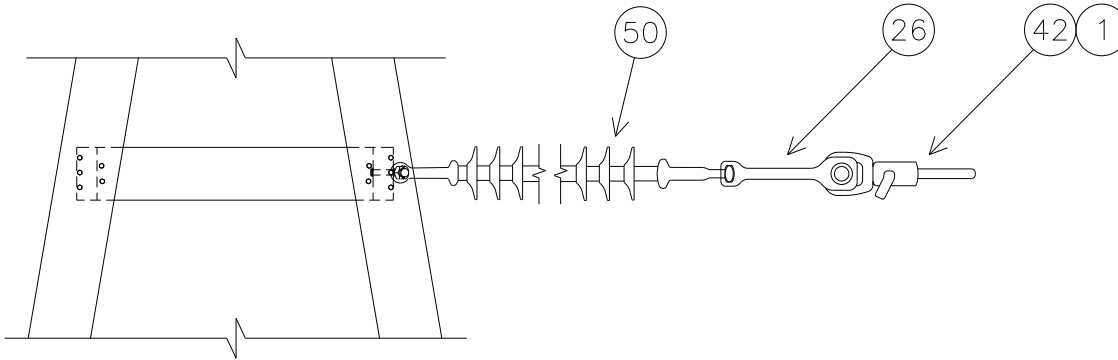
<b>A-FRAME AND LATTICE STRUCTURES FOR SUBSTATIONS</b>	<b>PAGE</b>
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2. IASDSB3: SINGLE DEAD-END, SLACK TENSION, 3-PHASE	BIN-3
 <b>SPUN CONCRETE POLES</b>	
3. ISDBB3: DOUBLE BRACED LINE POST, 3-PHASE	BIN-4
4. ISDD3FSB3: DOUBLE DEAD-END 135°, FULL TENSION TO SLACK TENSION, 3-PHASE	BIN-6
5. ISDD8FFB3: DOUBLE DEAD-END 180°, FULL TENSION TO FULL TENSION, 3-PHASE	BIN-8
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8. ISDD9FFB3: DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 3-PHASE	BIN-14
9. ISDD9FSB1: DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 1-PHASE	BIN-16
10. ISDD9FSB3: DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 3-PHASE	BIN-18
11. ISSDD9SSB3: DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 3-PHASE	BIN-20
12. ISSBDB3: SINGLE BRACED LINE POST, DELTA CONFIGURATION, 3-PHASE	BIN-22
13. ISSBNGB3: SINGLE BRACED LINE POST, NO GUY, 3-PHASE	BIN-24
14. ISSDFB3: SINGLE DEAD-END, FULL TENSION, 3-PHASE	BIN-26
15. ISSDFP1B3: SINGLE DEAD-END, FULL TENSION TO POST, TYPE 1, 3-PHASE	BIN-28
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18. ISSPNB3: SINGLE POST, NO GUY, 3-PHASE	BIN-34
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# IASDFB3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, FULL TENSION FOR SUBSTATION STRUCTURES, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954H, 954S, 1590



## IASDFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", H.D.G..
50	INSD 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11

## IASDFB3\*954H

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 016	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

## IASDFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

## IASDFB3\*1590

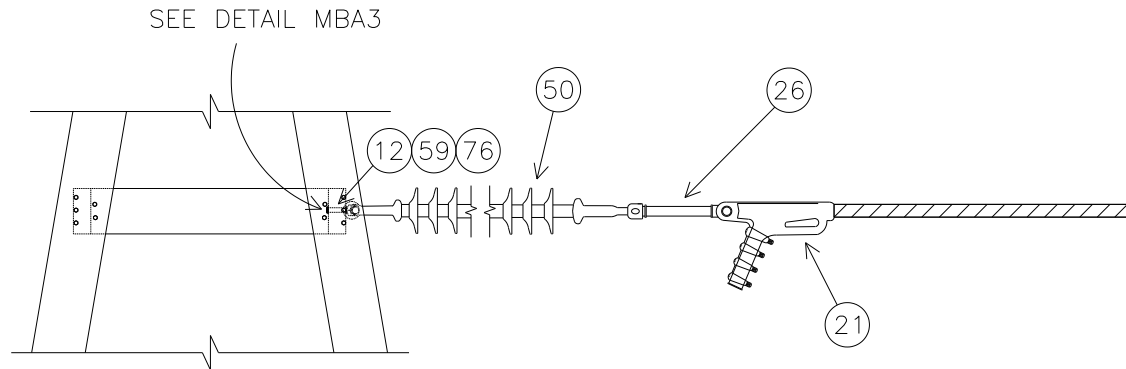
NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE

# IASDSB3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, SLACK TENSION FOR SUBSTATION STRUCTURES, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



## IASDSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
59	NUTUY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSB3\*556S, 954A, 954S

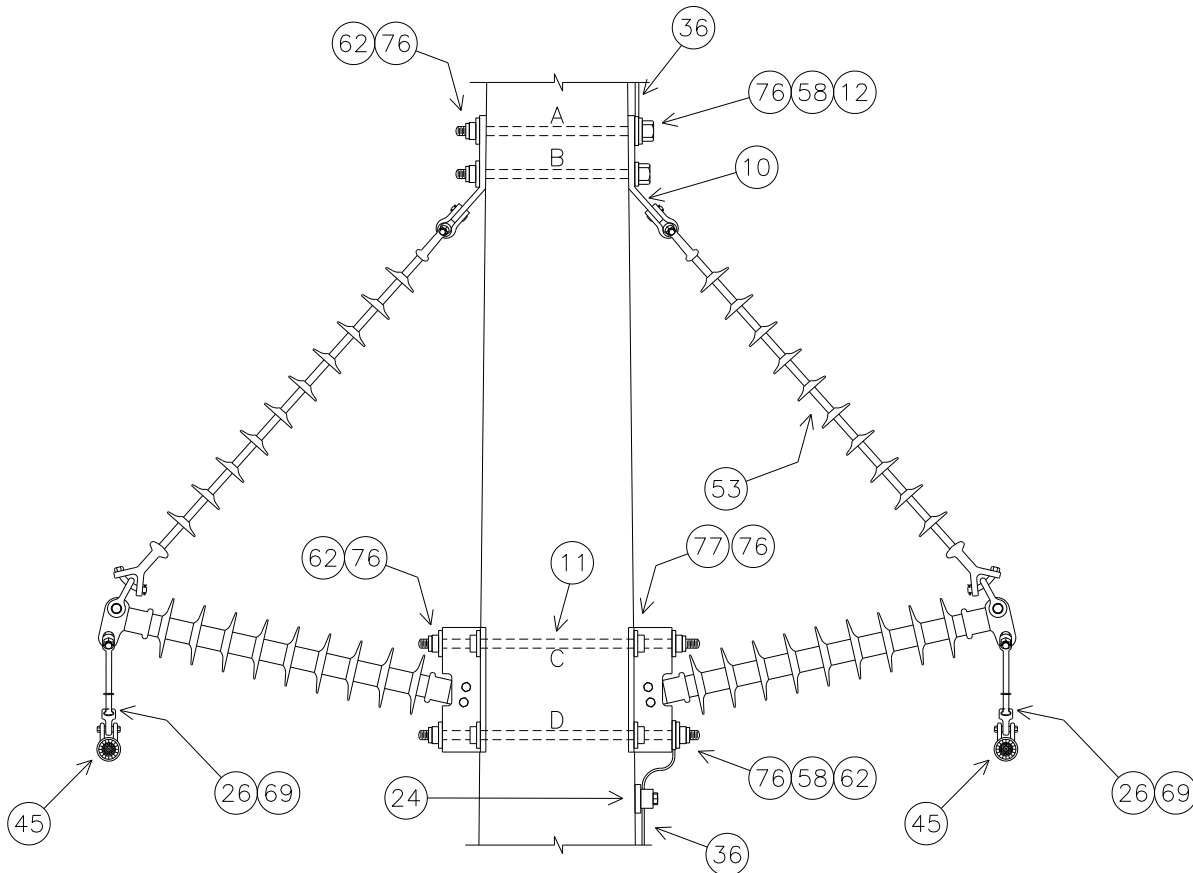
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## IASDSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

## ISDBB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE BRACED LINE POST, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MBA2 FOR DOUBLE ARMING BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTHS (INCHES)			
	A	B	C	D
TOP	20.6	20.5	33.6	34.1
MIDDLE	22.4	22.2	35.3	35.8
BOTTOM	24.1	24.0	37.1	37.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDBB3 PLATES

## ISDBB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 001	6	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 038	2	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	6	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	36	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDBB3\*954A

45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISDBB3\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISDBB3\*1590

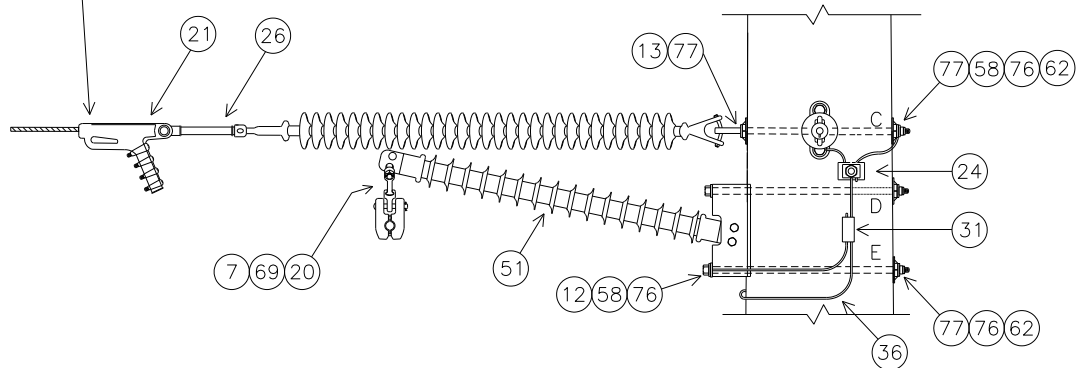
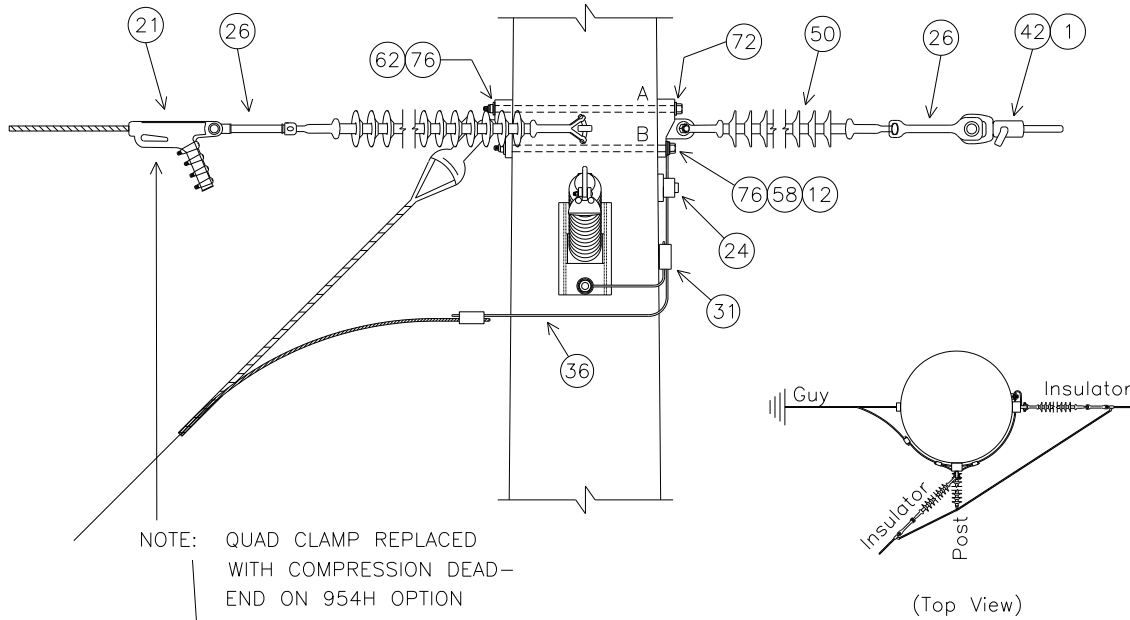
45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISDD3FSB3

**INSULATOR FOR SPUN CONCRETE POLES**

**DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 138KV, 3-PHASE**

CONDUCTOR OPTIONS: 954H, 954S, 1590



	FULL TENSION SIDES		
	TOP	MIDDLE	BOTTOM
BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2
SHOULDER EYEBOLT 'C' LENGTH (INCHES)	22.2	24.2	26.1
BOLT 'D' LENGTH (INCHES)	27.9	29.8	31.8
BOLT 'E' LENGTH (INCHES)	28.4	30.3	32.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD3FSB3 PLATES

## ISDD3FSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 34", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	1	MACHINE BOLT, 7/8" X 38", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 024	1	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST SILICONE INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	9	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE FLAT WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED

## ISDD3FSB3\*954H&S

NO.	ITEM ID	QTY	DESCRIPTION
1 (954H)	ADCVF 002	6	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
1 (954S)	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20 (954H)	CLAJU 010	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSS
20 (954S)	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21 (954S)	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
26 (954H)	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26 (954S)	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42 (954H)	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD3FSB3\*1590

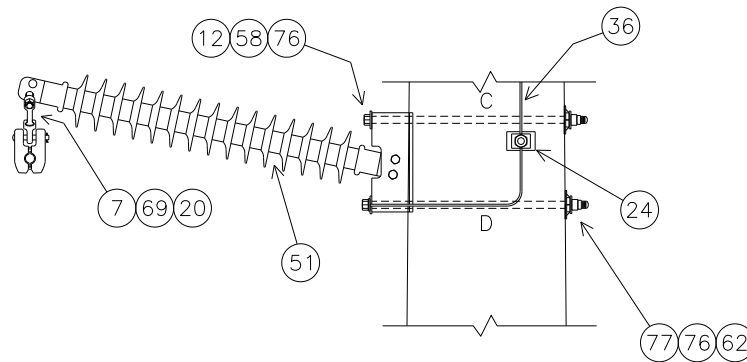
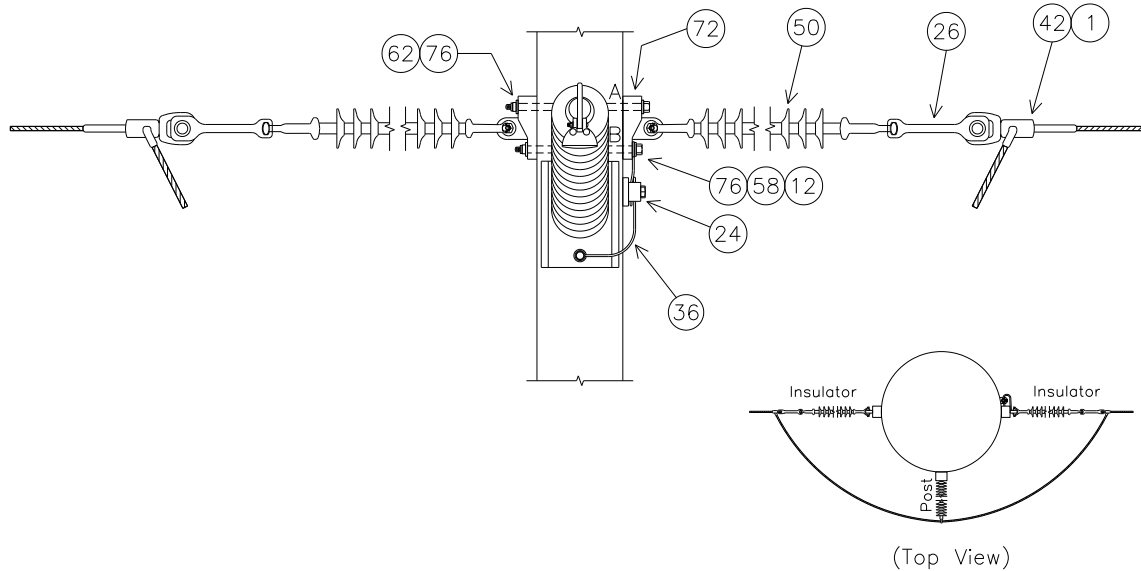
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD8FFB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, FULL TENSION TO FULL TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	27.8	29.7	31.7
LOWER BOLT 'D' LENGTH (INCHES)	28.3	30.2	32.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER



# ISDD8FFB3 PLATES

## ISDD8FFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8FFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD8FFB3\*1590

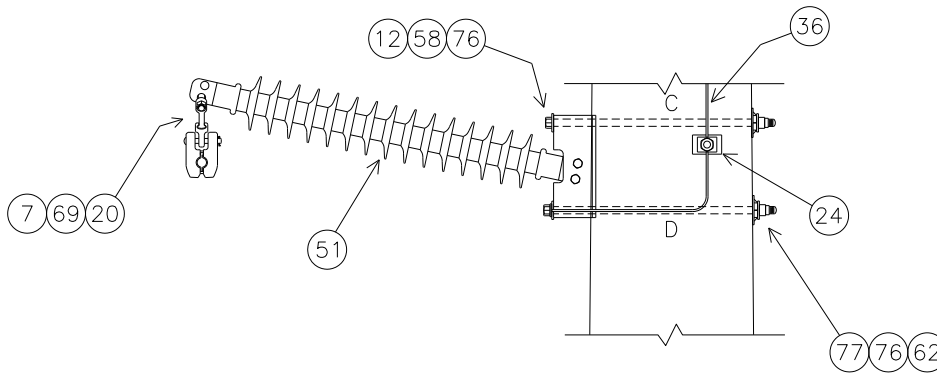
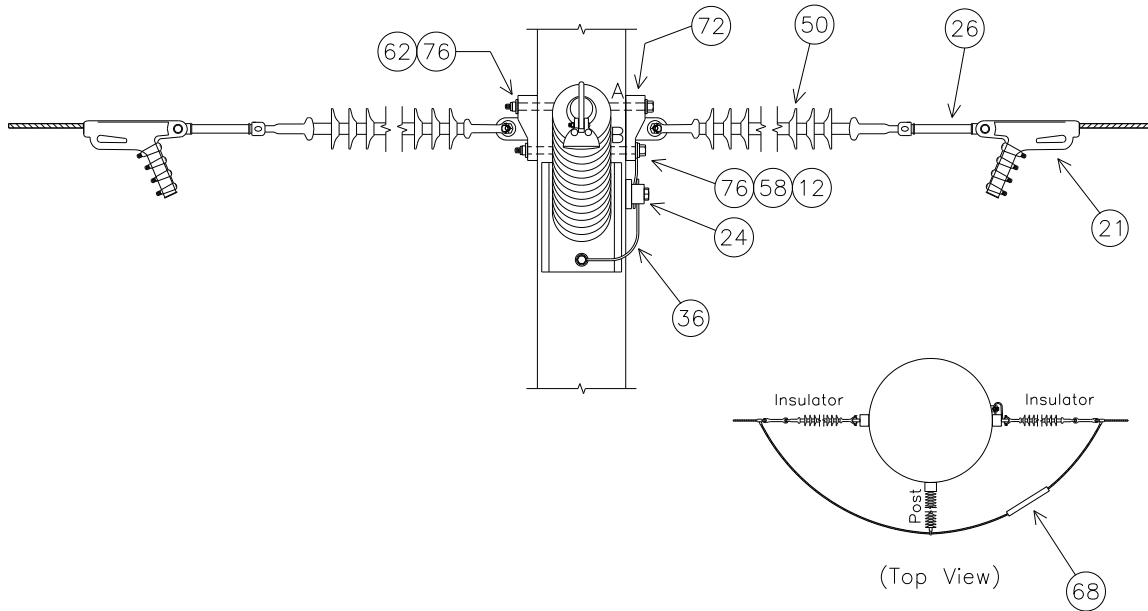
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD8SSB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, SLACK TENSION TO SLACK TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT (A) LENGTH (INCHES)	24.9	26.8	28.7
LOWER BOLT (B) LENGTH (INCHES)	23.2	25.2	27.1

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT (C) LENGTH (INCHES)	27.8	29.7	31.7
LOWER BOLT (D) LENGTH (INCHES)	28.3	30.2	32.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD8SSB3 PLATES

## ISDD8SSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSH 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8SSB3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 006	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 AAC
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD8SSB3\*1590

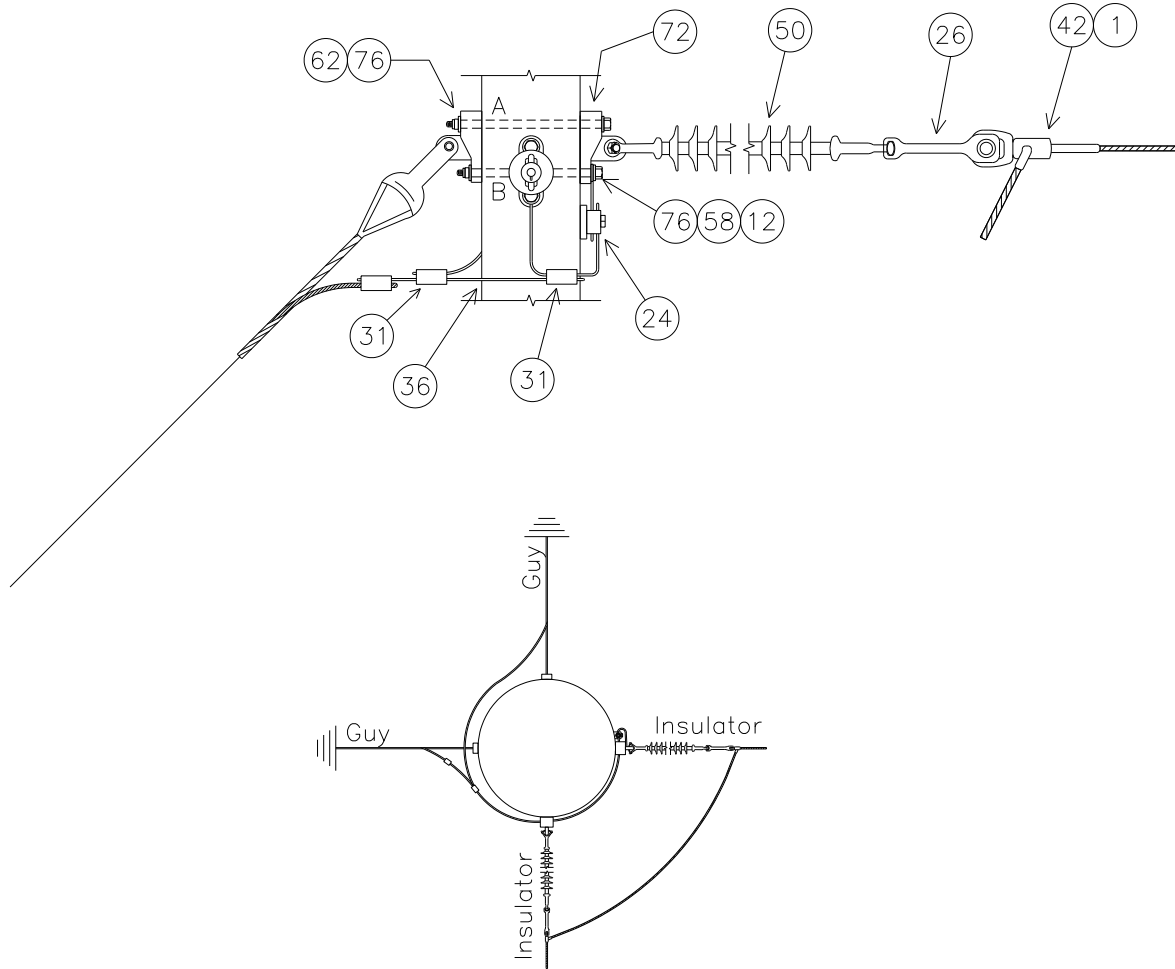
NO.	ITEM ID	QTY	DESCRIPTION
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

# ISDD9FFB1

**INSULATOR FOR SPUN CONCRETE POLES**

**DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 138KV, 1-PHASE**

CONDUCTOR OPTIONS: 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

WITHOUT SHIELD	A	B
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.2
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDD9FFB1 PLATES

## ISDD9FFB1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFB1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFB1\*1590

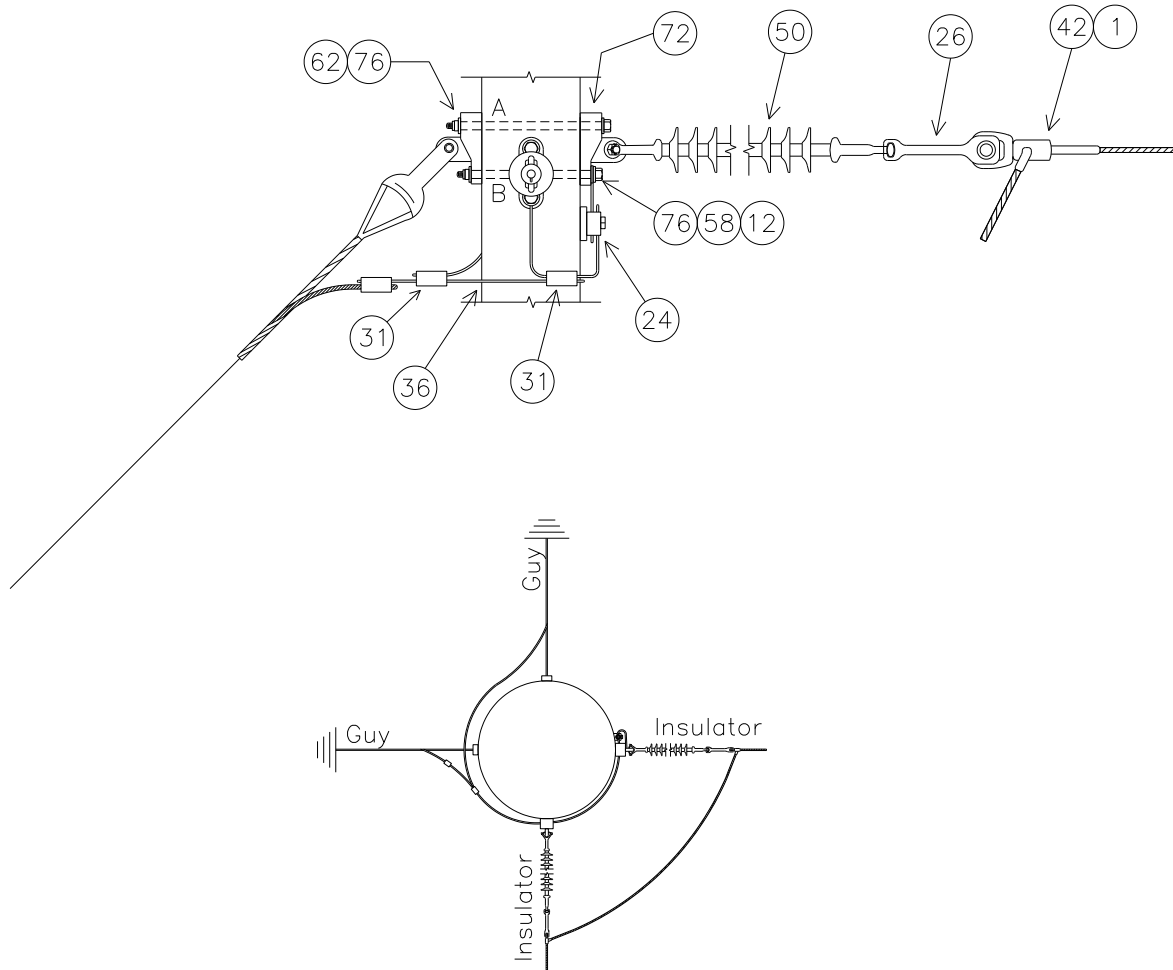
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FFB3

**INSULATOR FOR SPUN CONCRETE POLES**

**DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 138KV, 3-PHASE**

CONDUCTOR OPTIONS: 954H, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9	25.0	27.0	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2	23.4	25.3	27.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FFB3 PLATES

## ISDD9FFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFB3\*954H

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	6	VOID FILLER COMPOUND FOR HIGH TEMPERATURE DEADEND ASSEMBLY
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFB3\*1590

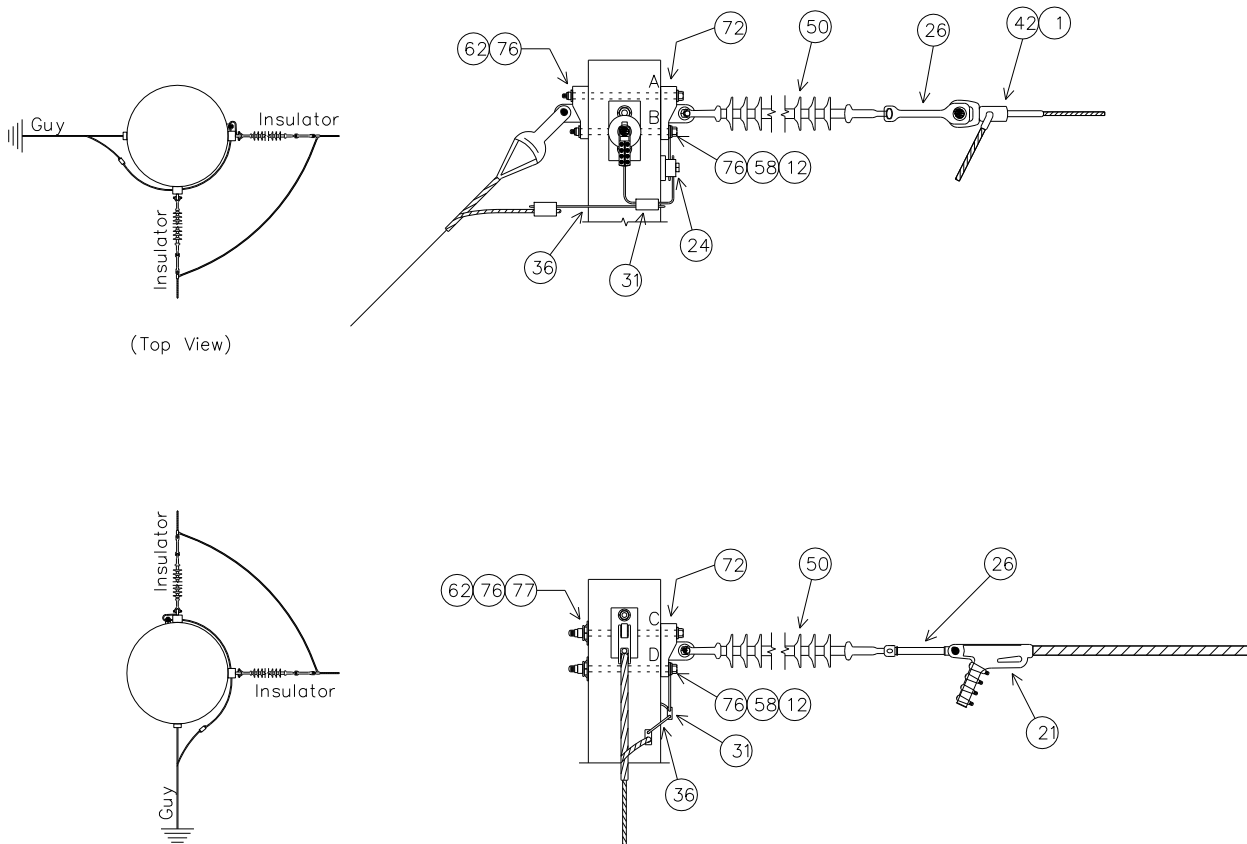
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	4	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FSB1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 138KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	22.9
LOWER BOLT 'B' LENGTH (INCHES)	21.2

## SLACK TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	21.5
LOWER BOLT 'B' LENGTH (INCHES)	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.



# ISDD9FSB1 PLATES

## ISDD9FSB1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H.D.G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" x 4"

## ISDD9FSB1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (0.7" - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSB1\*1590

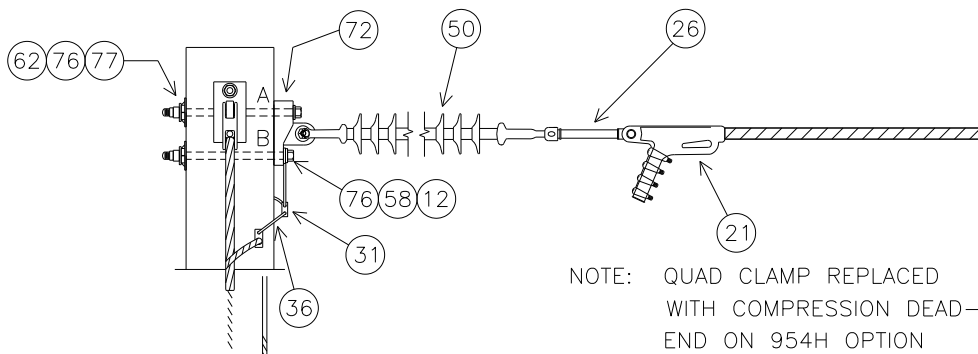
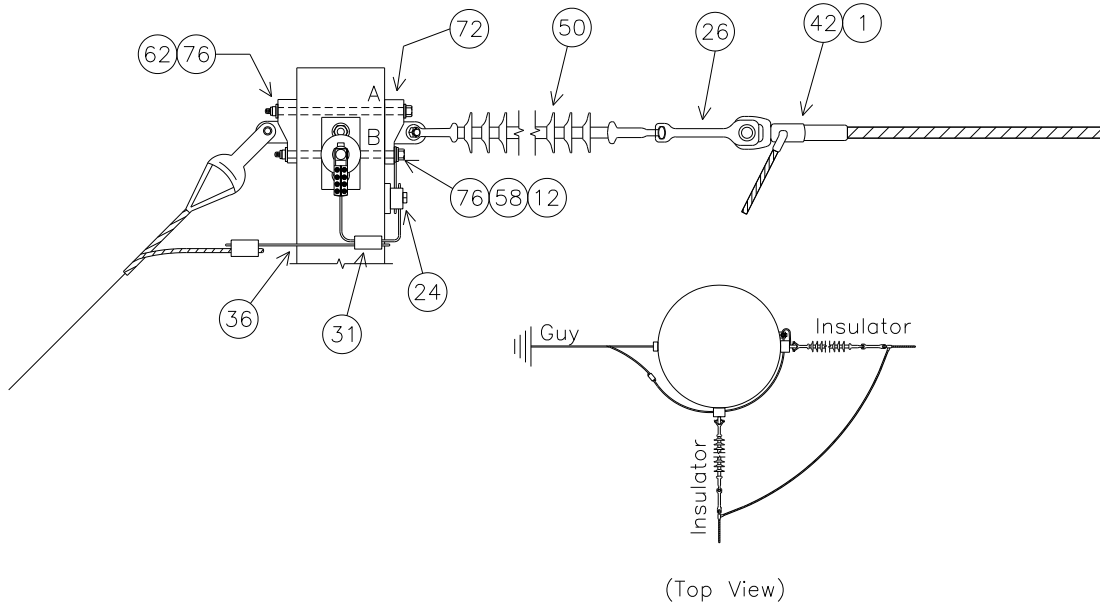
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18" - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FSB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954H, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2

## SLACK TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	23.7	25.6	27.6
LOWER BOLT 'B' LENGTH (INCHES)	22.9	24.9	26.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FSB3 PLATES

## ISDD9FSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	9	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSB3\*954H

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 002	6	HIGH TEMPERATURE VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
42	DEACB 016	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSB3\*1590

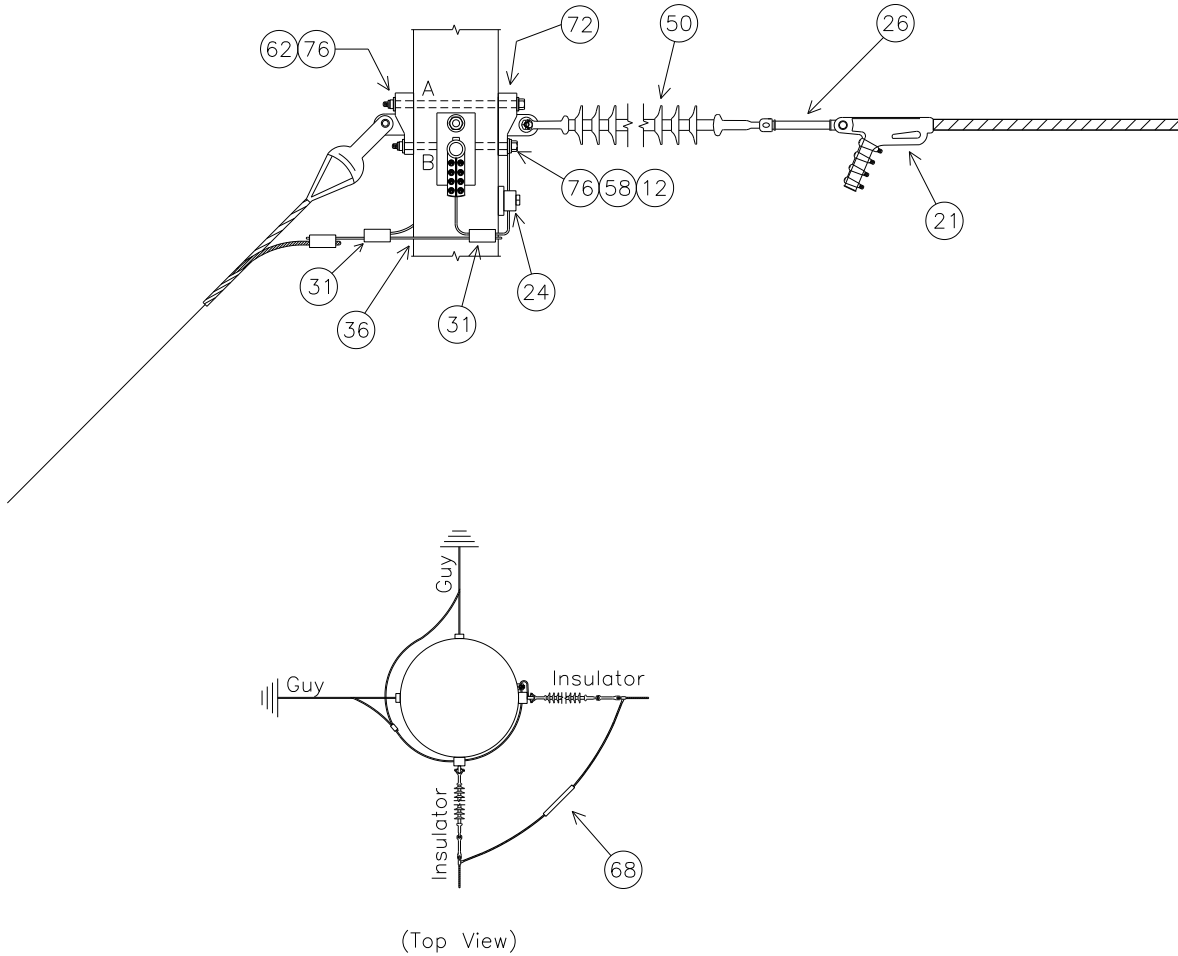
NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9SSB3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.9	26.8	28.7	24.9	26.9	28.8
LOWER BOLT 'B' LENGTH (INCHES)	23.2	25.2	27.1	23.3	25.2	27.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9SSB3 PLATES

## ISDD9SSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	4	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	12	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9SSB3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSB3\*1590

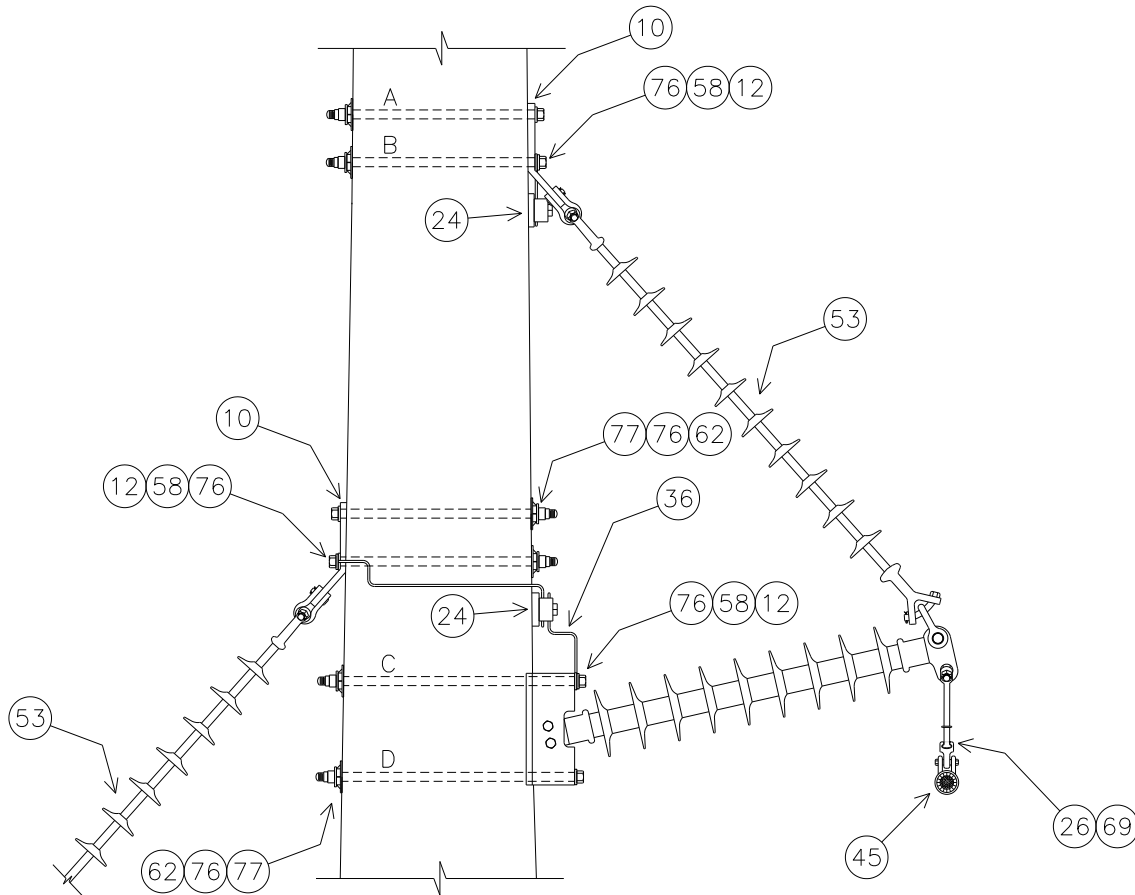
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

# ISSBDB3

## INSULATOR FOR SPUN CONCRETE POLES

**SINGLE BRACED LINE POST, DELTA CONFIGURATION, 138KV, 3-PHASE**

**CONDUCTOR OPTIONS: 954A, 954S, 1590**



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## VERTICLE CONFIGURATION

	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
STRUCTURE	‘A’	‘B’	‘C’	‘D’
TOP	21.0	21.4	27.9	27.9
MIDDLE	21.9	22.3	28.8	28.7
BOTTOM	22.8	23.1	29.6	29.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBDB3 PLATES

## ISSBDB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTL001	3	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	3	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	4	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	18	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBDB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBDB3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBDB3\*1590

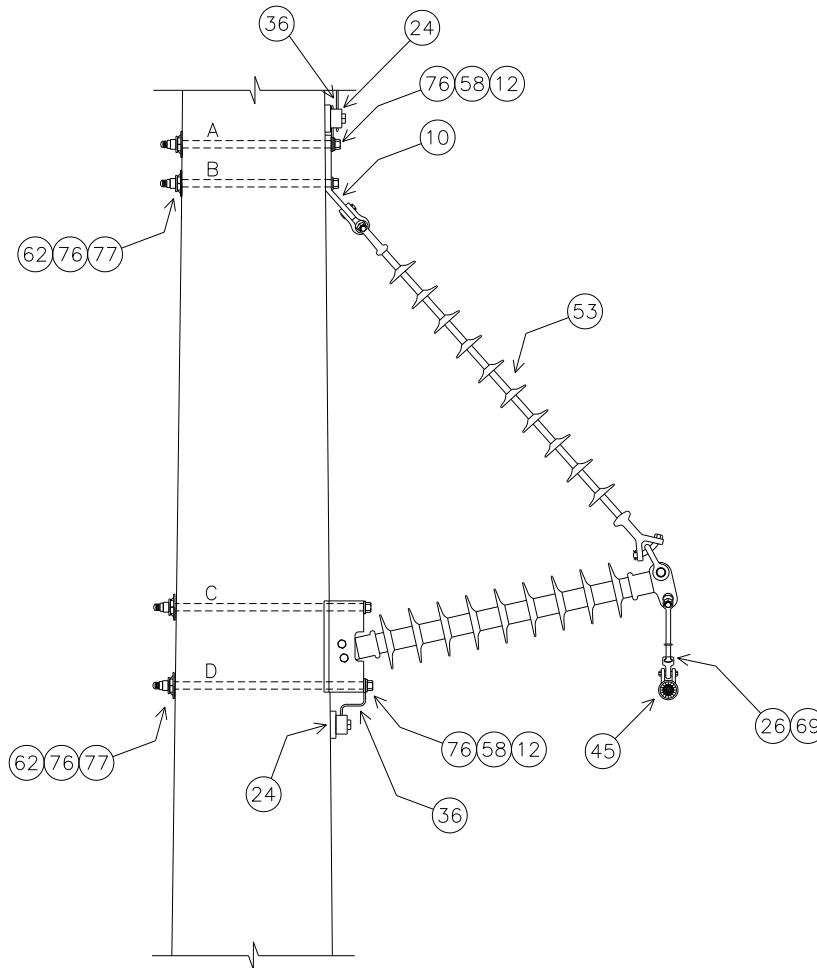
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSBNGB3

## INSULATOR FOR SPUN CONCRETE POLES

**SINGLE BRACED LINE POST, NO GUY, 138KV, 3-PHASE**

**CONDUCTOR OPTIONS: 954A, 954S, 1590**



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## VERTICLE CONFIGURATION

	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
STRUCTURE	'A'	'B'	'C'	'D'
TOP	20.6	20.4	26.9	27.4
MIDDLE	22.3	22.2	28.7	29.1
BOTTOM	24.0	23.9	30.4	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER



# ISSBNGB3 PLATES

## ISSBNGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP001	3	BRACKET, 46° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 012	3	138KV SILICONE BRACED LINE POST INSULATOR, 12° RISE, GAIN BASE, L = 52", H = 66", 12" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBNGB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBNGB3\*954S

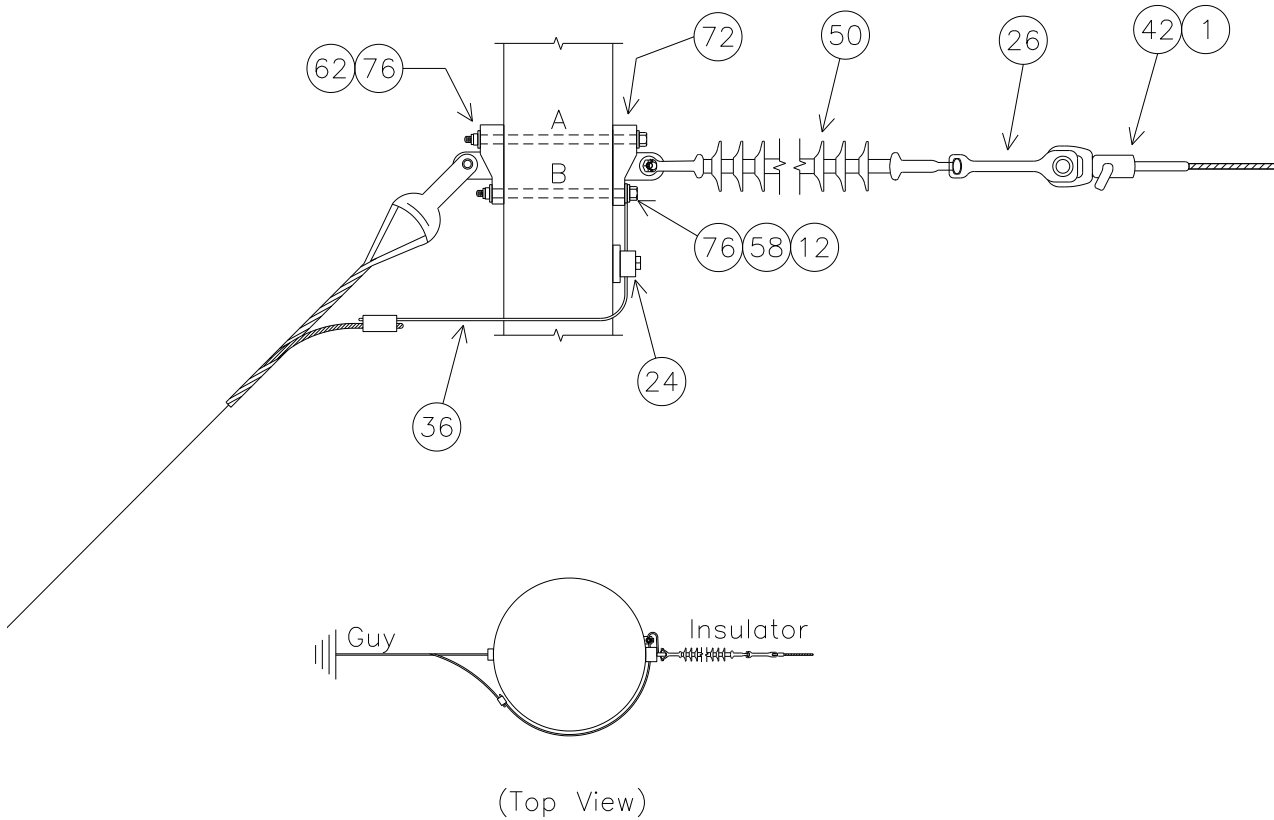
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBNGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSDFB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END FULL TENSION, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFB3 PLATES

## ISSDFB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#

## ISSDFB3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDFB3\*1590

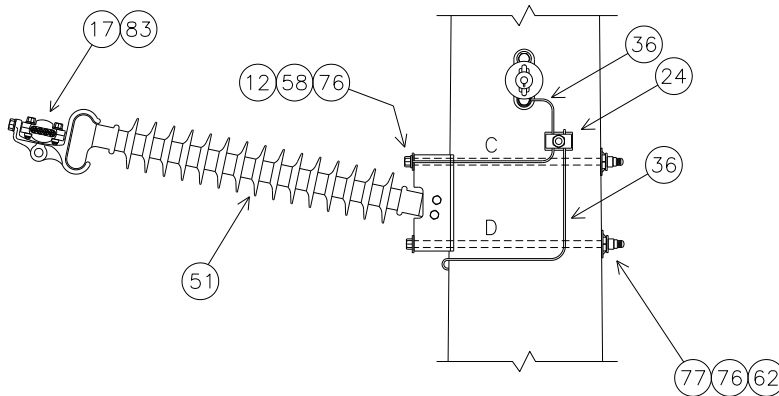
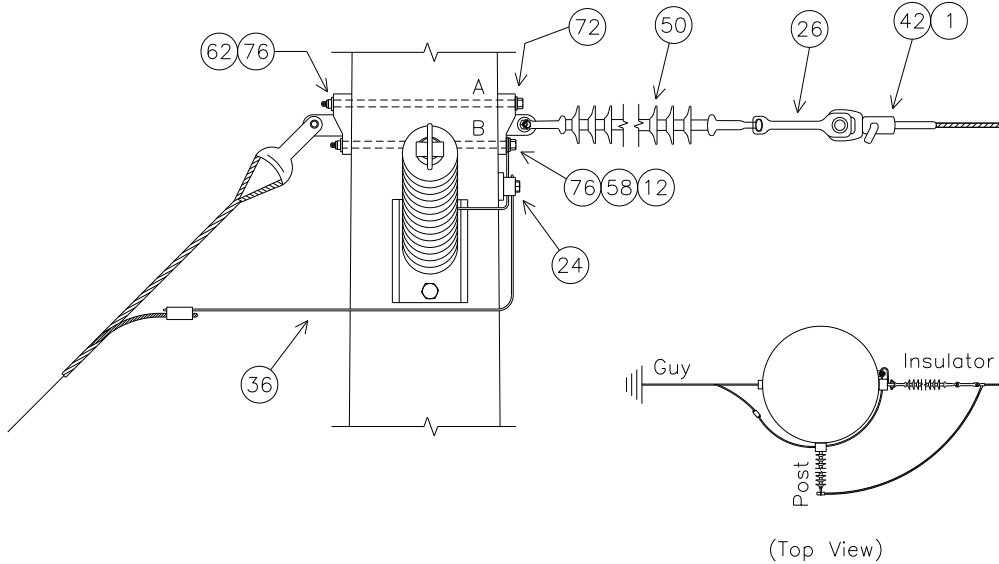
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISSDFP1B3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END, FULL TENSION TO POST, TYPE 1, 138KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	25.0	26.9	28.9
BOLT 'B' LENGTH (INCHES)	23.3	25.3	27.2
BOLT 'C' LENGTH (INCHES)	27.8	29.7	31.7
BOLT 'D' LENGTH (INCHES)	28.3	30.2	32.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFP1B3 PLATES

## ISSDFP1B3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	3	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
51	INSHP 030	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSDFP1B3\*954S & H

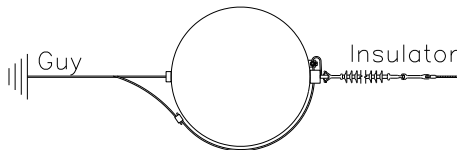
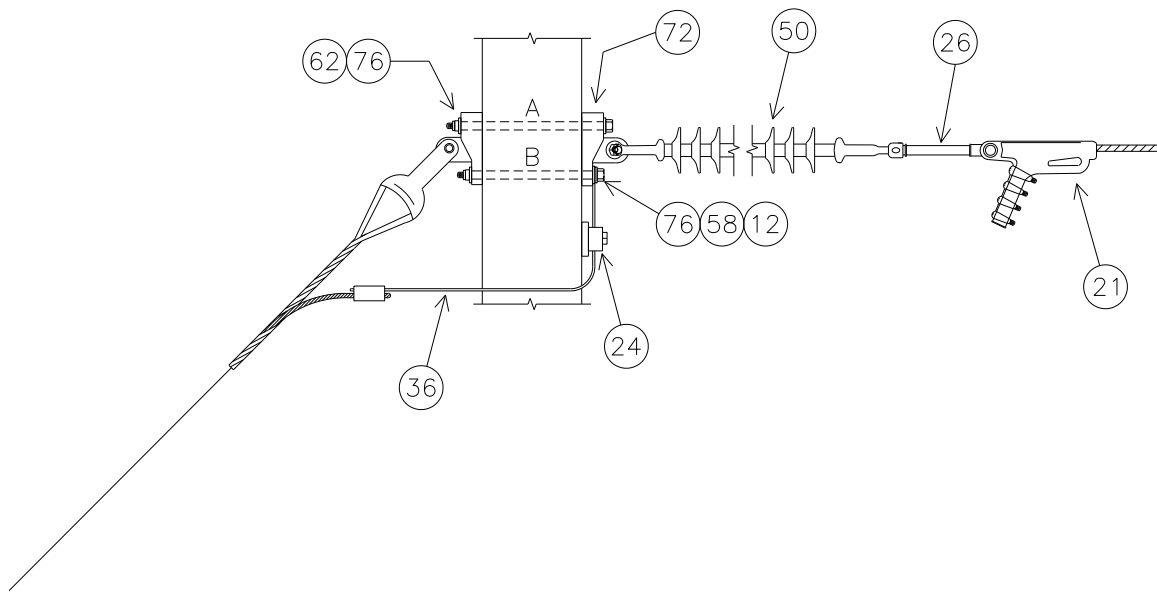
NO.	ITEM ID	QTY	DESCRIPTION
1 (954S)	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
1 (954H)	ADCVF 002	3	VOID FILLER COMPOUND FOR HIGH TEMPERATURE DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 005	3	CLAMP, ALUMINUM, FOR 954ASCR
42 (954S)	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
42 (954H)	DEACB 016	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSS, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ACSR, 100"

## ISSDFP1B3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
17	CLACT 006	3	CLAMP, ALUMINUM, FOR 1590ASCR
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ACSR, 100"

# ISSDSB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END, SLACK TENSION, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.9	26.8	28.7
LOWER BOLT 'B' LENGTH (INCHES)	23.2	25.2	27.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDSB3 PLATES

## ISSDSB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 003	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 89", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDSB3\*954A, 954S

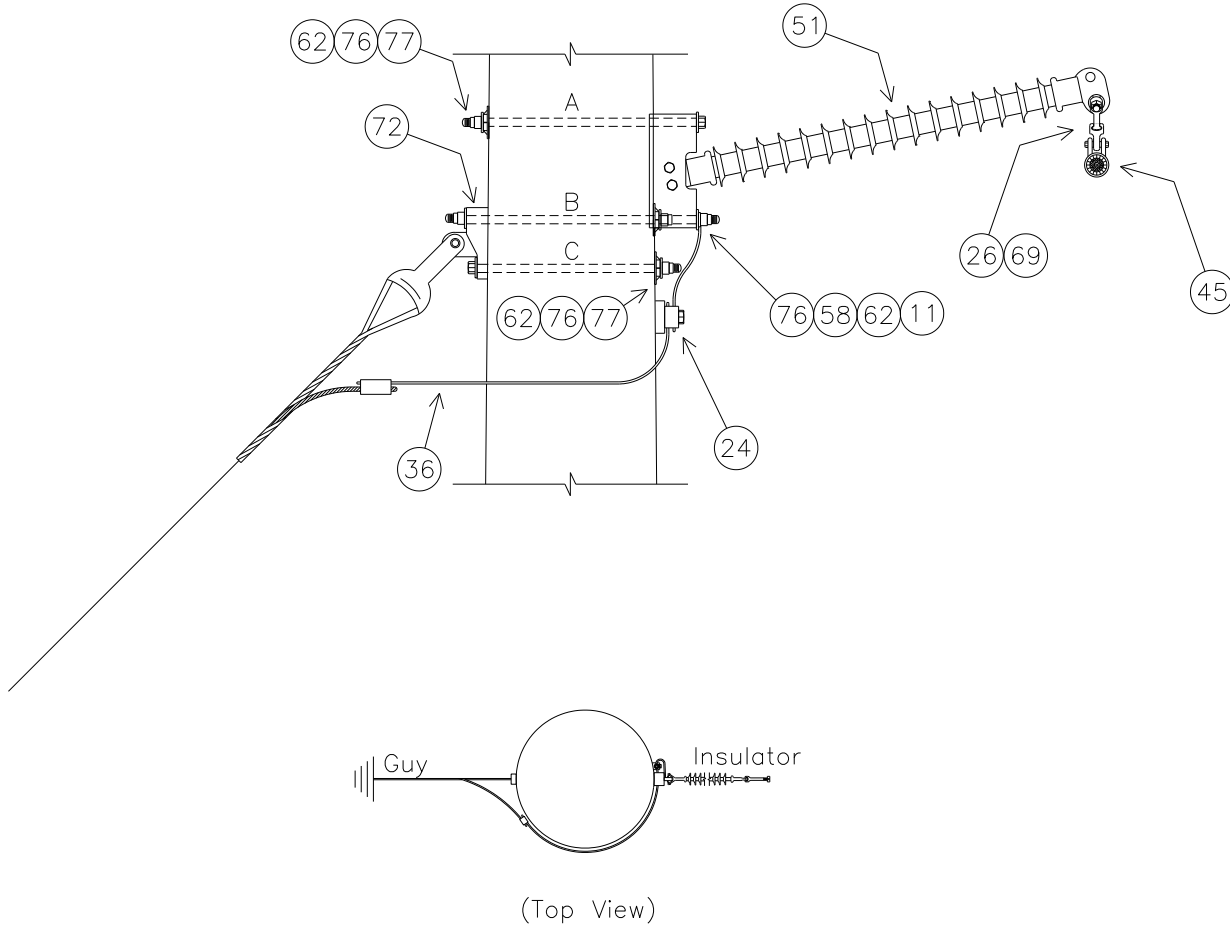
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## ISSDSB3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# ISSPBGB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, BOTTOM GUYED, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.7	30.4
DA BOLT 'B' LENGTH (INCHES)	28.8	30.5	32.2
BOLT 'C' LENGTH (INCHES)	22.2	23.9	25.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER



# ISSPBGB3 PLATES

## ISSPBGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	1	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 038	1	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	21	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	9	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPBGB3\*954S

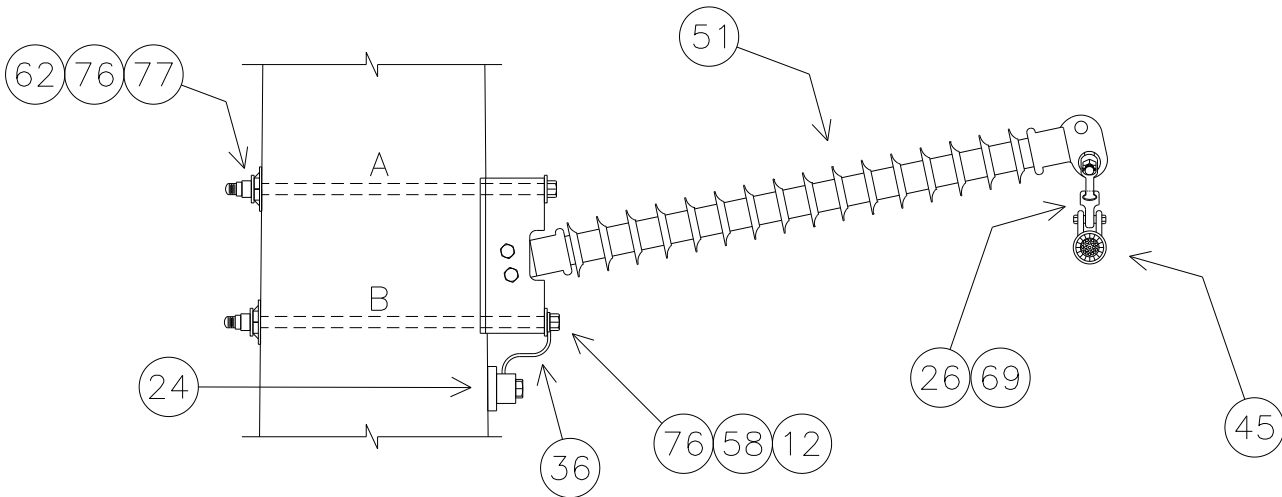
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSPBGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSPNB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE POST, NO GUY, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	27.0	28.7	30.4
BOLT 'B' LENGTH (INCHES)	27.4	29.2	30.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISSPNB3 PLATES

## ISSPNB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
51	INSHP 023	3	HORIZONTAL POST INSULATOR, 138KV, L = 54", GAIN BASE, 12" RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSPNB3\*954A

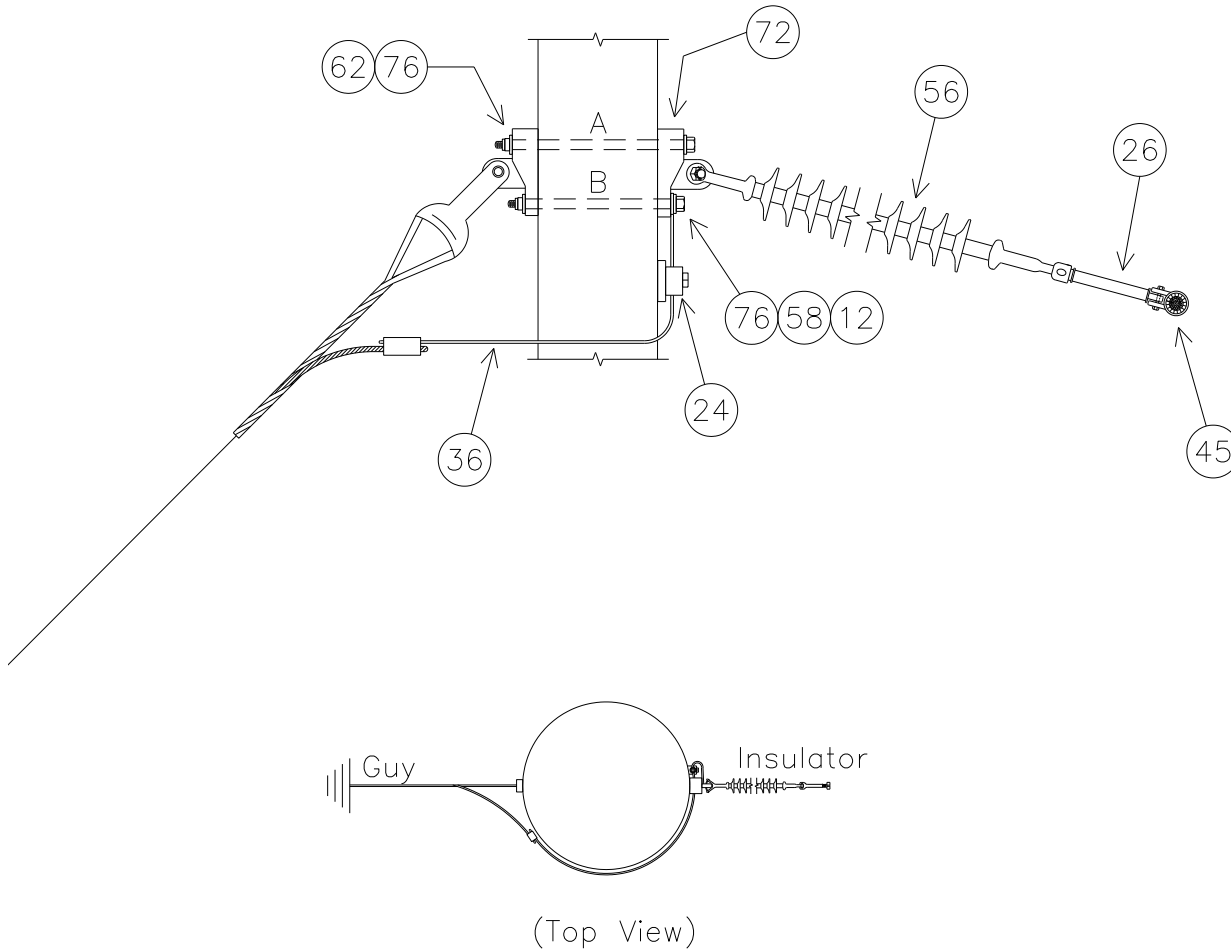
45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

## ISSPNB3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.

# ISSSSGB3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE SUSPENSION, SINGLE GRIP, GUYED, 138KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.7	26.6	28.5
LOWER BOLT 'B' LENGTH (INCHES)	23.0	24.9	26.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSSSGB3 PLATES

## ISSSSGGB3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	3	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 008	3	SUSPENSION SILICON INSULATOR, Y-BALL COUPLING, 138KV, L = 66", CLASS 52-3/5
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, H.D.G., 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSSGGB3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSSSGGB3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSSSGGB3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# 230kV INSULATOR PLATE INDEX

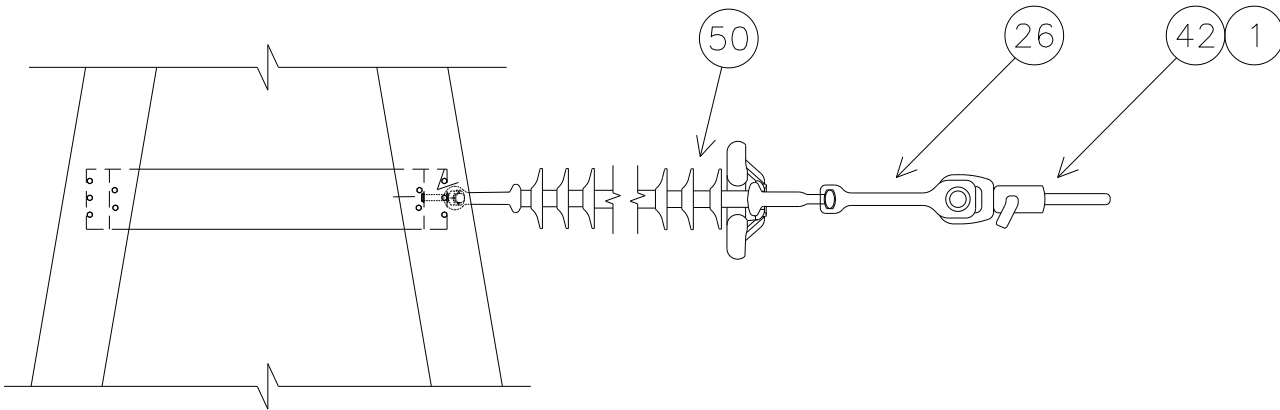
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# IASDFC3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES

SINGLE DEAD-END, FULL TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



## IASDFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN=7/8", H.D.G..
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11

## IASDFC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE

## IASDFC3\*1590

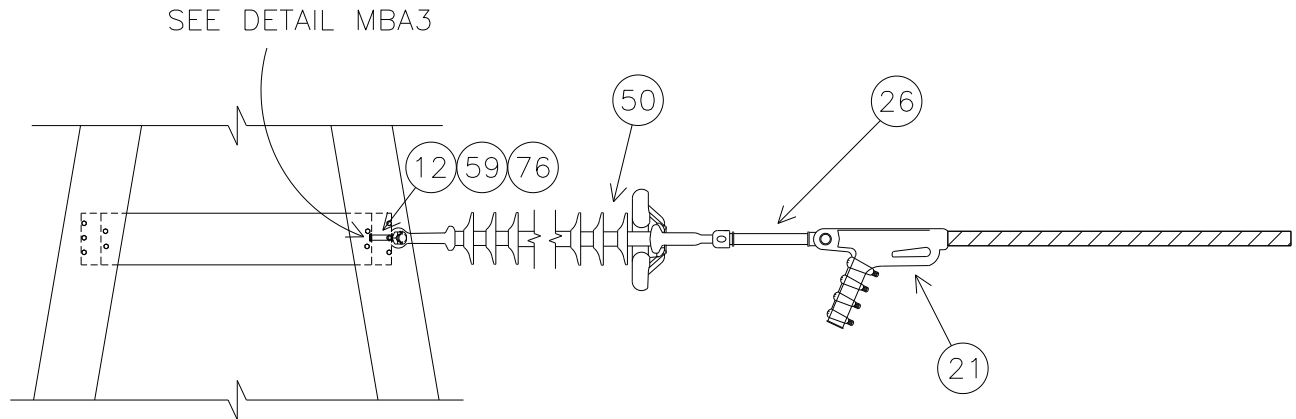
NO.	ITEM ID	QTY	DESCRIPTION
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE



# IASDSC3

INSULATOR FOR SUBSTATION A-FRAME/LATTICE STRUCTURES  
SINGLE DEAD-END, SLACK TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 556S, 954A, 954S, 1590



## IASDSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	3	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
59	NUTUY 002	3	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	6	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## IASDSC3\*556S, 954A, 954S

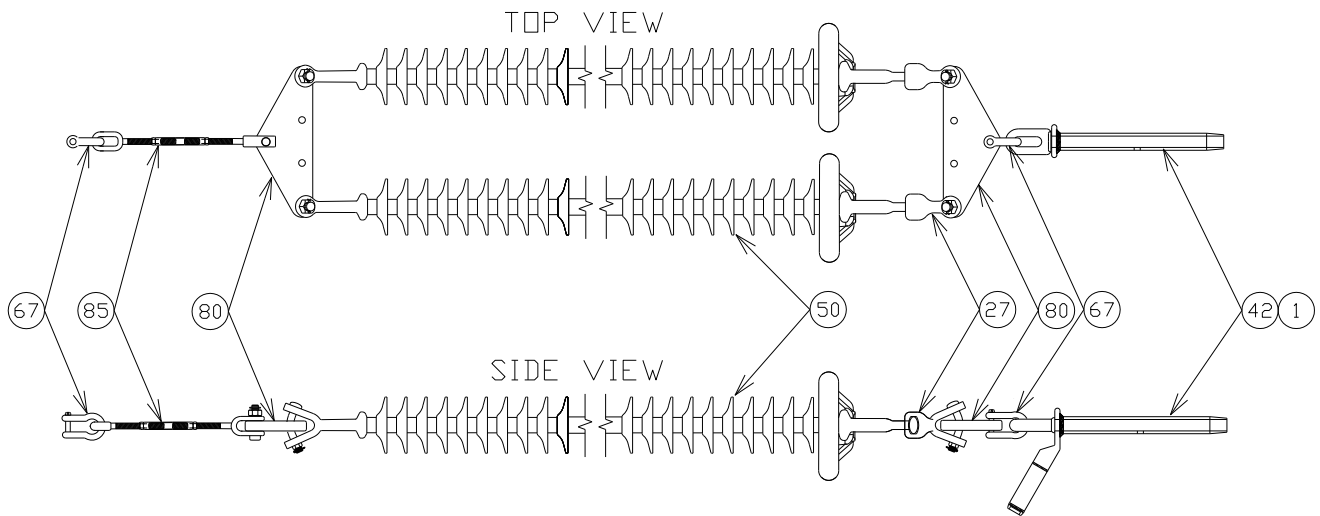
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## IASDSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# IELDFC1

INSULATOR EXTENSION FOR LATTICE TOWERS  
 DOUBLE INSULATOR, FULL TENSION, 230KV, 1-PHASE  
 CONDUCTOR OPTIONS: 954S, 1590



## IELDFC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLIES, 1 LB TUBE
27	CLESO 005	2	CLEVIS, SOCKET - Y, 50,000 LB, CLASS 52-8/11.
50	INSD 002	2	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000#, L=111", 230KV NC
67	SHAAN 004	2	SHACKLE, ANCHOR, 3/4", 60,000#, GALV.
80	YOKPL 005	2	YOKE PLATE, SUSPENSION, TRIANGULAR STRAIN, 18" INSULATOR SPACING, 60000#, GALVANIZED, 15/16" HOLE DIA
85	HDWTU 001	1	TURNBUCKLE, CLEVIS-EYE, 12" TAKEUP, 76,000#

## IELDFC1\*954S

42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE, ACSR ONLY
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## IELDFC1\*1590

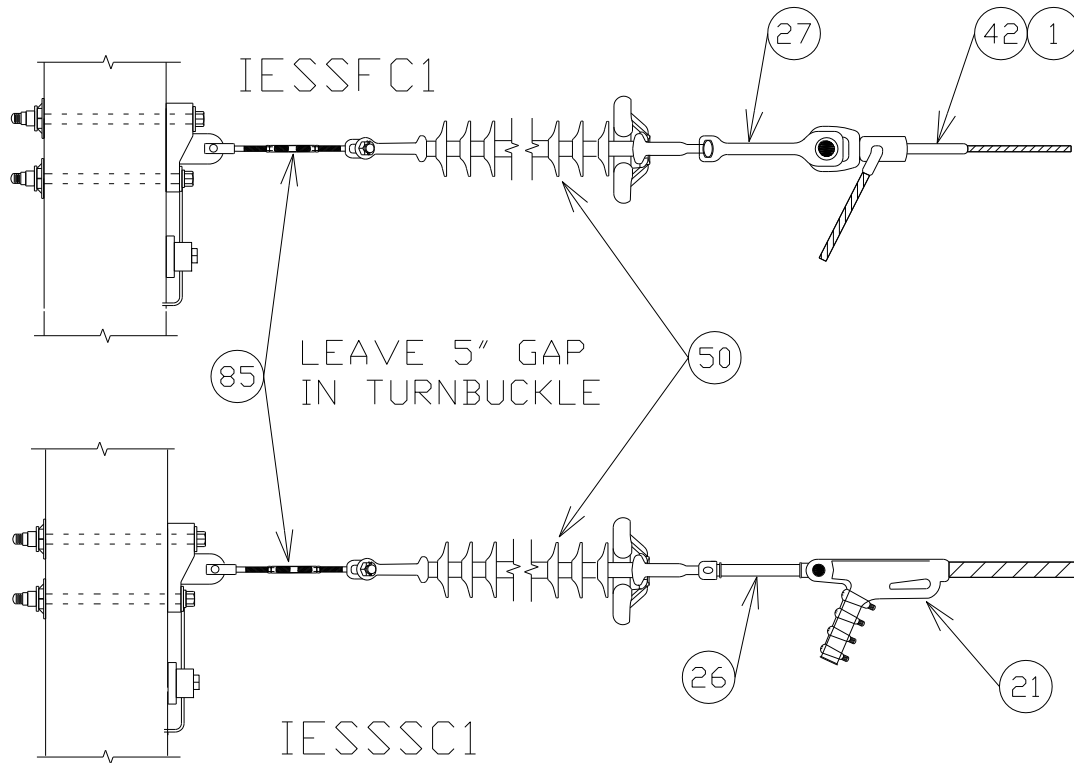
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE, ACSR ONLY
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# IESSFC1 & IESSSC1

INSULATOR EXTENSION FOR SPUN CONCRETE POLES

SINGLE INSULATOR, FULL/S�ACK TENSION, 230KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



## IESSFC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLIES, 1 LB TUBE
27	CLESO 005	1	CLEVIS, SOCKET - Y, 50,000 LB, CLASS 52-8/11.
50	INSDE 002	1	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000#, L=111", 230KV NC
85	HDWTU 001	1	TURNBUCKLE, CLEVIS-EYE, 12" TAKEUP, 76,000#

## IESSFC1\*954S

42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE, ACSR ONLY
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## IESSFC1\*1590

42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE, ACSR ONLY
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## IESSSC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H.D.G.
50	INSDE 002	1	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000#, L=111", 230KV NC
85	HDWTU 001	1	TURNBUCKLE, CLEVIS-EYE, 12" TAKEUP, 76,000#

## IESSSC1\*954S

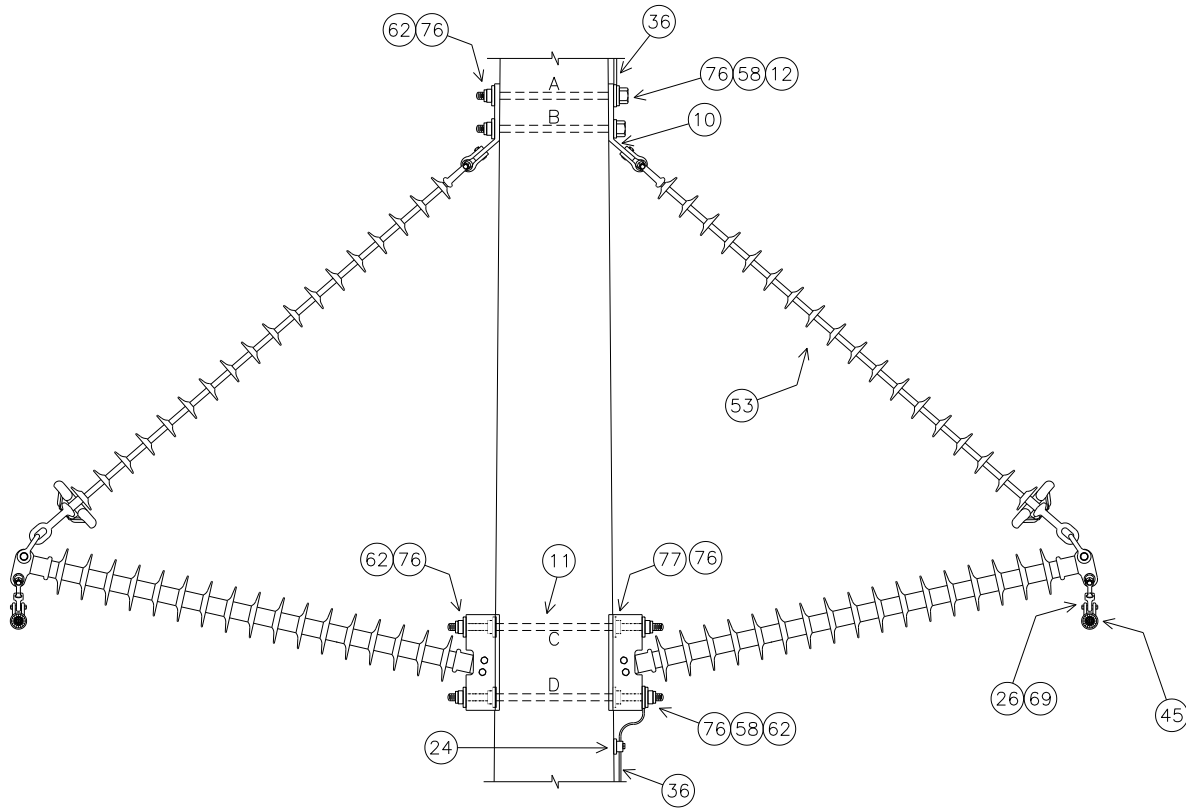
27	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39" = 336-1272 ACSR, 397-1431 AAC) 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
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## IESSSC1\*1590

27	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52" = 1033-1510 ACSR, 1100-1700 AAC) 35,000# STRENGTH, GAP = 2", PIN = 3/4"
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# ISDBC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**DOUBLE BRACED LINE POST, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS  
 MBA2 FOR DOUBLE ARMING BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTHS (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.1	20.9	34.5	35.0
MIDDLE	23.2	23.1	36.7	37.2
BOTTOM	25.4	25.2	38.8	39.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDBC3 PLATES

## ISDBC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	6	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 039	2	DOUBLE ARMING BOLT, 7/8" X 36", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 040	2	DOUBLE ARMING BOLT, 7/8" X 38", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 043	2	DOUBLE ARMING BOLT, 7/8" X 40", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	6	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	6	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	6	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	36	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDBC3\*954A

45	GRISA 003	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISDBC3\*954S

45	GRISA 004	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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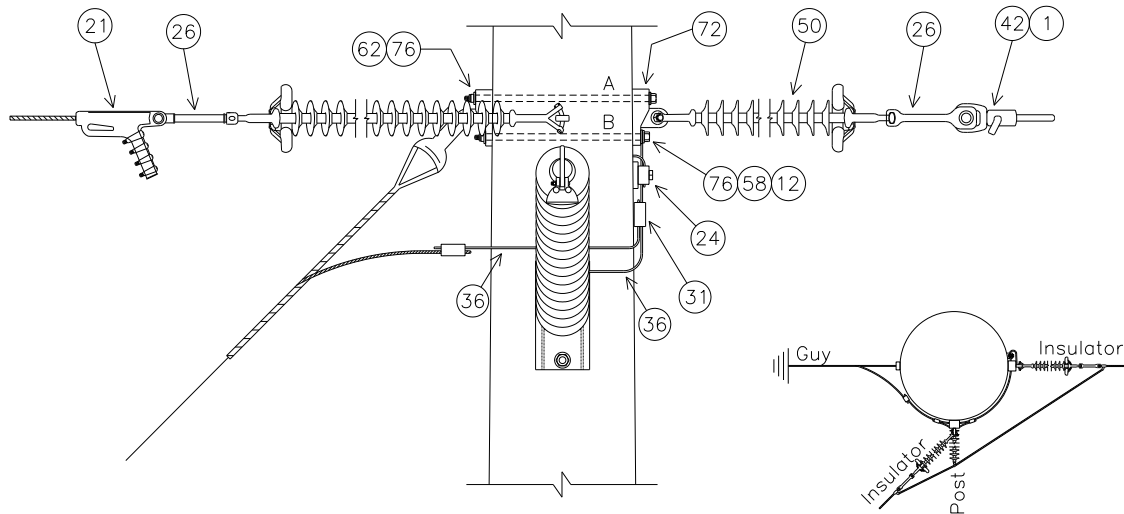
## ISDBC3\*1590

45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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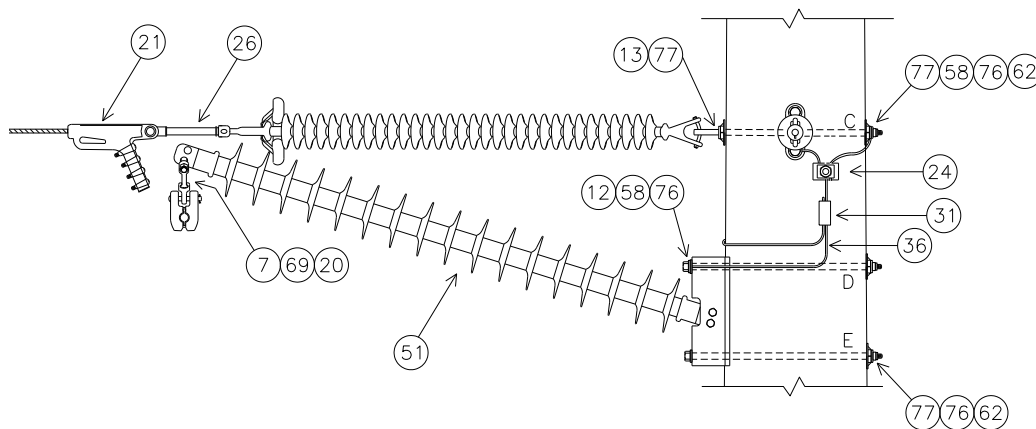
# ISDD3FSC3

## INSULATOR FOR SPUN CONCRETE POLES

**DOUBLE DEADEND 135°, FULL TENSION TO SLACK TENSION, 230KV, 3-PHASE**

**CONDUCTOR OPTIONS: 954S, 1590**

(Top View)



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	TOP	MIDDLE	BOTTOM
BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5
EYEBOLT 'C' LENGTH (INCHES)	22.7	25.1	27.4
BOLT 'D' LENGTH (INCHES)	28.5	30.9	33.3
BOLT 'E' LENGTH (INCHES)	29.1	31.4	33.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD3FSC3 PLATES

## ISDD3FSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 022	1	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 023	1	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 024	1	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	21 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSD 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST SILICONE INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	9	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	15	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE FLAT WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED

## ISDD3FSC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD3FSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

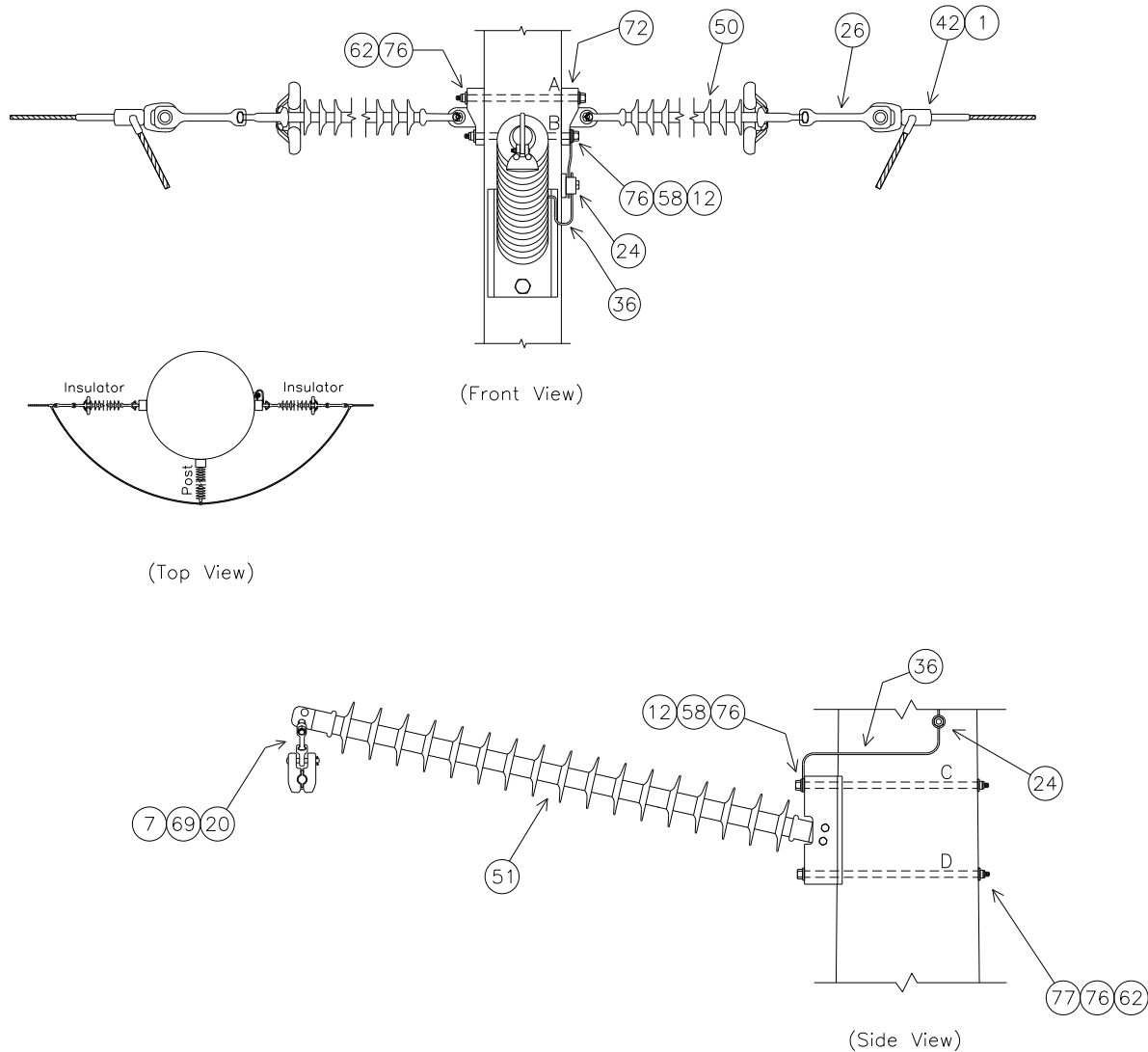
Note: use 7/8" bolts for Post Insulator and Slack Tension Insulator.

## ISDD8FFC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 180°, FULL TENSION TO FULL TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5

POST INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'C' LENGTH (INCHES)	28.5	30.8	33.2
LOWER BOLT 'D' LENGTH (INCHES)	29.0	31.3	33.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER



# ISDD8FFC3 PLATES

## ISDD8FFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
7	BALFI 007	3	BALL Y-CLEVIS, CLASS 52-3/5
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET EYE, CLASS 52-3/5
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISDD8FFC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 007	3	CUSHION GRIP SUSPENSION CLAMP FOR 954 ACSR
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD8FFC3\*1590

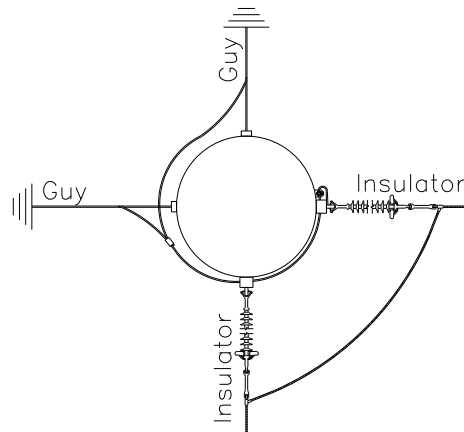
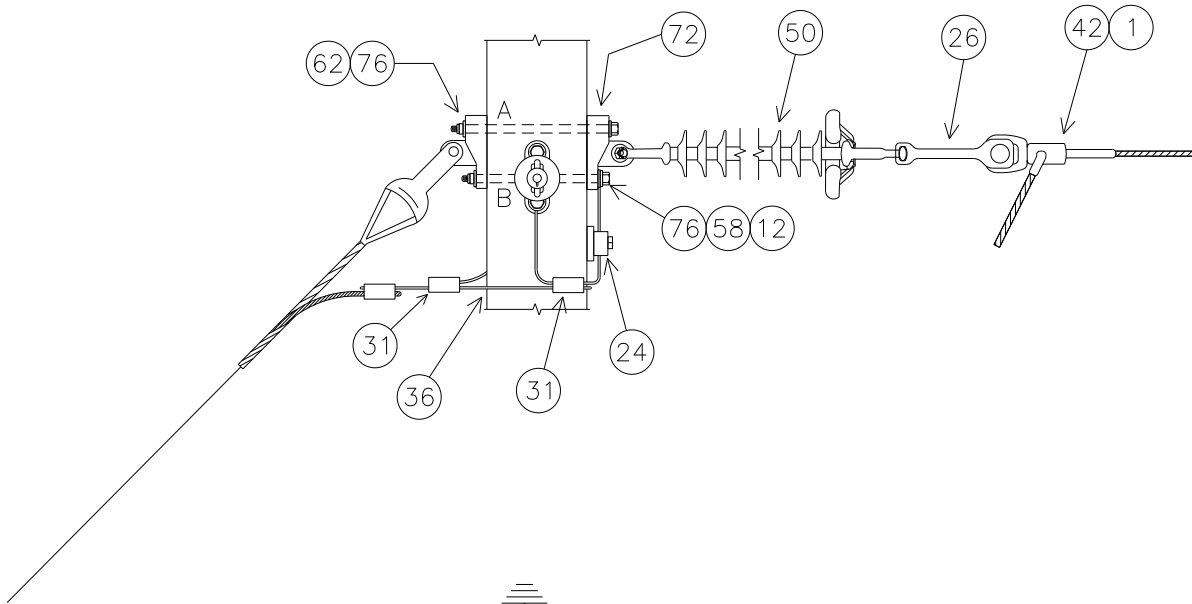
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
20	CLAJU 008	3	CUSHION GRIP SUSPENSION CLAMP FOR 1590 ACSR
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FFC1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 230KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	'A'	'B'
UPPER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.2
LOWER TEE MINIMUM BOLT LENGTH (INCHES)	22.9	21.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER.

# ISDD9FFC1 PLATES

## ISDD9FFC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	2	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	2	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFC1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	2	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	2	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	4	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	8	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFC1\*1590

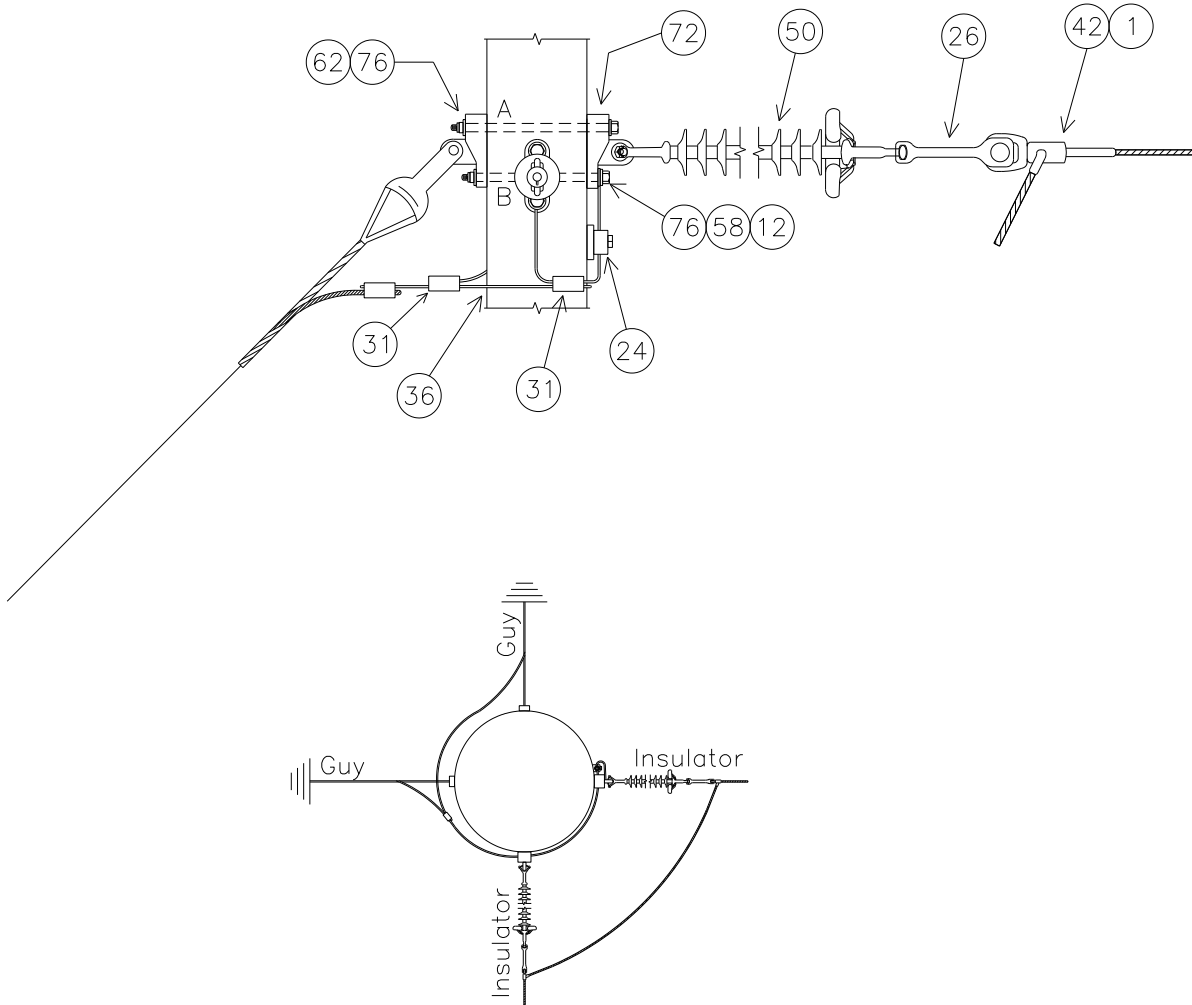
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	4	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	8	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFC3

## INSULATOR FOR SPUN CONCRETE POLES

### DOUBLE DEAD-END 90°, FULL TENSION TO FULL TENSION, 230KV, 3-PHASE

**CONDUCTOR OPTIONS: 954S, 1590**



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

	UPPER TEE			LOWER TEE		
SUBSTRUCTURE	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1	25.4	27.8	30.2
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5	23.8	26.2	28.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FFC3 PLATES

## ISDD9FFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	6	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	6	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

## ISDD9FFC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	6	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FFC3\*1590

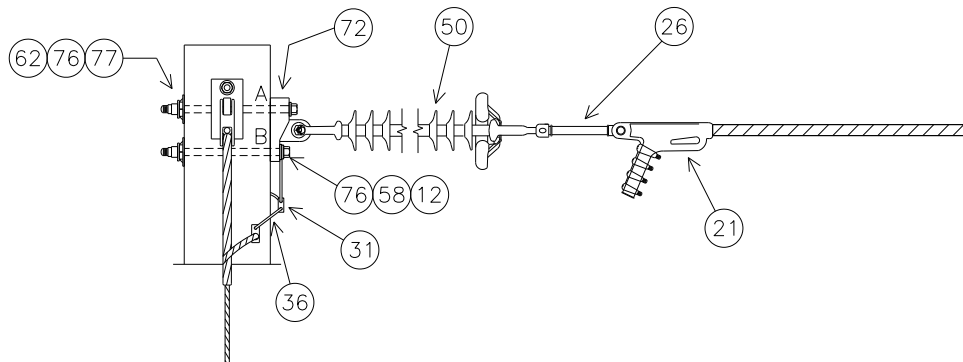
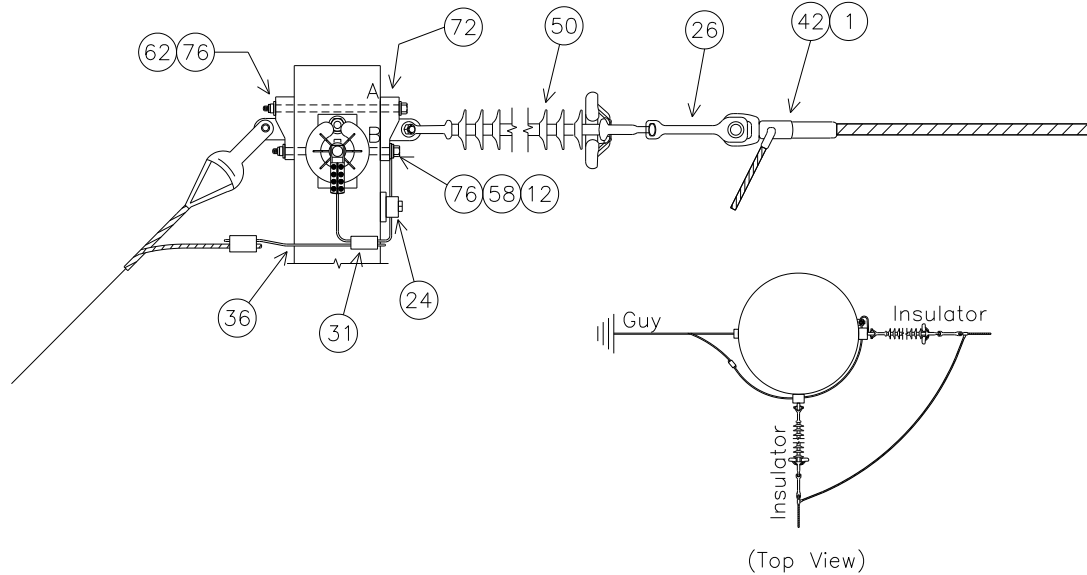
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	2	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	6	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	6	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	12	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	24	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FSC1

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 230KV, 1-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	22.9
LOWER BOLT 'B' LENGTH (INCHES)	21.2

## SLACK TENSION SIDES

SUBSTRUCTURE	Top
UPPER BOLT 'A' LENGTH (INCHES)	21.5
LOWER BOLT 'B' LENGTH (INCHES)	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FSC1 PLATES

## ISDD9FSC1 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	1	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	1	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	1	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	2	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSC1\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	1	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSC1\*1590

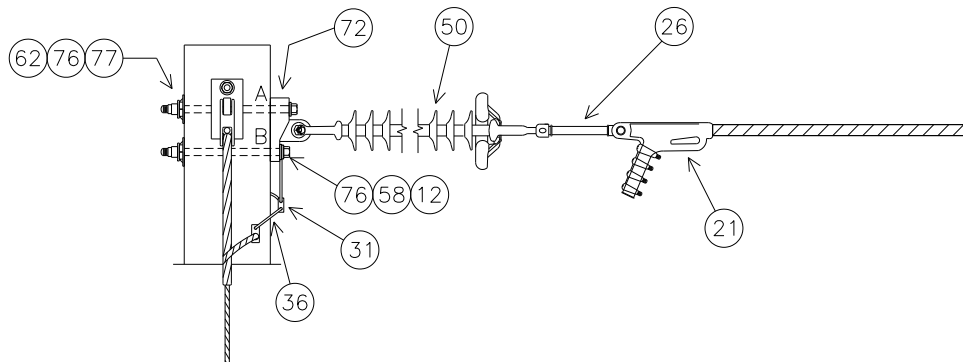
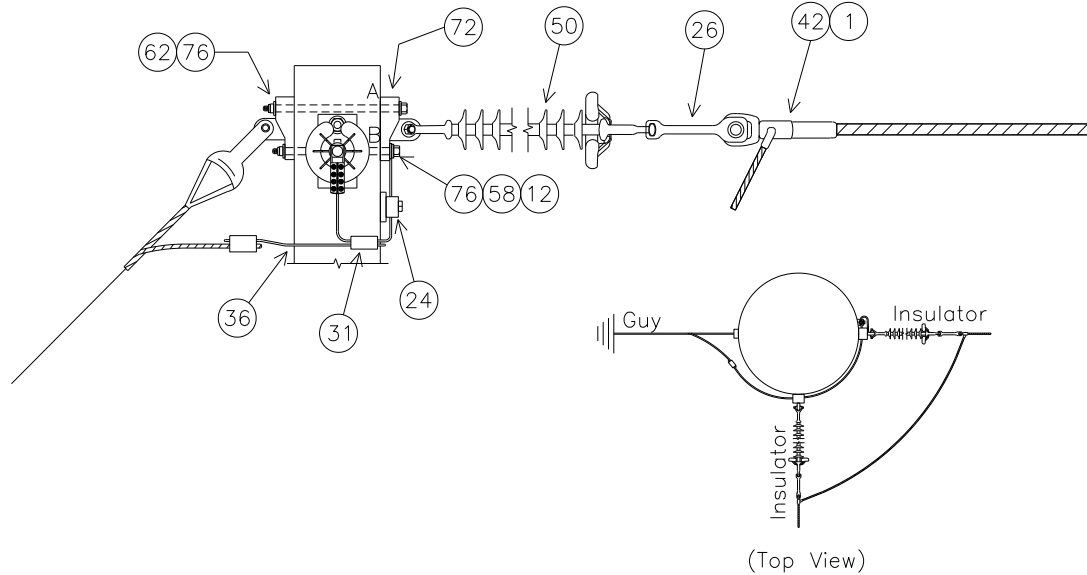
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	1	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	2	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	4	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9FSC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, FULL TENSION TO SLACK TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

## FULL TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5

## SLACK TENSION SIDES

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	24.1	26.5	28.9
LOWER BOLT 'B' LENGTH (INCHES)	23.4	25.8	28.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9FSC3 PLATES



## ISDD9FSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	3	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	9	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

## ISDD9FSC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9FSC3\*1590

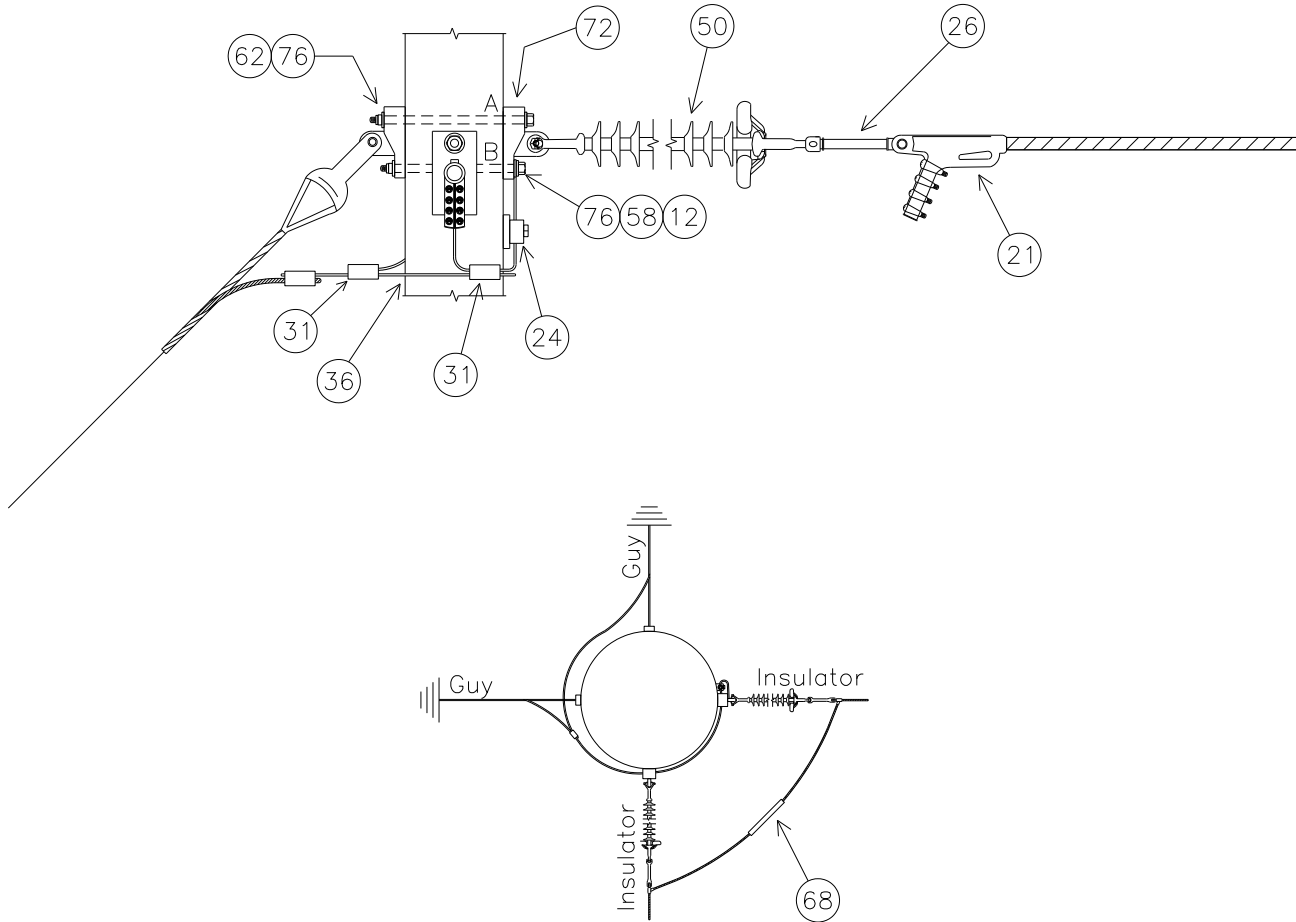
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISDD9SSC3

INSULATOR FOR SPUN CONCRETE POLES

DOUBLE DEAD-END 90°, SLACK TENSION TO SLACK TENSION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	UPPER TEE			LOWER TEE		
	Top	Mid	Bottom	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.3	27.7	30.0	25.3	27.7	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.6	26.0	28.4	23.7	26.1	28.4

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISDD9SSC3 PLATES

## ISDD9SSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	4	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	6	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
31	CNNCP 016	6	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	18 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	12	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISDD9SSC3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 006	3	ALUM. SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSC3\*954S

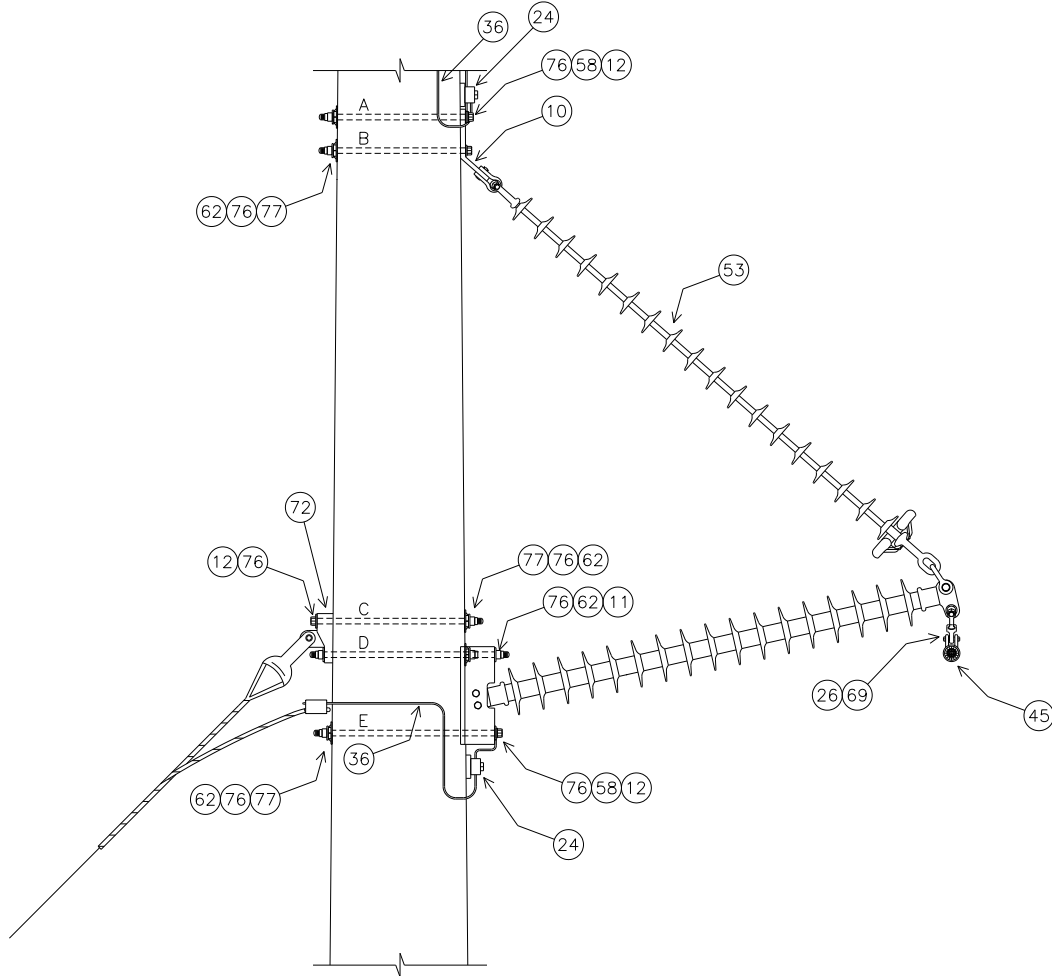
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

## ISDD9SSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	6	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
68	SLEAJ 007	3	ALUM. SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY

# ISSBBGC3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE BRACED LINE POST BOTTOM GUY, 230KV, 3-PHASE  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)				
	'A'	'B'	'C'	'D'	'E'
TOP	21.0	20.9	23.6	28.2	28.3
MIDDLE	23.2	23.0	25.8	30.3	30.5
BOTTOM	25.3	25.2	28.0	32.5	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBBGC3 PLATES

## ISSBBGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
11	BOLDA 036	1	DOUBLE ARMING BOLT, 7/8" X 30", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 037	1	DOUBLE ARMING BOLT, 7/8" X 32", WITH 4 SQUARE NUTS ATTACHED
11	BOLDA 038	1	DOUBLE ARMING BOLT, 7/8" X 34", WITH 4 SQUARE NUTS ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	3	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	3	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	1	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	18	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	33	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	15	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBBGC3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBBGC3\*954S

45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBBGC3\*1590

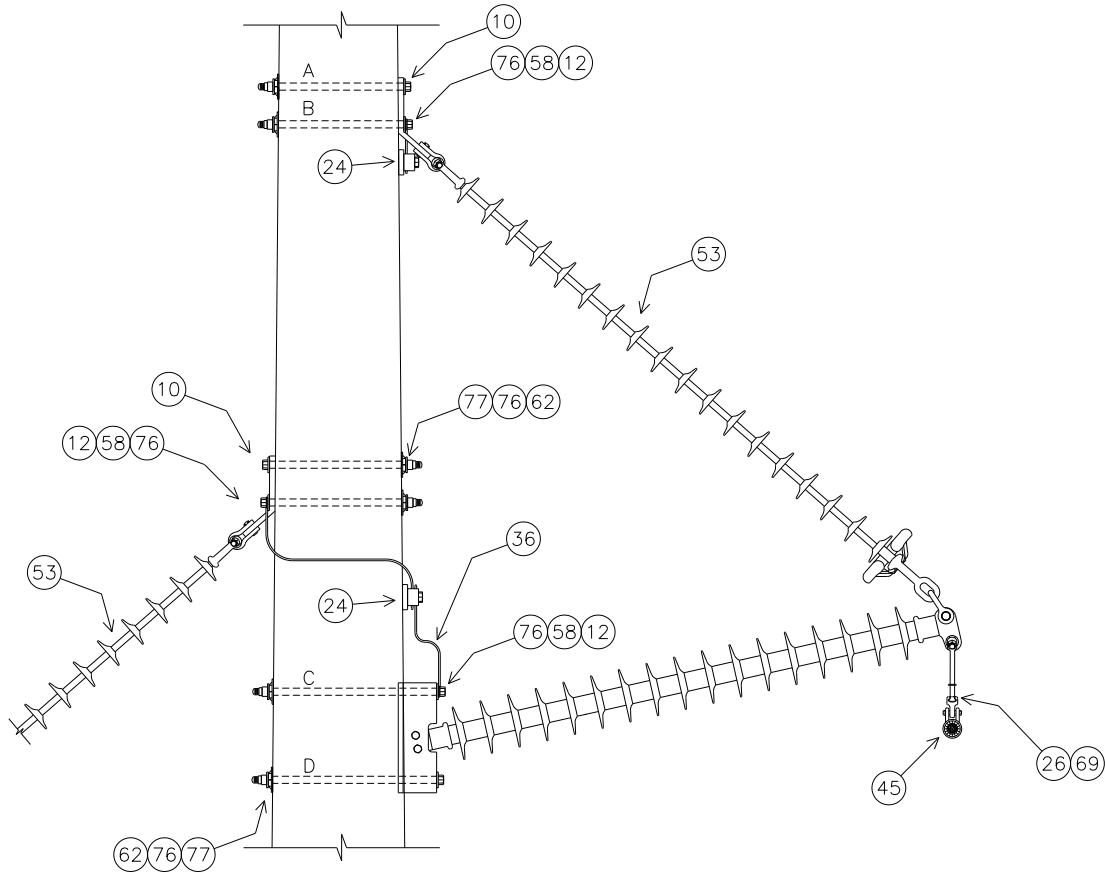
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSBDC3

## INSULATOR FOR SPUN CONCRETE POLES

### SINGLE BRACED LINE POST, DELTA CONFIGURATION, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	21.9	22.3	29.3	29.3
MIDDLE	23.0	23.4	30.4	30.4
BOTTOM	24.1	24.4	31.4	31.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBDC3 PLATES

## ISSBDC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 053	4	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	4	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	4	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBDC3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBDC3\*954S

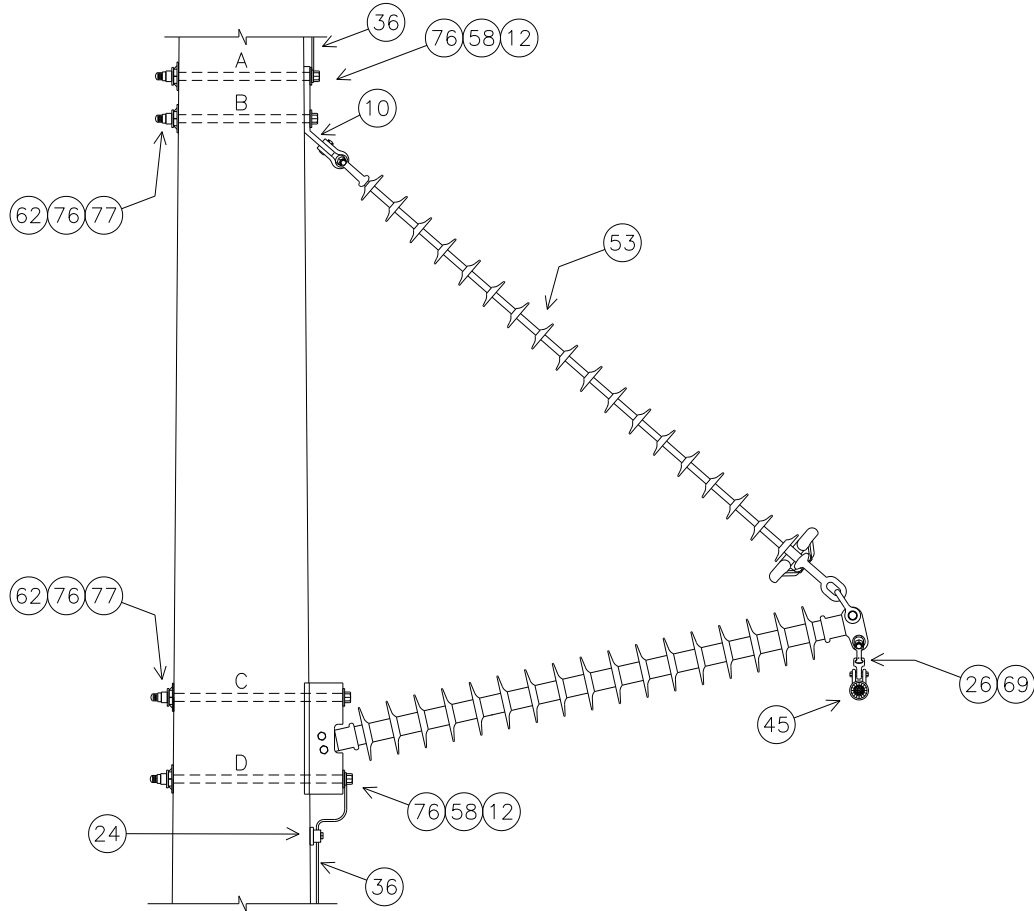
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBDC3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSBNGC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE BRACED LINE POST, NO GUY, 230KV**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
'TOP	21.0	20.9	27.8	28.3
MIDDLE	23.2	23.0	30.0	30.5
BOTTOM	25.3	25.2	32.2	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER



# ISSBNGC3 PLATES

## ISSBNGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	9 FT	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	12	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBNGC3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBNGC3\*954S

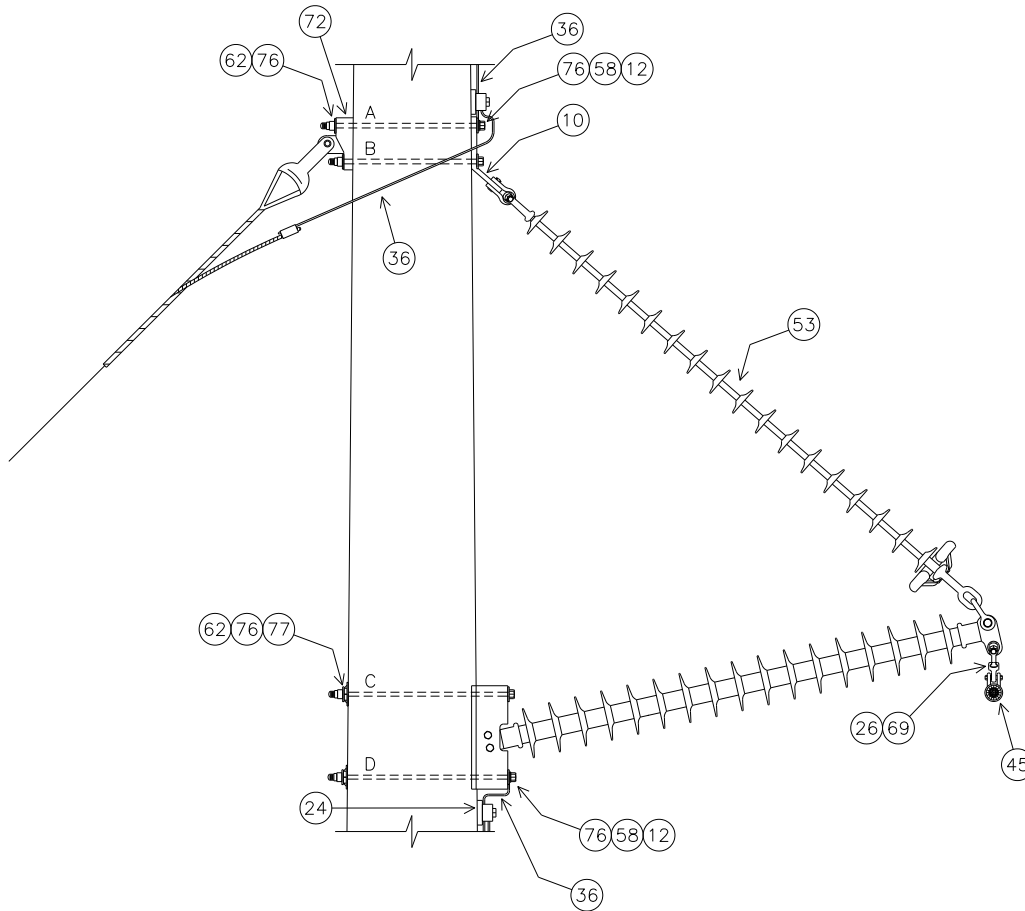
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBNGC3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSBTGC3

INSULATOR FOR SPUN CONCRETE POLES  
 SINGLE BRACED LINE POST, TOP GUY, 230KV, 3-PHASE  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



SEE MBA1 FOR BOLT ASSEMBLY DETAILS

STRUCTURE	MINIMUM REQUIRED BOLT LENGTH (INCHES)			
	'A'	'B'	'C'	'D'
TOP	22.3	21.2	27.8	28.3
MIDDLE	24.5	23.3	30.0	30.5
BOTTOM	26.6	25.5	32.2	32.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSBTGC3 PLATES

## ISSBTGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
10	BKTLP 002	3	BRACKET, 53° ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	3	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	3	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
36	COBCO 028	15 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
53	INSLP 014	3	230KV SILICONE BRACED LINE POST INSULATOR, 17° RISE, GAIN BASE, L = 108", H = 94", 14" B.H.S.
58	LUGGR 002	6	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 005	12	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET - EYE, STENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	4	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	24	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSBTGC3\*954A

45	GRISA 003	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBTGC3\*954S

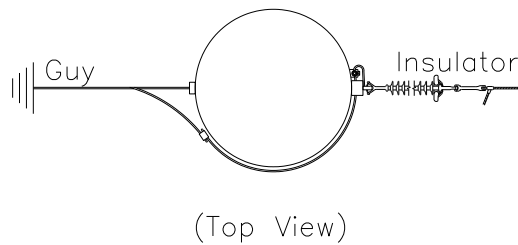
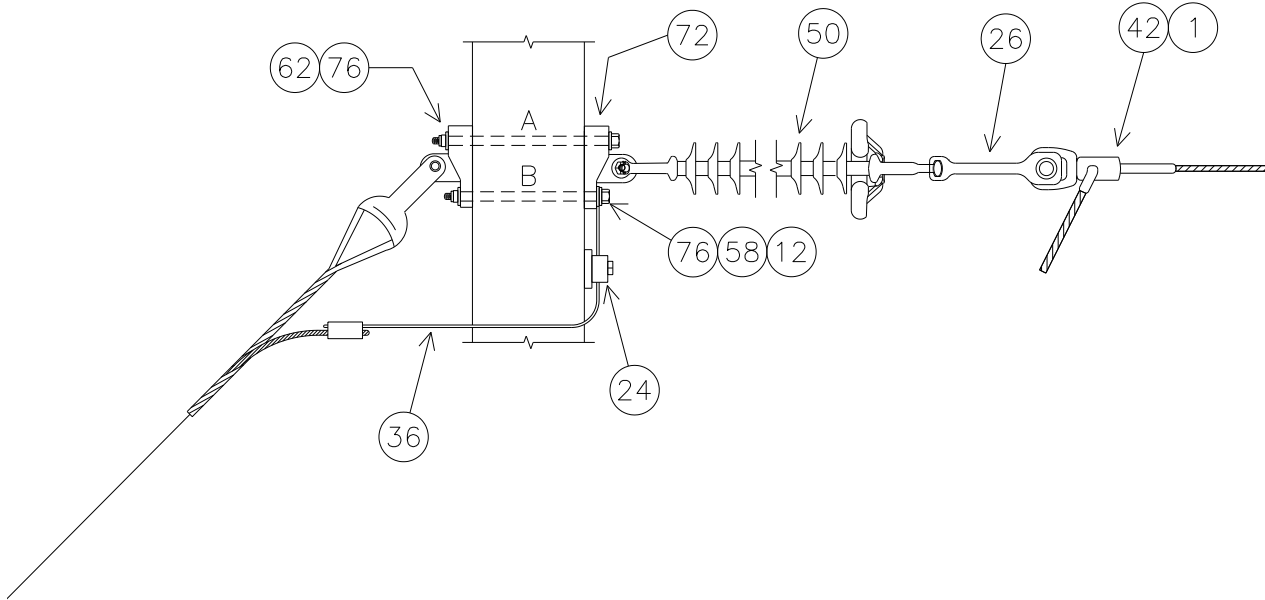
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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## ISSBTGC3\*1590

45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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# ISSDFC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END FULL TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
LOWER BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDFC3 PLATES

## ISSDFC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#

## ISSDFC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDFC3\*1590

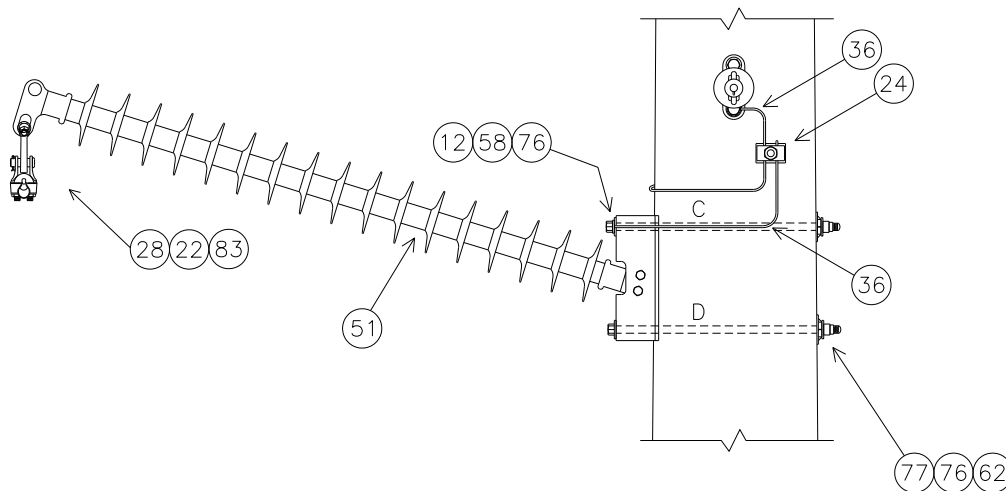
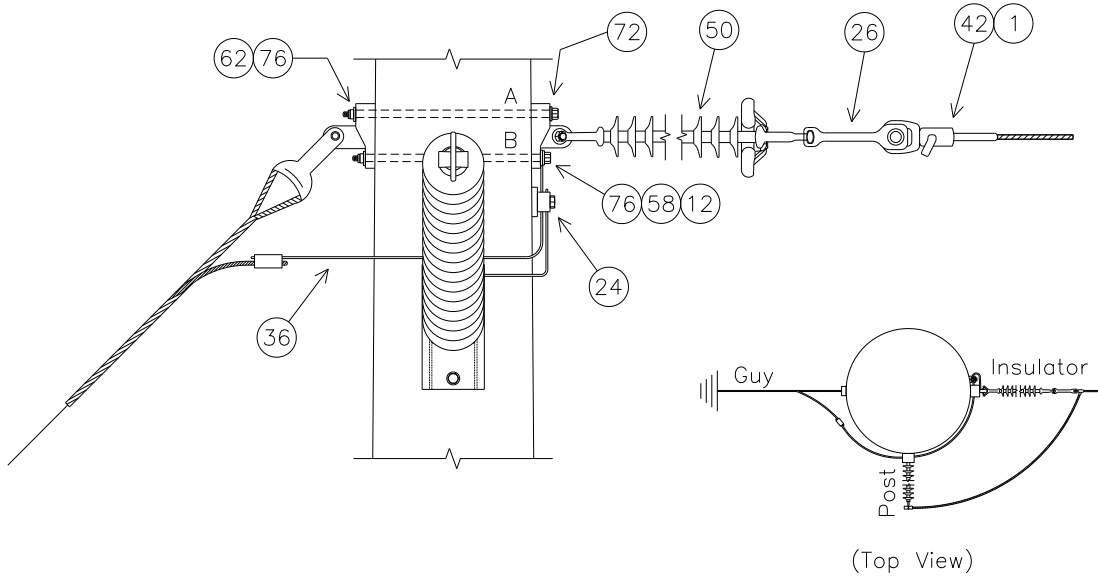
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISSDFP2C3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END, FULL TENSION TO POST, TYPE 2, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	21.4	23.8	26.2
BOLT 'B' LENGTH (INCHES)	19.8	22.1	24.5
BOLT 'C' LENGTH (INCHES)	24.7	27.1	29.5
BOLT 'D' LENGTH (INCHES)	24.7	27.1	29.5

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

## ISSDFP2C3

## ISSDFP2C3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 001	3	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9", PIN = 3/4", H.D.G.
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
69	SOCEY 003	3	SOCKET-EYE, STRENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALV.
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSDFP2C3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 051	1	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	1	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 053	2	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDFP2C3\*1590

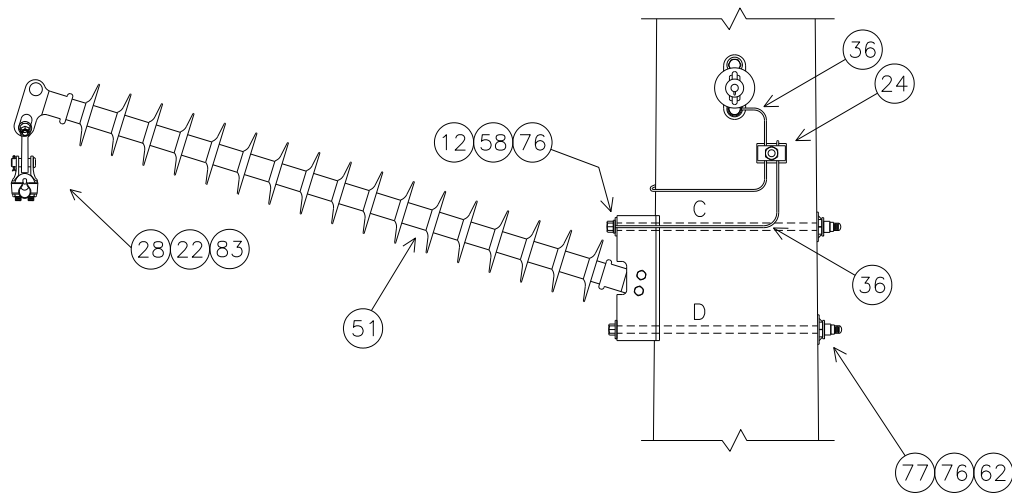
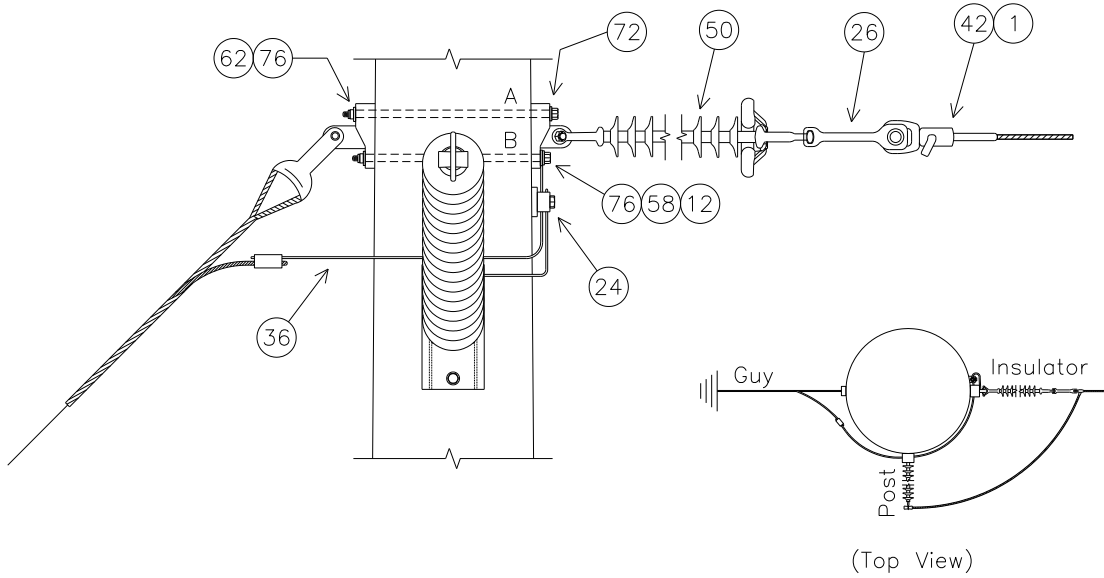
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 061	1	MACHINE BOLT, 1" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISSDFP3C3

INSULATOR FOR SPUN CONCRETE POLES

SINGLE DEAD-END, FULL TENSION TO POST, TYPE 3, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954S, 1590



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
BOLT 'A' LENGTH (INCHES)	25.4	27.8	30.1
BOLT 'B' LENGTH (INCHES)	23.8	26.1	28.5
BOLT 'C' LENGTH (INCHES)	28.5	30.8	33.2
BOLT 'D' LENGTH (INCHES)	29.0	31.3	33.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER



# ISSDFP3C3 PLATES

## ISSDFP3C3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
1	ADCVF 001	3	VOID FILLER COMPOUND FOR DEADEND ASSEMBLY
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	2	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 075	2	MACHINE BOLT, 7/8" X 36", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 005	3	SOCKET-Y CLEVIS, CLASS 52-8/11, L = 11", PIN = 7/8", H.D.G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
51	INSHP 025	3	HORIZONTAL POST INSULATOR, 230KV, L = 86", GAIN BASE, 17° RISE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## ISSDFP3C3\*954S

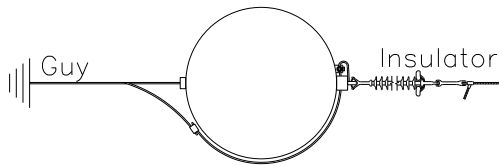
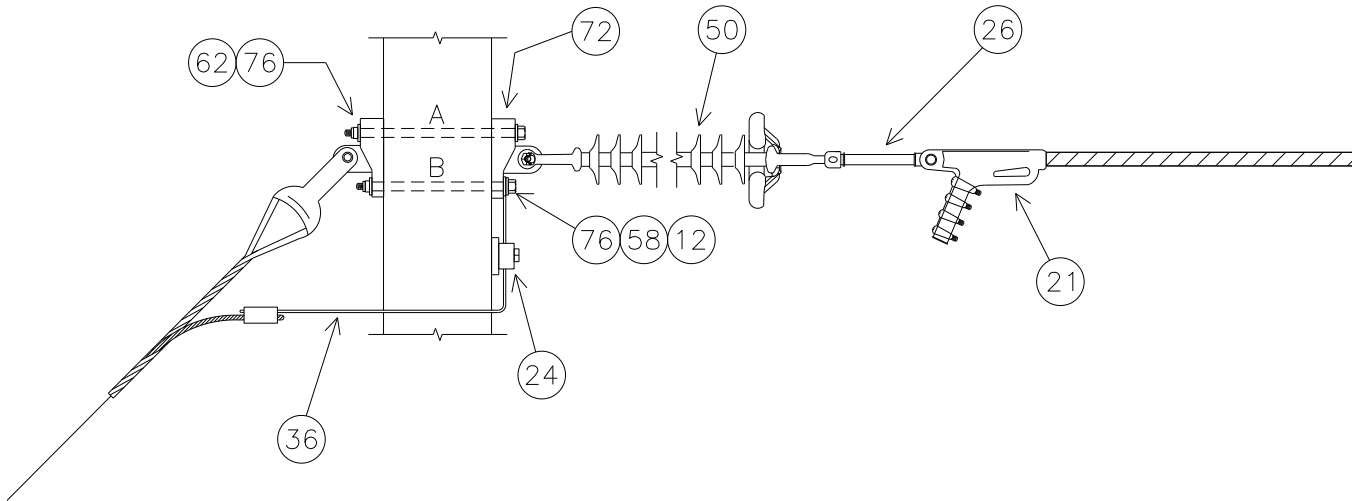
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 006	3	CLAMP, SUSPENSION, ALUMINUM, FOR 954 ASCR
28	CLETE 005	3	Y-EYE CLEVIS
42	DEACB 005	3	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 007	3	ARMOR ROD FOR 954 ASCR, 100"

## ISSDFP3C3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 007	3	CLAMP, SUSPENSION, ALUMINUM, FOR 1590 ASCR
28	CLETE 006	3	Y-EYE CLEVIS
42	DEACB 007	3	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
83	RODAR 008	3	ARMOR ROD FOR 1590 ASCR, 100"

# ISSDSC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE DEAD-END SLACK TENSION, 230KV, 3-PHASE**  
 CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	Top	Mid	Bottom
UPPER BOLT 'A' LENGTH (INCHES)	25.3	27.7	30.0
LOWER BOLT 'B' LENGTH (INCHES)	23.7	26.0	28.4

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSDSC3 PLATES

## ISSDSC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	1	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 008	3	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4" THICK W/ 13/16" OPENING, H. D. G.
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
50	INSDE 002	3	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 111", CLASS 52-8/11
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSDSC3\*954A, 954S

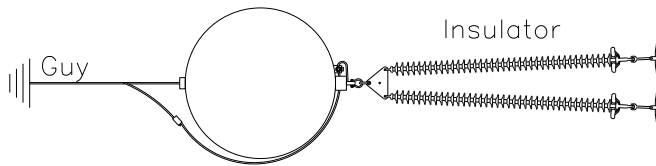
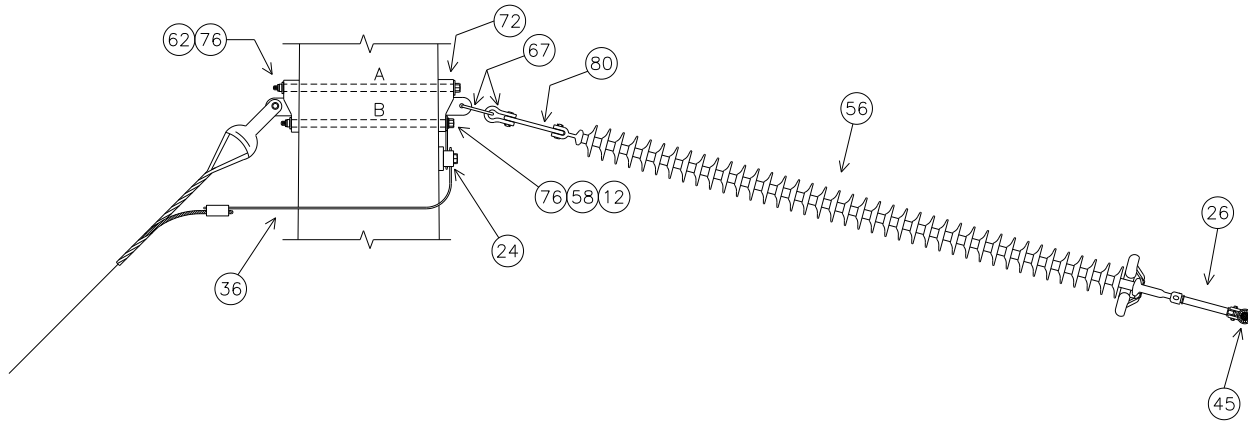
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

## ISSDSC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

# ISSSDGGC3

**INSULATOR FOR SPUN CONCRETE POLES**  
**SINGLE SUSPENSION, DOUBLE GRIP, GUYED, 230KV, 3-PHASE**  
**CONDUCTOR OPTIONS: 954A, 954S, 1590**



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	25.7	28.0	30.4
LOWER BOLT 'B' LENGTH (INCHES)	24.0	26.4	28.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

# ISSSDGGC3 PLATES

## ISSSDGGC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4" THICK WITH 13/16" OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 009	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 89", CLASS 52-3/5
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	6	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GLAVANIZED, 15/16" HOLE DIA.

## ISSSDGGC3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGGC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 054	2	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	1	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 074	1	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED

## ISSSDGGC3\*1590

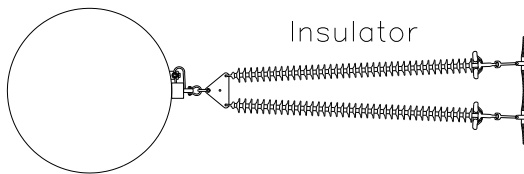
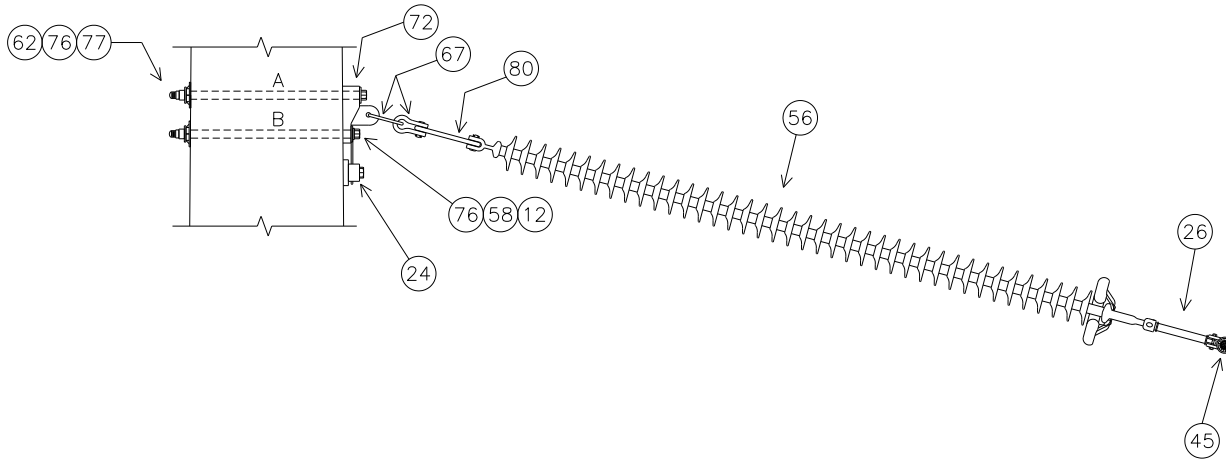
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 072	1	MACHINE BOLT, 1" X 32", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1" BOLT, H.D.G.
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED

# ISSSDGNC3

INSULATOR FOR CONCRETE POLES

SINGLE SUSPENSION, DOUBLE GRIP, NO GUY, 230KV, 3-PHASE

CONDUCTOR OPTIONS: 954A, 954S, 1590



(Top View)

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

DEADEND INSULATOR	TOP	MIDDLE	BOTTOM
UPPER BOLT 'A' LENGTH (INCHES)	24.6	27.0	29.3
LOWER BOLT 'B' LENGTH (INCHES)	23.9	26.3	28.7

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER

# ISSSDGNC3 PLATES

## ISSSDGNC3 BASE

NO.	ITEM ID	QTY	DESCRIPTION
24	CLATG 001	3	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
26	CLEHL 007	6	SOCKET-EYE CLEVIS, CLASS 52-3/5, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H. D. G.
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
56	INSSU 009	6	DEADEND SILICON INSULATOR, Y-BALL COUPLING, 230KV, L = 89 INCHES, CLASS 52-3/5
67	SHAAN 003	6	SHACKLE, 3/4", 50,000#, GALVANIZED
72	TEEDE 003	3	TEE, DUCTILE IRON, HOT-DIP GALVANIZED, 6" HOLE SPACING, STRENGTH = 60,000#
80	YOKPL 003	3	TRIANGULAR SUSPENSION YOKE PLATE, 16" SPACING, GLAVANIZED, 15/16 HOLE DIA.

## ISSSDGNC3\*954A

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 006	3	DOUBLE AGS UNIT FOR 954A CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISSSDGNC3\*954S

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 053	1	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 054	1	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 055	2	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 073	2	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 007	3	DOUBLE AGS UNIT FOR 954S CONDUCTOR
58	LUGGR 002	3	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	6	SQUARE LOCK NUT FOR 7/8 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 006	12	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	6	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4" SIZE

## ISSSDGNC3\*1590

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	2	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
45	GRISA 008	3	DOUBLE AGS UNIT FOR 1590 CONDUCTOR
58	LUGGR 003	3	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 006	6	SQUARE LOCK NUT FOR 1 INCH BOLT, HOT DIPPED GALVANIZED
76	WASRD 007	12	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 003	6	SQUARE CURVED WASHER FOR 1" BOLTS, GALVANIZED, 4" X 4" SIZE

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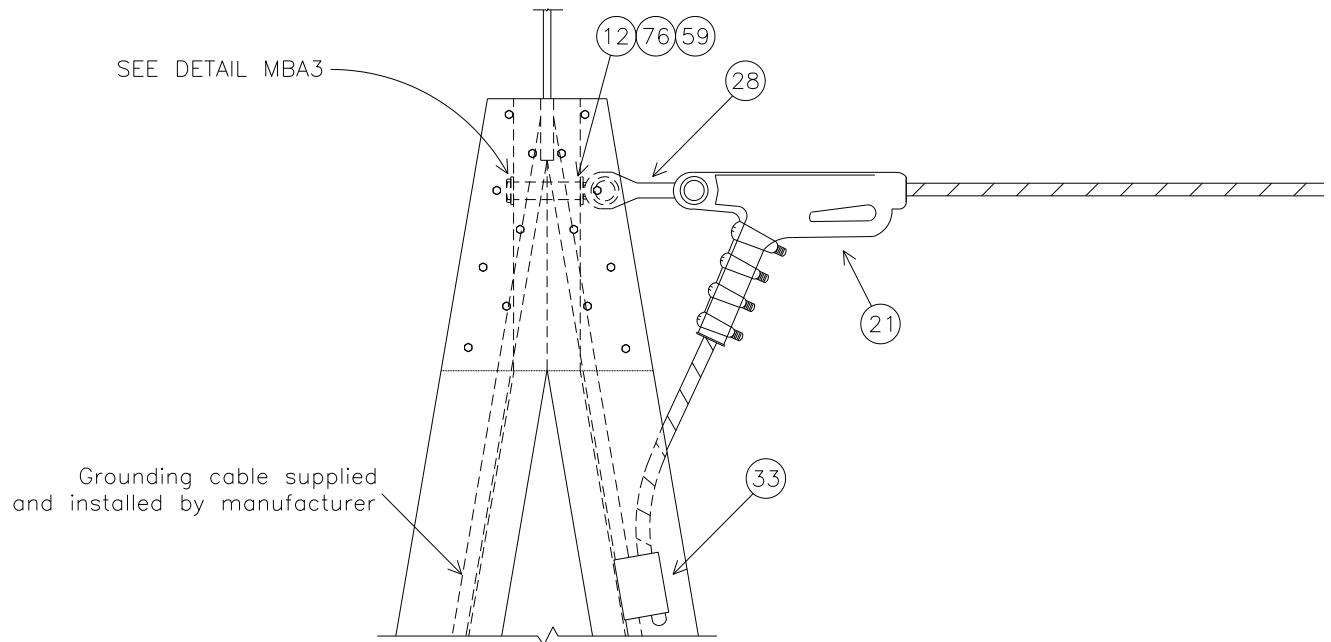


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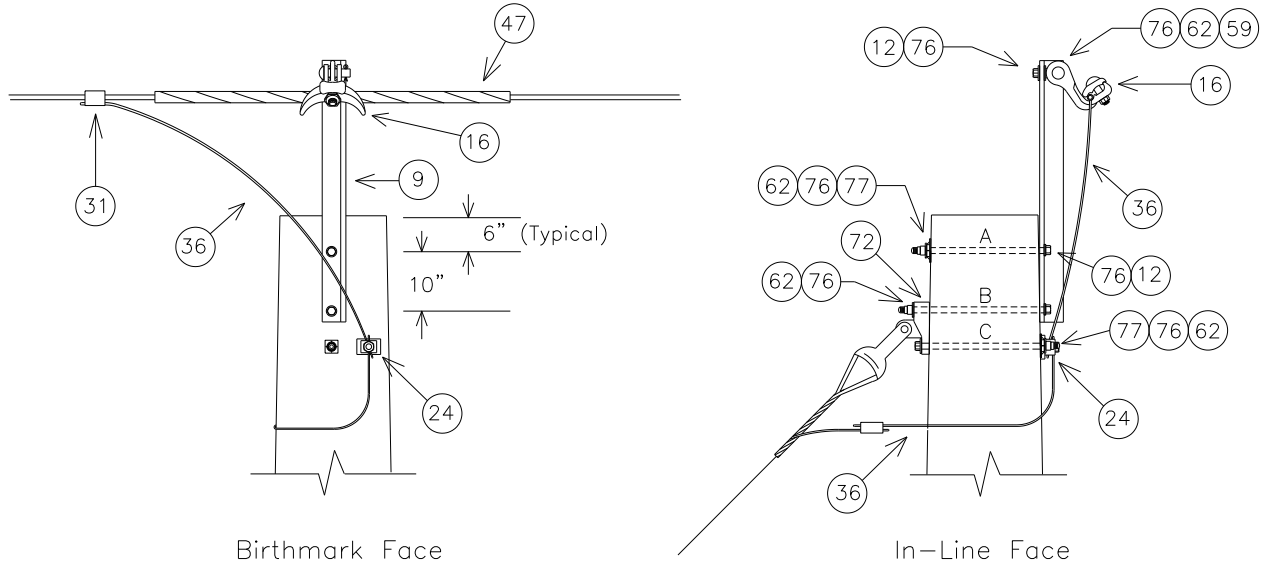
## SASI

### SHIELD FOR A-FRAME/LATTICE STRUCTURES SINGLE IN-LINE



NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 016	2	MACHINE BOLT, 5/8" X 3", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 001	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
33	CNNPA 590	2	TWO BOLT PARALLEL CONNECTOR
59	NUTEY 002	2	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, H.D.G.
76	WASRD 004	4	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED

## SSBAB

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, BOTTOM GUY

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

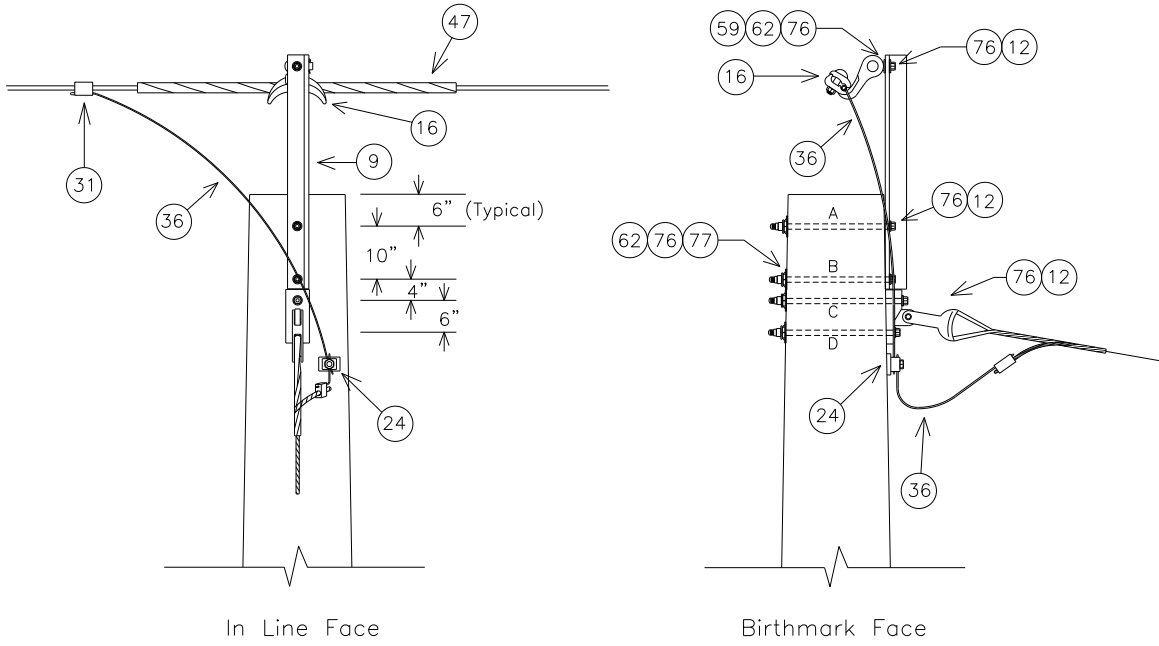
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	20.3

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	1	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	1	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 5/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## SSBAF

### SHIELD FOR SPUN CONCRETE POLES BAYONET WITH ANGLE CLAMP, FRONT GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

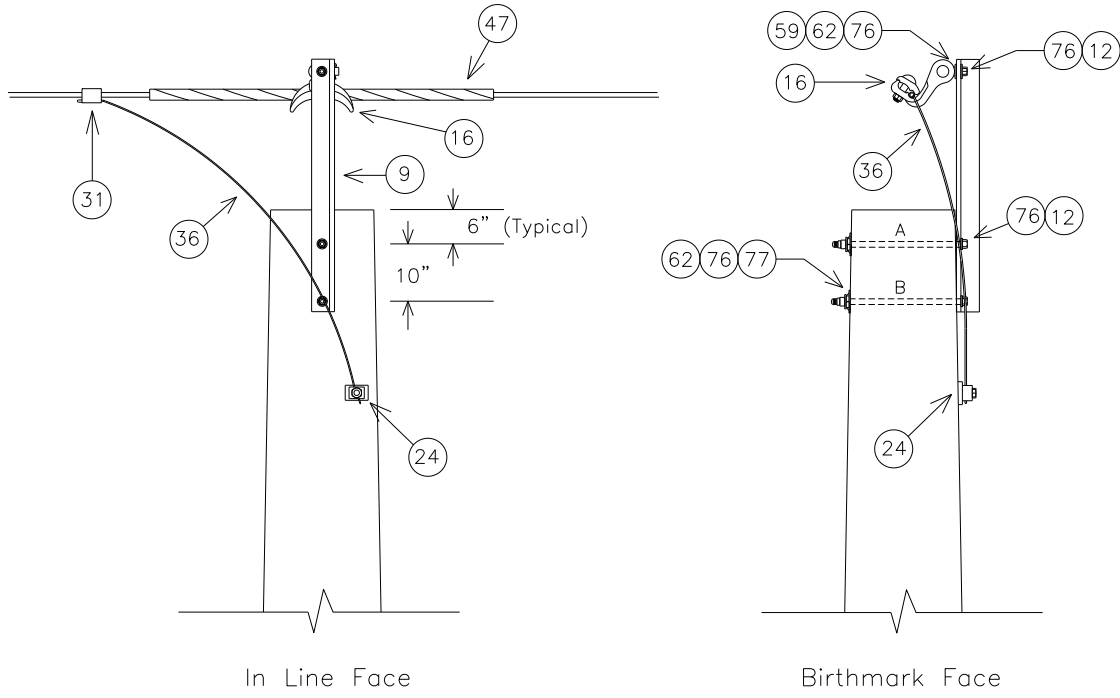
	'A'	'B'	'C'	'D'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	19.6	19.8	21.7	20.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER;  
USE 3/4" BOLTS FOR A&B AND 7/8" BOLTS FOR C&D

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	1	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16" BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# SSBAFN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

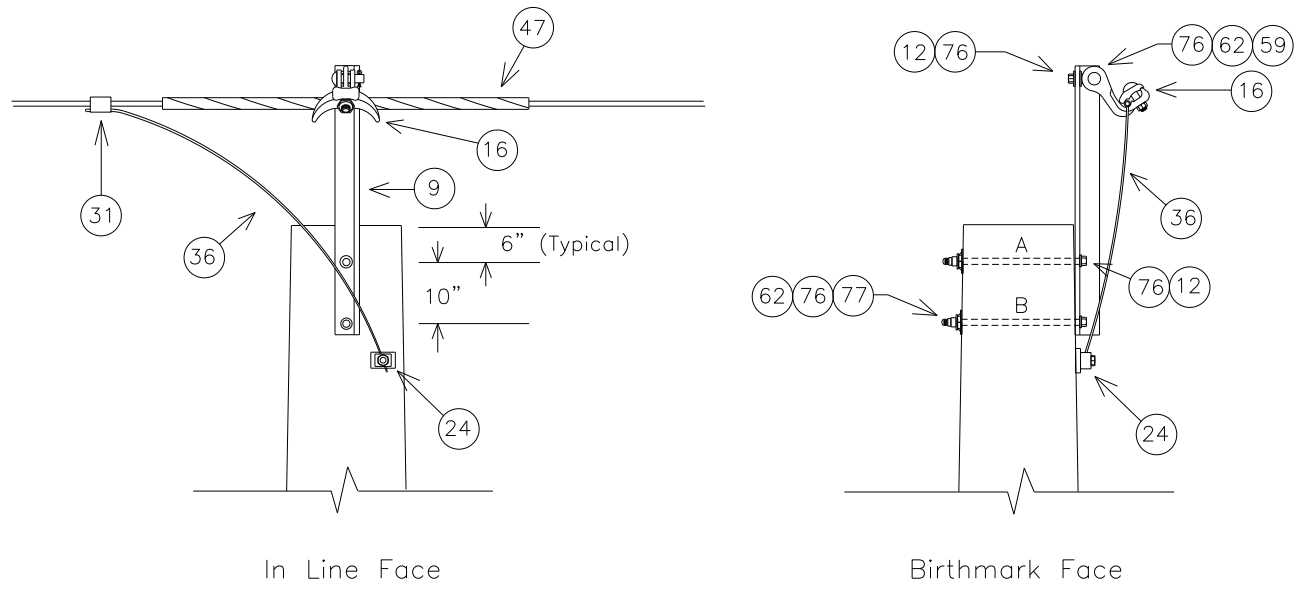
	'A'	'B'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	19.6	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17 INCH POLE TOP DIAMETER;

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# SSBAN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH ANGLE CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

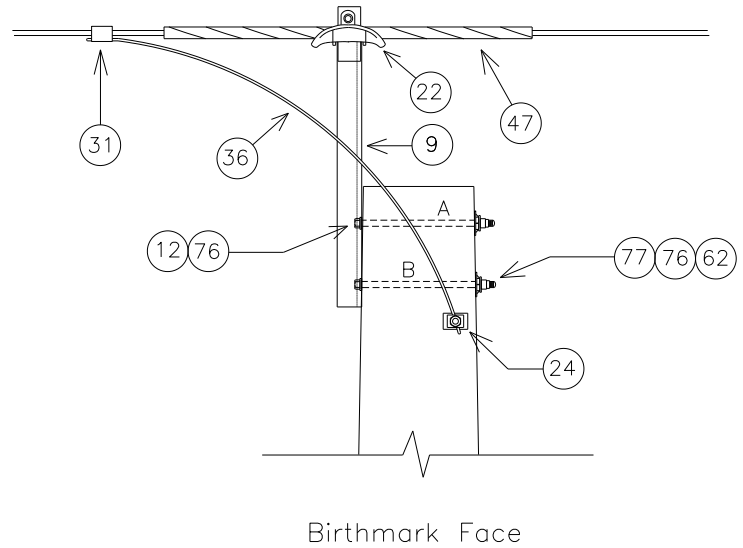
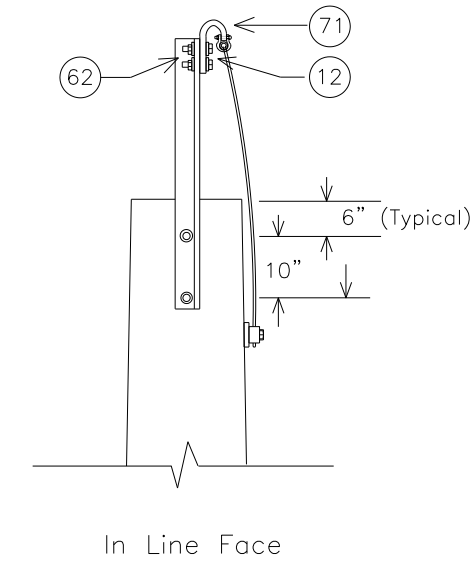
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
76	WASRD 005	6	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# SSBSN

SHIELD FOR SPUN CONCRETE POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

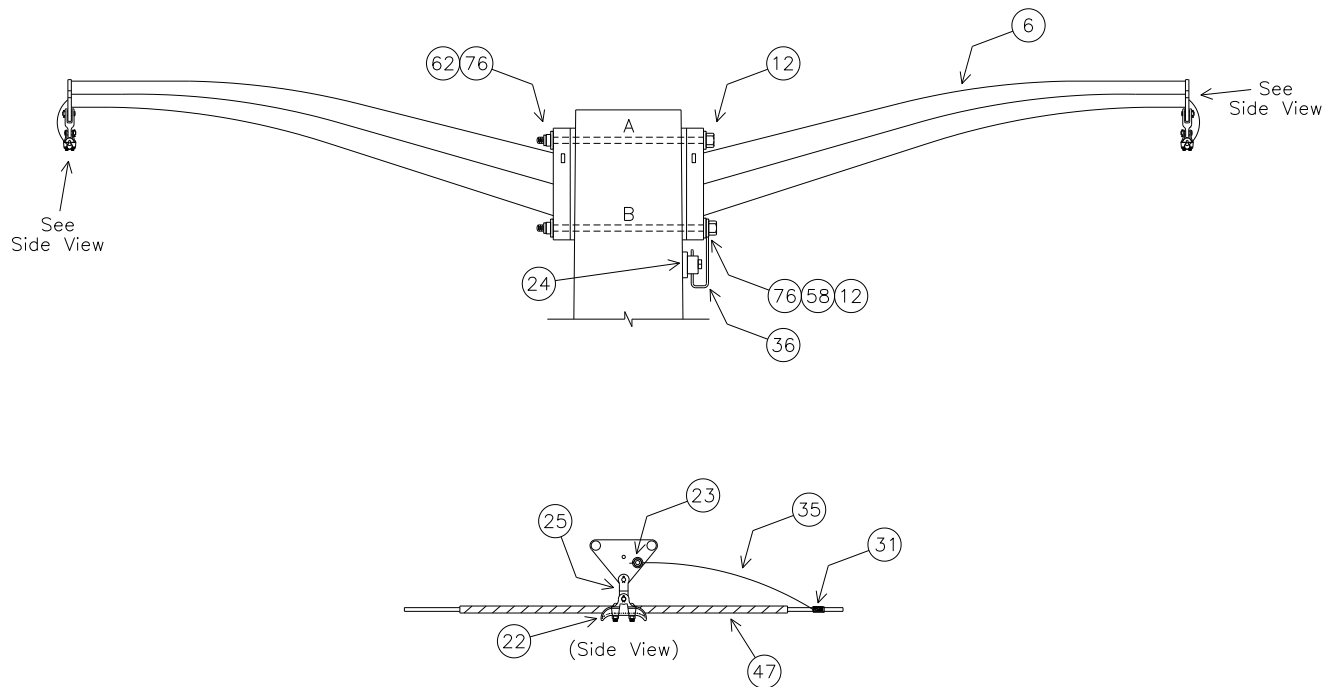
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	19.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	19.8

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 039	2	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# SSDD

## SHIELD FOR SPUN CONCRETE POLES DOUBLE DAVIT ARM



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	20.2
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.7

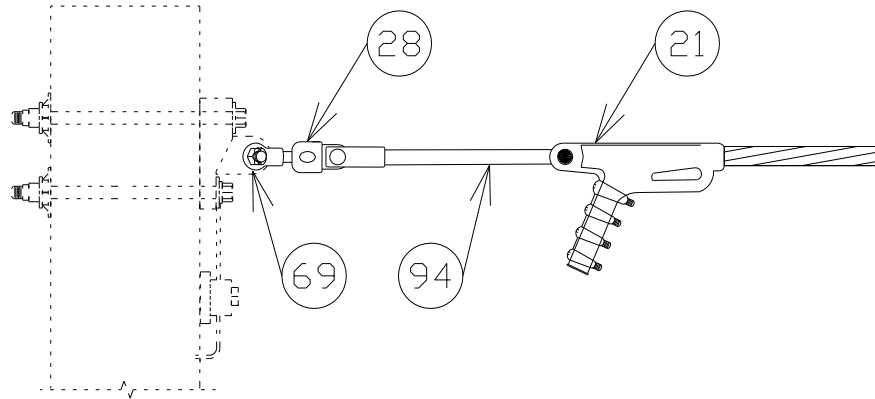
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	2	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	2	90 DEGREE EYE CLEVIS, 30,000#, 1/2" EYE THICKNESS, 11/16" HOLE DIAM. H.D.G., 5/8" PIN DIA.,
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	8 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED



# SSDEX

## SHIELD FOR SPUN CONCRETE POLES DEAD END EXTENSION

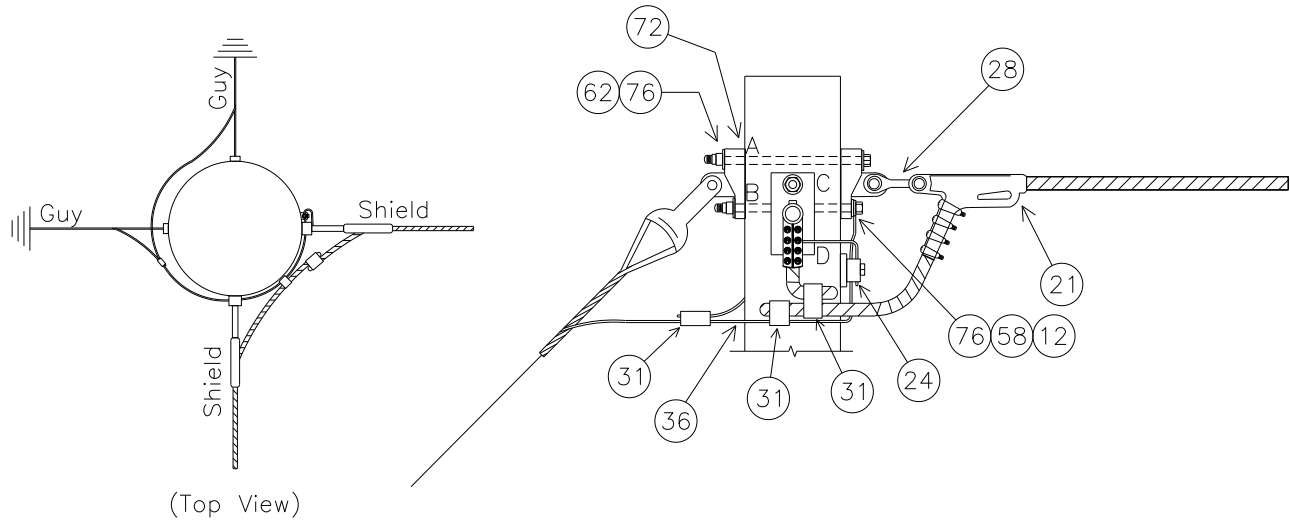


NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	1	CLEVIS, TOWER EYE, 90 DEGREE, 30,000# 5/8" EYE THICKNESS, 11/16" HOLE DIAMETER, HDG
94	LIKEX 002	1	LINK, EXTENSION, CLEVIS/EYE TYPE FITTING 14" LENGTH, ULTIMATE STRENGTH 15,000#
69	SOCEY 003	1	SOCKET, EYE, SE5154, FORGED STEEL GALVANIZED

11/19/2011

## SSDI90DG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, DOUBLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

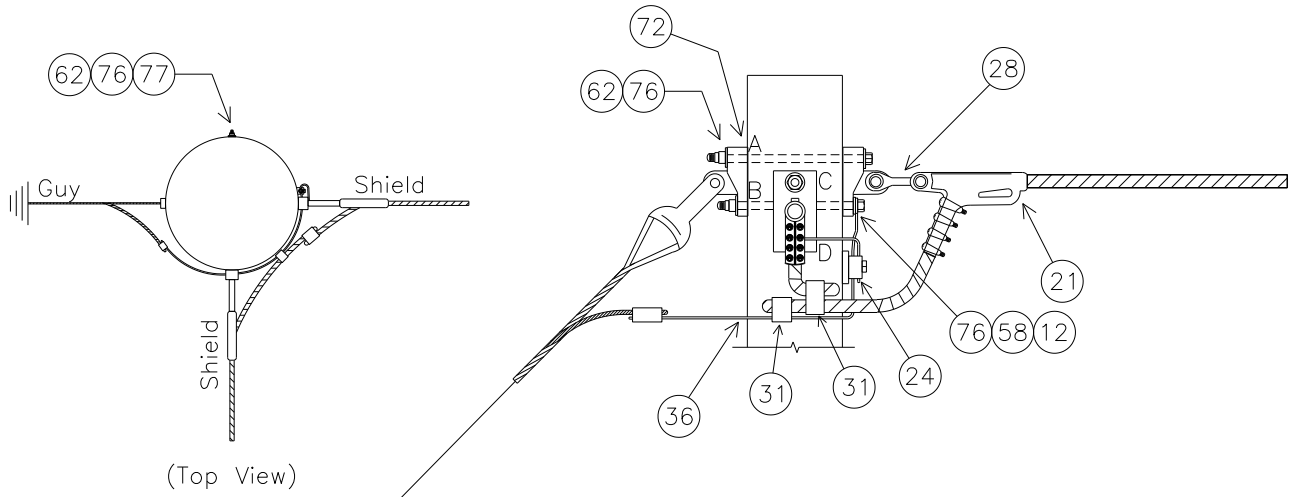
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	21.0

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	2	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER, FOR CU CONNECTIONS ONLY
36	COBCO 028	6 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	4	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

# SSDI90SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

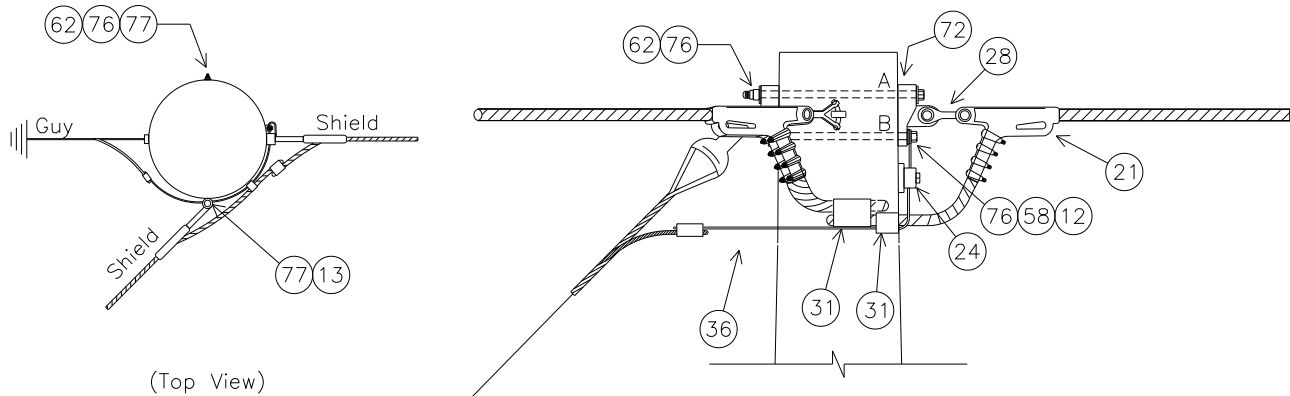
SUBSTRUCTURE	DOUBLE TEE SIDE	SINGLE TEE SIDE
UPPER BOLT LENGTH	22.6	21.3
LOWER BOLT LENGTH	20.9	20.6

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4"

## SSDI135SG

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 135°, SINGLE GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

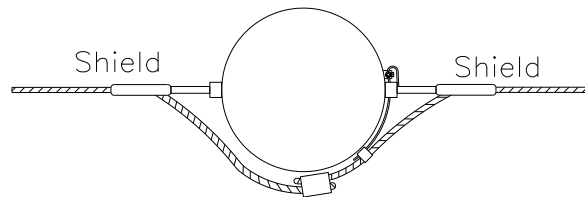
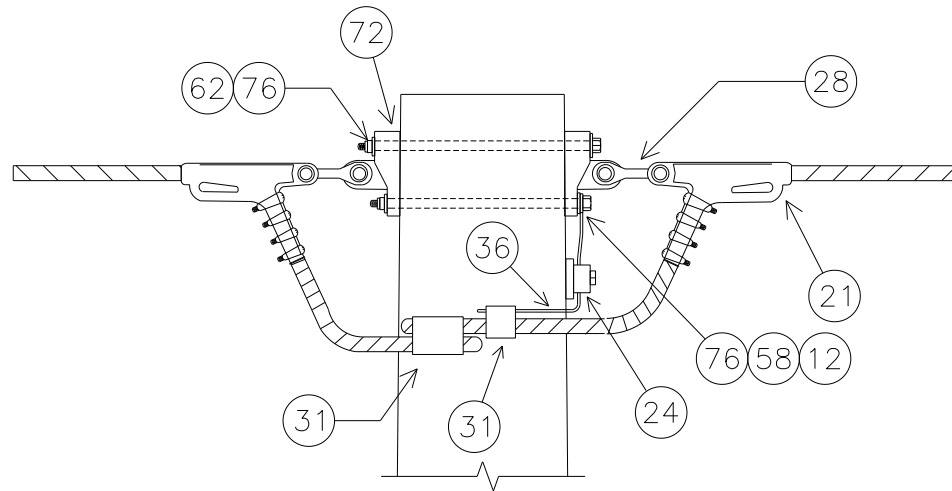
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	22.6
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	20.9
MINIMUM REQUIRED SHOULDER EYE BOLT LENGTH (INCHES)	20.1

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 021	1	SHOULDER BOLTEYE, GALVANIZED, 7/8" X 22" PROVIDED BY CONTRACTOR
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 001	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
62	NUTSL 005	1	SQUARE LOCK NUT FOR 7/8" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	1	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, GALVANIZED, 4" X 4"

# SSDI180

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°



(Top View)

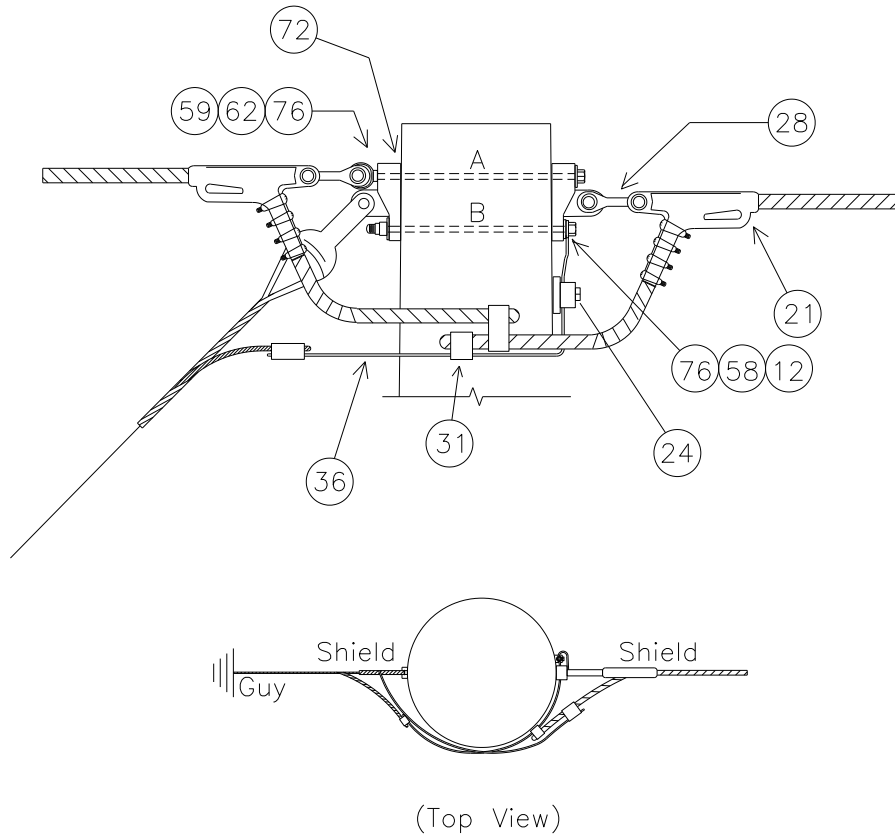
NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH	22.6
LOWER BOLT LENGTH	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## SSDI180G

SHIELD FOR SPUN CONCRETE POLES  
DOUBLE INLINE 180°, GUY

NOTE: SEE SUBSTRUCTURE DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

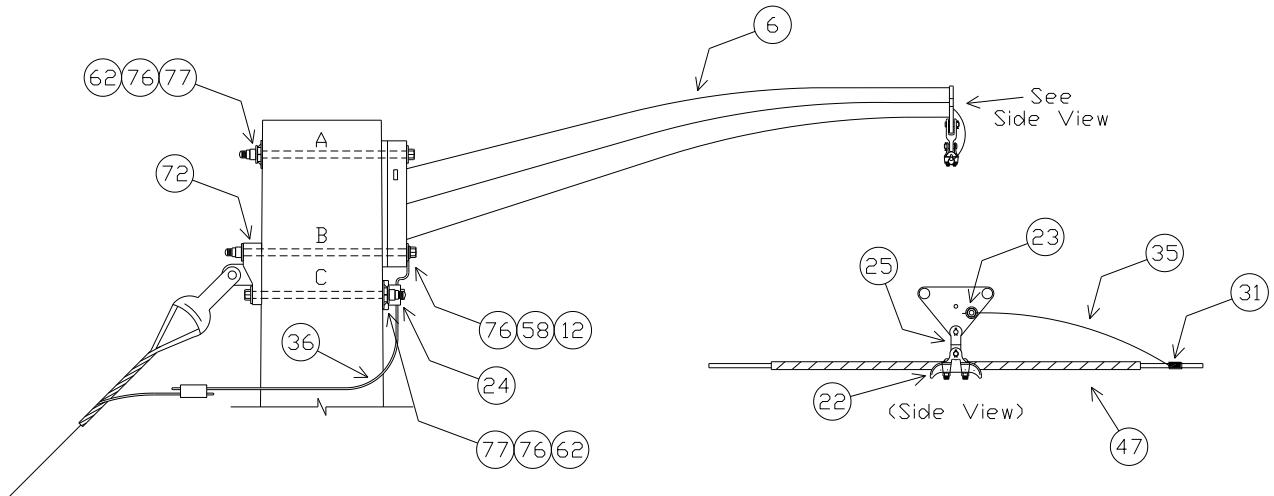
UPPER BOLT LENGTH	23.6
LOWER BOLT LENGTH	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
59	NUTEY 003	1	NUTEYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

## SSSDG

### SHIELD FOR SPUN CONCRETE POLES SINGLE DAVIT ARM, GUYED



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

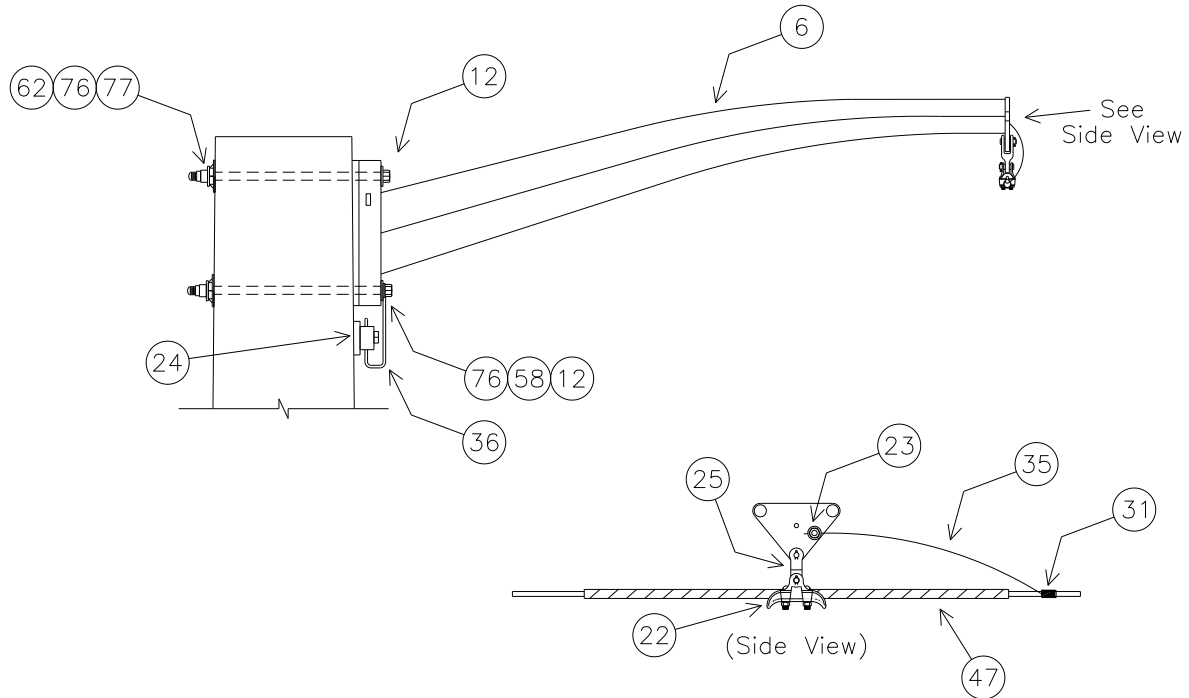
BOLT LENGTH 'A' (INCHES)	20.1
BOLT LENGTH 'B' (INCHES)	21.9
BOLT LENGTH 'C' (INCHES)	20.7

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHIELD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8" HOLE FOR GROUNDING
12	BOLMS 052	3	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	3	LOCKNUT FOR 7/8" BOLT
72	TEEDE 003	1	TEE, A36 STEEL, H.D.G. 6" HOLE SPACING, 13/16" BOLT HOLE DIA., 1 1/4" HOLE ATTACHMENT
76	WASRD 006	6	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

# SSSDN

SHIELD FOR SPUN CONCRETE POLES  
SINGLE DAVIT ARM, NO GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	20.1
LOWER BOLT LENGTH (INCHES)	20.5

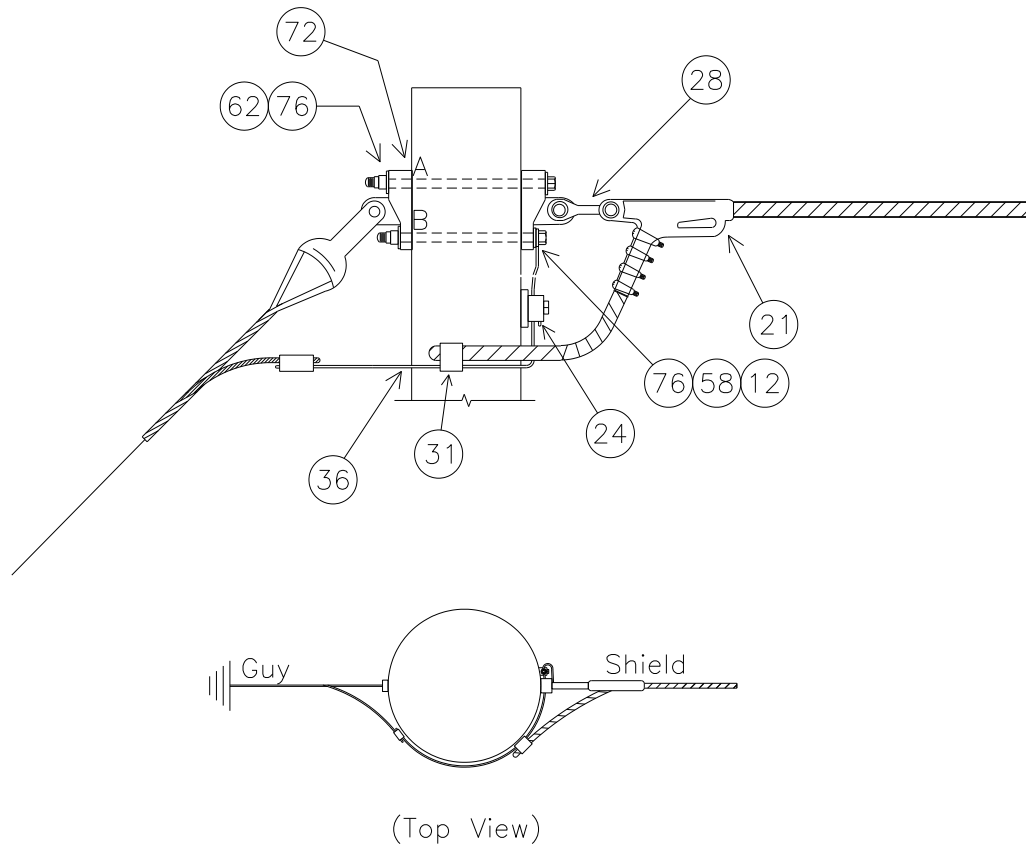
NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
6	ARMST 012	1	6.5 FT SHEILD ARM, 14" HOLE SPACING SUPPLIED WITH 5/8 HOLE FOR GROUNDING
12	BOLMS 052	2	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	1	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
25	CLECY 001	1	90 DEGREE EYE CLEVIS, 30,000#, H.D.G.,
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
35	COBAS 005	4 ft	CONDUCTOR, 3#6 AW
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 002	1	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 005	2	LOCKNUT FOR 7/8" BOLT
76	WASRD 006	4	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"



# SSSIG

## SHIELD FOR SPUN CONCRETE POLES SINGLE IN-LINE, GUY



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

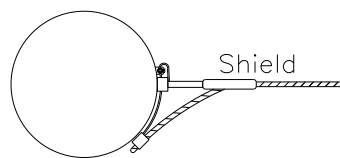
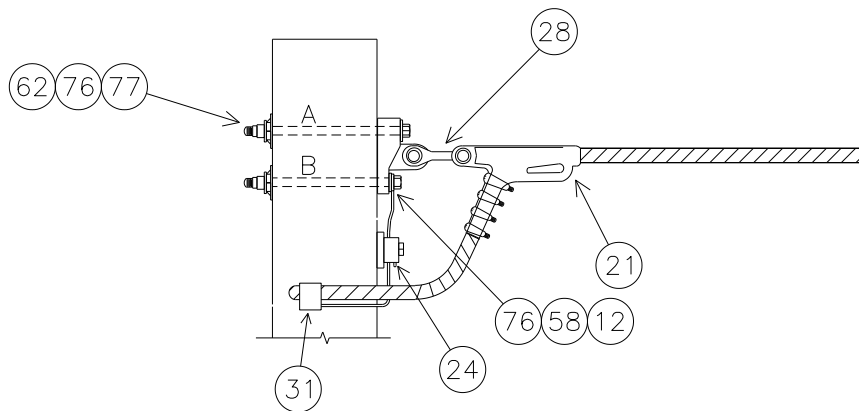
BOLT LENGTH 'A' (INCHES)	22.6
BOLT LENGTH 'B' (INCHES)	20.9

NOTE: BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	1	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED

# SSSIN

## SHIELD FOR SPUN CONCRETE POLES SINGLE IN-LINE, NO GUY



(Top View)

**NOTE:** SEE MBA1 FOR BOLT ASSEMBLY DETAILS

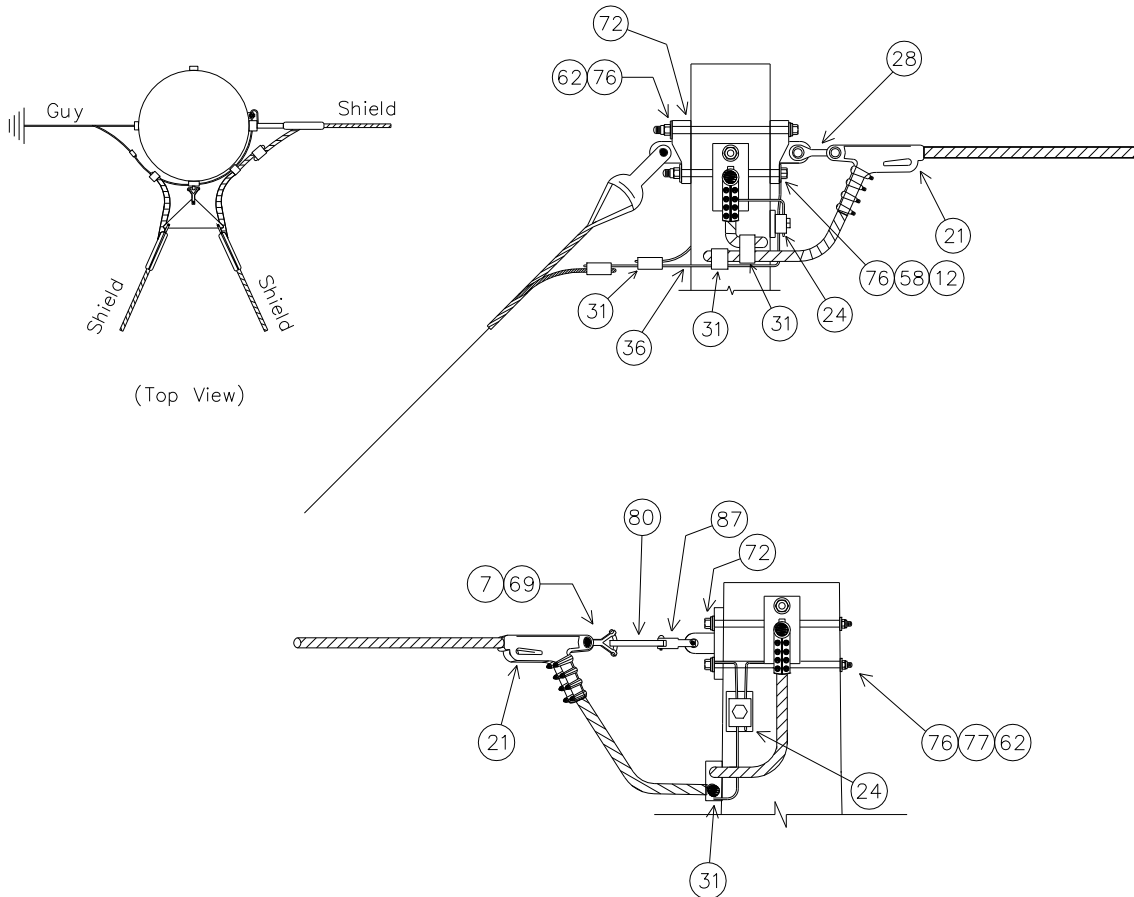
BOLT LENGTH 'A' (INCHES)	21.2
BOLT LENGTH 'B' (INCHES)	20.6

**NOTE:** BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 040	2	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 1 1/16" EYE DIAMETER H.D.G., 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
72	TEEDE 003	2	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"

## SSS90

### SPLIT SHIELD FOR SPUN CONCRETE POLES DOUBLE IN-LINE 90°, SINGLE GUY



**NOTE:** SEE MBA1 FOR BOLT ASSEMBLY DETAILS

SUBSTRUCTURE	DOUBLE TEE SIDE	SINGLE TEE SIDE
UPPER BOLT LENGTH (INCHES)	22.6	21.3
LOWER BOLT LENGTH (INCHES)	20.9	20.6

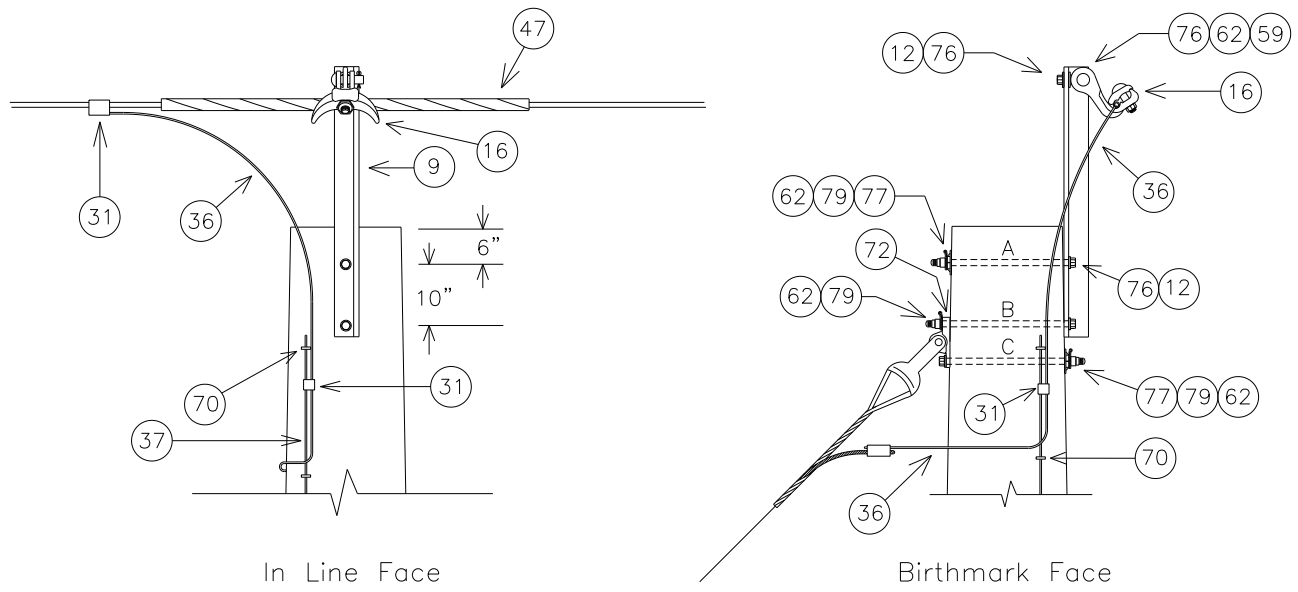
**NOTE:** BOLT CALCULATIONS ASSUME A 17" POLE TOP DIAMETER

**SSS90****SPLIT SHIELD FOR SPUN CONCRETE POLES  
DOUBLE IN-LINE 90°, SINGLE GUY**

NO.	ITEM ID	QTY	DESCRIPTION
7	BALFI 007	2	BALL FITTING, TYPE Y-CLEVIS, 30000# ULTM STRENGTH, NEMA HDWH 52-3, GALV.
12	BOLMS 040	3	MACHINE BOLT, 3/4" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 041	1	MACHINE BOLT, 3/4" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	3	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
24	CLATG 001	1	CLAMP, TRANSFORMER TANK GROUND, BRONZE, #6 SOL - #1 STR
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., 90 DEG
87	CLEYY 001	1	CLEVIS, "Y", 90-DEGREE, 13/16" OPENING 3/4" Y-PIN, 5/8" CLEVIS PIN, 30,000#
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	2	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
69	SOCEY 004	2	SOCKET, EYE, 52-3 & 4 NEMA, FORGED STEEL GALVANIZED, LAPP P/N 36912
72	TEEDE 003	3	TEE, DUCTILE IRON, H.D.G. 6" HOLE SPACING, STRENGTH = 60,000#
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4"
80	YOKPL001	1	YOKE PLATE, SUSPENSION, VEE STRING TYPE, 8" INSULATOR SPACING, 30000#, GALVANIZED , 15/16" HOLE DIA

# SWBAB

## SHIELD FOR WOOD POLES BAYONET WITH ANGLE CLAMP, BOTTOM GUYED



NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.4
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	12.4
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	11.9

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 036	1	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAA0 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTEY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	5	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	3	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

REVISED/REVIEWED: OCTOBER 2013

REVISED/REVIEWED BY: MLR

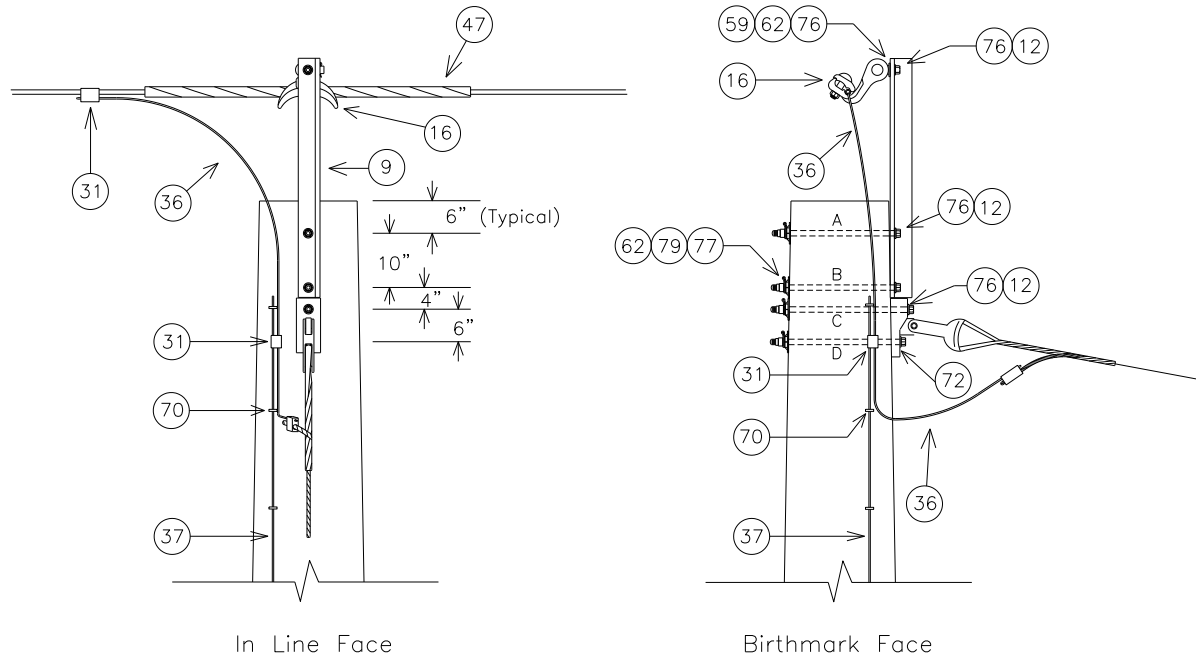
APPROVED BY: KKR

## SHIELDS

SH-21

## SWBAF

### SHIELD FOR WOOD POLES BAYONET WITH ANGLE CLAMP, FRONT GUYED



**NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS**

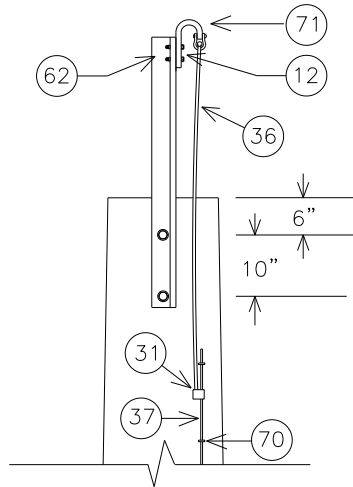
	'A'	'B'	'C'	'D'
MINIMUM REQUIRED BOLT LENGTH (INCHES)	11.5	11.6	13.0	12.2

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER;  
USE  $\frac{3}{4}$ " BOLTS FOR A&B AND  $\frac{7}{8}$ " FOR BOLTS C&D

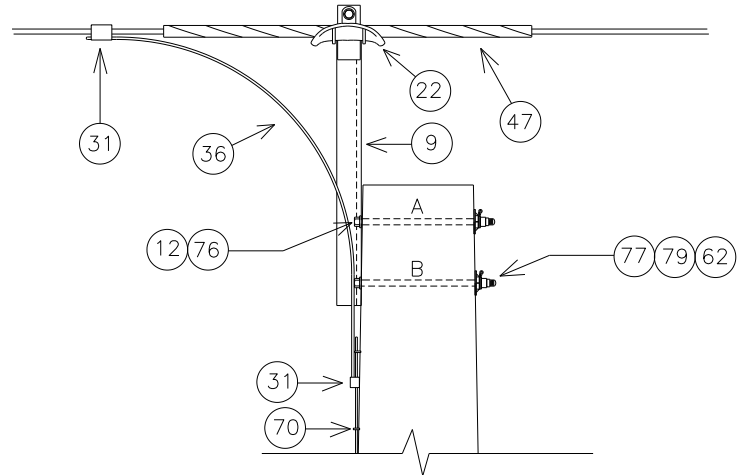
NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 003	1	BAYONET FOR SHIELD WIRE, CORNER 40"
12	BOLMS 032	1	MACHINE BOLT, 3/4" X 6", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 048	2	MACHINE BOLT, 7/8" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
16	CLAAAN 001	1	ANGLE CLAMP FOR 4-SOL - 250MCM, 7000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
59	NUTCY 003	1	NUT EYE FOR 3/4" BOLT
62	NUTSL 004	3	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
62	NUTSL 005	2	SQUARE LOCK NUT FOR 7/8" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	1	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
76	WASRD 006	2	ROUND WASHER FOR 7/8" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
77	WASSC 002	2	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED
79	WASSP 006	2	SPRING WASHER FOR 7/8" BOLT, LEAF TYPE, GALVANIZED

# SWBSN

SHIELD FOR WOOD POLES  
BAYONET WITH SUSPENSION CLAMP, NO GUY



In Line Face



Birthmark Face

NOTE: SEE MBA1 FOR BOLT ASSEMBLY DETAILS

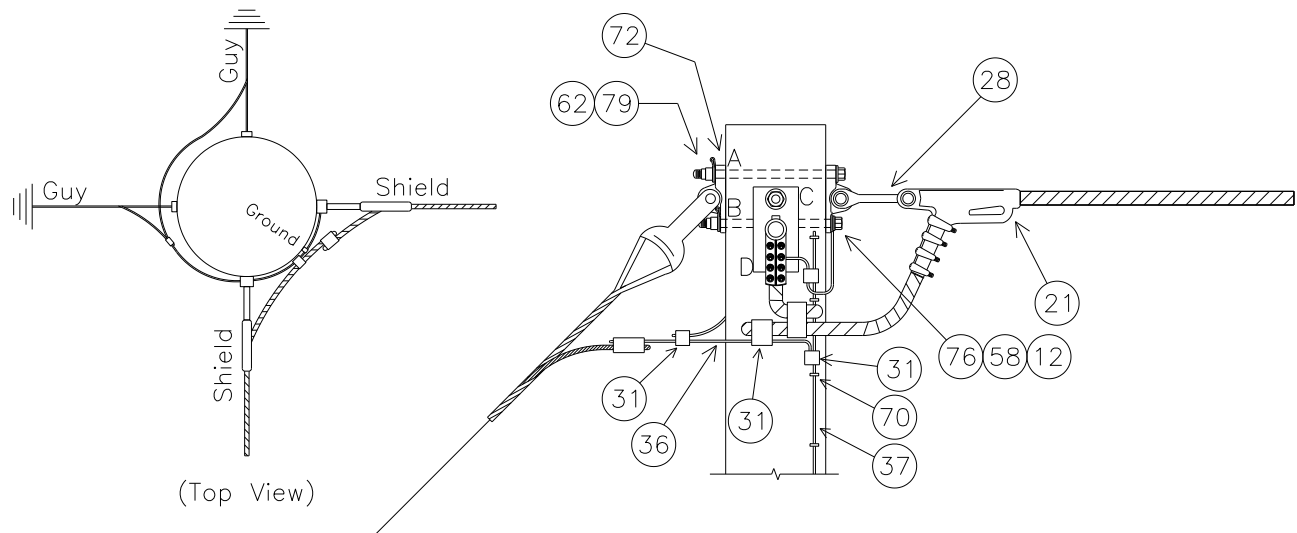
MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	11.5
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	11.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
9	BAYSW 004	1	BAYONET FOR SHIELD WIRE, STRAIGHT 40"
12	BOLMS 001	0	MACHINE BOLT, 1/2" X 2 1/2", PROVIDED WITH SUPSH001
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
22	CLASU 001	1	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	4 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	1	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
62	NUTSL 002	0	SQUARE LOCK NUT FOR 1/2" BOLT, PROVIDED WITH SUPSH001
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
71	SUPSH 001	1	SUPPORT, SHIELD WIRE, GALVANIZED, WITH TWO 2 1/2" MACHINE BOLTS AND LOCK NUTS
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 1 3/4" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# SWDI90DG

SHIELD FOR WOOD POLES  
DOUBLE INLINE 90° WITH DOUBLE GUY



NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

MINIMUM REQUIRED BOLT LENGTH 'A' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'B' (INCHES)	12.5
MINIMUM REQUIRED BOLT LENGTH 'C' (INCHES)	13.7
MINIMUM REQUIRED BOLT LENGTH 'D' (INCHES)	12.6

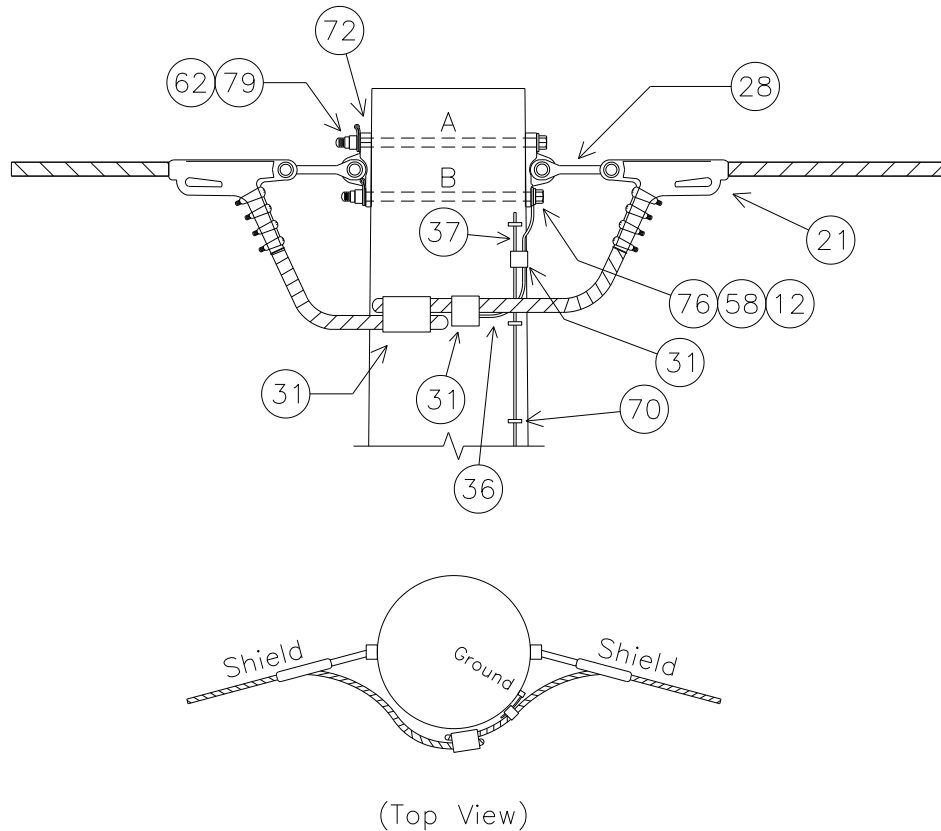
NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	4	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	9 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	4	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	4	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	4	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	4	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED



# SWDI150

SHIELD FOR WOOD POLES  
DOUBLE INLINE 150°



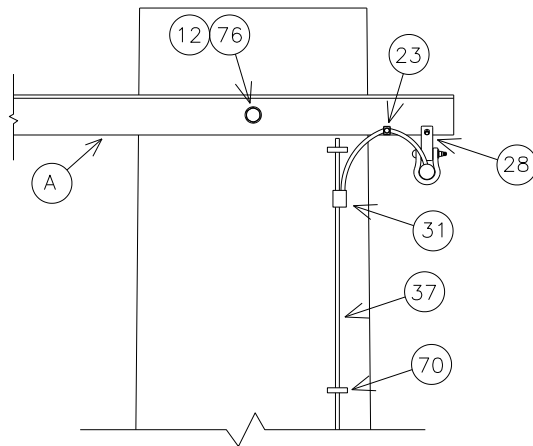
NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.3

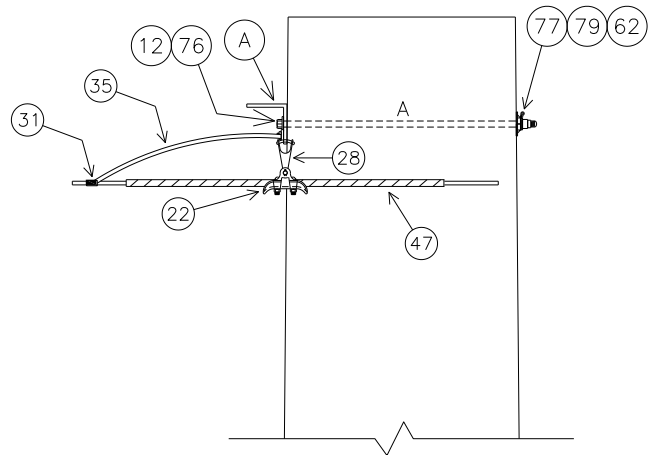
NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	1	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## SWHS

SHIELD FOR WOOD POLES  
HORIZONTAL SUSPENSION

Front View



Side View

BOLT LENGTH 'A' (INCHES)

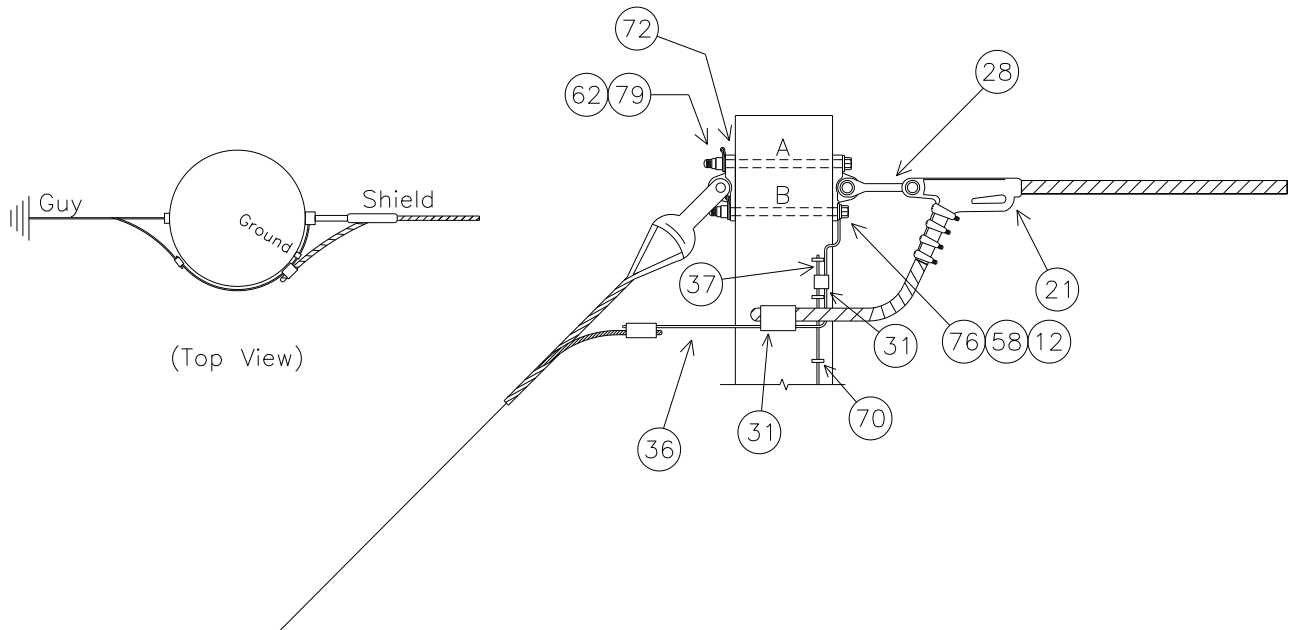
11.6

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
A	NON-STOCK	1	ANGLE STEEL, 3" X 3" X 1/4" X 13', PROVIDED BY CONTRACTOR
12	BOLMS 035	2	MACHINE BOLT, 3/4" X 12", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	2	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
22	CLASU 001	2	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#
23	CLASW 001	2	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.
28	CLETE 004	2	TOWER Y-EYE CLEVIS, 90 DEGREE, 3/4" PIN, 5/8" EYE THICKNESS, H.D.G.
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	2	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
35	COBAS 005	6 ft	CONDUCTOR, 3#6 AW
37	COBCW 014	180 ft	#4 COPPERWELD CONDUCTOR
47	GUALI 001	2	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"
58	LUGGR 001	2	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	90	STAPLE, COPPERWELD, 3/8" X 1 1/2"
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, GALVANIZED, 4" X 4" SIZE
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# SWSIG

## SHIELD FOR WOOD POLES SINGLE INLINE, GUYED



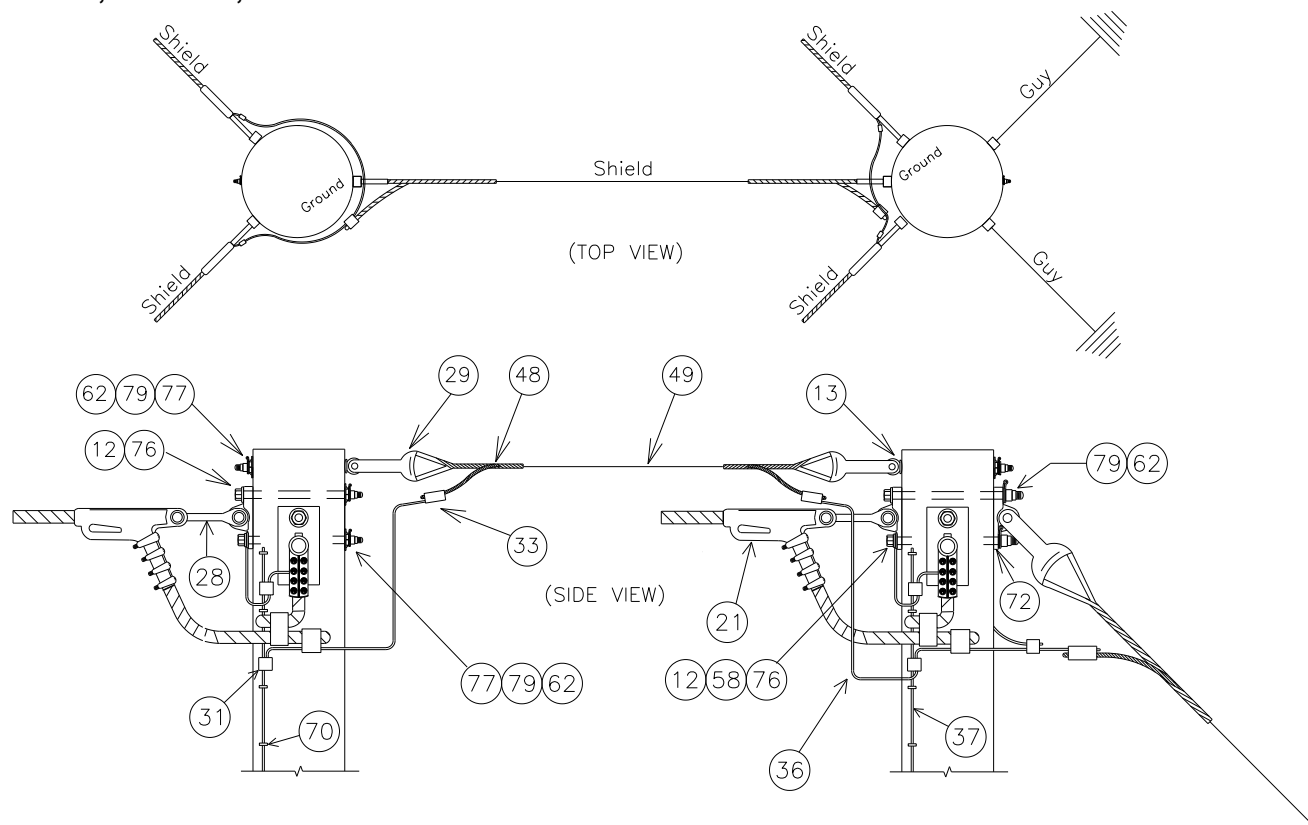
NOTE: SEE MISCELLANEOUS DETAIL MBA1 FOR BOLT ASSEMBLY DETAILS

UPPER BOLT LENGTH (INCHES)	13.7
LOWER BOLT LENGTH (INCHES)	12.3

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	2	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	1	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	1	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G. 90 DEG
31	CNNCP 002	1	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	1	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
36	COBCO 028	3 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	80 ft	#4 COPPERWELD CONDUCTOR
58	LUGGR 001	1	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION
62	NUTSL 004	2	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	40	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	2	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	2	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
79	WASSP 005	2	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

## SW2PH90

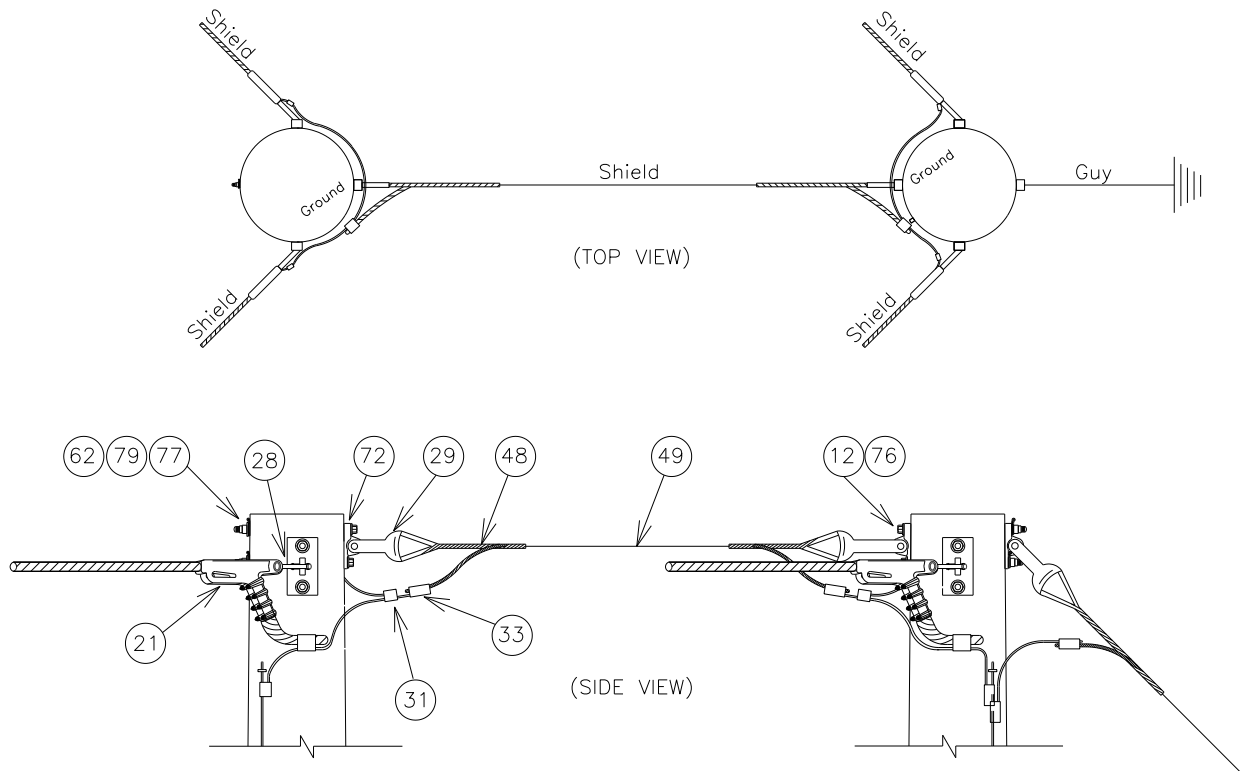
SHIELD FOR WOOD POLES  
2-POLE, H-FRAME, 90° TURN

NOTE: DRILL HOLES FOR GUY SPAN AS PART OF THIS SUBSTRUCTURE  
BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	8	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
13	BOLSE 010	2	SHOULDER EYE BOLT, 3/4" X 12", WITH SQUARE NUT ATTACHED
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	2	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 003	5	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
36	COBCO 028	12 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	10 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
58	LUGGR 001	3	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATTED COPPER COMPRESSION
62	NUTSL 004	10	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	6	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	6	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	6	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

# SW2PH135

SHIELD FOR WOOD POLES  
2-POLE, H-FRAME, 135° TURN



DEADEND INSULATOR	SINGLE TEE (1)	DOUBLE TEE (3)
UPPER BOLT 'A' LENGTH (INCHES)	12.8	13.7
LOWER BOLT 'B' LENGTH (INCHES)	12.1	12.2

NOTE: BOLT CALCULATIONS ASSUME A 9 INCH POLE TOP DIAMETER

NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 036	8	MACHINE BOLT, 3/4" X 14", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 008	4	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8" CLAMP, DUCT. IRON, 3#6 AW
28	CLETE 004	4	TOWER Y-EYE CLEVIS, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G.
29	CLETH 001	2	20,000# THIMBLE CLEVIS, GALVANIZED, PIN DIAMETER = 5/8", USED WITH 3/8" & 7/16"
31	CNNCP 002	4	COMPRESSION CONNECTOR, TYPE H (3#6 AW) TO (#4 CU), ALUMINUM
31	CNNCP 016	4	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., COPPER
33	CNNTB 001	2	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP
36	COBCO 028	10 ft	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN
37	COBCW 014	160 ft	#4 COPPERWELD CONDUCTOR
48	GUYGR 002	2	GRIP, GUY, 7/16", GREEN, GALVANIZED
49	GUYST 006	10 ft	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)
62	NUTSL 004	8	SQUARE LOCK NUT FOR 3/4" BOLT, H.D.G.
70	STAPL 002	80	STAPLE, COPPERWELD, 3/8" X 1 1/2"
72	TEEDE 002	7	TEE, MALLIABLE IRON, FOR WOOD POLE APPLICATION, H.D.G., 6" HOLE SPACING
76	WASRD 005	8	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED
77	WASSC 001	2	SQUARE CURVED WASHER FOR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4"
79	WASSP 005	8	SPRING WASHER FOR 3/4" BOLT, LEAF TYPE, GALVANIZED

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# MATERIALS

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**NOTE:** The section gives information on common materials used in the design, construction and maintenance of JEA's transmission system. Material lists provided in each subsection do not necessarily represent all available products. Contact Standards for specialty applications. Material descriptions and drawings focus only on critical design features and measurements and may differ slightly from an individual manufacturer's product and drawings. Contact Standards for manufacturer's drawings when additional detail is necessary.

## ITEM LIST

### ABBREVIATIONS:

**B.H.S. = BOLT HOLE SPACING**  
**GALV. = GALVANIZED**  
**H.D.G. = HOT DIPPED GALVANIZED**  
**HDWH. = HARDWARE**  
**S.S. = STAINLESS STEEL**

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
1	1-1	ADCTB 001	COMPOUND, CPR NON-SAGGING EPOXY GEL FOR REPAIRING DAMAGED CONCRETE POLES, 8 EACH PER CASE, ISSUED BY THE EACH, ONE EACH = ONE KIT (COMPOSED OF TWO TUBES).	74D	1B19Q03
1	1-1	ADCVF 001	VOID FILLER COMPOUND FOR DEADEND ASSEMBLIES, 1 LB TUBE	94D	1B10001
2	1-2	ADCVF 002	COMPOUND, VOID FILLER, HIGH TEMPERATURE (250C), 1 LB TUBE, FOR ACSS TRANSMISSION DEADEND BODIES AND COMPRESSION FITTINGS.		
3	2-1	ADPCT001	CLAMP-TOP ADAPTER, CONVERT 2-HOLE BLADE TO CLAMP-TOP POST TO BE USED WITH 69KV, 138KV, AND 230KV SYNTHETIC POST INSULATORS	70D	1B14N01
93		ADPPI 001	HORIZONTAL LINE POST ADAPTOR PLATE TO PREVENT CONDUCTOR FROM CONTACTING INSULATOR SHEDS.	43D	1B14N03
4	3-1	ADPSI 001	ADAPTER, INSULATOR STRUT, COLD END HORIZONTAL-VEE	52D	1B14N02
5	3-2	ADPSI 002	ADAPTER, INSULATOR STRUT, HOT END HORIZONTAL-VEE	52D	1B14N02
6	4-1	ANCEX 001	EXTENSION, ANCHOR, GALVANIZED, 1-1/4" ROUND SHAFT SIZE X 6' LENGTH, SCREW TYPE TRIPLE-EYE INCLUDED	108D	1Y03
7	4-2	ANCEX 002	42" ANCHOR EXTENSION, H.D.G., 1-1/2" SQ SHAFT, FURNISHED WITH HIGH STRENGTH BOLT	76D	1Y03
8	4-3	ANCEX 003	60" ANCHOR EXTENSION, H.D.G., 1-1/2" SQ SHAFT, FURNISHED WITH HIGH STRENGTH BOLT	63D	1Y03
9	4-4	ANCEX 005	EXTENSION, ANCHOR, 22200, 58" X 2.00" SQUARE SHAFT	60D	1Y03
10	5-1	ANCMS 002	5 FT. MULTI-HELIX (10", 11.3") SCREW ANCHOR, 1-1/2" SQUARE SHAFT, WITH TRIPLEYE AND COUPLING ASSEMBLY ATTACHED, H.D.G.	46D	1Y03
11	5-2	ANCMS 003	7.5 FT. MULTI-HELIX (10", 11.3", 13.5") SCREW ANCHOR, 1-1/2" SQUARE SHAFT, WITH TRIPLEYE AND COUPLING ASSEMBLY ATTACHED, H.D.G.	60D	1Y03
12	5-3	ANCMS 005	ANCHOR, 2" SQUARE SHAFT, 15,000# TORQUE, 6" X 8" X 10"	60D	1Y03
13	6-1	ARMST 012	ARM, STEEL SHIELD, GAIN BASE 14" B.H.S., SUPPLIED WITH 5/8 GROUNDING HOLE IN LINE END BRACKET	76D	2Y01
14	7-1	BALFI 001	BALL FITTING, TYPE CLEVIS, 30000# UTM STRENGTH, NEMA HDWH 52-3, GALV.	50D	1B14N04
15	7-2	BALFI 003	BALL FITTING, TYPE CLEVIS, 45000# UTM STRENGTH, NEMA HDWH 52-8, GALV.	150D	1B14N05
16	7-3	BALFI 004	BALL FITTING, HOOK TYPE, 30000# UTM STRENGTH, NEMA HDWH 52-3, GALV.	150D	1B14001
17	7-4	BALFI 005	BALL FITTING, OVAL EYE TYPE, 30000# UTM STRENGTH, NEMA HDWH 52-3, GALV.	24D	1B14001
18	7-5	BALFI 007	BALL FITTING, TYPE Y-CLEVIS, 30000# UTM STRENGTH, NEMA HDWH 52-3, GALV.	48D	1B14002
19	7-6	BALFI 008	BALL FITTING, Y-CLEVIS TYPE, 45000# UTM STRENGTH, NEMA HDWH 52-8, GALV.	100D	1B14003
19	8-1	BASFS 001	BASE, FAIL-SAFE, 69 KV CLASS, 12" BOLT SPACING		INACTIVE
20	9-1	BAYSW 002	BAYONET, SHIELD WIRE, CORNER, 84" LENGTH 2" X 2" X 3/16" ANGLE, 20" HOLE SPACING	180D	1Y03
21	9-2	BAYSW 003	BAYONET, SHIELD WIRE, CORNER, 40" LENGTH	59D	1Y03
22	9-3	BAYSW 004	BAYONET FOR SHIELD WIRE, STRAIGHT 40"	53D	1Y03
23	9-4	BAYSW 005	BAYONET, SHIELD WIRE, STRAIGHT 84" LENGTH		INACTIVE
23	10-1	BKTLP 001	BRACKET, 46-DEGREE ANGLE, 6" HOLE SPACING, 1 1/16" HOLE DIAMETER, 5/8" THICK	116 D	1P20V05
24	10-2	BKTLP 002	BRACKET, LINE POST INSULATOR SUPPORT 53 DEGREE ANGLE	66D	1P20V05
25	11-1	BOLDA 018	BOLT, 3/4" X 20", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	30D	1P09D03
26	11-2	BOLDA 019	BOLT, 3/4" X 22", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	57D	1P09D04
27	11-3	BOLDA 020	BOLT, 3/4" X 24", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	73D	1P09D04
28	11-4	BOLDA 021	BOLT, 3/4" X 26", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	44D	1P09D04
29	11-5	BOLDA 022	BOLT, 3/4" X 28", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	38D	1P09E01
30	11-6	BOLDA 023	BOLT, 3/4" X 30", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	55D	1P09E01
31	11-7	BOLDA 024	BOLT, 3/4" X 32", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	45D	1P09E02
32	11-8	BOLDA 025	BOLT, 3/4" X 34", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	87D	1P09E02
33	11-9	BOLDA 026	BOLT, 3/4" X 36", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	157D	1P09E03
34	11-10	BOLDA 027	BOLT, 3/4" X 38", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	150D	1P09E03
35	11-11	BOLDA 028	BOLT, 3/4" X 40", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	50D	1P09E04
36	11-12	BOLDA 029	BOLT, 3/4" X 42", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	54D	1P09E04
37	11-13	BOLDA 030	BOLT, 7/8" X 14", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	178D	1B14004
38	11-14	BOLDA 031	BOLT, 7/8" X 16", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	178D	1B14004





## Overhead Transmission Standards

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
39	11-15	BOLDA 032	BOLT, 7/8" X 18", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	155D	1B14005
40	11-16	BOLDA 033	BOLT, 7/8" X 20", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	178D	1B14P01
41	11-17	BOLDA 034	BOLT, 7/8" X 22", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	120D	1P08F01
42	11-18	BOLDA 035	BOLT, 7/8" X 24", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	127D	1P09E03
43	11-19	BOLDA 036	BOLT, 7/8" X 30", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	121 D	1B14Q05
44	11-20	BOLDA 037	BOLT, 7/8" X 32", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	49D	1P20L01
45	11-21	BOLDA 038	DOUBLE ARMING BOLT, 7/8" X 34", GALVANIZED, W/ 4 SQUARE NUTS ATTACHED	65D	1P20L01
46	11-22	BOLDA 039	DOUBLE ARMING BOLT, 7/8" X 36", GALVANIZED, W/ 4 SQUARE NUTS ATTACHED	66D	1P20L02
47	11-23	BOLDA 040	DOUBLE ARMING BOLT, 7/8" X 38", GALVANIZED, W/ 4 SQUARE NUTS ATTACHED	65D	1P20L02
48	11-24	BOLDA 041	BOLT, 7/8" X 28", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	50D	1P20L03
49	11-25	BOLDA 042	BOLT, 7/8" X 26", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	48D	1P20L04
50	11-26	BOLDA 043	BOLT, 7/8" X 40", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	48D	1P20L05
51	11-27	BOLDA 044	BOLT, 7/8" X 42", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	62D	1P20L06
52	11-28	BOLDA 045	BOLT, 7/8" X 44", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	62D	1P20L07
53	11-29	BOLDA 046	BOLT, 7/8" X 46", DOUBLE ARMING, GALV. WITH 4 SQUARE NUTS ATTACHED	62D	1P20L07
54	12-1	BOLMS 001	MACHINE BOLT, 1/2" X 2", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	71D	1P09F03
55	12-2	BOLMS 015	BOLT, MACHINE, 5/8" X 2", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	73D	1P09F04
56	12-3	BOLMS 016	BOLT, MACHINE, 5/8" X 3", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	230D	1P09F04
57	12-4	BOLMS 017	BOLT, MACHINE, 5/8" X 8", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	50D	1P09F04
58	12-5	BOLMS 018	BOLT, MACHINE, 5/8" X 10", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	52D	1P10A01
59	12-6	BOLMS 019	BOLT, MACHINE, 5/8" X 12", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	42D	1P10A02
60	12-7	BOLMS 020	BOLT, MACHINE, 5/8" X 14", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	42D	1P09F05
61	12-8	BOLMS 021	BOLT, MACHINE, 5/8" X 16", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	48D	1P10A02
62	12-9	BOLMS 022	MACHINE BOLT, 5/8" X 18", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	49D	1P10A03
63	12-10	BOLMS 023	MACHINE BOLT, 5/8" X 20", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	33D	1P10A03
64	12-11	BOLMS 024	MACHINE BOLT, 5/8" X 22", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	24D	1P10B01
65	12-12	BOLMS 025	BOLT, MACHINE, 5/8" X 24", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	148D	1P10B01
66	12-13	BOLMS 026	BOLT, MACHINE, 5/8" X 26", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	52D	1P10B01
67	12-14	BOLMS 027	BOLT, MACHINE, 5/8" X 28", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	46D	1P10B02
68	12-15	BOLMS 028	BOLT, MACHINE, 5/8" X 30", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	57D	1P10B02
69	12-16	BOLMS 029	BOLT, MACHINE, 3/4" X 2", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	62D	1B09Q02
70	12-17	BOLMS 030	BOLT, MACHINE, 3/4" X 3", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	62D	1B09Q03
71	12-18	BOLMS 031	BOLT, MACHINE, 3/4" X 4", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	67D	1B09Q04
72	12-19	BOLMS 032	BOLT, MACHINE, 3/4" X 6", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	41D	1B09P05
73	12-20	BOLMS 033	BOLT, MACHINE, 3/4" X 8", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	49D	1B09P04
74	12-21	BOLMS 034	BOLT, MACHINE, 3/4" X 10", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	39D	1P10A04
75	12-22	BOLMS 035	BOLT, MACHINE, 3/4" X 12", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	52D	1P10B04
76	12-23	BOLMS 036	BOLT, MACHINE, 3/4" X 14", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	36D	1P10C04
77	12-24	BOLMS 037	MACHINE BOLT, 3/4" X 16", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	51D	1P10D04
78	12-25	BOLMS 038	MACHINE BOLT, 3/4" X 18", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	50D	1P10D04
79	12-26	BOLMS 039	MACHINE BOLT, 3/4" X 20", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	49D	1P10D01
80	12-27	BOLMS 040	BOLT, MACHINE, 3/4" X 22", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	60D	1P10A05
81	12-28	BOLMS 041	BOLT, MACHINE, 3/4" X 24", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	52D	1P10A05
82	12-29	BOLMS 042	BOLT, MACHINE, 3/4" X 26", SQUARE HEAD GALV. STEEL, W/SQUARE NUT ATTACHED	84D	1P02S01
83	12-30	BOLMS 043	BOLT, MACHINE, 3/4" X 28", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	100D	1P09F02
84	12-31	BOLMS 044	BOLT, MACHINE, 3/4" X 32", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	166D	1P09F02
85	12-32	BOLMS 045	BOLT, MACHINE, 7/8" X 3", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	150D	1B14P01
86	12-33	BOLMS 047	BOLT, MACHINE, 7/8" X 12" SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	180D	1B14P02
87	12-34	BOLMS 048	BOLT, MACHINE, 7/8" X 14" SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	180D	1B14P02
88	12-35	BOLMS 049	MACHINE BOLT, 7/8" X 16", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	104D	1B14P03
89	12-36	BOLMS 050	MACHINE BOLT, 7/8" X 18", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	160D	1P20M01
90	12-37	BOLMS 051	MACHINE BOLT, 7/8" X 20", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	87D	1P20M01
91	12-38	BOLMS 052	MACHINE BOLT, 7/8" X 22", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	34D	1P20M02
92	12-39	BOLMS 053	MACHINE BOLT, 7/8" X 24", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	109D	1P20M02
93	12-40	BOLMS 054	MACHINE BOLT, 7/8" X 26", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	125D	1P20M03
94	12-41	BOLMS 055	MACHINE BOLT, 7/8" X 28", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	126D	1P20M03
95	12-42	BOLMS 057	BOLT, MACHINE, 1" X 12", SQUARE HEAD, GALVANIZED STEEL, W/SQUARE NUT ATTACHED	52D	1B14P04
96	12-43	BOLMS 058	BOLT, MACHINE, 1" X 14", SQUARE HEAD, GALVANIZED STEEL, W/SQUARE NUT ATTACHED	52D	1B14P04
97	12-44	BOLMS 059	BOLT, MACHINE, 1" X 16", SQUARE HEAD, GALVANIZED STEEL, W/SQUARE NUT ATTACHED	50D	1B14P04
98	12-45	BOLMS 060	BOLT, MACHINE, 1" X 18", SQUARE HEAD, GALVANIZED STEEL, W/SQUARE NUT ATTACHED	48D	1B14P05
99	12-46	BOLMS 061	MACHINE BOLT, 1" X 20", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	47D	1B14P05
100	12-47	BOLMS 062	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	51D	1B14Q01

REVISED/REVIEWED: OCTOBER 2013

REVISED/REVIEWED BY: MLR

APPROVED BY: KKR

## MATERIALS



# Overhead Transmission Standards

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
101	12-48	BOLMS 063	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	52D	1P20M04
102	12-49	BOLMS 064	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	62D	1P20M04
103	12-50	BOLMS 065	MACHINE BOLT, 1" X 34", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	85D	1P20M05
104	12-51	BOLMS 070	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	46D	1P20M05
105	12-52	BOLMS 071	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	42D	1P20N01
106	12-53	BOLMS 072	BOLT, MACHINE, 1" X 32", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	74D	1P20N01
107	12-54	BOLMS 073	MACHINE BOLT, 7/8" X 30", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	42D	1P20N02
108	12-55	BOLMS 074	MACHINE BOLT, 7/8" X 32", SQUARE HEAD, GALVANIZED, W/SQUARE NUT ATTACHED	74D	1B14Q02
109	12-56	BOLMS 075	BOLT, MACHINE, 7/8" X 36", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	74D	1P20N02
110	12-57	BOLMS 076	BOLT, MACHINE, 7/8" X 38", SQUARE HEAD GALVANIZED STEEL, W/SQUARE NUT ATTACHED	62D	1P20N02
111	13-1	BOLSE 001	BOLT, SHOULDER EYE, 5/8" X 6", GALVANIZED W/ SQUARE NUT ATTACHED		
112	13-2	BOLSE 002	BOLT, SHOULDER EYE, 5/8" X 8", GALVANIZED W/ SQUARE NUT ATTACHED		
113	13-3	BOLSE 003	BOLT, SHOULDER EYE, 5/8" X 10", GALVANIZED W/ SQUARE NUT ATTACHED		
114	13-4	BOLSE 004	BOLT, SHOULDER EYE, 5/8" X 12", GALVANIZED W/ SQUARE NUT ATTACHED		
115	13-5	BOLSE 005	BOLT, SHOULDER EYE, 5/8" X 14", GALVANIZED W/ SQUARE NUT ATTACHED		
116	13-6	BOLSE 006	BOLT, SHOULDER EYE, 5/8" X 16", GALVANIZED W/ SQUARE NUT ATTACHED		
117	13-7	BOLSE 007	BOLT, SHOULDER EYE, 5/8" X 18", GALVANIZED W/ SQUARE NUT ATTACHED		
118	13-8	BOLSE 008	BOLT, SHOULDER EYE, 3/4" X 8", GALVANIZED W/ SQUARE NUT ATTACHED		
119	13-9	BOLSE 009	BOLT, SHOULDER EYE, 3/4" X 10", GALVANIZED W/ SQUARE NUT ATTACHED		
120	13-10	BOLSE 010	BOLT, SHOULDER EYE, 3/4" X 12", GALVANIZED W/ SQUARE NUT ATTACHED		
121	13-11	BOLSE 011	BOLT, SHOULDER EYE, 3/4" X 14", GALVANIZED W/ SQUARE NUT ATTACHED		
122	13-12	BOLSE 012	BOLT, SHOULDER EYE, 3/4" X 16", GALVANIZED W/ SQUARE NUT ATTACHED		
123	13-13	BOLSE 013	BOLT, SHOULDER EYE, 3/4" X 18", GALVANIZED W/ SQUARE NUT ATTACHED		
124	13-14	BOLSE 014	BOLT, SHOULDER EYE, 3/4" X 20", GALVANIZED W/ SQUARE NUT ATTACHED		
125	13-15	BOLSE 015	BOLT, SHOULDER EYE, 3/4" X 22", GALVANIZED W/ SQUARE NUT ATTACHED		
126	13-16	BOLSE 016	BOLT, SHOULDER EYE, 3/4" X 24", GALVANIZED W/ SQUARE NUT ATTACHED		
127	13-17	BOLSE 017	BOLT, SHOULDER EYE, 7/8" X 14", GALVANIZED W/ SQUARE NUT ATTACHED		
128	13-18	BOLSE 018	BOLT, SHOULDER EYE, 7/8" X 16", GALVANIZED W/ SQUARE NUT ATTACHED		
129	13-19	BOLSE 019	BOLT, SHOULDER EYE, 7/8" X 18", GALVANIZED W/ SQUARE NUT ATTACHED		
130	13-20	BOLSE 020	BOLT, SHOULDER EYE, 7/8" X 20", GALVANIZED W/ SQUARE NUT ATTACHED		
131	13-21	BOLSE 021	BOLT, SHOULDER EYE, 7/8" X 22", GALVANIZED W/ SQUARE NUT ATTACHED		
132	13-22	BOLSE 022	BOLT, SHOULDER EYE, 7/8" X 24", GALVANIZED W/ SQUARE NUT ATTACHED		
133	13-23	BOLSE 023	BOLT, SHOULDER EYE, 7/8" X 26", GALVANIZED W/ SQUARE NUT ATTACHED		
134	13-24	BOLSE 024	BOLT, SHOULDER EYE, 7/8" X 28", GALVANIZED W/ SQUARE NUT ATTACHED		
135	13-25	BOLSE 025	BOLT, SHOULDER EYE, 7/8" X 30", GALVANIZED W/ SQUARE NUT ATTACHED		
136	14-1	BRCCF 001	BRACE, CROSSARM, FACE MOUNTING WOOD, 3-3/8" X 4-3/8" FIR, 3'-0" DROP, 9'-0" SPAN (1 EACH = 1 PAIR) #6-10 PENTA TREATED. GALV. STEEL END FITTINGS, 3-1/2" X 3-1/2".	171D	2Y02
137	14-2	BRCCF 002	BRACE, CROSSARM, FACE MOUNTING WOOD, 3-3/8" X 4-3/8" FIR, 3'-6" DROP, 10'- 6" SPAN	150D	2Y02
138	14-3	BRCCF 003	BRACE, CROSSARM, FACE MOUNTING WOOD, 3-3/8" X 4-3/8" FIR, 4'-6" DROP, 14'- 0" SPAN (1 EACH = 1 PAIR),	131D	1Y06
139	14-4	BRCCF 004	BRACE, CROSSARM, FACE MOUNTING WOOD, 3-3/8" X 4-3/8" FIR, 6'-10" DROP, 19'- 0" SPAN	150D	1Y06
140	15-1	BRCCX 001	BRACE, "X", WOOD, FIR, POLE SPACING CENT ER TO CENTER 10'- 0", CROSS-SECTION WOOD 3-3/8" X 4-3/8",	135D	2Y02
141	15-2	BRCCX 002	BRACE, "X", WOOD, FIR, POLE SPACING CENT ER TO CENTER 10'- 6", CROSS-SECTION WOOD 3-3/8" X 4-3/8",	52D	1Y06
142	15-3	BRCCX 003	BRACE, "X", WOOD, FIR, POLE SPACING CENT ER TO CENTER 12'- 0", CROSS-SECTION WOOD 3-3/8" X 4-3/8",	52D	1Y06
143	15-4	BRCCX 004	BRACE, "X", WOOD, FIR, POLE SPACING CENT ER TO CENTER 14'- 0", CROSS-SECTION WOOD 3-3/8" X 4-3/8",	52D	1Y06
144	15-5	BRCCX 005	BRACE, "X", WOOD, FIR, POLE SPACING CENT ER TO CENTER 19'- 6", CROSS-SECTION WOOD 3-11/16" X 8-1/2"	52D	1Y06
145	16-1	CLAAAN 001	CLAMP, ANGLE, 4-SOL.- 250-MCM, FORGED STEEL OR MALLEABLE IRON 7000#	72D	1B09Q01
146	16-2	CLAAAN 002	CLAMP, ANGLE, 2-AAAC - 1/0-AAAC ALUMINUM, 7000#	56D	1B09R02
147	17-1	CLACT 001	CLAMP, CLAMP-TOP POST INSULATOR, HOT-DIP GALVANIZED, MALLEABLE IRON, 4/0-STR. CU.	83D	1B09R04
148	17-2	CLACT 003	CLAMP, CLAMP-TOP POST INSULATOR ALUMINUM, 1/0 - 3/0 AAAC	80D	1B09R04
149	17-3	CLACT 004	CLAMP, CLAMP-TOP POST INSULATOR ALUMINUM, 336 - 636 AAC	66D	1B09S02
150	17-4	CLACT 005	CLAMP, CLAMP-TOP POST INSULATOR ALUMINUM, 954-ACSR	265D	1B14R01
151	17-5	CLACT 006	CLAMP, CLAMP-TOP POST INSULATOR ALUMINUM, 1590-ACSR	251D	1B14R02
152	17-7	CLACT 009	CLAMP, CLAMP-TOP POST INSULATOR, ANGLE, 2 - 1/0 AAAC, ALUMINUM CONDUCTOR	74D	1B09S04
153	17-8	CLACT 010	CLAMP, CLAMP-TOP POST INSULATOR, ANGLE, 3/0 AAAC - 336 AAC ALUMINUM CONDUCTOR	65D	1B09S03
154	17-9	CLACT 011	CLAMP, CLAMP-TOP POST INSULATOR, ANGLE, 556, 652, 636, ALUMINUM CONDUCTOR	62D	1B09T01
155	17-10	CLACT 012	CLAMP, CLAMP-TOP POST INSULATOR, ANGLE, 954 ACSR, ALUMINUM CONDUCTOR	178D	1B14R02

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APPROVED BY: KKR

## MATERIALS



# Overhead Transmission Standards

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
156	19-1	CLAGR 001	CLAMP, GROUND ROD, 5/8" - 4SOL "HAMMERLOCK"	26D	1B09T02
157	19-2	CLAGR 002	CLAMP, GROUND ROD, 5/8", 8 SOL - 1/0 STR. "WEDDING BAND" ***MAINTENANCE ONLY**		
158	20-1	CLAJU 001	CLAMP, JUMPER LOOP, FOR USE ON POLYMER INSULATOR, FOR 954-AAC & 954-ACSR	80D	1B14R04
159	20-2	CLAJU 002	CLAMP, JUMPER LOOP, FOR USE ON POLYMER INSULATOR, FOR 1590-ACSR	80D	1B14R05
160	20-3	CLAJU 005	CLAMP, SUSPENSION, CUSHION GRIP, 25000 LB LOAD, FOR 556 ASCR	80D	1B22W02
161	20-4	CLAJU 006	CLAMP, SUSPENSION, CUSHION GRIP, 25000 LB LOAD, FOR 954 AAC	80D	1B22X03
162	20-5	CLAJU 007	CLAMP, SUSPENSION, CUSHION GRIP, 25000 LB LOAD, FOR 954 ASCR	80D	1P05J04
163	20-6	CLAJU 008	CLAMP, SUSPENSION, CUSHION GRIP, 25000 LB LOAD, FOR 1590 ASCR	80D	1B22X05
164	20-7	CLAJU 010	CLAMP, SUSPENSION, CUSHION GRIP, 25000 LB LOAD, FOR 954 CARDINAL ACSS - MAXIMUM OPERATING TEMPERATURE IS 200C	80D	1B22X04
165	21-1	CLAQD 001	CLAMP, QUADRANT DEADEND, MALLEABLE IRON, GALVANIZED, 4/0-500MCM CU/AL, 25000#	24D	1B14R06
166	21-2	CLAQD 003	CLAMP, QUADRANT DEADEND, FORGED OR CAST ALUMINUM, 336-652AAAC, 25000#	192D	1B14S01
167	21-3	CLAQD 004	CLAMP, QUADRANT DEADEND, FORGED OR CAST ALUMINUM, 4/0-556AAC, 23000#	38D	1B14S02
168	21-4	CLAQD 005	DEADEND CLAMP (.7 - 1.39" = 336-1272 ACSR, 397-1431 AAC) 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"	263D	1P20N04
169	21-5	CLAQD 006	DEADEND CLAMP (1.18 - 1.52" = 1033-1510 ACSR, 1100-1700 AAC) 35,000# STRENGTH, GAP = 2", PIN = 3/4"	102D	1P20N05
170	21-6	CLAQD 007	CLAMP, QUADRANT, BRONZE, 750 MCM	24D	1B14U05
171	21-7	CLAQD 008	DEADEND CLAMP (.2 - .55") 19,000# STRENGTH, GAP = 7/8", PIN = 5/8"CLAMP, DUCTILE IRON, FOR 3#6 AW	66D	1P20N05
172	21-8	CLAQD 020	CLAMP, QUADRANT, FOR 2500 AAC CONDUCTOR.	42D	1P05H01
173	22-1	CLASU 001	ALUMINUM SUSPENSION CLAMP FOR 3#6AW / 7#10AW, 15000#	57D	1B14S03
174	22-2	CLASU 002	CLAMP, SUSPENSION, ALUMINUM, 25000#, 3/0 - 336AAC	54D	1B14S04
175	22-5	CLASU 006	CLAMP, SUSPENSION, ALUMINUM, 25000#, 652 AAAC, 636 AAC	166D	1P20001
176	22-6	CLASU 007	CLAMP, SUSPENSION, ALUMINUM, 25000#, 954 AAC, ASCR	151D	1P20001
177	22-7	CLASU 008	CLAMP, SUSPENSION, ALUMINUM, 25000#, 1590-ACSR	212D	1P20001
178	22-8	CLASU 009	CLAMP, SUSPENSION, MALLEABLE IRON, GALV. 16000#, 2-4/0	131D	1B09U03
179	23-1	CLASW 001	SHIELD WIRE CLAMP FOR 3#6AW / 3#7CU, GALV.	148	1B09U04
180	24-1	CLATG 001	CLAMP, TRANSFORMER TANK GROUND, "BRONZE" #6 SOL - #1 STR.	41D	1P11A04
181	25-1	CLECY 001	90 DEGREE EYE CLEVIS, 30,000#, H.D.G., DROP-FORGED STEEL	290D	1B14T01
186	25-2	CLECY 002	CLEVIS, EYE, STANDARD, 30,000#, H.D.G., DROP-FORGED STEEL, HOLE DIA = 11/16"		INACTIVE
182	25-2	CLECY 003	CLEVIS, EYE, STANDARD, 30,000#, H.D.G., DROP-FORGED STEEL, HOLE DIA = 13/16"	150D	1B14T01
183	25-3	CLECY 005	CLEVIS, HOT LINE HARDWARE, SOCKET-Y 50,000#, 7/8" PIN SIZE, CLASS 52-8 FOR TRANSMISSION USE, H.D.G.	52D	1B14T03
184	26-1	CLEHL 001	BALL-Y CLEVIS, CLASS 52-3/5, STRENGTH = 30,000#, L > 9" PIN = 3/4" HOT DIPPED GALV.	75D	1P20002
185	26-2	CLEHL 002	CLEVIS, HOT LINE HARDWARE, BALL-Y-CLEVIS 50,000#, 7/8" PIN SIZE, CLASS 52-8, H.D.G.	49D	1P20002
186	26-3	CLEHL 003	CLEVIS, HOT LINE HARDWARE, BALL CLEVIS, 30,000#, 5/8" PIN SIZE, CLASS 52-3, H.D.G.	60D	1B14T04
187	26-4	CLEHL 004	CLEVIS, HOT LINE HARDWARE, SOCKET CLEVIS 30,000#, 5/8" PIN SIZE, CLASS 52-3, H.D.G.	74D	1B14T05
188	26-5	CLEHL 005	SOCKET-Y CLEVIS, CLASS 52-8/11, STRENGTH = 50,000#, L = 11", PIN = 7/8", H.D.G.	59D	1P20003
189	26-6	CLEHL 006	CLEVIS, SOCKET EYE, HOT LINE HDWR., 30,000# STRENGTH, H.D.G.	48D	1B14U01
190	26-7	CLEHL 007	CLEVIS, SOCKET EYE, HOT LINE HDWR., 30,000# STRENGTH, H.D.G.	56D	1B14U02
191	26-8	CLEHL 008	SOCKET-EYE CLEVIS, CLASS 52-8/11, L = 10", EYE = 3/4 THICK W/ 13/16 OPENING, H.D.G.	50D	1B14U01
192	27-1	CLESO 001	CLEVIS, SOCKET, 52-3 & 4 NEMA, 5/8"-PIN 13/16" CLEVIS OPENING, FORGED STEEL, H.D.G.	290D	1B14U03
193	27-2	CLESO 002	CLEVIS, SOCKET, 52-3 NEMA, 5/8"-PIN 13/16" CLEVIS OPENING, FORGED STEEL, H.D.G.	49D	1B14U04
194	27-3	CLESO 003	CLEVIS, SOCKET, CLASS 52-8, 7/8" PIN 1-1/8" CLEVIS OPENING, FORGED STEEL, H.D.G.	52D	1B14U03
195	27-4	CLESO 004	CLEVIS, SOCKET-Y, CLASS 52-8, 3/4" PIN FORGED STEEL, H.D.G., 30,000#	51D	1B14V01
196	27-5	CLESO 005	CLEVIS, SOCKET - Y, 50,000 LB, CLASS 52-8/11.	42D	1P05E02
197	28-1	CLETE 001	TOWER Y-EYE CLEVIS, 30,000#, 3/4" PIN, 5/8" EYE THICKNESS, 11/16" EYE DIAMETER H.D.G., HEAT TREATED	83D	1P20N03
198	28-2	CLETE 002	CLEVIS, TOWER EYE, STANDARD, 30,000# 1" EYE THICKNESS, 11/16" HOLE DIA. H.D.G., HEAT TREATED	71D	1B14V02
204	28-3	CLETE 003	CLEVIS, TOWER EYE, STANDARD, 30,000# 1-5/8" EYE THICKNESS, 11/16" HOLE DIA. H.D.G., HEAT TREATED		INACTIVE
199	28-4	CLETE 004	CLEVIS, TOWER EYE, 90 DEGREE, 30,000# 5/8" EYE THICKNESS, 11/16" HOLE DIAMETER H.D.G., HEAT TREATED	75D	1B14V03
200	28-5	CLETE 005	CLEVIS, TOWER EYE, 90 DEGREE, 30,000# 1-3/8" EYE THICKNESS, 11/16" HOLE DIA. H.D.G., HEAT TREATED	93D	1B14V04
201	28-6	CLETE 006	CLEVIS, TOWER EYE, 90 DEGREE, 30,000# 1-5/8" EYE THICKNESS, 11/16" HOLE DIA. H.D.G., HEAT TREATED	95D	1B14V05

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## MATERIALS

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
202	29-1	CLETH 001	20,000# THIMBLE CLEVIS, GALV., MAXIMUM STRAND DIAMETER = 7/8", USED WITH 3/8" & 7/16"	54D	1P11A05
203	29-2	CLETH 002	40,000# THIMBLE CLEVIS, H.D.G., MAXIMUM STRAND DIAMETER = .875", USED WITH 1/2" & 9/16"	60D	1B14W01
204	29-3	CLETH 003	60,000# THIMBLE CLEVIS, H.D.G., STRENGTH = 60,000#, USED WITH 5/8" & 3/4"	28D	1B14W02
205	87-1	CLEYY 001	CLEVIS, "Y", 90-DEGREE, 13/16" OPENING 3/4" Y-PIN, 5/8" CLEVIS PIN, 30,000#	61D	1B14W03
206	87-2	CLEYY 002	CLEVIS, "Y", 90-DEGREE, 15/16" OPENING 7/8" Y-PIN, 7/8" CLEVIS PIN, 50,000#.	52D	1B14V02
207	30-1	CNNAJ 002	ALUMINUM JUMPER TERMINAL FOR CONDUCTOR RANGE .889" - .964" (556-ACSR & 636-AAC), 15-DEGREE ANGLE	119D	1B09U05
208	30-2	CNNAJ 005	TERMINAL, ALUMINUM JUMPER, CONDUIT RANGE 1.475" - 1.560", CONDUIT SIZE 1590-ACSR 15-DEGREE ANGLE	76D	1B14W04
209	30-3	CNNAJ 006	ALUMINUM JUMPER TERMINAL FOR CONDUCTOR RANGE 1.092" - 1.172" (954 AAC), 0-DEGREE ANGLE	137D	1B14W05
210	30-4	CNNAJ 007	ALUMINUM JUMPER TERMINAL FOR CONDUCTOR RANGE 1.124" - 1.196" (954-ACSR), 0-DEGREE ANGLE	52	1B14W05
211	30-5	CNNAJ 008	ALUMINUM JUMPER TERMINAL FOR CONDUCTOR RANGE 1.475" - 1.560" (1590-ACSR), 0-DEGREE ANGLE,	35D	1B14X01
212	30-6	CNNAJ 010	TERMINAL, ALUMINUM JUMPER, COMPRESSION TERMINAL, 954-SSAC "CARDINAL" 15-DEGREE ANGLE	105D	1B14X01
213	30-7	CNNAJ 020	TERMINAL, STRAIGHT, ALUMINUM JUMPER, FOR 2500 ACC CONDUCTOR.	42D	1B08O07
214	31-1	CNNCP 002	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (#4 CU); (.258 - .420) TO (.162 - .332), ALUMINUM	24D	1P11B04
215	31-2	CNNCP 003	COMPRESSION CONNECTOR, TYPE H, (3#6 AW) TO (3#6 AW); (.232 - .420) TO (.232 - .420), ALUMINUM	48D	1P11B03
216	31-3	CNNCP 016	COMPRESSION CONNECTOR, #4 SOL. CU. TO #4 SOL. CU., FOR COPPER CONNECTIONS ONLY	61D	1B09U03
217	32-1	CNNGR 002	COUPLING, GROUND ROD, "THREADLESS" REMARKS: FOR THREADLESS GROUND RODS	24D	1P11C05
218	88-1	CNNPA 133	CONNECTOR, PARALLEL TAP, ALUMINUM, 3 U-BOLTS, 556 ACSR.		
219	88-2	CNNPA 137	CONNECTOR, PARALLEL TAP, ALUMINUM, 3 U-BOLTS, 954AAC.		
220	88-3	CNNPA 141	CONNECTOR, PARALLEL TAP, ALUMINUM, 3 U-BOLTS, 954ACSR.		
221	88-4	CNNPA 145	CONNECTOR, PARALLEL TAP, ALUMINUM, 3 U-BOLTS, 1590ACSR.		
222	33-1	CNNTB 001	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 1/0-4/0 MAIN, 8-4/0 TAP	49D	1B09V02
223	33-2	CNNTB 002	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 250-350 MAIN, 8-350 TAP	46D	1B09V02
224	33-3	CNNTB 003	TWO BOLT PARALLEL CONNECTOR FOR CU TO CU CONNECTIONS, 400-500 MAIN, 8-500 TAP	34D	1B09V03
225	33-4	CNNTB 004	CONNECTOR, 400-800 MAIN, 3/0-800 TAP TWO-BOLT PARALLEL	28D	1B09V04
226	89-1	CNNTTE 206	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, HEAT TREATED, 556 ACSR MAIN TO 4/0 CU TAP		
227	89-2	CNNTTE 208	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, HEAT TREATED, 556-652 ACSR MAIN TO 336.4 TAP		
228	89-3	CNNTTE 209	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 556-652, MAIN & TAP		
229	89-4	CNNTTE 210	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 954 MAIN TO 3/0 TAP		
230	89-5	CNNTTE 211	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 954 MAIN TO 336 TAP		
231	89-6	CNNTTE 213	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 954-1192 MAIN TO 556-652 TAP		
232	89-7	CNNTTE 214	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 954 MAIN & TAP		
233	89-8	CNNTTE 224	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 1590 MAIN TO 336 TAP		
234	89-9	CNNTTE 227	CONNECTOR, STRAIGHT TEE, ALUMINUM, CABLE TO CABLE, BOLTED, HEAT TREATED, 1590 MAIN & TAP		
235	34-1	COBAA 024	CONDUCTOR, 652 KCM (AAAC), 19 STRAND BARE ALL-ALUMINUM ALLOY "ELGIN"	72D	1F15F15
236	34-2	COBAA 027	CONDUCTOR, 954 KCM (AAC), 61 STRAND "GOLDENROD" CONDUCTOR TO BE DELIVERED ON RMT 90.45 - 10,900 FT / REEL	105D	
237	34-3	COBAA 028	CONDUCTOR, LUPINE 2500 AAC	60D	
238	35-1	COBAS 005	CONDUCTOR, 3#6 ALUMINUM CLAD STEEL	70D	1Y01
239	35-2	COBAS 006	CONDUCTOR, 7#7 ALUMINUM CLAD STEEL	181D	1F02
240	35-3	COBAS 007	CONDUCTOR, 7#10 ALUMINUM CLAD STEEL - REPLACES COBAS003	207D	1F02
241	36-1	COBCO 004	CONDUCTOR, #4 SOLID		
242	36-2	COBCO 025	CONDUCTOR, #6 SOLID, SOFT DRAWN, BARE COPPER (50# COIL)	70D	1P24S03
243	36-3	COBCO 026	CONDUCTOR, #6 SOLID, HARD DRAWN, BARE COPPER	150D	1F06





# Overhead Transmission Standards

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
244	36-4	COBCO 028	#4 SOLID BARE COPPER CONDUCTOR, SOFT DRAWN (50# COIL)	70D	1P24T01
245	36-5	COBCO 029	CONDUCTOR, #2 SOLID, HARD DRAWN, BARE COPPER (25# COIL)	57D	1P24U03
246	37-1	COBCW 014	CONDUCTOR, #4, TYPE 40 DSA, COPPERWELD & COPPERWELD-COPPER .204" DIAMETER 3541# BREAKING STRENGTH (50# COIL)	70D	1P24V01
247	38-1	COBSR 001	CONDUCTOR, 556.5 KCM (ACSR), 24-7 STRAND BARE ALL-ALUMINUM REINFORCED, "PARAKEET"	119D	1Y05
248	38-2	COBSR 002	CONDUCTOR, 954 KCM (ACSR), 54-7 STRAND, BARE ALL-ALUMINUM REINFORCED, "CARDINAL"	65D	1Y01
249	38-3	COBSR 003	CONDUCTOR, 1590 KCM, ACSR, 54-19 STRAND BARE ALL-ALUMINUM REINFORCED, "FALCON"	66D	1Y01
250	38-5	COBSR 005	CONDUCTOR, 954 KCM (ACSS), 54-7 STRAND, BARE ALL-ALUMINUM REINFORCED, "CARDINAL"	70D	
251	91-1	CXAFG 001	CROSSARM, FIBERGLASS, 3 5/8" X 4 5/8" X 10', 10" BOLT SPACING, ULTIMATE LOAD PER SIDE 13,000 LBS.		
252	91-2	CXAFG 002	CROSSARM, FIBERGLASS, 3 5/8" X 4 5/8" X 10', 10" BOLT SPACING, 39 LBS, USED FOR TANGENT CONSTRUCTION ONLY		
253	39-1	CXAGA 001	CROSSARM, GAIN, 4" X 6 3/4", 9"-15" POLE DIA, 7/8" MAXIMUM BOLT SIZE, GALVANIZED	60D	1B16M04
254	40-1	CXAWO 001	CROSSARM, WOOD, 3-1/2" X 4-1/2" X 8'	56D	1Y03
255	40-2	CXAWO 002	TIMBER, 4" X 4" X 8 FT. TREATED SOUTHERN YELLOW PINE, MATERIAL TO BE BANDED IN BUNDLES OF 25 EACH,	47D	1Y03
256	40-3	CXAWO 003	CROSSARM, WOOD, 3-3/4" X 4-3/4" X 10'	70D	1Y03
257	40-4	CXAWO 004	CROSSARM, WOOD, 4-3/4" X 5-3/4" X 10'	67D	1Y03
258	40-5	CXAWO 005	CROSSARM, WOOD, 5-3/4" X 5-3/4" X 10'	70D	1Y03
259	40-6	CXAWO 006	CROSSARM, WOOD, 3-3/4" X 7-3/4" X 11'	139D	2Y01
260	40-7	CXAWO 007	CROSSARM, WOOD, 3-3/4" X 7-3/4" X 15'-6"	124D	2Y01
261	40-8	CXAWO 008	CROSSARM, WOOD, 5 3/4" X 7 3/4" X 11' TREATED SOUTHERN YELLOW PINE FIR	139D	2Y01
262	40-9	CXAWO 009	CROSSARM, WOOD, 5 3/4" X 7 3/4" X 15' TREATED SOUTHERN YELLOW PINE	134D	2Y01
263	40-10	CXAWO 010	CROSSARM, WOOD, 5 3/4" X 7 3/4" X 22' TREATED SOUTHERN YELLOW PINE	162D	2Y01
264	40-11	CXAWO 011	CROSSARM, WOOD, 4-3/4" X 5-3/4" X 12'	150D	2Y01
265	40-12	CXAWO 012	CROSSARM, WOOD, 5-3/4" X 7-3/4" X 29'	150D	2Y01
266	41-1	DAPVI 001	VIBRATION DAMPER FOR 3#6AW & 7#10AW	50D	1P19M01
267	41-2	DAPVI 002	VIBRATION DAMPER FOR 3#6AW WITH GRIP	110D	1B15M04
268	41-3	DAPVI 003	VIBRATION DAMPER FOR 556-MCM ACSR	44D	1B15M05
269	41-4	DAPVI 004	VIBRATION DAMPER FOR 954-MCM ACSR	76D	1P19V01-4
270	41-5	DAPVI 005	VIBRATION DAMPER FOR 1590-MCM ACSR	71D	1P19U01
271	42-1	DEACB 003	DEADEND COMPRESSION ASSEMBLY FOR 556 ACSR, OVAL EYE, ACSR ONLY	50D	1P05I05
272	42-2	DEACB 005	DEADEND COMPRESSION ASSEMBLY FOR 954 ACSR, OVAL EYE, ACSR ONLY	69D	1P05F04
273	42-3	DEACB 007	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE, ACSR ONLY	60D	1P20O05
274	42-4	DEACB 010	DEADEND ASSEMBLY, 556, SINGLE PAD OVAL-EYE, ACSR ONLY	73D	1P05E04
275	42-5	DEACB 012	DEADEND ASSEMBLY, 954, SINGLE PAD OVAL-EYE, ACSR ONLY	119D	1P05H01
276	42-6	DEACB 014	DEADEND ASSEMBLY, 1590, SINGLE PAD OVAL-EYE, ACSR ONLY	52D	1P05I05
277	42-7	DEACB 016	DEADEND ASSEMBLY, 954 ACSS, SINGLE PAD COMPRESSION TYPE, DEADEND HAS OVAL-EYE AT 90-DEGREE ANGLE WITH 4-HOLE NEMA PAD AT 30-DEGREE ANGLE "CARDINAL"	57D	1P05F05
278	42-8	DEACB 017	DEADEND ASSEMBLY, 954 ACSS, COMPRESSION TO COMPRESSION	14D	1P05N01
279	43-1	GRIAR 001	SUPPORT, ARMOR GRIP, FOR ANGLES UP TO 30-DEGREE,	52D	1P20P02
280	43-2	GRIAR 002	SUPPORT, ARMOR GRIP, FOR ANGLES UP TO 30-DEGREE, LAPP P/N 77405B	122D	1P20P03
281	43-3	GRIAR 003	SUPPORT, ARMOR GRIP, FOR ANGLES UP TO 30-DEGREE, LAPP P/N 77406K	192D	1P20P04
282	43-4	GRIAR 004	SUPPORT, ARMOR GRIP, FOR ANGLES UP TO 30-DEGREE, LAPP P/N 77406F	52D	1P20P05
288	43-5	GRIAR 005	SUPPORT, ARMOR GRIP, FOR ANGLES UP TO 30-DEGREE, LAPP P/N 77408F		INACTIVE
283	44-1	GRIPR 001	GRIP, PREFORMED, 3#6AW, 22", DEADEND	52D	1P20P07
284	44-2	GRIPR 002	GRIP, PREFORMED, 7#10 & 3#7AW, 20" DEADEND	150D	1B15U04
285	44-3	GRIPR 003	GRIP, PREFORMED, 3#6CW, 27", DEADEND	52D	1B15U05
286	44-4	GRIPR 004	GRIP, PREFORMED, 3#7 & 7#10AW, 25" DEADEND	52D	1B15V01
287	44-5	GRIPR 005	GRIP, PREFORMED, 7#7AW, 28", DEADEND	150D	1B15V02
288	45-1	GRISA 001	SUSPENSION, ARMOR GRIP, ASSEMBLY, SINGLE COND. SIZE- 556 ACSR	42D	1P20Q01
289	45-2	GRISA 002	SUSPENSION, ARMOR GRIP, ASSEMBLY, SINGLE COND. SIZE- 652 AAAC	177D	1P20Q02
290	45-3	GRISA 003	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 AAC, (1.119" - 1.136"), 82 INCHES, 1 3/16" GAP, 5/8" PIN	98D	1P20Q03

REVISED/REVIEWED: OCTOBER 2013

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APPROVED BY: KKR

## MATERIALS



# Overhead Transmission Standards

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
291	45-4	GRISA 004	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, (1.176" - 1.208"), 82 INCHES, 1 3/16" GAP, 5/8" PIN	70D	1P20R01
292	45-5	GRISA 005	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, (1.517" - 1.557"), 88 INCHES, 1 3/8" GAP, 3/4" PIN	101D	1P20R01
293	45-6	GRISA 006	SUSPENSION, ARMOR GRIP, ASSEMBLY, DOUBLE FOR LINE ANGLES 30-60 DEGREES, SIZE 954 AAC, SPACING- 26"	52D	NON STOCK
294	45-7	GRISA 007	SUSPENSION, ARMOR GRIP, ASSEMBLY, DOUBLE FOR LINE ANGLES 30-60 DEGREES, SIZE 954 ACSR, SPACING- 26"	24D	NON STOCK
295	45-8	GRISA 008	SUSPENSION, ARMOR GRIP, ASSEMBLY, DOUBLE FOR LINE ANGLES 30-60 DEGREES, SIZE 1590 ACSR, SPACING- 32"	51D	1P20V01
296	45-9	GRISA 009	SUSPENSION, ARMOR GRIP, ASSEMBLY, SINGLE HIGH TEMPERATURE CONDUCTOR SIZE- 954 ACSS	60D	1P46G02
297	45-10	GRISA 010	SUSPENSION, DOUBLE ARMOR GRIP, ASSEMBLY, FOR HIGH TEMPERATURE CONDUCTOR SIZE- 954 ACSS, CARDINAL.	60D	1C02A01
298	45-11	GRISA 020	ARMOR GRIP ASSEMBLY FOR SINGLE 2500 ACC CONDUCTOR	42D	
299	46-1	GUAGW 001	GUARD, GROUND WIRE, 1/2" X 1/2" X 96", GRAY PLASTIC	64D	1P14F03
300	46-2	GUAGW 002	GUARD, "YELLOW", GUY WIRE, 1/4" TO 1/2" 8', PVC	49D	1P13F02
301	46-3	GUAGW 003	GUARD, GUY WIRE, 8' POLYETHYLENE WITH UV INHIBITORS, ROUND 2" O.D., YELLOW, TO INCLUDE SHORT GUY STRAP, FOR 9/16" AND 3/4" GUY STRAND	78D	1P01S02
302	47-1	GUALI 001	ALUMINUM LINE GUARD FOR 3#6AW, 23" LG, RANGE .347" - 366"	68D	1B15N01
303	47-2	GUALI 002	GUARD, LINE, ALUMINUM, 2ACSR SIZE 21" LG, RANGE .309" - 326"	56D	1B15N02
304	47-3	GUALI 003	GUARD, LINE, ALUMINUM, 7#10AW SIZE 21" LG, RANGE .290# - .308"	150D	1B15N03
305	47-4	GUALI 004	GUARD, LINE, ALUMINUM, 1/0AAC SIZE 25" LG, RANGE .390" - .413"	52D	1B15N04
306	47-5	GUALI 005	GUARD, LINE, ALUMINUM, 7#7AW SIZE 23" LG., RANGE .367" - 389"	199D	1B15N05
307	47-6	GUALI 006	GUARD, LINE, ALUMINUM, 3/0ACSR SIW 29" LG., RANGE .491" - .521"	126D	1B15N06
308	47-7	GUALI 007	GUARD, LINE, ALUMINUM, 336AAC SIZE 35" LG., RANGE .656" - .679"	52D	1B15O03
309	47-8	GUALI 008	GUARD, LINE, ALUMINUM, 556ACSR SIZE 43" LG., RANGE .889" - .954"	45D	1P20T01
310	48-1	GUYGR 001	GRIP, GUY, 3/8", 26", GALVANIZED	35D	1P11F02
311	48-2	GUYGR 002	GRIP, GUY, 7/16", GREEN, GALVANIZED	38D	1P11F01
312	48-3	GUYGR 003	GRIP, GUY, 1/2", 34", GALVANIZED	62D	1P20T01
313	48-4	GUYGR 004	GRIP, GUY, 9/16", YELLOW, GALVANIZED	86D	1P20T02
314	48-5	GUYGR 005	GRIP, GUY, 3/4", ORANGE, GALVANIZED	62D	1P20T03
315	49-1	GUYST 005	STRAND, GUY, 3/8" DIA, 7 PER STRAND, GALVANIZED STEEL, CLASS "B" GALV. (500' COIL)	37D	1Y01
316	49-2	GUYST 006	7/16" DIAMETER GUY STRAND, 7 PER STRAND, CLASS "B" GALV. (500' COIL)	52D	1Y01
317	49-3	GUYST 007	9/16" DIAMETER GUY STRAND, 7 PER STRAND, GALVANIZED STEEL, 1000FT REEL, CLASS C. CODE 378 (1000' REEL)	55D	1Y01
318	49-4	GUYST 008	3/4" DIAMETER GUY STRAND, 19 PER STRAND, GALVANIZED STEEL, CLASS "C" GALV. (1000'/REEL)	55D	1Y01
319	85-1	HDWTU 001	TURNBUCKLE, CLEVIS-EYE, 12" TAKEUP, 76,000#		
320	90-1	INSCR 001	CORONA RING, FOR MACLEAN 138/230KV 50,000 LBS SML DEAD-END INSULATORS	97D	1B15N07
321	90-2	INSCR 002	CORONA RING FOR NGK 138KV AND 230KV INSULATORS (INSDE002 & 003; INSSU009 & 010; INSLP013 & 014)	97D	1B03U04
322	90-1	INSCR 003	CORONA RING, FOR MACLEAN 138/230KV 30,000 LBS SML SUSPENSION AND BRACED LINE POST INSULATORS	97D	1B04P03
323	90-2	INSCR 004	CORONA RING, FOR MACLEAN 138/230KV 2.5" POST INSULATORS	97D	1B04W04
324	90-3	INSCR 005	CORONA RING, FOR NGK INSULATOR (INSDE006 & 007)	97D	1B04U01
325	90-4	INSCR 006	CORONA RING, FOR NGK POST INSULATORS (INSHP024 & 025)	97D	1B20U04
326	50-1	INSDE 002	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000#, L=111", 230KV	100	8P.12.A01
327	50-2	INSDE 003	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000#, L=89" 138KV NC, 230KV OC	60D	8P.12.B01
328	50-3	INSDE 004	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000#, L=66" 69KV NC, 138KV OC	48D	8P.12.C01
329	50-4	INSDE 006	INSULATOR, DEADEND, SILICON, NEMA 8/11 Y-CLEVIS BALL END FITTINGS, ECR GLASS, 50,000 LBS SML, L-83", MIN LEAKAGE DISTANCE = 200	87D	8P.08.A01
330	50-5	INSDE 007	INSULATOR, DEADEND, SILICON, NEMA 8/11 Y-CLEVIS BALL END FITTINGS, ECR GLASS, 50,000 LBS SML, L-100", MIN LEAKAGE DISTANCE = 250	87D	8P.08.B01
331	50-6	INSDE 010	INSULATOR, DEADEND, SILICON, Y-BALL COUPLING, ANSI 52-8/11, 50,000LB, L=43" 69KV OC	56D	8P.09.C01
333	51-1	INSHP 020	HORIZONTAL POST SILICONE INSULATOR, 69KV, L = 45 INCHES, GAIN BASE,	67D	8P.05.A01
334	51-2	INSHP 021	INSULATOR, HORIZONTAL LINE POST, SILICONE, 69 KV, FLAT BASE	67D	8P.06.A01
335	51-3	INSHP 022	INSULATOR, HORIZONTAL LINE POST, SILICONE, 138 KV, FLAT BASE	67D	8P.06.C01
336	51-4	INSHP 023	HORIZONTAL POST SILICONE INSULATOR, 138KV, L = 54 INCHES, GAIN BASE	67D	8P.07.A01

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## MATERIALS



# Overhead Transmission Standards

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
337	51-5	INSHP 024	INSULATOR, HORIZONTAL LINE POST, SILICONE, 230 KV, FLAT BASE,	67D	8P.07.B02
338	51-6	INSHP 025	HORIZONTAL POST SILICONE INSULATOR, 230KV, L = 86 INCHES, GAIN BASE	100D	8P.11.A01
339	51-7	INSHP 030	INSULATOR, POST WITH TRUNION, 138KV, 12 DEGREE RISE, D.A. = 50", L.D. = 145", TENSILE LOAD = 5000 LBS.	57D	8P.07.C01
340	51-8	INSHP 032	INSULATOR, HORIZONTAL LINE POST, SILICONE, 230 KV, TRUNNION END FITTING, GAIN TYPE BASE	84D	8P.11.B01
341	51-9	INSHP 035	INSULATOR, HORIZONTAL LINE POST, SILICONE, 138 KV, EXTRA STRENGTH, FLAT BASE(SHIP TO: 2325 EMERSON ST., JAX, FL 32207) SHIP ON OPEN FLATBED	56D	
342	52-1	INSHV 001	INSULATOR ASSEMBLY, 138 KV, HORIZONTAL VEE	122D	1Y03
343	52-2	INSHV 002	INSULATOR ASSEMBLY, 240 KV, HORIZONTAL VEE	122D	1Y03
344	53-1	INSLP 003	INSULATOR, BRACED LINE POST, 230KV, FLAT	88D	
345	53-2	INSLP 011	INSULATOR, BRACED LINE POST, SILICONE, 138 KV, FLAT BASE	67D	2Y01
346	53-3	INSLP 012	138KV SILICONE BRACED LINE POST INSULATOR, GAIN BASE, L = 52", 12" B.H.S.	67D	2Y01
347	53-4	INSLP 013	INSULATOR, BRACED LINE POST, SILICONE, 230 KV, FLAT BASE	67D	1Y03
348	53-5	INSLP 014	230KV SILICONE BRACED LINE POST INSULATOR, GAIN BASE, L= 108", 14" B.H.S.	100D	1YARD
349	54-1	INSPS 030	INSULATOR, SUSPENSION, SILICONE, Y-BALL COUPLING, ANSI 52-5, 25000#, L=59", 138KV SPECIAL APPLICATIONS	67D	1YARD
350	54-2	INSPS 031	INSULATOR, SUSPENSION, SILICONE, Y-BALL COUPLING, ANSI 52-5, 25000#, L=97", 230KV SPECIAL APPLICATIONS	67D	2Y02
351	55-	INSST XXX	INSULATOR, SPOOL TYPE, [001 BROWN] [002 WHITE]	43D	1P10J02
352	55-3	INSST 004	INSULATOR, STRUT, 30-1/2" LENGTH, 15000# TENSION		1Y.03.A01
353	55-4	INSST 005	INSULATOR, STRUT, 33-1/2" LENGTH, 15000# TENSION		1Y.03.A01
354	55-6	INSST 006	INSULATOR, STRUT, 36-1/2" LENGTH, 15000# TENSION		1Y.03.A01
355	55-7	INSST 007	INSULATOR, STRUT, 31-1/4" LENGTH, 25000# TENSION		1Y.03.A01
356	55-8	INSST 008	INSULATOR, STRUT, 34-1/4" LENGTH, 25000# TENSION		1Y.03.A01
357	55-9	INSST 009	INSULATOR, STRUT, 37-1/4" LENGTH, 25000# TENSION		1Y.03.A01
358	55-10	INSST 010	INSULATOR, STRUT, 25-1/2" LENGTH, 15000# TENSION		1P.08.J03
359		INSST011	INSULATOR, STRUT, BOLT KIT FOR INSST 004-010. EA. KIT CONTAINS (4) 1/2"-13 X 1.75" BOLTS, LOCK WASHERS, AND HEX NUTS.		1B.23.K04
360	56-1	INSSU 003	INSULATOR, SUSPENSION, 10", CLASS 52-3, STRENGTH 20000#, GALVANIZED FITTINGS	47D	1Y.03.A01
361	56-2	INSSU 004	INSULATOR, SUSPENSION, 10", CLASS 52-5, NEMA-STRENGTH: 30000#, GALVANIZED FITTINGS	70D	1Y.03.A01
362	56-3	INSSU 005	INSULATOR, SUSPENSION, 10", CLASS 52-8, STRENGTH 40000#, GALVANIZED FITTINGS	52D	1Y.03.A01
363	56-4	INSSU 007	INSULATOR, SUSPENSION, SILICON, Y-BALL COUPLING, ANSI 52-5, 30,000#, L=43" 7-BELLS		8P.08.B03
364	56-5	INSSU 008	INSULATOR, SUSPENSION, SILICON, Y-BALL COUPLING, ANSI 52-5, 30,000#, L=66" 11-BELLS		8P.08.C01
365	56-6	INSSU 009	INSULATOR, SUSPENSION, SILICON, Y-BALL COUPLING, ANSI 52-5, 30,000#, L=89" 15-BELLS		8P.09.A01
366	56-7	INSSU 010	INSULATOR, SUSPENSION, SILICON, NEMA 3/5 Y-CLEVIS BALL END FITTINGS, ECR GLASS, 30,000 LBS SML, L=83", MIN LEAKAGE DISTANCE = 200		8P.08.B01
367	57-1	LIKEX 002	LINK, EXTENSION, CLEVIS/EYE TYPE FITTING 14" LENGTH, ULTIMATE STRENGTH 15,000#		1P.01.S01
368	58-1	LUGGR 001	LUG FOR 3/4" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION	180D	1B15U01
369	58-2	LUGGR 002	LUG FOR 7/8" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION	77D	1B15U01
370	58-3	LUGGR 003	LUG FOR 1" BOLT, #4 SOLID WIRE, TIN PLATED COPPER COMPRESSION	129D	1B15U02
371	59-1	NUTEY 001	NUT, EYE, 1/2", HOT DIPPED GALVANIZED	67D	1B12S03
372	59-2	NUTEY 002	EYE NUT FOR 5/8" BOLT, 1 1/2" OPENING, HOT DIPPED GALVANIZED	37D	1P11F03
373	59-3	NUTEY 003	NUT, EYE, 3/4", HOT DIPPED GALVANIZED	50D	1P11F03
374	59-4	NUTEY 004	NUT, EYE, 7/8", HOT DIPPED GALVANIZED	178D	1B15N08
375	60-1	NUTHH 025	STAINLESS STEEL NUT FOR 1/2" BOLT - ITEM LOCATED IN MAXIMO		
376	61-1	NUTSA 500	NUT, 1/2"-13, HEX, 316 SS, NC	174D	1B05H07
377	62-1	NUTSL 002	SQUARE LOCK NUT FOR 1/2" BOLT, HOT DIPPED GALVANIZED	24D	1B12S05
378	62-2	NUTSL 003	SQUARE LOCK NUT FOR 5/8" BOLT, HOT DIPPED GALVANIZED	60D	1B12S05
379	62-3	NUTSL 004	SQUARE LOCK NUT FOR 3/4" BOLT, HOT DIPPED GALVANIZED	24D	1P11A04
380	62-4	NUTSL 005	SQUARE LOCK NUT FOR 7/8" BOLT, HOT DIPPED GALVANIZED	40D	1B15N08
381	62-5	NUTSL 006	SQUARE LOCK NUT FOR 1" BOLT, HOT DIPPED GALVANIZED	106D	1B15N08
382	63-1	NUTTE 001	NUT, THIMBLE EYE 5/8" HOT DIPPED GALVANIZED	24D	1P11H02
383	63-2	NUTTE 002	NUT, THIMBLE EYE 3/4" HOT DIPPED GALVANIZED	58D	1P11H03
384	63-3	NUTTE 003	NUT, TWIN THIMBLE EYE 3/4" HOT DIPPED GALVANIZED	58D	1P11H03
385	63-4	NUTTE 004	NUT, THIMBLE EYE 7/8" HOT DIPPED GALVANIZED	157D	1B15O02
386	64-1	PLACR 001	PLATE, CROSSARM REINFORCING, STANDARD BOLT SIZE 3/4"	52D	1B13U05
387	83-1	RODAR 005	ROD, ARMOR, 556 ACSR - 636 AAC, 80"	24D	1P20T04

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## MATERIALS

		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
388	83-2	RODAR 006	ROD, ARMOR, 954 AAC, 100"	192D	1P18S05
389	83-3	RODAR 007	ROD, ARMOR, 954 ACSR, 100"	182D	1P18S03
390	83-4	RODAR 008	ROD, ARMOR, 1590 ACSR, 100"	175D	1P18S04
391	65-1	RODGR 003	ROD, GROUND, THREADLESS, 5/8" X 8'	31D	1Y06
392	66-1	SCWCA 113	STAINLESS STEEL BOLT, 1/2" X 2" - ITEM FOUND IN MAXIMO		
393	66-2	SCWCA 114	STAINLESS STEEL BOLT, 1/2" X 2 1/2" - ITEM FOUND IN MAXIMO		
394	67-1	SHAAN 001	SHACKLE, ANCHOR, 5/8", 25,000#, GALV.	100D	1B15P01
395	67-2	SHAAN 002	SHACKLE, ANCHOR, 3/4", 35,000#, GALV.	71D	1B15P02
396	67-3	SHAAN 003	SHACKLE, ANCHOR, 3/4", 50,000#, GALV.	150D	1B15P01
397	67-4	SHAAN 004	SHACKLE, ANCHOR, 3/4", 60,000#, GALV.	52D	1B15P01
398	68-1	SLEAJ 003	ALUMINUM SLEEVE JUMPER FOR 556.5ACSR, 24/7, COMPRESSION SPLICE, NON-TENSION ONLY, PREFILLED WITH INHIBITOR	136D	1B13W01
399	68-2	SLEAJ 004	SLEEVE, 652.4 AAAC, 19, ALUMINUM JUMPER, COMPRESSION SPLICE, NON-TENSION ONLY	136D	1B13W01
400	68-3	SLEAJ 005	ALUMINUM SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY, PREFILLED WITH INHIBITOR	66D	1B13V01
401	68-4	SLEAJ 006	ALUMINUM SLEEVE JUMPER FOR 954 AAC 61, COMPRESSION SPLICE, NON-TENSION ONLY, PREFILLED WITH INHIBITOR	178D	1B13V02
402	68-5	SLEAJ 007	ALUMINUM SLEEVE JUMPER FOR 1590 ACSR 54/19, COMPRESSION SPLICE, NON-TENSION ONLY, PREFILLED WITH INHIBITOR	155D	1B13U01
403	84-1	SLEFT 008	SLEEVE, 636 37-STR AAC, FULL-TENSION ALUMINUM, COMPRESSION TYPE	171D	1B12N03
404	84-2	SLEFT 010	SLEEVE, 556.5 ACSR 24/7, FULL-TENSION ALUMINUM, COMPRESSION TYPE TO INCLUDE THE SLEEVE AND INSERT	24D	1B12N05
405	84-3	SLEFT 011	SLEEVE, 652.4 AAAC 19, FULL-TENSION ALUMINUM, COMPRESSION TYPE	24D	1B12O01
406	84-4	SLEFT 012	SLEEVE, 954.0 AAC 61, FULL-TENSION ALUMINUM, COMPRESSION TYPE	24D	1B13U02
407	84-5	SLEFT 013	SLEEVE, 954.0 ACSR 54/7, FULL-TENSION ALUMINUM, COMPRESSION TYPE, NOTE THAT ALL ACSR SPLICES HAVE ALUMINUM AND STEEL SLEEVES.	24D	1B13U03
408	84-6	SLEFT 014	SLEEVE, 1590 ACSR 54/19, FULL-TENSION ALUMINUM, COMPRESSION TYPE, NOTE THAT ACSR SLEEVES COME WITH ALUMINUM AND STEEL SLEEVES	164D	1P20U01
409	84-7	SLEFT 015	SLEEVE, 954 SSAC, FULL-TENSION ALUMINUM, COMPRESSION TYPE "CARDINAL"	96D	1P20U01
410	84-8	SLEFT 016	SLEEVE, FULL-TENSION FOR EHS 3/8" STEEL SHIELD WIRE	56D	1B12O01
411	84-9	SLEFT 017	SLEEVE, FULL-TENSION FOR 1192KCM ALUM. TO 636KCM ALUM. CONNECTOR RATED FOR 636KCM COND.	70D	1B13U04
412	84-10	SLEFT 020	SLEEVE, COMPRESSION, FULL-TENSION FOR 2500 AAC CONDUCTOR.	42D	1B13U05
413	84-11	SLEFT 021	SLEEVE, FULL TENSION, 3/0-4/0, COMPRESSION SPLICE FOR COPPER & COPPERWELD CONDUCTOR. VERSACRIMP TOOL VC6 OR VC7 REQUIRED.	42D	1B13U04
414		SLERE 001	SLEEVE, 336 AAC 19-STR., REPAIR		1B.12.002
415		SLERE 002	SLEEVE, 477 26/7 STR. - 636 26/7 STR., REPAIR FOR AAC, ACSR, AAAC		1B.15.P03
416		SLERE 003	SLEEVE, 954 AAC 61-STR., REPAIR		1B.15.R03
417		SLERE 004	SLEEVE, 954 ACSR 54/7-STR., REPAIR		1P.05.H02
418		SLERE 005	SLEEVE, 1590 ACSR 54/19-STR., REPAIR		1B.15.P05
419		SLERE 006	SLEEVE, 954 ACSS, REPAIR - COMPRESSION "CARDINAL"		1B.23.002
420		SLESW 001	SLEEVE, 3#7-CW SHIELD WIRE, FULL-TENSION	137D	1B15Q03
421		SLESW 002	SLEEVE, 3#6-CW SHIELD WIRE, FULL-TENSION	52D	1B15Q03
422		SLESW 003	SLEEVE, 7#10-AW SHIELD WIRE, FULL-TENSION	139D	1B15Q04
423		SLESW 004	SLEEVE, 3#6-AW SHIELD WIRE, FULL-TENSION	143D	1B15Q04
424	69-1	SOCEY 001	SOCKET, EYE, 52-5 NEMA, FORGED STEEL GALVANIZED, BETHEA NATIONAL P/N SEL-687	153D	1B15Q05
425	69-2	SOCEY 003	SOCKET - EYE, STRENGTH = 25,000#, L = 2 5/16", EYE = 13/16", FORGED STEEL, GALVANIZED	40D	1B15Q05
426	69-3	SOCEY 004	SOCKET, EYE, 52-3 & 4 NEMA, FORGED STEEL GALVANIZED, LAPP P/N 36912	124D	1B15R01
427	69-4	SOCEY 005	SOCKET, EYE, 52-8 NEMA, FORGED STEEL GALVANIZED	150D	1B15R02
428	69-5	SOCEY 006	SOCKET, EYE, 52-3 & 4 NEMA, FORGED STEEL GALVANIZED, CHANCE P/N C904-0090	290D	1B15R03
429	69-6	SOCEY 007	SOCKET, EYE, 52-8/11, DUCTILE IRON, GALVANIZED. FOR 954 AND 1590 CONDUCTOR HARDWARE; 1 1/16 EYE THICKNESS AND HOLE DIAMETER.	280D	1B15R05
430	70-1	STAPL 002	STAPLE, COPPERWELD, 3/8" X 1-1/2" 50-POUND BOX	72D	1P11G01
431	70-2	STAPL 003	STAPLE, COPPERWELD, 1/2" X 2" TO ATTACH GROUND WIRE MOLDING TO POLE 50-POUND BOX	60D	1P11G01
432	71-1	SUPSH 001	SUPPORT, SHIELD WIRE, GALVANIZED,	134D	1Y04
433	86-	TAGHO XXX	TAG HOLDER, TRANSMISSION POLES,		
434	92-	TAGRT XXX	TAG, NUMBER X, 5"W X 7"H FOR TRANSMISSION POLES. 3M ENGINEERING GRADE YELLOW REFLECTIVE SHEETING WITH 3M OPAQUE BLACK BACKGROUND INK, 25 PIECES PER RE-SEALABLE CLEAR POLY BAG 001 - 013		

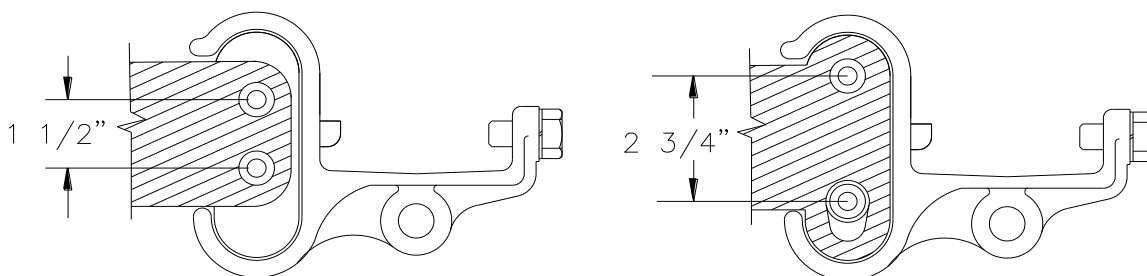
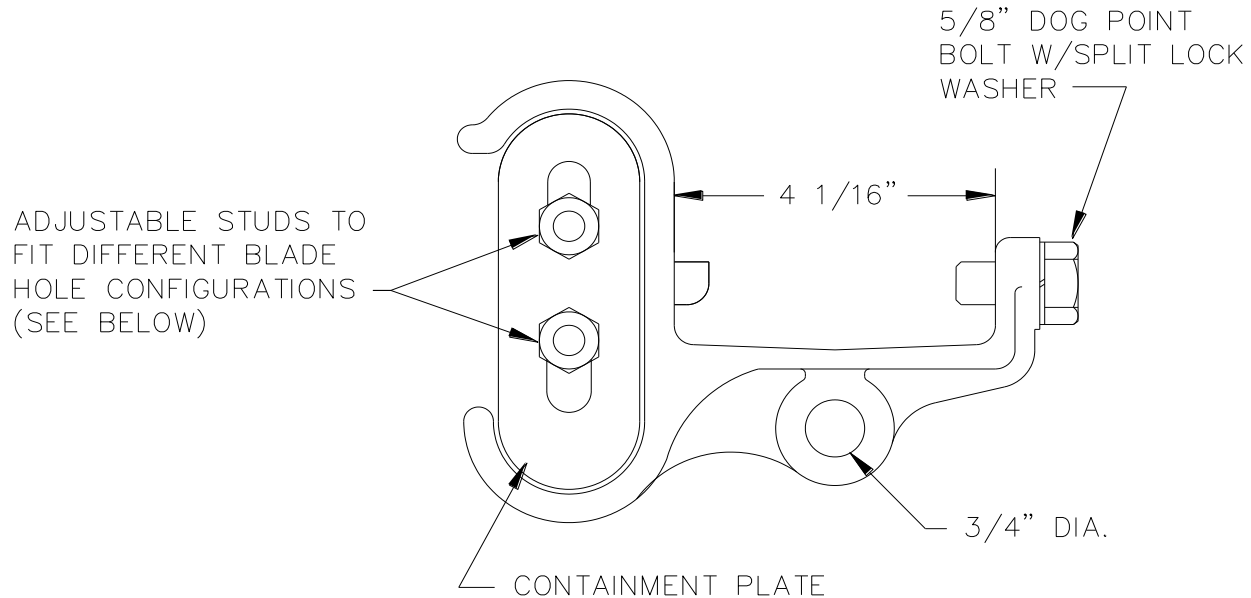


		ITEM ID	GENERAL DESCRIPTION	LEAD TIME	BIN
435	82-1	TEECO 001	TEE TAP CONNECTOR FOR 954 ACSR	68D	1B15S03
436	82-2	TEECO 002	TEE TAP CONNECTOR FOR 1590 ACSR	68D	1B15S04
437	72-1	TEEDE 001	TEE, A36 STEEL, CONCRETE POLE APPLICATION - DEADEND AND GUYING, H.D.G. 6" B.H.S., 1 1/4" HOLE ATTACHMENT	155D	1P20T05
438	72-2	TEEDE 002	TEE, MALLEABLE IRON, FOR WOOD POLE APPLICATION DEADEND AND GUYING, H.D.G., 6" B.H.S.,	73D	1P20U02
439	72-3	TEEDE 003	TEE, DUCTILE IRON, CONCRETE POLE APPLICATION - DEADEND AND GUYING, H.D.G., 6" B.H.S., 1 1/16 HOLE ATTACHMENT	42D	1P20U04
440	72-4	TEEDE 005	TEE, ASTM A36 STEEL, FOR CONCRETE POLE APPLICATION, H.D.G., 6" B.H.S., HORIZONTAL ATTACHMENT HOLE	50D	1Y04
441	73-1	THIEY 001	THIMBLE EYELET, 3/4", MALLEABLE IRON, HOT DIPPED, GALVANIZED	120D	1B12T04
442	73-2	THIEY 002	THIMBLE EYE, TWIN, 1" DIAMETER	100D	1B16M05
443	74-1	WASBA 500	BELLEVILLE SPRING WASHER FOR 1/2" BOLT, 301 SS ***NO SUBSTITUTE*** KEY BELLEVILLE P/N K1063-E-109-S	51D	1B06C09
444	75-1	WASFG 500	FLAT ROUND WASHER FOR 1/2" BOLT, 316 SS ** STD PKG 100 EACH **	43D	1B06C11
445	76-1	WASRD 001	WASHER, ROUND, 1/2" BOLT SIZE, BRONZE - TIN PLATED, 1-1/4" OD	49D	1B12U03
446	76-2	WASRD 002	WASHER, ROUND, 3/8" BOLT SIZE X 1" DIA, GALVANIZED	76D	1B12U03
447	76-3	WASRD 003	ROUND WASHER FOR 1/2" BOLT, 1 3/8" DIAMETER, GALVANIZED	52D	1B12U04
448	76-4	WASRD 004	ROUND WASHER FOR 5/8" BOLT, 1 3/4" DIAMETER, GALVANIZED	40D	1P11J02
449	76-5	WASRD 005	ROUND WASHER FOR 3/4" BOLT, 2" DIAMETER, GALVANIZED	52D	1P11J03
450	76-6	WASRD 006	ROUND WASHER FOR 7/8" BOLT, 2 1/2" DIAMETER, GALVANIZED	62D	1P20U02
451	76-7	WASRD 007	ROUND WASHER FOR 1" BOLT, 2 1/2" DIAMETER, GALVANIZED	66D	1B15T02
452	77-1	WASSC 001	SQUARE CURVED WASHER FOR 5/8" OR 3/4" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4" SIZE	134D	1P20U04
453	77-2	WASSC 002	SQUARE CURVED WASHER FOR 7/8" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4" SIZE	52D	1P20U05
454	77-3	WASSC 003	SQUARE CURVED WASHER FOR 1" BOLTS, RIBBED MALLEABLE IRON-GALVANIZED, 4" X 4" SIZE	37D	1B15T02
455	78-1	WASSF 001	WASHER, SQUARE FLAT, 2" SQ X 1/8", 1/2" BOLT SIZE, GALVANIZED	38D	1P10J01
456	78-2	WASSF 002	WASHER, SQUARE FLAT, 2 1/4" SQ X 3/16", 5/8" BOLT SIZE, GALVANIZED	41D	1P10J01
457	78-3	WASSF 003	WASHER, SQUARE FLAT, 3" SQ X 1/4", 5/8" X 3/4" BOLT SIZE, GALVANIZED	37D	1P11J04
458	78-4	WASSF 004	SQUARE FLAT WASHER FOR 3/4" & 7/8" BOLT, 4" SQ X 1/4", GALVANIZED	80D	1P20U05
459	78-5	WASSF 005	WASHER, SQUARE FLAT, 4" SQ X 1/2", 1" BOLT SIZE, GALVANIZED	123D	1P20U03
460	79-1	WASSP 001	WASHER, SPRING, 5/8" BOLT SIZE, DOUBLE COIL HELICAL TYPE, GALVANIZED	37D	1B12T02
461	79-2	WASSP 002	WASHER, SPRING, 3/4" BOLT SIZE, DOUBLE COIL HELICAL TYPE, GALVANIZED (EXTRA HEAVY DUTY)	68D	1P10J04
462	79-3	WASSP 003	WASHER, SPRING, 1/2" BOLT SIZE, LEAF TYPE, GALVANIZED	157D	1B12T03
463	79-4	WASSP 004	WASHER, SPRING, 5/8"		
464	79-5	WASSP 005	WASHER, SPRING, 3/4"		
465	79-6	WASSP 006	WASHER, SPRING, 7/8" BOLT SIZE, LEAF TYPE, GALVANIZED	178D	1B18W03
466	80-1	YOKPL 001	YOKE PLATE, SUSPENSION, VEE STRING TYPE, 8" INSULATOR SPACING, 30000#, GALVANIZED, 15/16" HOLE DIA	179D	1B15T03
467	80-3	YOKPL 003	YOKE PLATE, SUSPENSION, TRIANGULAR STRAIN, 16" INSULATOR SPACING, 40000#, GALVANIZED, 15/16" HOLE DIA	200D	1B15T04
468	80-4	YOKPL 004	YOKE PLATE, SUSPENSION, TRIANGULAR STRAIN, 13" INSULATOR SPACING, 60000#, GALVANIZED, 15/16" HOLE DIA	52D	1B15T05
469	80-5	YOKPL 005	YOKE PLATE, SUSPENSION, TRIANGULAR STRAIN, 18" INSULATOR SPACING, 60000#, GALVANIZED, 15/16" HOLE DIA	52D	1B15T05

# DRAWINGS

## ADPCT 001

GENERAL DESCRIPTION : TRUNNION ADAPTER FOR O.B, LAPP, AND RELIABLE 2 ½" DIAMETER POLYMER POST INSULATORS (69KV AND 138KV). CONVERTS 2-HOLE BLADE TO TOP POST CLAMP. MATERIAL IS ALUMINUM ALLOY, HARDWARE IS H.D.G, RATED STRENGTH = 2,800 LBS.



NOTE: THIS ADAPTER WILL NOT WORK WITH 230KV INSULATORS BECAUSE OF A LARGER DIAMETER POST. A TRUNION CLAMP TYPICALLY HAS A RATING OF 5000 LBS. A 3.5" DIAMETER INSULATOR IS USED FOR HEAVIER LOAD APPLICATIONS SO ATTACHING A TRUNNION IS NOT COMMON

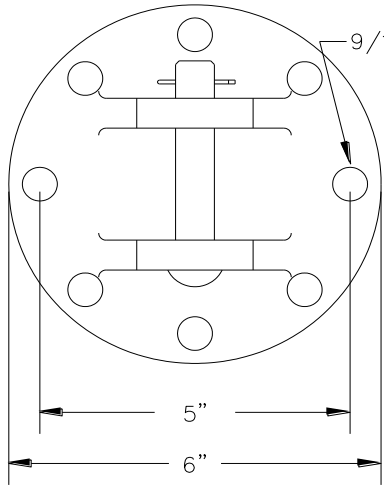
GENERAL DESCRIPTION: ADAPTER PLATE, HORIZONTAL LINE POST, USED ON ANGLED LINES TO PREVENT CONDUCTOR FROM CONTACTING INSULATOR SHEDS.



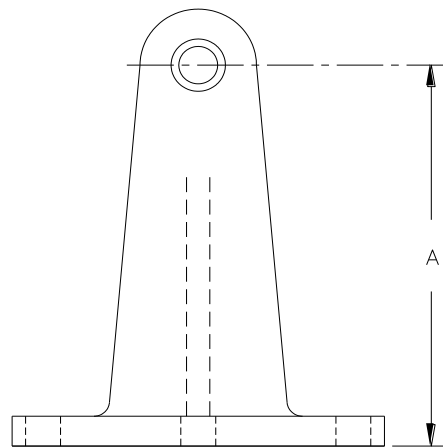
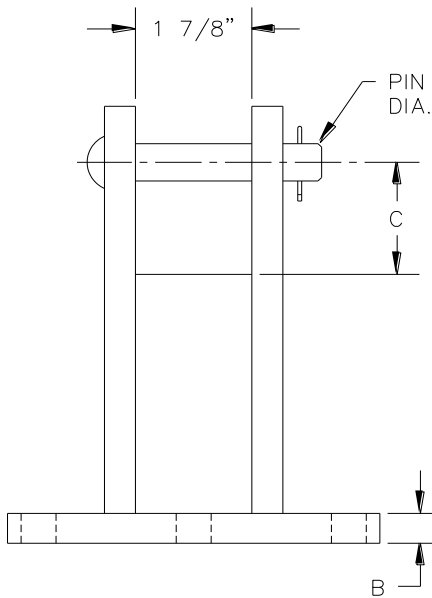
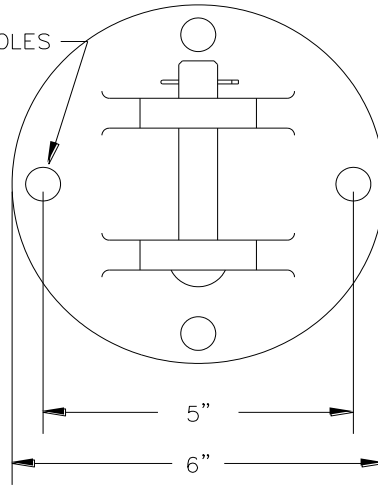
# ADPSI 001 - 002 (MAINTENANCE ONLY)

GENERAL DESCRIPTION: ADAPTER, HORIZONTAL VEE INSULATOR STRUT,

001 - COLD END



002 - HOT END



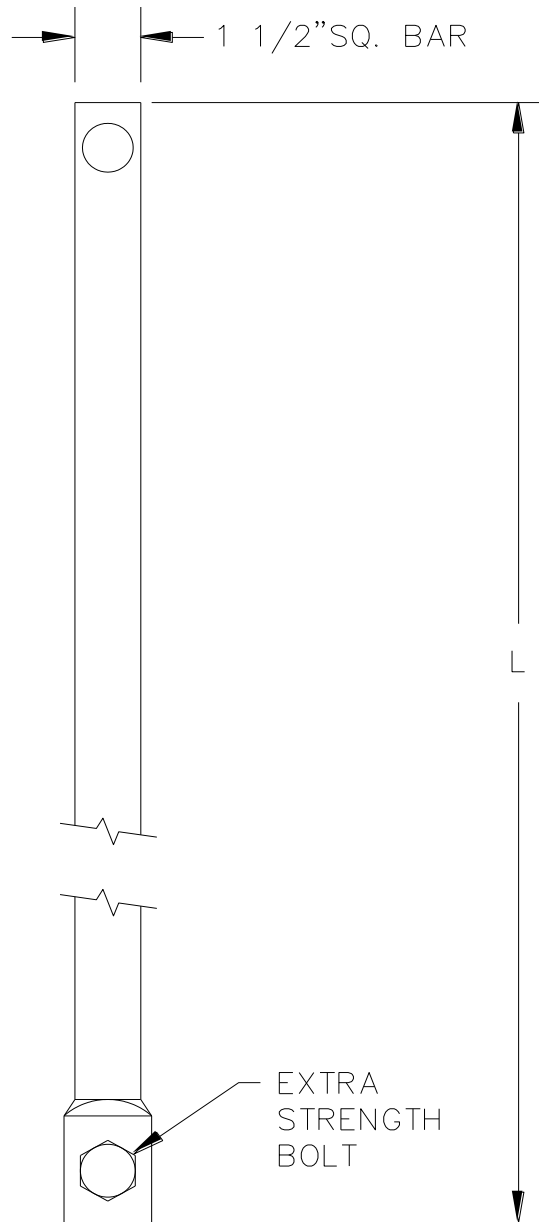
## ITEM SPECIFICATION

ITEM	A	B	C	PIN DIA.
001	2 1/2"	3/8"	1 3/4"	3/4"
002	6 3/8"	1/2"	1 7/8"	5/8"

FOR USE WITH INSST 004-010. INCLUDES LAPP BOLT KIT J-097535.

**ANCEX 002 - 003**

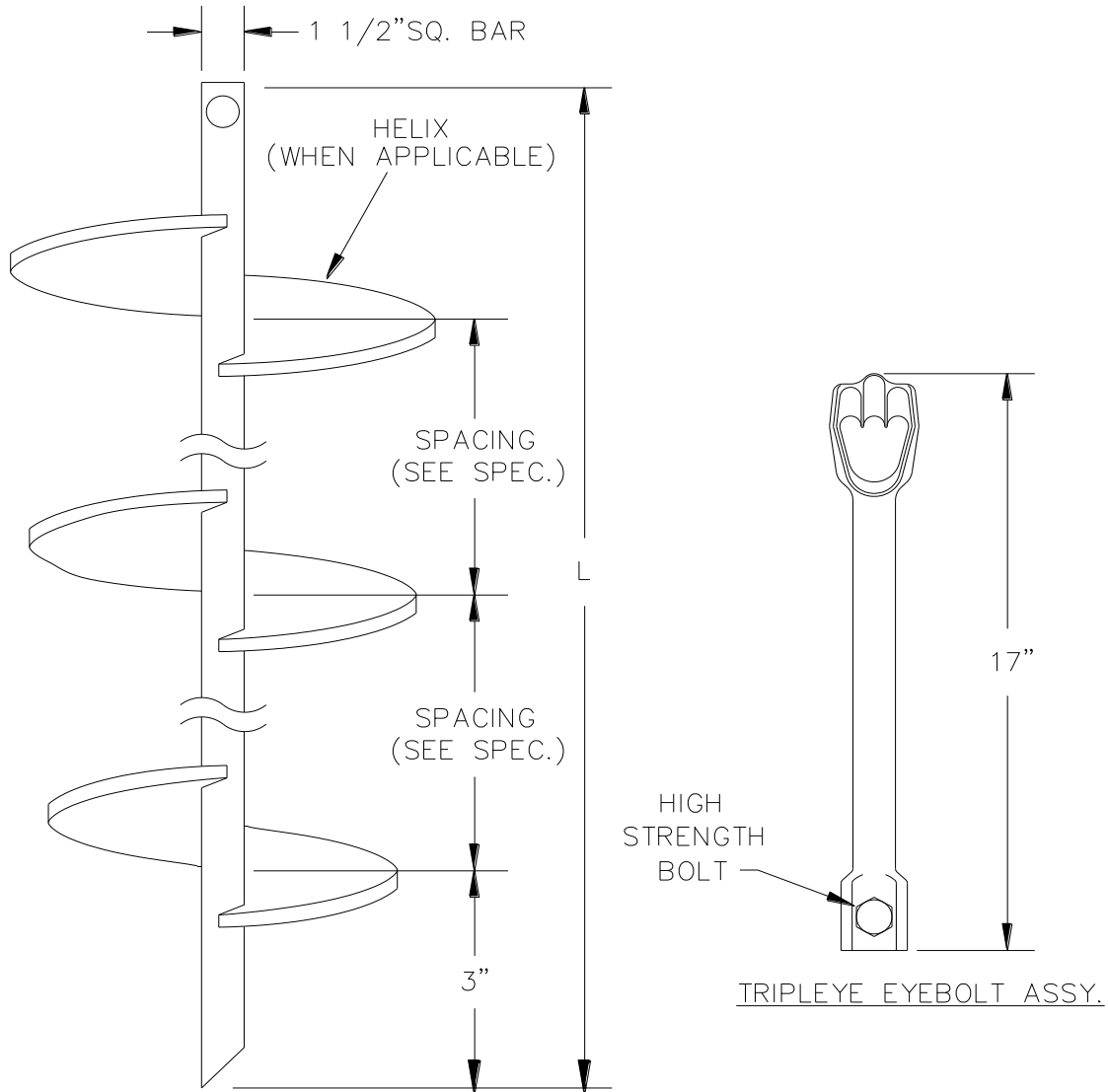
GENERAL DESCRIPTION: ANCHOR EXTENSION, HOT DIPPED GALVANIZED WITH HIGH STRENGTH BOLT.



NOTE: L = 42" FOR ANCEX002  
L = 60" FOR ANCEX003

# **ANCMS 002 - 003**

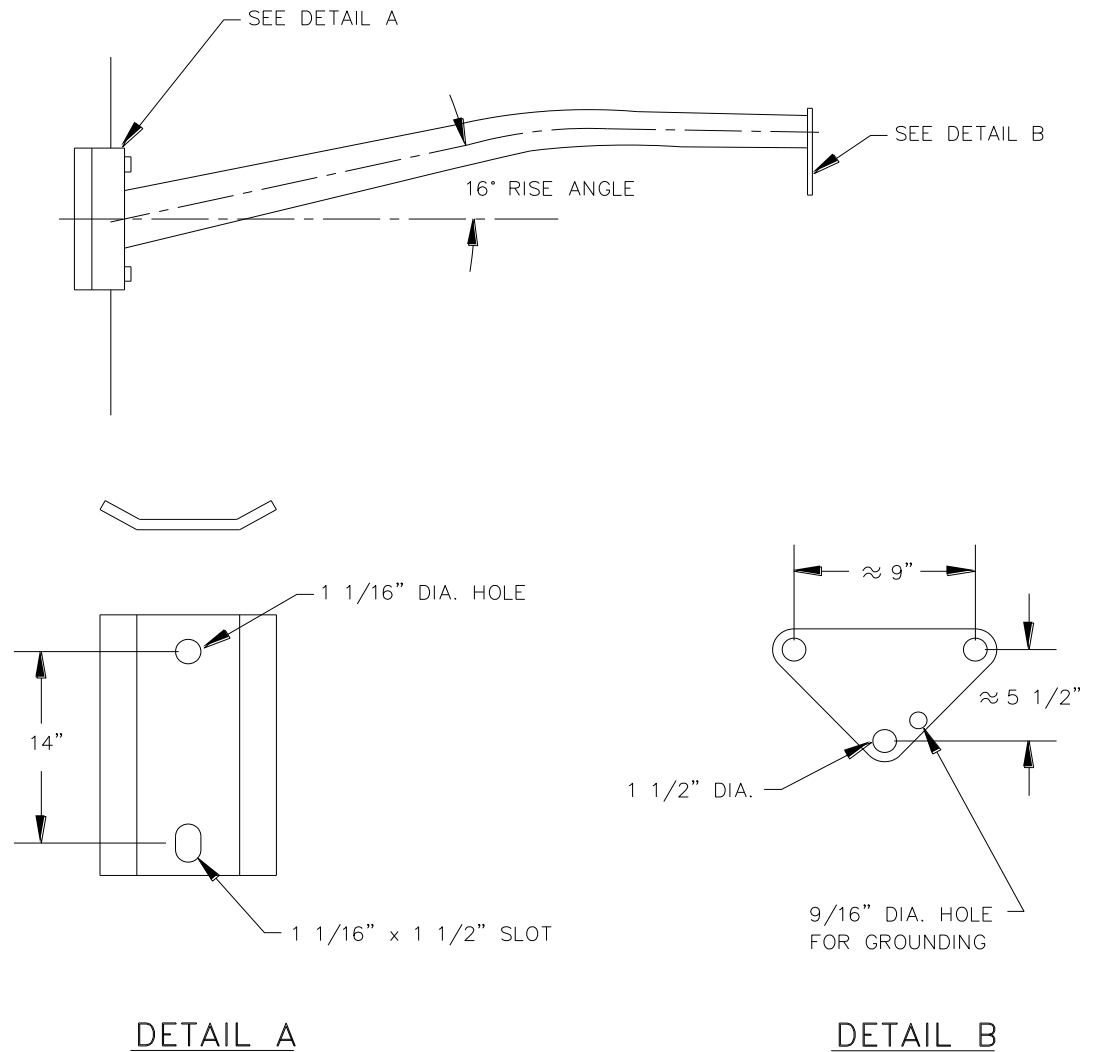
GENERAL DESCRIPTION: MULTI-HELIX SCREW ANCHOR, 1 1/2" SQUARE SHAFT, WITH TRIPLEYE GUY ADAPTER, HOT DIPPED GALVANIZED.



ITEM	L	HELIXES	SPACING
002	60"	10" & 12"	48"
003	90"	10", 12", & 14"	36"

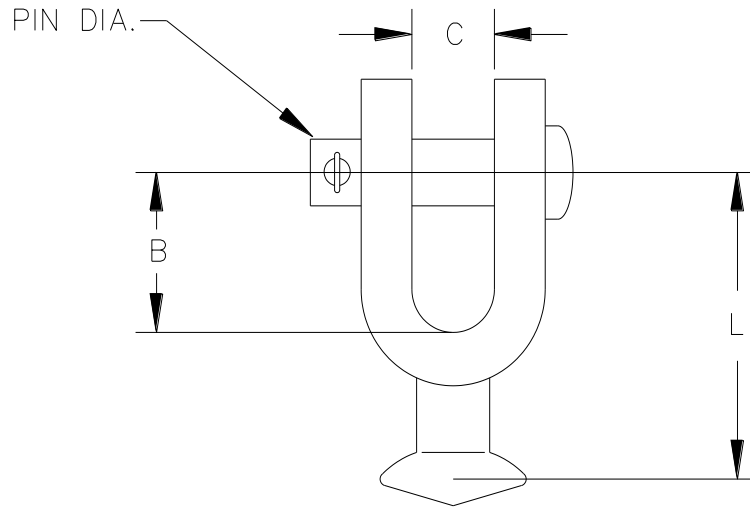
## ARMST 012

GENERAL DESCRIPTION: 6.5' DAVIT ARM FOR SHIELD WIRE, HOT DIPPED GALVANIZED



## BALFI 001, 003

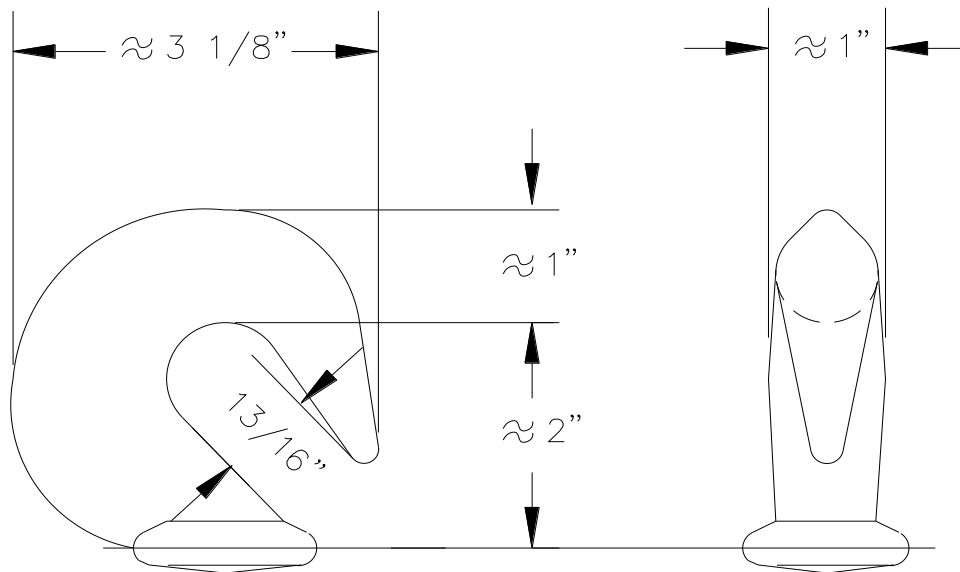
GENERAL DESCRIPTION: BALL-CLEVIS, HOT DIPPED GALVANIZED, COTTER PIN IS STAINLESS STEEL.



ITEM	STRENGTH	L	B	C	PIN DIA.	CLASS
001	30,000 LBS	3"	1 1/2"	7/8"	5/8"	52-3/5
003	50,000 LBS	4 3/16"	2"	1"	7/8"	52-8/11

## BALFI 004

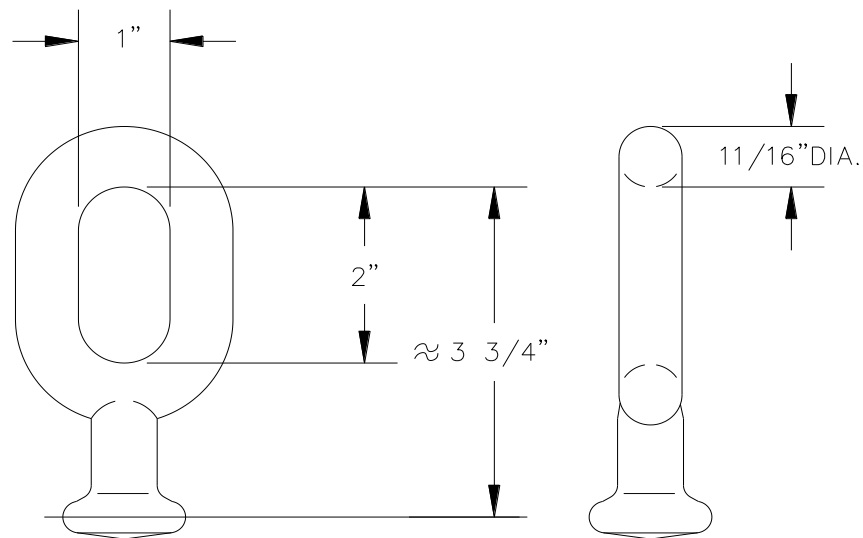
GENERAL DESCRIPTION: BALL-HOOK, SELF LOCKING TYPE, HOT DIPPED GALVANIZED. ANSI CLASS 52-3/5, ULTIMATE STRENGTH = 30,000LBS.





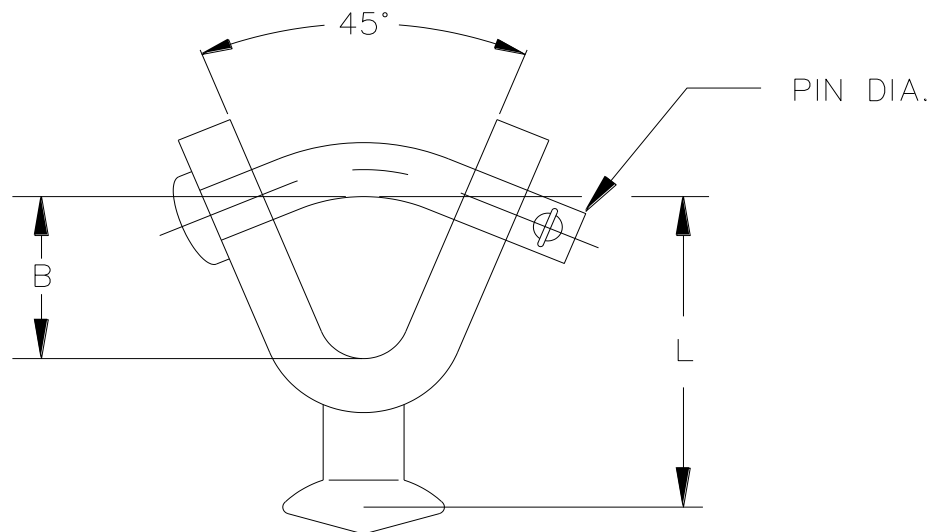
## BALFI 005

GENERAL DESCRIPTION: BALL-EYE, HOT DIPPED GALVANIZED. ANSI CLASS 52-3/5, ULTIMATE STRENGTH = 30,000LBS.



## BALFI 007 - 008

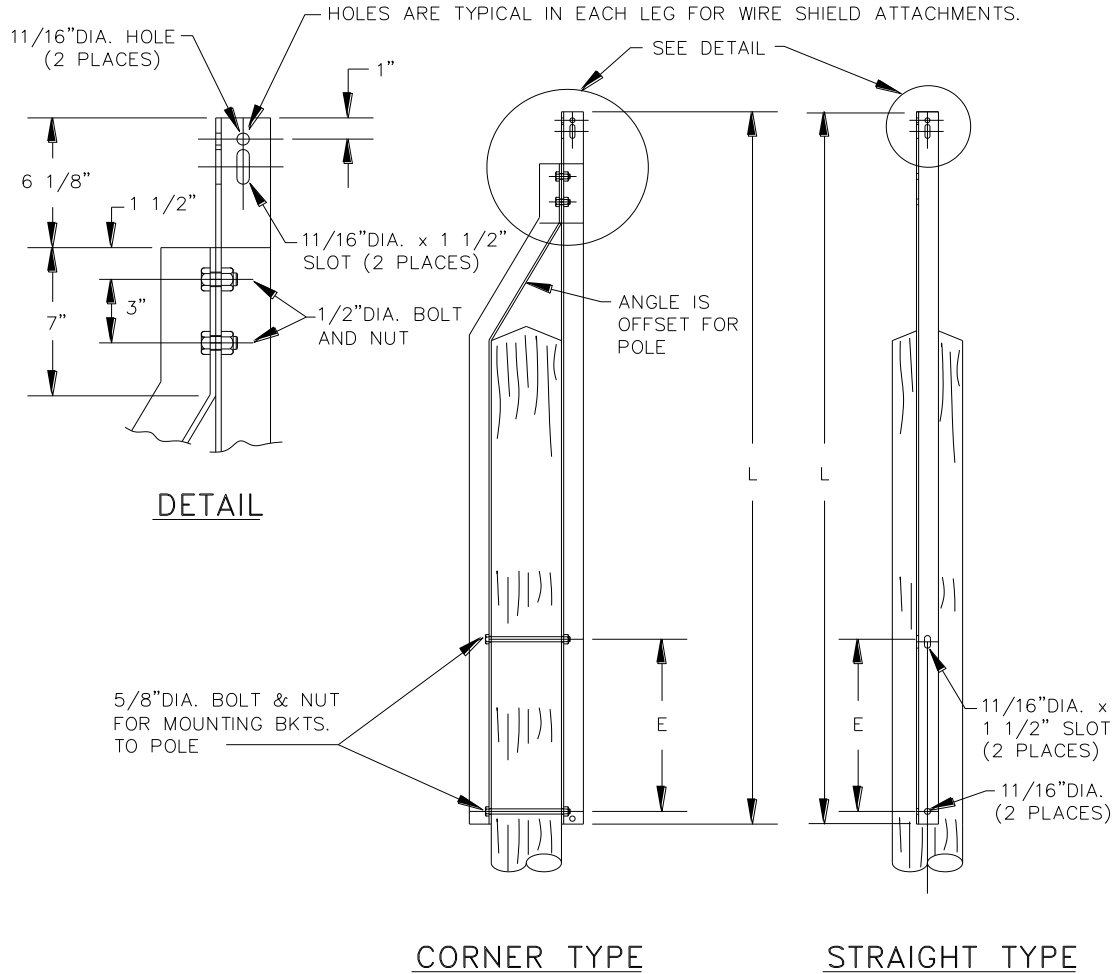
GENERAL DESCRIPTION: BALL Y-CLEVIS, HOT DIPPED GALVANIZED, COTTER PIN IS STAINLESS STEEL.



ITEM	STRENGTH	L	B	PIN DIA.	CLASS
007	30,000 LBS	3"	1 1/2"	3/4"	52-3/5
008	50,000 LBS	4 3/16"	1 3/4"	7/8"	52-8/11

# BAYSW 002 - 005

GENERAL DESCRIPTION: BAYONET FOR SHIELD WIRE, A-36 STEEL ANGLE, HOT DIPPED GALVANIZED

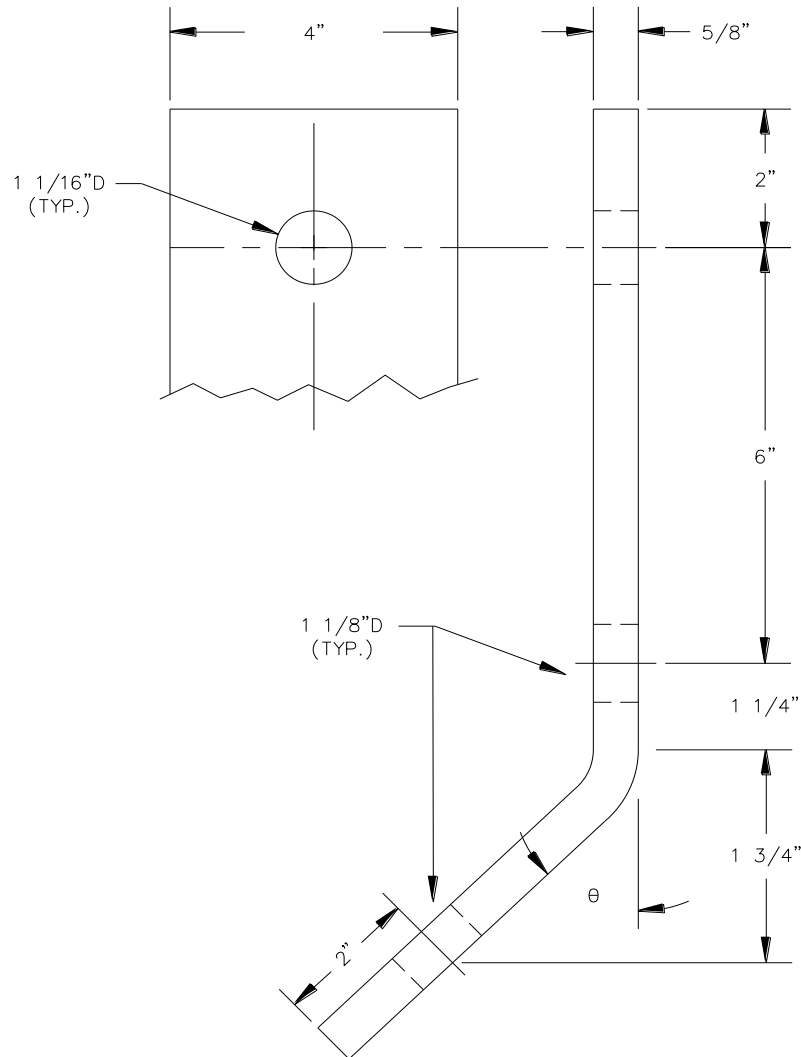


ITEM	TYPE	ANGLE SIZE	L	E
002	CORNER	2 1/2" x 2 1/2" x 1/4"	84"	20"
003	CORNER	3" x 3" x 1/4"	40"	10"
004	STRAIGHT	2" x 2" x 1/4"	40"	10"
005*	STRAIGHT	3" x 3" x 1/4"	84"	20"

\* INACTIVATED ITEM

# **BKTLP 001 - 002**

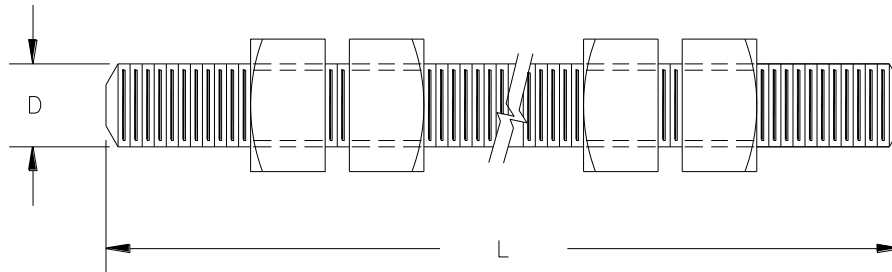
GENERAL DESCRIPTION: BRACKET, BRACED LINE POST INSULATOR. MATERIAL IS HOT DIPPED GALVANIZED.



ITEM	001	002
ANGLE	46°	53°

## BOLDA 018 - 046

GENERAL DESCRIPTION: BOLT, DOUBLE ARMING, ROLL THREADED FULL LENGTH, WITH CONE POINTS AT BOTH ENDS AND 4 SQUARE NUTS ATTACHED. HIGH STRENGTH, HOT DIPPED GALVANIZED

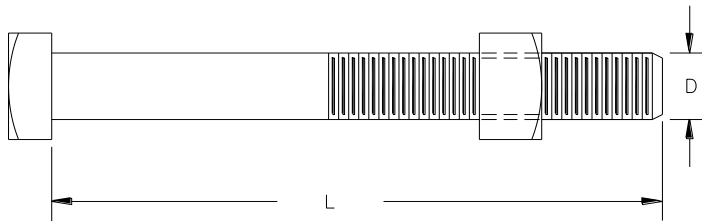


ITEM	018	019	020	021	022	023	024	025	026	027	028	029	030	031	032
D	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
L	20"	22"	24"	26"	28"	30"	32"	34"	36"	38"	40"	42"	14"	16"	18"

ITEM	033	034	035	036	037	038	039	040	041	042	043	044	045	046
D	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
L	20"	22"	24"	30"	32"	34"	36"	38"	28"	26"	40"	42"	44"	46"

## BOLMS 015 - 076

GENERAL DESCRIPTION: BOLT, MACHINE, SQUARE HEAD, HOT DIPPED GALVANIZED, WITH SQUARE NUT ATTACHED. MANUFACTURED IN ACCORDANCE WITH ASTM A-153 FOR ZINC COATINGS.



ITEM	015	016	017	018	019	020	021	022	023	024	025	026	027	028	029
D	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "
L	2"	3"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	2"

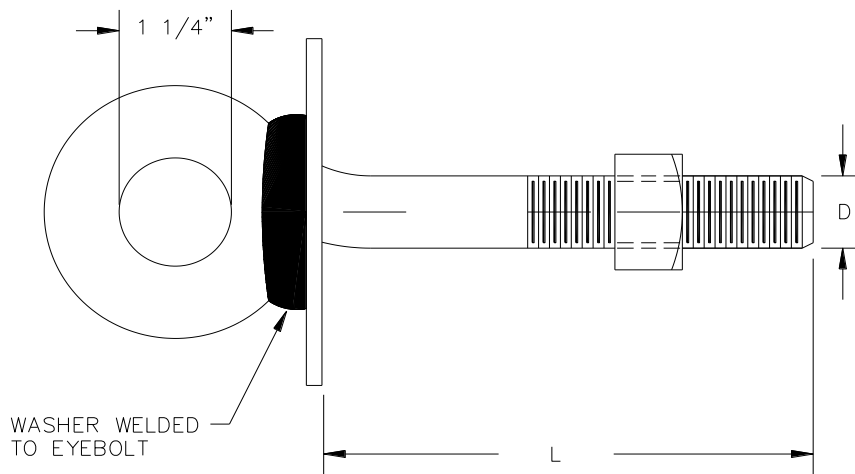
ITEM	030	031	032	033	034	035	036	037	038	039	040	041	042	043	044
D	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "
L	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	32"

ITEM	045	046	047	048	049	050	051	052	053	054	055	057	058	059
D	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	1"	1"	1"
L	3"	4 1/2"	12"	14"	16"	18"	20"	22"	24"	26"	28"	12"	14"	16"

ITEM	060	061	062	063	064	065	070	071	072	073	074	075	076
D	1"	1"	1"	1"	1"	1"	1"	1"	1"	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
L	18"	20"	22"	24"	26"	34"	28"	30"	32"	30"	32"	36"	38"

## BOLSE 001 - 025

GENERAL DESCRIPTION: BOLT, SHOULDER EYE, HOT DIPPED GALVANIZED, WITH SQUARE NUT ATTACHED. .

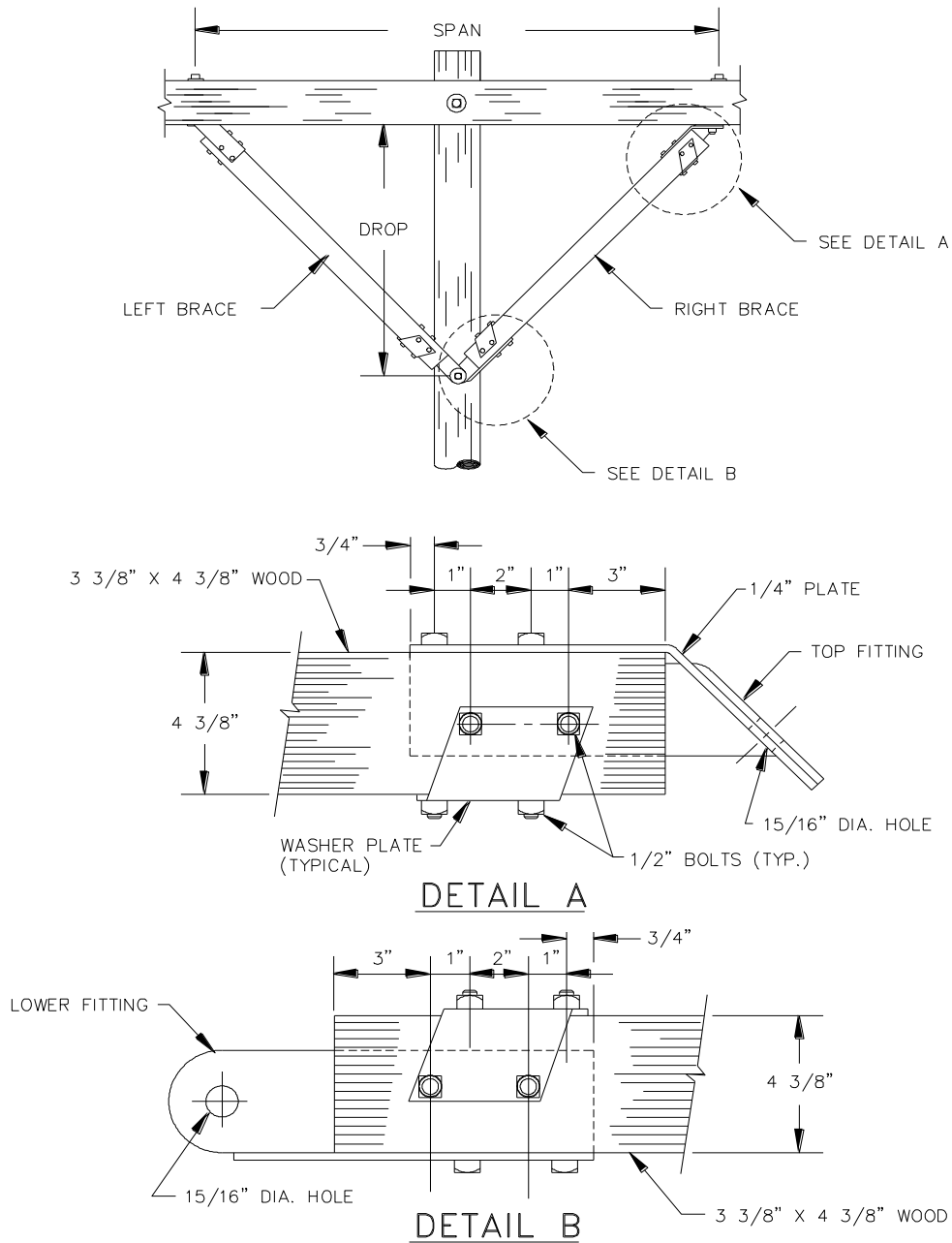


ITEM	001	002	003	004	005	006	007	008	009	010	011	012	013
D	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
L	6"	8"	10"	12"	14"	16"	18"	8"	10"	12"	14"	16"	18"

ITEM	014	015	016	017	018	019	020	021	022	023	024	025
D	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
L	20"	22"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"

## BRCCF 001 - 004

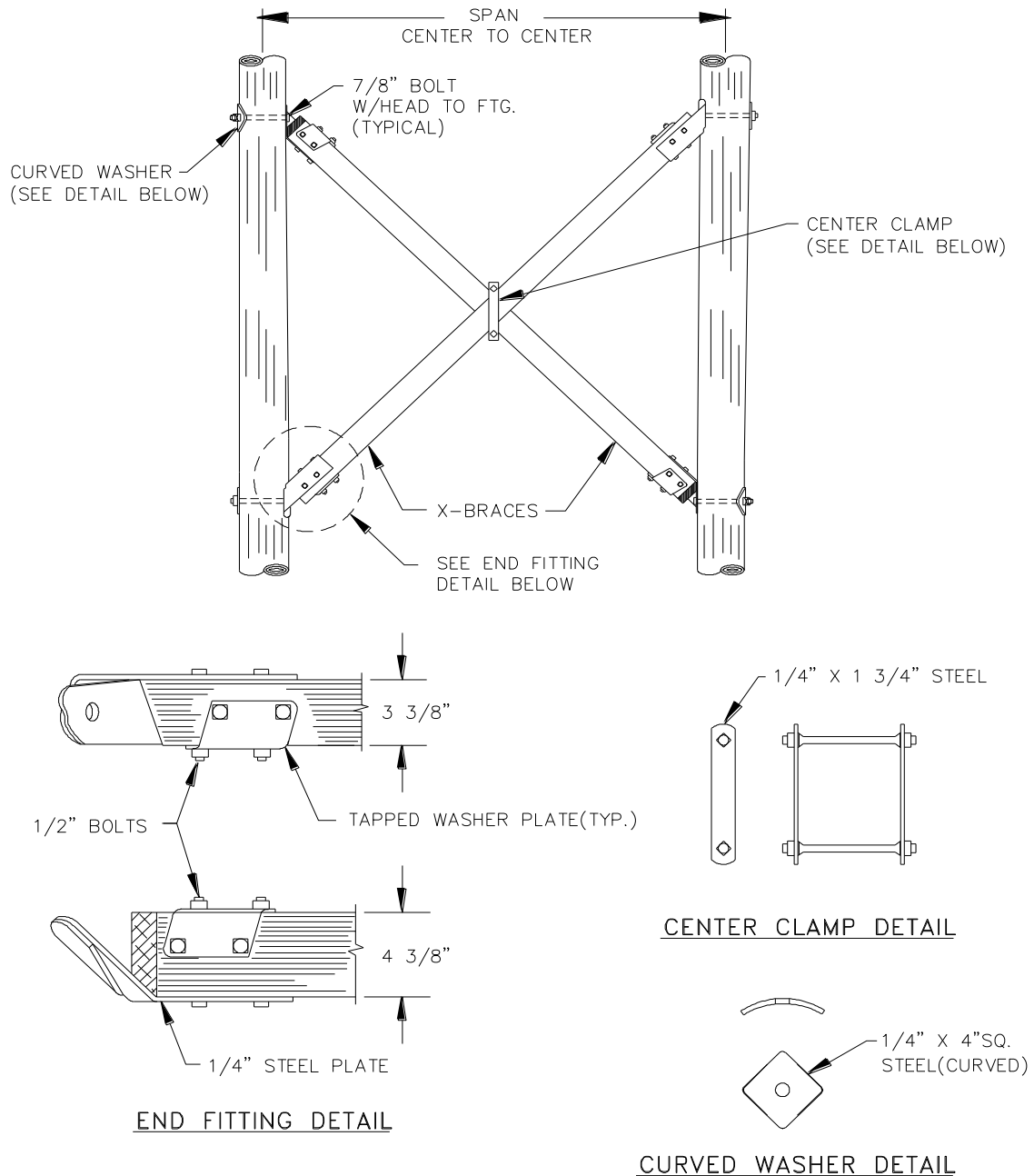
GENERAL DESCRIPTION: CROSSARM BRACE, PAIR,  $3\frac{3}{8}$ " X  $4\frac{3}{8}$ " FIR WITH GALVANIZED END FITTINGS, PENTA TREATED



ITEM	001	002	003	004
SPAN	9' 0"	10' 6"	14' 0"	19' 0"
DROP	3' 0"	3' 6"	4' 6"	6' 10"

# BRCCX 001/002/004/005

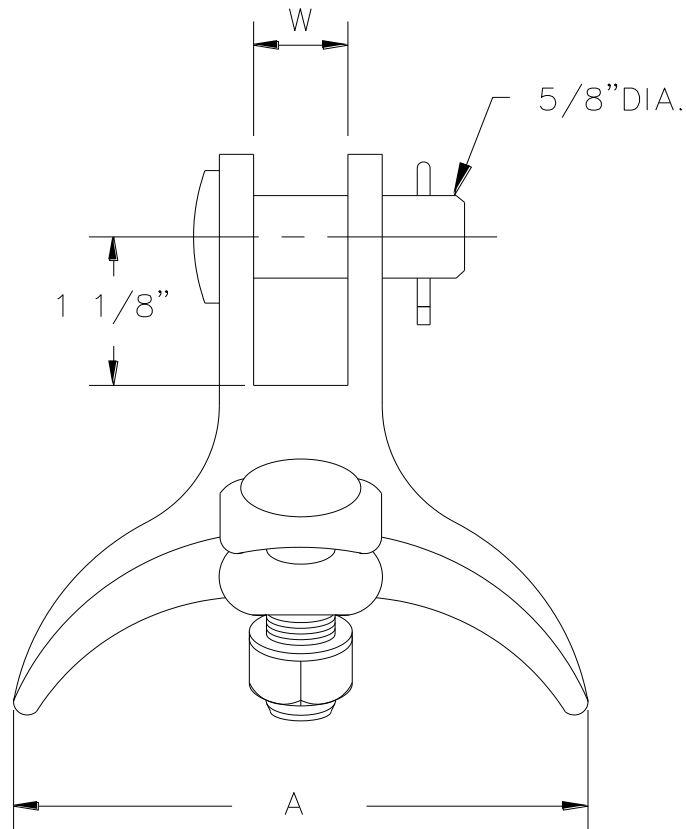
GENERAL DESCRIPTION: WOOD (FIR) X BRACE, 3 3/8 X 4 3/8, FITTINGS AND HARDWARE ARE HOT DIPPED GALVANIZED, 20,000LB TENSION RATING



ITEM	001	002	004	005
SPAN	10' 0"	10' 6"	14' 0"	19' 6"

## CLAAAN 001 – 002

GENERAL DESCRIPTION: CLAMP, SUSPENSION ANGLE, HARDWARE IS HOT DIPPED GALVANIZED, COTTER PIN IS STAINLESS STEEL.

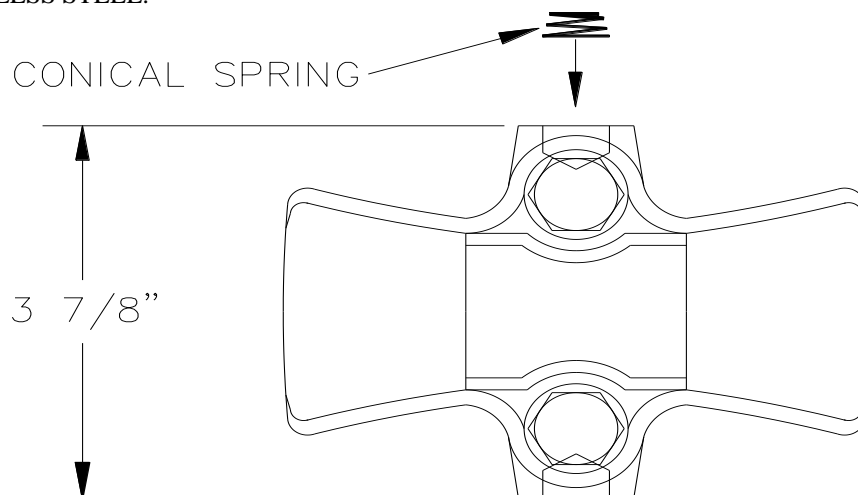


ITEM	CLAMPING RANGE	MATERIAL	ULTIMATE STRENGTH	A	W
001	0.16 – 0.60	DUCTILE IRON GALVANIZED	7,000 LBS	4 <sup>3</sup> / <sub>16</sub> "	1 <sup>11</sup> / <sub>16</sub> "
002	0.16 – 0.75	ALUMINUM	10,000 LBS	4 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>16</sub> "



## CLACT 001/003 – 006/010 – 012

GENERAL DESCRIPTION: CLAMP, POST INSULATOR, HARDWARE IS HOT DIPPED GALVANIZED, COTTER PIN IS STAINLESS STEEL.



NOTE: THIS DRAWING IS A COMMON DESIGN, HOWEVER, SOME DESIGNS MAY DIFFER IN THE LENGTH AND BOLT HOLE PATTERN. ITEMS 010, 011, 012 ARE ANGLE CLAMPS FOR USE ON LINE ANGLES GREATER THAN 15° BUT LESS THAN 40°.

ITEM	MAT.	CLAMPING RANGE(INCHES)	LENGTH		ITEM	MAT.	CLAMPING RANGE (INCHES)	LENGTH
001	FE	0.25 – 0.56	5 1/4"		006	AL	2.00 – 2.70	8 1/2"
003	AL	0.50 – 1.06	5 1/4"		010	AL	0.50 – 1.06	5 1/4"
004	AL	1.00 – 1.50	5 1/4"		011	AL	1.00 – 1.50	5 1/4"
005	AL	1.50 – 2.00	6 1/2"		012	AL	1.50 – 2.00	6 1/2"

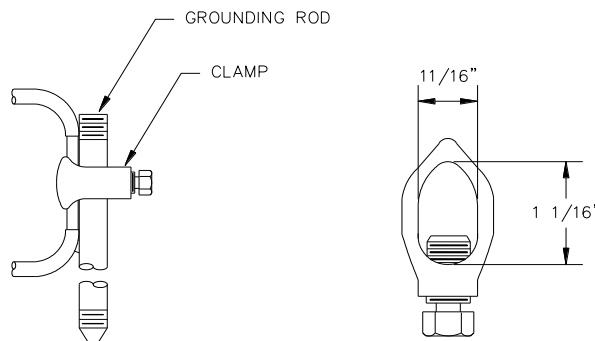
## CLAGR 001

GENERAL DESCRIPTION: CLAMP, GROUND ROD, 5/8" - 4SOL "HAMMERLOCK"

## CLAGR 002

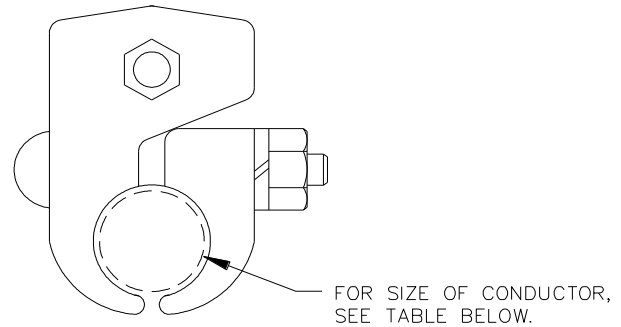
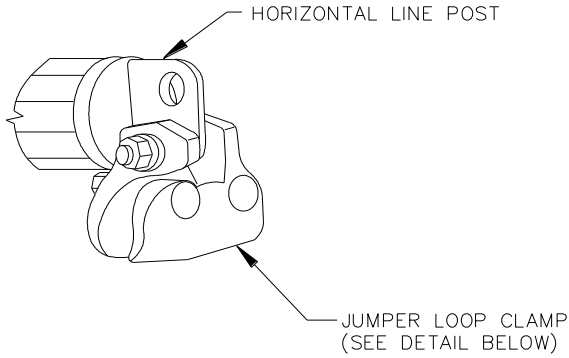
GENERAL DESCRIPTION: CLAMP, GROUND ROD, 5/8", 8 SOL - 1/0 STR. "WEDDING BAND"

\*\* MAINTENANCE ONLY \*\*



## CLAJU 001 - 002

GENERAL DESCRIPTION: CLAMP, JUMPER LOOP , USE ON SLACK SPANS ONLY

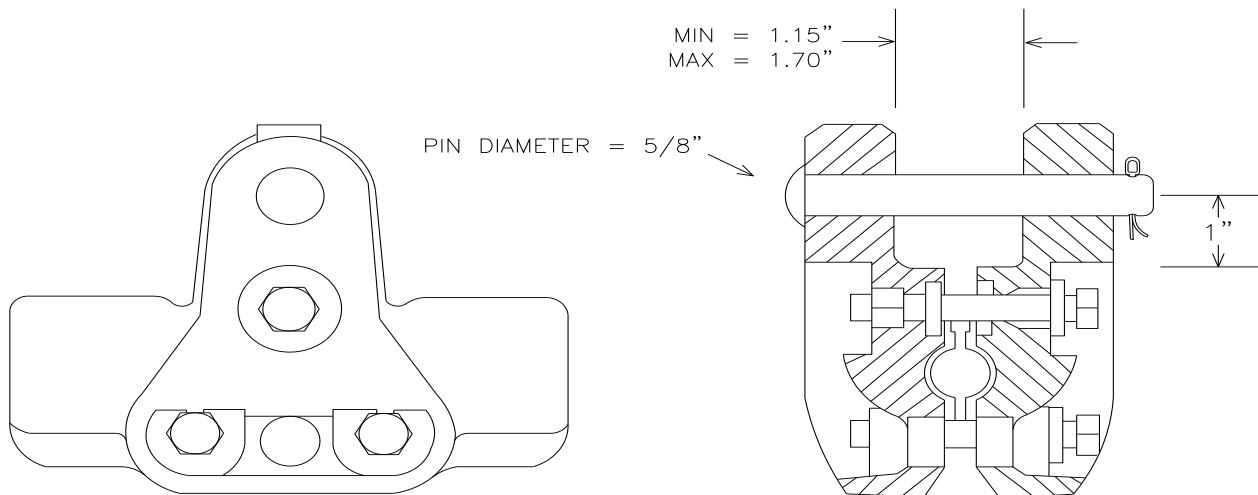


CLAMP DETAIL

ITEM	CONDUCTOR DIAMETER RANGE	CONDUCTOR
001	1.00" – 1.40"	954 AAC 954 ACSR
002	1.40" – 1.55"	1590 ACSR

## CLAJU 005 – 008/010

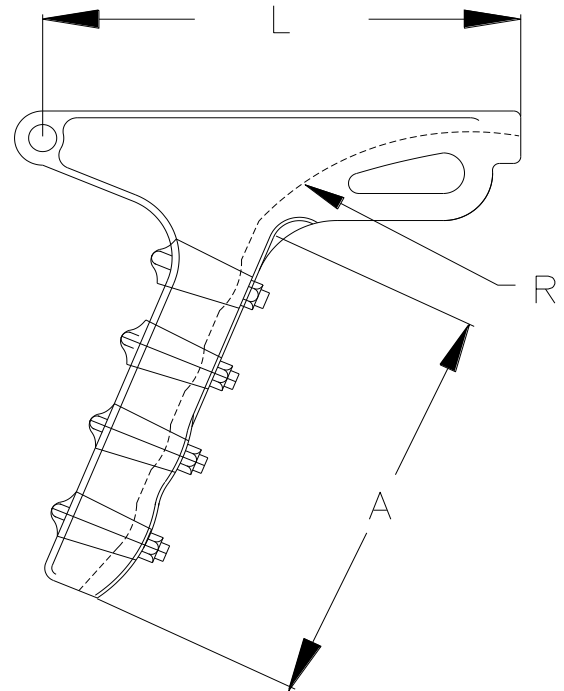
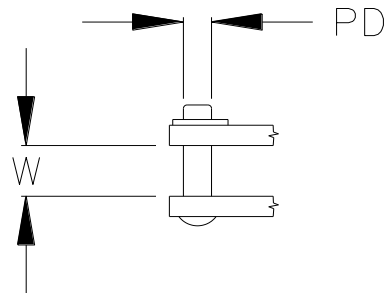
GENERAL DESCRIPTION: CLAMP, CUSHION GRIP JUMPER LOOP



ITEM	005	006	007	008	010
CONDUCTOR	556 ACSR, 652 AAAC	954 AAC	954 ACSR	1590 ACSR	954 ACSS

## CLAQD 001/003 – 008/020

GENERAL DESCRIPTION: CLAMP, DEADEND, HOT DIPPED GALVANIZED STEEL BOLTS, NUTS, AND WASHERS

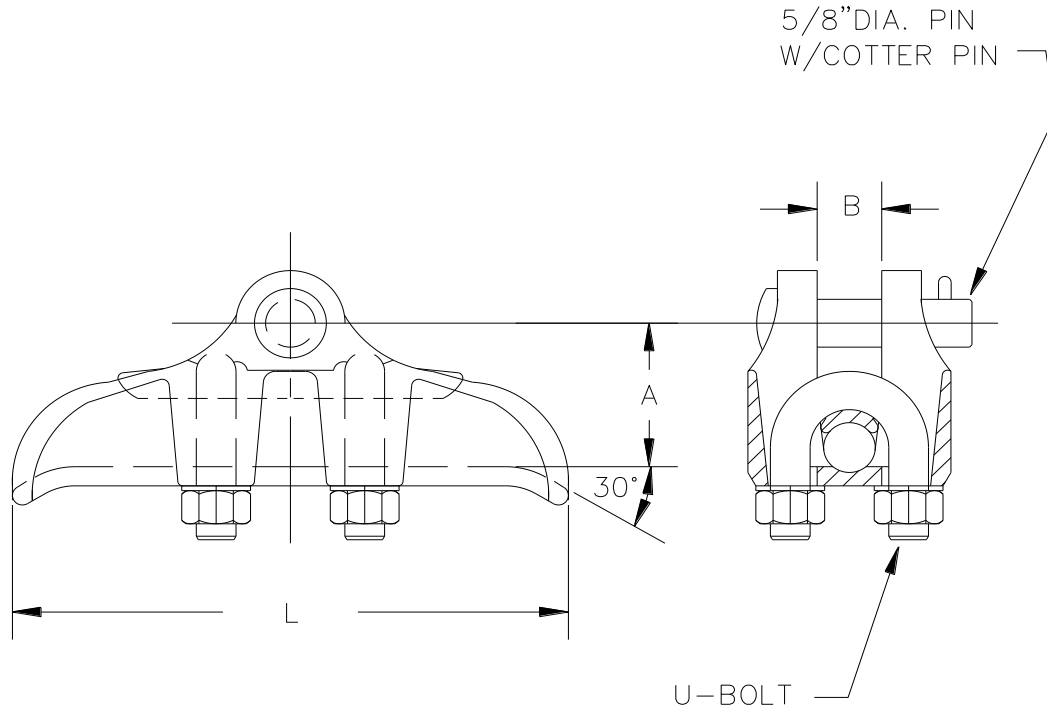


ITEM	L APROX.	A APROX.	W	CLAMPING RANGE	PD RANGE	MATERIAL	ULTIMATE STRENGTH	CONDUCTOR RANGE
001	11 <sup>3</sup> / <sub>8</sub> "	8 <sup>1</sup> / <sub>2</sub> "	1"	.40" - .84"	<sup>5</sup> / <sub>8</sub> "	DUCTILE IRON	25,000 LBS	4/0 -500 Cu/Al
003	12 <sup>3</sup> / <sub>4</sub> "	11 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>4</sub> "	0.58" – 1.02"	<sup>5</sup> / <sub>8</sub> " – <sup>3</sup> / <sub>4</sub> "	ALUMINUM	25,000 LBS	336-652 AAAC
004	12"	9"	1"	.475" - .886"	<sup>5</sup> / <sub>8</sub> "	ALUMINUM	23,000 LBS	4/0-556AAC
005	14 <sup>3</sup> / <sub>8</sub> "	11 <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub> "	.710" – 1.318"	<sup>5</sup> / <sub>8</sub> " – <sup>3</sup> / <sub>4</sub> "	ALUMINUM	30,000 LBS	336-1272 ACSR 397-1431 AAC
006	16 <sup>1</sup> / <sub>2</sub> "	14 <sup>1</sup> / <sub>2</sub> "	1 <sup>5</sup> / <sub>8</sub> "	1.20" – 1.52"	<sup>5</sup> / <sub>8</sub> " – <sup>3</sup> / <sub>4</sub> "	ALUMINUM	30,000 LBS	1033-1510 ACSR 1100-1700 AAC
008	6 <sup>1</sup> / <sub>2</sub> "	5"	<sup>3</sup> / <sub>4</sub> "	.20" – .55"	<sup>5</sup> / <sub>8</sub> "	DUCTILE IRON	19,000 LBS	3#6 AW
020	18.94"	17.00"	2.38"	1.38" – 2.00"	<sup>7</sup> / <sub>8</sub> "	ALUMINUM	60,000 LBS	2500 AAC

NOTE: DIMENSIONS "L" AND "A" MAY VARY SEVERAL INCHES BETWEEN MANUFACTURERS

## CLASU 001/002/006 - 009

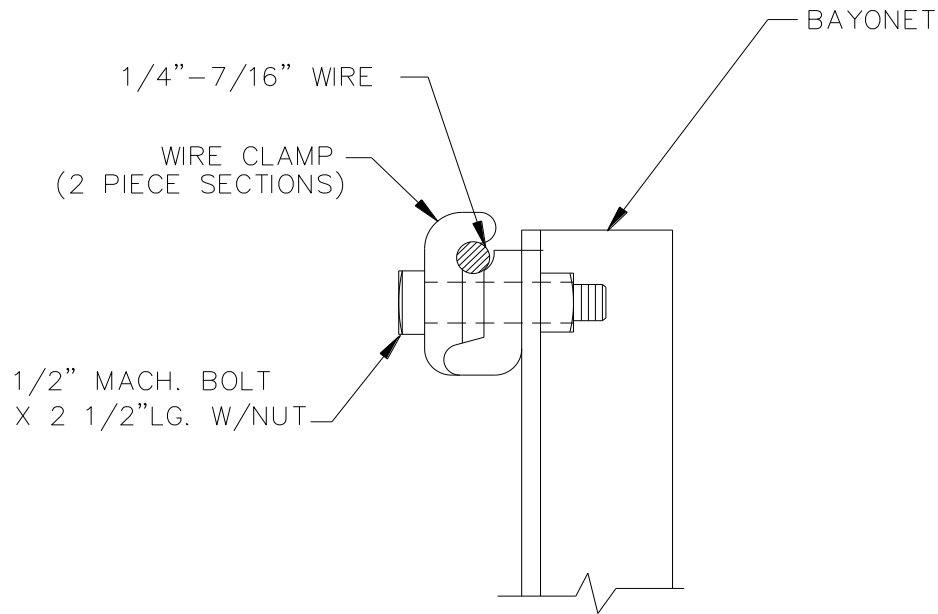
GENERAL DESCRIPTION: CLAMP, SUSPENSION, HARDWARE IS GALVANIZED STEEL, COTTER PIN IS STAINLESS STEEL



ITEM	CLAMPING RANGE	MATERIAL	L (RANGE)	A (RANGE)	B (RANGE)	ULTIMATE STRENGTH	CONDUCTOR
001	.25" - .62"	ALUMINUM	6 1/2" - 7"	2 1/8" - 2 9/32"	3/4" - 29/32"	15,000 LBS	3#6 7#10
002	.50" - 1.04"	ALUMINUM	7 1/2" - 8 1/8"	2 1/2" - 2 3/4"	1 1/16" - 1 1/4"	25,000 LBS	3/0 - 336AAC
006	1.00" - 1.39"	ALUMINUM	8" - 9 3/16"	2 7/16" - 3 1/8"	1 5/16" - 1 5/8"	25,000 LBS	652 AAAC 636 AAC
007	1.25" - 1.82"	ALUMINUM	9 7/8" - 10 1/8"	3 11/64" - 3 1/2"	1 7/8" - 2 1/8"	25,000 LBS	954 AAC 954ACSR
008	2.00" - 2.52"	ALUMINUM	11" - 12"	4 1/8" - 4 3/8"	2 1/2" - 2 3/4"	25,000 LBS	1590 ACSR
009	.20" - .60"	HDG DUCTILE IRON	6 1/2" - 6 3/4"	2 1/8" - 2 3/8"	1 1/16" - 3/4"	16,000 LBS	2 - 4/0 Cu.

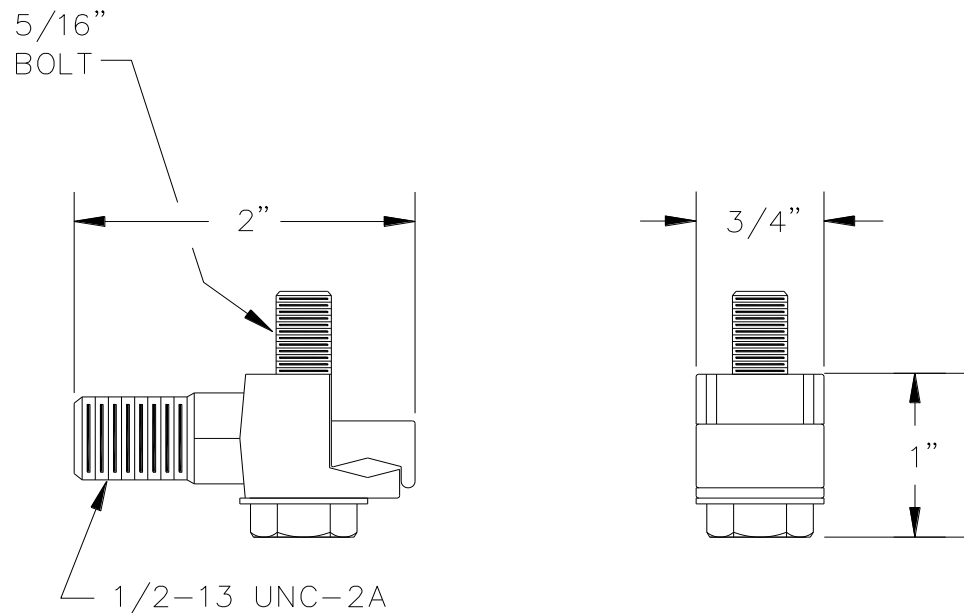
## CLASW 001

GENERAL DESCRIPTION: CLAMP, STATIC WIRE, HOT DIPPED GALVANIZED STEEL, FOR USE WITH BAYONETS



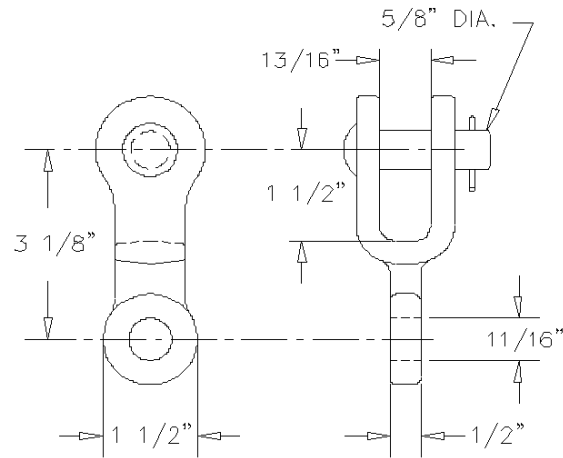
## CLATG 001

GENERAL DESCRIPTION: TRANSFORMER GROUNDING CONNECTOR, MATERIAL IS HIGH CONDUCTIVITY BRONZE



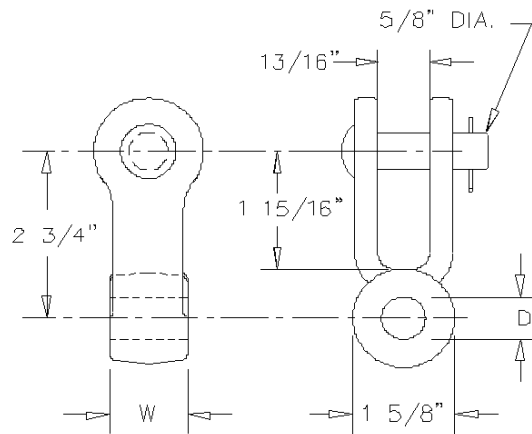
## CLEEY 001 - 003

GENERAL DESCRIPTION: CLEVIS, EYE, 30,000# ULTIMATE STRENGTH, DROP-FORGED STEEL, HOT DIPPED GALVANIZED, CLEVIS PIN IS GALVANIZED STEEL, COTTER PIN IS STAINLESS STEEL.



### CLEEY001

GENERAL DESCRIPTION: CLEVIS, EYE, 90 DEGREES.



### CLEEY002\*/003

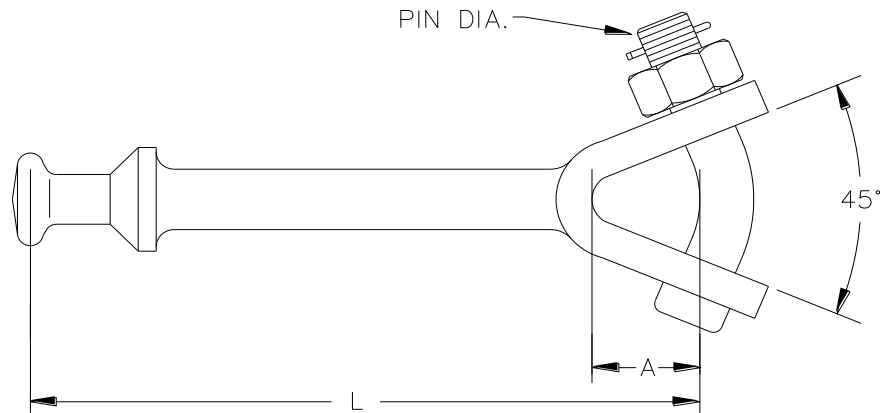
GENERAL DESCRIPTION: CLEVIS, EYE, STANDARD.

\*INACTIVE ITEM

W=1 1/16" & D=1 1/16" FOR CLEEY002  
W=1 1/4" & D=1 3/16" FOR CLEEY003

# **CLEHL 001 - 003**

GENERAL DESCRIPTION: HOT LINE BALL CLEVIS

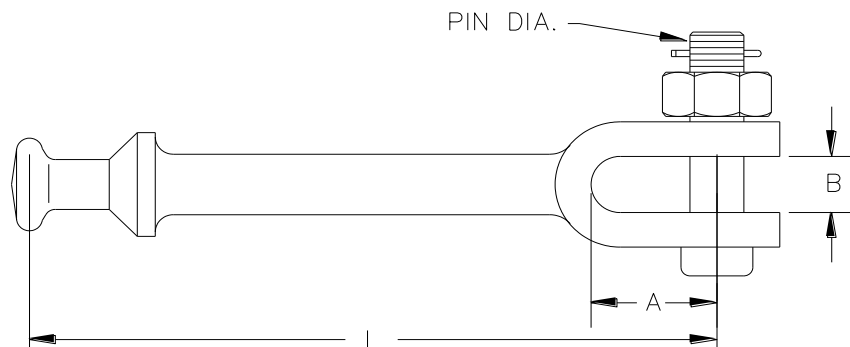


## **CLEHL001,002**

GENERAL DESCRIPTION: HOT LINE BALL- Y-CLEVIS, HOT DIP GALVANIZED STEEL.  
HARDWARE IS GALVANIZED STEEL. COTTER PIN IS STAINLESS STEEL.

### **ITEM SPECIFICATION**

ITEM	CLASS	ULTIMATE STRENGTH	L (RANGE)	A (RANGE)	PIN DIA.
001	52-3/5	30,000 lbs.	9 5/16"-10 1/8"	1 1/2"-1 7/8"	3/4"
002	52-8/11	50,000 lbs.	9 5/16"-10 1/4"	1 1/2"-1 7/8"	7/8"



## **CLEHL003**

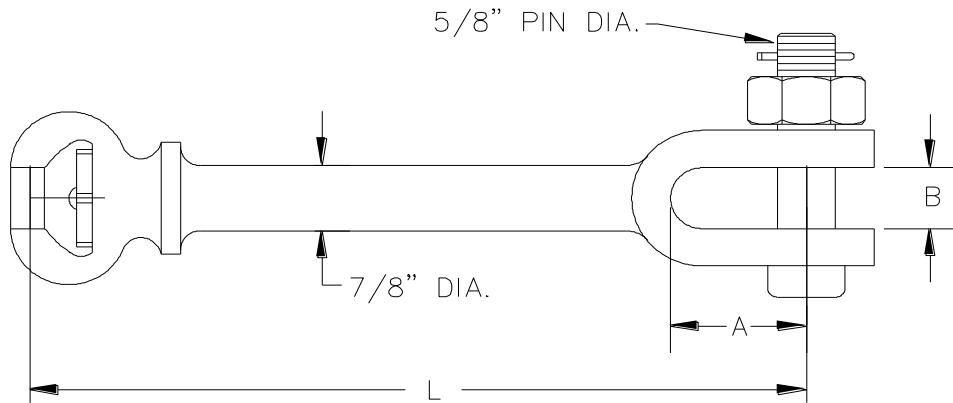
GENERAL DESCRIPTION: HOT LINE BALL CLEVIS, HOT DIP GALVANIZED STEEL.  
HARDWARE IS GALVANIZED STEEL. COTTER PIN IS STAINLESS STEEL.

### **ITEM SPECIFICATION**

ITEM	CLASS	ULTIMATE STRENGTH	L (RANGE)	A (RANGE)	B (RANGE)	PIN DIA.
003	52-3/5	30,000 lbs.	9 9/16"-9 3/4"	1 1/2"-1 3/4"	13/16"-15/16"	5/8"

## CLEHL 004 - 005

GENERAL DESCRIPTION: HOT LINE SOCKET CLEVIS

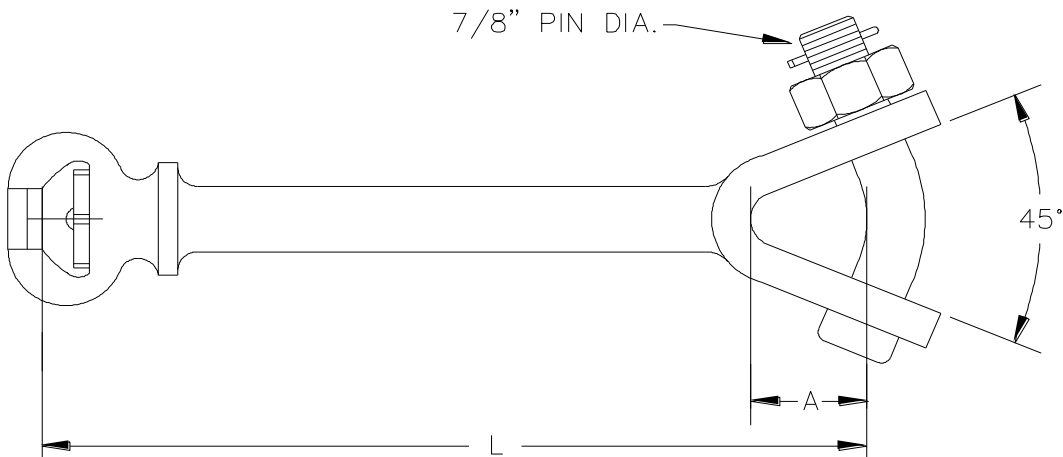


### CLEHL004

GENERAL DESCRIPTION: SOCKET-CLEVIS, DUCTILE IRON OR FORGED STEEL, HOT DIP GALV.  
CLEVIS PIN IS GALVANIZED STEEL. COTTER PIN IS STAINLESS STEEL.

### ITEM SPECIFICATION

ITEM	ANSI CLASS	ULTIMATE STRENGTH	L (RANGE)	A (RANGE)	B (RANGE)
004	52-3/5	30,000 lbs.	9 3/4"-10"	1 1/2"-2"	15/16"-1 1/8"



### CLEHL005

GENERAL DESCRIPTION: SOCKET-Y CLEVIS, DUCTILE IRON OR FORGED STEEL, HOT DIP GALV.  
CLEVIS PIN IS GALVANIZED STEEL. COTTER PIN IS STAINLESS STEEL.

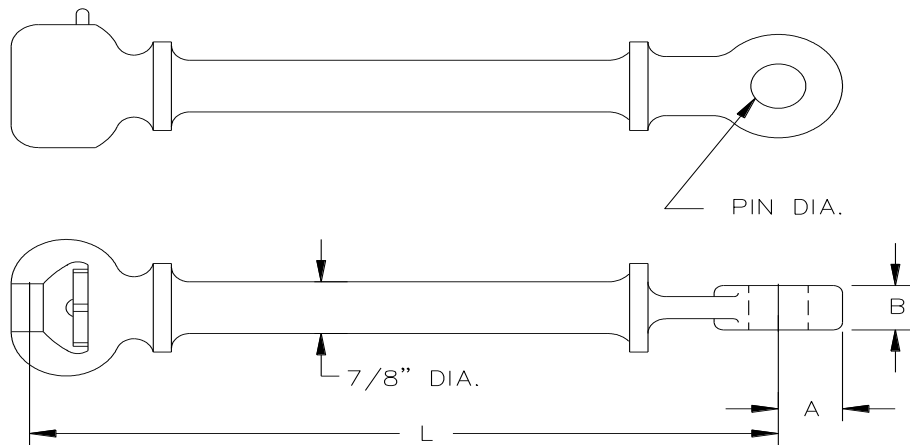
### ITEM SPECIFICATION

ITEM	ANSI CLASS	ULTIMATE STRENGTH	L (RANGE)	A (RANGE)
005	52-8/11	50,000 lbs.	9 11/16"-12"	1 5/8"-2 1/4"



## CLEHL 006 - 008

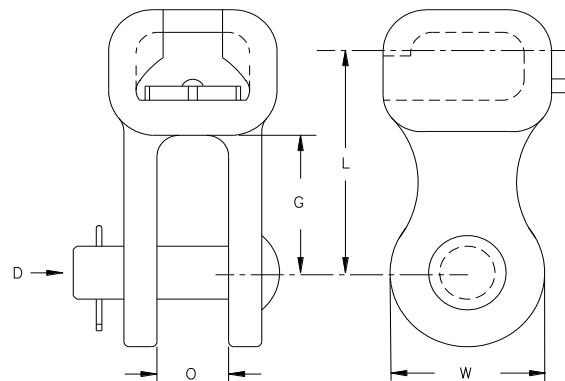
GENERAL DESCRIPTION: HOT LINE SOCKET EYE, DUCTILE IRON OR FORGED STEEL, HOT DIPPED GALVANIZED, COTTER PIN IS STAINLESS STEEL



ITEM	ANSI CLASS	ULTIMATE STRENGTH	L	A	B	PIN DIA.
006	52-3/5	30,000 LBS	10"	7/8"	3/4"	13/16"
007	52-3/5	30,000 LBS	10"	1"	1"	1"
008	52-8/11	40,000 LBS	10"	1 1/16"	3/4"	13/16"

## CLESO 001-005

GENERAL DESCRIPTION: SOCKET CLEVIS, FORGED STEEL, HOT DIPPED GALVANIZED

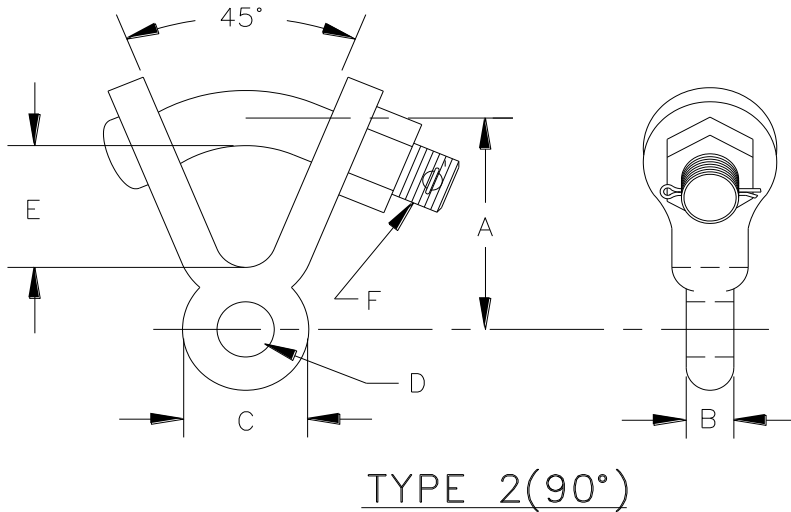
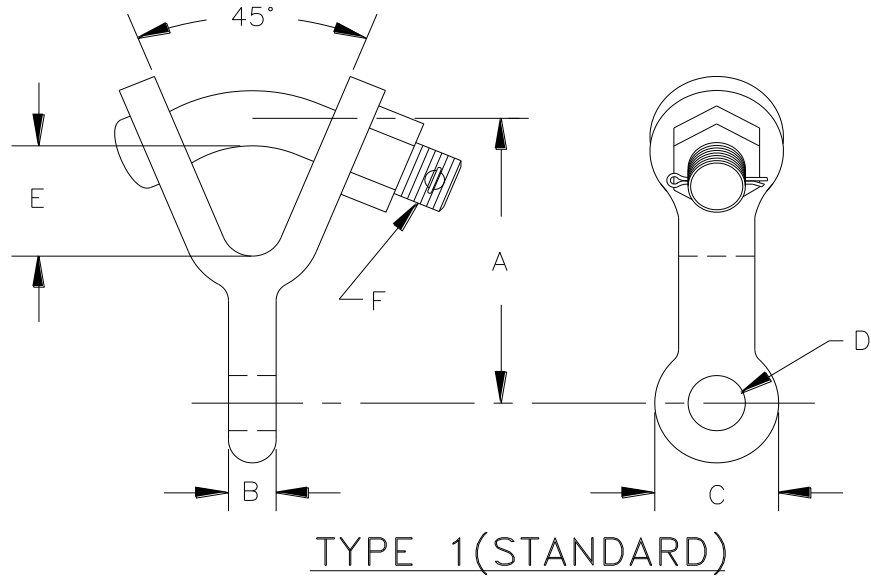


Item	Class	Strength	O	L	G	W	D
001	52-3/5	30,000 lb	13/16"	2 5/8"	1 5/8"	1 3/4"	5/8"
002	52-3/5	35,000 lb	13/16"	4 1/2"	2"	2"	5/8"
003	52-8/11	50,000 lb	1 1/8"-1 5/16"	4 1/2"	2 1/4"	2"	3/4"-7/8"
004	52-3/5	30,000 lb	N/A	2 3/4"	1 9/16"	2"	3/4"
005	52-8/11	50,000 lb	N/A	2 15/16"	1 5/8"	2 1/4"	7/8"

NOTE: ITEMS 004 AND 005 ARE SOCKET Y-CLEVIS

# CLETE 001 - 006

GENERAL DESCRIPTION: Y-CLEVIS, TOWER EYE, HOT DIPPED GALVANIZED, HEAT TREATED, COTTER PIN IS STAINLESS STEEL.

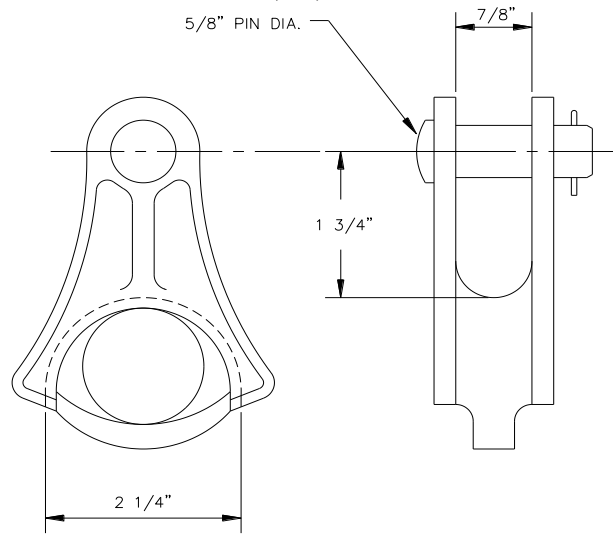


ITEM	TYPE	A	B	C	D	E	F
001	1	3 7/8"	5/8"	1 5/8"	11/16"	1 1/2"	3/4"
002	1	3 7/8"	1"	1 5/8"	11/16"	1 1/2"	3/4"
003*	1	3 7/8"	1 5/8"	1 5/8"	11/16"	1 1/2"	3/4"
004	2	3 7/8"	5/8"	1 11/16"	3/4"	1 21/32"	3/4"
005	2	3 7/8"	1 3/8"	1 11/16"	3/4"	1 21/32"	3/4"
006	2	3 7/8"	1 5/8"	1 11/16"	3/4"	1 21/32"	3/4"

\*INACTIVATED ITEM

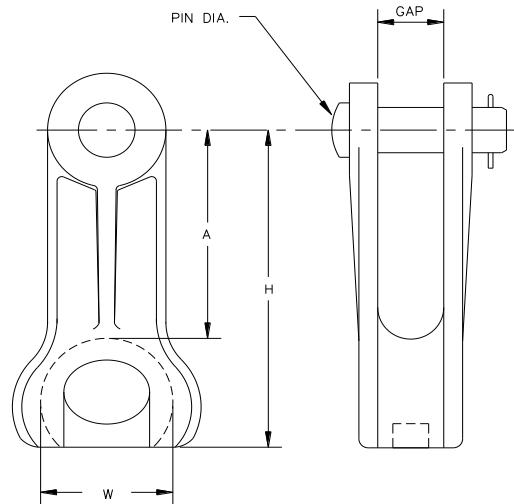
## CLETH 001

GENERAL DESCRIPTION: THIMBLE CLEVIS, DUCTILE IRON HOT DIPPED GALVANIZED, GALVANIZED CLEVIS PIN, COTTER PIN IS STAINLESS STEEL; 20,000 LB STRENGTH.



## CLETH 002 - 003

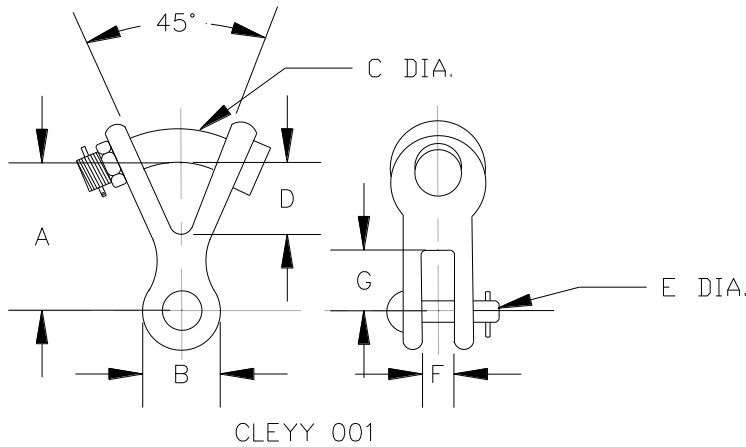
GENERAL DESCRIPTION: THIMBLE CLEVIS, DUCTILE IRON, HOT DIPPED GALVANIZED, COTTER PIN IS STAINLESS STEEL.



ITEM	ULTIMATE STRENGTH	H	W	A	GAP	PIN DIA.
002	40,000 LBS	5"	2 1/4"	2 1/4"	7/8"	3/4"
003	60,000 LBS	5 7/8"	2 1/2"	3 1/2"	1 1/16"	1"

## CLEYY 001- 002

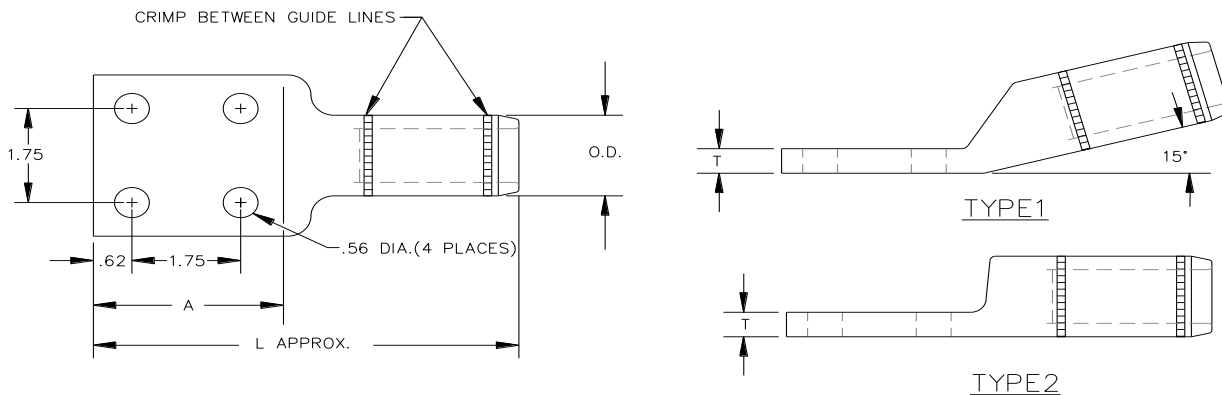
GENERAL DESCRIPTION: CLEVIS, 'Y', 90-DEGREE



ITEM	ULTIMATE STRENGTH	A	B	C	D	E	F	G
001	30,000 LBS	3 <sup>5</sup> / <sub>8</sub> "	1 <sup>3</sup> / <sub>4</sub> "	<sup>3</sup> / <sub>4</sub> "	1 <sup>9</sup> / <sub>16</sub> "	<sup>5</sup> / <sub>8</sub> "	<sup>13</sup> / <sub>16</sub> "	1 <sup>9</sup> / <sub>16</sub> "
002	50,000 LBS		2"	<sup>7</sup> / <sub>8</sub> "	1 <sup>9</sup> / <sub>16</sub> "	<sup>7</sup> / <sub>8</sub> "	1 <sup>11</sup> / <sub>16</sub> "	2 <sup>1</sup> / <sub>4</sub> "

## CNNAJ 002/005 – 008/010/020

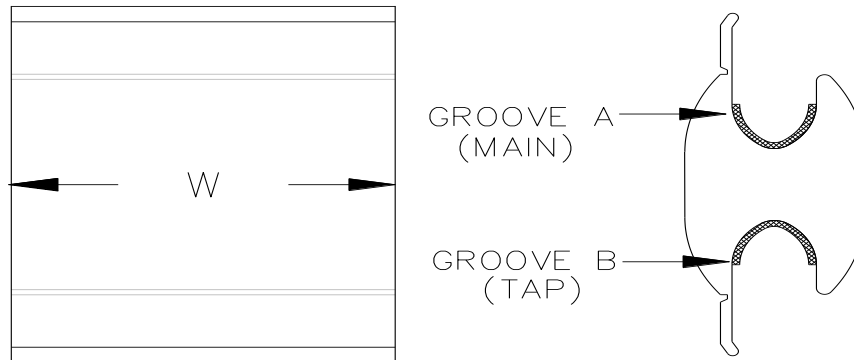
GENERAL DESCRIPTION: ALUMINUM COMPRESSION TERMINAL FOR TRANSMISSION LINES.



ITEM	TYPE	CONDUCTOR			A (RANGE)	L (RANGE)	T (RANGE)	O.D. (RANGE)
		ACAR	ALUMINUM	ACSR				
002	1	634.9 – 653.1	600 – 650	556.5	3.06" – 3.5"	9.75" – 12.31"	.31" – .44"	1.5" – 1.68"
005	1	1650 42/19	1700-1800	1590	3.06" – 3.5"	13.36" – 17.44"	.69" – .86"	2.5"
006	2	840 – 927	795 – 1000	715 - 874	3.15" – 3.5"	8.63" – 14.75"	.41" – .56"	1.8" – 1.88"
007	2	983 – 1198	10.33 – 1272	900 – 1100	3.15" – 3.5"	10.77" – 14.88"	.41" – .75"	1.87" – 1.97"
008	2		1700 – 1800	1590	3.15" – 4.25"	12.94" – 17.56"	.75" – .88"	2.5"
010			954 ACSS					
020	2		2500 ACC			17.9"	.88"	

## CNNCP 002, 003, 016

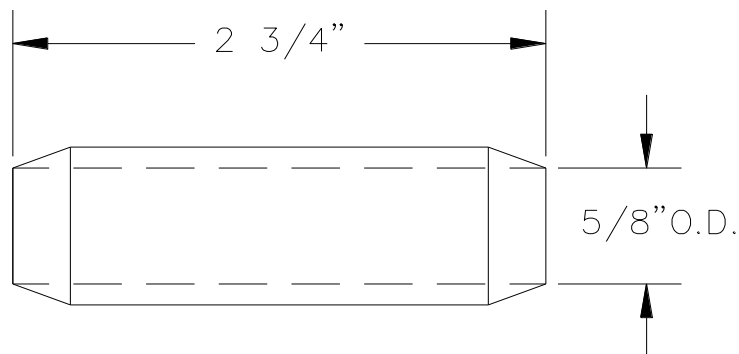
GENERAL DESCRIPTION: ALUMINUM ALLOY COMPRESSION CONNECTOR FOR ALUMINUM TO ALUMINUM AND ALUMINUM TO COPPER.



ITEM	W	CONDUCTOR RANGE			
		GROOVE A		GROOVE B	
		MAX	MIN	MAX	MIN
002	1 <sup>3</sup> / <sub>8</sub> "	.420"	.258"	.332"	.162"
003	1 <sup>1</sup> / <sub>2</sub> "	.420"	.232"	.420"	.232"
016	1 <sup>3</sup> / <sub>16</sub> "	.258"	.204"	.204"	.128"

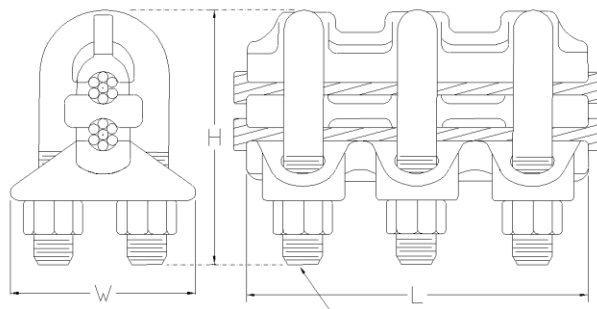
## CNNGR 002

GENERAL DESCRIPTION: COUPLING, GROUND ROD, "THREADLESS".



## CNNPA 133/137/141/145

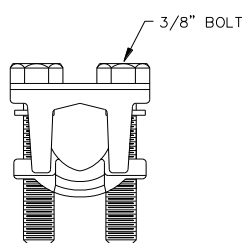
GENERAL DESCRIPTION: CONNECTOR, PARALLEL TAP, ALUMINUM, 3 U-BOLTS



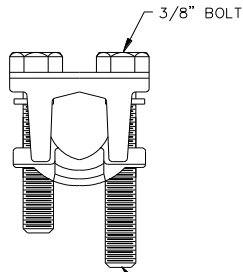
ITEM	CONDUCTOR	L	W	H	J
133	556 ACSR	5 <sup>7</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>8</sub> "	4 <sup>11</sup> / <sub>16</sub> "	<sup>5</sup> / <sub>8</sub> "
137	954 AAC	6 <sup>3</sup> / <sub>4</sub> "	3 <sup>5</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>2</sub> "	<sup>5</sup> / <sub>8</sub> "
141	954 ACSR	8"	3 <sup>7</sup> / <sub>8</sub> "	6 <sup>3</sup> / <sub>8</sub> "	<sup>3</sup> / <sub>4</sub> "
145	1590 ACSR	9 <sup>3</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>8</sub> "	6 <sup>3</sup> / <sub>8</sub> "	<sup>3</sup> / <sub>4</sub> "

## CNNTB 001 - 004

GENERAL DESCRIPTION: HIGH STRENGTH BRONZE CONNECTORS FOR COPPER TO COPPER CONNECTIONS. USE JOINT COMPOUND WITH ALUMINUM AND ACSR CONNECTORS



TYPE 1



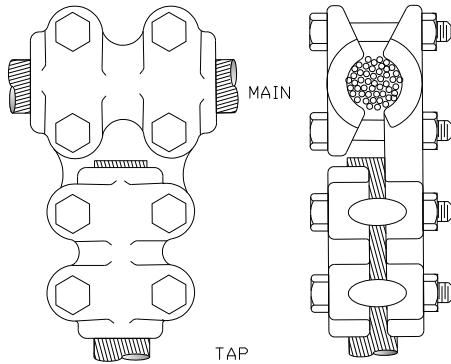
TYPE 2

EXTRA LONG BOLT ALLOWS FOR EASY INSTALLATION OF TWO CONDUCTORS OF MAX. RANGE

ITEM	MAXIMUM EQUAL RUN & TAP	MINIMUM RUN	MINIMUM TAP
001	4/0 STRANDED	1/0 STRANDED	#8
002	350 MCM	250MCM	#10
003	500 MCM	400 MCM	#10
004	800 MCM	400 MCM	3/0 STRANDED

## CNTE 206 - 227

GENERAL DESCRIPTION: TEE, BOLTED, STRAIGHT, CABLE TO CABLE.



ITEM	MAIN (ACSR)	TAP (ACSR)
206	556 - 795	#4 - 4/0
208	556 - 795	4/0 - 336
209	556 - 795	556 - 795
210	715 - 1113	#4 - 4/0
211	715 - 1113	4/0 - 336
213	715 - 1113	556 - 795
214	715 - 1113	715 - 1113
224	1272 - 1590	4/0 - 336
227	1272 - 1590	1272 - 1590

## COBAS 005 – 007

GENERAL DESCRIPTION: CONDUCTOR, ALUMINUM CLAD STEEL WIRE



ITEM	NO. AND SIZE OF WIRES	NOMINAL DIAMETER	BREAKING LOAD LBS
005	3 No. 6 AWG	.349"	10,280
006	7 No. 7 AWG	.433"	19,060
007	7 No. 10 AWG	.306"	10,020

## COBCO 025/026/028/029

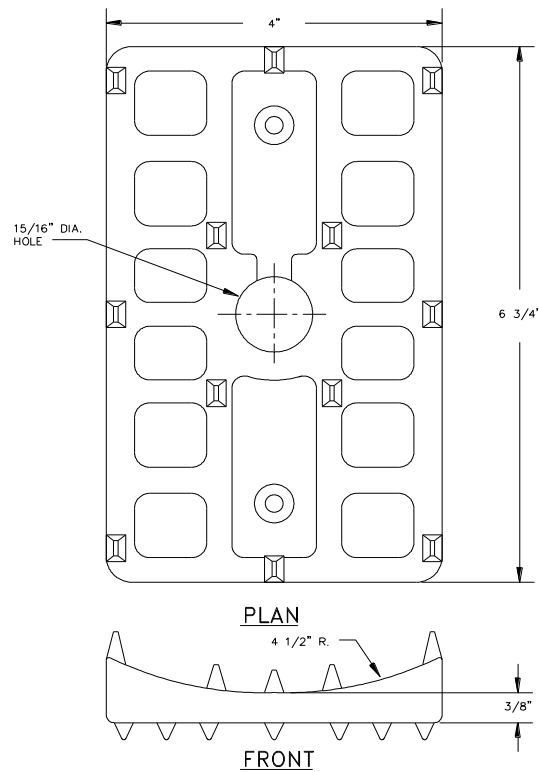
GENERAL DESCRIPTION: CONDUCTOR, SOLID, BARE COPPER



ITEM	WIRE SIZE/TYPE	DIAMETER	BREAKING STRENGTH
025	#6, SOFT DRAWN	.1620	2433 LBS
026	#6, HARD DRAWN	.1620	2433 LBS
028	#4, SOFT DRAWN	.2043	3541 LBS
029	#2, HARD DRAWN	.2576	5056 LBS

## CXAGA 001

GENERAL DESCRIPTION: CROSSARM GAIN, ROUND TO FLAT DOUBLE TOOTH FACE, ALUMINUM ALLOY

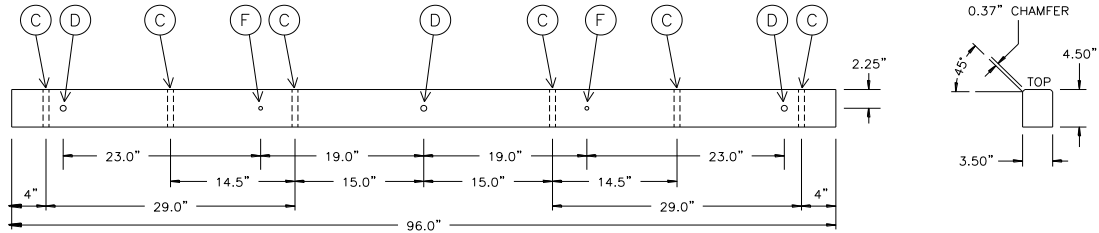




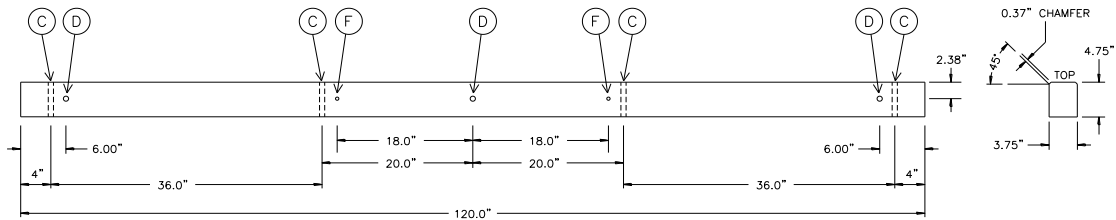
## CXAWO 001 - 005

GENERAL DESCRIPTION: CROSSARM FOR WOOD POLE STRUCTURES, TREATED SOUTHERN YELLOW PINE OR DOUGLAS FIR. NOTE: ALL DIMENSIONS ARE IN INCHES

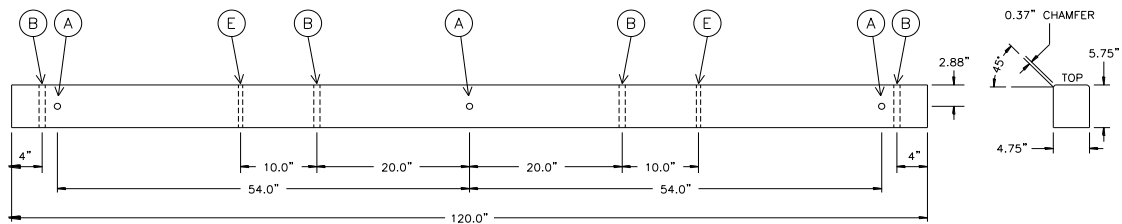
### CXAWO001



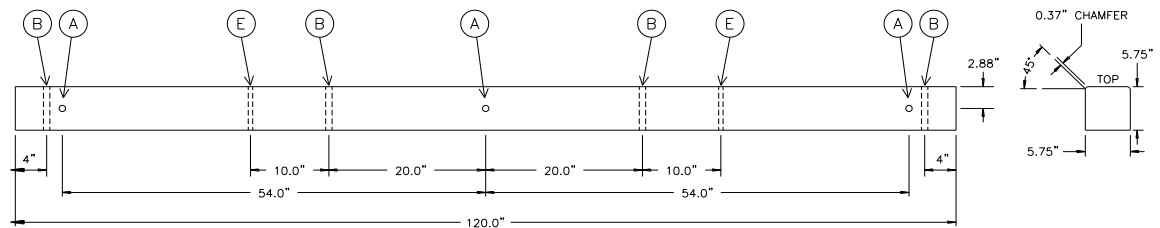
### CXAWO003



### CXAWO004



### CXAWO005

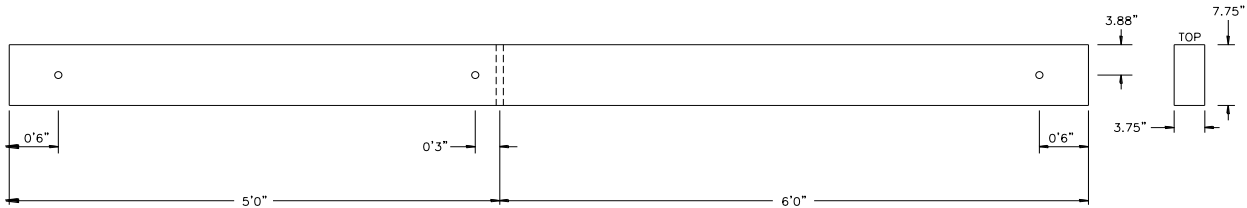


HOLE	DIAMETER	HOLE	DIAMETER	HOLE	DIAMETER
A	$\frac{13}{16}$ "	C	$\frac{11}{16}$ "	E	$\frac{9}{16}$ "
B	$\frac{13}{16}$ "	D	$\frac{11}{16}$ "	F	$\frac{7}{16}$ "

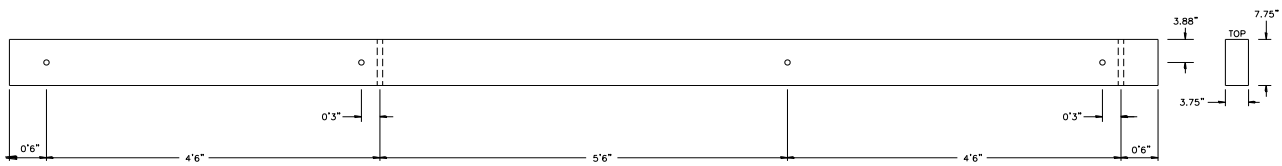
## CXAWO 006 - 010

GENERAL DESCRIPTION: CROSSARM FOR WOOD POLE STRUCTURES. TREATED SOUTHERN YELLOW PINE OR DOUGLAS FIR

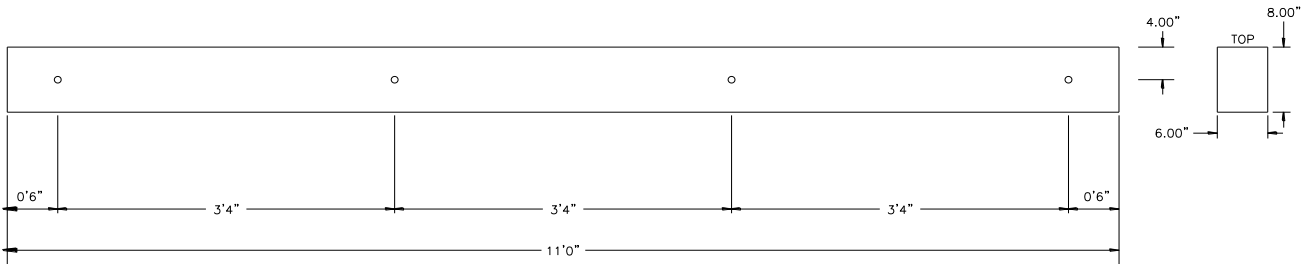
### CXAWO006



### CXAWO007



### CXAWO008



### CXAWO010



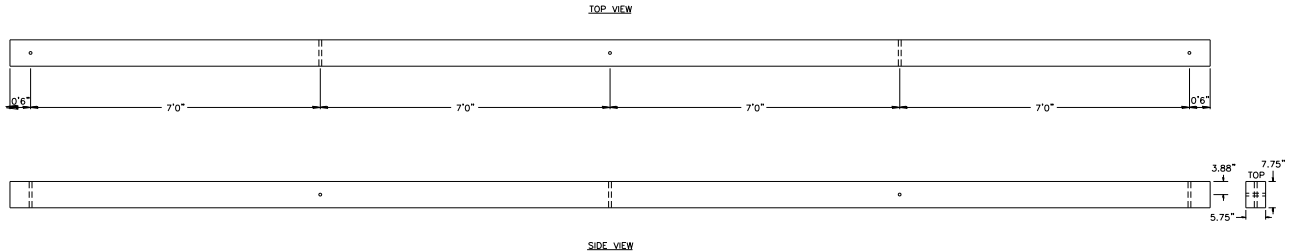
STRUCTURE	HOLE DIAMETER		STRUCTURE	HOLE DIAMETER
006	$\frac{7}{8}$ "		008	$\frac{13}{16}$ "
007	$\frac{7}{8}$ "		010	$\frac{7}{8}$ "

NOTE: ALL HOLES SHALL HAVE A TOLERANCE OF  $\pm \frac{1}{16}$ ";  
ALL DIMENSIONS SHALL HAVE A TOLERANCE OF  $\pm \frac{1}{8}$ ".

## CXAWO 012

GENERAL DESCRIPTION: CROSSARMS FOR WOOD POLE STRUCTURES. TREATED SOUTHERN YELLOW PINE OR DOUGLAS FIR

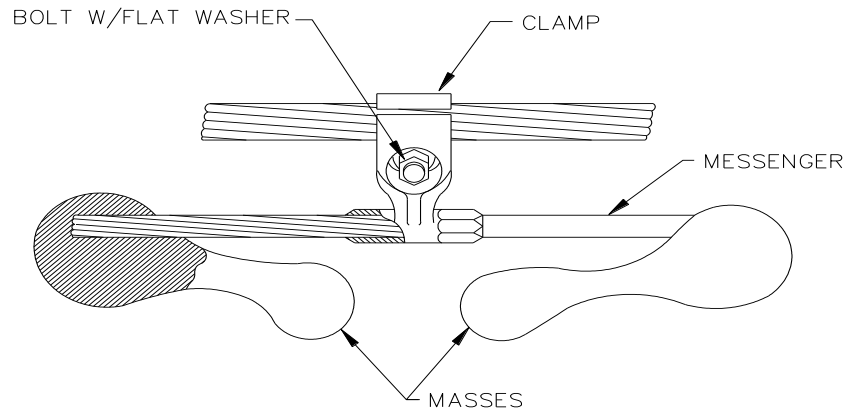
### CXAWO012



STRUCTURE	DIAMETER
012	$\frac{13}{16}$ "

## DAPVI 001 – 005D

GENERAL DESCRIPTION: VIBRATION DAMPER FOR ALUMINUM CONDUCTORS. ALUMINUM CLAMP & HARDWARE WITH GALVANIZED MESSENGER AND ZINC CASTINGS.

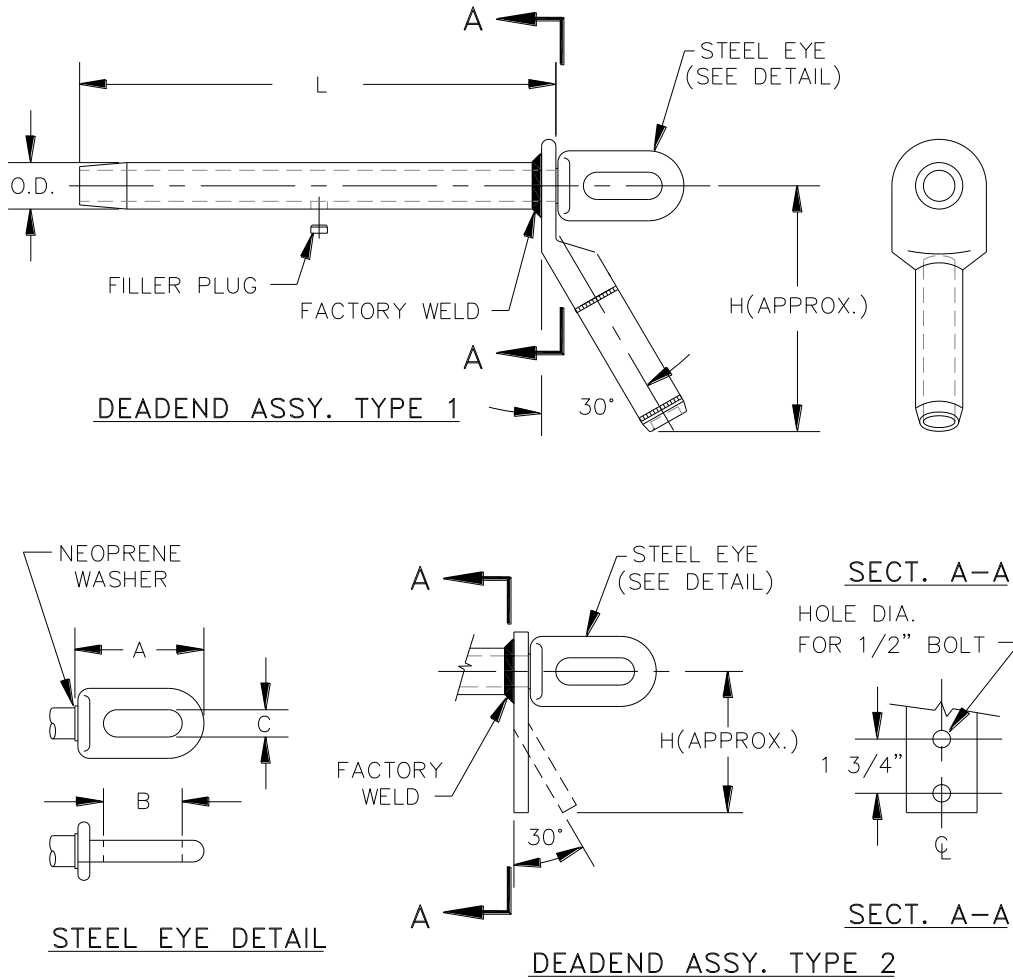


ITEM	RANGE	ITEM	RANGE	ITEM	RANGE	ITEM	RANGE	ITEM	RANGE
001	.27" - .36"	002	.57" -.60"	003	.87" - .95"	004	1.09" – 1.21"	005	1.50" – 1.69"

NOTE: RANGE REFERS TO CONDUCTOR DIAMETER RANGE

# DEACB 003 - 017

GENERAL DESCRIPTION: DEADEND, FULL TENSION, ASSEMBLIES FOR CONDUCTOR

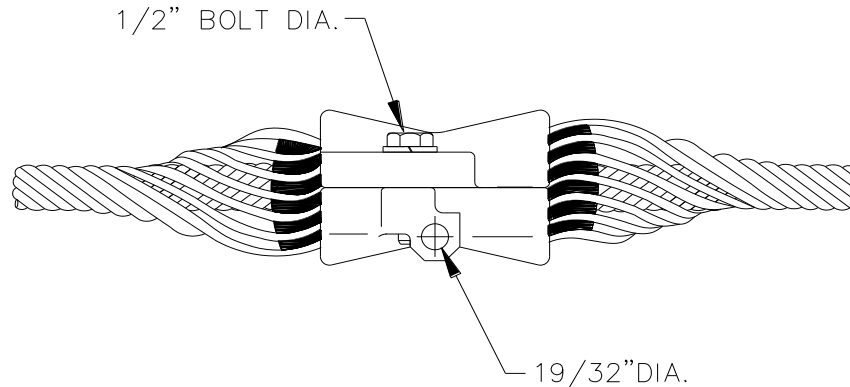


ITEM	TYPE	O.D.	L	A	B	C	CONDUCTOR
003	1	1.50"	15.0" – 19.0"	4.0"	2.5"	.88"	556 PARAKEET
005	1	1.97"	19.5" – 22.5"	4.5"	2.7"	1.25"	954 CARDINAL
007	1	2.50"	22.0" – 25.0"	5.0"	2.7"	1.25"	1590 FALCON
010	2	1.50"	15.0" – 19.0"	4.0"	2.5"	.88"	556 PARAKEET
012	2	1.97"	19.5" – 22.5"	4.5"	2.7"	1.25"	954 CARDINAL
014	2	2.50"	22.0" – 25.0"	5.0"	2.7"	1.25"	1590 FALCON
016	2		28"	3.96"	2.62"	1.24"	954 ACSS CARDINAL
017	2				2.62"	1.25"	954 ACSS CARDINAL

NOTE: 016 IS FOR CIRCUIT 847

## GRIAR 001 - 004

GENERAL DESCRIPTION: SUPPORT, ARMOR GRIP, GALVANIZED MALLEABLE IRON OR HIGH STRENGTH ALUMINUM ALLOY KEEPER AND BODY, GALVANIZED CAP SCREWS AND WASHERS, WITH STAINLESS STEEL INSERT FOR TRUNNION AND ALUMINUM ALLOY RODS.

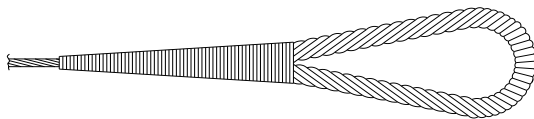


ITEM	CONDUCTOR TYPE	DIAMETER RANGE (INCHES)	ROD DIA. (INCHES)	COLOR CODE	ROD LENGTH (INCHES)
001	556 24/7	0.908 – 0.920	.25	YELLOW	53
002	652	0.921 – 0.937	.25	BLACK	53
003	954 54/7	1.176 – 1.208	.31	ORANGE	62
004	954 37 ALL ALUM.	1.119 – 1.136	.31	BLACK	62
005*	1590 54/7	1.517 – 1.557	.365	RED	78

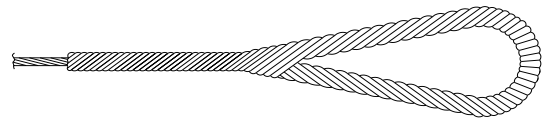
\* INACTIVATED ITEM

## GRIPR 001 - 005

GENERAL DESCRIPTION: GUY DEAD END, TYPE 1(ALUMINUM CLAD), TYPE 2 (COPPER CLAD)



TYPE 1

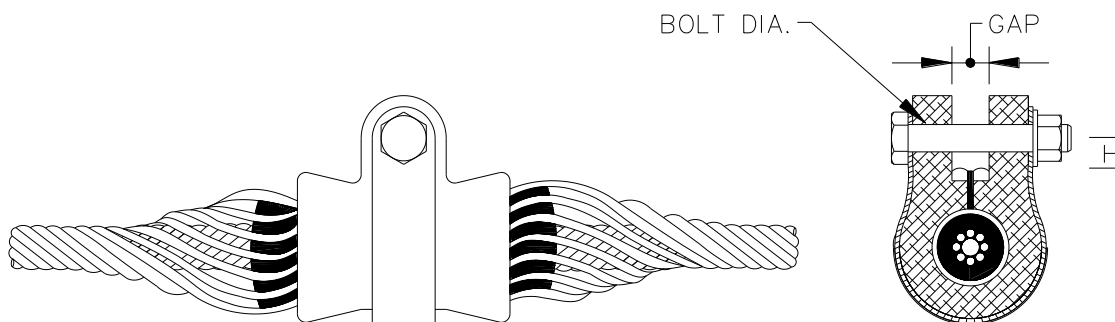


TYPE 2

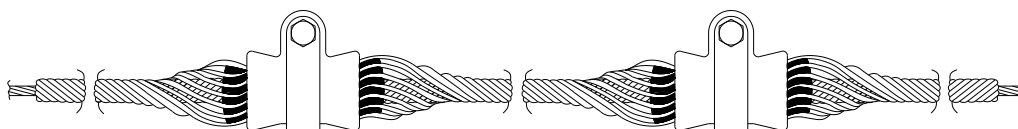
ITEM	TYPE	CONDUCTOR SIZE	HOLDING STRENGTH	COLOR CODE	ROD LENGTH (INCHES)
001	1	3#6, 7#9	12,500 LBS	YELLOW	29
002	1	3#7, 7#10	10,020 LBS	BLACK	26
003	2	3#6, 7#9	12,500 LBS	GREEN	27
004	2	3#7, 7#10	10,000 LBS	RED	25
005	1	7#7	19,060 LBS	GREEN	36

# GRISA 001 – 010/020

GENERAL DESCRIPTION: SINGLE (A) AND DOUBLE (B) ARMOR GRIP ASSEMBLY; USE DOUBLE GRIP FOR LINE ANGLES OF 30 – 60 DEGREES



TYPE A

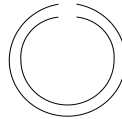
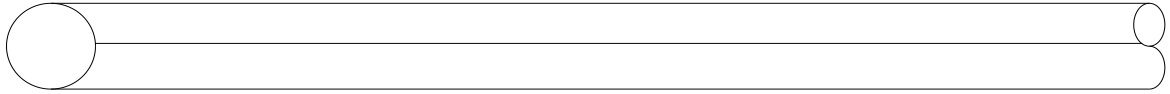


TYPE B

ITEM	TYPE	CONDUCTOR RANGE (INCHES)	BOLT DIA.	GAP	H	CONDUCTOR
001	A	0.908 – 0.920	$\frac{5}{8}$ "	$\frac{7}{8}$ "	1"	556 ACSR
002	A	0.921 – 0.937	$\frac{5}{8}$ "	$\frac{7}{8}$ "	1"	652 AAAC
003	A	1.119 – 1.136	$\frac{5}{8}$ "	$1 \frac{3}{16}$ "	1"	954 AAC
004	A	1.176 – 1.208	$\frac{5}{8}$ "	$1 \frac{3}{16}$ "	1"	954 ACSR
005	A	1.517 – 1.557	$\frac{3}{4}$ "	$1 \frac{3}{8}$ "	$1 \frac{1}{8}$ "	1590 ACSR
006	B	1.119 – 1.136	$\frac{5}{8}$ "	$1 \frac{3}{16}$ "	1"	954 AAC
007	B	1.176 – 1.208	$\frac{5}{8}$ "	$1 \frac{3}{16}$ "	1"	954 ACSR
008	B	1.517 – 1.557	$\frac{3}{4}$ "	$1 \frac{3}{8}$ "	$1 \frac{1}{8}$ "	1590 ACSR
009	A	1.189 – 1.208	$\frac{3}{4}$ "	$2 \frac{1}{4}$ "	$1 \frac{1}{8}$ "	954 ACSS
010	B	1.189 – 1.208	$\frac{3}{4}$ "	$2 \frac{1}{4}$ "	$1 \frac{1}{8}$ "	954 ACSS
020	A	1.791 – 1.828	$\frac{3}{4}$ "	$2 \frac{1}{4}$ "	$1 \frac{1}{8}$ "	2500 AAC

## GUAGW 001 - 003

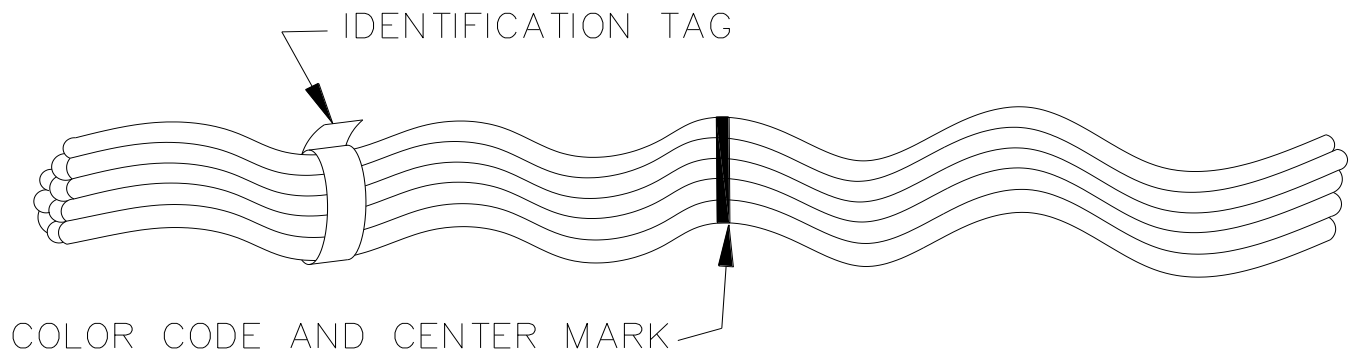
GENERAL DESCRIPTION: GUY GUARD, PVC



ITEM	OUTSIDE DIAMETER (INCHES)	LENGTH (FEET)	APPLICATION
001	$\frac{1}{2}$ " x $\frac{1}{2}$ "	8	WOOD POLES
002	1 $\frac{1}{2}$ "	8	$\frac{1}{2}$ " OR $\frac{7}{16}$ " GUY WIRE
003	2"	8	$\frac{9}{16}$ " & $\frac{3}{4}$ " GUY WIRE

## GUALI 001 - 009

GENERAL DESCRIPTION: LINE GUARD, ALUMINUM

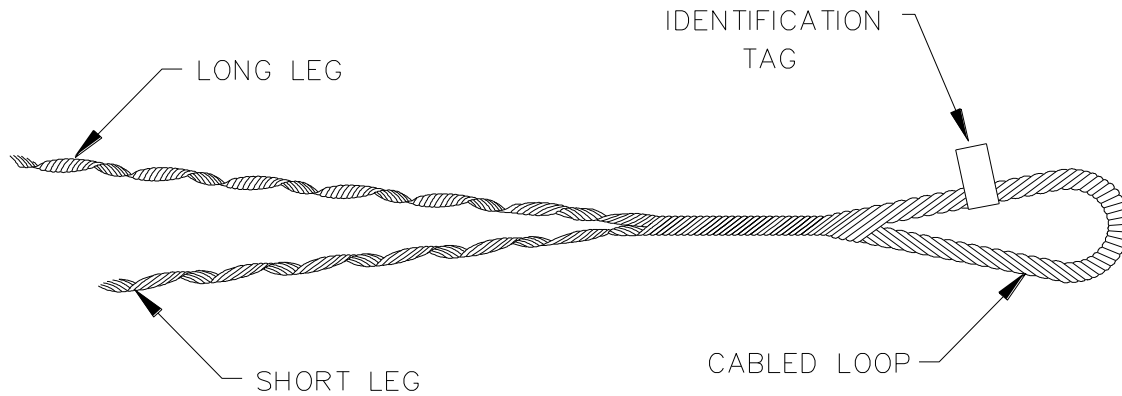


ITEM	CONDUCTOR RANGE (INCHES)	LENGTH (INCHES)	ROD DIA.	COLOR CODE	CONDUCTOR
001	0.347 – 0.366	23	.121	GREEN	3#6 AW
002	0.309 – 0.326	21	.121	RED	2 ACSR
003	0.290 – 0.308	21	.121	PURPLE	7#10 AW
004	0.390 – 0.413	25	.121	YELLOW	1/0 AAAC
005	0.367 – 0.389	23	.121	BLACK	7#7 AW
006	0.491 – 0.521	29	.121	ORANGE	3/0 ACSR
007	0.656 – 0.679	35	.146	BROWN	336 AAC
008	0.899 – 0.954	43	.167	GREEN	556 ACSR
009*	1.209 -1.268	53	.250	BLACK	1192 AAC

\* INACTIVATED ITEM

## GUYGR 001 - 005

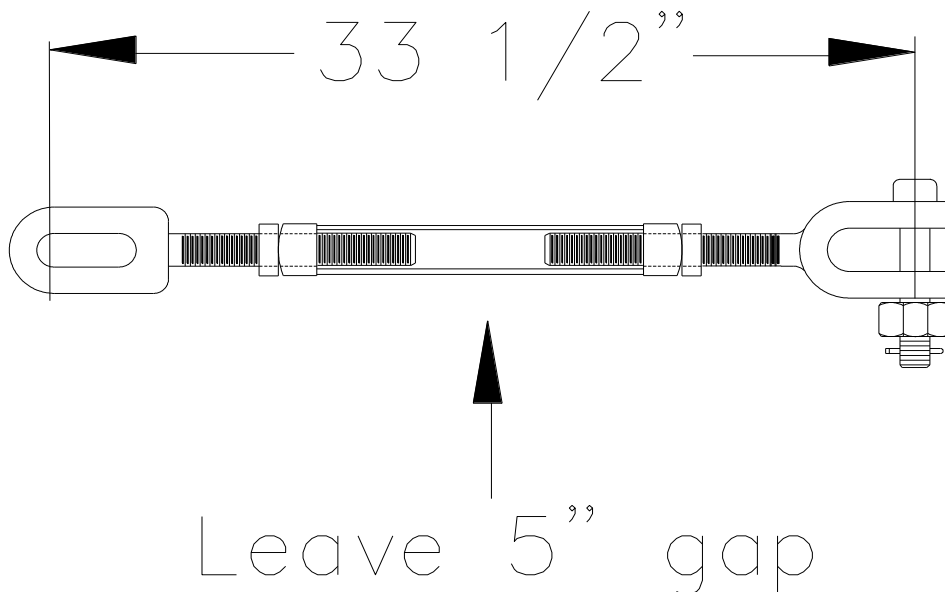
GENERAL DESCRIPTION: GUY GRIP, GALVANIZED



ITEM	SIZE (INCHES)	LENGTH (INCHES)	STRENGTH LBS	COLOR CODE
001	$\frac{3}{8}$	35	15,400	ORANGE
002	$\frac{7}{16}$	38	20,800	GREEN
003	$\frac{1}{2}$	49	26,900	BLUE
004	$\frac{9}{16}$	55	35,000	YELLOW
005	$\frac{3}{4}$	76	58,300	ORANGE

## HDWTU 001

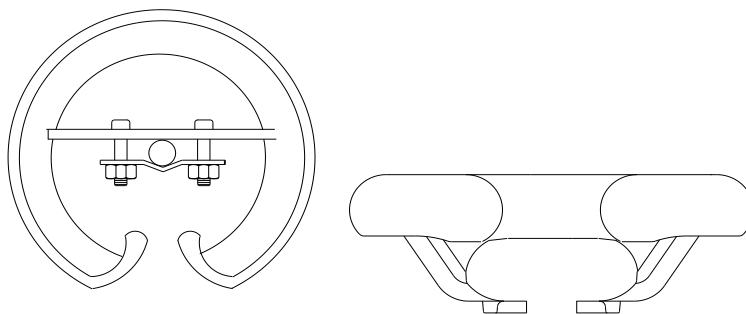
GENERAL DESCRIPTION: TURNBUCKLE, CLEVIS-EYE, 12" TAKE UP, 76,000#





## INSCR 001 - 006

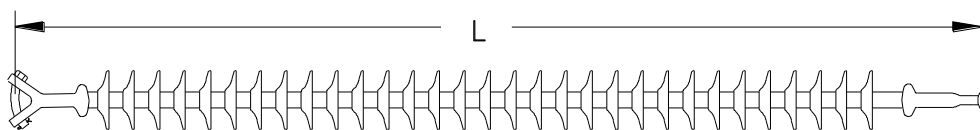
GENERAL DESCRIPTION: CORONA RING FOR 138kV & 230kV INSULATORS. DO NOT MIX INSULATORS AND CORONA RINGS.



ITEM	DESCRIPTION
001	CORONA RING, FOR MACLEAN 138/230KV 50,000 LBS SML DEAD-END INSULATORS
002	CORONA RING FOR NGK 138KV AND 230KV INSULATORS (INSDE002 & 003; INSSU009 & 010; INSLP013 & 014)
003	CORONA RING, FOR MACLEAN 138/230KV 30,000 LBS SML SUSPENSION AND BRACED LINE POST INSULATORS
004	CORONA RING, FOR MACLEAN 138/230KV 2.5" POST INSULATORS
005	CORONA RING, FOR NGK INSULATOR (INSDE006 & 007)
006	CORONA RING, FOR NGK POST INSULATORS (INSHPO24 & 025)

## INSDE 002 – 004/006/007/010

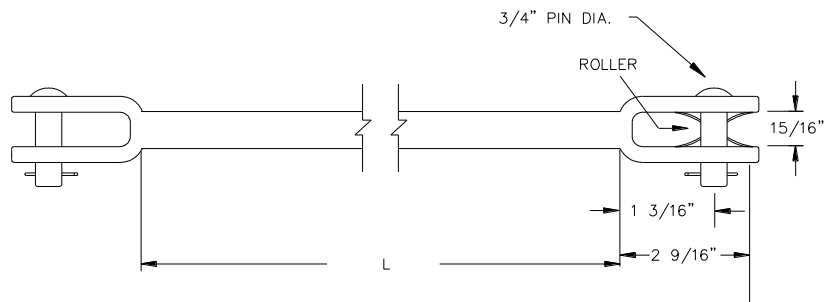
GENERAL DESCRIPTION: INSULATOR, SILICON DEADEND WITH NEMA 8/11 Y-CLEVIS BALL END FITTINGS, ECR GLASS, 50,000 LBS SML. ALL 138kV & 230 kV INSULATORS INCLUDE CORONA RING



ITEM	DESCRIPTION	L	DRY ARC	LEAKAGE
002	230 KV NEW CONSTRUCTION	111"	95"	250"
003	230 KV 15-BELL REPLACEMENT 138 KV NEW CONSTRUCTION	89"	78"	200"
004	138 KV 11-BELL REPLACEMENT 69KV NEW CONSTRUCTION	66"	55"	150"
006	14-BELL REPLACEMENT	83"	67"	200"
007	17-BELL REPLACEMENT	100"	84"	250"
010	69 KV 7-BELL REPLACEMENT	43"	32"	100"

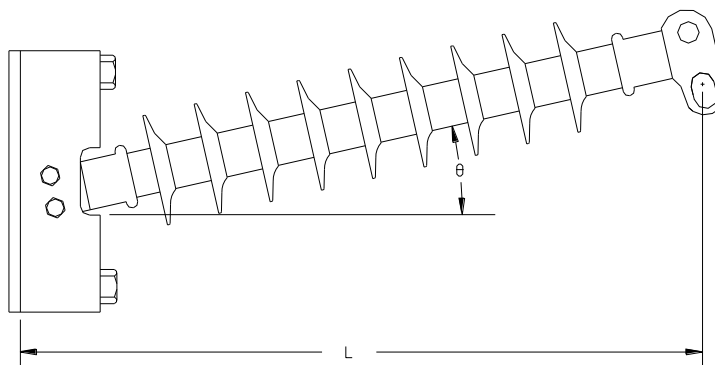
**INSGB 008**

GENERAL DESCRIPTION: INSULATOR, STRAIN, 144" ROD LENGTH, 21000#.



## INSHP 020 – 025/030/032/035

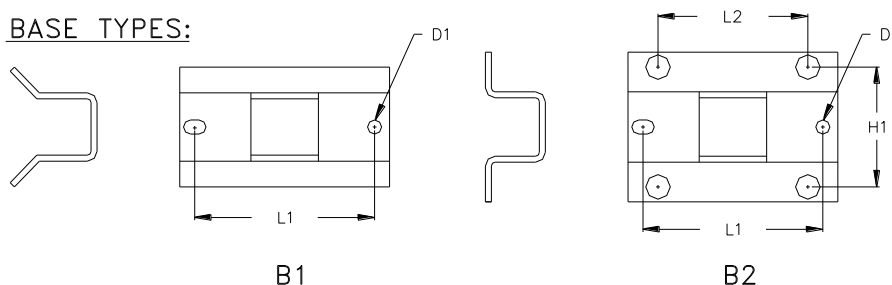
GENERAL DESCRIPTION: INSULATOR, SILICON POST WITH DROP TONGUE



VOLTAGE (V) =  
 $\theta$  =  
 DRY ARC DISTANCE (DA) =  
 LEAKAGE DISTANCE (LD) =  
 TENSION WORKING LOAD (TWL) =  
 MAXIMUM WORKING CANTILEVER LOAD (WCL) =

SEE ITEM SPECIFICATIONS

### BASE TYPES:

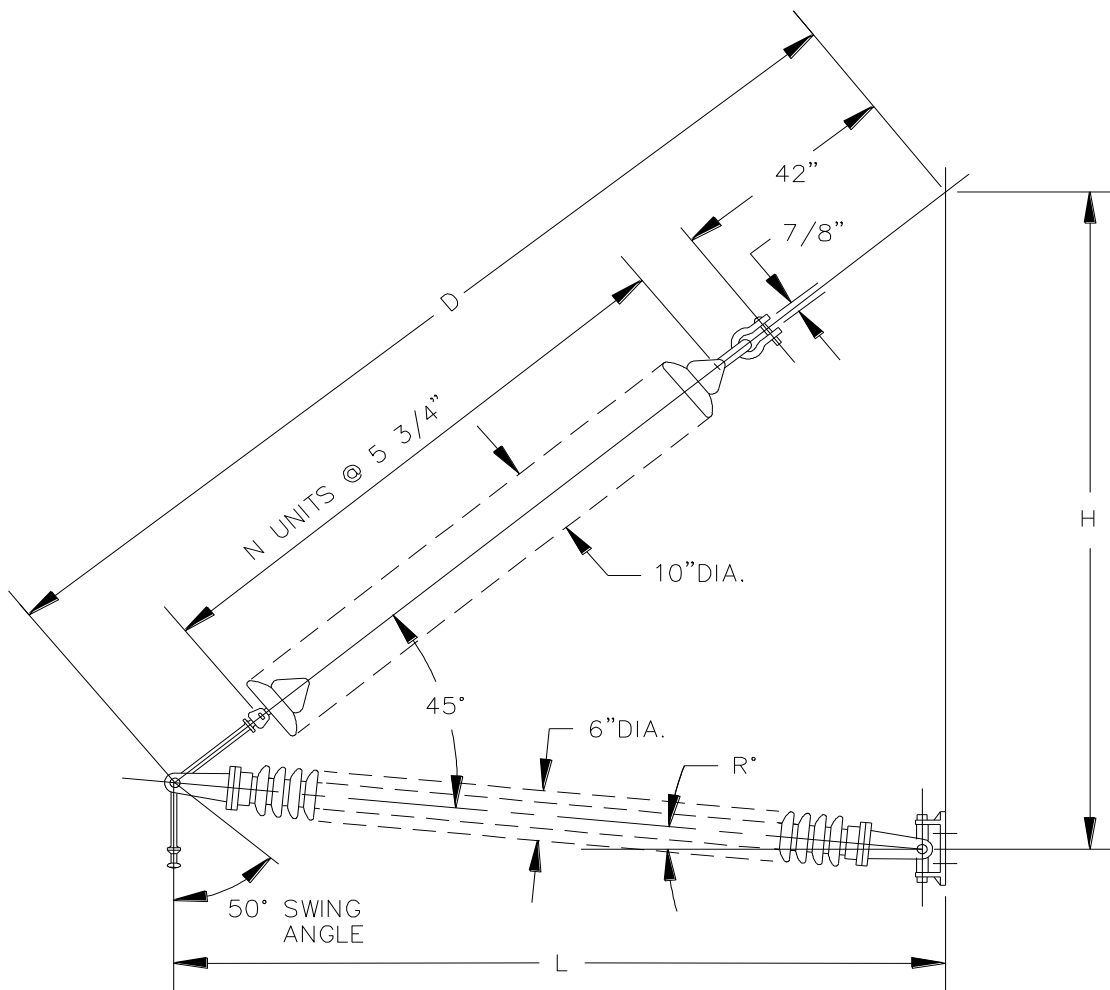


### ITEM SPECIFICATIONS:

ITEM	VOLTAGE	$\theta$	DA	LD	TWL	WCL	L	BASE TYPE	L1	L2	H1	D1
020	69kV	12°	36"	95"	7,500lbs	2,000lbs	45"	B1	12"	-	-	0.90"
021	69kV	12°	36"	95"	7,500lbs	2,000lbs	45"	B2	12"	10"	8"	0.90"
022	138kV	12°	49"	145"	7,500lbs	1,700lbs	54"	B2	12"	10"	8"	0.90"
023	138kV	12°	49"	145"	7,500lbs	1,700lbs	54"	B1	12"	-	-	0.90"
024	230kV	17°	78"	240"	10,000lbs	1,600lbs	86"	B2	14"	12"	10"	1.05"
025	230kV	17°	78"	240"	10,000lbs	1,600lbs	86"	B1	14"	-	-	1.05"
030	138kV	12°	49.5"	147"	2,500lbs	1,573lbs	58"	B1	12"	-	-	0.94"
032	230kV	17°	78.1"	232"	2,500lbs	1,703lbs	88"	B1	14"	-	-	1.06"
035	138kV	17°	48"	149"	10,000lbs	2,600lbs	60"	B2	10"-12"	10"-12"	8"-10"	1.06"

# **INSHV 001-002**

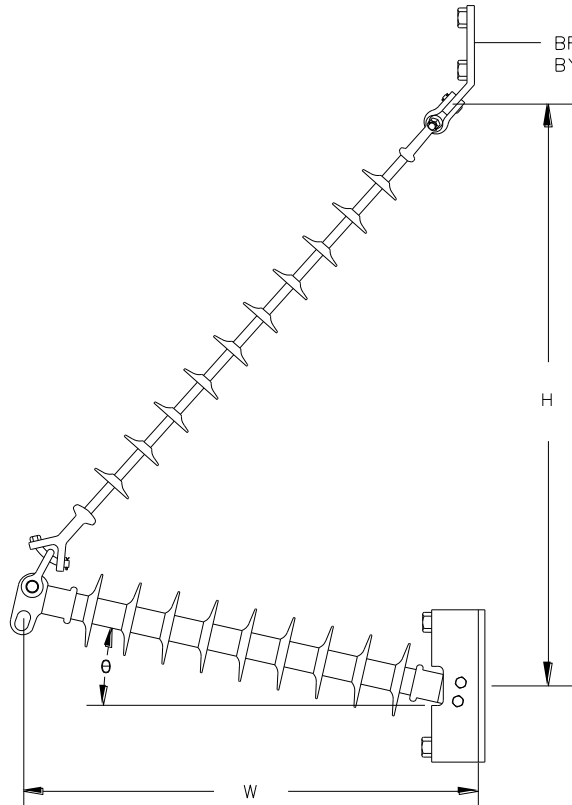
GENERAL DESCRIPTION: INSULATOR, HORIZONTAL VEE, HARDWARE IS H.D.G.



ITEM	VOLTAGE	UNITS	D	L	H	R
001	138KV	10	102 <sup>1</sup> / <sub>16</sub> "	79 <sup>3</sup> / <sub>4</sub> "	73 <sup>1</sup> / <sub>8</sub> "	5
002	230KV	14	141 <sup>3</sup> / <sub>4</sub> "	108 <sup>9</sup> / <sub>16</sub> "	100 <sup>3</sup> / <sub>8</sub> "	7

## INSLP 011 - 014

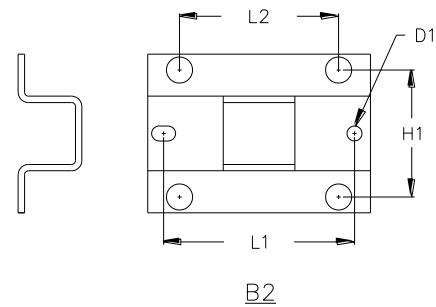
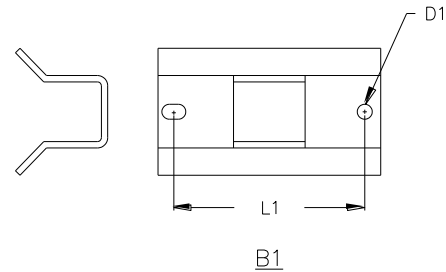
GENERAL DESCRIPTION: INSULATOR, BRACED LINE POST, SILICON. ALL 138KV & 230KV INSULATORS TO INCLUDE CORONA RING ON SUSPENSION SUBASSEMBLY INSULATOR.



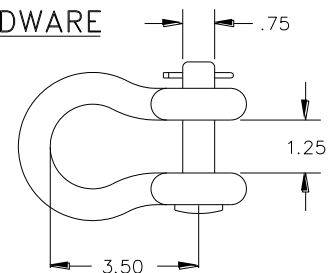
VOLTAGE (V) =  
 $\theta$  =  
 DRY ARC DISTANCE (DA) =  
 LEAKAGE DISTANCE (LD) =  
 TENSION WORKING LOAD (TWL) =  
 WORKING VERTICAL LOAD (WVL) =

SEE ITEM SPECIFICATIONS

### BASE TYPES:



### HARDWARE

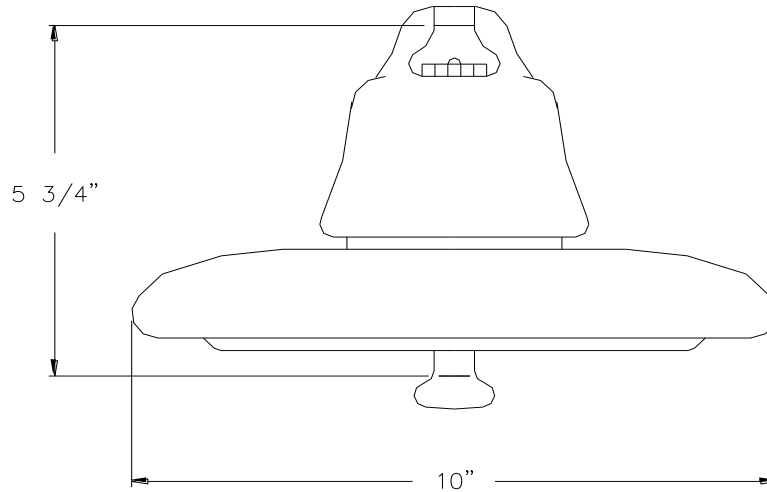


### ITEM SPECIFICATIONS:

ITEM	VOLTAGE	$\theta$	DA	LD	TWL	WCL	H	BASE TYPE	L1	L2	H1	D1
011	138kV	12°	49"	145"	7,500lbs	9,500lbs	66"	B2	12"	10"	8"	0.90"
012	138kV	12°	49"	145"	7,500lbs	9,500lbs	66"	B1	12"	-	-	0.90"
013	230kV	17°	94"	240"	5,000lbs	8,400lbs	94"	B2	14"	14"	10"	0.90"
014	230kV	17°	94"	240"	5,000lbs	8,400lbs	94"	B1	14"	-	-	0.90"

## INSSU 003 - 005

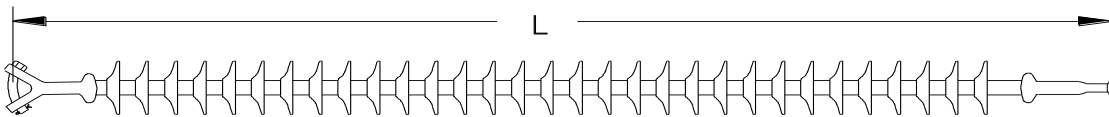
GENERAL DESCRIPTION: INSULATOR, PORCELAIN BELL WITH GALVANIZED END FITTINGS



ITEM	ANSI	STRENGTH		ITEM	ANSI	STRENGTH		ITEM	ANSI	STRENGTH
003	52-3	20,000		004	52-5	30,000		005	52-8	40,000

## INSSU 007 - 010

GENERAL DESCRIPTION: INSULATOR, SUSPENSION, SILICON WITH NEMA 3/5 Y-CLEVIS BALL END FITTINGS, ECR GLASS, 30,000 LBS SML. 138KV & 230 KV INSULATORS SHALL INCLUDE CORONA RING



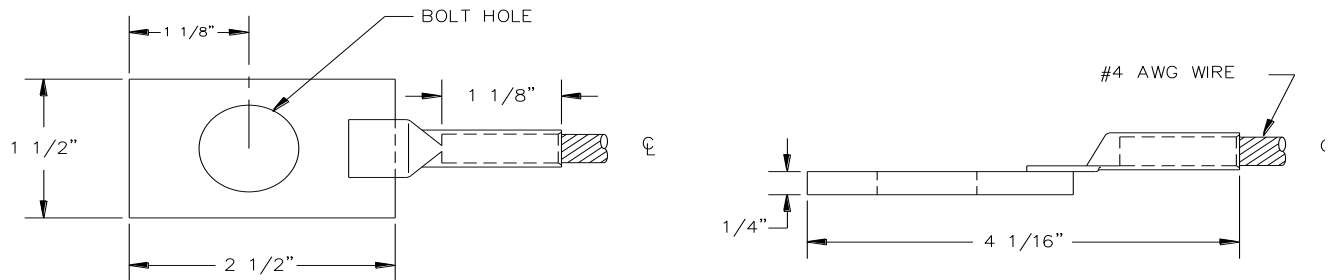
ITEM	KV	L	B		ITEM	KV	L	B		ITEM	KV	L	B
007	69	43"	7		008	138	66"	11		009	230	89"	15

'B' STANDS FOR THE NUMBER OF BELLS THIS  
INSULATOR IS AN EXACT REPLACEMENT FOR

ITEM	KV	L	B
010	230	83"	n/a

# LUGGR 001 – 003

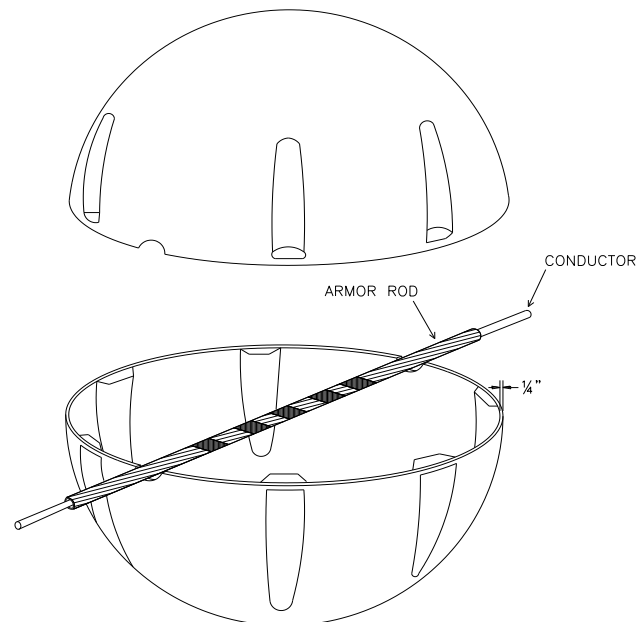
GENERAL DESCRIPTION: LUG FOR #4 SOLID WIRE, TIN PLATED COPPER, COMPRESSION



ITEM	BOLT HOLE DIAMETER
001	$\frac{13}{16}$ "
002	$\frac{15}{16}$ "
003	$1 \frac{1}{16}$ "

# MARPL

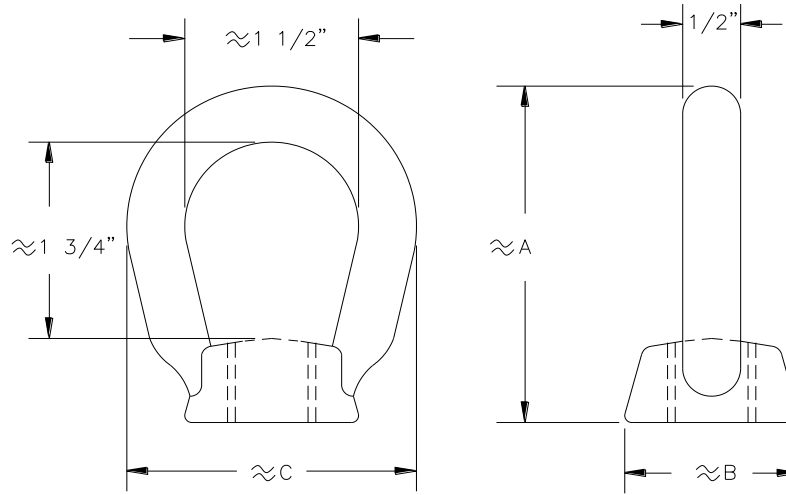
GENERAL DESCRIPTION: POWER LINE MARKER WITH CORONA PROTECTION FOR ENERGIZED TRANSMISSION LINES, ORANGE.



NOTE: THIS IS A NON-STOCK ITEM BUT CAN USUALLY BE DELIVERED WITHIN A WEEK. TO SPECIFY SELECT BALL DIAMETER (24 OR 36 INCH) BN (CORONA PROTECTION) AND WIRE TYPE AND SIZE. EX: 24BN954ACSR. THE BALL COMES WITH ALL CONNECTING HARDWARE. TANA (573) 796-3812

## NUTEY 001 - 004

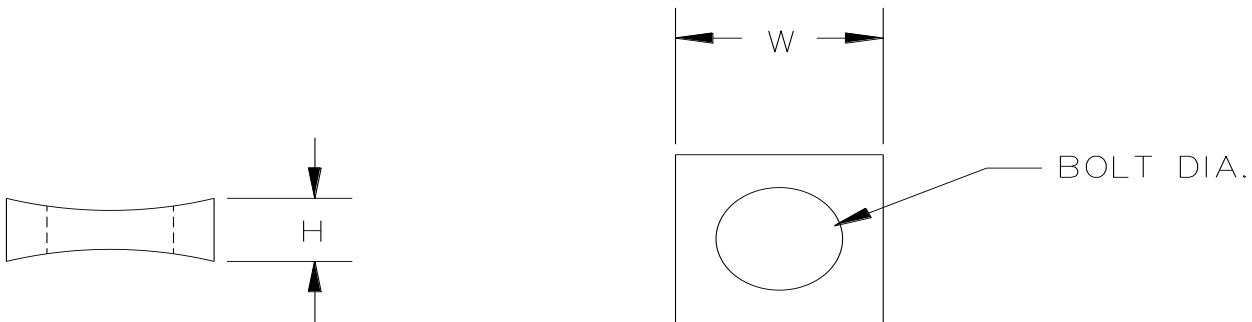
GENERAL DESCRIPTION: EYENUT, FORGED STEEL, H.D.G.,



ITEM	BOLT SIZE	A	B	C
001	1/2"	3"	1 1/4"	2 1/8"
002	5/8"	3"	1 3/8"	2 1/2"
003	3/4"	3"	1 3/8"	2 1/2"
004	7/8"			

## NUTSL 002 - 006

GENERAL DESCRIPTION: SQUARE MF LOCKNUT, H.D.G. STEEL

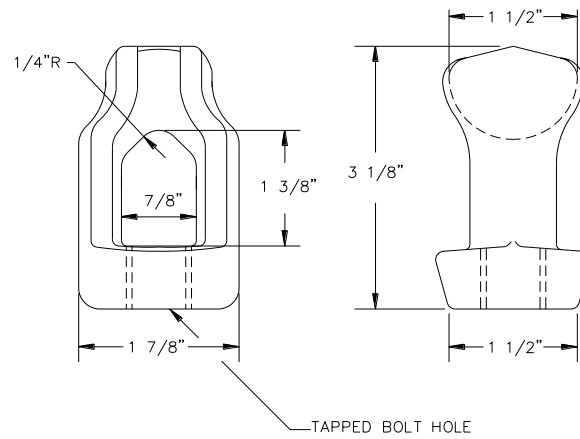


ITEM	W	H	BOLT DIA.
002	13/16"	19/64"	1/2"
003	1"	3/8"	5/8"
004	1 1/8"	7/16"	3/4"
005	1 5/16"	15/32"	7/8"
006	1 1/2"	15/32"	1"



## NUTTE 001 - 004

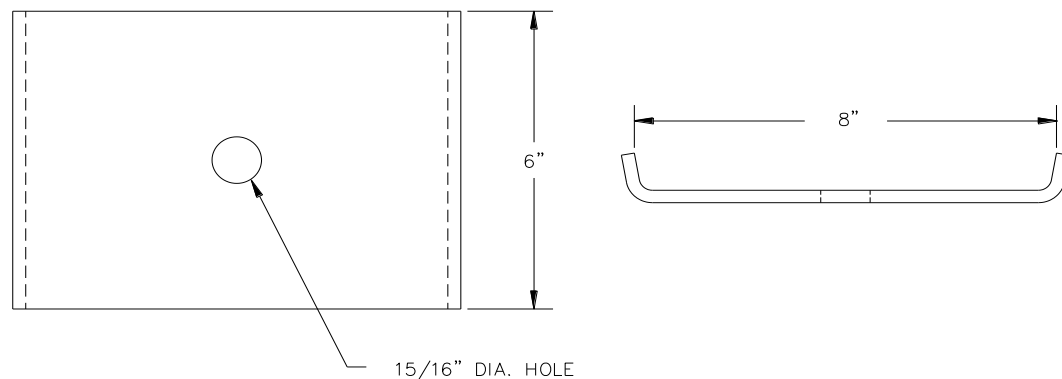
GENERAL DESCRIPTION: EYENUT, THIMBLE, FORGED STEEL, H.D.G.



ITEM	TYPE	BOLT SIZE
001	SINGLE	5/8"
002	SINGLE	3/4"
003	TWIN	3/4"
004	SINGLE	7/8"

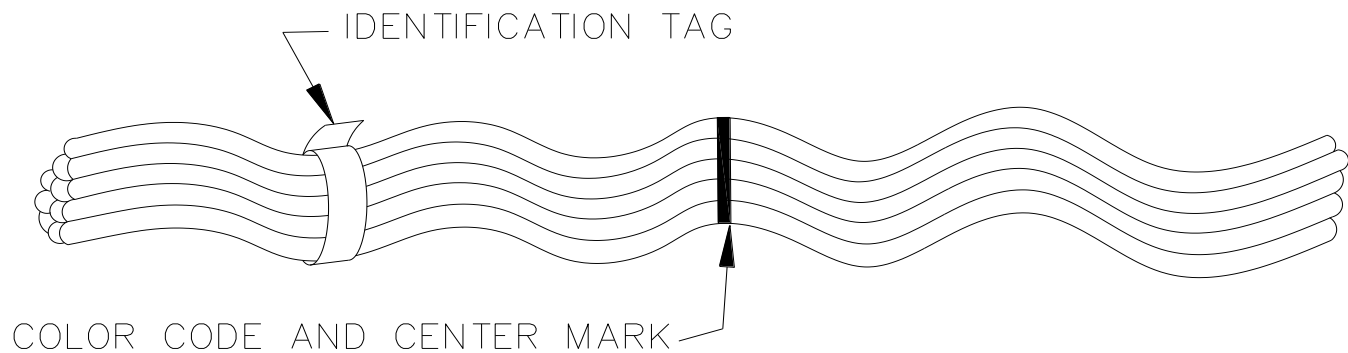
## PLACR 001

GENERAL DESCRIPTION: PLATE, CROSSARM REINFORCING, H.D.G.



## RODAR 005 - 008

GENERAL DESCRIPTION: ARMOR ROD, ALUMINUM ALLOY



ITEM	CONDUCTOR DIA. RANGE	WIRE TYPE	LENGTH (INCHES)	ROD DIA. (INCHES)	RODS PER SET	COLOR CODE
005	0.908 – 0.929	556 ASCR	80	.250	13	GREEN
006	1.099 – 1.139	954 AAC	100	.310	12	ORANGE
007	1.162 – 1.208	954 ASCR	100	.310	13	RED
008	1.509 – 1.578	1590 ASCR	100	.436	12	GREEN

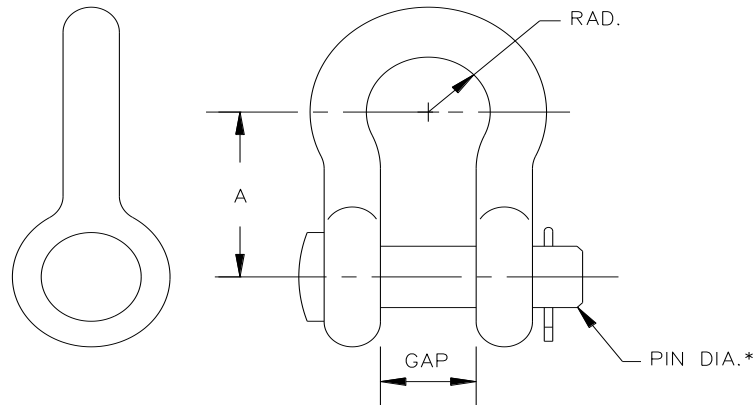
## RODGR 003

GENERAL DESCRIPTION: GROUND ROD,  $\frac{5}{8}$ " X 8', THREADLESS

## SHAAN 001 - 004

GENERAL DESCRIPTION: ANCHOR SHACKLE W/PIN, FORCED STEEL, H.D.G., STAINLESS STEEL COTTER PIN

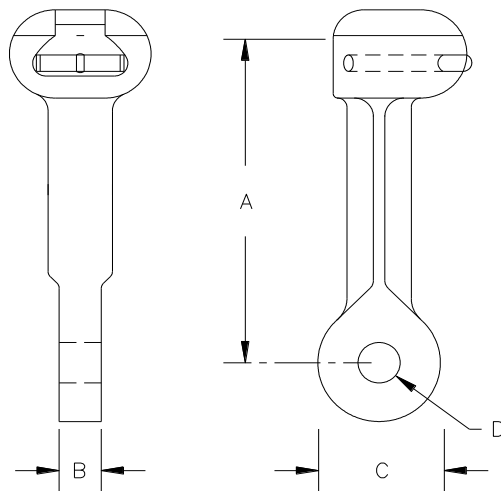
NOTE: ITEM 003 SUPPLIED WITH BOLT, NUT, AND COTTER PIN



ITEM	A	GAP	PIN DIA.	RAD	STRENGTH
001	2 <sup>3</sup> / <sub>16</sub> "	<sup>7</sup> / <sub>8</sub> "	<sup>5</sup> / <sub>8</sub> "	<sup>5</sup> / <sub>8</sub> "	25,000 LBS
002	2 <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>16</sub> "	<sup>3</sup> / <sub>4</sub> "	<sup>3</sup> / <sub>4</sub> "	35,000 LBS
003	3 <sup>1</sup> / <sub>2</sub> "	<sup>7</sup> / <sub>8</sub> "	<sup>3</sup> / <sub>4</sub> "	<sup>3</sup> / <sub>4</sub> "	50,000 LBS
004	3 <sup>1</sup> / <sub>2</sub> "	<sup>7</sup> / <sub>8</sub> "	<sup>3</sup> / <sub>4</sub> "	<sup>3</sup> / <sub>4</sub> "	60,000 LBS

## SOCEY 001 - 005

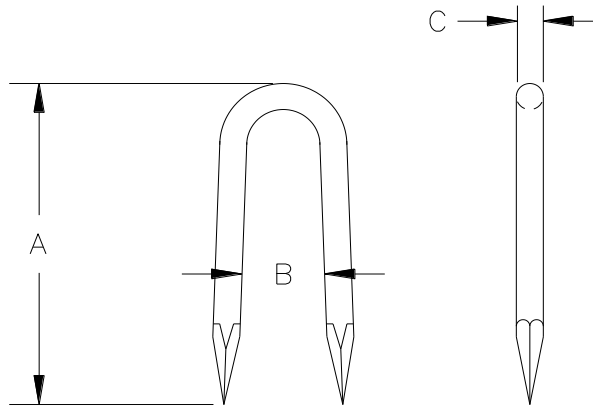
GENERAL DESCRIPTION: SOCKET-EYE, H.D.G. DUCTILE IRON/FORGED STEEL, S.S. COTTER PIN



ITEM	STRENGTH	A	B	C	D
001	35,000 LBS	5 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>16</sub> "	2"	<sup>11</sup> / <sub>16</sub> "
003	25,000 LBS	2 <sup>5</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>2</sub> "	<sup>13</sup> / <sub>16</sub> "
004	20,000 LBS	2 <sup>1</sup> / <sub>2</sub> "	<sup>1</sup> / <sub>2</sub> " - <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub> " - 1 <sup>3</sup> / <sub>4</sub> "	<sup>11</sup> / <sub>16</sub> " - <sup>13</sup> / <sub>16</sub> "
005	50,000 LBS	5 <sup>5</sup> / <sub>16</sub> "	1 <sup>7</sup> / <sub>16</sub> "	2 <sup>1</sup> / <sub>4</sub> "	<sup>15</sup> / <sub>16</sub> "
007	40,000 LBS	5 <sup>5</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>16</sub> "	2 <sup>1</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>16</sub> "

## STAPL 002 - 003

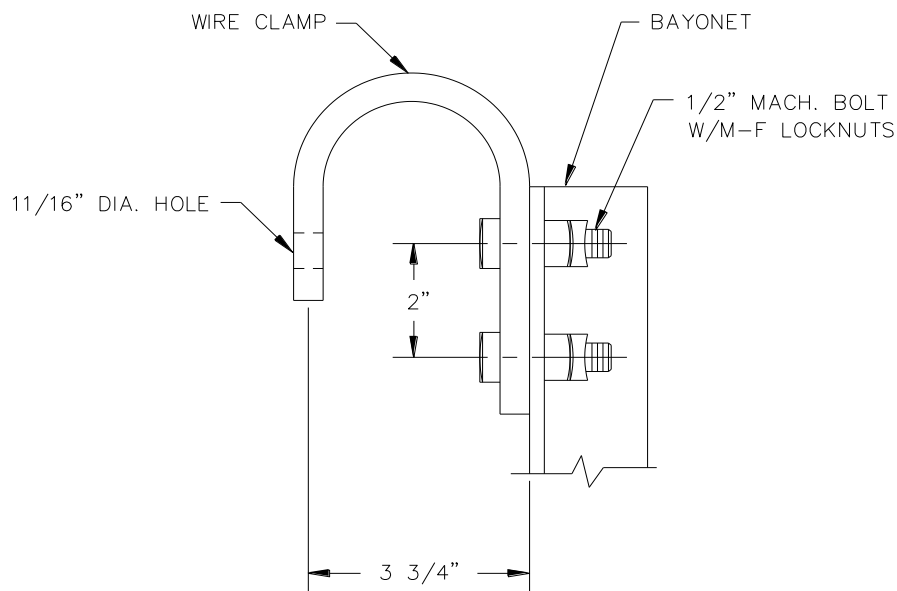
GENERAL DESCRIPTION: STAPLE, COPPER COATED STEEL



ITEM	A	B	C
002	1 1/2"	5/16"	.144"
003	2"	1 1/2"	.162"

## SUPSH 001

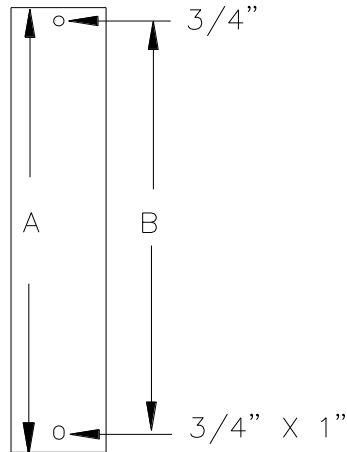
GENERAL DESCRIPTION: STATIC GOOSENECK WIRE CLAMP FOR USE WITH BAYONETS, H.D.G.,



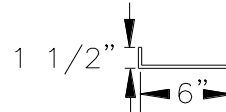
## TAGHO 001

GENERAL DESCRIPTION: TAG HOLDER, FIBERGLASS, .25" THICK

(Front View)



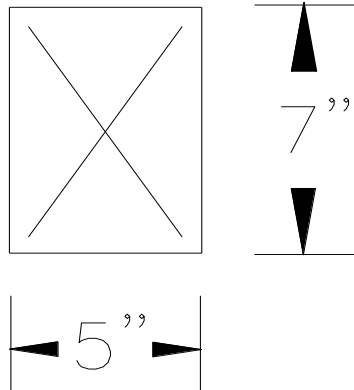
(Top View)



ITEM	USE	A	B
001	WOOD POLES	33"	32"
002	CONCRETE POLES	39"	36"

## TAGRT 001- 013

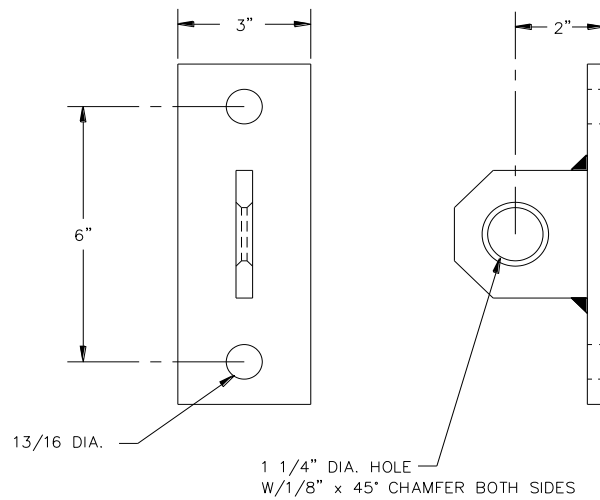
TAG, NUMBER , 5"W X 7"H FOR TRANSMISSION POLES. 3M ENGINEERING GRADE YELLOW REFLECTIVE SHEETING WITH 3M OPAQUE BLACK BACKGROUND INK, 25 PIECES PER RE-SEALABLE CLEAR POLY BAG



ITEM		ITEM		ITEM		ITEM		ITEM	
001	'1'	004	'4'	007	'7'	010	'0'	013	'C'
002	'2'	005	'5'	008	'8'	011	'A'		
003	'3'	006	'6'	009	'T'	012	'B'		

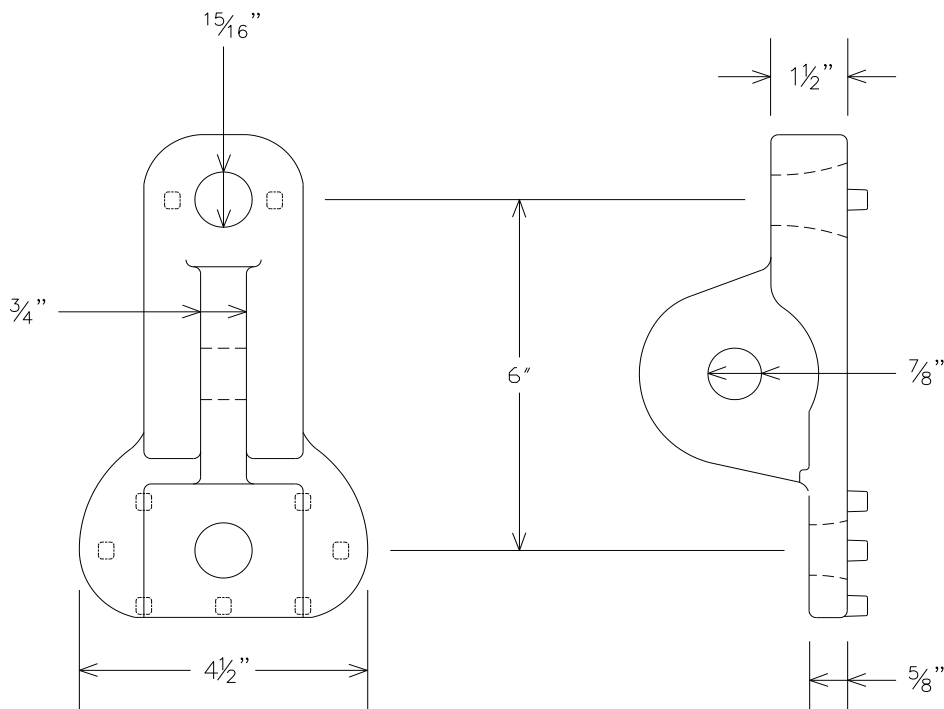
## TEEDE 001

GENERAL DESCRIPTION: TEE, DEADEND, VERTICAL, FOR GUYING, H.D.G., NO LONGER USED ON NEW CONSTRUCTION BECAUSE OF FAILURES



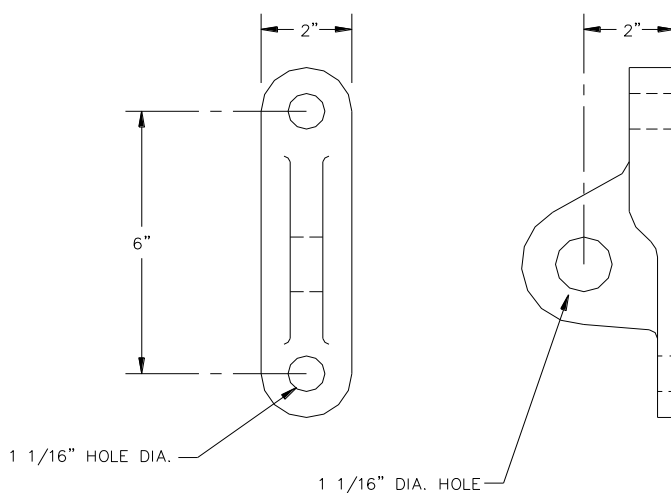
## TEEDE 002

GENERAL DESCRIPTION: DEADEND TEE FOR WOOD POLE DEADENDS AND GUYING, H.D.G.,



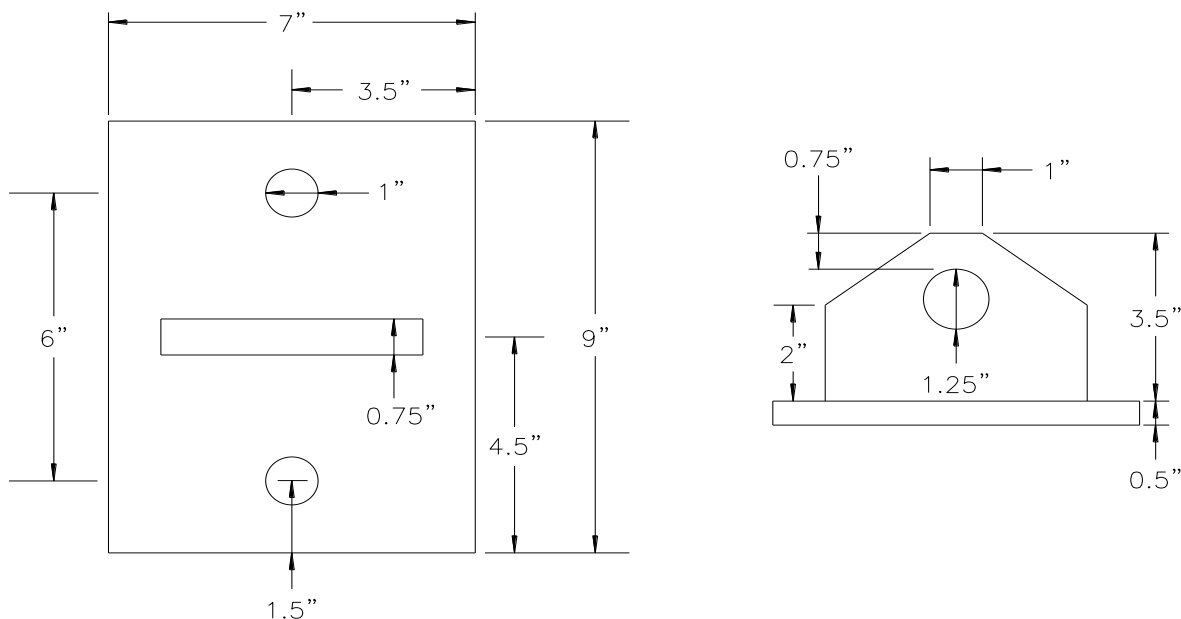
## TEEDE 003

GENERAL DESCRIPTION: DEADEND TEE, VERTICAL ATTACHMENT HOLE, H.D.G., 60,000 LBS



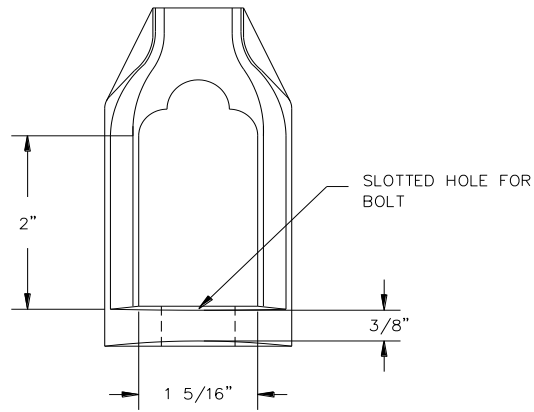
## TEEDE 005

GENERAL DESCRIPTION: DEADEND TEE, HORIZONTAL ATTACHMENT HOLE, H.D.G., 20,000LBS



## THIEY 001 - 002

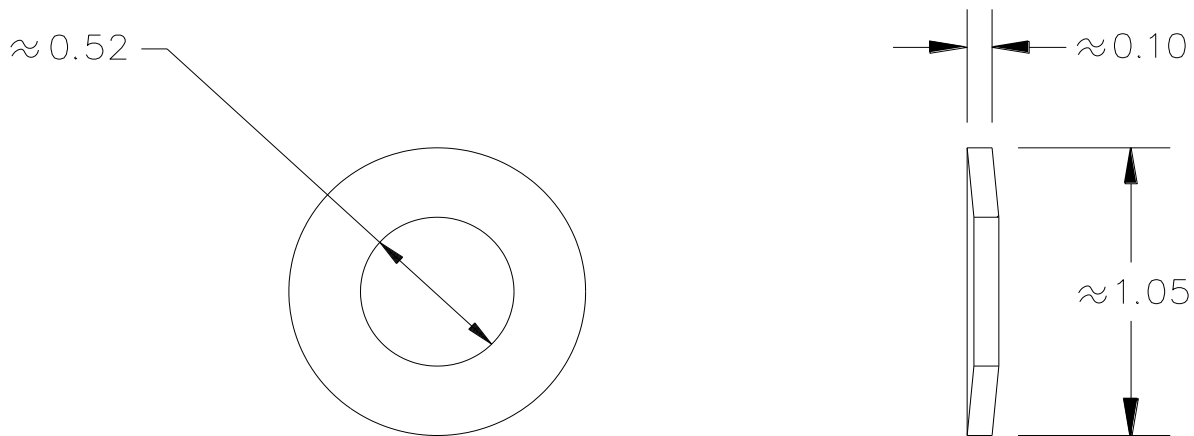
GENERAL DESCRIPTION: THIMBLE EYELET, STRAIGHT, FORGED STEEL, H.D.G.,



ITEM	TYPE	BOLT DIA.
001	SINGLE	$\frac{3}{4}$ "
002	TWIN	1"

## WASBA 500

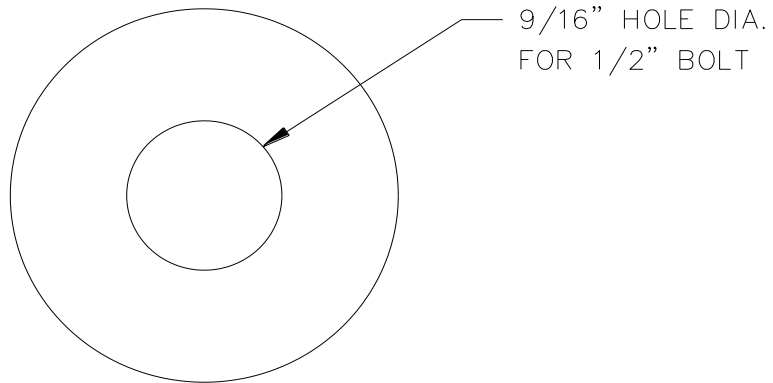
GENERAL DESCRIPTION: WASHER, BELLVILLE, STAINLESS STEEL FOR  $\frac{1}{2}$ " BOLT





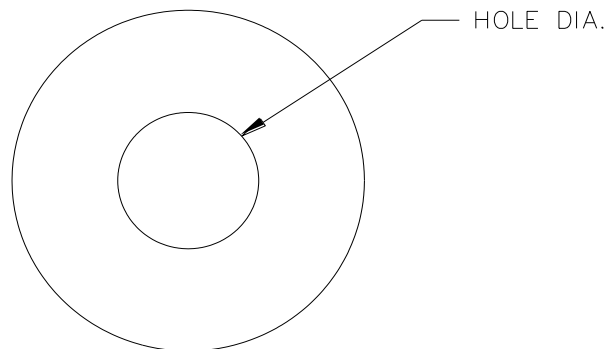
## WASFG 500

GENERAL DESCRIPTION: WASHER, ROUND FLAT, 316 STAINLESS STEEL



## WASRD 002 - 007

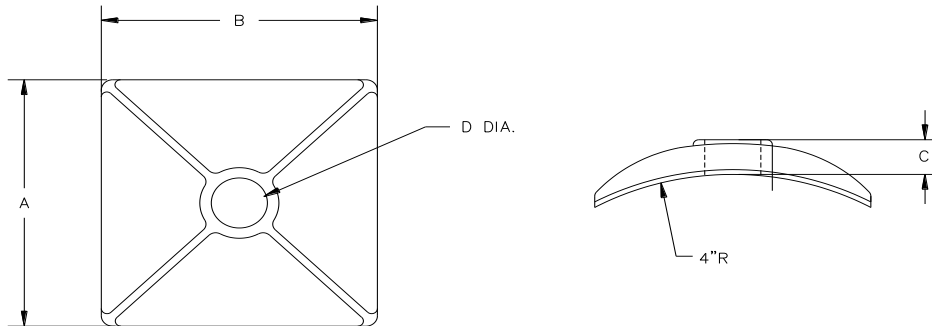
GENERAL DESCRIPTION: ROUND FLAT WASHER, H.D.G. STEEL



ITEM	BOLT SIZE	HOLE DIA.
002	$\frac{3}{8}$ "	$\frac{7}{16}$ "
003	$\frac{1}{2}$ "	$\frac{9}{16}$ "
004	$\frac{5}{8}$ "	$\frac{11}{16}$ "
005	$\frac{3}{4}$ "	$\frac{13}{16}$ "
006	$\frac{7}{8}$ "	$\frac{15}{16}$ "
007	1"	1 $\frac{1}{16}$ "

## WASSC 001 - 003

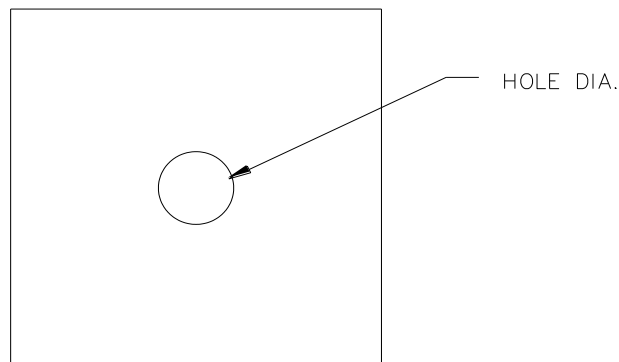
GENERAL DESCRIPTION: WASHER, SQUARE-CURVED, MALLEABLE IRON, H.D.G.,



ITEM	BOLT SIZE	A & B	C	D
001	$\frac{5}{8}'' - \frac{3}{4}''$	4''	$\frac{9}{16}''$	$\frac{13}{16}''$
002	$\frac{3}{4}'' - \frac{7}{8}''$	4''	$\frac{9}{16}''$	$\frac{15}{16}''$
003	$\frac{7}{8}'' - 1''$	5''	$\frac{13}{16}''$	$1\frac{1}{16}''$

## WASSF 001 - 005

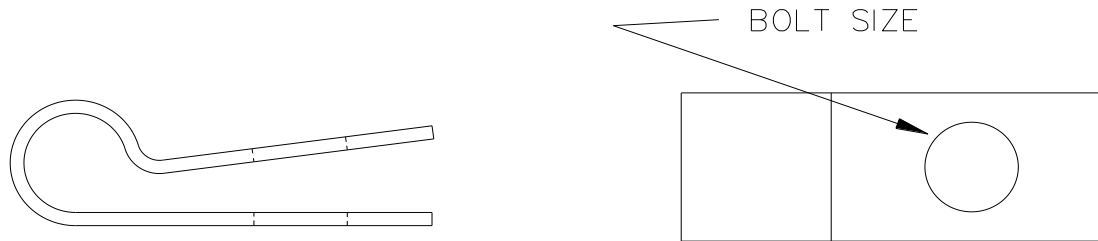
GENERAL DESCRIPTION: WASHER, SQUARE FLAT, H.D.G. STEEL,



ITEM	BOLT SIZE	WASHER SIZE	HOLE DIA.
001	$\frac{1}{2}''$	2'' X 2'' X $\frac{1}{8}''$	$\frac{9}{16}''$
002	$\frac{5}{8}''$	2 $\frac{1}{4}''$ X 2 $\frac{1}{4}''$ X $\frac{3}{16}''$	$\frac{11}{16}''$
003	$\frac{3}{4}''$	3'' X 3'' X $\frac{1}{4}''$	$\frac{13}{16}''$
004	$\frac{7}{8}''$	4'' X 4'' X $\frac{1}{4}''$	$\frac{15}{16}''$
005	1''	4'' X 4'' X $\frac{1}{2}''$	$1\frac{1}{16}''$

## WASSP 003 - 006

GENERAL DESCRIPTION: WASHER, SPRING, H.D.G. STEEL

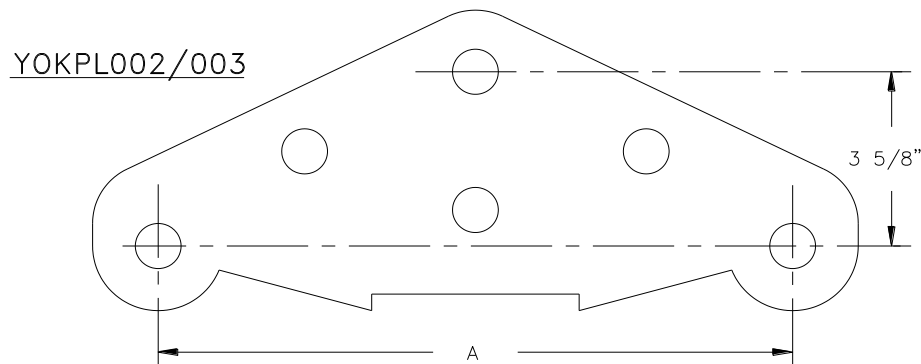
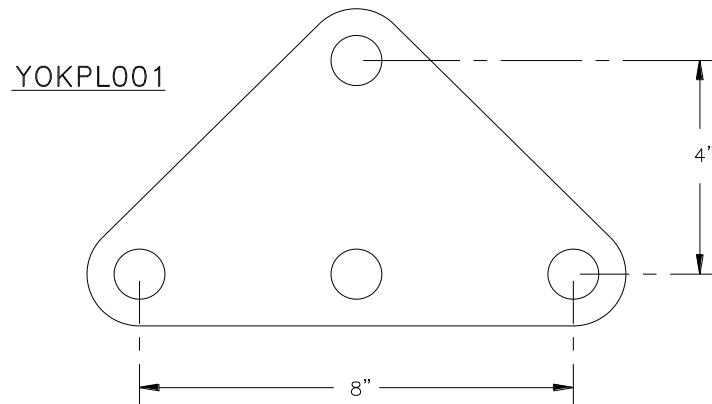


ITEM	BOLT SIZE	ITEM	BOLT SIZE	ITEM	BOLT SIZE	ITEM	BOLT SIZE
003	$\frac{1}{2}$ "	004	$\frac{5}{8}$ "	005	$\frac{3}{4}$ "	006	$\frac{7}{8}$ "

## YOKPL 001 - 005

GENERAL DESCRIPTION: YOKE PLATE, SUSPENSION, GALVANIZED STEEL

- 001: VEE STRING TYPE, 8" INSULATOR SPACING, 30,000 #,  $\frac{5}{8}$ " THICKNESS,  $\frac{15}{16}$ " HOLES.  
 002: TRIANGULAR STRAIN, A=13" INSULATOR SPACING, 40,000#,  $\frac{5}{8}$ " THICKNESS,  $\frac{15}{16}$ " HOLES,  
 003: TRIANGULAR STRAIN, A=16" INSULATOR SPACING, 40,000#,  $\frac{3}{4}$ " THICKNESS,  $\frac{15}{16}$ " HOLES  
 004: TRIANGULAR STRAIN, 13" INSULATOR SPACING, 60,000#,  $\frac{15}{16}$ " HOLE DIA  
 005: TRIANGULAR STRAIN, 18" INSULATOR SPACING, 60,000#,  $\frac{15}{16}$ " HOLE DIA



## **HIGH TEMPERATURE EQUIPMENT:**

ADCVF002: COMPOUND, VOID FILLER, HIGH TEMPERATURE (250C)

CLAJU010: CUSHION GRIP ASSEMBLY FOR 954 ACSS

CNNAJ010: ALUMINUM JUMPER TERMINAL FOR 954 ACSS

DEACB016: DEADEND COMPRESSION ASSEMBLY FOR 954ACSS

DEACB017: DEADEND COMPRESSION ASSEMBLY FOR 954ACSS

GRISA009: ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSS (SINGLE)

GRISA010: ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSS (DOUBLE)

SLEFT015: SLEEVE, FULL TENSION, 954ACSS

# CONDUCTORS

- 1) In order to insure safety, certain minimum clearances must be maintained between various circuits of an overhead transmission system. Proper clearances from joint-use utilities, railroads, buildings, and other objects should always be maintained. The standard adopted by JEA is the United States Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992.
- 2) The clearance information contained in this section has been taken from the United States Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992. The information given by the following tables and their footnotes are intended to cover the most common situations. If site conditions arise which are not covered in this section, please refer to the United States Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992.
- 3) Sag & Tension data is provided for the various size conductors (table 3-1) used by JEA. The most common temperatures and ruling spans were used for the tables, but other criteria can be provided if requested. The data presented in the tables below was calculated using SAG10 software program. The final tension for each conductor is calculated based on 25% RTS (Rated Tensile Strength) unless specified otherwise.

TABLE 3-1  
Various Size Conductors Used by JEA

Conductor Type	Code Word	Size	JEA ITEM ID	Complete Cable Diameter (inches)	Total Weight Per 1000 ft. (lbs)	Rated Strength (lbs)	Resistance Ohms/1000 ft.		Nominal Ampacity	Design Ampacity
							DC @ 20°C	AC @ 75°C		
ACSR	Parakeet	556.5	COBSR 001	.914	716	19,800	.0307	.0376	721 (167F)	793 (185F)
	Cardinal	954	COBSR 002	1.196	1227	33,800	.0179	.0221	996 (167F)	1209 (200F)
	Falcon	1590	COBSR 003	1.545	2042	54,500	.0108	.0140	1359 (167F)	1677 (200F)
ACSS	Cardinal	954	COBSR 005	1.196	1227	26,000	.0174	.0222	1825 (200C)	
AAC	Goldenrod	954	COBAA 027	1.126	895	16,900	.0181	.0226	983 (167F)	1175 (200F)
AAAC	Elgin	652.4	COBAA 024	.927	608	21,900	.0309	.0371	729 (167F)	783 (180F)
AW	Shieldwire	3#6	COBAS 005	.349	178	10,280				

- 4) Sag & Tension Tables:
  - a. 556 ACSR @ 25% Pg. CO 6 - 21
  - b. 652 AAAC @ 25% Pg. CO 22 - 37
  - c. 954 ACSR @ 25% Pg. CO 38 - 53
  - d. 954 AAC @ 25% Pg. CO 54 - 69
  - e. 1590 ACSR @ 25% Pg. CO 70 - 85
  - f. 1590 ACSR @ 20% Pg. CO 86 - 101
  - g. 3#6 AW @ 12.5% Pg. CO 102 - 117

TABLE 4-1\*  
RECOMMENDED MINIMUM VERTICAL CLEARANCE OF  
CONDUCTORS-TO-GROUND IN METERS (FEET)

CLEARANCE REQUIRED WHEN CONDUCTORS CROSS OVER:	Nominal Line-to-Line Voltage in kV				
	<u>69</u>	<u>115</u>	<u>138</u>	<u>161</u>	<u>230</u>
1. Railroad tracks	9.0 (29.6)	9.3 (30.6)	9.5 (31.1)	9.6 (31.5)	10.1 (33.0)
2. Roads, streets, alleys, parking lots or driveways	6.6 (21.6)	6.9 (22.6)	7.0 (23.1)	7.2 (23.5)	7.6 (25.0)
3. Land that may be traversed by vehicles such as cultivated, grazing, forest, orchards, etc. (B)	6.6 (21.6)	6.9 (22.6)	7.0 (23.1)	7.2 (23.5)	7.6 (25.0)
4. Spaces and ways accessible to pedestrians only (C)	5.1 (16.6)	5.4 (17.6)	5.5 (18.1)	5.7 (18.6)	6.1 (20.0)
5. Water areas not suitable for sail boating or where sail boating is not permitted (E)	5.4 (17.6)	5.7 (18.6)	5.8 (19.1)	5.9 (19.5)	6.4 (21.0)
6. Water areas suitable for sail boating including lakes, ponds, reservoirs, rivers, streams, and canals with unobstructed surface area of (D) (E)					
a. Less than 8 ha (A) (20 acres)	6.6 (21.6)	6.9 (22.6)	7.0 (23.1)	7.2 (23.5)	7.6 (25.0)
b. Over 8 to 80 ha (over 20 to 200 acres)	9.0 (29.6)	9.3 (30.6)	9.5 (31.1)	9.6 (31.5)	10.1 (33.0)
c. Over 80 to 800 ha (over 200 to 2000 acres)	10.9 (35.6)	11.2 (36.6)	11.3 (37.1)	11.5 (37.5)	11.9 (39.0)
d. Over 800 ha (over 2000 acres)	12.7 (41.6)	13.0 (42.6)	13.1 (43.1)	13.3 (43.5)	13.7 (45.0)
7. Land and water areas for rigging and launching sailboats (E)	Clearance above ground shall be 1.5 meters (5 feet) greater than in No. 6 above for the water area served by the launching site.				

\*United States Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992, Page 4-4.

TABLE 4-1 (CONT.)\*  
RECOMMENDED MINIMUM VERTICAL CLEARANCE OF  
CONDUCTORS-TO-GROUND IN METERS (FEET)

CLEARANCE REQUIRED WHEN CONDUCTORS RUN ALONG THE TRAVELED WAY OR ADJACENT LAND AND WITHIN THE LIMITS OF THE RIGHT-OF-WAY BUT DO NOT OVERHANG:	<u>Nominal Line-to-Line Voltage in kV</u>				
	<u>69</u>	<u>115</u>	<u>138</u>	<u>161</u>	<u>230</u>
8. Roads in rural districts (F)	6.0 (19.6)	6.3 (20.6)	6.4 (21.0)	6.6 (21.6)	7.0 (23.1)
9. Streets or alleys in urban districts	6.6 (21.6)	6.9 (22.6)	7.0 (23.1)	7.2 (23.5)	7.6 (25.0)
<b>ALTITUDE CORRECTION TO BE ADDED TO VALUES ABOVE:</b>					
Additional meters of clearance per 300 meters of altitude above 100 meters (additional feet of clearance per 1000 feet of altitude above 3300 feet)	0.01 (0.02)	0.016 (0.05)	0.02 (0.07)	0.025 (0.08)	0.04 (0.12)
<b><u>NOTES:</u></b>					
(A) 1 hectare = 2.47 acres					
(B) These clearances are for land traversed by vehicles and equipment whose overall operating height is less than 4.3 meters (14 feet).					
(C) Areas accessible to pedestrians only are areas where equestrians, vehicles or other mobile units, exceeding 8 feet in height are prohibited by regulation or permanent terrain configurations or are not encountered or reasonably anticipated. Land subject to highway right-of-way maintenance equipment shall not be considered as being accessible to pedestrians only.					
(D) The surface area and corresponding clearance shall be based upon the uncontrolled 10 year flood level, or for controlled impoundments, upon the design high water level. The clearance over rivers, streams, and canals shall be based upon the surface area of the largest 1.6 kilometer (1 mile) long segment which includes the crossing and which has the greatest surface area. The clearance over a canal or similar waterway providing access for sailboats to a larger body of water shall be the same as that required for the larger body of water.					
(E) Where the U.S. Army Corps of Engineers has issued a crossing permit, the clearances of that permit shall govern.					
(F) Heavily traveled roads, even if they are located in rural areas, should be considered as being in urban areas.					

\*United States Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992, Page 4-5.

TABLE 4-2\*  
RECOMMENDED MINIMUM CONDUCTOR CLEARANCES  
TO OBJECTS UNDER LINES, IN METERS (FEET)  
(APPLIES ONLY TO LINES WITH AUTOMATIC GROUND FAULT RELAYING)

CLEARANCES WHEN CONDUCTORS CROSS OVER:	Nominal Line-to-Line Voltage in kV				
	69	115	138	161	230
1. Buildings roofs or projections not accessible to pedestrians	4.5 (14.6)	4.8 (15.6)	4.9 (16.1)	5.0 (16.5)	5.5 (18.0)
2. Buildings roofs, balconies or projections accessible to pedestrians	5.1 (16.6)	5.4 (17.6)	5.5 (18.1)	5.6 (18.5)	6.1 (20.0)
3. Signs, chimneys, radio and television antennas, tanks and other installations not classified as buildings or bridges	3.1 (10.1)	3.4 (11.1)	3.5 (11.6)	3.7 (12.0)	4.1 (13.5)
4. Lighting supports, traffic signals or a supporting structure of another line	2.1 (7.0)	2.7 (8.6)	2.8 (9.1)	2.9 (9.5)	3.4 (11.0)
5. Swimming pools Clearance A*	8.3 (27.1)	8.6 (28.1)	8.7 (28.6)	8.8 (29.0)	9.3 (30.5)
Clearance B*	5.5 (18.1)	5.8 (19.1)	6.0 (19.6)	6.1 (20.0)	6.5 (21.5)
6. Grain bins loaded by portable augers, conveyor or elevators.	6.1 (20.1)	6.4 (21.1)	6.6 (21.6)	6.7 (22.0)	7.2 (23.5)
<b>ALTITUDE CORRECTION TO BE ADDED TO VALUES ABOVE:</b>					
Additional meters of clearance per 300 meters of altitude above 1000 meters (additional feet of clearance per 100 feet of altitude above 3300 feet).	0.01 (0.02)	0.016 (0.05)	0.04 (0.07)	0.025 (0.08)	0.04 (0.12)

United States Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992, Page 4-6 & fig. 4-2.



TABLE 5-1\*  
RECOMMENDED MINIMUM HORIZONTAL CLEARANCE FROM  
CONDUCTORS TO OBJECTS NEAR THE LINE IN METERS (FEET)

CLEARANCE TO:	Nominal Line-to-Line Voltage in kV				
	<u>69</u>	<u>115</u>	<u>138</u>	<u>161</u>	<u>230</u>
7. Buildings, signs, chimneys, radio and television antennas, tanks containing nonflammables, and other installations not classified as buildings or bridges.	3.0 (9.6)	3.3 (10.6)	3.4 (11.1)	3.5 (11.5)	4.0 (13.0)
8. Lighting supports, traffic signals, or supporting structures of another line.	2.0 (6.5)	2.5 (8.1)	2.6 (8.6)	2.7 (9.0)	3.2 (10.5)
9. Rail of railroad tracks.	4.5 (14.6)	4.7 (15.6)	5.0 (16.1)	5.1 (16.5)	5.5 (18.0)
10. Grain bins loaded by portable augers, conveyor or elevators.	6.2 (20.1)	6.5 (21.1)	6.6 (21.6)	6.7 (22.0)	7.2 (23.5)
<b>ALTITUDE CORRECTION TO BE ADDED TO VALUES ABOVE:</b>					
Additional meters of clearance per 300 meters of altitude above 1000 meters (additional feet of clearance per 100 feet of altitude above 3300 feet).	0.01 (0.02)	0.016 (0.05)	0.04 (0.07)	0.025 (0.08)	0.04 (0.12)

\*United States

Department of Agriculture/Rural Electrification Administration/REA Bulletin 1724E-200/Design Manual for High Voltage Transmission Lines/Revised September 1992, Page 5-2.



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 225 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6694*	0.99	5008	1.32	
30	6593**	0.69	4778	0.95	
35	6405	0.71	4525	1.00	
40	6215	0.73	4276	1.06	
45	6023	0.75	4033	1.13	
50	5829	0.78	3796	1.20	
55	5633	0.81	3566	1.27	
60	5436	0.83	3345	1.36	
65	5237	0.87	3134	1.45	
70	5037	0.90	2934	1.55	
75	4836	0.94	2745	1.65	
80	4635	0.98	2570	1.77	
85	4433	1.02	2407	1.89	
90	4232	1.07	2259	2.01	
95	4032	1.13	2123	2.14	
200	1393	3.26	1374	3.30	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6715*	1.21	5041	1.62	
30	6593**	0.85	4767	1.18	
35	6407	0.87	4520	1.24	
40	6218	0.90	4278	1.31	
45	6027	0.93	4042	1.39	
50	5835	0.96	3813	1.47	
55	5641	0.99	3592	1.56	
60	5446	1.03	3380	1.66	
65	5250	1.07	3178	1.76	
70	5053	1.11	2988	1.88	
75	4856	1.15	2809	1.99	
80	4658	1.20	2642	2.12	
85	4460	1.26	2489	2.25	
90	4264	1.31	2347	2.39	
95	4069	1.38	2218	2.53	
200	1476	3.80	1456	3.85	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 275 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6739*	1.46	5077	1.94	
30	6593**	1.03	4757	1.42	
35	6408	1.06	4516	1.50	
40	6221	1.09	4281	1.58	
45	6032	1.12	4053	1.67	
50	5842	1.16	3832	1.77	
55	5650	1.20	3620	1.87	
60	5458	1.24	3417	1.98	
65	5264	1.29	3224	2.10	
70	5070	1.34	3042	2.23	
75	4876	1.39	2872	2.36	
80	4682	1.45	2714	2.50	
85	4489	1.51	2567	2.64	
90	4297	1.58	2432	2.79	
95	4107	1.65	2308	2.94	
200	1568	4.33	1535	4.42	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6764*	1.73	5115	2.29	
30	6593**	1.22	4748	1.70	
35	6410	1.26	4514	1.79	
40	6224	1.30	4286	1.88	
45	6037	1.34	4065	1.98	
50	5849	1.38	3853	2.09	
55	5660	1.43	3649	2.21	
60	5470	1.47	3455	2.34	
65	5279	1.53	3270	2.47	
70	5089	1.59	3097	2.61	
75	4898	1.65	2935	2.75	
80	4708	1.71	2783	2.90	
85	4519	1.79	2643	3.05	
90	4331	1.86	2514	3.21	
95	4146	1.95	2395	3.37	
200	1675	4.82	1612	5.01	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 325 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6790*	2.03	5156	2.67	
30	6593**	1.44	4742	2.00	
35	6411	1.48	4514	2.10	
40	6228	1.52	4293	2.21	
45	6043	1.57	4080	2.32	
50	5857	1.62	3876	2.44	
55	5670	1.67	3680	2.57	
60	5483	1.73	3493	2.71	
65	5295	1.79	3317	2.85	
70	5108	1.85	3151	3.00	
75	4921	1.92	2996	3.16	
80	4734	2.00	2852	3.32	
85	4550	2.08	2717	3.49	
90	4367	2.17	2593	3.65	
95	4187	2.26	2478	3.82	
200	1778	5.33	1686	5.62	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6818*	2.34	5198	3.07	
30	6593**	1.67	4737	2.32	
35	6413	1.71	4516	2.43	
40	6231	1.76	4303	2.55	
45	6048	1.82	4097	2.68	
50	5865	1.87	3900	2.82	
55	5681	1.93	3712	2.96	
60	5496	2.00	3533	3.11	
65	5312	2.07	3364	3.26	
70	5128	2.14	3206	3.43	
75	4944	2.22	3057	3.59	
80	4762	2.31	2918	3.76	
85	4582	2.40	2789	3.94	
90	4403	2.49	2669	4.12	
95	4228	2.60	2558	4.29	
200	1879	5.85	1757	6.26	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 375 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6847*	2.68	5242	3.50	
30	6593**	1.91	4734	2.66	
35	6415	1.96	4520	2.79	
40	6235	2.02	4314	2.92	
45	6054	2.08	4116	3.06	
50	5873	2.15	3926	3.21	
55	5692	2.21	3745	3.37	
60	5510	2.29	3574	3.53	
65	5329	2.37	3412	3.70	
70	5148	2.45	3259	3.87	
75	4968	2.54	3116	4.05	
80	4790	2.63	2983	4.23	
85	4614	2.73	2859	4.41	
90	4440	2.84	2743	4.60	
95	4270	2.95	2636	4.79	
200	1975	6.39	1827	6.91	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6876*	3.03	5288	3.94	
30	6593**	2.18	4733	3.03	
35	6417	2.24	4526	3.17	
40	6239	2.30	4327	3.32	
45	6061	2.37	4136	3.47	
50	5882	2.44	3953	3.63	
55	5703	2.51	3779	3.80	
60	5525	2.60	3614	3.97	
65	5346	2.68	3459	4.15	
70	5169	2.77	3312	4.33	
75	4993	2.87	3175	4.52	
80	4819	2.98	3046	4.71	
85	4647	3.09	2926	4.90	
90	4478	3.20	2815	5.10	
95	4312	3.33	2710	5.30	
200	2069	6.94	1895	7.58	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 425 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6907*	3.41	5334	4.41	
30	6593**	2.46	4735	3.42	
35	6419	2.52	4534	3.57	
40	6243	2.59	4342	3.73	
45	6067	2.67	4157	3.90	
50	5891	2.75	3981	4.07	
55	5715	2.83	3814	4.25	
60	5539	2.92	3655	4.43	
65	5364	3.02	3505	4.62	
70	5191	3.12	3365	4.81	
75	5018	3.23	3232	5.01	
80	4848	3.34	3108	5.21	
85	4680	3.46	2992	5.41	
90	4515	3.59	2884	5.62	
95	4353	3.72	2782	5.82	
200	2160	7.51	1960	8.27	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 450 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6938*	3.80	5382	4.90	
30	6593**	2.75	4738	3.83	
35	6421	2.83	4544	4.00	
40	6247	2.91	4358	4.17	
45	6074	2.99	4180	4.34	
50	5900	3.08	4010	4.53	
55	5727	3.17	3849	4.72	
60	5555	3.27	3696	4.91	
65	5383	3.37	3552	5.11	
70	5213	3.48	3416	5.32	
75	5044	3.60	3288	5.52	
80	4877	3.72	3169	5.73	
85	4714	3.85	3056	5.94	
90	4553	3.99	2951	6.16	
95	4395	4.13	2852	6.37	
200	2248	8.08	2025	8.98	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 475 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6970*	4.22	5430	5.42
30	6593**	3.07	4743	4.27
35	6423	3.15	4555	4.44
40	6252	3.23	4375	4.62
45	6081	3.33	4204	4.81
50	5910	3.42	4040	5.01
55	5740	3.52	3885	5.21
60	5570	3.63	3737	5.41
65	5402	3.74	3598	5.62
70	5235	3.86	3467	5.84
75	5070	3.99	3344	6.05
80	4907	4.12	3227	6.27
85	4747	4.26	3118	6.49
90	4590	4.41	3016	6.71
95	4437	4.56	2920	6.93
200	2334	8.68	2087	9.71

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7002*	4.65	5479	5.95
30	6593**	3.40	4749	4.72
35	6425	3.49	4568	4.91
40	6256	3.58	4394	5.10
45	6088	3.68	4228	5.30
50	5920	3.79	4070	5.51
55	5752	3.90	3920	5.72
60	5586	4.01	3778	5.93
65	5421	4.14	3644	6.15
70	5257	4.26	3517	6.38
75	5096	4.40	3398	6.60
80	4937	4.54	3285	6.83
85	4781	4.69	3179	7.05
90	4628	4.84	3080	7.28
95	4478	5.01	2986	7.51
200	2418	9.28	2149	10.45

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7034*	5.11	5528	6.50	
30	6593**	3.75	4757	5.19	
35	6427	3.84	4582	5.39	
40	6261	3.95	4414	5.60	
45	6095	4.05	4254	5.81	
50	5930	4.17	4101	6.03	
55	5765	4.29	3956	6.25	
60	5602	4.41	3819	6.47	
65	5440	4.54	3689	6.70	
70	5280	4.68	3566	6.93	
75	5122	4.82	3451	7.17	
80	4966	4.98	3341	7.40	
85	4814	5.13	3238	7.64	
90	4665	5.30	3141	7.87	
95	4519	5.47	3050	8.11	
200	2499	9.90	2208	11.21	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7067*	5.58	5577	7.07	
30	6593**	4.11	4767	5.69	
35	6429	4.22	4597	5.90	
40	6266	4.33	4435	6.12	
45	6102	4.44	4280	6.34	
50	5940	4.57	4133	6.57	
55	5778	4.69	3992	6.80	
60	5618	4.83	3860	7.03	
65	5459	4.97	3734	7.27	
70	5302	5.12	3615	7.51	
75	5148	5.27	3503	7.75	
80	4996	5.43	3396	7.99	
85	4847	5.60	3296	8.23	
90	4702	5.77	3202	8.48	
95	4560	5.95	3113	8.72	
200	2579	10.53	2267	11.99	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 575 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7100*	6.07	5627	7.66	
30	6593**	4.50	4777	6.21	
35	6432	4.61	4613	6.43	
40	6270	4.73	4456	6.65	
45	6110	4.85	4306	6.89	
50	5950	4.98	4164	7.12	
55	5791	5.12	4028	7.36	
60	5634	5.26	3900	7.60	
65	5478	5.41	3778	7.85	
70	5325	5.57	3662	8.10	
75	5174	5.73	3553	8.35	
80	5025	5.90	3450	8.60	
85	4880	6.07	3352	8.85	
90	4738	6.26	3260	9.10	
95	4599	6.45	3173	9.35	
200	2656	11.18	2324	12.78	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7134*	6.58	5676	8.27	
30	6593**	4.90	4789	6.74	
35	6434	5.02	4630	6.97	
40	6275	5.14	4479	7.21	
45	6117	5.28	4334	7.45	
50	5960	5.42	4196	7.70	
55	5804	5.56	4064	7.95	
60	5650	5.71	3940	8.20	
65	5498	5.87	3821	8.45	
70	5347	6.04	3709	8.71	
75	5200	6.21	3603	8.97	
80	5055	6.39	3503	9.22	
85	4913	6.57	3408	9.48	
90	4774	6.76	3317	9.74	
95	4639	6.96	3232	10.00	
200	2731	11.84	2380	13.60	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

**CONDUCTOR SAG & TENSION DATA**

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 625 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7167*	7.10	5726	8.89	
30	6593**	5.31	4802	7.29	
35	6436	5.44	4648	7.54	
40	6280	5.58	4501	7.78	
45	6125	5.72	4361	8.03	
50	5970	5.87	4227	8.29	
55	5817	6.02	4100	8.55	
60	5666	6.18	3979	8.81	
65	5517	6.35	3864	9.07	
70	5370	6.52	3755	9.33	
75	5225	6.70	3652	9.60	
80	5083	6.89	3554	9.86	
85	4945	7.08	3461	10.13	
90	4809	7.28	3373	10.39	
95	4678	7.49	3290	10.66	
200	2804	12.51	2434	14.42	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7200*	7.65	5775	9.54	
30	6593**	5.75	4816	7.87	
35	6439	5.88	4667	8.12	
40	6285	6.03	4525	8.38	
45	6132	6.18	4389	8.64	
50	5981	6.33	4259	8.90	
55	5830	6.50	4136	9.17	
60	5682	6.67	4018	9.43	
65	5536	6.84	3907	9.70	
70	5392	7.03	3801	9.98	
75	5251	7.22	3700	10.25	
80	5112	7.41	3604	10.52	
85	4977	7.61	3514	10.79	
90	4845	7.82	3428	11.06	
95	4716	8.04	3346	11.34	
200	2875	13.20	2488	15.26	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 675 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7234*	8.21	5824	10.20
30	6593**	6.20	4831	8.46
35	6441	6.34	4686	8.72
40	6290	6.49	4548	8.99
45	6140	6.65	4416	9.25
50	5991	6.82	4290	9.53
55	5844	6.99	4171	9.80
60	5698	7.17	4057	10.08
65	5555	7.35	3948	10.35
70	5414	7.55	3845	10.63
75	5276	7.74	3747	10.91
80	5140	7.95	3653	11.19
85	5008	8.16	3565	11.47
90	4879	8.38	3480	11.75
95	4753	8.60	3400	12.03
200	2945	13.90	2541	16.12

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7267*	8.79	5873	10.88
30	6593**	6.66	4847	9.07
35	6444	6.82	4706	9.34
40	6295	6.98	4572	9.61
45	6147	7.15	4444	9.89
50	6001	7.32	4322	10.17
55	5857	7.50	4206	10.45
60	5714	7.69	4095	10.74
65	5574	7.88	3989	11.02
70	5436	8.08	3889	11.31
75	5301	8.29	3793	11.60
80	5168	8.50	3702	11.88
85	5039	8.72	3615	12.17
90	4913	8.95	3533	12.45
95	4790	9.18	3454	12.74
200	3013	14.61	2592	16.99

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 725 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7300*	9.39	5922	11.58
30	6593**	7.15	4863	9.70
35	6446	7.31	4727	9.98
40	6300	7.48	4596	10.26
45	6155	7.66	4472	10.54
50	6011	7.84	4353	10.83
55	5870	8.03	4240	11.12
60	5730	8.23	4132	11.41
65	5593	8.43	4029	11.71
70	5458	8.64	3931	12.00
75	5325	8.85	3838	12.29
80	5196	9.07	3749	12.59
85	5069	9.30	3664	12.88
90	4946	9.53	3583	13.17
95	4826	9.77	3506	13.46
200	3079	15.34	2643	17.88

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7333*	10.00	5970	12.29
30	6593**	7.65	4879	10.34
35	6448	7.82	4747	10.63
40	6305	8.00	4621	10.92
45	6162	8.19	4500	11.22
50	6022	8.38	4385	11.51
55	5883	8.58	4274	11.81
60	5746	8.78	4169	12.11
65	5611	8.99	4069	12.41
70	5479	9.21	3973	12.71
75	5350	9.43	3882	13.01
80	5223	9.66	3795	13.31
85	5099	9.90	3712	13.61
90	4979	10.14	3633	13.90
95	4861	10.38	3557	14.20
200	3144	16.08	2693	18.79

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 775 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7366*	10.63	6018	13.02
30	6593**	8.17	4896	11.00
35	6451	8.35	4768	11.30
40	6310	8.54	4645	11.60
45	6170	8.73	4528	11.90
50	6032	8.93	4415	12.21
55	5896	9.14	4308	12.51
60	5761	9.35	4206	12.82
65	5630	9.57	4108	13.12
70	5500	9.79	4014	13.43
75	5374	10.03	3925	13.74
80	5250	10.26	3840	14.04
85	5129	10.50	3759	14.35
90	5011	10.75	3681	14.65
95	4896	11.01	3607	14.95
200	3207	16.83	2741	19.70

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7398*	11.28	6065	13.77
30	6593**	8.71	4914	11.69
35	6453	8.89	4789	11.99
40	6315	9.09	4670	12.30
45	6177	9.29	4556	12.61
50	6042	9.50	4446	12.92
55	5908	9.72	4342	13.23
60	5777	9.94	4242	13.54
65	5648	10.16	4146	13.86
70	5521	10.40	4055	14.17
75	5397	10.64	3968	14.48
80	5276	10.88	3884	14.79
85	5158	11.13	3805	15.10
90	5042	11.39	3729	15.41
95	4930	11.65	3656	15.72
200	3268	17.60	2789	20.64

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 825 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7430*	11.94	6112	14.53	
30	6593**	9.26	4932	12.38	
35	6456	9.45	4810	12.70	
40	6319	9.66	4694	13.01	
45	6185	9.87	4583	13.33	
50	6052	10.09	4476	13.65	
55	5921	10.31	4375	13.96	
60	5792	10.54	4277	14.28	
65	5666	10.78	4184	14.60	
70	5542	11.02	4095	14.92	
75	5420	11.26	4009	15.24	
80	5302	11.52	3928	15.56	
85	5186	11.77	3849	15.88	
90	5073	12.04	3775	16.19	
95	4963	12.30	3703	16.51	
200	3328	18.37	2836	21.58	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7462*	12.63	6158	15.31	
30	6593**	9.83	4950	13.10	
35	6458	10.03	4832	13.42	
40	6324	10.25	4719	13.74	
45	6192	10.47	4610	14.07	
50	6062	10.69	4507	14.39	
55	5933	10.92	4407	14.72	
60	5807	11.16	4312	15.04	
65	5683	11.40	4221	15.37	
70	5562	11.65	4134	15.69	
75	5443	11.91	4050	16.02	
80	5327	12.17	3970	16.34	
85	5214	12.43	3894	16.66	
90	5103	12.70	3820	16.99	
95	4996	12.98	3750	17.31	
200	3387	19.17	2882	22.55	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 875 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7467	13.37	6187*	16.15
30	6562	10.46	4950**	13.88
35	6430	10.68	4836	14.21
40	6299	10.90	4726	14.54
45	6169	11.13	4621	14.87
50	6042	11.37	4521	15.20
55	5917	11.61	4425	15.53
60	5794	11.85	4332	15.86
65	5673	12.11	4244	16.20
70	5555	12.36	4159	16.53
75	5439	12.63	4078	16.86
80	5326	12.90	4000	17.19
85	5216	13.17	3925	17.52
90	5109	13.45	3853	17.84
95	5004	13.73	3785	18.17
200	3433	20.04	2922	23.57

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7471	14.14	6214*	17.01
30	6530	11.13	4950**	14.69
35	6400	11.35	4840	15.02
40	6272	11.58	4734	15.36
45	6146	11.82	4632	15.70
50	6022	12.07	4535	16.04
55	5900	12.32	4441	16.37
60	5780	12.57	4352	16.71
65	5662	12.84	4266	17.05
70	5547	13.10	4183	17.39
75	5435	13.37	4104	17.72
80	5325	13.65	4028	18.06
85	5217	13.93	3956	18.39
90	5113	14.22	3886	18.73
95	5011	14.51	3818	19.06
200	3477	20.94	2961	24.61

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 925 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7474	14.93	6241*	17.89	
30	6498	11.81	4950**	15.51	
35	6371	12.05	4843	15.86	
40	6246	12.29	4741	16.20	
45	6123	12.54	4642	16.54	
50	6002	12.79	4548	16.89	
55	5882	13.05	4457	17.23	
60	5766	13.31	4370	17.58	
65	5651	13.58	4287	17.92	
70	5539	13.86	4207	18.27	
75	5429	14.14	4130	18.61	
80	5322	14.42	4056	18.95	
85	5218	14.71	3985	19.29	
90	5117	15.01	3916	19.62	
95	5018	15.30	3851	19.96	
200	3520	21.85	2999	25.67	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7477	15.75	6267*	18.80	
30	6465	12.52	4950**	16.37	
35	6341	12.77	4847	16.72	
40	6219	13.02	4747	17.07	
45	6099	13.28	4652	17.42	
50	5981	13.54	4561	17.77	
55	5865	13.81	4473	18.12	
60	5751	14.08	4388	18.47	
65	5639	14.36	4307	18.82	
70	5530	14.64	4229	19.17	
75	5424	14.93	4154	19.51	
80	5320	15.23	4082	19.86	
85	5218	15.52	4013	20.20	
90	5120	15.82	3946	20.55	
95	5024	16.13	3882	20.89	
200	3561	22.78	3036	26.76	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 556 ACSR (PARAKEET) RATED STRENGTH: 19,800 LBS.

ALLOWABLE AMPACITY: 721A (NOMINAL)

RULING SPAN – 975 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7479	16.58	6292*	19.72
30	6433	13.26	4950**	17.24
35	6312	13.51	4850	17.60
40	6192	13.77	4754	17.95
45	6075	14.04	4661	18.31
50	5960	14.31	4573	18.67
55	5847	14.59	4487	19.02
60	5736	14.87	4405	19.38
65	5627	15.16	4326	19.73
70	5521	15.45	4251	20.09
75	5418	15.75	4178	20.44
80	5317	16.05	4108	20.79
85	5218	16.35	4040	21.14
90	5122	16.66	3975	21.49
95	5029	16.97	3912	21.83
200	3600	23.74	3072	27.86

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7480	17.44	6316*	20.67
30	6400	14.02	4950**	18.14
35	6282	14.28	4853	18.50
40	6165	14.55	4760	18.86
45	6051	14.83	4671	19.22
50	5939	15.11	4584	19.59
55	5829	15.39	4502	19.95
60	5721	15.68	4422	20.31
65	5615	15.98	4345	20.67
70	5512	16.28	4271	21.03
75	5411	16.58	4200	21.39
80	5313	16.89	4132	21.74
85	5217	17.20	4066	22.10
90	5124	17.52	4003	22.45
95	5033	17.83	3941	22.80
200	3639	24.71	3107	28.97

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 225 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6954	0.89	5640*	1.10
30	6864	0.56	5475**	0.71
35	6636	0.58	5201	0.74
40	6408	0.60	4929	0.79
45	6181	0.63	4659	0.83
50	5954	0.65	4393	0.88
55	5728	0.68	4130	0.94
60	5504	0.70	3872	1.00
65	5280	0.73	3619	1.07
70	5058	0.77	3373	1.15
75	4838	0.80	3135	1.24
80	4621	0.84	2907	1.33
85	4405	0.88	2690	1.44
90	4192	0.92	2487	1.56
95	3982	0.97	2298	1.69
200	1185	3.27	825	4.71

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6980	1.09	5675*	1.34
30	6870	0.70	5475**	0.87
35	6642	0.72	5204	0.92
40	6416	0.75	4935	0.97
45	6189	0.77	4669	1.02
50	5964	0.80	4407	1.09
55	5740	0.83	4149	1.15
60	5517	0.87	3896	1.23
65	5295	0.90	3649	1.31
70	5075	0.94	3410	1.40
75	4857	0.99	3180	1.50
80	4642	1.03	2960	1.62
85	4429	1.08	2751	1.74
90	4219	1.13	2556	1.87
95	4012	1.19	2375	2.01
200	1281	3.74	908	5.28

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 275 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7007	1.32	5711*	1.62	
30	6875	0.84	5475**	1.06	
35	6649	0.87	5207	1.11	
40	6423	0.90	4941	1.17	
45	6198	0.93	4679	1.24	
50	5974	0.97	4421	1.31	
55	5751	1.01	4168	1.39	
60	5530	1.05	3921	1.48	
65	5310	1.09	3681	1.57	
70	5092	1.14	3448	1.68	
75	4877	1.19	3225	1.79	
80	4664	1.24	3012	1.92	
85	4453	1.30	2812	2.06	
90	4246	1.36	2624	2.21	
95	4043	1.43	2450	2.36	
200	1372	4.22	988	5.87	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7035	1.56	5750*	1.91	
30	6880	1.00	5475**	1.26	
35	6655	1.04	5210	1.32	
40	6430	1.07	4948	1.39	
45	6207	1.11	4690	1.47	
50	5985	1.15	4437	1.55	
55	5763	1.20	4189	1.64	
60	5544	1.24	3948	1.75	
65	5326	1.29	3713	1.86	
70	5110	1.35	3488	1.98	
75	4897	1.41	3272	2.11	
80	4687	1.47	3066	2.25	
85	4479	1.54	2873	2.40	
90	4275	1.61	2692	2.56	
95	4076	1.69	2524	2.73	
200	1462	4.72	1067	6.47	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 325 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7064	1.83	5790*	2.23	
30	6885	1.17	5475**	1.48	
35	6661	1.21	5213	1.55	
40	6438	1.26	4956	1.63	
45	6215	1.30	4702	1.72	
50	5995	1.35	4453	1.81	
55	5775	1.40	4211	1.92	
60	5558	1.45	3975	2.03	
65	5342	1.51	3747	2.16	
70	5128	1.58	3527	2.29	
75	4918	1.64	3318	2.44	
80	4710	1.72	3119	2.59	
85	4505	1.79	2932	2.76	
90	4305	1.88	2758	2.93	
95	4108	1.97	2596	3.11	
200	1548	5.23	1144	7.08	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7094	2.11	5831*	2.57	
30	6889	1.36	5475**	1.71	
35	6666	1.41	5217	1.80	
40	6444	1.46	4963	1.89	
45	6224	1.51	4714	1.99	
50	6005	1.56	4470	2.10	
55	5787	1.62	4233	2.22	
60	5571	1.68	4003	2.34	
65	5358	1.75	3781	2.48	
70	5147	1.82	3568	2.63	
75	4939	1.90	3365	2.79	
80	4734	1.98	3172	2.96	
85	4532	2.07	2992	3.14	
90	4335	2.16	2823	3.32	
95	4142	2.26	2666	3.52	
200	1632	5.75	1220	7.70	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 375 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7124	2.41	5873*	2.92
30	6892	1.56	5475**	1.97
35	6671	1.61	5221	2.06
40	6450	1.67	4971	2.16
45	6232	1.73	4726	2.28
50	6014	1.79	4488	2.40
55	5799	1.86	4256	2.53
60	5585	1.93	4031	2.67
65	5374	2.00	3815	2.82
70	5165	2.08	3608	2.98
75	4960	2.17	3411	3.16
80	4757	2.26	3224	3.34
85	4559	2.36	3049	3.53
90	4365	2.47	2886	3.73
95	4175	2.58	2734	3.94
200	1712	6.29	1294	8.34

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7155	2.73	5916*	3.30
30	6895	1.78	5475**	2.24
35	6675	1.84	5225	2.34
40	6456	1.90	4979	2.46
45	6239	1.96	4739	2.58
50	6023	2.03	4506	2.72
55	5810	2.11	4279	2.86
60	5598	2.19	4060	3.02
65	5390	2.27	3849	3.18
70	5184	2.36	3648	3.36
75	4981	2.46	3457	3.54
80	4781	2.56	3276	3.74
85	4586	2.67	3107	3.94
90	4395	2.79	2948	4.16
95	4209	2.91	2801	4.38
200	1792	6.84	1367	8.98

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 425 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7186	3.07	5959*	3.70
30	6896	2.00	5475**	2.52
35	6678	2.07	5229	2.64
40	6461	2.14	4988	2.77
45	6246	2.21	4752	2.91
50	6032	2.29	4523	3.06
55	5820	2.37	4302	3.21
60	5611	2.46	4088	3.38
65	5405	2.56	3883	3.56
70	5201	2.66	3688	3.75
75	5001	2.76	3502	3.95
80	4805	2.88	3327	4.16
85	4613	3.00	3162	4.37
90	4425	3.12	3008	4.60
95	4242	3.26	2865	4.83
200	1868	7.41	1438	9.64

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 450 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7217	3.43	6003*	4.12
30	6897	2.25	5475**	2.83
35	6680	2.32	5233	2.96
40	6465	2.40	4996	3.10
45	6252	2.48	4765	3.25
50	6040	2.57	4542	3.41
55	5831	2.66	4325	3.58
60	5624	2.76	4117	3.76
65	5420	2.86	3917	3.96
70	5219	2.97	3727	4.16
75	5022	3.09	3547	4.37
80	4828	3.21	3377	4.59
85	4639	3.34	3217	4.82
90	4455	3.48	3067	5.05
95	4275	3.62	2927	5.30
200	1943	7.99	1508	10.30

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 475 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7248	3.80	6047*	4.56
30	6897	2.50	5475**	3.15
35	6682	2.58	5237	3.30
40	6469	2.67	5005	3.45
45	6257	2.76	4779	3.61
50	6048	2.85	4560	3.79
55	5841	2.96	4349	3.97
60	5636	3.06	4146	4.17
65	5435	3.18	3951	4.37
70	5237	3.30	3766	4.59
75	5042	3.42	3591	4.81
80	4852	3.56	3425	5.04
85	4666	3.70	3270	5.28
90	4484	3.85	3124	5.53
95	4308	4.01	2988	5.78
200	2016	8.58	1576	10.98

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7279	4.19	6092*	5.01
30	6896	2.77	5475**	3.49
35	6683	2.86	5241	3.65
40	6471	2.96	5014	3.82
45	6262	3.05	4792	3.99
50	6054	3.16	4578	4.18
55	5850	3.27	4372	4.38
60	5648	3.39	4174	4.58
65	5449	3.51	3985	4.80
70	5253	3.64	3805	5.03
75	5062	3.78	3634	5.27
80	4875	3.92	3473	5.51
85	4692	4.08	3322	5.76
90	4514	4.24	3180	6.02
95	4341	4.41	3047	6.28
200	2086	9.18	1643	11.67

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7310	4.60	6136*	5.48	
30	6894	3.06	5475**	3.85	
35	6683	3.16	5246	4.02	
40	6473	3.26	5022	4.20	
45	6266	3.37	4806	4.39	
50	6061	3.48	4597	4.59	
55	5858	3.60	4396	4.80	
60	5659	3.73	4203	5.02	
65	5463	3.86	4018	5.25	
70	5270	4.00	3843	5.49	
75	5081	4.15	3677	5.74	
80	4897	4.31	3520	5.99	
85	4717	4.47	3373	6.26	
90	4542	4.64	3234	6.52	
95	4373	4.82	3105	6.80	
200	2155	9.80	1709	12.37	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7341	5.03	6180*	5.98	
30	6892	3.36	5475**	4.23	
35	6682	3.47	5250	4.41	
40	6474	3.58	5031	4.60	
45	6269	3.69	4820	4.81	
50	6066	3.82	4615	5.02	
55	5866	3.95	4419	5.24	
60	5669	4.09	4231	5.48	
65	5476	4.23	4051	5.72	
70	5286	4.38	3881	5.97	
75	5100	4.54	3719	6.23	
80	4919	4.71	3566	6.50	
85	4743	4.88	3423	6.77	
90	4571	5.07	3288	7.05	
95	4404	5.26	3161	7.33	
200	2224	10.43	1775	13.09	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 575 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7371	5.48	6224*	6.49	
30	6888	3.67	5475**	4.62	
35	6680	3.79	5254	4.82	
40	6475	3.91	5040	5.02	
45	6272	4.03	4833	5.24	
50	6071	4.17	4633	5.46	
55	5873	4.31	4442	5.70	
60	5679	4.46	4258	5.94	
65	5488	4.61	4083	6.20	
70	5301	4.77	3917	6.46	
75	5119	4.94	3759	6.73	
80	4940	5.12	3610	7.01	
85	4767	5.31	3470	7.29	
90	4598	5.50	3338	7.58	
95	4435	5.71	3215	7.88	
200	2288	11.07	1837	13.81	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7401	5.94	6268*	7.02	
30	6883	4.00	5475**	5.04	
35	6678	4.13	5259	5.24	
40	6474	4.26	5049	5.46	
45	6273	4.39	4847	5.69	
50	6075	4.54	4652	5.93	
55	5880	4.69	4465	6.18	
60	5689	4.85	4286	6.43	
65	5501	5.01	4115	6.70	
70	5316	5.19	3953	6.98	
75	5137	5.37	3800	7.26	
80	4961	5.56	3655	7.55	
85	4791	5.76	3518	7.84	
90	4625	5.96	3389	8.14	
95	4465	6.18	3268	8.44	
200	2353	11.73	1900	14.55	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 625 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7430	6.42	6311*	7.56	
30	6878	4.35	5475**	5.46	
35	6674	4.48	5263	5.68	
40	6473	4.62	5058	5.91	
45	6274	4.76	4860	6.15	
50	6079	4.92	4669	6.40	
55	5886	5.08	4487	6.66	
60	5697	5.25	4312	6.93	
65	5512	5.42	4146	7.21	
70	5330	5.61	3988	7.50	
75	5154	5.80	3838	7.79	
80	4981	6.00	3696	8.09	
85	4814	6.21	3563	8.40	
90	4651	6.43	3437	8.70	
95	4494	6.65	3319	9.01	
200	2415	12.40	1960	15.30	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7459	6.92	6354*	8.12	
30	6871	4.71	5475**	5.91	
35	6670	4.85	5268	6.14	
40	6471	5.00	5067	6.39	
45	6275	5.16	4873	6.64	
50	6081	5.32	4688	6.90	
55	5891	5.49	4509	7.18	
60	5705	5.67	4339	7.46	
65	5523	5.86	4177	7.75	
70	5344	6.05	4023	8.05	
75	5170	6.26	3877	8.35	
80	5001	6.47	3739	8.66	
85	4837	6.69	3608	8.97	
90	4677	6.92	3485	9.29	
95	4523	7.16	3369	9.61	
200	2477	13.09	2020	16.06	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



# Overhead Transmission Standards

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 675 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7488	7.43	6396*	8.70
30	6864	5.08	5475**	6.37
35	6665	5.23	5272	6.62
40	6468	5.39	5075	6.87
45	6274	5.56	4886	7.14
50	6083	5.73	4705	7.41
55	5896	5.91	4531	7.70
60	5712	6.10	4365	7.99
65	5533	6.30	4206	8.29
70	5357	6.51	4056	8.60
75	5186	6.72	3913	8.92
80	5020	6.95	3778	9.23
85	4858	7.18	3651	9.56
90	4702	7.42	3530	9.88
95	4550	7.66	3417	10.21
200	2535	13.78	2078	16.83

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7516	7.96	6438*	9.30
30	6856	5.47	5475**	6.85
35	6659	5.64	5276	7.11
40	6464	5.80	5084	7.38
45	6273	5.98	4900	7.66
50	6085	6.17	4722	7.95
55	5900	6.36	4553	8.25
60	5719	6.56	4390	8.55
65	5543	6.77	4236	8.86
70	5370	6.99	4089	9.18
75	5202	7.21	3950	9.51
80	5038	7.45	3818	9.83
85	4880	7.69	3694	10.17
90	4726	7.94	3576	10.50
95	4578	8.20	3465	10.84
200	2594	14.49	2136	17.62

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 725 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7544	8.51	6480*	9.91	
30	6847	5.87	5475**	7.35	
35	6652	6.05	5280	7.62	
40	6460	6.23	5093	7.90	
45	6271	6.41	4912	8.19	
50	6086	6.61	4739	8.49	
55	5904	6.81	4573	8.80	
60	5725	7.03	4415	9.12	
65	5551	7.25	4264	9.44	
70	5382	7.48	4121	9.77	
75	5216	7.71	3985	10.10	
80	5056	7.96	3856	10.44	
85	4900	8.21	3734	10.78	
90	4749	8.47	3618	11.13	
95	4604	8.74	3509	11.47	
200	2649	15.21	2192	18.41	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7571	9.08	6520*	10.54	
30	6837	6.30	5475**	7.87	
35	6644	6.48	5285	8.15	
40	6455	6.67	5101	8.45	
45	6269	6.87	4925	8.75	
50	6086	7.08	4756	9.06	
55	5906	7.29	4594	9.38	
60	5731	7.52	4440	9.71	
65	5560	7.75	4293	10.04	
70	5393	7.99	4153	10.38	
75	5231	8.24	4020	10.72	
80	5073	8.49	3894	11.07	
85	4920	8.76	3774	11.42	
90	4773	9.03	3662	11.78	
95	4630	9.31	3555	12.13	
200	2706	15.95	2248	19.22	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 775 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7598	9.65	6561*	11.18
30	6827	6.73	5475**	8.40
35	6636	6.93	5289	8.69
40	6449	7.13	5109	9.00
45	6266	7.34	4937	9.31
50	6085	7.55	4772	9.64
55	5909	7.78	4614	9.97
60	5736	8.01	4463	10.30
65	5568	8.26	4319	10.65
70	5404	8.51	4183	11.00
75	5244	8.77	4053	11.35
80	5089	9.03	3929	11.71
85	4939	9.31	3813	12.07
90	4794	9.59	3702	12.43
95	4654	9.88	3597	12.79
200	2758	16.70	2301	20.04

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7623	10.26	6600*	11.85
30	6815	7.19	5475**	8.95
35	6627	7.40	5293	9.26
40	6443	7.61	5118	9.58
45	6262	7.83	4949	9.91
50	6084	8.06	4788	10.24
55	5910	8.29	4634	10.58
60	5741	8.54	4487	10.93
65	5575	8.79	4346	11.28
70	5414	9.06	4213	11.64
75	5257	9.33	4086	12.00
80	5106	9.60	3965	12.37
85	4958	9.89	3851	12.74
90	4816	10.18	3743	13.11
95	4679	10.48	3640	13.48
200	2812	17.47	2355	20.88

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 825 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7649	10.87	6639*	12.53	
30	6803	7.66	5475**	9.52	
35	6618	7.87	5297	9.84	
40	6436	8.09	5126	10.17	
45	6258	8.33	4961	10.50	
50	6083	8.56	4804	10.85	
55	5912	8.81	4653	11.20	
60	5745	9.07	4509	11.56	
65	5582	9.33	4372	11.92	
70	5423	9.61	4241	12.29	
75	5270	9.89	4117	12.66	
80	5120	10.18	3999	13.04	
85	4976	10.47	3887	13.41	
90	4836	10.78	3781	13.79	
95	4702	11.08	3680	14.17	
200	2862	18.24	2406	21.72	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7673	11.50	6677*	13.22	
30	6791	8.15	5475**	10.11	
35	6608	8.37	5301	10.44	
40	6429	8.61	5134	10.78	
45	6253	8.85	4973	11.13	
50	6081	9.10	4819	11.49	
55	5912	9.36	4672	11.85	
60	5748	9.63	4532	12.22	
65	5588	9.90	4398	12.59	
70	5433	10.19	4270	12.97	
75	5282	10.48	4149	13.35	
80	5135	10.78	4033	13.73	
85	4994	11.09	3924	14.12	
90	4857	11.40	3820	14.50	
95	4725	11.72	3721	14.89	
200	2913	19.03	2458	22.59	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 875 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7698	12.15	6715*	13.93
30	6778	8.65	5475**	10.71
35	6598	8.88	5305	11.05
40	6421	9.13	5141	11.40
45	6248	9.38	4984	11.76
50	6078	9.64	4834	12.13
55	5913	9.91	4690	12.50
60	5751	10.19	4553	12.88
65	5594	10.48	4422	13.26
70	5441	10.77	4297	13.65
75	5293	11.08	4178	14.04
80	5149	11.38	4065	14.43
85	5010	11.70	3958	14.82
90	4876	12.02	3856	15.22
95	4746	12.35	3758	15.61
200	2961	19.83	2507	23.45

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7721	12.82	6752*	14.66
30	6764	9.17	5475**	11.33
35	6586	9.42	5309	11.69
40	6412	9.68	5149	12.05
45	6242	9.94	4996	12.42
50	6075	10.21	4849	12.80
55	5912	10.50	4709	13.18
60	5754	10.78	4575	13.57
65	5599	11.08	4447	13.96
70	5449	11.39	4325	14.36
75	5304	11.70	4208	14.75
80	5163	12.02	4098	15.15
85	5027	12.35	3992	15.56
90	4895	12.68	3892	15.96
95	4768	13.02	3797	16.36
200	3010	20.66	2557	24.34

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



# Overhead Transmission Standards

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 925 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7745	13.50	6789*	15.40	
30	6750	9.70	5475**	11.97	
35	6575	9.96	5312	12.33	
40	6404	10.23	5156	12.71	
45	6236	10.50	5007	13.09	
50	6072	10.79	4863	13.47	
55	5912	11.08	4726	13.87	
60	5756	11.38	4595	14.26	
65	5604	11.69	4470	14.66	
70	5457	12.01	4350	15.07	
75	5314	12.33	4236	15.47	
80	5176	12.66	4128	15.88	
85	5042	13.00	4025	16.29	
90	4913	13.34	3926	16.70	
95	4788	13.69	3833	17.11	
200	3056	21.48	2604	25.23	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	7767	14.20	6824*	16.17	
30	6735	10.26	5475**	12.63	
35	6563	10.53	5316	13.01	
40	6394	10.81	5164	13.39	
45	6229	11.10	5018	13.78	
50	6068	11.39	4878	14.18	
55	5911	11.70	4744	14.58	
60	5758	12.01	4615	14.99	
65	5609	12.33	4493	15.40	
70	5464	12.66	4376	15.81	
75	5324	12.99	4265	16.22	
80	5188	13.33	4159	16.64	
85	5057	13.68	4058	17.06	
90	4931	14.03	3961	17.47	
95	4808	14.39	3869	17.89	
200	3103	22.33	2653	26.15	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 652 AAAC (ELGIN)

RATED STRENGTH: 21,900 LBS.

ALLOWABLE AMPACITY: 729A (NOMINAL)

RULING SPAN – 975 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7790	14.91	6859*	16.94
30	6721	10.83	5475**	13.30
35	6551	11.11	5320	13.68
40	6385	11.40	5171	14.08
45	6222	11.70	5028	14.48
50	6064	12.00	4891	14.89
55	5909	12.32	4760	15.30
60	5759	12.64	4635	15.71
65	5613	12.97	4515	16.13
70	5471	13.31	4400	16.55
75	5333	13.65	4291	16.97
80	5200	14.00	4187	17.40
85	5071	14.36	4088	17.82
90	4947	14.72	3993	18.25
95	4827	15.09	3903	18.67
200	3146	23.19	2698	27.07

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	7811	15.65	6893*	17.74
30	6705	11.42	5475**	14.00
35	6538	11.72	5323	14.40
40	6375	12.02	5178	14.80
45	6215	12.33	5038	15.21
50	6059	12.64	4905	15.63
55	5907	12.97	4777	16.05
60	5760	13.30	4654	16.47
65	5616	13.64	4537	16.90
70	5477	13.99	4425	17.33
75	5342	14.34	4318	17.76
80	5212	14.70	4216	18.19
85	5086	15.07	4119	18.62
90	4964	15.44	4026	19.05
95	4846	15.82	3937	19.48
200	3191	24.07	2744	28.01

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

**CONDUCTOR SAG & TENSION DATA**

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 225 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10575	0.94	8652*	1.15	
30	10477	0.74	8450**	0.92	
35	10210	0.76	8054	0.97	
40	9941	0.78	7664	1.01	
45	9670	0.80	7280	1.07	
50	9397	0.83	6902	1.13	
55	9123	0.85	6533	1.19	
60	8846	0.88	6174	1.26	
65	8569	0.91	5825	1.34	
70	8289	0.94	5489	1.42	
75	8009	0.97	5167	1.51	
80	7729	1.01	4861	1.60	
85	7448	1.04	4571	1.70	
90	7167	1.09	4300	1.81	
95	6887	1.13	4047	1.92	
200	2557	3.04	2407	3.23	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10614	1.16	8693*	1.41	
30	10496	0.91	8450*	1.14	
35	10231	0.94	8062	1.19	
40	9964	0.96	7680	1.25	
45	9695	0.99	7305	1.31	
50	9425	1.02	6938	1.38	
55	9153	1.05	6580	1.46	
60	8880	1.08	6232	1.54	
65	8606	1.12	5896	1.63	
70	8331	1.15	5573	1.72	
75	8055	1.19	5265	1.82	
80	7779	1.23	4972	1.93	
85	7503	1.28	4696	2.05	
90	7228	1.33	4437	2.16	
95	6954	1.38	4196	2.29	
200	2753	3.49	2546	3.78	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 275 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10654	1.39	8736*	1.70
30	10513	1.11	8450**	1.38
35	10250	1.13	8070	1.44
40	9986	1.16	7697	1.51
45	9720	1.20	7331	1.58
50	9452	1.23	6975	1.67
55	9183	1.27	6628	1.75
60	8914	1.30	6292	1.85
65	8643	1.34	5968	1.95
70	8372	1.39	5658	2.05
75	8100	1.43	5362	2.17
80	7829	1.48	5082	2.29
85	7559	1.54	4818	2.41
90	7289	1.59	4571	2.54
95	7021	1.66	4340	2.68
200	2941	3.95	2680	4.34

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10693	1.65	8780*	2.01
30	10528	1.31	8450**	1.64
35	10268	1.35	8078	1.71
40	10006	1.38	7714	1.79
45	9742	1.42	7359	1.88
50	9478	1.46	7012	1.97
55	9212	1.50	6677	2.07
60	8946	1.55	6352	2.18
65	8679	1.59	6041	2.29
70	8412	1.64	5742	2.41
75	8145	1.70	5459	2.53
80	7879	1.76	5190	2.67
85	7614	1.82	4937	2.80
90	7350	1.88	4700	2.94
95	7088	1.95	4478	3.09
200	3121	4.44	2809	4.93

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 325 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10732	1.93	8826*	2.35	
30	10541	1.54	8450**	1.92	
35	10283	1.58	8087	2.01	
40	10024	1.62	7732	2.10	
45	9763	1.66	7387	2.20	
50	9502	1.71	7051	2.30	
55	9240	1.76	6726	2.41	
60	8977	1.81	6413	2.53	
65	8714	1.86	6113	2.66	
70	8452	1.92	5826	2.79	
75	8189	1.98	5553	2.92	
80	7928	2.05	5296	3.07	
85	7668	2.12	5053	3.21	
90	7410	2.19	4825	3.37	
95	7154	2.27	4611	3.52	
200	3293	4.93	2933	5.54	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10770	2.23	8872*	2.71	
30	10552	1.78	8450**	2.23	
35	10296	1.83	8096	2.33	
40	10040	1.87	7751	2.43	
45	9782	1.92	7415	2.54	
50	9524	1.98	7090	2.66	
55	9266	2.03	6776	2.78	
60	9007	2.09	6473	2.91	
65	8748	2.15	6184	3.04	
70	8490	2.22	5908	3.19	
75	8232	2.29	5646	3.33	
80	7976	2.36	5398	3.49	
85	7721	2.44	5164	3.65	
90	7469	2.52	4945	3.81	
95	7219	2.61	4739	3.97	
200	3459	5.45	3053	6.17	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 375 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10806	2.56	8919*	3.10
30	10560	2.05	8450**	2.56
35	10307	2.10	8105	2.67
40	10053	2.15	7770	2.78
45	9799	2.21	7444	2.90
50	9544	2.26	7129	3.03
55	9289	2.33	6825	3.17
60	9034	2.39	6533	3.31
65	8780	2.46	6254	3.46
70	8526	2.53	5989	3.61
75	8273	2.61	5736	3.77
80	8022	2.69	5498	3.93
85	7773	2.78	5273	4.10
90	7526	2.87	5061	4.27
95	7282	2.97	4862	4.45
200	3617	5.98	3170	6.83

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10841	2.90	8966*	3.51
30	10565	2.33	8450**	2.91
35	10315	2.38	8114	3.03
40	10065	2.44	7788	3.16
45	9814	2.51	7472	3.29
50	9562	2.57	7167	3.43
55	9311	2.64	6874	3.58
60	9060	2.71	6592	3.73
65	8810	2.79	6323	3.89
70	8560	2.87	6067	4.05
75	8312	2.96	5824	4.22
80	8066	3.05	5594	4.40
85	7823	3.14	5377	4.57
90	7582	3.24	5172	4.76
95	7344	3.35	4980	4.94
200	3770	6.53	3283	7.50

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 425 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10874	3.26	9013*	3.94	
30	10568	2.63	8450**	3.28	
35	10321	2.69	8124	3.42	
40	10074	2.76	7807	3.56	
45	9826	2.82	7501	3.70	
50	9578	2.90	7206	3.85	
55	9330	2.97	6922	4.01	
60	9083	3.06	6650	4.17	
65	8837	3.14	6391	4.34	
70	8593	3.23	6144	4.52	
75	8350	3.32	5909	4.70	
80	8109	3.42	5687	4.88	
85	7870	3.53	5478	5.07	
90	7635	3.64	5280	5.26	
95	7403	3.75	5094	5.45	
200	3917	7.10	3392	8.20	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 450 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10906	3.65	9060*	4.39	
30	10568	2.94	8450**	3.68	
35	10324	3.01	8133	3.83	
40	10080	3.09	7826	3.98	
45	9835	3.16	7529	4.13	
50	9591	3.24	7244	4.30	
55	9348	3.33	6969	4.47	
60	9105	3.42	6707	4.64	
65	8863	3.51	6457	4.82	
70	8623	3.61	6218	5.01	
75	8385	3.71	5992	5.20	
80	8149	3.82	5777	5.39	
85	7916	3.93	5575	5.59	
90	7686	4.05	5383	5.78	
95	7460	4.17	5203	5.98	
200	4058	7.68	3498	8.91	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 475 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10935	4.05	9106*	4.87
30	10566	3.28	8450**	4.10
35	10325	3.36	8142	4.26
40	10083	3.44	7844	4.42
45	9843	3.52	7557	4.59
50	9602	3.61	7281	4.76
55	9362	3.70	7016	4.94
60	9124	3.80	6762	5.13
65	8887	3.90	6520	5.32
70	8651	4.01	6290	5.51
75	8418	4.12	6072	5.71
80	8187	4.24	5864	5.92
85	7959	4.36	5668	6.12
90	7735	4.48	5483	6.33
95	7514	4.62	5308	6.54
200	4194	8.28	3601	9.65

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10963	4.48	9152*	5.37
30	10560	3.64	8450**	4.55
35	10322	3.72	8151	4.71
40	10085	3.81	7863	4.89
45	9847	3.90	7585	5.07
50	9611	4.00	7317	5.25
55	9375	4.10	7061	5.44
60	9141	4.20	6816	5.64
65	8908	4.31	6583	5.84
70	8677	4.43	6360	6.04
75	8449	4.55	6149	6.25
80	8223	4.67	5948	6.46
85	8000	4.80	5758	6.68
90	7781	4.94	5578	6.89
95	7566	5.08	5408	7.11
200	4324	8.90	3701	10.40

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	10989	4.93	9198*	5.89	
30	10552	4.01	8450**	5.01	
35	10318	4.11	8160	5.19	
40	10083	4.20	7881	5.38	
45	9850	4.30	7612	5.57	
50	9617	4.40	7353	5.76	
55	9385	4.51	7105	5.96	
60	9155	4.63	6869	6.17	
65	8927	4.75	6643	6.38	
70	8701	4.87	6428	6.59	
75	8477	5.00	6223	6.81	
80	8257	5.13	6029	7.03	
85	8039	5.27	5845	7.25	
90	7826	5.41	5670	7.48	
95	7616	5.56	5505	7.70	
200	4450	9.53	3798	11.18	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11013	5.40	9242*	6.43	
30	10542	4.41	8450**	5.50	
35	10311	4.51	8169	5.69	
40	10080	4.61	7898	5.89	
45	9850	4.72	7638	6.09	
50	9621	4.83	7388	6.29	
55	9394	4.95	7148	6.51	
60	9168	5.07	6919	6.72	
65	8944	5.20	6701	6.94	
70	8723	5.33	6493	7.16	
75	8504	5.47	6295	7.39	
80	8288	5.61	6107	7.62	
85	8076	5.76	5928	7.85	
90	7867	5.91	5759	8.08	
95	7663	6.07	5598	8.31	
200	4570	10.19	3892	11.97	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 575 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11035	5.89	9286*	7.00	
30	10529	4.83	8450**	6.01	
35	10301	4.93	8178	6.21	
40	10074	5.04	7916	6.42	
45	9848	5.16	7664	6.63	
50	9623	5.28	7422	6.85	
55	9400	5.41	7190	7.07	
60	9178	5.54	6969	7.29	
65	8959	5.67	6757	7.52	
70	8742	5.81	6556	7.75	
75	8529	5.96	6364	7.99	
80	8318	6.11	6182	8.23	
85	8111	6.27	6008	8.46	
90	7907	6.43	5844	8.70	
95	7708	6.59	5687	8.94	
200	4687	10.86	3984	12.78	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11055	6.40	9328*	7.59	
30	10514	5.26	8450**	6.55	
35	10289	5.38	8186	6.76	
40	10066	5.50	7932	6.98	
45	9844	5.62	7689	7.20	
50	9623	5.75	7455	7.42	
55	9404	5.88	7231	7.66	
60	9187	6.02	7016	7.89	
65	8972	6.17	6812	8.13	
70	8760	6.32	6617	8.37	
75	8551	6.47	6431	8.61	
80	8345	6.63	6254	8.85	
85	8143	6.80	6086	9.10	
90	7944	6.97	5926	9.35	
95	7750	7.14	5774	9.59	
200	4799	11.55	4073	13.62	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 625 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11074	6.93	9370*	8.20	
30	10497	5.72	8450**	7.11	
35	10276	5.84	8195	7.33	
40	10056	5.97	7949	7.56	
45	9838	6.10	7713	7.79	
50	9621	6.24	7487	8.02	
55	9406	6.38	7270	8.26	
60	9193	6.53	7063	8.51	
65	8983	6.68	6865	8.75	
70	8776	6.84	6676	9.00	
75	8572	7.01	6495	9.25	
80	8371	7.17	6324	9.50	
85	8173	7.35	6160	9.75	
90	7980	7.53	6004	10.01	
95	7790	7.71	5856	10.26	
200	4907	12.26	4160	14.47	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11091	7.49	9411*	8.83	
30	10477	6.20	8450**	7.69	
35	10260	6.33	8203	7.92	
40	10044	6.47	7965	8.16	
45	9830	6.61	7737	8.40	
50	9617	6.75	7518	8.64	
55	9406	6.90	7308	8.89	
60	9198	7.06	7107	9.14	
65	8993	7.22	6915	9.40	
70	8790	7.39	6732	9.65	
75	8590	7.56	6557	9.91	
80	8394	7.74	6391	10.17	
85	8202	7.92	6232	10.43	
90	8013	8.11	6080	10.69	
95	7828	8.30	5936	10.95	
200	5011	12.98	4244	15.34	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 675 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11106	8.06	9450*	9.48	
30	10456	6.70	8450**	8.29	
35	10242	6.84	8211	8.53	
40	10030	6.98	7980	8.78	
45	9820	7.13	7759	9.03	
50	9611	7.29	7547	9.28	
55	9405	7.45	7344	9.54	
60	9201	7.61	7150	9.80	
65	9000	7.78	6964	10.06	
70	8802	7.96	6787	10.33	
75	8607	8.14	6617	10.59	
80	8416	8.32	6455	10.86	
85	8228	8.51	6301	11.13	
90	8044	8.71	6153	11.39	
95	7864	8.91	6013	11.66	
200	5111	13.73	4326	16.23	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11120	8.66	9489*	10.16	
30	10433	7.22	8450**	8.92	
35	10223	7.37	8218	9.17	
40	10015	7.52	7995	9.42	
45	9809	7.68	7782	9.68	
50	9604	7.84	7576	9.95	
55	9402	8.01	7380	10.21	
60	9203	8.19	7192	10.48	
65	9007	8.36	7011	10.75	
70	8813	8.55	6839	11.02	
75	8623	8.74	6675	11.29	
80	8436	8.93	6517	11.57	
85	8253	9.13	6367	11.84	
90	8073	9.33	6223	12.12	
95	7898	9.54	6086	12.39	
200	5207	14.49	4407	17.14	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 725 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11133	9.28	9526*	10.85	
30	10409	7.76	8450**	9.56	
35	10203	7.92	8226	9.83	
40	9998	8.08	8010	10.09	
45	9796	8.25	7803	10.36	
50	9596	8.42	7604	10.63	
55	9398	8.60	7414	10.90	
60	9203	8.78	7232	11.18	
65	9011	8.97	7057	11.46	
70	8822	9.16	6890	11.74	
75	8637	9.36	6730	12.02	
80	8454	9.56	6577	12.30	
85	8276	9.77	6431	12.58	
90	8101	9.98	6291	12.86	
95	7930	10.19	6157	13.14	
200	5300	15.27	4485	18.07	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11144	9.93	9563*	11.57	
30	10383	8.33	8450**	10.24	
35	10180	8.49	8233	10.51	
40	9980	8.66	8024	10.78	
45	9782	8.84	7824	11.06	
50	9586	9.02	7631	11.34	
55	9393	9.21	7447	11.62	
60	9202	9.40	7270	11.90	
65	9015	9.59	7101	12.19	
70	8830	9.80	6938	12.47	
75	8649	10.00	6783	12.76	
80	8471	10.21	6635	13.05	
85	8297	10.43	6492	13.33	
90	8127	10.64	6356	13.62	
95	7960	10.87	6226	13.91	
200	5390	16.07	4561	19.01	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 775 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	11153	10.59	9598*	12.31
30	10355	8.92	8450**	10.93
35	10157	9.09	8240	11.21
40	9961	9.27	8038	11.49
45	9767	9.46	7844	11.78
50	9575	9.64	7657	12.07
55	9386	9.84	7479	12.35
60	9200	10.04	7307	12.65
65	9017	10.24	7143	12.94
70	8836	10.45	6985	13.23
75	8660	10.67	6834	13.52
80	8486	10.88	6690	13.82
85	8317	11.11	6551	14.11
90	8151	11.33	6419	14.40
95	7989	11.56	6291	14.69
200	5476	16.89	4635	19.98

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	11162	11.28	9632*	13.07
30	10327	9.53	8450**	11.65
35	10133	9.71	8247	11.94
40	9940	9.90	8051	12.23
45	9750	10.09	7863	12.52
50	9563	10.29	7683	12.82
55	9378	10.49	7509	13.11
60	9196	10.70	7343	13.41
65	9017	10.91	7184	13.71
70	8842	11.13	7031	14.01
75	8669	11.35	6884	14.31
80	8500	11.58	6743	14.61
85	8335	11.81	6608	14.91
90	8173	12.04	6479	15.20
95	8015	12.28	6355	15.50
200	5560	17.73	4708	20.96

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

**CONDUCTOR SAG & TENSION DATA**

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 825 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	11169	11.98	9666*	13.85
30	10298	10.16	8450**	12.39
35	10107	10.35	8253	12.69
40	9919	10.55	8064	12.98
45	9733	10.75	7882	13.28
50	9550	10.96	7707	13.59
55	9369	11.17	7539	13.89
60	9192	11.39	7378	14.20
65	9017	11.61	7223	14.50
70	8846	11.83	7074	14.81
75	8678	12.06	6931	15.11
80	8513	12.30	6795	15.42
85	8352	12.53	6663	15.72
90	8194	12.78	6537	16.03
95	8041	13.02	6416	16.33
200	5640	18.59	4778	21.97

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	11175	12.72	9698*	14.66
30	10267	10.82	8450**	13.15
35	10081	11.02	8259	13.46
40	9897	11.23	8076	13.76
45	9715	11.44	7900	14.07
50	9536	11.65	7730	14.38
55	9360	11.87	7567	14.69
60	9186	12.10	7411	15.00
65	9016	12.32	7260	15.31
70	8849	12.56	7116	15.63
75	8685	12.80	6977	15.94
80	8525	13.04	6844	16.25
85	8368	13.28	6716	16.56
90	8214	13.53	6593	16.87
95	8064	13.78	6475	17.18
200	5718	19.47	4847	22.99

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 875 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11180	13.47	9729*	15.48	
30	10236	11.50	8450**	13.94	
35	10054	11.71	8265	14.25	
40	9874	11.92	8088	14.56	
45	9696	12.14	7917	14.88	
50	9521	12.37	7753	15.20	
55	9349	12.59	7595	15.51	
60	9180	12.83	7443	15.83	
65	9014	13.06	7297	16.15	
70	8851	13.31	7156	16.47	
75	8691	13.55	7021	16.78	
80	8535	13.80	6892	17.10	
85	8382	14.05	6767	17.42	
90	8232	14.31	6647	17.73	
95	8086	14.57	6532	18.05	
200	5792	20.36	4914	24.03	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	11185	14.25	9759*	16.33	
30	10205	12.21	8450**	14.75	
35	10026	12.42	8271	15.07	
40	9850	12.65	8099	15.39	
45	9677	12.87	7934	15.71	
50	9506	13.11	7774	16.03	
55	9338	13.34	7621	16.36	
60	9173	13.58	7473	16.68	
65	9011	13.83	7332	17.00	
70	8852	14.08	7195	17.33	
75	8697	14.33	7064	17.65	
80	8544	14.58	6937	17.97	
85	8395	14.84	6816	18.30	
90	8250	15.11	6699	18.62	
95	8107	15.37	6586	18.94	
200	5865	21.28	4980	25.09	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 925 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	11188	15.04	9789*	17.20
30	10173	12.93	8450**	15.58
35	9998	13.16	8277	15.91
40	9826	13.39	8110	16.23
45	9657	13.63	7950	16.56
50	9490	13.87	7795	16.89
55	9326	14.11	7646	17.22
60	9165	14.36	7503	17.55
65	9007	14.61	7365	17.88
70	8853	14.87	7233	18.21
75	8701	15.13	7105	18.54
80	8553	15.39	6982	18.87
85	8407	15.66	6863	19.20
90	8266	15.93	6749	19.52
95	8127	16.20	6639	19.85
200	5934	22.22	5044	26.17

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	11190	15.87	9817*	18.09
30	10140	13.69	8450**	16.43
35	9970	13.92	8282	16.77
40	9802	14.16	8121	17.10
45	9637	14.41	7965	17.44
50	9474	14.65	7815	17.77
55	9314	14.91	7671	18.11
60	9157	15.16	7532	18.45
65	9003	15.42	7398	18.78
70	8852	15.68	7269	19.12
75	8705	15.95	7144	19.45
80	8560	16.22	7024	19.78
85	8419	16.50	6909	20.12
90	8280	16.77	6797	20.45
95	8145	17.05	6690	20.78
200	6002	23.17	5107	27.27

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 ACSR (CARDINAL) RATED STRENGTH: 23,800 LBS.

ALLOWABLE AMPACITY: 996A (NOMINAL)

RULING SPAN – 975 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10108	14.47	8450*	17.31
35	9941	14.71	8288	17.65
40	9777	14.96	8131	17.99
45	9616	15.21	7980	18.34
50	9457	15.46	7835	18.68
55	9301	15.72	7694	19.02
60	9148	15.99	7559	19.36
65	8998	16.25	7429	19.70
70	8851	16.52	7303	20.04
75	8707	16.80	7182	20.38
80	8567	17.08	7065	20.72
85	8429	17.36	6952	21.06
90	8294	17.64	6844	21.39
95	8163	17.92	6739	21.73
200	6067	24.15	5174	28.36
30	11192	16.71	9844	19.01

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	10075	15.27	8450*	18.21
35	9912	15.52	8293	18.56
40	9752	15.77	8141	18.91
45	9595	16.03	7994	19.25
50	9440	16.30	7853	19.60
55	9288	16.56	7717	19.95
60	9139	16.83	7586	20.30
65	8993	17.11	7459	20.64
70	8850	17.39	7337	20.99
75	8710	17.67	7219	21.33
80	8572	17.95	7105	21.68
85	8438	18.24	6995	22.02
90	8307	18.53	6889	22.36
95	8179	18.82	6786	22.70
200	6130	25.15	5246	29.42
30	11193	17.58	9871	19.94

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 225 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	5817*	1.39	4549	1.78	
30	5628**	1.01	4114	1.38	
35	5395	1.05	3809	1.49	
40	5161	1.10	3524	1.61	
45	4927	1.15	3259	1.74	
50	4694	1.21	3018	1.88	
55	4462	1.27	2800	2.03	
60	4232	1.34	2604	2.18	
65	4005	1.42	2431	2.33	
70	3783	1.50	2277	2.49	
75	3567	1.59	2141	2.65	
80	3358	1.69	2021	2.81	
85	3158	1.80	1914	2.96	
90	2968	1.91	1820	3.12	
95	2790	2.03	1736	3.27	
200	1177	4.83	976	5.83	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	5855*	1.71	4568	2.19	
30	5628**	1.24	4064	1.72	
35	5399	1.30	3779	1.85	
40	5170	1.35	3514	1.99	
45	4941	1.42	3270	2.14	
50	4713	1.49	3048	2.30	
55	4488	1.56	2848	2.46	
60	4265	1.64	2667	2.63	
65	4046	1.73	2506	2.79	
70	3833	1.83	2363	2.96	
75	3626	1.93	2235	3.13	
80	3426	2.04	2121	3.30	
85	3236	2.16	2019	3.47	
90	3056	2.29	1928	3.63	
95	2887	2.43	1846	3.80	
200	1289	5.44	1070	6.57	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 275 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	5895*	2.06	4596	2.64
30	5628**	1.51	4024	2.11
35	5403	1.57	3758	2.25
40	5179	1.64	3513	2.41
45	4955	1.71	3288	2.58
50	4734	1.79	3083	2.75
55	4515	1.88	2897	2.93
60	4299	1.97	2730	3.10
65	4088	2.07	2580	3.29
70	3883	2.18	2446	3.47
75	3685	2.30	2325	3.65
80	3494	2.43	2216	3.83
85	3313	2.56	2118	4.00
90	3141	2.70	2030	4.18
95	2980	2.84	1950	4.35
200	1399	6.07	1161	7.32

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	5936*	2.43	4630	3.12
30	5628**	1.79	3994	2.53
35	5407	1.86	3747	2.69
40	5188	1.94	3519	2.87
45	4970	2.03	3311	3.05
50	4755	2.12	3121	3.23
55	4542	2.22	2948	3.42
60	4334	2.33	2793	3.61
65	4131	2.44	2652	3.80
70	3934	2.56	2525	4.00
75	3743	2.69	2410	4.19
80	3561	2.83	2306	4.38
85	3388	2.98	2212	4.56
90	3224	3.13	2127	4.75
95	3069	3.29	2049	4.93
200	1505	6.72	1250	8.10

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 325 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	5978*	2.83	4668	3.63	
30	5628**	2.10	3973	2.98	
35	5412	2.19	3743	3.16	
40	5198	2.28	3532	3.35	
45	4986	2.37	3338	3.55	
50	4776	2.48	3161	3.75	
55	4571	2.59	3000	3.95	
60	4369	2.71	2854	4.15	
65	4173	2.84	2721	4.35	
70	3984	2.97	2601	4.55	
75	3801	3.11	2492	4.75	
80	3627	3.26	2392	4.95	
85	3460	3.42	2301	5.15	
90	3303	3.58	2218	5.34	
95	3155	3.75	2142	5.53	
200	1608	7.38	1337	8.89	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6020*	3.26	4711	4.17	
30	5628**	2.44	3960	3.47	
35	5417	2.53	3746	3.67	
40	5208	2.64	3549	3.87	
45	5001	2.74	3368	4.08	
50	4798	2.86	3203	4.29	
55	4599	2.98	3052	4.50	
60	4404	3.12	2914	4.71	
65	4216	3.26	2789	4.93	
70	4033	3.40	2674	5.14	
75	3858	3.56	2570	5.35	
80	3690	3.72	2474	5.55	
85	3531	3.89	2386	5.76	
90	3380	4.06	2306	5.96	
95	3238	4.24	2231	6.16	
200	1708	8.05	1421	9.70	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 375 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6063*	3.72	4757	4.74	
30	5628**	2.80	3954	3.99	
35	5422	2.91	3754	4.20	
40	5218	3.02	3570	4.42	
45	5017	3.14	3401	4.64	
50	4820	3.27	3246	4.86	
55	4627	3.41	3104	5.08	
60	4439	3.55	2973	5.30	
65	4257	3.70	2854	5.52	
70	4082	3.86	2745	5.75	
75	3913	4.03	2645	5.96	
80	3752	4.20	2553	6.18	
85	3599	4.38	2468	6.39	
90	3454	4.56	2389	6.60	
95	3317	4.75	2317	6.81	
200	1806	8.75	1503	10.52	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6106*	4.20	4805	5.34	
30	5628**	3.19	3954	4.54	
35	5427	3.30	3767	4.76	
40	5228	3.43	3594	4.99	
45	5033	3.56	3435	5.22	
50	4842	3.70	3289	5.45	
55	4655	3.85	3155	5.69	
60	4474	4.01	3031	5.92	
65	4299	4.17	2918	6.15	
70	4129	4.34	2813	6.38	
75	3967	4.52	2717	6.61	
80	3812	4.70	2628	6.83	
85	3665	4.89	2546	7.05	
90	3525	5.09	2469	7.27	
95	3393	5.29	2398	7.49	
200	1900	9.46	1583	11.37	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

**CONDUCTOR SAG & TENSION DATA**

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

**RULING SPAN – 425 FEET****INITIAL****FINAL**

AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6150*	4.71	4855	5.96
30	5628**	3.60	3959	5.11
35	5432	3.73	3783	5.35
40	5239	3.86	3621	5.59
45	5049	4.01	3471	5.83
50	4864	4.16	3333	6.08
55	4683	4.32	3206	6.32
60	4508	4.49	3088	6.56
65	4339	4.67	2980	6.80
70	4176	4.85	2879	7.04
75	4020	5.04	2787	7.27
80	3870	5.23	2701	7.50
85	3728	5.43	2621	7.73
90	3593	5.64	2546	7.96
95	3466	5.84	2477	8.18
200	1992	10.19	1661	12.23

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

**RULING SPAN – 450 FEET****INITIAL****FINAL**

AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6193*	5.24	4906	6.62
30	5628**	4.03	3967	5.72
35	5437	4.17	3802	5.97
40	5249	4.32	3649	6.22
45	5065	4.48	3508	6.47
50	4886	4.65	3377	6.73
55	4711	4.82	3256	6.98
60	4542	5.00	3143	7.23
65	4378	5.18	3040	7.47
70	4221	5.38	2943	7.72
75	4071	5.58	2854	7.96
80	3927	5.78	2770	8.20
85	3790	5.99	2693	8.44
90	3659	6.20	2620	8.67
95	3536	6.42	2552	8.91
200	2081	10.93	1737	13.11

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 475 FEET			INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)		
30	6235*	5.80	4958	7.30		
30	5628**	4.49	3979	6.36		
35	5442	4.65	3823	6.62		
40	5259	4.81	3679	6.88		
45	5081	4.98	3545	7.14		
50	4907	5.15	3420	7.40		
55	4738	5.34	3305	7.66		
60	4575	5.53	3197	7.92		
65	4417	5.73	3098	8.17		
70	4265	5.93	3005	8.42		
75	4120	6.14	2918	8.68		
80	3981	6.35	2838	8.92		
85	3849	6.57	2762	9.17		
90	3723	6.80	2691	9.41		
95	3603	7.02	2625	9.65		
200	2168	11.69	1812	14.01		

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET			INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)		
30	6278*	6.38	5010	8.00		
30	5628**	4.98	3994	7.02		
35	5447	5.14	3846	7.29		
40	5270	5.32	3709	7.56		
45	5097	5.50	3582	7.83		
50	4928	5.69	3463	8.10		
55	4765	5.88	3353	8.36		
60	4607	6.08	3250	8.63		
65	4454	6.29	3154	8.89		
70	4308	6.51	3065	9.15		
75	4168	6.73	2981	9.41		
80	4033	6.95	2903	9.67		
85	3905	7.18	2829	9.92		
90	3784	7.41	2760	10.17		
95	3668	7.64	2695	10.41		
200	2252	12.47	1884	14.93		

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6319*	6.99	5062	8.73	
30	5628**	5.49	4011	7.71	
35	5452	5.67	3871	7.99	
40	5280	5.85	3741	8.26	
45	5112	6.04	3619	8.54	
50	4949	6.24	3506	8.82	
55	4791	6.45	3400	9.09	
60	4638	6.66	3302	9.37	
65	4491	6.88	3209	9.64	
70	4349	7.11	3123	9.91	
75	4214	7.33	3042	10.17	
80	4084	7.57	2965	10.43	
85	3960	7.81	2894	10.69	
90	3842	8.05	2826	10.95	
95	3730	8.29	2763	11.20	
200	2334	13.27	1955	15.87	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6361*	7.63	5115	9.49	
30	5628**	6.02	4029	8.42	
35	5457	6.21	3896	8.71	
40	5290	6.41	3772	9.00	
45	5127	6.61	3656	9.28	
50	4969	6.82	3548	9.57	
55	4816	7.04	3447	9.85	
60	4668	7.26	3352	10.13	
65	4526	7.49	3263	10.41	
70	4389	7.73	3179	10.68	
75	4258	7.97	3100	10.95	
80	4133	8.21	3026	11.22	
85	4013	8.45	2956	11.49	
90	3898	8.70	2891	11.75	
95	3790	8.95	2828	12.01	
200	2414	14.09	2024	16.82	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 575 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6401*	8.28	5167	10.27
30	5628**	6.59	4049	9.16
35	5462	6.79	3922	9.46
40	5300	6.99	3804	9.75
45	5142	7.21	3693	10.04
50	4989	7.43	3589	10.34
55	4841	7.66	3492	10.62
60	4698	7.89	3400	10.91
65	4560	8.13	3314	11.20
70	4428	8.37	3233	11.48
75	4301	8.62	3157	11.76
80	4180	8.87	3085	12.03
85	4064	9.13	3017	12.31
90	3953	9.38	2953	12.58
95	3847	9.64	2892	12.84
200	2491	14.92	2092	17.79

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6441*	8.96	5218	11.07
30	5628**	7.17	4070	9.92
35	5466	7.38	3949	10.23
40	5309	7.60	3836	10.53
45	5156	7.83	3730	10.83
50	5008	8.06	3630	11.13
55	4865	8.30	3536	11.43
60	4727	8.54	3448	11.72
65	4593	8.79	3365	12.01
70	4465	9.04	3286	12.30
75	4343	9.30	3212	12.58
80	4225	9.56	3142	12.87
85	4112	9.82	3076	13.14
90	4005	10.08	3013	13.42
95	3902	10.35	2953	13.69
200	2566	15.77	2158	18.78

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 625 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6480*	9.67	5269	11.90	
30	5628**	7.78	4091	10.71	
35	5471	8.00	3976	11.02	
40	5319	8.23	3868	11.33	
45	5171	8.47	3766	11.64	
50	5027	8.71	3670	11.95	
55	4888	8.96	3580	12.25	
60	4754	9.21	3494	12.55	
65	4626	9.47	3414	12.85	
70	4502	9.73	3338	13.14	
75	4383	10.00	3265	13.43	
80	4269	10.27	3197	13.72	
85	4159	10.54	3132	14.01	
90	4055	10.81	3071	14.29	
95	3955	11.08	3012	14.57	
200	2639	16.64	2223	19.79	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	6518*	10.40	5320	12.75	
30	5628**	8.42	4114	11.52	
35	5476	8.65	4004	11.84	
40	5328	8.89	3900	12.16	
45	5184	9.14	3802	12.47	
50	5045	9.39	3709	12.78	
55	4911	9.65	3622	13.09	
60	4781	9.91	3540	13.40	
65	4657	10.18	3461	13.70	
70	4536	10.45	3387	14.01	
75	4421	10.72	3317	14.30	
80	4311	11.00	3251	14.60	
85	4205	11.27	3187	14.89	
90	4103	11.55	3127	15.18	
95	4006	11.83	3070	15.46	
200	2710	17.53	2286	20.82	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 675 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6555*	11.15	5370	13.62
30	5628**	9.08	4137	12.36
35	5480	9.32	4031	12.69
40	5337	9.57	3931	13.01
45	5198	9.83	3837	13.33
50	5063	10.09	3748	13.65
55	4933	10.36	3663	13.96
60	4807	10.63	3584	14.28
65	4686	10.91	3508	14.59
70	4570	11.18	3436	14.89
75	4458	11.46	3368	15.20
80	4351	11.75	3303	15.50
85	4248	12.03	3241	15.79
90	4150	12.32	3182	16.09
95	4055	12.61	3125	16.38
200	2778	18.44	2347	21.86

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6591*	11.93	5419	14.52
30	5628**	9.76	4160	13.22
35	5485	10.02	4058	13.55
40	5346	10.28	3962	13.88
45	5211	10.55	3871	14.21
50	5080	10.82	3785	14.53
55	4954	11.09	3704	14.85
60	4833	11.37	3626	15.17
65	4715	11.66	3553	15.49
70	4603	11.94	3483	15.80
75	4494	12.23	3416	16.11
80	4390	12.52	3353	16.42
85	4290	12.82	3292	16.72
90	4194	13.11	3235	17.02
95	4102	13.41	3179	17.32
200	2845	19.37	2408	22.93

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 725 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6627*	12.72	5467	15.44
30	5628**	10.47	4183	14.10
35	5489	10.74	4085	14.44
40	5354	11.01	3993	14.78
45	5223	11.29	3905	15.11
50	5097	11.57	3822	15.44
55	4975	11.85	3743	15.77
60	4857	12.14	3668	16.09
65	4743	12.43	3597	16.41
70	4634	12.73	3529	16.73
75	4529	13.02	3464	17.05
80	4428	13.32	3402	17.36
85	4330	13.62	3343	17.67
90	4237	13.92	3286	17.98
95	4148	14.22	3232	18.28
200	2910	20.31	2467	24.01

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6662*	13.55	5515	16.38
30	5628**	11.21	4206	15.01
35	5493	11.48	4112	15.36
40	5362	11.77	4023	15.70
45	5236	12.05	3939	16.04
50	5113	12.34	3858	16.37
55	4995	12.63	3782	16.70
60	4880	12.93	3709	17.03
65	4770	13.23	3639	17.36
70	4664	13.53	3573	17.69
75	4562	13.84	3510	18.01
80	4464	14.14	3449	18.32
85	4369	14.45	3391	18.64
90	4279	14.76	3336	18.95
95	4191	15.06	3283	19.26
200	2974	21.28	2524	25.11

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 775 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6687	14.41	5557*	17.36
30	5618	11.99	4225**	15.96
35	5488	12.28	4135	16.31
40	5361	12.57	4049	16.66
45	5239	12.86	3968	17.00
50	5120	13.16	3890	17.34
55	5006	13.46	3816	17.68
60	4895	13.77	3745	18.02
65	4789	14.07	3678	18.35
70	4686	14.38	3613	18.68
75	4587	14.69	3552	19.00
80	4492	15.01	3493	19.33
85	4400	15.32	3436	19.65
90	4312	15.64	3382	19.96
95	4228	15.95	3330	20.28
200	3032	22.28	2579	26.24

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6678	15.38	5577*	18.43
30	5570	12.89	4225**	17.01
35	5446	13.18	4139	17.36
40	5324	13.48	4057	17.71
45	5207	13.79	3979	18.06
50	5094	14.10	3905	18.41
55	4984	14.41	3834	18.75
60	4878	14.72	3766	19.09
65	4776	15.04	3701	19.43
70	4678	15.36	3639	19.76
75	4583	15.67	3580	20.09
80	4492	15.99	3523	20.42
85	4404	16.31	3468	20.75
90	4319	16.64	3415	21.07
95	4238	16.96	3365	21.39
200	3078	23.40	2628	27.45

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 825 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6668	16.38	5597*	19.54
30	5523	13.82	4225**	18.09
35	5404	14.13	4143	18.45
40	5288	14.44	4065	18.81
45	5175	14.76	3991	19.16
50	5067	15.07	3919	19.51
55	4962	15.39	3851	19.86
60	4861	15.72	3786	20.20
65	4763	16.04	3724	20.54
70	4669	16.36	3664	20.88
75	4578	16.69	3606	21.21
80	4491	17.02	3551	21.55
85	4406	17.34	3498	21.88
90	4325	17.67	3447	22.20
95	4247	18.00	3398	22.52
200	3121	24.54	2675	28.69

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6657	17.42	5615*	20.67
30	5477	14.80	4225**	19.21
35	5362	15.12	4147	19.57
40	5251	15.44	4072	19.93
45	5144	15.76	4001	20.29
50	5040	16.09	3933	20.64
55	4940	16.42	3867	20.99
60	4843	16.75	3805	21.34
65	4749	17.08	3745	21.69
70	4659	17.41	3687	22.03
75	4572	17.74	3631	22.37
80	4489	18.07	3578	22.70
85	4408	18.41	3527	23.04
90	4330	18.74	3477	23.37
95	4255	19.07	3430	23.69
200	3163	25.71	2720	29.95

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 875 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6645	18.50	5632*	21.84
30	5431	15.82	4225**	20.36
35	5322	16.14	4151	20.72
40	5216	16.47	4079	21.09
45	5113	16.81	4011	21.45
50	5014	17.14	3946	21.81
55	4918	17.48	3883	22.16
60	4825	17.81	3822	22.52
65	4736	18.15	3765	22.86
70	4649	18.49	3709	23.21
75	4566	18.83	3655	23.55
80	4486	19.17	3604	23.89
85	4408	19.51	3554	24.23
90	4334	19.84	3506	24.56
95	4262	20.18	3460	24.89
200	3202	26.92	2764	31.24

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6633	19.61	5649*	23.05
30	5387	16.87	4225**	21.54
35	5282	17.21	4154	21.91
40	5181	17.55	4086	22.28
45	5083	17.89	4020	22.64
50	4988	18.23	3957	23.01
55	4896	18.57	3897	23.37
60	4807	18.92	3839	23.72
65	4722	19.26	3783	24.07
70	4639	19.61	3730	24.42
75	4560	19.95	3678	24.77
80	4483	20.30	3628	25.11
85	4408	20.64	3580	25.45
90	4336	20.98	3533	25.79
95	4267	21.33	3488	26.13
200	3239	28.15	2806	32.56

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 925 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6621	20.75	5664*	24.28
30	5344	17.97	4225**	22.76
35	5243	18.32	4157	23.13
40	5147	18.66	4092	23.50
45	5053	19.01	4029	23.87
50	4962	19.36	3969	24.24
55	4875	19.71	3911	24.60
60	4790	20.06	3855	24.96
65	4708	20.41	3801	25.32
70	4629	20.76	3749	25.67
75	4553	21.11	3699	26.02
80	4479	21.46	3651	26.37
85	4408	21.81	3604	26.71
90	4339	22.16	3559	27.05
95	4272	22.51	3516	27.39
200	3275	29.42	2847	33.91

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6608	21.94	5679*	25.55
30	5302	19.11	4225**	24.01
35	5206	19.46	4160	24.39
40	5114	19.81	4097	24.76
45	5024	20.17	4037	25.13
50	4938	20.52	3979	25.50
55	4854	20.88	3924	25.87
60	4773	21.24	3870	26.23
65	4694	21.59	3818	26.59
70	4619	21.95	3768	26.95
75	4546	22.31	3719	27.30
80	4475	22.66	3673	27.65
85	4406	23.01	3627	28.00
90	4340	23.37	3584	28.34
95	4276	23.72	3541	28.68
200	3309	30.72	2886	35.29

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 954 AAC (GOLDENROD) RATED STRENGTH: 16,900 LBS.

ALLOWABLE AMPACITY: 983A (NOMINAL)

RULING SPAN – 975 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6595	23.16	5693*	26.85
30	5261	20.29	4225**	25.29
35	5170	20.65	4163	25.67
40	5082	21.01	4103	26.05
45	4996	21.37	4045	26.43
50	4913	21.73	3989	26.80
55	4833	22.09	3936	27.17
60	4756	22.45	3884	27.53
65	4681	22.81	3834	27.90
70	4608	23.18	3785	28.26
75	4538	23.54	3739	28.61
80	4470	23.90	3693	28.97
85	4405	24.25	3649	29.32
90	4341	24.61	3607	29.67
95	4279	24.97	3566	30.01
200	3342	32.05	2924	36.69

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	6582	24.41	5706	28.19
30	5222	21.50	4225*	26.61
35	5135	21.87	4165	27.00
40	5051	22.24	4108	27.38
45	4969	22.60	4052	27.75
50	4890	22.97	3999	28.13
55	4813	23.34	3947	28.50
60	4739	23.71	3897	28.87
65	4668	24.07	3849	29.24
70	4598	24.44	3802	29.60
75	4531	24.80	3757	29.96
80	4466	25.17	3713	30.32
85	4403	25.53	3670	30.67
90	4341	25.89	3629	31.02
95	4282	26.25	3589	31.37
200	3372	33.41	2961	38.13

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 225 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	17812	0.85	13853*	1.10	
30	17719	0.73	13625**	0.95	
35	17271	0.75	12920	1.00	
40	16818	0.77	12227	1.06	
45	16359	0.79	11547	1.12	
50	15896	0.81	10885	1.19	
55	15426	0.84	10242	1.26	
60	14952	0.87	9621	1.34	
65	14474	0.89	9026	1.43	
70	13990	0.92	8460	1.53	
75	13503	0.96	7926	1.63	
80	13013	0.99	7426	1.74	
85	12520	1.03	6962	1.86	
90	12025	1.08	6534	1.98	
95	11530	1.12	6143	2.11	
200	4028	3.21	3739	3.46	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	17900	1.05	13899*	1.35	
30	17787	0.90	13625**	1.17	
35	17343	0.92	12935	1.23	
40	16894	0.95	12260	1.30	
45	16439	0.97	11600	1.38	
50	15980	1.00	10958	1.46	
55	15516	1.03	10338	1.54	
60	15048	1.06	9741	1.64	
65	14575	1.10	9171	1.74	
70	14099	1.13	8631	1.85	
75	13620	1.17	8121	1.97	
80	13138	1.22	7645	2.09	
85	12654	1.26	7203	2.22	
90	12169	1.31	6795	2.35	
95	11684	1.37	6421	2.49	
200	4373	3.66	3980	4.02	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 275 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	17985	1.26	13948*	1.63
30	17851	1.08	13625**	1.42
35	17411	1.11	12952	1.49
40	16966	1.14	12294	1.57
45	16516	1.17	11654	1.66
50	16062	1.20	11034	1.75
55	15603	1.24	10436	1.85
60	15141	1.28	9862	1.96
65	14674	1.32	9316	2.07
70	14205	1.36	8799	2.20
75	13734	1.41	8313	2.33
80	13260	1.46	7858	2.46
85	12785	1.51	7436	2.60
90	12311	1.57	7045	2.74
95	11837	1.63	6686	2.89
200	4704	4.11	4212	4.59

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18067	1.49	13997*	1.93
30	17910	1.28	13625**	1.69
35	17474	1.32	12969	1.77
40	17033	1.35	12330	1.87
45	16588	1.39	11710	1.96
50	16139	1.43	11110	2.07
55	15686	1.47	10534	2.18
60	15229	1.51	9983	2.30
65	14770	1.56	9460	2.43
70	14308	1.61	8964	2.57
75	13844	1.66	8499	2.71
80	13379	1.72	8064	2.85
85	12913	1.78	7660	3.00
90	12449	1.85	7285	3.16
95	11986	1.92	6939	3.32
200	5023	4.58	4435	5.19

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 325 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18145	1.75	14049*	2.26	
30	17963	1.50	13625**	1.98	
35	17531	1.54	12987	2.08	
40	17095	1.58	12367	2.18	
45	16654	1.62	11766	2.29	
50	16210	1.67	11188	2.41	
55	15763	1.71	10633	2.54	
60	15313	1.76	10103	2.67	
65	14860	1.82	9601	2.81	
70	14405	1.87	9126	2.96	
75	13949	1.94	8680	3.11	
80	13493	2.00	8263	3.27	
85	13037	2.07	7874	3.43	
90	12582	2.15	7514	3.59	
95	12129	2.23	7180	3.76	
200	5328	5.07	4650	5.81	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18217	2.02	14101*	2.61	
30	18010	1.74	13625**	2.30	
35	17582	1.78	13005	2.41	
40	17150	1.83	12403	2.52	
45	16715	1.87	11823	2.65	
50	16276	1.92	11264	2.78	
55	15834	1.98	10730	2.92	
60	15390	2.03	10221	3.06	
65	14945	2.09	9738	3.22	
70	14497	2.16	9283	3.37	
75	14049	2.23	8855	3.54	
80	13601	2.30	8454	3.70	
85	13154	2.38	8080	3.88	
90	12709	2.46	7733	4.05	
95	12267	2.55	7410	4.23	
200	5622	5.57	4857	6.46	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 375 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18283	2.31	14153*	2.98
30	18050	1.99	13625**	2.64
35	17626	2.04	13023	2.76
40	17199	2.09	12441	2.89
45	16768	2.14	11879	3.03
50	16335	2.20	11341	3.17
55	15900	2.26	10826	3.32
60	15462	2.32	10337	3.48
65	15023	2.39	9873	3.64
70	14583	2.46	9435	3.81
75	14143	2.54	9024	3.98
80	13704	2.62	8638	4.16
85	13266	2.71	8278	4.34
90	12831	2.80	7942	4.53
95	12399	2.90	7629	4.71
200	5905	6.09	5057	7.12

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18344	2.62	14205*	3.38
30	18083	2.26	13625**	3.00
35	17663	2.31	13041	3.14
40	17241	2.37	12478	3.28
45	16816	2.43	11935	3.43
50	16388	2.50	11416	3.58
55	15958	2.56	10921	3.75
60	15527	2.63	10450	3.91
65	15095	2.71	10003	4.09
70	14663	2.79	9583	4.27
75	14231	2.87	9187	4.45
80	13800	2.96	8815	4.64
85	13372	3.06	8467	4.83
90	12946	3.16	8142	5.02
95	12524	3.27	7839	5.22
200	6176	6.63	5251	7.80

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 425 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18399	2.95	14258*	3.80
30	18108	2.55	13625**	3.39
35	17693	2.61	13059	3.54
40	17276	2.67	12514	3.69
45	16856	2.74	11991	3.85
50	16434	2.81	11490	4.02
55	16010	2.88	11013	4.19
60	15586	2.96	10559	4.37
65	15161	3.04	10130	4.56
70	14736	3.13	9725	4.75
75	14312	3.23	9343	4.94
80	13890	3.32	8985	5.14
85	13470	3.43	8649	5.34
90	13054	3.54	8334	5.54
95	12642	3.65	8040	5.75
200	6436	7.18	5438	8.50

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 450 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18448	3.29	14309*	4.25
30	18127	2.85	13625**	3.80
35	17716	2.92	13077	3.96
40	17304	2.99	12551	4.12
45	16889	3.06	12045	4.30
50	16473	3.14	11562	4.48
55	16056	3.22	11103	4.66
60	15638	3.31	10666	4.85
65	15220	3.40	10252	5.05
70	14803	3.50	9862	5.25
75	14387	3.60	9494	5.45
80	13973	3.70	9148	5.66
85	13562	3.82	8823	5.87
90	13156	3.93	8518	6.08
95	12754	4.06	8232	6.29
200	6686	7.75	5620	9.23

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 475 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18490	3.66	14360*	4.72
30	18138	3.18	13625**	4.23
35	17732	3.25	13095	4.40
40	17325	3.33	12586	4.58
45	16916	3.41	12099	4.77
50	16505	3.49	11633	4.96
55	16094	3.58	11190	5.15
60	15683	3.68	10769	5.36
65	15272	3.78	10370	5.56
70	14863	3.88	9994	5.77
75	14455	3.99	9639	5.99
80	14050	4.10	9304	6.20
85	13648	4.23	8990	6.42
90	13250	4.35	8694	6.64
95	12858	4.49	8416	6.86
200	6926	8.34	5795	9.97

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18527	4.05	14411*	5.21
30	18142	3.52	13625**	4.69
35	17742	3.60	13113	4.87
40	17339	3.68	12621	5.06
45	16936	3.77	12151	5.26
50	16531	3.87	11702	5.46
55	16126	3.96	11274	5.67
60	15722	4.06	10869	5.88
65	15319	4.17	10484	6.10
70	14917	4.28	10121	6.32
75	14517	4.40	9778	6.54
80	14120	4.53	9454	6.76
85	13727	4.66	9149	6.99
90	13338	4.79	8862	7.22
95	12955	4.93	8592	7.44
200	7156	8.94	5966	10.73

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18557	4.46	14460*	5.72	
30	18140	3.88	13625**	5.17	
35	17744	3.97	13130	5.37	
40	17347	4.06	12655	5.57	
45	16949	4.16	12201	5.78	
50	16551	4.26	11768	5.99	
55	16152	4.36	11356	6.21	
60	15755	4.47	10965	6.43	
65	15358	4.59	10594	6.65	
70	14964	4.71	10243	6.88	
75	14572	4.83	9911	7.11	
80	14184	4.97	9598	7.34	
85	13800	5.11	9303	7.58	
90	13420	5.25	9024	7.81	
95	13046	5.40	8761	8.05	
200	7376	9.56	6131	11.52	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18582	4.88	14508*	6.26	
30	18131	4.26	13625**	5.68	
35	17740	4.36	13147	5.88	
40	17348	4.46	12688	6.10	
45	16956	4.56	12250	6.31	
50	16564	4.67	11833	6.54	
55	16172	4.78	11435	6.76	
60	15781	4.90	11058	7.00	
65	15392	5.02	10700	7.23	
70	15006	5.15	10360	7.47	
75	14622	5.29	10039	7.71	
80	14242	5.43	9736	7.95	
85	13866	5.58	9449	8.19	
90	13496	5.73	9179	8.43	
95	13131	5.89	8923	8.67	
200	7588	10.20	6291	12.32	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 575 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18602	5.33	14556*	6.82
30	18115	4.66	13625**	6.20
35	17730	4.77	13163	6.42
40	17343	4.87	12721	6.65
45	16957	4.98	12298	6.87
50	16571	5.10	11895	7.11
55	16186	5.22	11512	7.34
60	15802	5.35	11147	7.59
65	15421	5.48	10801	7.83
70	15042	5.62	10473	8.07
75	14666	5.76	10163	8.32
80	14294	5.91	9868	8.57
85	13927	6.07	9590	8.82
90	13565	6.23	9327	9.07
95	13209	6.40	9078	9.32
200	7792	10.86	6447	13.14

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18616	5.80	14601*	7.40
30	18094	5.09	13625**	6.76
35	17713	5.19	13179	6.98
40	17333	5.31	12752	7.22
45	16952	5.43	12344	7.46
50	16573	5.55	11955	7.70
55	16194	5.68	11585	7.95
60	15818	5.82	11233	8.20
65	15443	5.96	10899	8.45
70	15072	6.11	10581	8.70
75	14704	6.26	10281	8.96
80	14341	6.42	9995	9.21
85	13982	6.58	9725	9.47
90	13629	6.75	9469	9.73
95	13282	6.93	9227	9.98
200	7987	11.54	6598	13.98

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 625 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18625	6.29	14646*	8.01	
30	18066	5.53	13625**	7.33	
35	17691	5.64	13194	7.57	
40	17316	5.77	12782	7.81	
45	16942	5.89	12389	8.06	
50	16569	6.03	12013	8.32	
55	16197	6.16	11656	8.57	
60	15828	6.31	11316	8.83	
65	15461	6.46	10992	9.09	
70	15097	6.61	10685	9.35	
75	14738	6.78	10394	9.61	
80	14382	6.94	10117	9.88	
85	14032	7.12	9855	10.14	
90	13687	7.30	9606	10.41	
95	13349	7.48	9369	10.67	
200	8174	12.24	6745	14.84	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18630	6.81	14689*	8.64	
30	18034	5.99	13625**	7.93	
35	17664	6.11	13209	8.18	
40	17295	6.24	12812	8.43	
45	16927	6.38	12432	8.69	
50	16560	6.52	12069	8.95	
55	16196	6.67	11724	9.22	
60	15833	6.82	11395	9.48	
65	15474	6.98	11083	9.75	
70	15118	7.15	10785	10.02	
75	14766	7.32	10503	10.29	
80	14419	7.49	10234	10.56	
85	14077	7.67	9979	10.83	
90	13741	7.86	9737	11.10	
95	13411	8.06	9506	11.37	
200	8353	12.95	6888	15.72	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 675 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18630	7.34	14731*	9.29
30	17996	6.47	13625**	8.55
35	17632	6.61	13224	8.81
40	17269	6.74	12840	9.08
45	16907	6.89	12473	9.34
50	16547	7.04	12123	9.61
55	16189	7.20	11789	9.89
60	15834	7.36	11472	10.16
65	15482	7.52	11169	10.44
70	15134	7.70	10881	10.71
75	14790	7.88	10607	10.99
80	14451	8.06	10346	11.27
85	14117	8.25	10098	11.55
90	13789	8.45	9862	11.82
95	13467	8.65	9638	12.10
200	8526	13.68	7027	16.62

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18626	7.90	14772*	9.96
30	17954	6.98	13625**	9.20
35	17595	7.12	13238	9.47
40	17238	7.27	12867	9.74
45	16883	7.42	12513	10.02
50	16530	7.58	12175	10.29
55	16179	7.74	11852	10.58
60	15831	7.91	11545	10.86
65	15486	8.09	11252	11.14
70	15146	8.27	10973	11.43
75	14809	8.46	10707	11.71
80	14478	8.65	10454	11.99
85	14153	8.85	10213	12.28
90	13833	9.06	9983	12.56
95	13519	9.27	9764	12.85
200	8691	14.44	7162	17.54

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 725 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18618	8.47	14811*	10.66
30	17907	7.50	13625**	9.87
35	17555	7.65	13251	10.15
40	17204	7.81	12893	10.43
45	16855	7.97	12551	10.71
50	16508	8.14	12225	11.00
55	16164	8.31	11913	11.29
60	15823	8.49	11615	11.58
65	15486	8.68	11332	11.87
70	15153	8.87	11061	12.16
75	14825	9.07	10803	12.45
80	14502	9.27	10557	12.74
85	14184	9.48	10322	13.03
90	13872	9.69	10099	13.32
95	13567	9.91	9885	13.61
200	8850	15.21	7293	18.48

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18606	9.08	14849*	11.38
30	17856	8.05	13625**	10.56
35	17510	8.21	13264	10.85
40	17165	8.38	12919	11.14
45	16823	8.55	12588	11.43
50	16483	8.73	12273	11.73
55	16146	8.91	11971	12.02
60	15812	9.10	11683	12.32
65	15483	9.29	11408	12.62
70	15157	9.49	11146	12.91
75	14837	9.70	10895	13.21
80	14522	9.91	10656	13.51
85	14212	10.12	10428	13.81
90	13908	10.34	10210	14.10
95	13610	10.57	10001	14.40
200	9003	16.00	7421	19.44

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 775 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18591	9.70	14886*	12.12
30	17802	8.63	13625**	11.28
35	17461	8.79	13277	11.57
40	17123	8.97	12943	11.87
45	16787	9.15	12624	12.17
50	16454	9.33	12319	12.47
55	16124	9.52	12027	12.78
60	15798	9.72	11748	13.08
65	15476	9.92	11481	13.39
70	15158	10.13	11227	13.69
75	14845	10.35	10984	14.00
80	14538	10.57	10751	14.30
85	14236	10.79	10529	14.60
90	13940	11.02	10317	14.90
95	13650	11.26	10113	15.21
200	9149	16.82	7546	20.41

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18573	10.35	14921*	12.88
30	17744	9.22	13625**	12.02
35	17410	9.40	13289	12.32
40	17078	9.58	12966	12.63
45	16749	9.77	12658	12.94
50	16423	9.97	12363	13.25
55	16100	10.17	12080	13.56
60	15781	10.37	11810	13.87
65	15466	10.58	11552	14.18
70	15156	10.80	11305	14.49
75	14851	11.02	11069	14.80
80	14551	11.25	10842	15.11
85	14256	11.48	10626	15.42
90	13968	11.72	10419	15.73
95	13685	11.96	10221	16.03
200	9290	17.65	7667	21.41

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

**CONDUCTOR SAG & TENSION DATA**

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 825 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18552	11.01	14956*	13.67	
30	17683	9.84	13625**	12.78	
35	17356	10.03	13300	13.09	
40	17030	10.22	12989	13.41	
45	16708	10.42	12691	13.72	
50	16389	10.62	12405	14.04	
55	16073	10.83	12132	14.36	
60	15761	11.04	11870	14.68	
65	15454	11.26	11619	14.99	
70	15151	11.49	11380	15.31	
75	14853	11.72	11150	15.63	
80	14561	11.96	10930	15.94	
85	14274	12.20	10720	16.26	
90	13993	12.44	10518	16.57	
95	13718	12.69	10324	16.88	
200	9425	18.50	7785	22.43	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	18529	11.71	14988*	14.48	
30	17620	10.49	13625**	13.57	
35	17299	10.68	13311	13.89	
40	16980	10.88	13010	14.21	
45	16664	11.09	12722	14.53	
50	16352	11.30	12446	14.86	
55	16043	11.52	12181	15.18	
60	15739	11.74	11927	15.50	
65	15439	11.97	11684	15.83	
70	15144	12.20	11452	16.15	
75	14853	12.44	11228	16.47	
80	14568	12.69	11014	16.79	
85	14289	12.94	10809	17.11	
90	14015	13.19	10612	17.43	
95	13747	13.45	10424	17.75	
200	9554	19.37	7900	23.46	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind &amp; 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind &amp; 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 875 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18503	12.42	15020*	15.31
30	17555	11.15	13625**	14.38
35	17240	11.36	13322	14.71
40	16928	11.57	13031	15.04
45	16619	11.78	12752	15.37
50	16313	12.00	12485	15.70
55	16012	12.23	12228	16.03
60	15715	12.46	11982	16.36
65	15422	12.70	11747	16.69
70	15134	12.94	11520	17.01
75	14851	13.19	11304	17.34
80	14573	13.44	11095	17.67
85	14301	13.70	10895	17.99
90	14034	13.96	10704	18.32
95	13774	14.22	10519	18.64
200	9679	20.27	8012	24.52

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18475	13.17	15051*	16.17
30	17487	11.85	13625**	15.21
35	17179	12.06	13332	15.55
40	16873	12.28	13051	15.88
45	16571	12.50	12781	16.22
50	16273	12.73	12522	16.56
55	15979	12.97	12274	16.89
60	15688	13.21	12035	17.23
65	15403	13.45	11806	17.56
70	15122	13.70	11587	17.90
75	14846	13.96	11376	18.23
80	14576	14.22	11173	18.56
85	14311	14.48	10978	18.90
90	14051	14.75	10791	19.22
95	13797	15.02	10611	19.55
200	9799	21.18	8122	25.59

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 925 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18445	13.93	15080*	17.05
30	17418	12.56	13625**	16.07
35	17116	12.79	13342	16.41
40	16818	13.01	13070	16.76
45	16522	13.25	12809	17.10
50	16231	13.48	12558	17.44
55	15944	13.73	12317	17.78
60	15661	13.98	12086	18.13
65	15382	14.23	11864	18.47
70	15108	14.49	11650	18.81
75	14840	14.75	11445	19.14
80	14576	15.02	11248	19.48
85	14318	15.29	11058	19.82
90	14066	15.57	10876	20.15
95	13819	15.84	10700	20.48
200	9914	22.12	8228	26.69

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18414	14.72	15109*	17.95
30	17348	13.31	13625**	16.95
35	17053	13.54	13351	17.30
40	16761	13.77	13088	17.65
45	16472	14.01	12836	18.00
50	16188	14.26	12593	18.35
55	15907	14.51	12359	18.70
60	15631	14.77	12135	19.04
65	15360	15.03	11919	19.39
70	15093	15.30	11711	19.73
75	14832	15.57	11512	20.08
80	14575	15.84	11320	20.42
85	14324	16.12	11135	20.76
90	14078	16.41	10957	21.10
95	13838	16.69	10785	21.44
200	10025	23.07	8332	27.80

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON) RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 975 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18381	15.53	15136*	18.88
30	17277	14.07	13625**	17.86
35	16988	14.31	13360	18.21
40	16703	14.56	13106	18.57
45	16421	14.81	12861	18.92
50	16143	15.06	12626	19.28
55	15870	15.32	12399	19.63
60	15601	15.59	12181	19.98
65	15336	15.86	11972	20.33
70	15077	16.13	11770	20.69
75	14822	16.41	11576	21.03
80	14572	16.69	11389	21.38
85	14328	16.98	11208	21.73
90	14088	17.27	11035	22.07
95	13854	17.56	10867	22.41
200	10131	24.05	8433	28.94

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	18347	16.37	15162*	19.82
30	17205	14.87	13625**	18.79
35	16922	15.12	13369	19.15
40	16644	15.37	13123	19.51
45	16369	15.63	12886	19.87
50	16098	15.89	12658	20.23
55	15832	16.16	12438	20.59
60	15569	16.43	12226	20.95
65	15312	16.71	12023	21.30
70	15059	16.99	11827	21.66
75	14811	17.28	11637	22.01
80	14568	17.57	11455	22.36
85	14330	17.86	11279	22.71
90	14097	18.16	11110	23.06
95	13869	18.46	10946	23.41
200	10234	25.05	8532	30.09

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.  
ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 225 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	13949	1.09	11222*	1.35	
30	13791	0.94	10900**	1.19	
35	13315	0.97	10256	1.26	
40	12837	1.01	9635	1.34	
45	12356	1.05	9040	1.43	
50	11873	1.09	8473	1.53	
55	11390	1.14	7938	1.63	
60	10907	1.19	7437	1.74	
65	10426	1.24	6972	1.86	
70	9948	1.30	6544	1.98	
75	9476	1.37	6152	2.10	
80	9011	1.44	5796	2.23	
85	8555	1.51	5474	2.36	
90	8112	1.59	5182	2.50	
95	7684	1.68	4920	2.63	
200	3330	3.89	3167	4.09	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14067	1.33	11279*	1.66	
30	13877	1.15	10900**	1.47	
35	13409	1.19	10282	1.55	
40	12939	1.23	9687	1.65	
45	12467	1.28	9120	1.75	
50	11994	1.33	8582	1.86	
55	11522	1.39	8076	1.98	
60	11051	1.45	7603	2.10	
65	10583	1.51	7164	2.23	
70	10119	1.58	6759	2.36	
75	9661	1.65	6388	2.50	
80	9212	1.73	6050	2.64	
85	8773	1.82	5741	2.78	
90	8347	1.91	5461	2.93	
95	7936	2.01	5207	3.07	
200	3564	4.49	3406	4.70	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 275 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14172	1.60	11338*	2.00
30	13950	1.39	10900**	1.77
35	13490	1.43	10307	1.88
40	13028	1.48	9740	1.98
45	12565	1.54	9200	2.10
50	12102	1.60	8689	2.22
55	11641	1.66	8210	2.35
60	11182	1.73	7762	2.49
65	10726	1.80	7347	2.63
70	10276	1.88	6964	2.78
75	9833	1.97	6611	2.92
80	9400	2.06	6288	3.07
85	8976	2.15	5992	3.23
90	8566	2.26	5722	3.38
95	8170	2.37	5476	3.53
200	3787	5.11	3634	5.33

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14266	1.89	11396*	2.37
30	14008	1.64	10900**	2.11
35	13556	1.70	10333	2.23
40	13103	1.76	9791	2.35
45	12649	1.82	9278	2.48
50	12197	1.89	8793	2.62
55	11746	1.96	8339	2.76
60	11299	2.04	7915	2.91
65	10857	2.12	7521	3.06
70	10420	2.21	7157	3.22
75	9991	2.30	6821	3.37
80	9572	2.40	6512	3.53
85	9164	2.51	6228	3.70
90	8769	2.62	5967	3.86
95	8388	2.74	5728	4.02
200	4000	5.76	3852	5.98

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.  
ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 325 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14347	2.21	11454*	2.77	
30	14053	1.92	10900**	2.48	
35	13609	1.98	10358	2.61	
40	13164	2.05	9842	2.74	
45	12720	2.12	9354	2.89	
50	12278	2.20	8894	3.04	
55	11839	2.28	8463	3.19	
60	11404	2.37	8060	3.35	
65	10974	2.46	7686	3.51	
70	10551	2.56	7339	3.68	
75	10136	2.66	7018	3.85	
80	9731	2.77	6722	4.02	
85	9337	2.89	6449	4.19	
90	8956	3.01	6197	4.36	
95	8589	3.14	5965	4.53	
200	4264	6.34	4061	6.66	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14416	2.55	11511*	3.19	
30	14084	2.22	10900**	2.87	
35	13648	2.29	10383	3.02	
40	13213	2.37	9891	3.17	
45	12779	2.45	9427	3.32	
50	12347	2.54	8990	3.48	
55	11919	2.63	8581	3.65	
60	11496	2.72	8198	3.82	
65	11078	2.83	7842	3.99	
70	10668	2.93	7511	4.17	
75	10267	3.05	7205	4.35	
80	9875	3.17	6920	4.53	
85	9495	3.30	6657	4.71	
90	9128	3.43	6414	4.88	
95	8774	3.57	6188	5.06	
200	4522	6.94	4261	7.36	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 375 FEET			INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)		
30	14474	2.92	11566*	3.65		
30	14103	2.55	10900**	3.30		
35	13675	2.63	10407	3.45		
40	13249	2.71	9939	3.62		
45	12825	2.80	9498	3.79		
50	12404	2.90	9082	3.96		
55	11987	3.00	8693	4.14		
60	11575	3.11	8329	4.32		
65	11170	3.22	7990	4.50		
70	10773	3.34	7674	4.69		
75	10385	3.46	7380	4.87		
80	10007	3.59	7107	5.06		
85	9640	3.73	6853	5.25		
90	9286	3.87	6618	5.44		
95	8945	4.02	6399	5.62		
200	4770	7.55	4453	8.09		

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET			INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)		
30	14521	3.31	11620*	4.13		
30	14109	2.90	10900**	3.75		
35	13690	2.99	10430	3.92		
40	13273	3.08	9985	4.10		
45	12859	3.18	9565	4.28		
50	12449	3.28	9170	4.46		
55	12043	3.40	8800	4.65		
60	11644	3.51	8453	4.84		
65	11251	3.64	8129	5.03		
70	10867	3.76	7827	5.23		
75	10491	3.90	7545	5.42		
80	10126	4.04	7283	5.62		
85	9772	4.19	7038	5.81		
90	9431	4.34	6810	6.01		
95	9102	4.49	6598	6.20		
200	5008	8.18	4638	8.84		

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

**CONDUCTOR SAG & TENSION DATA**

BARE ALUMINUM – 1590 ACSR (FALCON)  
 RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.  
 ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 425 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14557	3.72	11672*	4.64
30	14104	3.27	10900**	4.24
35	13694	3.37	10452	4.42
40	13287	3.47	10029	4.60
45	12883	3.58	9630	4.80
50	12484	3.70	9254	4.99
55	12090	3.82	8901	5.19
60	11702	3.95	8570	5.39
65	11321	4.08	8261	5.59
70	10949	4.22	7971	5.80
75	10587	4.36	7701	6.00
80	10234	4.51	7448	6.20
85	9893	4.67	7212	6.41
90	9563	4.83	6992	6.61
95	9246	4.99	6785	6.81
200	5236	8.83	4815	9.61

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 450 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14585	4.17	11722*	5.19
30	14089	3.67	10900**	4.75
35	13688	3.78	10474	4.94
40	13291	3.89	10071	5.14
45	12897	4.01	9691	5.34
50	12509	4.14	9333	5.55
55	12126	4.27	8997	5.76
60	11750	4.41	8681	5.97
65	11382	4.55	8385	6.18
70	11022	4.70	8108	6.39
75	10672	4.85	7848	6.60
80	10331	5.01	7605	6.81
85	10002	5.18	7377	7.02
90	9684	5.35	7163	7.23
95	9378	5.52	6963	7.44
200	5454	9.51	4986	10.41

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 475 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14604	4.64	11770*	5.75
30	14064	4.10	10900**	5.29
35	13673	4.22	10494	5.50
40	13285	4.34	10111	5.71
45	12902	4.47	9749	5.92
50	12525	4.60	9408	6.13
55	12153	4.75	9087	6.35
60	11789	4.89	8786	6.57
65	11433	5.05	8502	6.79
70	11085	5.20	8236	7.01
75	10747	5.37	7987	7.23
80	10419	5.54	7752	7.45
85	10101	5.71	7532	7.66
90	9795	5.89	7325	7.88
95	9500	6.07	7130	8.10
200	5662	10.21	5150	11.23

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14615	5.13	11816*	6.35
30	14031	4.55	10900**	5.86
35	13649	4.68	10514	6.08
40	13272	4.82	10149	6.30
45	12900	4.95	9804	6.52
50	12533	5.10	9479	6.75
55	12173	5.25	9173	6.97
60	11820	5.41	8884	7.20
65	11476	5.57	8613	7.42
70	11140	5.74	8358	7.65
75	10814	5.91	8118	7.88
80	10497	6.09	7892	8.11
85	10191	6.27	7679	8.33
90	9896	6.46	7478	8.55
95	9611	6.65	7289	8.78
200	5861	10.93	5308	12.07

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

RTS (Rated Tensile Strength): 20%

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14618	5.66	11859*	6.98	
30	13990	5.04	10900**	6.47	
35	13618	5.17	10533	6.69	
40	13251	5.32	10185	6.92	
45	12889	5.47	9856	7.15	
50	12534	5.62	9546	7.38	
55	12185	5.78	9254	7.62	
60	11844	5.95	8978	7.85	
65	11511	6.12	8718	8.09	
70	11187	6.30	8473	8.32	
75	10872	6.48	8241	8.56	
80	10567	6.67	8023	8.79	
85	10272	6.86	7818	9.02	
90	9987	7.06	7623	9.25	
95	9713	7.26	7440	9.48	
200	6052	11.67	5461	12.94	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14615	6.21	11901*	7.63	
30	13942	5.55	10900**	7.10	
35	13580	5.69	10550	7.33	
40	13224	5.85	10219	7.57	
45	12873	6.01	9906	7.81	
50	12529	6.17	9610	8.05	
55	12191	6.34	9330	8.29	
60	11862	6.52	9066	8.54	
65	11540	6.70	8816	8.78	
70	11227	6.89	8581	9.02	
75	10924	7.08	8358	9.26	
80	10630	7.28	8148	9.50	
85	10345	7.48	7949	9.74	
90	10071	7.68	7760	9.98	
95	9806	7.89	7582	10.21	
200	6234	12.43	5608	13.83	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 575 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14607	6.79	11941*	8.31
30	13889	6.09	10900**	7.76
35	13537	6.24	10567	8.00
40	13191	6.41	10251	8.25
45	12851	6.58	9952	8.50
50	12518	6.75	9670	8.75
55	12192	6.93	9402	9.00
60	11873	7.12	9149	9.25
65	11563	7.31	8910	9.50
70	11261	7.51	8683	9.74
75	10969	7.71	8469	9.99
80	10685	7.91	8265	10.24
85	10411	8.12	8073	10.48
90	10147	8.33	7890	10.73
95	9892	8.55	7717	10.97
200	6408	13.22	5750	14.74

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14593	7.41	11978*	9.03
30	13830	6.66	10900**	8.45
35	13489	6.82	10583	8.70
40	13154	7.00	10282	8.96
45	12824	7.18	9997	9.21
50	12502	7.36	9726	9.47
55	12187	7.55	9470	9.73
60	11880	7.75	9228	9.98
65	11580	7.95	8998	10.24
70	11290	8.16	8780	10.49
75	11008	8.36	8573	10.75
80	10735	8.58	8377	11.00
85	10471	8.79	8191	11.25
90	10216	9.01	8014	11.50
95	9970	9.24	7846	11.75
200	6574	14.03	5887	15.68

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.  
ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 625 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14575	8.05	12014*	9.77	
30	13767	7.25	10900**	9.17	
35	13437	7.43	10598	9.43	
40	13112	7.62	10311	9.69	
45	12794	7.81	10038	9.96	
50	12482	8.00	9780	10.22	
55	12178	8.20	9534	10.48	
60	11882	8.41	9302	10.75	
65	11593	8.62	9081	11.01	
70	11313	8.83	8871	11.27	
75	11042	9.05	8672	11.53	
80	10779	9.27	8482	11.79	
85	10524	9.50	8302	12.05	
90	10279	9.72	8131	12.30	
95	10042	9.95	7967	12.55	
200	6733	14.87	6019	16.64	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14553	8.72	12048*	10.53	
30	13701	7.88	10900**	9.92	
35	13381	8.07	10612	10.19	
40	13067	8.27	10338	10.46	
45	12759	8.47	10077	10.73	
50	12459	8.67	9830	11.00	
55	12165	8.88	9595	11.27	
60	11880	9.10	9372	11.54	
65	11602	9.31	9159	11.81	
70	11332	9.54	8957	12.07	
75	11070	9.76	8765	12.34	
80	10817	9.99	8582	12.60	
85	10572	10.22	8408	12.87	
90	10336	10.46	8242	13.13	
95	10107	10.70	8083	13.39	
200	6885	15.73	6147	17.63	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 675 FEET			INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)		
30	14528	9.42	12080*	11.33		
30	13633	8.55	10900**	10.69		
35	13323	8.75	10625	10.97		
40	13019	8.95	10363	11.25		
45	12722	9.16	10115	11.53		
50	12432	9.37	9878	11.80		
55	12150	9.59	9652	12.08		
60	11874	9.81	9438	12.36		
65	11607	10.04	9234	12.63		
70	11347	10.27	9039	12.90		
75	11095	10.51	8854	13.18		
80	10851	10.74	8677	13.44		
85	10615	10.98	8508	13.71		
90	10388	11.22	8347	13.98		
95	10168	11.47	8193	14.24		
200	7030	16.61	6270	18.64		

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET			INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)		
30	14500	10.15	12111*	12.16		
30	13562	9.24	10900**	11.50		
35	13263	9.45	10638	11.79		
40	12970	9.66	10388	12.07		
45	12683	9.88	10150	12.36		
50	12404	10.10	9923	12.64		
55	12131	10.33	9707	12.92		
60	11866	10.56	9501	13.20		
65	11608	10.80	9304	13.48		
70	11358	11.04	9117	13.76		
75	11116	11.28	8938	14.04		
80	10881	11.52	8767	14.31		
85	10654	11.77	8603	14.59		
90	10435	12.02	8447	14.86		
95	10223	12.27	8297	15.13		
200	7168	17.52	6390	19.68		

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.  
ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 725 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14470	10.91	12140*	13.01	
30	13490	9.97	10900**	12.34	
35	13201	10.18	10649	12.63	
40	12918	10.41	10411	12.92	
45	12642	10.64	10183	13.21	
50	12373	10.87	9965	13.50	
55	12110	11.10	9758	13.79	
60	11855	11.34	9560	14.08	
65	11607	11.59	9371	14.36	
70	11367	11.83	9190	14.65	
75	11134	12.08	9017	14.93	
80	10908	12.33	8852	15.21	
85	10689	12.58	8693	15.49	
90	10477	12.84	8542	15.76	
95	10273	13.10	8396	16.04	
200	7301	18.46	6505	20.73	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14438	11.70	12168*	13.89	
30	13417	10.72	10900**	13.21	
35	13138	10.95	10661	13.50	
40	12866	11.18	10432	13.80	
45	12600	11.42	10214	14.10	
50	12341	11.66	10005	14.39	
55	12088	11.91	9806	14.69	
60	11843	12.15	9616	14.98	
65	11604	12.40	9434	15.27	
70	11373	12.66	9259	15.56	
75	11148	12.91	9092	15.84	
80	10931	13.17	8932	16.13	
85	10720	13.43	8779	16.41	
90	10516	13.69	8632	16.69	
95	10319	13.95	8491	16.97	
200	7427	19.42	6617	21.82	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 775 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14404	12.52	12194*	14.80
30	13344	11.51	10900**	14.10
35	13075	11.75	10671	14.41
40	12813	11.99	10453	14.71
45	12557	12.24	10243	15.01
50	12307	12.49	10043	15.31
55	12064	12.74	9852	15.61
60	11828	12.99	9669	15.91
65	11599	13.25	9493	16.20
70	11376	13.51	9325	16.50
75	11160	13.77	9164	16.79
80	10951	14.04	9009	17.08
85	10748	14.30	8860	17.37
90	10551	14.57	8718	17.65
95	10361	14.84	8581	17.94
200	7548	20.41	6725	22.93

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET		INITIAL	FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14370	13.38	12218*	15.74
30	13271	12.34	10900**	15.03
35	13012	12.58	10681	15.34
40	12760	12.83	10472	15.65
45	12513	13.09	10271	15.95
50	12273	13.34	10079	16.26
55	12039	13.60	9895	16.56
60	11812	13.87	9719	16.86
65	11592	14.13	9550	17.17
70	11377	14.40	9387	17.46
75	11169	14.67	9231	17.76
80	10968	14.94	9082	18.05
85	10773	15.21	8938	18.35
90	10583	15.48	8799	18.64
95	10400	15.76	8666	18.92
200	7664	21.42	6829	24.06

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

RTS (Rated Tensile Strength): 20%

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 825 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14334	14.27	12242*	16.71	
30	13199	13.19	10900**	15.99	
35	12950	13.45	10691	16.30	
40	12706	13.71	10490	16.61	
45	12469	13.97	10298	16.93	
50	12238	14.23	10113	17.24	
55	12014	14.50	9936	17.54	
60	11795	14.77	9766	17.85	
65	11583	15.04	9603	18.16	
70	11377	15.31	9447	18.46	
75	11177	15.59	9296	18.76	
80	10983	15.86	9151	19.06	
85	10795	16.14	9011	19.35	
90	10613	16.42	8877	19.65	
95	10436	16.70	8748	19.94	
200	7775	22.46	6931	25.22	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	14298	15.18	12264*	17.71	
30	13127	14.08	10900**	16.97	
35	12887	14.35	10700	17.29	
40	12654	14.61	10507	17.61	
45	12426	14.88	10323	17.93	
50	12204	15.15	10145	18.24	
55	11988	15.43	9975	18.55	
60	11778	15.70	9811	18.86	
65	11573	15.98	9654	19.17	
70	11375	16.26	9503	19.48	
75	11183	16.54	9357	19.79	
80	10996	16.82	9217	20.09	
85	10815	17.11	9081	20.39	
90	10639	17.39	8951	20.69	
95	10469	17.67	8825	20.98	
200	7881	23.52	7029	26.40	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## Overhead Transmission Standards

### CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 875 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14261	16.13	12285*	18.74
30	13057	15.01	10900**	17.99
35	12826	15.28	10708	18.31
40	12601	15.55	10523	18.63
45	12382	15.83	10346	18.95
50	12169	16.10	10176	19.27
55	11961	16.39	10012	19.59
60	11759	16.67	9854	19.91
65	11563	16.95	9702	20.22
70	11372	17.24	9556	20.53
75	11187	17.52	9415	20.84
80	11007	17.81	9279	21.15
85	10832	18.10	9148	21.45
90	10663	18.39	9022	21.75
95	10499	18.68	8900	22.06
200	7982	24.61	7124	27.61

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14225	17.11	12305*	19.80
30	12988	15.96	10900**	19.03
35	12766	16.24	10716	19.36
40	12550	16.52	10539	19.69
45	12339	16.80	10369	20.01
50	12134	17.09	10205	20.34
55	11934	17.38	10047	20.66
60	11740	17.66	9895	20.98
65	11551	17.95	9748	21.29
70	11368	18.25	9607	21.61
75	11189	18.54	9470	21.92
80	11016	18.83	9339	22.23
85	10848	19.12	9212	22.54
90	10685	19.42	9089	22.85
95	10526	19.71	8970	23.15
200	8079	25.73	7215	28.84

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)

RATED STRENGTH: 54,500 LBS.

RTS (Rated Tensile Strength): 20%

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 925 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14188	18.13	12324*	20.88
30	12920	16.95	10900**	20.11
35	12707	17.24	10723	20.44
40	12499	17.52	10553	20.77
45	12297	17.81	10390	21.10
50	12100	18.10	10232	21.43
55	11908	18.40	10080	21.75
60	11721	18.69	9933	22.08
65	11539	18.99	9791	22.40
70	11363	19.28	9655	22.72
75	11191	19.58	9523	23.03
80	11024	19.88	9395	23.35
85	10862	20.18	9272	23.66
90	10705	20.48	9153	23.97
95	10552	20.77	9037	24.28
200	8172	26.87	7305	30.10

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14152	19.17	12342*	22.00
30	12854	17.97	10900**	21.21
35	12649	18.27	10731	21.55
40	12450	18.56	10567	21.88
45	12255	18.86	10410	22.22
50	12066	19.15	10258	22.55
55	11881	19.45	10111	22.88
60	11702	19.75	9970	23.20
65	11527	20.05	9833	23.53
70	11357	20.35	9701	23.85
75	11192	20.66	9573	24.17
80	11031	20.96	9449	24.49
85	10875	21.26	9330	24.81
90	10723	21.56	9214	25.12
95	10575	21.87	9102	25.43
200	8260	28.04	7391	31.38

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 1590 ACSR (FALCON)  
RTS (Rated Tensile Strength): 20%

RATED STRENGTH: 54,500 LBS.

ALLOWABLE AMPACITY: 1359A (NOMINAL)

RULING SPAN – 975 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14116	20.25	12359*	23.14
30	12790	19.03	10900**	22.35
35	12593	19.33	10737	22.69
40	12401	19.63	10580	23.02
45	12214	19.93	10429	23.36
50	12032	20.23	10282	23.70
55	11855	20.54	10141	24.03
60	11682	20.84	10004	24.36
65	11514	21.15	9872	24.69
70	11350	21.45	9744	25.01
75	11191	21.76	9620	25.34
80	11036	22.07	9501	25.66
85	10886	22.38	9385	25.98
90	10739	22.68	9272	26.30
95	10597	22.99	9163	26.61
200	8346	29.24	7475	32.69

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	14081	21.35	12376*	24.31
30	12728	20.12	10900**	23.51
35	12539	20.42	10744	23.85
40	12354	20.73	10593	24.20
45	12175	21.04	10447	24.54
50	12000	21.34	10306	24.87
55	11829	21.65	10169	25.21
60	11663	21.96	10037	25.54
65	11501	22.27	9909	25.88
70	11343	22.59	9786	26.21
75	11190	22.90	9666	26.53
80	11041	23.21	9550	26.86
85	10895	23.52	9437	27.18
90	10754	23.83	9328	27.50
95	10616	24.14	9222	27.82
200	8427	30.47	7556	34.02

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 225 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1642	1.41	1427*	1.63
30	1540	0.73	1285**	0.88
35	1495	0.75	1238	0.91
40	1450	0.78	1191	0.95
45	1405	0.80	1145	0.98
50	1360	0.83	1100	1.02
55	1316	0.86	1055	1.07
60	1272	0.89	1011	1.11
65	1228	0.92	968	1.16
70	1185	0.95	926	1.22
75	1143	0.99	885	1.27
80	1101	1.02	845	1.33
85	1059	1.06	806	1.40
90	1019	1.11	769	1.46
95	979	1.15	734	1.54
200	416	2.71	334	3.38

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 250 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1661	1.72	1452*	1.97
30	1539	0.90	1285**	1.08
35	1494	0.93	1239	1.12
40	1449	0.96	1193	1.17
45	1405	0.99	1148	1.21
50	1361	1.02	1104	1.26
55	1317	1.06	1060	1.31
60	1274	1.09	1018	1.37
65	1231	1.13	976	1.43
70	1189	1.17	935	1.49
75	1147	1.21	896	1.55
80	1106	1.26	858	1.62
85	1066	1.30	821	1.69
90	1026	1.36	785	1.77
95	988	1.41	751	1.85
200	445	3.13	362	3.85

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 275 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1680	2.06	1477*	2.35
30	1537	1.09	1285**	1.31
35	1492	1.13	1240	1.36
40	1448	1.16	1195	1.41
45	1405	1.20	1151	1.46
50	1361	1.24	1108	1.52
55	1319	1.28	1066	1.58
60	1276	1.32	1025	1.64
65	1234	1.36	984	1.71
70	1193	1.41	945	1.78
75	1152	1.46	907	1.85
80	1112	1.51	871	1.93
85	1073	1.57	835	2.01
90	1034	1.63	801	2.10
95	997	1.69	769	2.19
200	472	3.57	389	4.33

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 300 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1699	2.43	1502*	2.75
30	1535	1.30	1285**	1.56
35	1491	1.34	1241	1.61
40	1448	1.38	1197	1.67
45	1405	1.43	1155	1.73
50	1362	1.47	1113	1.80
55	1320	1.52	1072	1.87
60	1278	1.57	1032	1.94
65	1237	1.62	993	2.02
70	1197	1.67	955	2.10
75	1157	1.73	919	2.18
80	1118	1.79	884	2.27
85	1080	1.85	850	2.36
90	1043	1.92	817	2.45
95	1006	1.99	786	2.55
200	498	4.02	415	4.83

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.

RTS (Rated Tensile Strength): 12.5%

SHEILD WIRE

RULING SPAN – 325 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1719	2.82	1528*	3.17
30	1532	1.53	1285**	1.83
35	1489	1.58	1242	1.89
40	1446	1.62	1200	1.96
45	1404	1.67	1158	2.03
50	1362	1.73	1117	2.10
55	1321	1.78	1078	2.18
60	1280	1.84	1039	2.26
65	1240	1.90	1002	2.35
70	1201	1.96	965	2.44
75	1162	2.02	930	2.53
80	1124	2.09	896	2.62
85	1087	2.16	864	2.72
90	1051	2.24	833	2.82
95	1015	2.32	803	2.93
200	524	4.49	441	5.34

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 350 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1739	3.23	1553*	3.62
30	1530	1.78	1285**	2.12
35	1487	1.83	1243	2.19
40	1445	1.89	1202	2.27
45	1404	1.94	1162	2.35
50	1363	2.00	1122	2.43
55	1322	2.06	1084	2.52
60	1282	2.13	1046	2.61
65	1243	2.19	1010	2.70
70	1205	2.26	975	2.80
75	1167	2.34	941	2.90
80	1130	2.41	909	3.00
85	1094	2.49	878	3.11
90	1059	2.57	848	3.22
95	1025	2.66	819	3.33
200	548	4.98	465	5.87

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 375 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1759	3.66	1578*	4.09
30	1527	2.05	1285**	2.44
35	1485	2.11	1244	2.52
40	1444	2.17	1204	2.60
45	1403	2.23	1165	2.69
50	1363	2.30	1127	2.78
55	1323	2.37	1090	2.87
60	1284	2.44	1054	2.97
65	1246	2.51	1019	3.07
70	1209	2.59	985	3.18
75	1172	2.67	953	3.29
80	1136	2.76	921	3.40
85	1101	2.84	891	3.51
90	1067	2.93	862	3.63
95	1034	3.03	835	3.75
200	571	5.49	488	6.42

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 400 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1779	4.12	1602*	4.58
30	1523	2.34	1285**	2.77
35	1482	2.40	1245	2.86
40	1442	2.47	1206	2.95
45	1402	2.54	1168	3.05
50	1363	2.61	1132	3.15
55	1324	2.69	1096	3.25
60	1286	2.77	1061	3.36
65	1249	2.85	1027	3.47
70	1212	2.94	995	3.58
75	1177	3.03	963	3.70
80	1142	3.12	933	3.82
85	1108	3.21	904	3.94
90	1075	3.31	876	4.06
95	1043	3.42	850	4.19
200	593	6.01	511	6.98

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.

RTS (Rated Tensile Strength): 12.5%

SHEILD WIRE

RULING SPAN – 425 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1798	4.60	1627*	5.09
30	1520	2.64	1285**	3.13
35	1480	2.72	1246	3.23
40	1440	2.79	1209	3.33
45	1401	2.87	1172	3.43
50	1363	2.95	1136	3.54
55	1325	3.03	1102	3.65
60	1288	3.12	1068	3.76
65	1252	3.21	1035	3.88
70	1216	3.31	1004	4.00
75	1181	3.40	974	4.13
80	1147	3.50	945	4.26
85	1114	3.61	917	4.39
90	1082	3.71	890	4.52
95	1051	3.82	864	4.65
200	614	6.55	532	7.56

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 450 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1818	5.11	1650*	5.63
30	1516	2.97	1285**	3.51
35	1477	3.05	1248	3.61
40	1438	3.13	1211	3.72
45	1400	3.22	1175	3.83
50	1362	3.31	1141	3.95
55	1325	3.40	1107	4.07
60	1289	3.50	1075	4.19
65	1254	3.59	1044	4.32
70	1219	3.70	1013	4.45
75	1186	3.80	984	4.58
80	1153	3.91	956	4.72
85	1121	4.02	929	4.85
90	1090	4.14	903	4.99
95	1060	4.25	879	5.13
200	634	7.11	553	8.16

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 475 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1818	5.11	1650*	5.63
30	1516	2.97	1285**	3.51
35	1477	3.05	1248	3.61
40	1438	3.13	1211	3.72
45	1400	3.22	1175	3.83
50	1362	3.31	1141	3.95
55	1325	3.40	1107	4.07
60	1289	3.50	1075	4.19
65	1254	3.59	1044	4.32
70	1219	3.70	1013	4.45
75	1186	3.80	984	4.58
80	1153	3.91	956	4.72
85	1121	4.02	929	4.85
90	1090	4.14	903	4.99
95	1060	4.25	879	5.13
200	634	7.11	553	8.16

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 500 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1856	6.18	1697*	6.76
30	1508	3.69	1285**	4.33
35	1470	3.78	1250	4.45
40	1433	3.88	1215	4.58
45	1397	3.98	1182	4.71
50	1361	4.09	1150	4.84
55	1326	4.20	1119	4.98
60	1292	4.31	1088	5.11
65	1259	4.42	1059	5.26
70	1226	4.54	1031	5.40
75	1194	4.66	1004	5.55
80	1163	4.78	978	5.69
85	1133	4.91	952	5.84
90	1104	5.04	928	6.00
95	1076	5.17	905	6.15
200	673	8.28	593	9.40

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 525 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	1874	6.74	1719*	7.35	
30	1504	4.08	1285**	4.77	
35	1467	4.18	1251	4.91	
40	1431	4.29	1218	5.04	
45	1395	4.40	1185	5.18	
50	1361	4.51	1154	5.32	
55	1327	4.63	1124	5.46	
60	1293	4.74	1095	5.61	
65	1261	4.87	1066	5.75	
70	1229	4.99	1039	5.90	
75	1198	5.12	1013	6.06	
80	1168	5.25	988	6.21	
85	1139	5.39	964	6.37	
90	1111	5.52	940	6.53	
95	1083	5.66	918	6.69	
200	691	8.89	612	10.04	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 550 FEET		INITIAL		FINAL	
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)	
30	1893	7.33	1741*	7.97	
30	1500	4.49	1285**	5.24	
35	1464	4.60	1252	5.38	
40	1428	4.71	1220	5.52	
45	1394	4.83	1189	5.67	
50	1360	4.95	1158	5.81	
55	1327	5.08	1129	5.96	
60	1294	5.20	1101	6.12	
65	1263	5.33	1074	6.27	
70	1232	5.47	1047	6.43	
75	1202	5.60	1022	6.59	
80	1173	5.74	998	6.75	
85	1145	5.88	974	6.92	
90	1117	6.03	952	7.08	
95	1091	6.17	930	7.24	
200	709	9.51	630	10.71	

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 575 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1910	7.94	1762*	8.61
30	1495	4.92	1285**	5.73
35	1460	5.04	1253	5.87
40	1425	5.16	1222	6.02
45	1392	5.29	1192	6.18
50	1359	5.42	1163	6.33
55	1327	5.55	1134	6.49
60	1295	5.68	1107	6.65
65	1265	5.82	1081	6.81
70	1235	5.96	1055	6.98
75	1206	6.10	1031	7.14
80	1178	6.25	1007	7.31
85	1150	6.40	984	7.48
90	1124	6.55	963	7.65
95	1098	6.70	942	7.82
200	725	10.16	648	11.38

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 600 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1928	8.57	1783*	9.26
30	1490	5.38	1285**	6.24
35	1456	5.50	1254	6.39
40	1423	5.63	1224	6.55
45	1390	5.77	1195	6.71
50	1358	5.90	1167	6.87
55	1327	6.04	1139	7.04
60	1296	6.18	1113	7.20
65	1266	6.33	1087	7.37
70	1237	6.48	1063	7.54
75	1209	6.63	1039	7.72
80	1182	6.78	1016	7.89
85	1155	6.94	994	8.06
90	1130	7.10	973	8.24
95	1105	7.26	953	8.42
200	742	10.82	665	12.08

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 625 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1945	9.21	1803*	9.94
30	1486	5.85	1285**	6.77
35	1452	5.99	1255	6.93
40	1420	6.12	1226	7.09
45	1388	6.27	1198	7.26
50	1357	6.41	1171	7.43
55	1326	6.56	1144	7.60
60	1297	6.71	1119	7.78
65	1268	6.86	1094	7.95
70	1240	7.01	1070	8.13
75	1213	7.17	1047	8.31
80	1186	7.33	1025	8.49
85	1160	7.50	1004	8.67
90	1136	7.66	983	8.85
95	1111	7.83	963	9.03
200	757	11.50	681	12.79

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 650 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1961	9.88	1823*	10.63
30	1481	6.35	1285**	7.32
35	1449	6.49	1256	7.49
40	1417	6.64	1228	7.66
45	1386	6.79	1201	7.84
50	1356	6.94	1174	8.01
55	1326	7.09	1149	8.19
60	1297	7.25	1124	8.37
65	1269	7.41	1100	8.55
70	1242	7.57	1077	8.73
75	1216	7.74	1055	8.92
80	1190	7.91	1034	9.10
85	1165	8.07	1013	9.29
90	1141	8.25	993	9.48
95	1118	8.42	974	9.66
200	772	12.19	697	13.52

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 675 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1978	10.57	1842*	11.35
30	1476	6.87	1285**	7.89
35	1445	7.02	1257	8.07
40	1414	7.17	1230	8.25
45	1384	7.33	1203	8.43
50	1354	7.49	1178	8.61
55	1326	7.65	1153	8.80
60	1298	7.82	1129	8.98
65	1271	7.98	1106	9.17
70	1244	8.15	1084	9.36
75	1219	8.32	1063	9.55
80	1194	8.50	1042	9.74
85	1170	8.67	1022	9.93
90	1146	8.85	1002	10.13
95	1124	9.03	984	10.32
200	787	12.91	712	14.26

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 700 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	1993	11.28	1861*	12.08
30	1472	7.41	1285**	8.49
35	1441	7.57	1258	8.67
40	1411	7.73	1232	8.86
45	1382	7.90	1206	9.05
50	1353	8.06	1181	9.24
55	1325	8.23	1158	9.43
60	1298	8.40	1135	9.62
65	1272	8.58	1112	9.81
70	1247	8.75	1091	10.01
75	1222	8.93	1070	10.20
80	1198	9.11	1050	10.40
85	1174	9.29	1030	10.60
90	1152	9.48	1011	10.79
95	1130	9.66	993	10.99
200	801	13.64	727	15.03

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 725 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2009	12.01	1880*	12.83
30	1467	7.98	1285**	9.11
35	1437	8.14	1259	9.30
40	1408	8.31	1233	9.49
45	1380	8.48	1209	9.68
50	1352	8.66	1185	9.88
55	1325	8.83	1162	10.08
60	1299	9.01	1139	10.27
65	1273	9.19	1118	10.47
70	1249	9.38	1097	10.67
75	1224	9.56	1077	10.87
80	1201	9.75	1057	11.08
85	1178	9.93	1038	11.28
90	1156	10.12	1020	11.48
95	1135	10.31	1003	11.68
200	814	14.39	742	15.81

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 750 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2024	12.75	1897*	13.61
30	1462	8.57	1285**	9.75
35	1433	8.74	1260	9.95
40	1405	8.91	1235	10.14
45	1377	9.09	1211	10.34
50	1351	9.27	1188	10.54
55	1325	9.46	1166	10.75
60	1299	9.64	1144	10.95
65	1274	9.83	1123	11.16
70	1250	10.02	1103	11.36
75	1227	10.21	1083	11.57
80	1204	10.40	1065	11.77
85	1182	10.60	1046	11.98
90	1161	10.79	1029	12.19
95	1140	10.99	1011	12.39
200	828	15.16	756	16.60

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor



## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 775 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2039	13.52	1915*	14.40
30	1457	9.18	1285**	10.41
35	1429	9.36	1260	10.61
40	1402	9.54	1237	10.82
45	1375	9.73	1214	11.02
50	1349	9.91	1191	11.23
55	1324	10.10	1170	11.44
60	1299	10.29	1149	11.65
65	1275	10.49	1129	11.86
70	1252	10.68	1109	12.07
75	1230	10.88	1090	12.28
80	1208	11.08	1072	12.49
85	1186	11.28	1054	12.70
90	1166	11.48	1037	12.91
95	1146	11.68	1020	13.12
200	840	15.94	769	17.42

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 800 FEET			INITIAL	FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2053	14.31	1932*	15.21
30	1453	9.81	1285**	11.09
35	1426	10.00	1261	11.30
40	1399	10.19	1238	11.51
45	1373	10.38	1216	11.72
50	1348	10.57	1194	11.94
55	1323	10.77	1173	12.15
60	1300	10.97	1153	12.36
65	1276	11.17	1134	12.58
70	1254	11.37	1115	12.79
75	1232	11.57	1096	13.01
80	1211	11.78	1078	13.23
85	1190	11.98	1061	13.44
90	1170	12.19	1044	13.66
95	1150	12.39	1028	13.87
200	852	16.75	782	18.25

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.

RTS (Rated Tensile Strength): 12.5%

SHEILD WIRE

RULING SPAN – 825 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2067	15.12	1948*	16.04
35	1448	10.47	1285**	11.80
40	1422	10.66	1262	12.01
45	1396	10.86	1240	12.23
50	1371	11.06	1218	12.45
55	1347	11.26	1197	12.66
60	1323	11.46	1177	12.88
65	1300	11.66	1157	13.10
70	1277	11.87	1138	13.32
75	1255	12.08	1120	13.54
80	1234	12.29	1102	13.76
85	1214	12.49	1085	13.98
90	1193	12.71	1068	14.20
95	1174	12.92	1052	14.42
200	1155	13.13	1036	14.64

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 850 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2080	15.94	1964*	16.89
30	1444	11.15	1285**	12.52
35	1418	11.35	1263	12.75
40	1393	11.55	1241	12.97
45	1369	11.76	1220	13.19
50	1345	11.96	1200	13.41
55	1322	12.17	1181	13.64
60	1300	12.38	1161	13.86
65	1278	12.59	1143	14.08
70	1257	12.81	1125	14.31
75	1236	13.02	1108	14.53
80	1216	13.23	1091	14.76
85	1197	13.45	1075	14.98
90	1178	13.67	1059	15.21
95	1160	13.88	1044	15.43
200	875	18.41	807	19.97

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
 RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 875 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2093	16.79	1980*	17.76
30	1439	11.85	1285**	13.27
35	1414	12.06	1264	13.50
40	1390	12.27	1243	13.73
45	1367	12.48	1223	13.95
50	1344	12.69	1203	14.18
55	1322	12.90	1184	14.41
60	1300	13.12	1165	14.64
65	1279	13.34	1148	14.87
70	1258	13.56	1130	15.10
75	1238	13.78	1113	15.33
80	1219	14.00	1097	15.56
85	1200	14.22	1081	15.78
90	1182	14.44	1066	16.01
95	1164	14.66	1051	16.24
200	886	19.27	819	20.85

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 900 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2106	17.66	1995*	18.65
30	1435	12.57	1285**	14.04
35	1411	12.79	1264	14.27
40	1388	13.00	1244	14.51
45	1365	13.22	1225	14.74
50	1343	13.44	1206	14.97
55	1321	13.66	1187	15.21
60	1300	13.88	1169	15.44
65	1279	14.10	1152	15.67
70	1260	14.33	1135	15.91
75	1240	14.55	1119	16.14
80	1221	14.78	1103	16.37
85	1203	15.00	1087	16.61
90	1185	15.23	1072	16.84
95	1168	15.46	1058	17.07
200	897	20.14	831	21.76

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.

RTS (Rated Tensile Strength): 12.5%

SHEILD WIRE

RULING SPAN – 925 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2119	18.54	2010*	19.55
30	1431	13.32	1285**	14.84
35	1407	13.54	1265	15.07
40	1385	13.76	1245	15.31
45	1363	13.99	1226	15.55
50	1341	14.21	1208	15.78
55	1320	14.44	1190	16.02
60	1300	14.66	1173	16.26
65	1280	14.89	1156	16.50
70	1261	15.12	1140	16.73
75	1242	15.35	1124	16.97
80	1224	15.58	1108	17.21
85	1206	15.81	1093	17.45
90	1189	16.04	1079	17.68
95	1172	16.27	1065	17.92
200	907	21.04	842	22.68

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 950 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2131	19.45	2024*	20.48
30	1427	14.09	1285**	15.65
35	1404	14.32	1266	15.89
40	1382	14.55	1247	16.13
45	1361	14.78	1228	16.37
50	1340	15.01	1210	16.62
55	1320	15.24	1193	16.86
60	1300	15.47	1176	17.10
65	1281	15.70	1160	17.34
70	1262	15.94	1144	17.58
75	1244	16.17	1129	17.83
80	1226	16.40	1114	18.07
85	1209	16.64	1099	18.31
90	1192	16.87	1085	18.55
95	1176	17.11	1071	18.79
200	917	21.96	853	23.62

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor





## CONDUCTOR SAG & TENSION DATA

BARE ALUMINUM – 3#6 AW (ALUMOWELD) RATED STRENGTH: 10,280 LBS.  
RTS (Rated Tensile Strength): 12.5% SHEILD WIRE

RULING SPAN – 975 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2143	20.38	2038*	21.43
30	1423	14.89	1285**	16.49
35	1401	15.12	1266	16.73
40	1379	15.35	1248	16.98
45	1359	15.59	1230	17.22
50	1339	15.82	1213	17.47
55	1319	16.06	1196	17.72
60	1300	16.30	1180	17.96
65	1281	16.53	1164	18.21
70	1263	16.77	1148	18.45
75	1245	17.01	1133	18.70
80	1228	17.25	1119	18.94
85	1211	17.49	1105	19.19
90	1195	17.73	1091	19.43
95	1179	17.97	1077	19.68
200	927	22.89	864	24.58

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

RULING SPAN – 1000 FEET		INITIAL		FINAL
AMB. TEMP. DEG.-F	TENSION (LBS.)	SAG (FT.)	TENSION (LBS.)	SAG (FT.)
30	2154	21.32	2052*	22.39
30	1419	15.71	1285**	17.34
35	1397	15.94	1267	17.59
40	1377	16.18	1249	17.84
45	1357	16.42	1232	18.09
50	1337	16.66	1215	18.34
55	1318	16.90	1199	18.60
60	1300	17.15	1183	18.85
65	1282	17.39	1167	19.10
70	1264	17.63	1152	19.35
75	1247	17.87	1138	19.59
80	1230	18.12	1124	19.84
85	1214	18.36	1110	20.09
90	1198	18.60	1096	20.34
95	1183	18.85	1083	20.58
200	936	23.84	874	25.55

\*NESC Light Zone Load Condition Based on 9.0 Psf Wind & 0.05 Lb/F K-Factor

\*\*Design Condition and All Others Based on 0.0 Psf Wind & 0.00 Lb/F K-Factor

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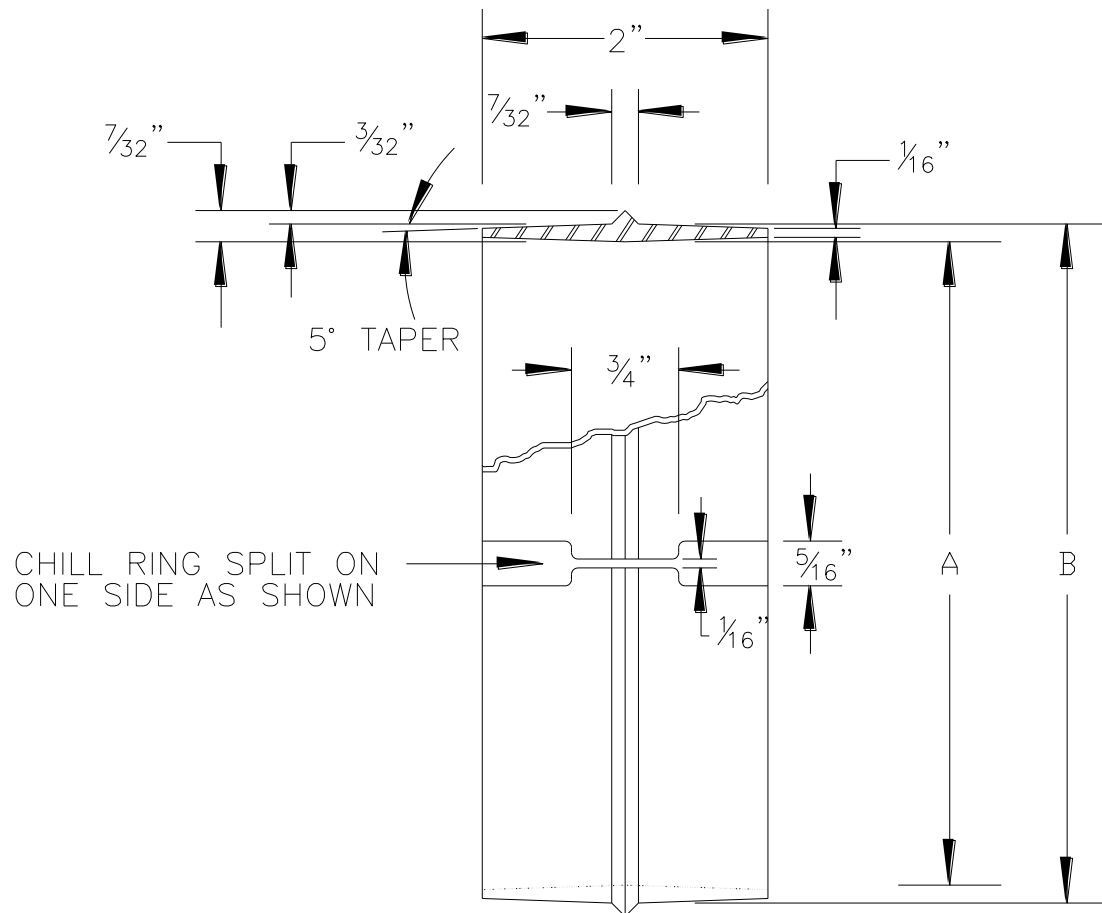
# UNDERGROUND FLUID FILLED

<b>ITEM</b>	<b>PAGE</b>
<b>1. MATERIAL</b>	<b>UT-2</b>
<b>2. CHILL RING</b>	<b>UT-3</b>
<b>3. FLARE, FIELD, OILOSTATIC</b>	<b>UT-4</b>
<b>4. FLARE, PIPE END, OILOSTATIC</b>	<b>UT-5</b>
<b>5. JOINT ASSEMBLY, OILOSTATIC 69 &amp; 138 KV</b>	<b>UT-6</b>
<b>6. JOINT ASSEMBLY, OILOSTATIC 230KV</b>	<b>UT-7</b>
<b>7. MANHOLE, END VIEW</b>	<b>UT-8</b>
<b>8. MANHOLE, SIDE VIEW</b>	<b>UT-9</b>
<b>9. MANHOLE, ROOF VIEW AND TOP VIEW</b>	<b>UT-10</b>
<b>10. TERMINATION ASSEMBLY, ABOVE GROUND</b>	<b>UT-11</b>
<b>11. TERMINATION ASSEMBLY, ANGLE TYPE</b>	<b>UT-12</b>
<b>12. TERMINATION ASSEMBLY, BELOW GROUND</b>	<b>UT-13</b>
<b>13. TERMINATION ASSEMBLY, WELD-TYPE</b>	<b>UT-14</b>

# MATERIAL

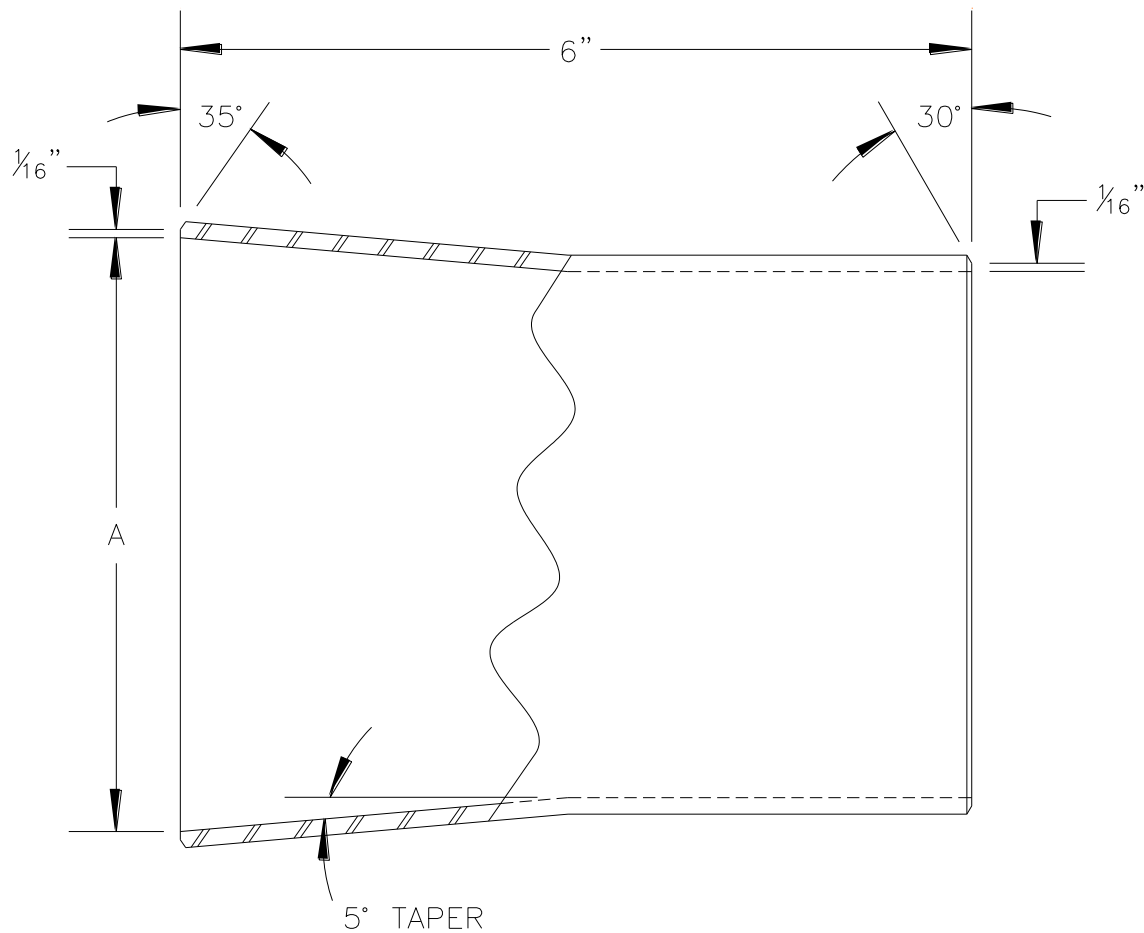
ITEM ID	DESCRIPTION	Min/Max
CAICL 014	CABLE, 1500 KCM, 69 KV, SINGLE CONDUCTOR AL., CROSS-LINKED POLYETHYLENE POWER SHIELDED	INACTIVATED
CAICL 016	CABLE, SOLID DIELECTRIC ( XLPE ) 1500-KCM, 69KV, 1/C, ALUMINUM CONDUCTOR JACKETED PER LATEST AEIC CS7 SPECIFICATION	INACTIVATED
CAICL 017	CABLE, SOLID DIELECTRIC ( XLPE ) 2000-KCM, 69KV, 1/C, ALUMINUM CONDUCTOR JACKETED PER LATEST AEIC CS7 SPECIFICATION	INACTIVATED
CAICL 022	CABLE, 750KCM COPPER, XLPE, INSULATED 138KV CONDUCTOR	0/0
CNNHS 001	CONNECTOR, FOR HEAT-SHRINK SPLICE 1500KCM, 69KV CONDUCTOR	3/9
CNNHS 002	CONNECTOR, FOR HEAT-SHRINK SPLICE 2000KCM, 69KV CONDUCTOR	3/9
GSKKT 001	GASKET KIT, PIPE TYPE CABLE TERMINATOR, FOR G & W MODEL ATA-130, 69 KV POTHEAD, (KIT INCLUDES-(1) A-1851-34, (1) A1851- 39, (3) A-1876, (1) A-1876-2, KITS TO BE ASSEMBLED IN ONE PACKAGE.	INACTIVATED
GSKKT 002	GASKET KIT, PIPE TYPE CABLE TERMINATOR, FOR G & W MODEL #ATA-137, 115 KV POTHEAD (PER DWG #D7260-41YAO), TERMINATION S/N ATA-1673, KIT PARTS TO BE ASSEMBLED IN ONE SHRINK WRAP PACKAGE	INACTIVATED
SPLKI 008	SPLICE KIT, REPAIR, 69-KV, 1500MCM & 2000MCM. 5488A-1750-2000 QSIII COLD SHRINK SILICONE RUBBER SPLICE KIT.(69/72 KV) EACH KIT INCLUDES RE-JACKETING MATERIALS,SHIELDING COMPONENTS AND 1750-2000KCMIL SHEAR CONNECTOR.	3/6
TAPEL 020	TAPE, HIGH VOLTAGE, LINER LESS RUBBER SPLICING FOR UP TO 69 KV, 130 C, 2" X 30'	18/36
THEHS 013	THERMOFIT HEAT-SHRINK PRODUCTS, SPLICE- KIT, 69KV CONDUCTOR, 1500-2000KCM CABLE RANGE NO-CONNECTOR	3/9
TRMKT 001	TERMINATOR KIT, HEAT SHRINK, 69KV, TO BE PROVIDED WITH (1) ONE ANDERSON ELECTRIC ALUMINUM COMPRESSION TERMINAL - #CCLS- 1424-D, (1) ANDERSON ELECTRIC TRANSITION PAD - TP-C & (1) ONE KELLEMS GRIP - #022-11-1560 OR APPROVED EQUALS FOR 1500 KC	1/1
TRMKT 002	TERMINATOR KIT ADAPTER, FOR 2000 KCMIL CABLE, 69KV COLD SHRINK. TO INCLUDE (1) ONE, ANDERSON ELECTRIC ALUMINUM COMP. TERMINAL #CCLS 1659D AND (1) ONE, KELLEMS GRIP #02207008 OR APPROVED EQUALS. TO BE USED WITH TRMKT003 ON 2000KCMIL CABLE.	3/3
TRMKT 003	TERMINATOR KIT, COLD SHRINK, 69KV, 1500MCM & 2000MCM, TO BE PROVIDED WITH (1) ANDERSON ALUMINUM COMPRESSION TERMINAL - #CCLS- 1424-D, (1) ANDERSON ELECTRIC TRANSITION PAD TP-C 7 & (1) KELLEMS GRIP #02207007 OR APPROVED EQUAL.	3/3

## CHILL RING



PIPE O.D.	DIM. (A)	DIM. (B)
4½"	4.250"	4.500"
5⅞"	5.3125"	5.5625"
6"	5.750"	6.000"
6⅝"	6.375"	6.625"
7"	6.750"	7.000"
8⅝"	8.375"	8.625"
10¾"	10.500"	10.750"
12¾"	12.500"	12.750"

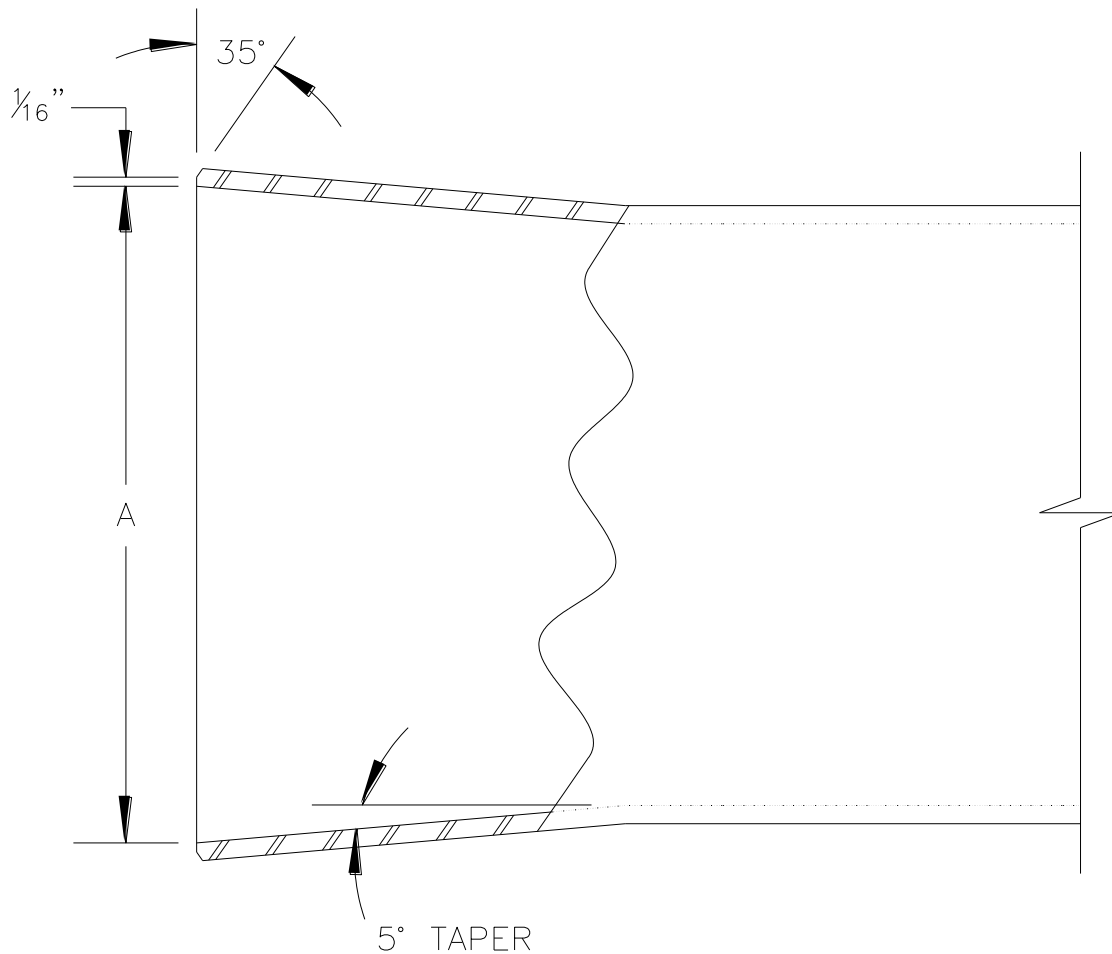
# FLARE, FIELD, OILOSTATIC



NOTE: DEPTH OF FLARE SHALL VARY WITH THICKNESS OF PIPE

PIPE O.D.	DIM. (A)
4½"	4.500"
5⅞"	5.5625"
6"	6.000"
6⅝"	6.625"
7"	7.000"
8⅝"	8.625"
10¾"	10.750"

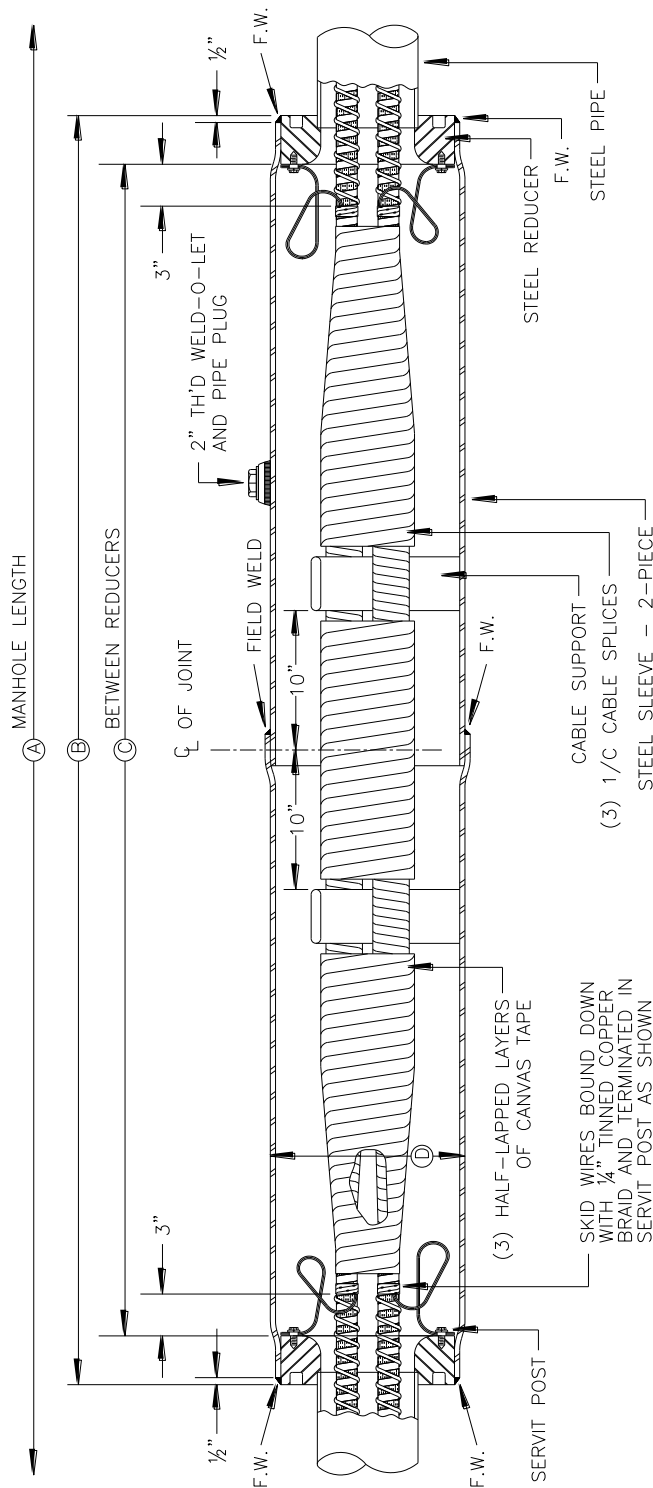
# FLARE, PIPE END, OILOSTATIC



NOTE: DEPTH OF FLARE SHALL VARY WITH THICKNESS OF PIPE

PIPE O.D.	DIM. (A)
4½"	4.500"
5⅞"	5.5625"
6"	6.000"
6⅝"	6.625"
7"	7.000"
8⅝"	8.625"
10¾"	10.750"

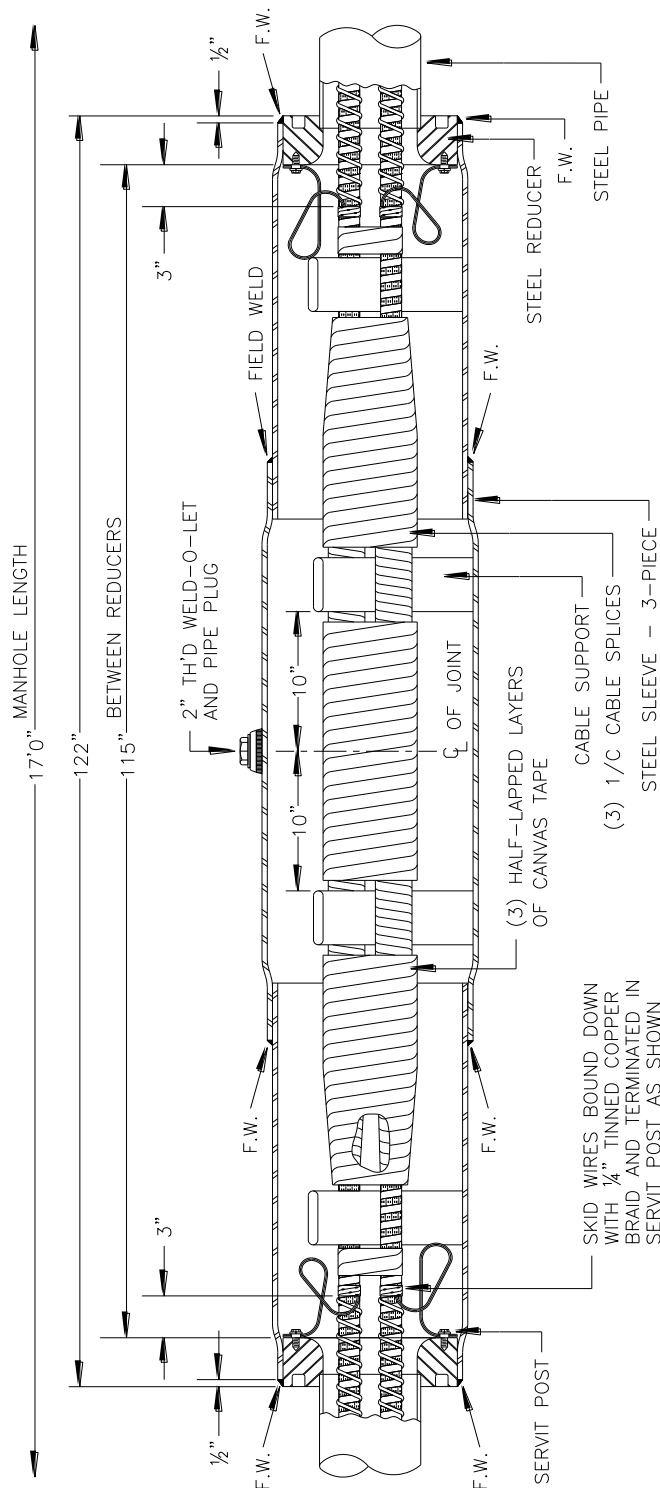
# JOINT ASSEMBLY, 69 & 138KV



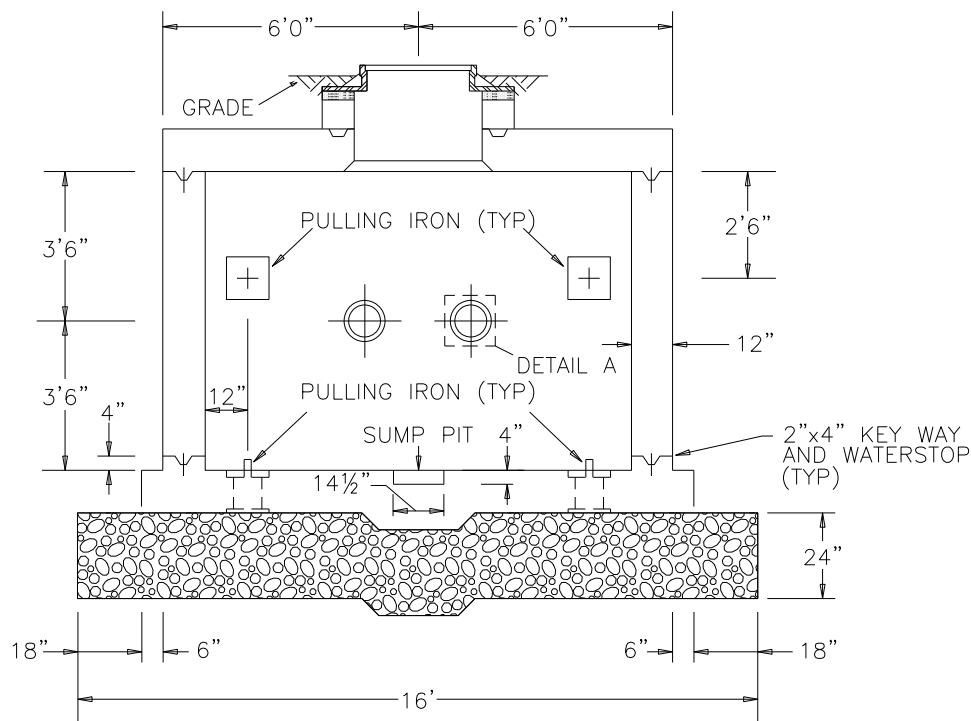
TYPICAL DIMENSIONS				
VOLTS KV	(A)	(B)	(C)	(D)
69	14'0"	67"	60"	12¾"
138	15'0"	91"	84"	14"



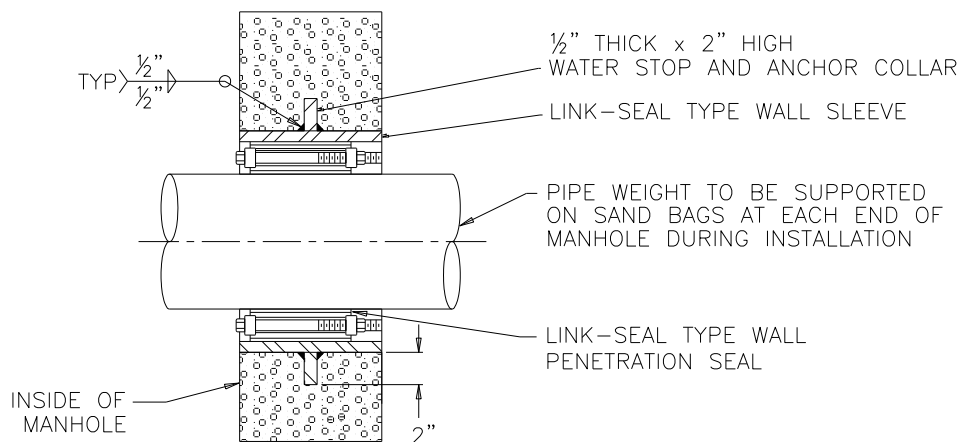
# JOINT ASSEMBLY, 230KV



## MANHOLE, END VIEW

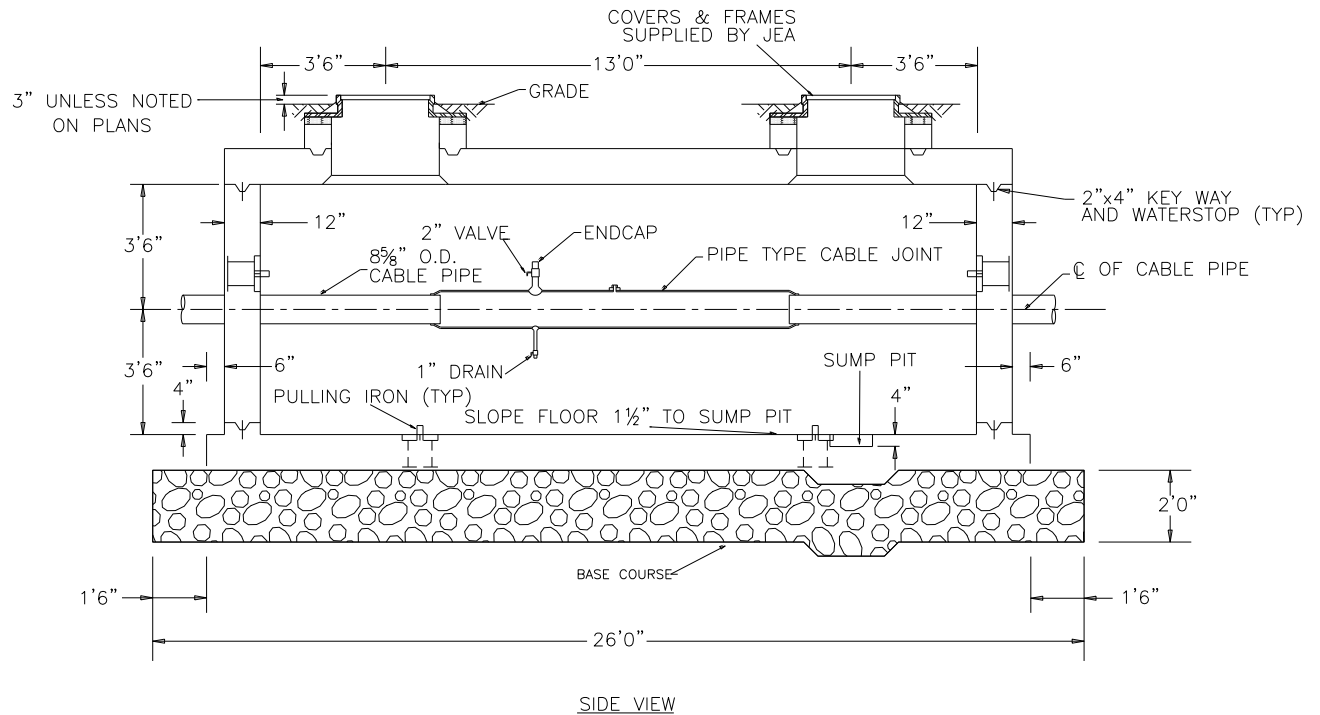


END VIEW



CROSS SECTION DETAIL A

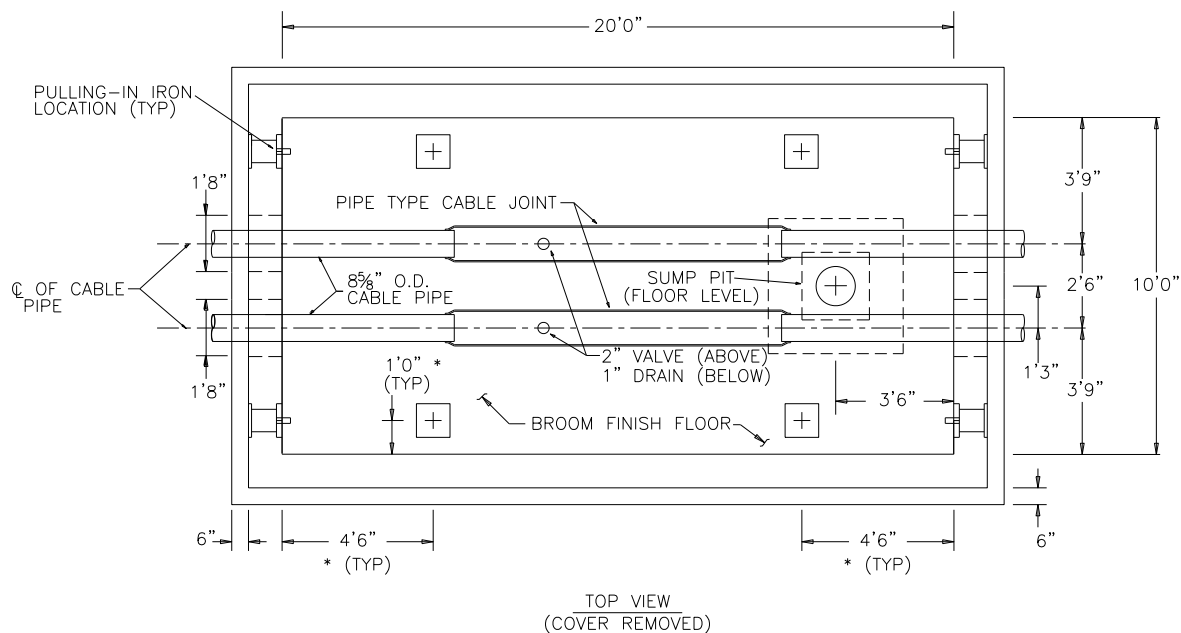
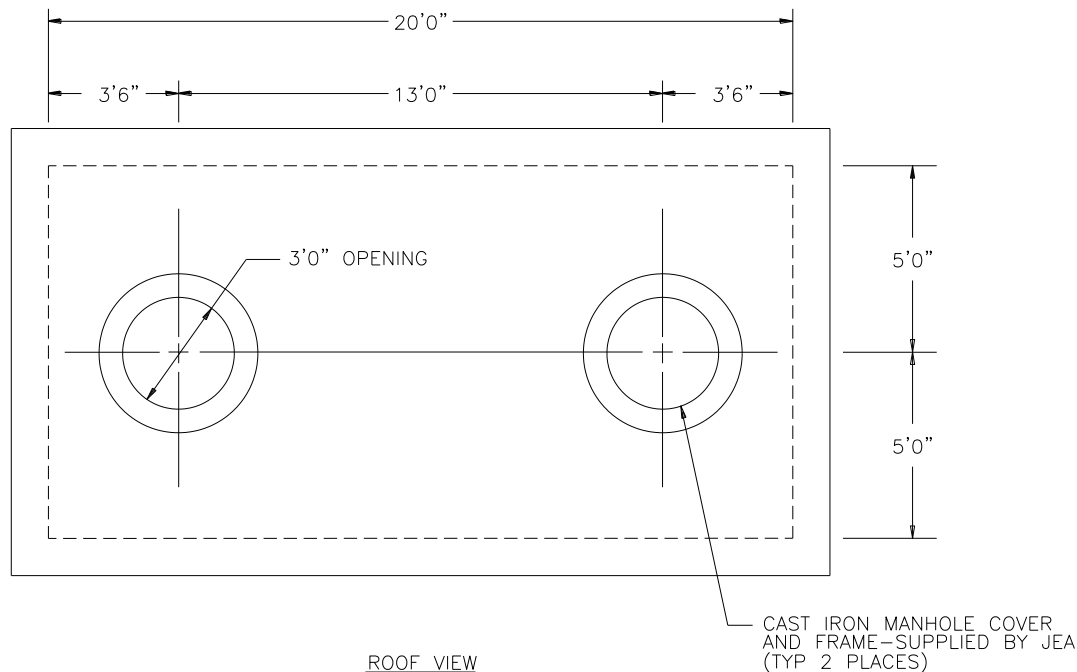
# MANHOLE, SIDE VIEW



## NOTES:

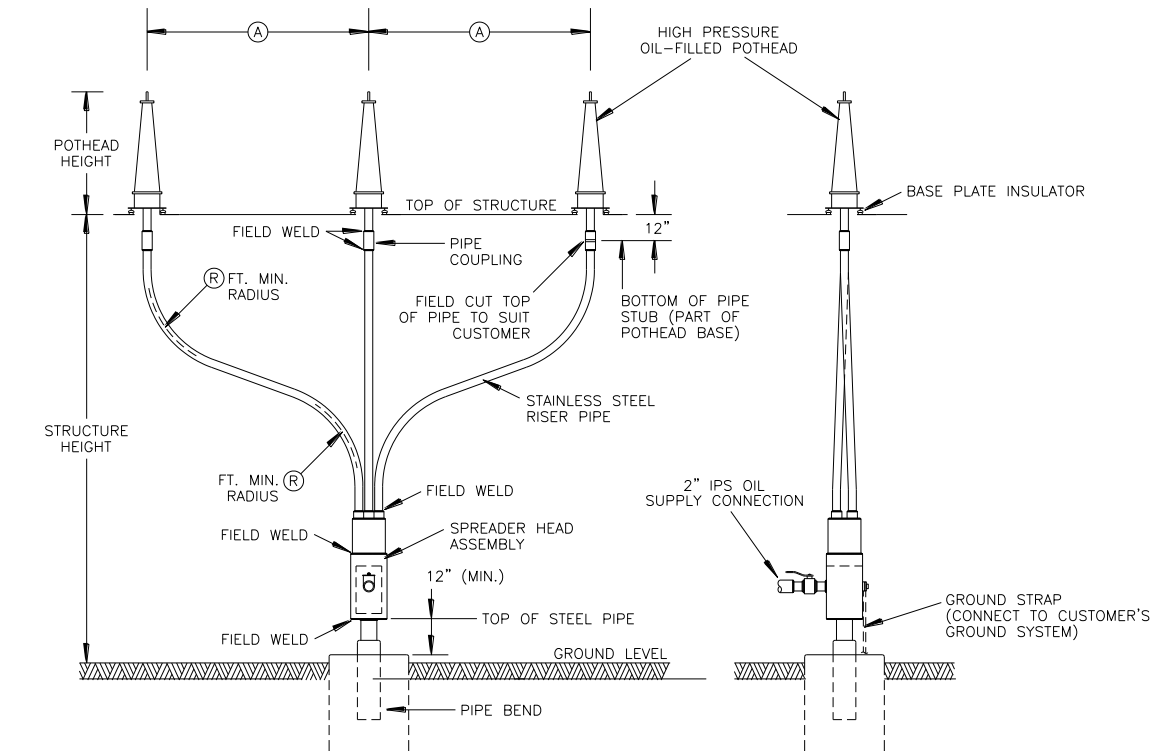
1. ALL CONCRETE SHALL BE 4000 PSI MIN STRENGTH AT 28 DAYS.
2. MANHOLE SHALL BE DAMP PROOFED BY APPLYING TWO COATS OF COAL TAR DAMPPROOFING PAINT-KOPPERS "BITUMASTIC SUPERSERVICE BLACK", POLYGUARD "CA-7" COATING, OR TNE MEC "46-450 HEAVY TNE MECOL" TO EXTERIOR WALL SURFACES BELOW GRADE.
3. ALL REINFORCING LAP SPLICES SHALL BE AS REQUIRED BY ACI CODE.
4. PRECAST CONSTRUCTION SHALL BE DESIGNED TO SUPPORT LOADING INDICATED AND INTERIOR DIMENSIONS SHALL BE AS INDICATED. NO INDIVIDUAL PRECAST COMPONENT TO BE INSTALLED VERTICAL SHALL HAVE A VERTICAL DIMENSION GREATER THAN 6' IN HEIGHT. MANHOLES SHALL BE DESIGNED TO RESIST UPLIFT ASSUMING WATER TABLE AT GRADE.
5. CONTRACTOR SHALL INSTALL CABLE PIPE STRAIGHT THROUGH MANHOLE. CABLE JOINTS TO BE INSTALLED BY CONTRACTOR.
6. BASE COURSE SHALL BE 24" THICK AND EXTEND 18" BEYOND PERIMETER OF MANHOLE. BASE COURSE SHALL BE WELL-GRADED CRUSHED STONE, CRUSHED GRAVEL OR CRUSHED CONCRETE MEETING ASTM C33, GRADATION 7 (1/2" TO #4) COMPACTED TO 85% RELATIVE DENSITY.
7. LIVE LOADING DESIGN SHALL BE IN ACCORDANCE WITH AASHTD-H20 SPECIFICATIONS.

## MANHOLE, ROOF VIEW & TOP VIEW



\* PULLING IRONS SHALL BE CAST IN WALLS AND FLOOR. CONTRACTOR SHALL DESIGN AND FABRICATE THE PULLING IRONS. IRONS SHALL BE DESIGNED TO ACCEPT PULLING HARDWARE REQUIRED FOR CABLE PULLING. PULLING IRONS SHALL BE DESIGNED FOR 40000 POUNDS TENSION AT THE LOCATIONS SHOWN. IRONS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION. LOCATION OF PULLING IRONS WILL BE VERIFIED BY CONTRACTOR BASED ON PULLING SHEAVE DIAMETER AND PREFERRED LOCATION.

## TERMINATION ASSEMBLY, ABOVE GROUND

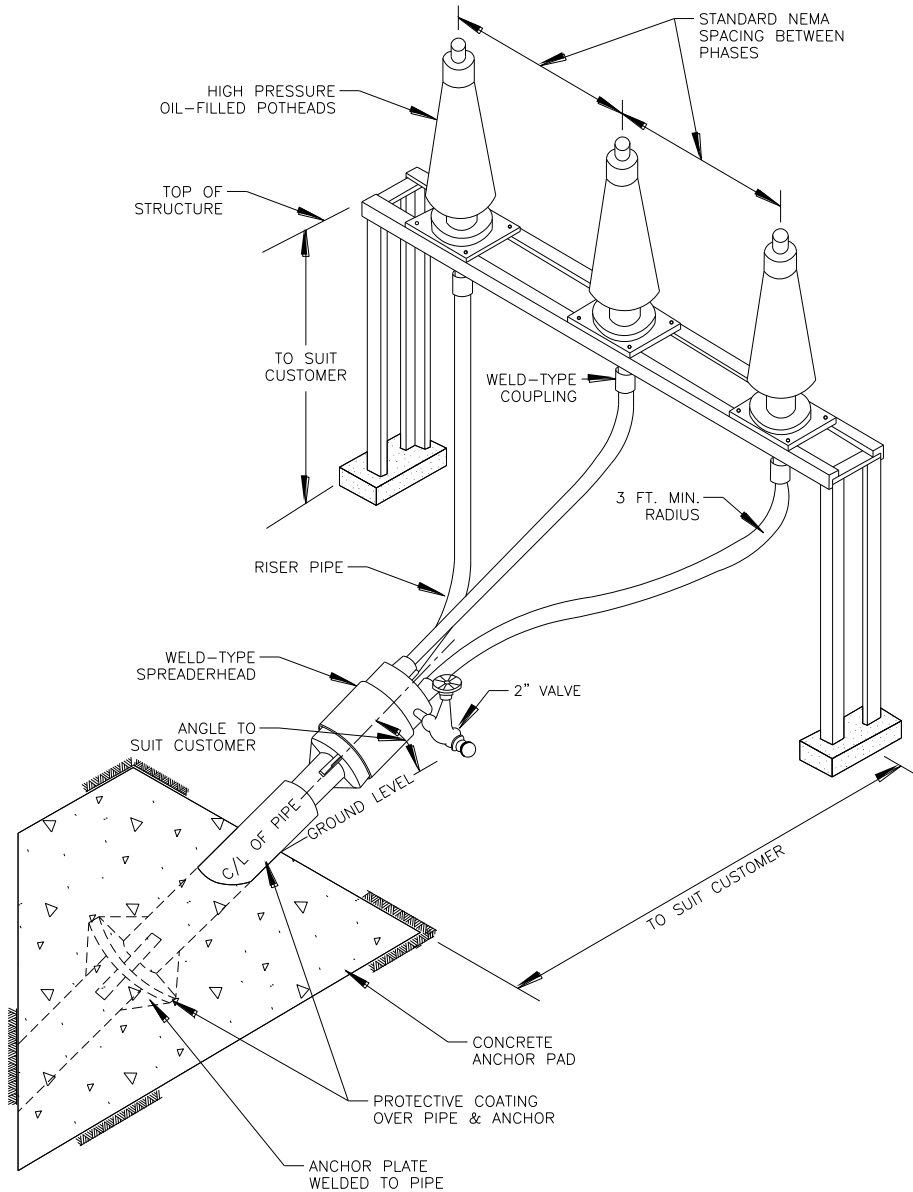


TYPICAL DIMENSIONS					
FIG. NO.	kV	(A)	(R)	POTHEAD HEIGHT	STRUCTURE HEIGHT
		NEMA STD.			
1	69	4'6"	3'	5'0"	11'0"
2	92	5'0"	3'	5'8"	11'0"
3	115	6'0"	3'	6'2"	12'6"
4	138	7'0"	3'6"	7'1"	13'6"
5	161	8'0"	4'	7'6"	15'6"
6	230	11'0"	4'	10'0"	15'6"
7	345	16'0"	6'	12'6"	21'0"

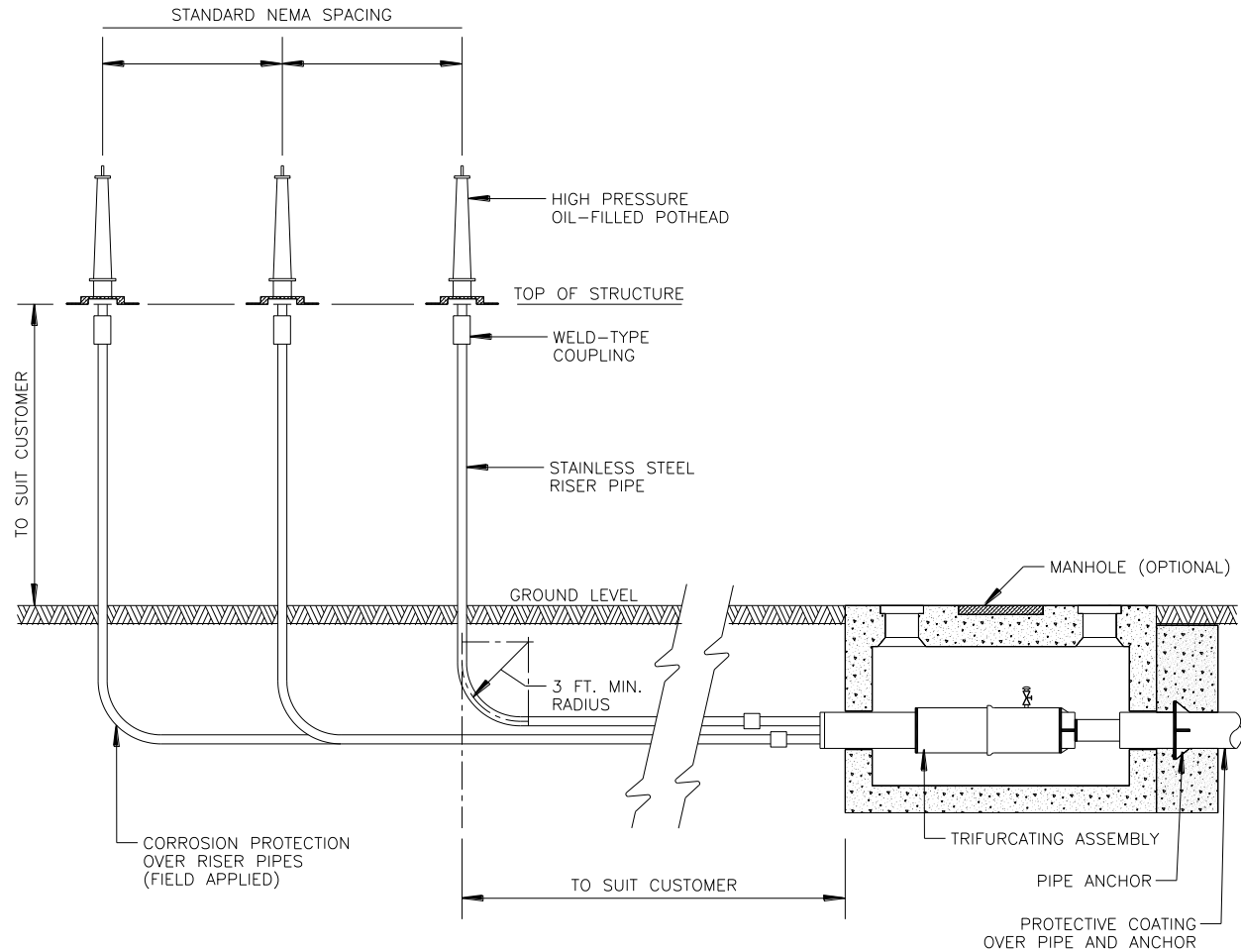
### NOTES:

1. RADII & DIMENSIONS OF RISER PIPE ASSEMBLY ARE APPROXIMATE AND SHOULD BE VERIFIED TO SUIT FIELD CONDITIONS.

# TERMINATION ASSEMBLY, ANGLE TYPE



# TERMINATION ASSEMBLY, BELOW GROUND



# TERMINATION ASSEMBLY, WELD-TYPE

