

230kV INSULATOR PLATE INDEX

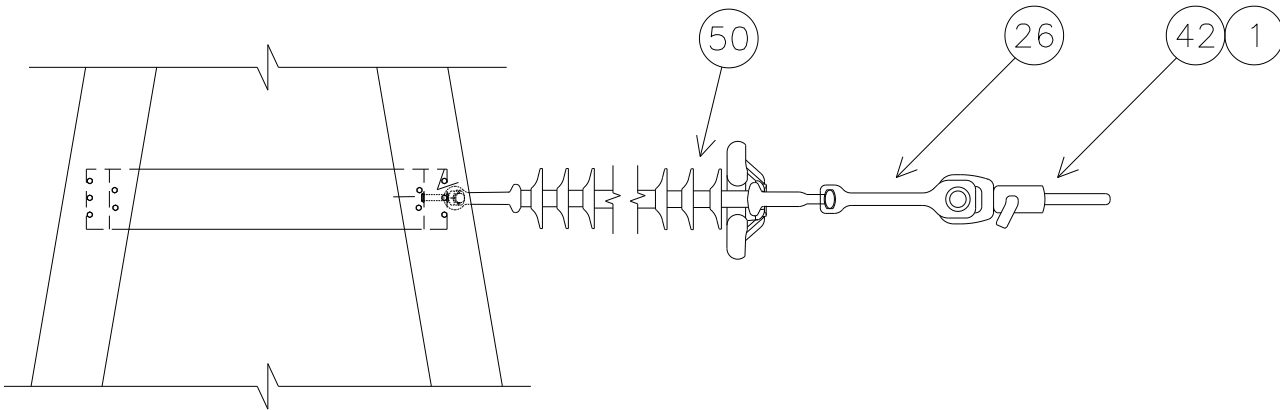
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IASDFC3

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

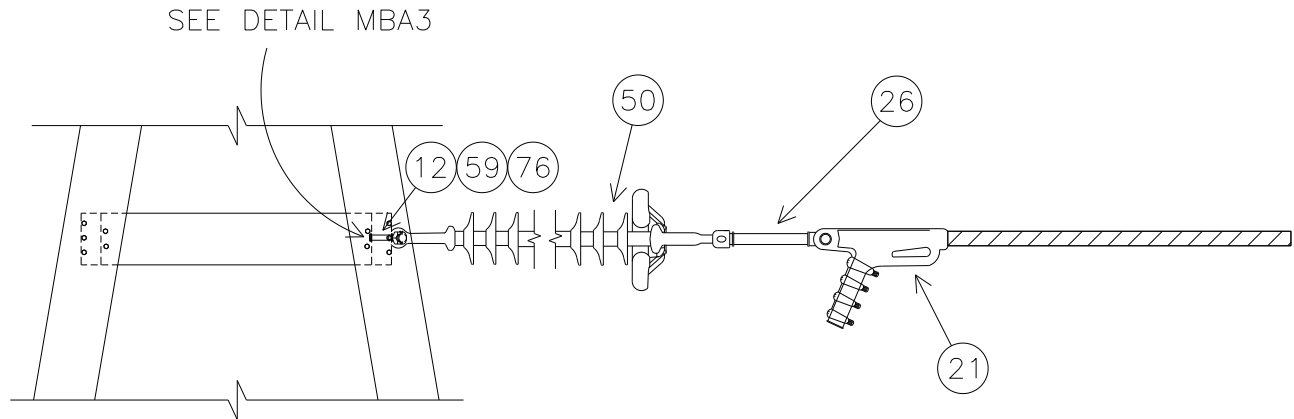
IASDFC3*1590

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

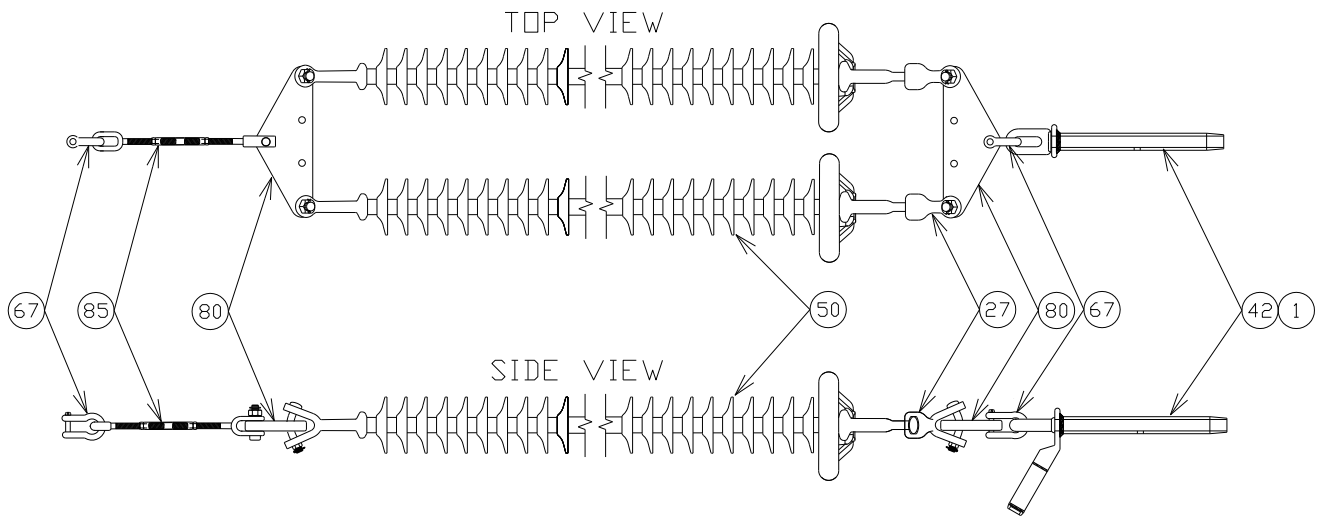
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	3	DEADEND CLAMP (.7 - 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"

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

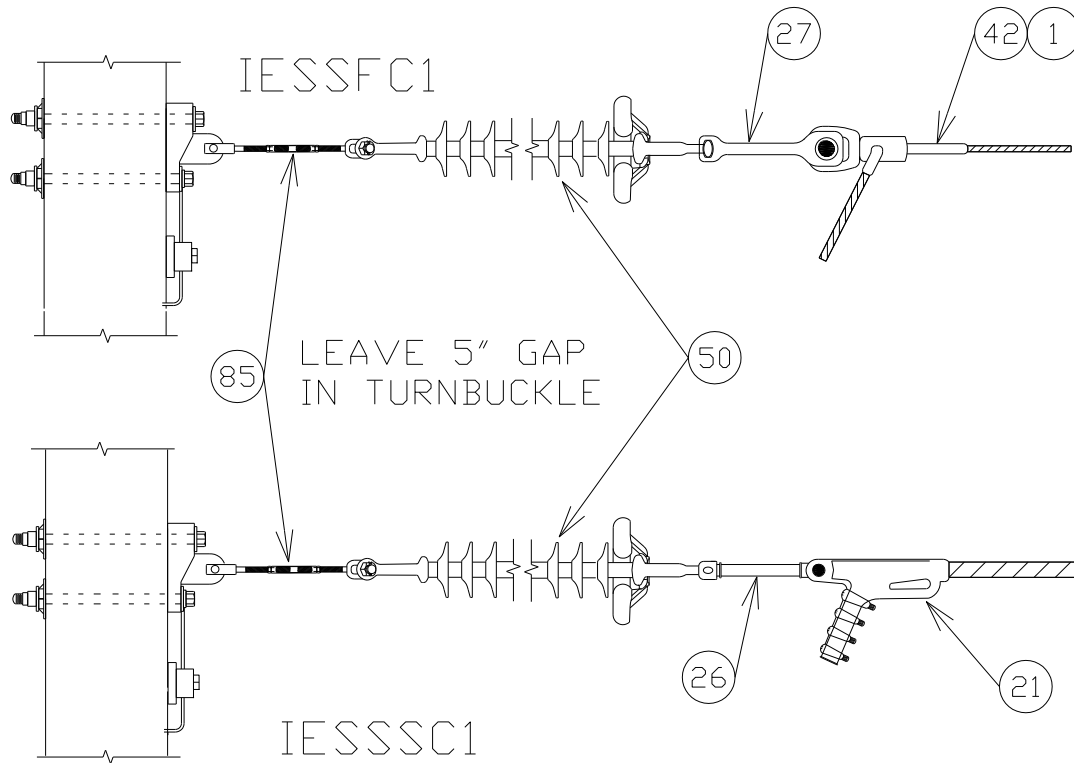
42	DEACB 007	1	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE, ACSR ONLY
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IESSFC1 & IESSSC1

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

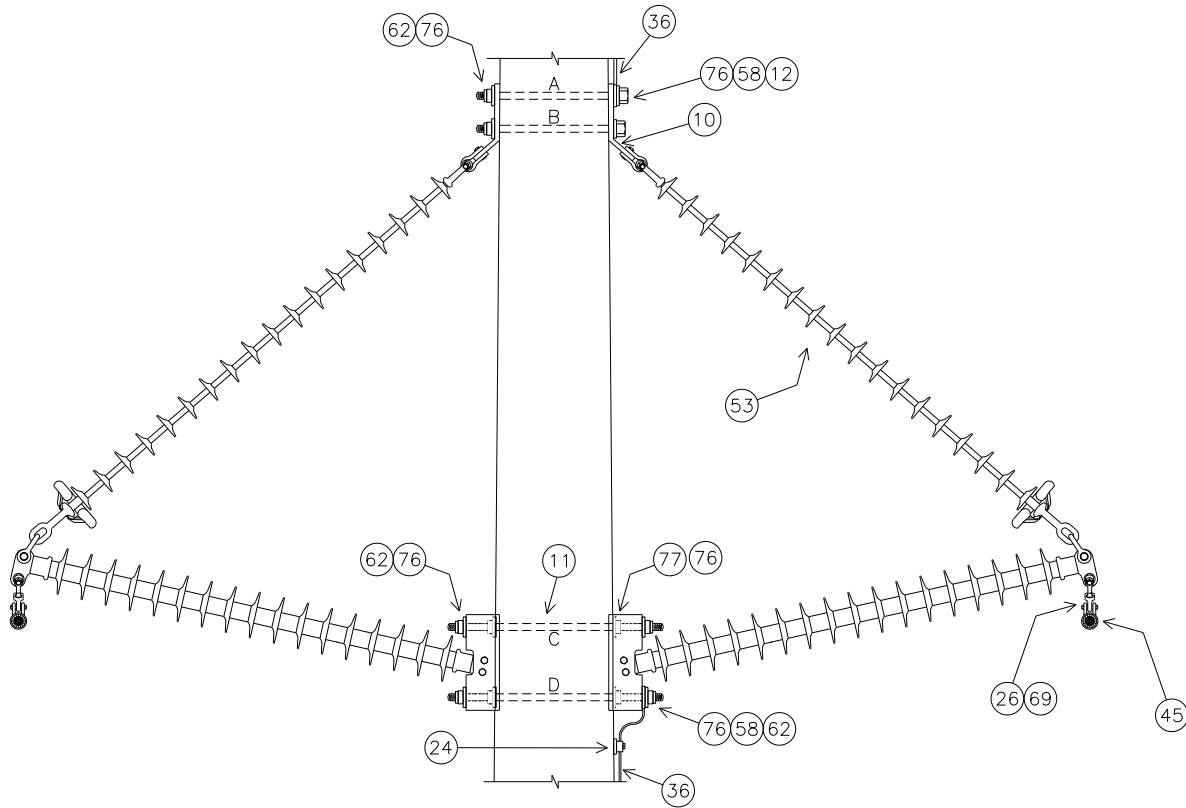
27	CLAQD 005	1	DEADEND CLAMP (.7 - 1.39" = 336-1272 ACSR, 397-1431 AAC) 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
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IESSSC1*1590

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

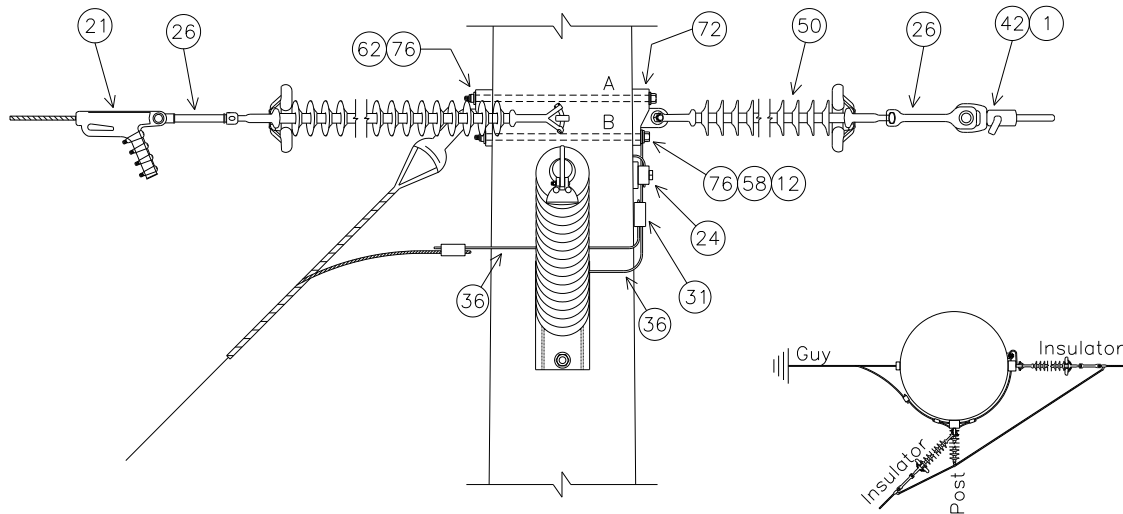
45	GRISA 005	6	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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ISDD3FSC3

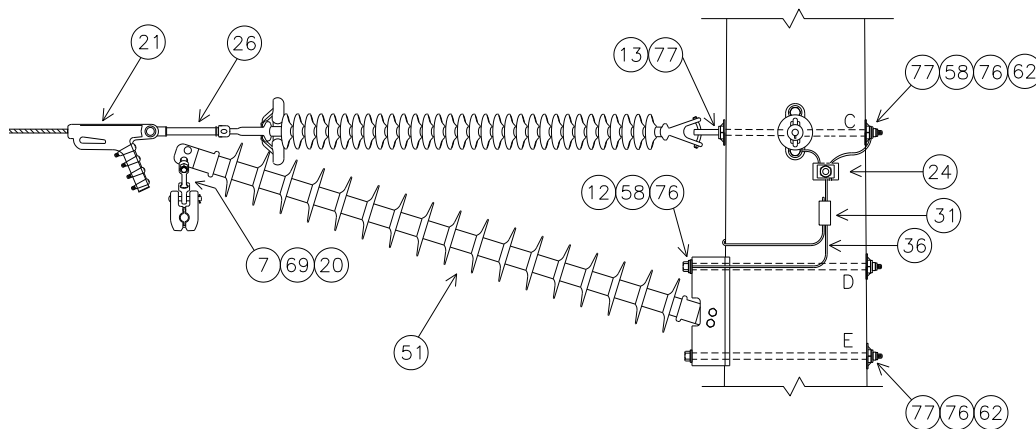
INSULATOR FOR SPUN CONCRETE POLES

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

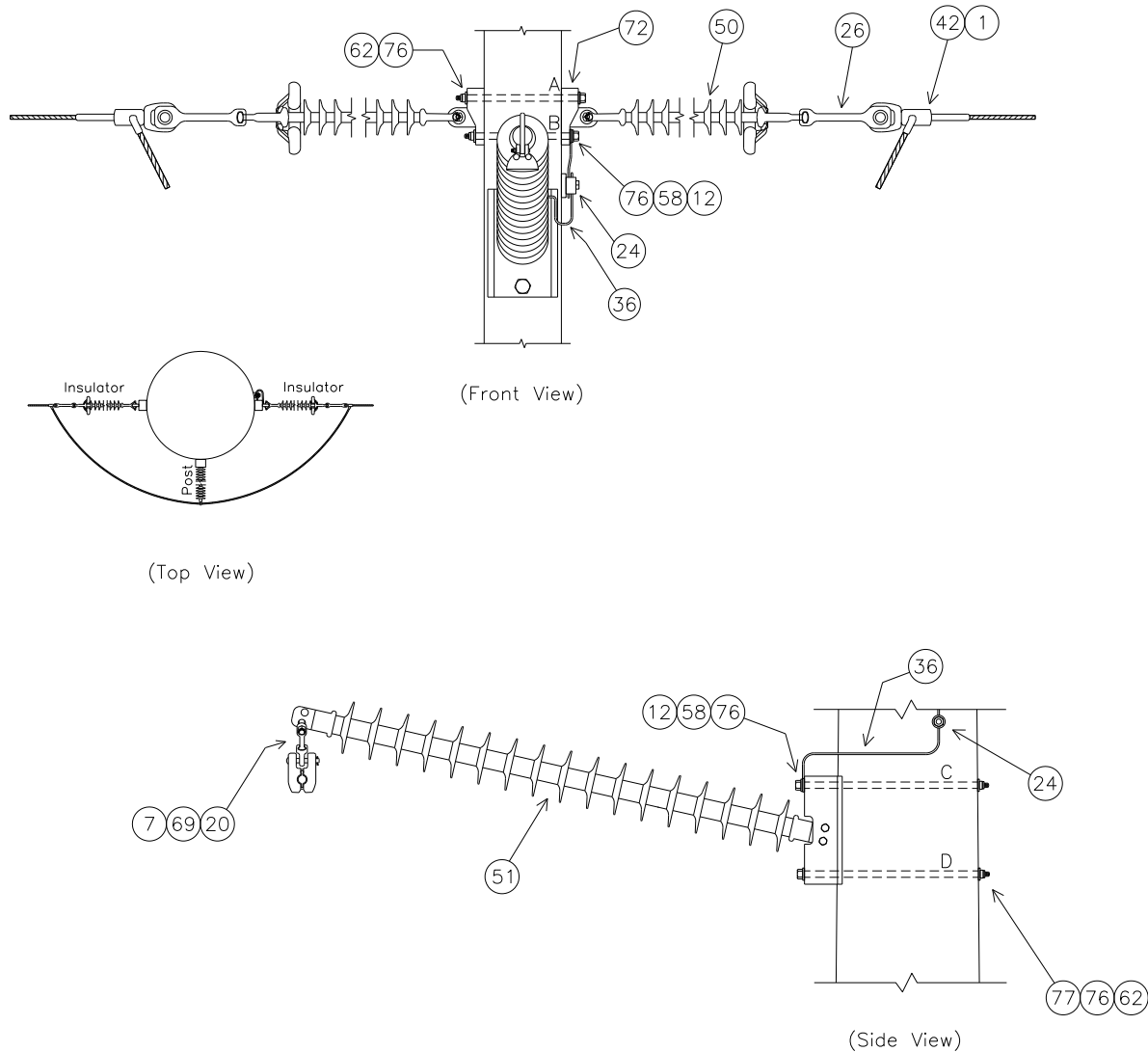
Note: use 7/8" bolts for Post Insulator and Slack Tension Insulator.

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

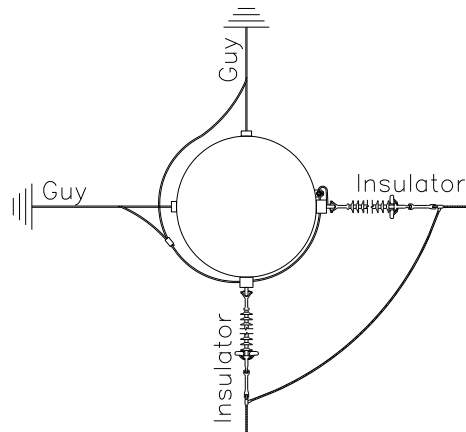
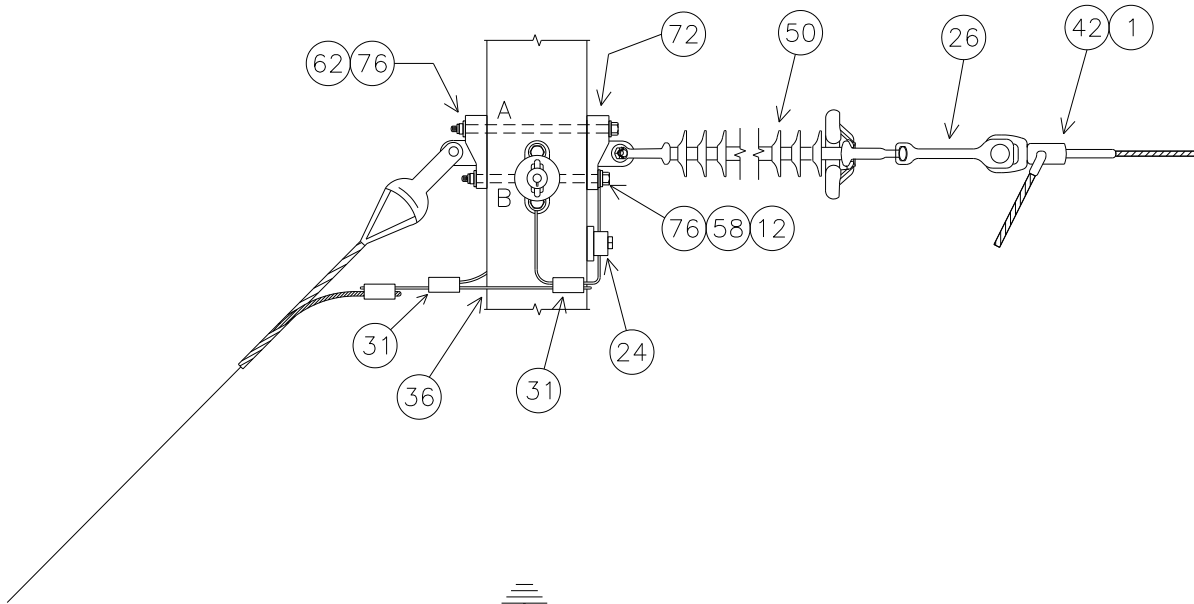
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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

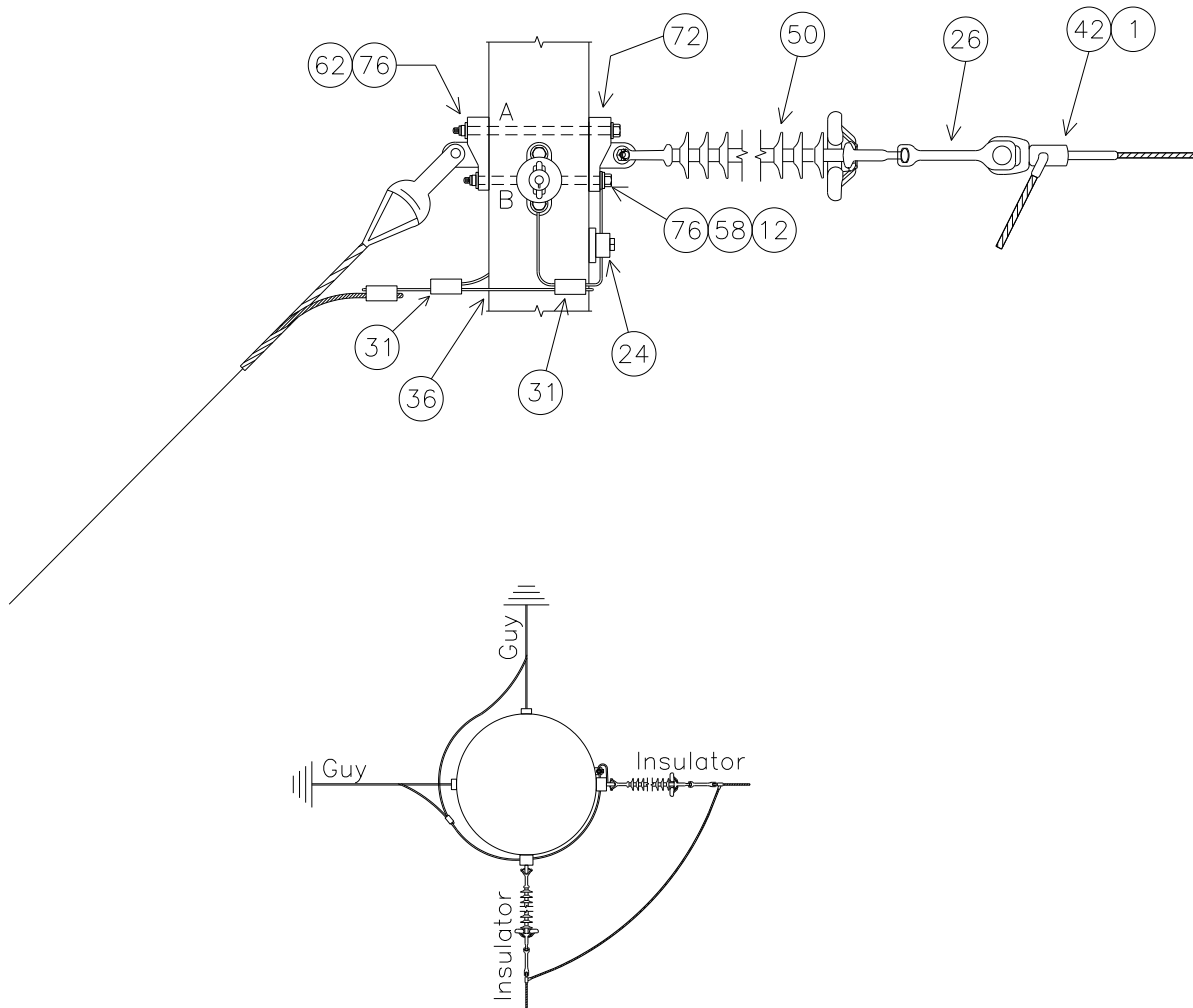
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	2	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
42	DEACB 007	2	DEADEND COMPRESSION ASSEMBLY FOR 1590 ACSR, OVAL EYE
58	LUGGR 003	2	LUG FOR 1" BOLT, #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

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

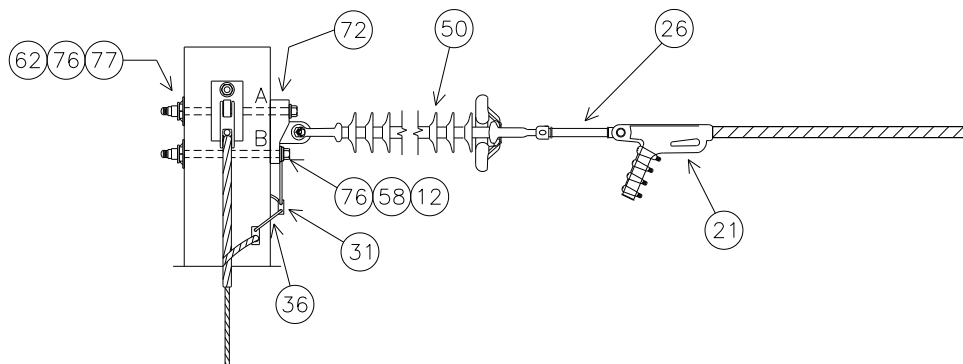
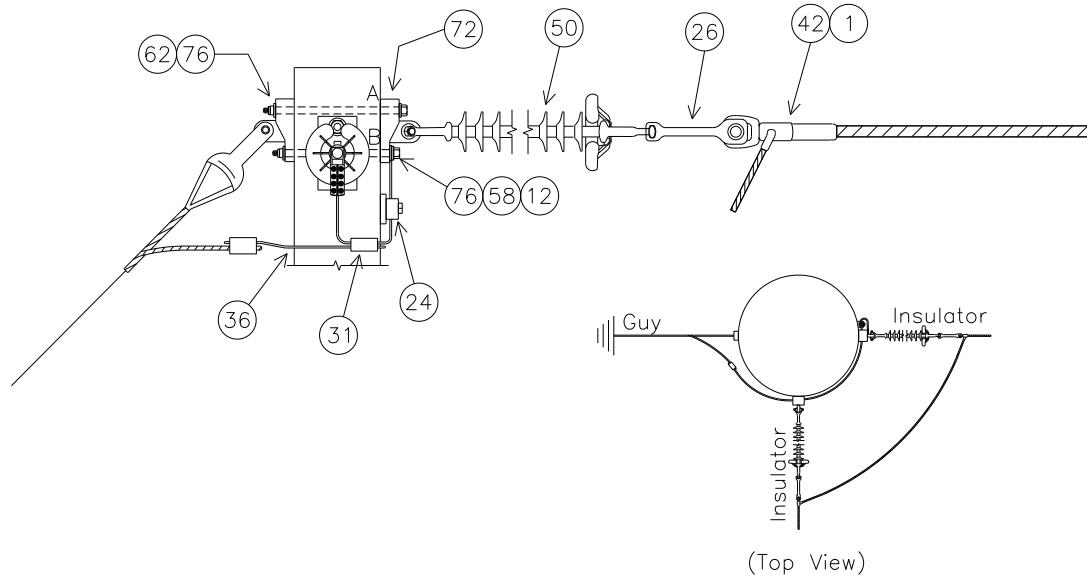
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	4	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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

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

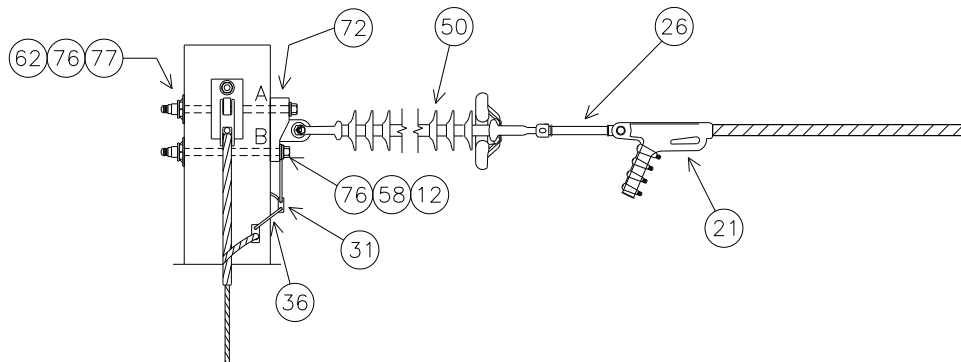
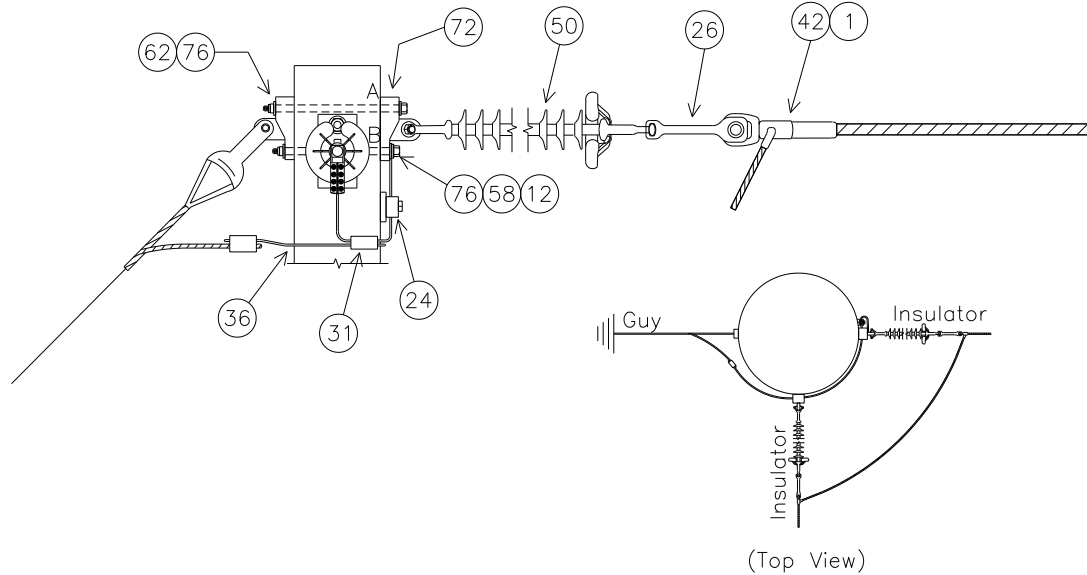
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
21	CLAQD 006	1	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"
42	DEACB 007	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

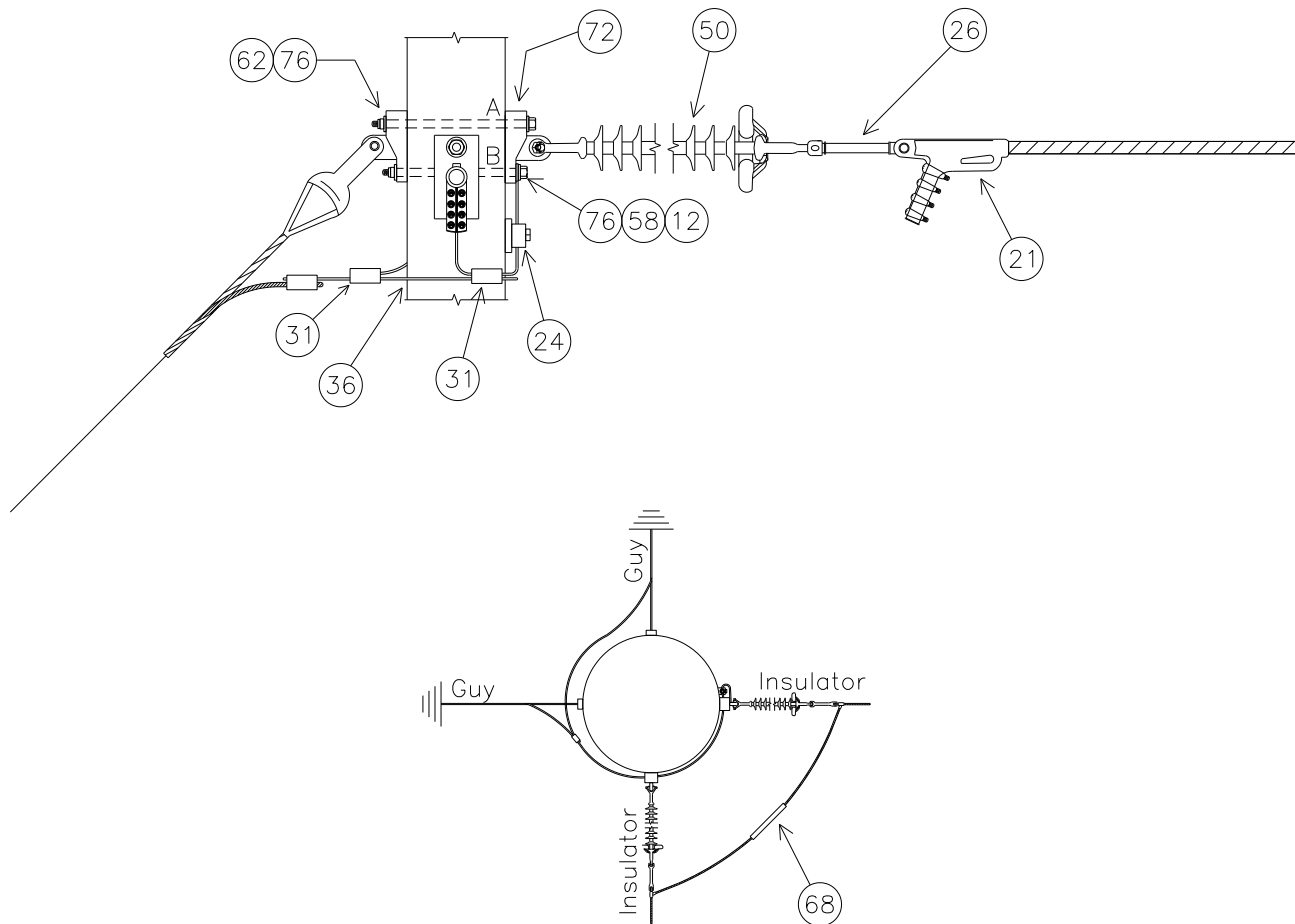
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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

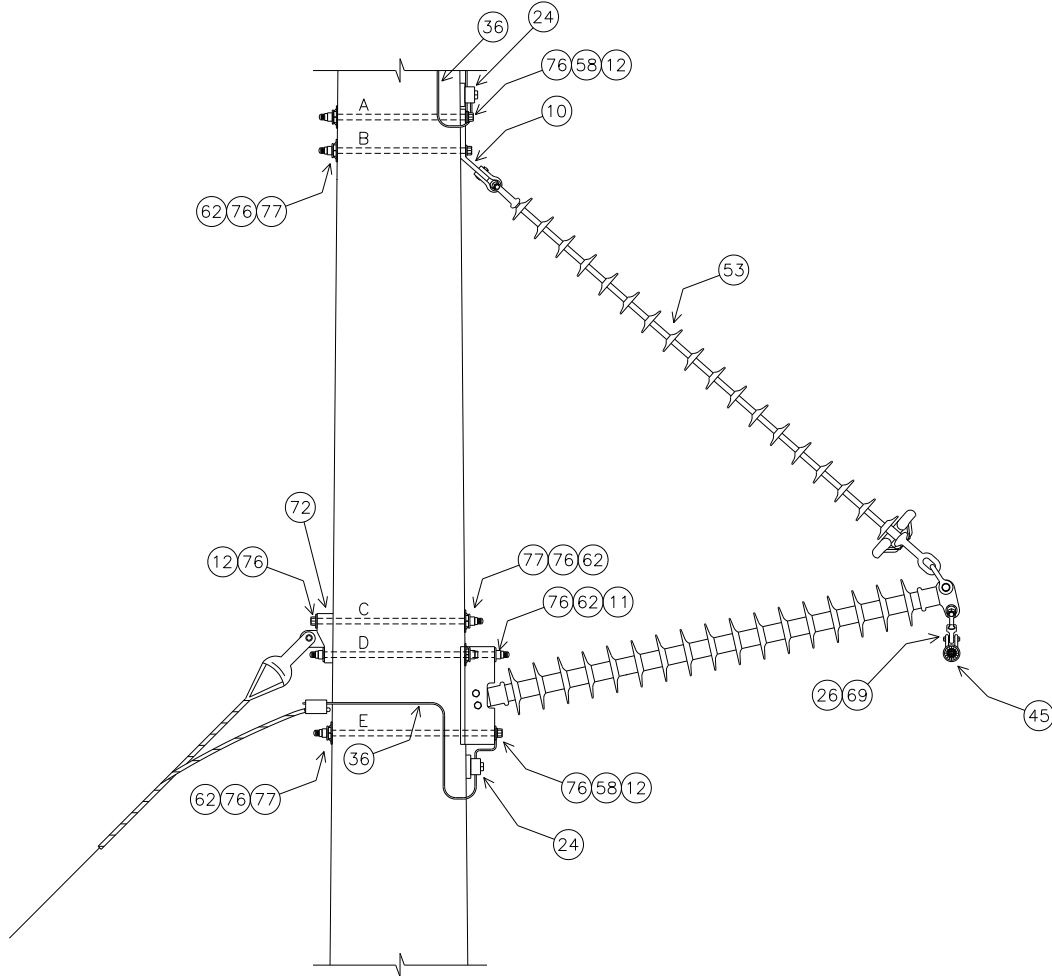
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 005	6	DEADEND CLAMP (.7 – 1.39") 35,000# STRENGTH, GAP = 1 7/16", PIN = 3/4"
68	SLEAJ 005	3	ALUM. SLEEVE JUMPER FOR 954 ACSR 54/7, COMPRESSION SPLICE, NON-TENSION ONLY

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

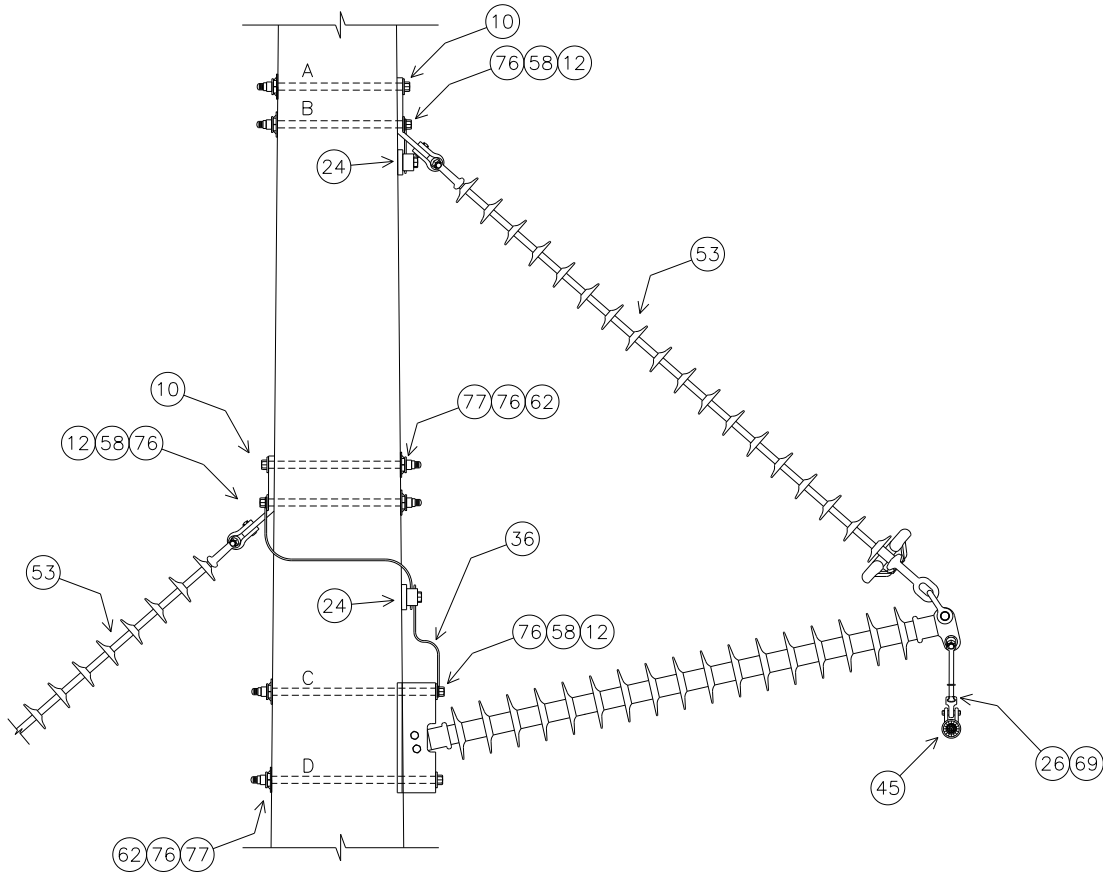
45	GRISA 005	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 1590 ACSR, 88", 1 3/8" GAP, 3/4" PIN
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ISSBDC3

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

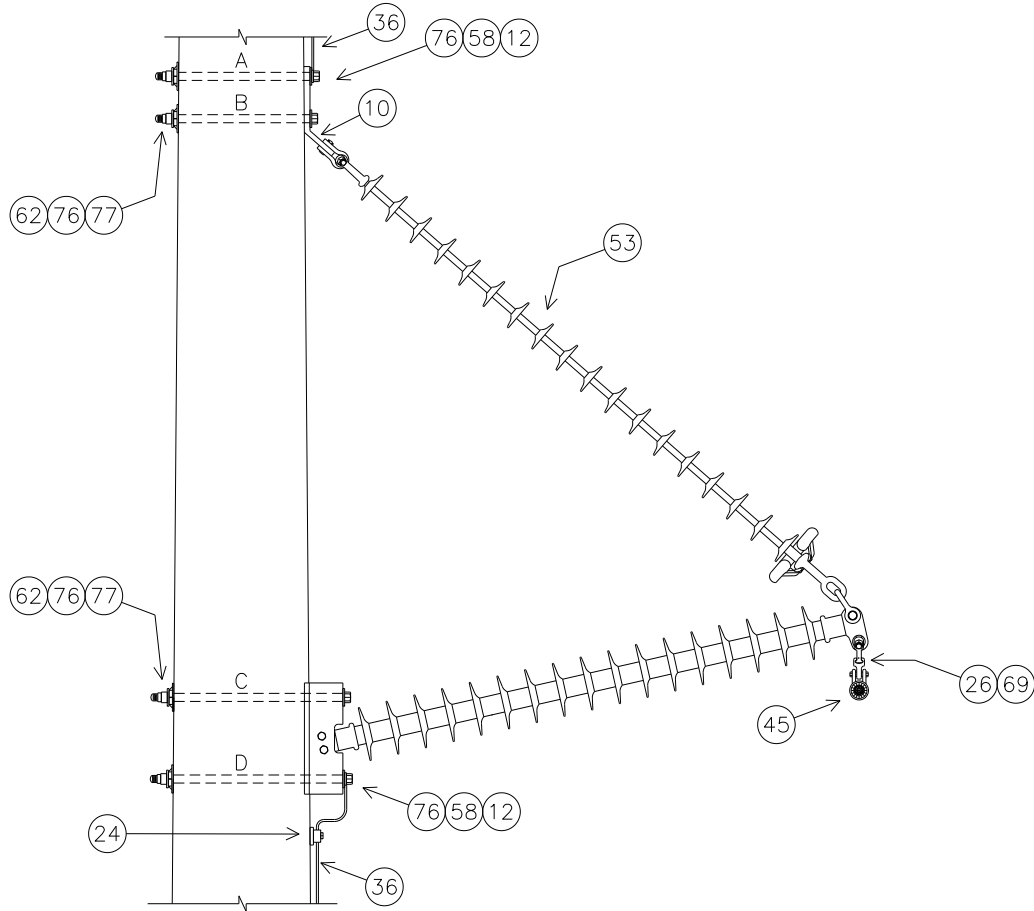
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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ISSBDC3*1590

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

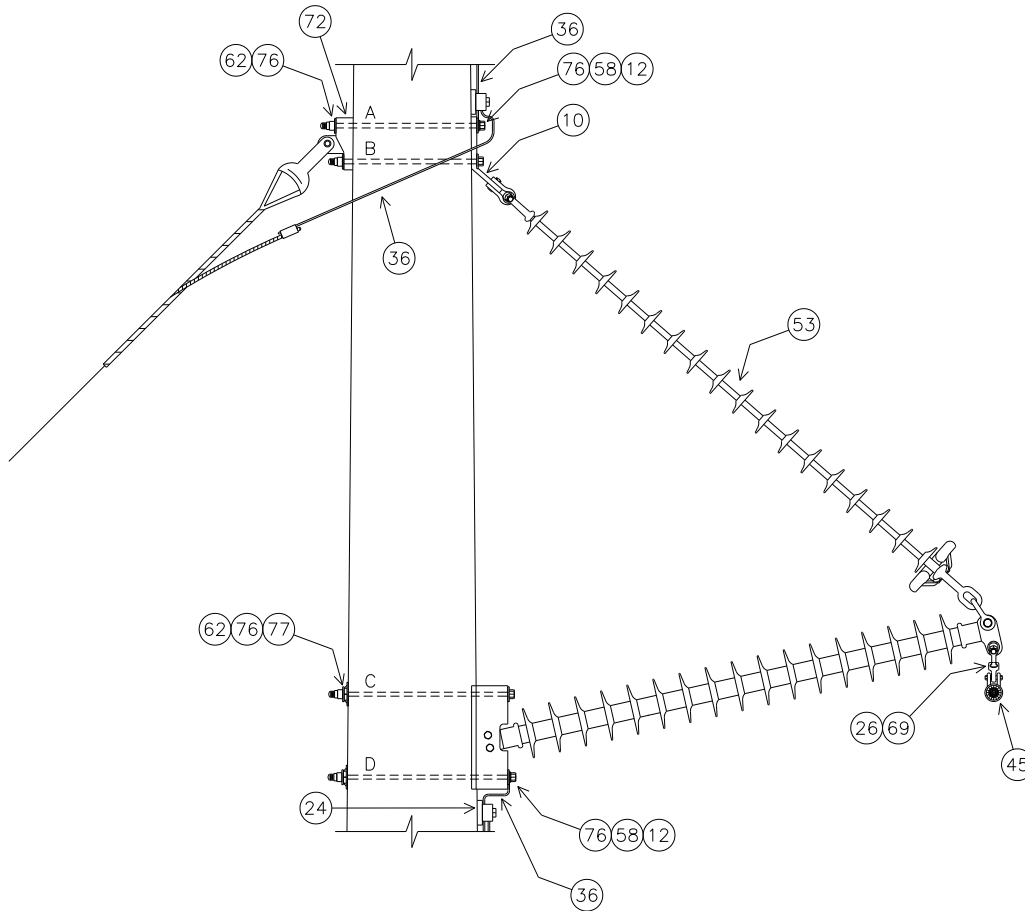
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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ISSBNGC3*1590

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

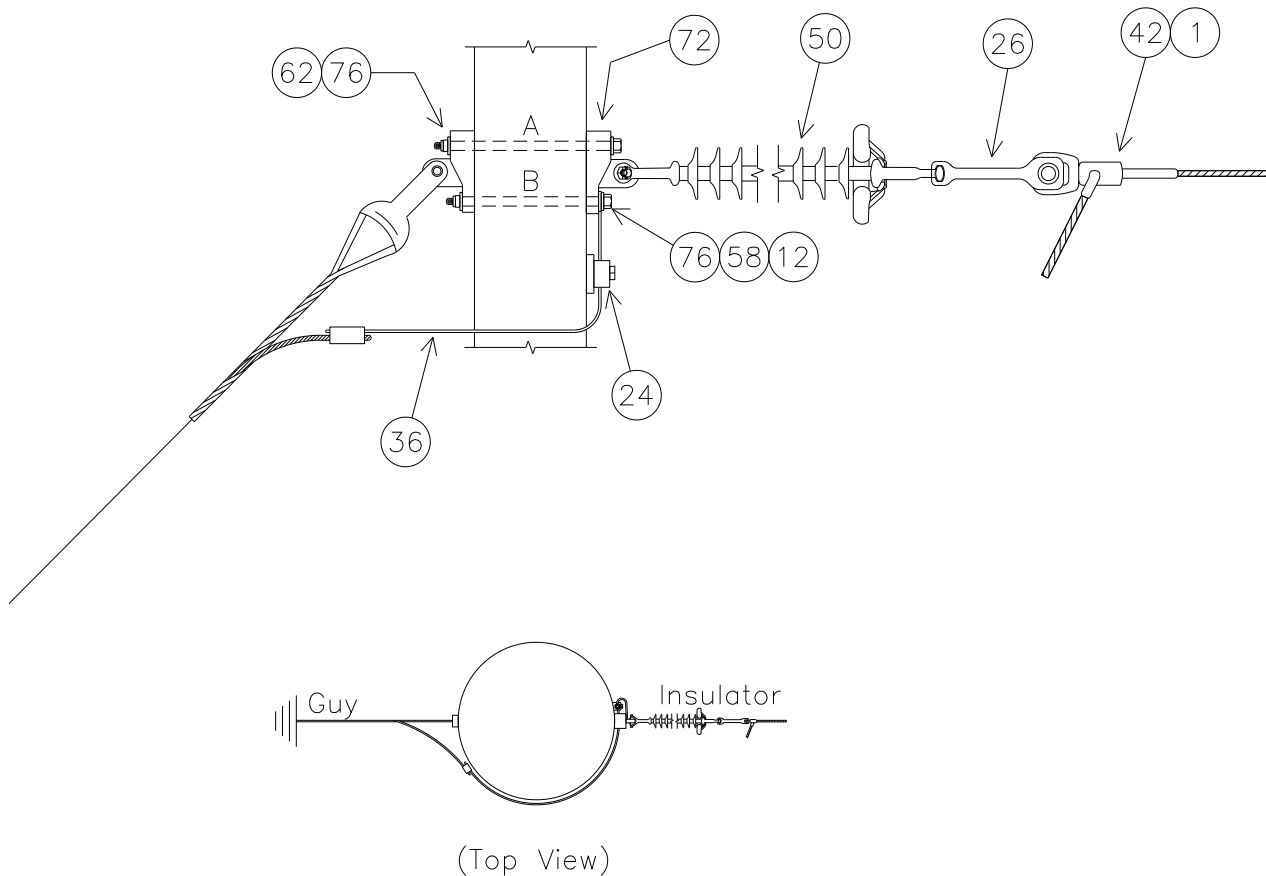
45	GRISA 004	3	ARMOR GRIP SUSPENSION ASSEMBLY FOR 954 ACSR, 82", 1 3/16" GAP, 5/8" PIN
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ISSBTGC3*1590

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

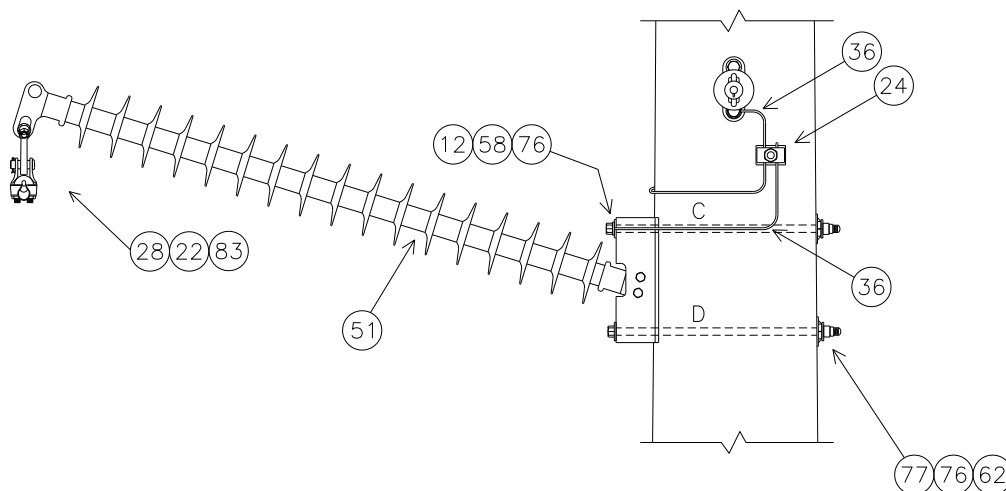
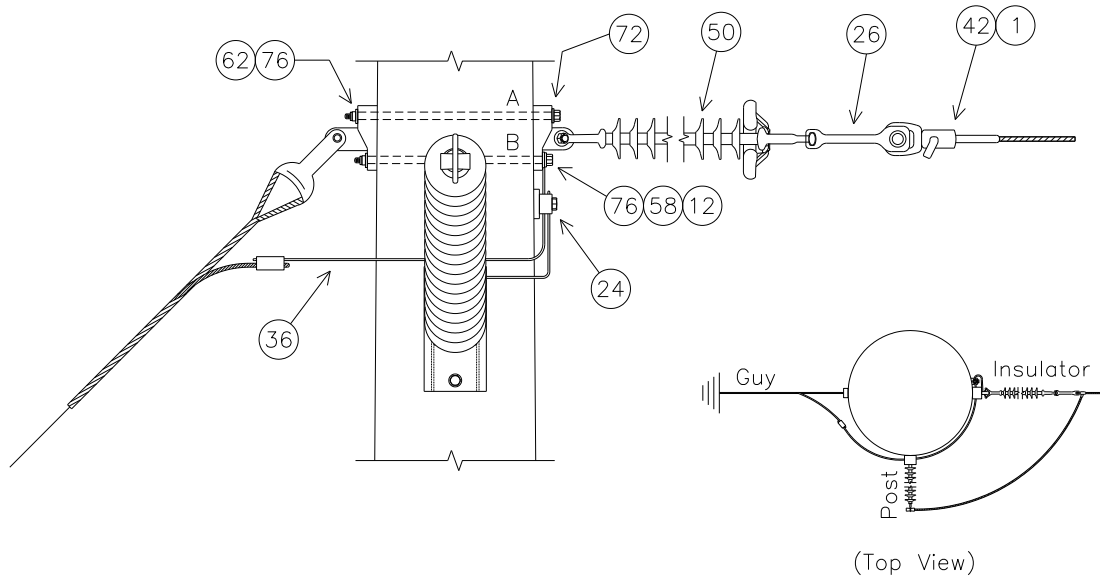
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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

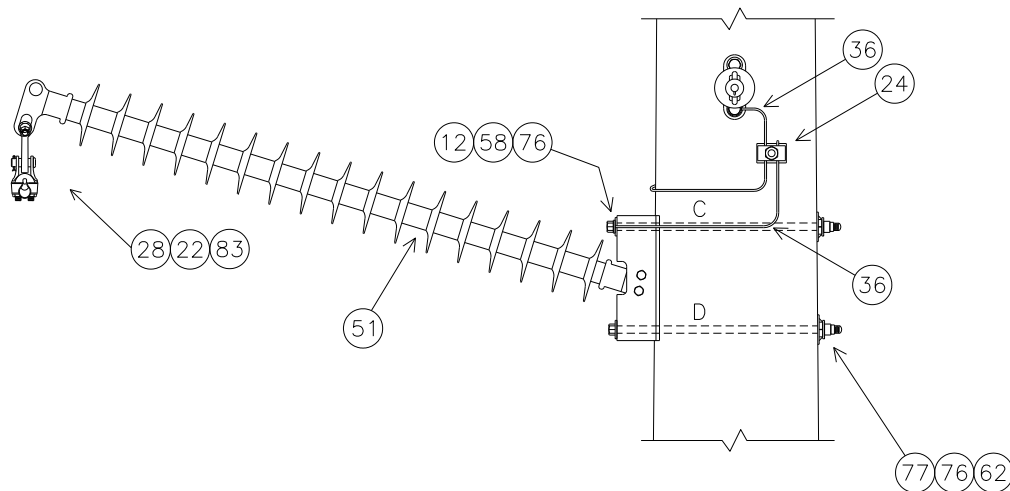
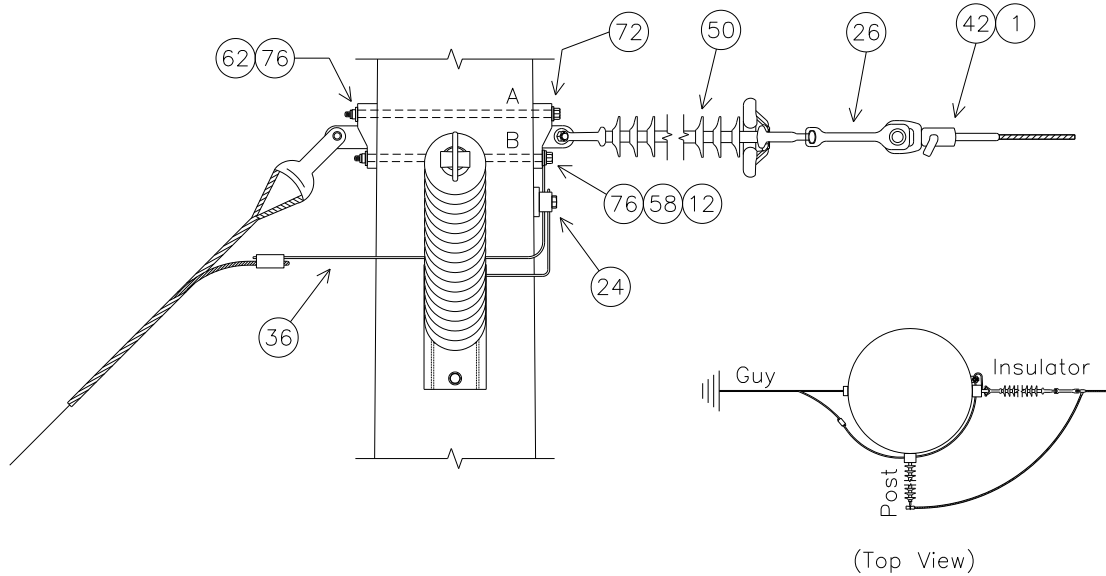
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 061	1	MACHINE BOLT, 1" X 20", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 062	1	MACHINE BOLT, 1" X 22", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 063	2	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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

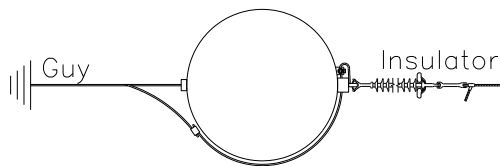
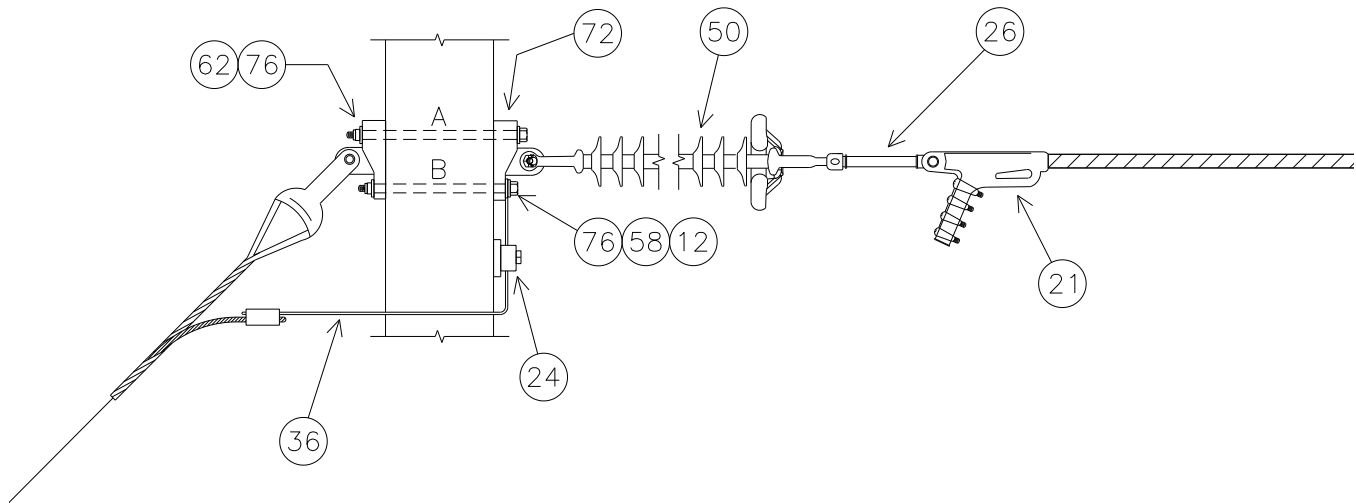
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 063	1	MACHINE BOLT, 1" X 24", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 064	1	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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

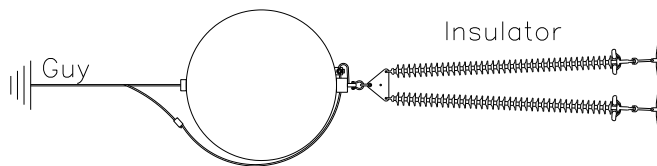
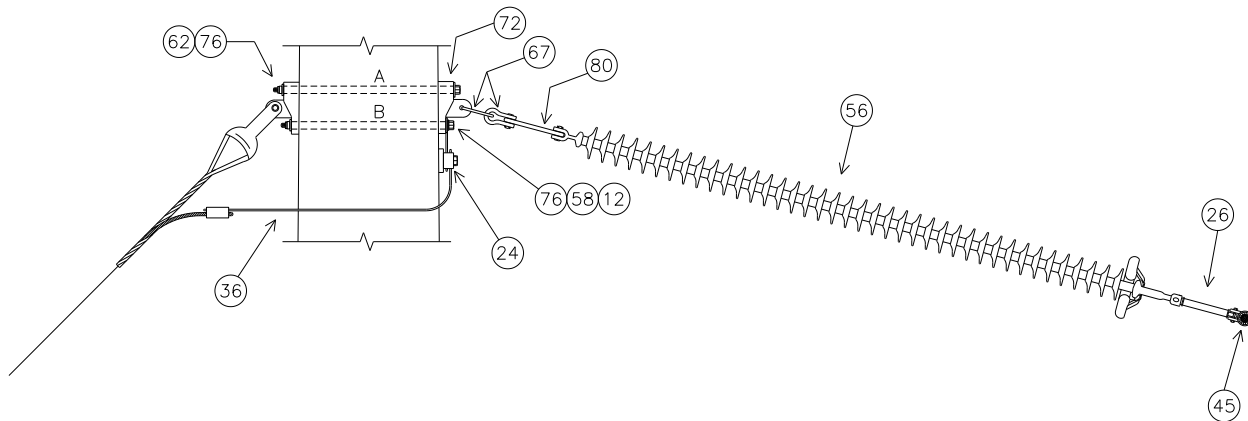
NO.	ITEM ID	QTY	DESCRIPTION
21	CLAQD 006	3	DEADEND CLAMP (1.18 - 1.52") 35,000# STRENGTH, GAP = 2", PIN = 3/4"

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

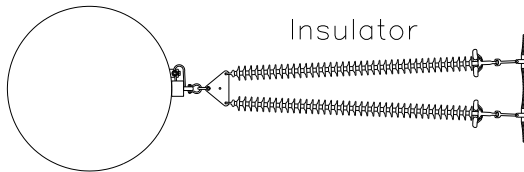
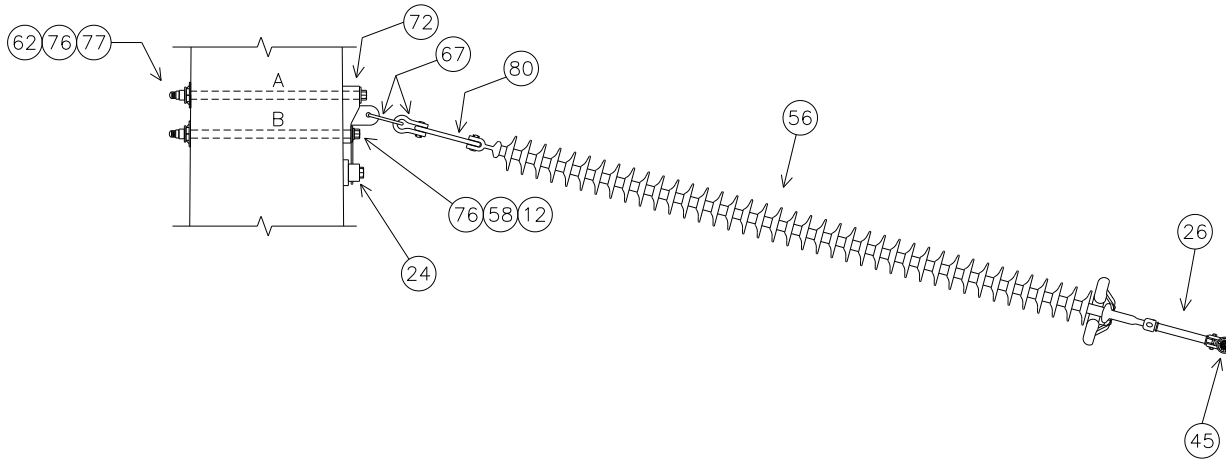
NO.	ITEM ID	QTY	DESCRIPTION
12	BOLMS 064	2	MACHINE BOLT, 1" X 26", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 070	2	MACHINE BOLT, 1" X 28", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 071	1	MACHINE BOLT, 1" X 30", SQUARE HEAD, GALVANIZED, WITH SQUARE NUT ATTACHED
12	BOLMS 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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