

- 1.0 GENERAL NOTES
- 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS [X.X]
- 1.2 FOR PATENT INFO: <https://www.adwpat.com>
- 2.0 DESIGN NOTES
- 2.1 ANY HAZARDS OR OBSTRUCTIONS TO THE CLIMBING FACILITY AND SAFETY CLIMB MUST BE IDENTIFIED PRIOR TO INSTALLING THE APPURTENANCE. ADDITIONAL PRODUCTS MAY BE REQUIRED TO MAINTAIN THE INTEGRITY OF THE SAFETY CLIMB. DURING INSTALLATION, TEMPORARY AND/OR PERMANENT PRECAUTIONARY MEASURES SHOULD BE TAKEN TO PRESERVE THE CLIMBING FACILITY AND/OR SAFETY CLIMB.
- 2.2 UP TO 5.0° TAPER AVAILABLE ON MODELS THAT SUPPORT ADJUSTMENT
- 3.0 MANUFACTURING/SPECIAL REQUIREMENTS
- 3.1 TIGHTEN ALL BOLTS SECURING FLAT PLATES BY THE TURN-OF-NUT METHOD. TIGHTEN ALL U-BOLTS USING TURN-OF-NUT METHOD WITH ATTENTION TO LEAVE EQUAL DISTANCE AND EQUAL FORCE ON EACH LEG OF THE U-BOLT.
- 4.0 TEST
- 5.0 PACKAGING
- 5.1 PACKAGING SHALL MEET ANDREW REQUIREMENTS PER DOCUMENT IS-PL-3005.
- 5.2 PRINTED DOCUMENT TO BE PLACED INSIDE POLYBAG AND THEN IN SHIPPING CONTAINER.
- 5.3 EXTRA HARDWARE MAY BE SUPPLIED, BAGGED AND SHIPPED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	RY1002 22NOV23	YC1015 40183018CMO
B	ADDED SFG23HDXL-14-4-96, SFG23HDXL-14-4-126, SFG23HDXL-14-5-96, SFG23HDXL-14-5-126, SFG23HDXL-13-4-96 AND SFG23HDXL-13-4-126 TO SERIES	RY1002 11DEC23	YC1015 40182550CMO
C	CHG PALLET FROM QVPALLET TO 74X38PALLET; UPDATED SFG23180-00 TO ADD UNIVERSAL INTERFACE PLATES	RY1002 31JUL24	XK1001 40199966CMO
D	UPDATED EPA TABLE	YMENG 12DEC24	CB1094 40210882CMO
E	SHEET 4&8: ADDED AZIMUTH ADJUSTMENT RANGE VIEW & NOTE	JL1183 10JAN25	BA1025 40212102CMO
F	ADDED SFG23HDXL-15-B TO SERIES	NSUN 13MAY25	YC1015 50102838AMO

SHOULD BE INSTALLED WITH UNIVERSAL
INTERFACE PLATES FACING OUTWARDS

STRAP FOR REFERENCE

PIPE BUNDLE

STRAP FOR REFERENCE

STEEL BUNDLE

CROSSOVER PLATE KIT

STEEL BUNDLE HARDWARE KIT

SADDLE MOUNT KIT

STIFF ARM MOUNT KIT

STRAP FOR REFERENCE

WITH SFG23180-00 MOUNTED
ON TOP OF SFG2206

ALL GB-05225 BOLTS IN
THIS ORIENTATION

UNIVERSAL INTERFACE PLATES AT
THIS ORIENTATION (BOTH SIDES)

DETAIL A
SCALE 1 : 5

**ANDREW**[®] an Amphenol company

TOLERANCES

1 PLACE .X[X] ± 0.2[6.3] 3 PLACE .XXX[X] ± 0.060[1.5]
2 PLACE .XX[X] ± 0.12[3.0] ANGLES ± 2°

SAP MATERIAL MASTER

SEE TABLE1

FINISH

MATERIAL

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
INTERPRET PER ANSI Y 14.5M-1994

	NAME	DATE	TITLE
CE	RY1002	22NOV23	SFG23HDXL SECTOR FRAME SERIES
RW	YC1059	06/13/2025	
AD	YMENG	06/13/2025	
RE	YMENG	06/13/2025	
ECN 50102838AMO			

SCALE
1:12

DOCUMENT NO.
SFG23HDXL

SIZE	Auth Group	INSL	MODEL			DRAWING			SHEET
			VERSION	STATUS	REVISION	VERSION	STATUS	REVISION	
C			01	RE	B	05	RE	F	1 OF 12

DENSITY

MASS

VOLUME

SURFACE AREA

HEIGHT

LENGTH

WIDTH

lbs/in³

lbs

in³

in²

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PART NUMBERS, WEIGHTS, & EPA

TABLE 1: CONFIGURATIONS																		
PART NUMBER	DESCRIPTION	WEIGHT (LBS)	MOUNT EPA W/NO ICE (FT²)			MOUNT EPA W/ 1/2" ICE (FT²)			ANTENNA PIPES	INCLUDED PARTS								
			EPA(N)	EPA(T)	EPA(A) 3-SECTORS	EPA(N)	EPA(T)	EPA(A) 3-SECTORS		SM-U2080HDC23	SFG22HDX-HK01	SFG23HDXL-SB01	SFG23HDXL-HK01	PB02TEB0212P	PB02TEB0408K0212P	PB02TEB0410K0212P	PB02TEB0408K0213P	PB02TEB04TEK0213P
										PB02TEB0410K0213P	PB02TEB0214P	PB02TEB0408K0214P	PB02TEB0410K0214P	PB02TEB0508K0214P	PB02TEB0510K0214P	PB02TEB0215P	SFG2399	XP-2525-8
										XP-2525-4	XP-2525-6							
SFG23HDXL-12-B	SECTOR FRAME 12' FACE, NO AP	721.03	11.54	10.61	26.57	16.90	16.48	40.05	-	1	1	1	1	1	-	-	-	-
SFG23HDXL-12-4-96	SECTOR FRAME 12' FACE,(4) 96" ANT	971.85							4	1	1	1	1	-	1	-	-	-
SFG23HDXL-12-4-126	SECTOR FRAME 12' FACE,(4) 126" ANT	1032.19							4	1	1	1	1	-	-	1	-	-
SFG23HDXL-13-4-96	SECTOR FRAME 13' FACE,(4) 96" ANT	979.53	11.80	10.61	26.89	17.25	16.48	40.48	4	1	1	1	1	-	-	-	1	-
SFG23HDXL-13-4-120	PG,SF,13'FP,(4)120"AP	1025.50							4	1	1	1	1	-	-	-	1	-
SFG23HDXL-13-4-126	SECTOR FRAME 13' FACE,(4) 126" ANT	1039.87							4	1	1	1	1	-	-	-	1	-
SFG23HDXL-14-B	SECTOR FRAME 14' FACE, NO AP	751.79	12.60	10.61	27.85	18.31	16.48	41.75	-	1	1	1	1	-	-	-	-	1
SFG23HDXL-14-4-96	SECTOR FRAME 14' FACE,(4) 96" ANT	1002.60							4	1	1	1	1	-	-	-	-	1
SFG23HDXL-14-4-126	SECTOR FRAME 14' FACE,(4) 126" ANT	1062.94							4	1	1	1	1	-	-	-	1	-
SFG23HDXL-14-5-96	SECTOR FRAME 14' FACE,(5) 96" ANT	1065.30							5	1	1	1	1	-	-	-	-	1
SFG23HDXL-14-5-126	SECTOR FRAME 14' FACE,(5) 126" ANT	1140.73							5	1	1	1	1	-	-	-	-	1
SFG23HDXL-15-B	SECTOR FRAME 15' FACE, NO AP	759.20	12.87	10.60	28.16	18.69	16.50	42.23	-	1	1	1	1	-	-	-	-	1

- NOTES:
1. NO MOUNT PIPES CONSIDERED.
 2. MOUNT CONNECTION MEMBERS TO TOWER CONSIDERED.
 3. 3-SECTOR EPA INCLUDES KA FACTORS.

TABLE 2: EPA OF EACH ANTENNA PIPE						
ANTENNA PIPE	MOUNT EPA W/NO ICE (FT²)			MOUNT EPA W/ 1/2" ICE (FT²)		
	FRONT (EPA)N	SIDE (EPA)T	3-SECTORS (EPA)A	FRONT (EPA)N	SIDE (EPA)T	3-SECTORS (EPA)A
2-7/8" X 96"	2.07	2.07	1.84	2.79	2.79	2.48
2-7/8" X 120"	2.59	2.59	2.30	3.49	3.49	3.10
2-7/8" X 126"	2.72	2.72	2.42	3.67	3.67	3.26

- NOTES:
1. ANTENNA PIPES ARE CONSIDERED SEPARATELY.
 2. KA FACTOR OF 3-SECTOR EPA INCLUDED.
 3. COMBINE THE ASSOCIATED EPA VALUES IN THE TABLES ABOVE TO DETERMINE THE EPA OF A MOUNT MODEL WITH A LISTED MOUNT PIPE CONFIGURATION. FOR EXAMPLE: SFG23HDXL-12-4-126 HAS A FRONT EPA OF 11.54 FT² WITH NO ICE PLUS 4 ANTENNA PIPES WITH A FRONT EPA OF 4X2.72=10.88 FT² WITH NO ICE. SO, THE TOTAL FRONT EPA SHOULD BE 22.42 FT²; (SIDE EPA SAME METHOD AS FRONT EPA). WHEN 3 SECTOR FRAME ARE MOUNTED AT THE SAME RELATIVE ELEVATION IN AN ARRANGEMENT, IT HAS A 3-SECTOR EPA OF 26.57 FT² WITH NO ICE PLUS 4 ANTENNA PIPES WITH A 3-SECTOR EPA OF (4X2.42)X3=29.04 FT² WITH NO ICE. SO, THE TOTAL 3-SECTOR EPA SHOULD BE 55.61 FT²;



TITLE

SFG23HDXL SECTOR FRAME SERIES

SIZE

C

SCALE

1:12

DOCUMENT NO.

SFG23HDXL





DRAWING

VERSION

05

STATUS

RE

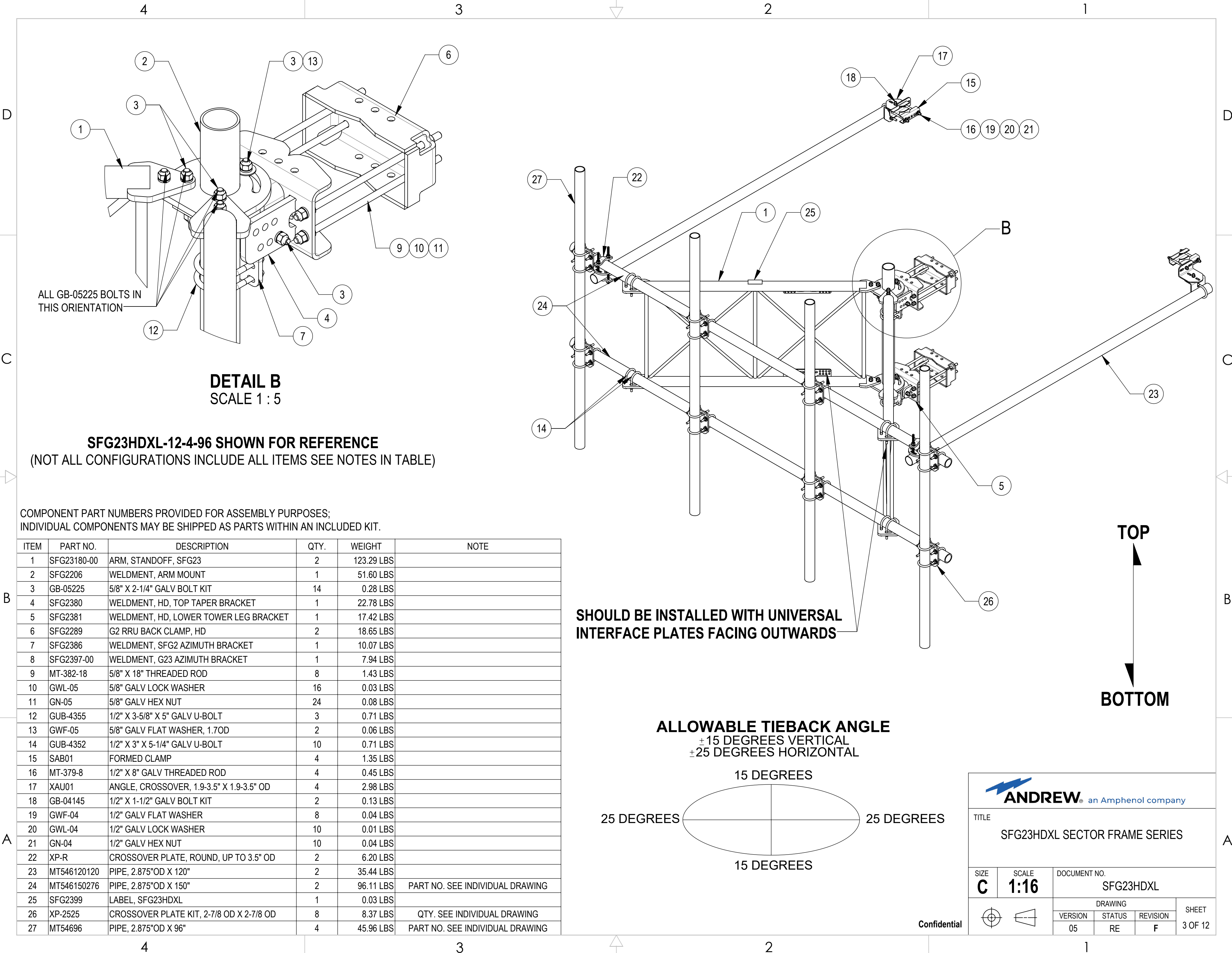
REVISION

F

SHEET

2 OF 12

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ALL GB-05225 BOLTS IN THIS ORIENTATION

DETAIL B
SCALE 1 : 5

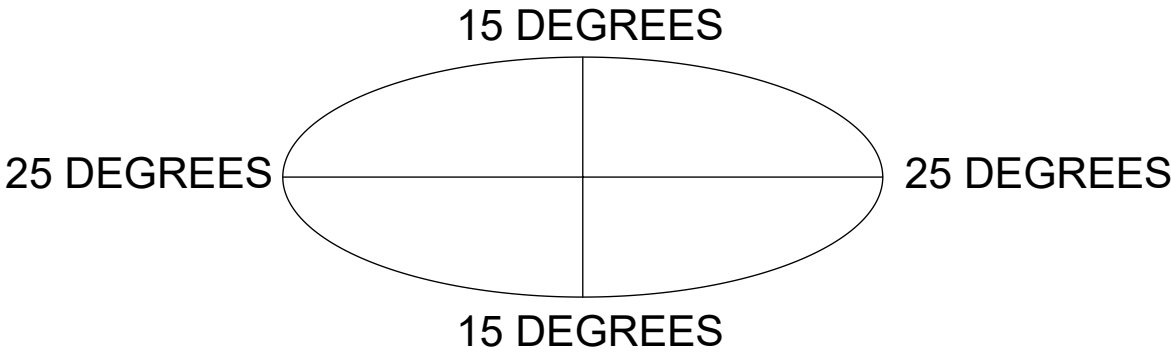
SFG23HDXL-12-4-96 SHOWN FOR REFERENCE
(NOT ALL CONFIGURATIONS INCLUDE ALL ITEMS SEE NOTES IN TABLE)

COMPONENT PART NUMBERS PROVIDED FOR ASSEMBLY PURPOSES;
INDIVIDUAL COMPONENTS MAY BE SHIPPED AS PARTS WITHIN AN INCLUDED KIT.

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE
1	SFG23180-00	ARM, STANDOFF, SFG23	2	123.29 LBS	
2	SFG2206	WELDMENT, ARM MOUNT	1	51.60 LBS	
3	GB-05225	5/8" X 2-1/4" GALV BOLT KIT	14	0.28 LBS	
4	SFG2380	WELDMENT, HD, TOP TAPER BRACKET	1	22.78 LBS	
5	SFG2381	WELDMENT, HD, LOWER TOWER LEG BRACKET	1	17.42 LBS	
6	SFG2289	G2 RRU BACK CLAMP, HD	2	18.65 LBS	
7	SFG2386	WELDMENT, SFG2 AZIMUTH BRACKET	1	10.07 LBS	
8	SFG2397-00	WELDMENT, G23 AZIMUTH BRACKET	1	7.94 LBS	
9	MT-382-18	5/8" X 18" THREADED ROD	8	1.43 LBS	
10	GWL-05	5/8" GALV LOCK WASHER	16	0.03 LBS	
11	GN-05	5/8" GALV HEX NUT	24	0.08 LBS	
12	GUB-4355	1/2" X 3-5/8" X 5" GALV U-BOLT	3	0.71 LBS	
13	GWF-05	5/8" GALV FLAT WASHER, 1.7OD	2	0.06 LBS	
14	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	10	0.71 LBS	
15	SAB01	FORMED CLAMP	4	1.35 LBS	
16	MT-379-8	1/2" X 8" GALV THREADED ROD	4	0.45 LBS	
17	XAU01	ANGLE, CROSSOVER, 1.9-3.5" X 1.9-3.5" OD	4	2.98 LBS	
18	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	2	0.13 LBS	
19	GWF-04	1/2" GALV FLAT WASHER	8	0.04 LBS	
20	GWL-04	1/2" GALV LOCK WASHER	10	0.01 LBS	
21	GN-04	1/2" GALV HEX NUT	10	0.04 LBS	
22	XP-R	CROSSOVER PLATE, ROUND, UP TO 3.5" OD	2	6.20 LBS	
23	MT546120120	PIPE, 2.875"OD X 120"	2	35.44 LBS	
24	MT546150276	PIPE, 2.875"OD X 150"	2	96.11 LBS	PART NO. SEE INDIVIDUAL DRAWING
25	SFG2399	LABEL, SFG23HDXL	1	0.03 LBS	
26	XP-2525	CROSSOVER PLATE KIT, 2-7/8 OD X 2-7/8 OD	8	8.37 LBS	QTY. SEE INDIVIDUAL DRAWING
27	MT54696	PIPE, 2.875"OD X 96"	4	45.96 LBS	PART NO. SEE INDIVIDUAL DRAWING

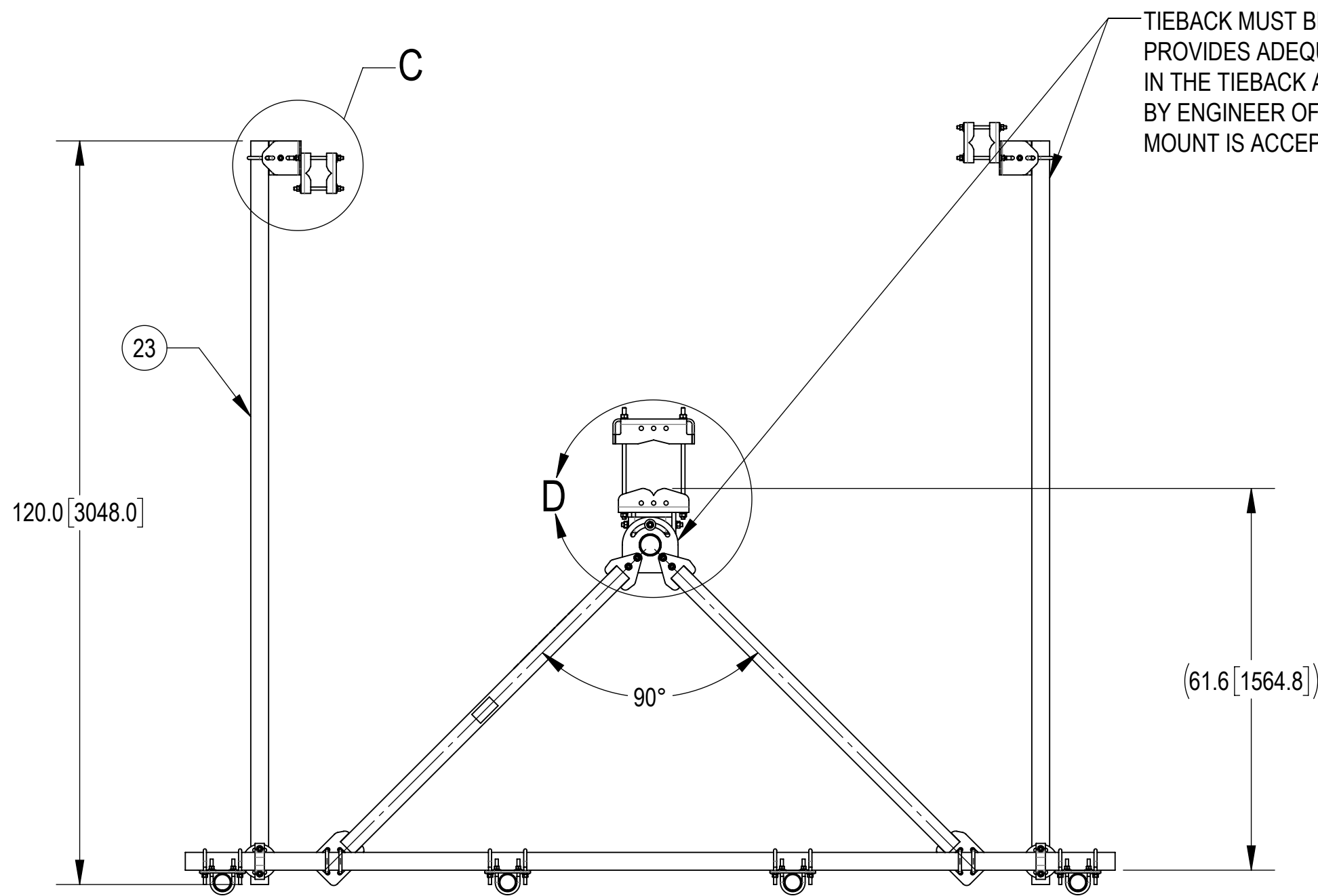
**SHOULD BE INSTALLED WITH UNIVERSAL
INTERFACE PLATES FACING OUTWARDS**

ALLOWABLE TIEBACK ANGLE
± 15 DEGREES VERTICAL
± 25 DEGREES HORIZONTAL



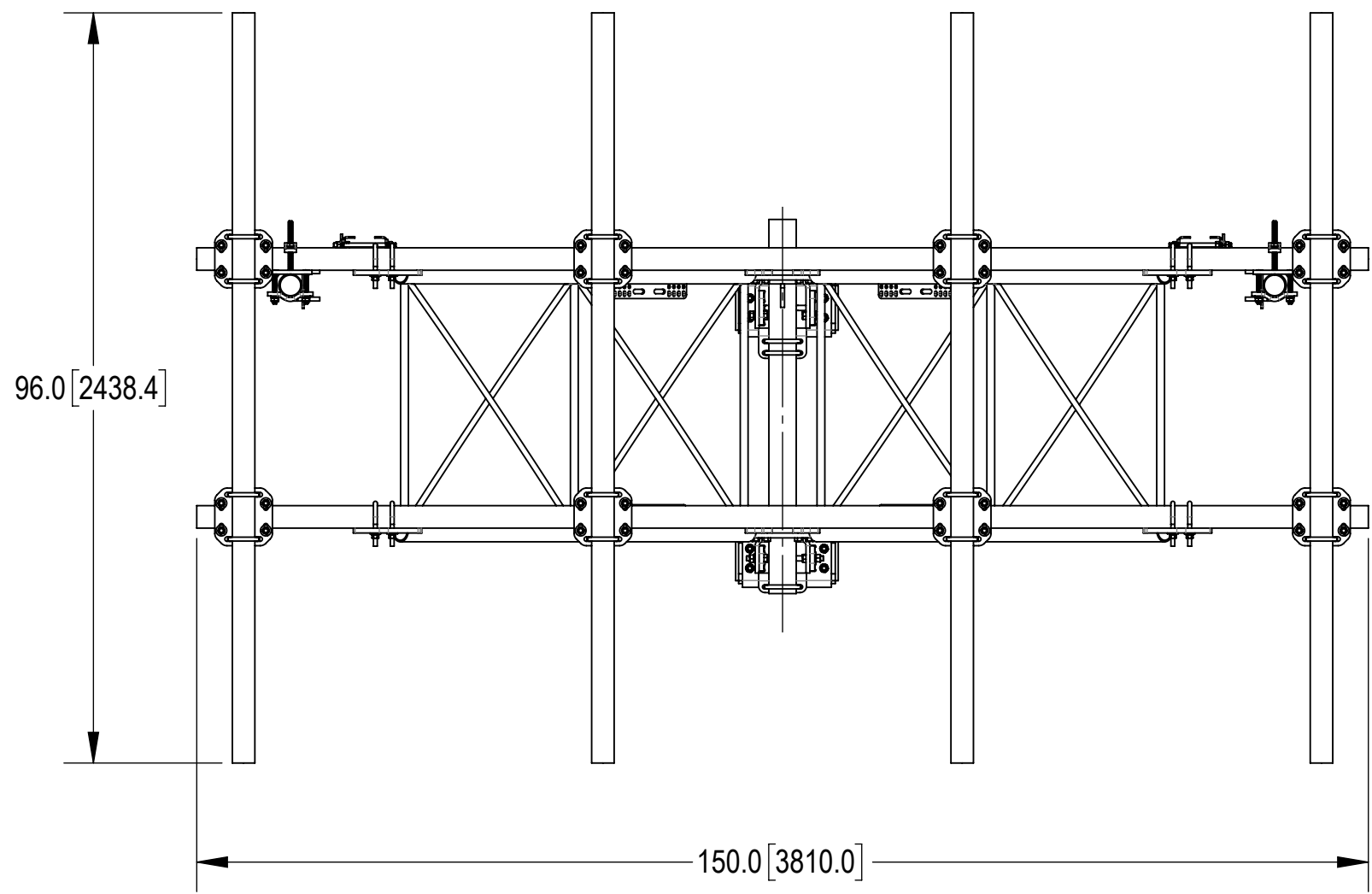
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SIZE C	SCALE 1:16	DOCUMENT NO. SFG23HDXL			
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		VERSION 05	STATUS RE	REVISION F	

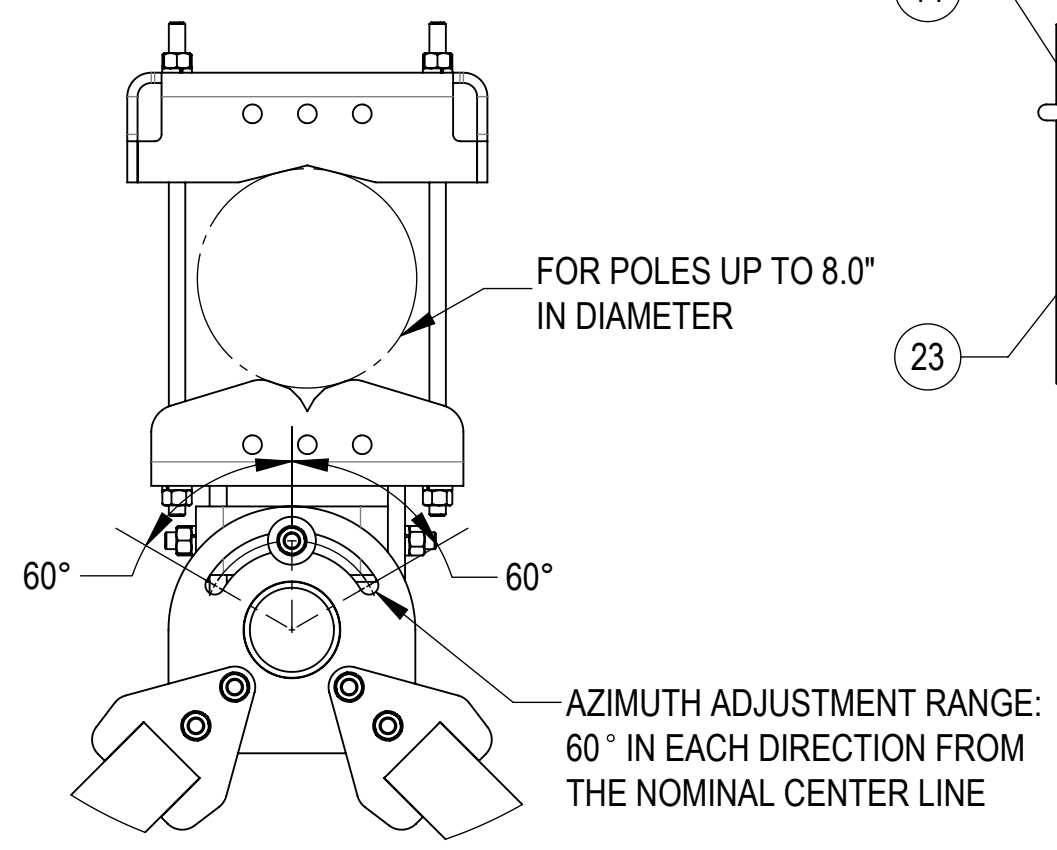
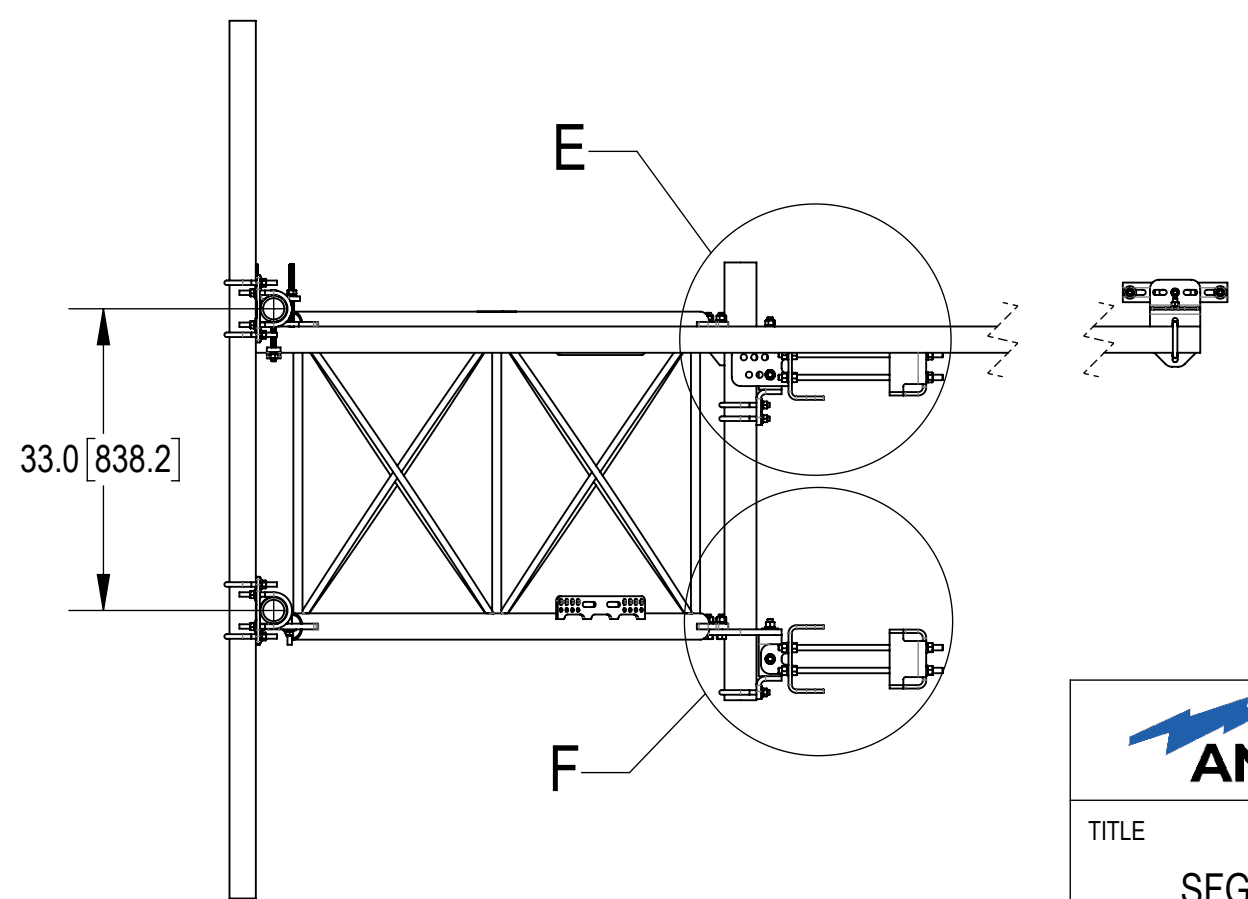


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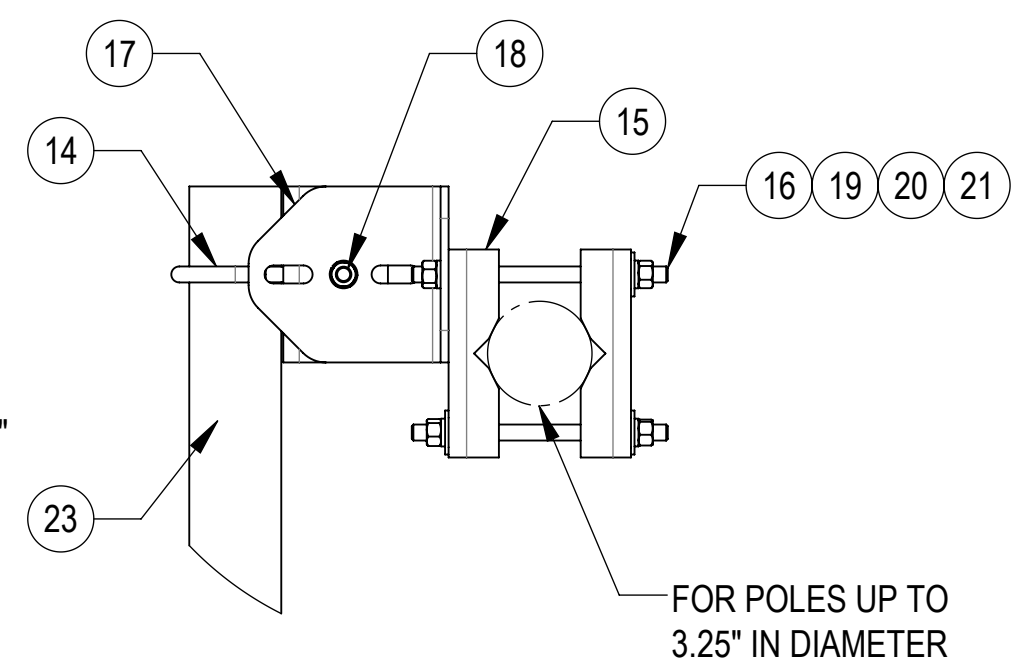
(NOT ALL CONFIGURATIONS INCLUDE ALL ITEMS SEE NOTES IN TABLE ON PAGE 3)



TOP
BOTTOM

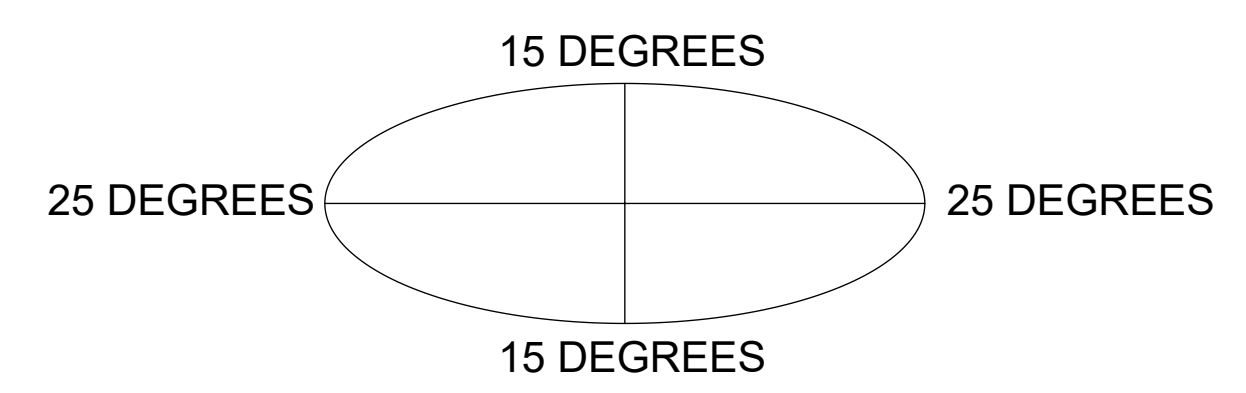


DETAIL D
SCALE 1 : 7



DETAIL C
SCALE 1 : 6

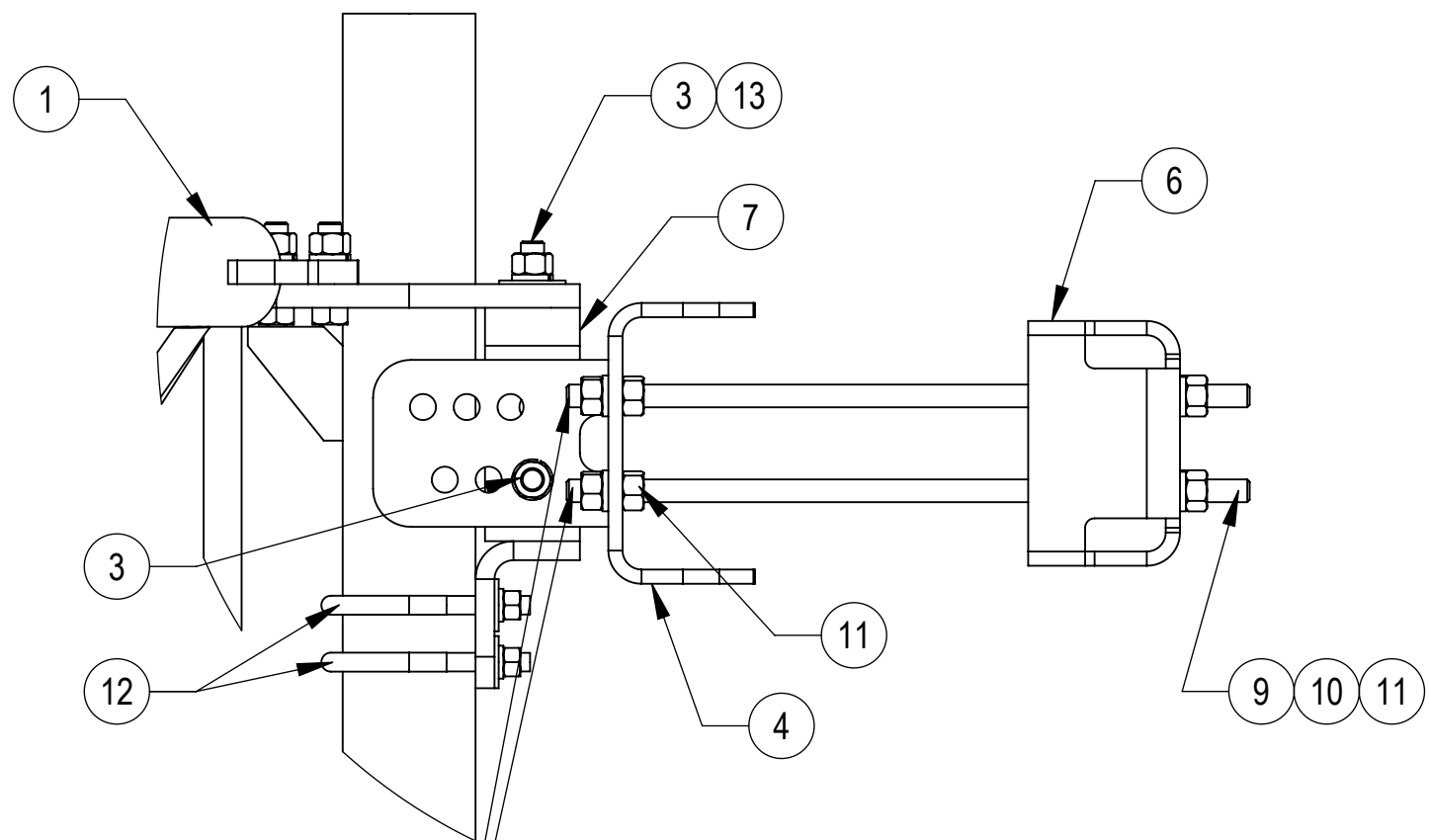
ALLOWABLE TIEBACK ANGLE
±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL



TITLE
SFG23HDXL SECTOR FRAME SERIES

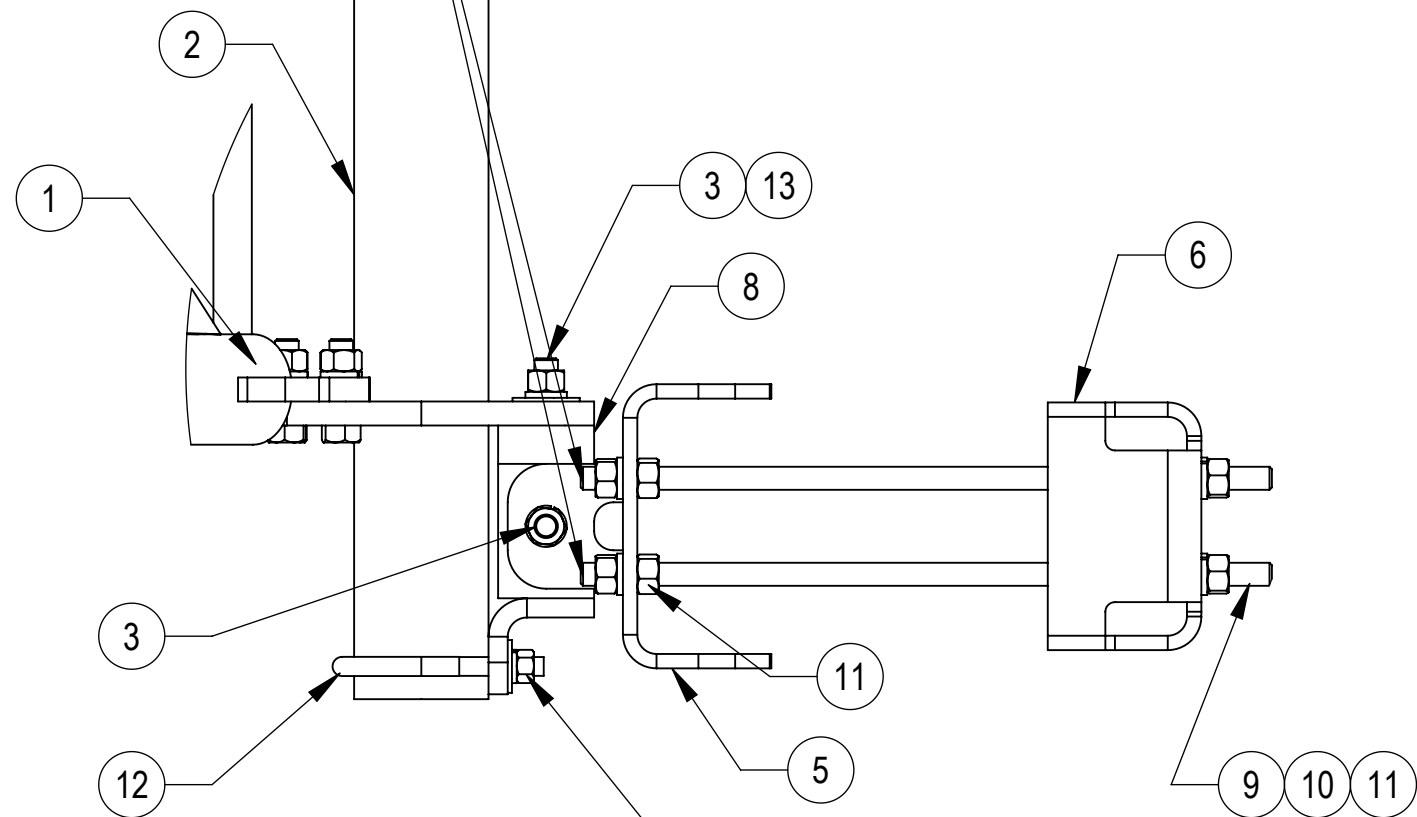
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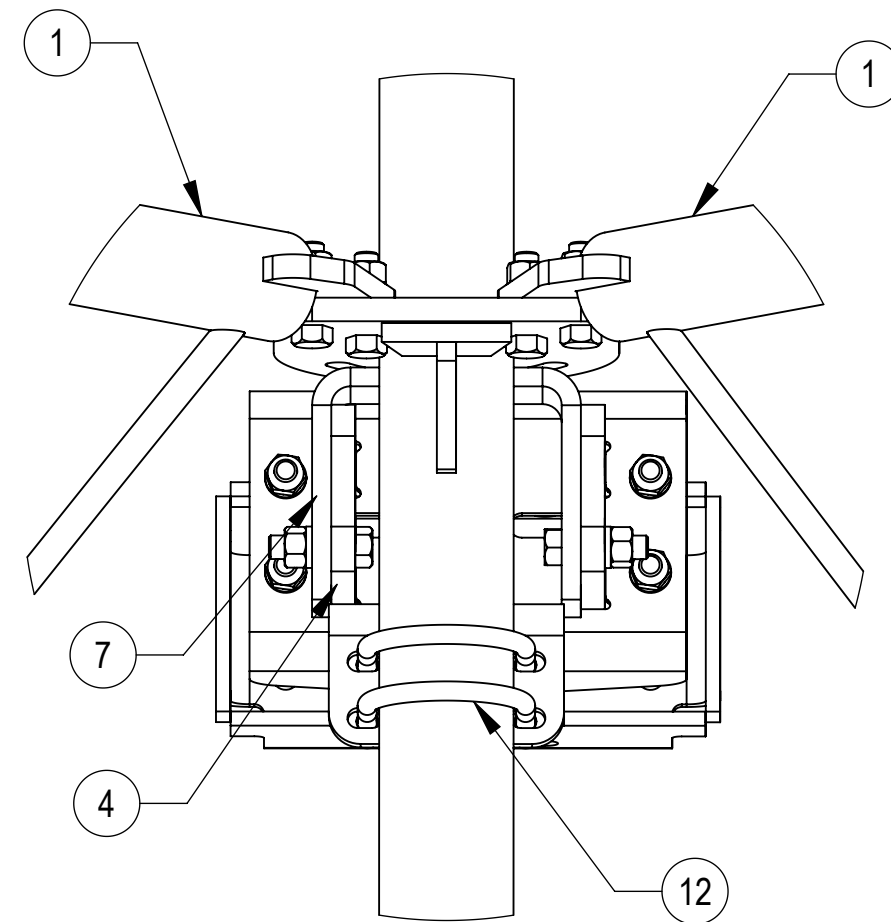
DETAIL E
SCALE 1 : 5

THE THREADED ROD CAN ONLY EXPOSE 4 TO 7 THREADS ON ONE SIDE OF THE BRACKET, WHICH IS TO PREVENT INTERFERENCE WITH THE SIDE BOLTS

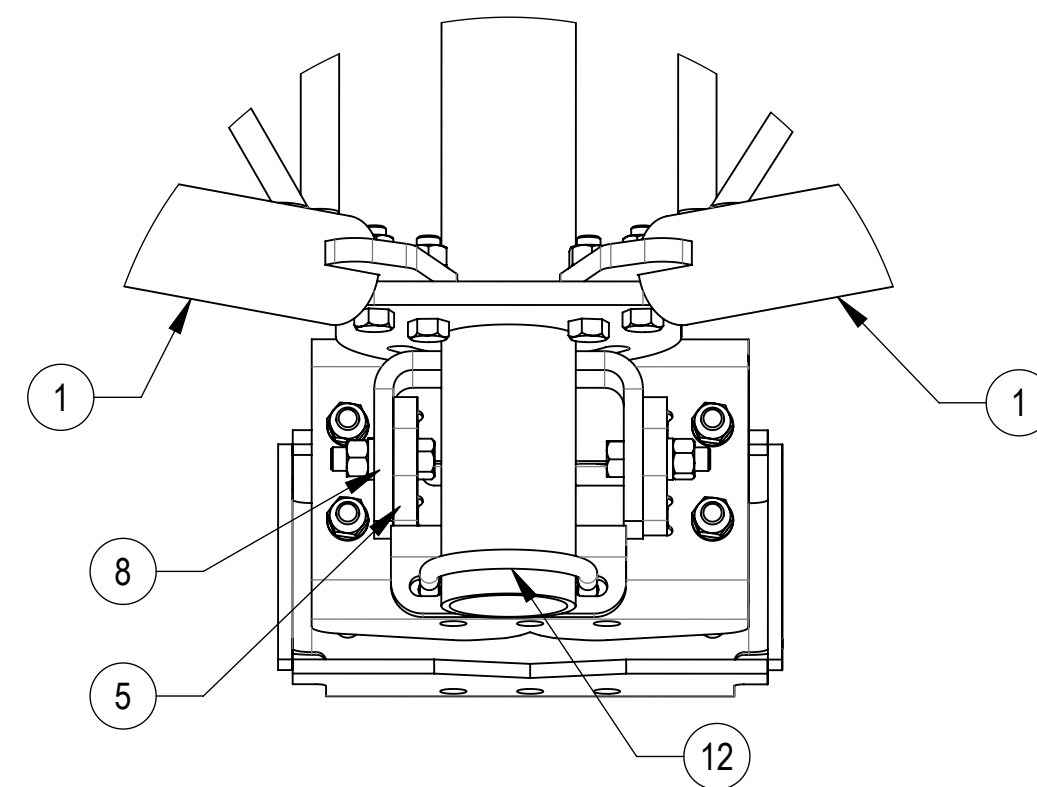


DETAIL F
SCALE 1 : 5

DO NOT OVER TIGHTEN, END OF POLE CAN BE DAMAGED



DETAIL ISO TOP ROTATED VIEW
SCALE 1 : 5



DETAIL ISO BOTTOM ROTATED VIEW
SCALE 1 : 5

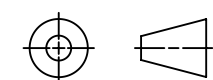


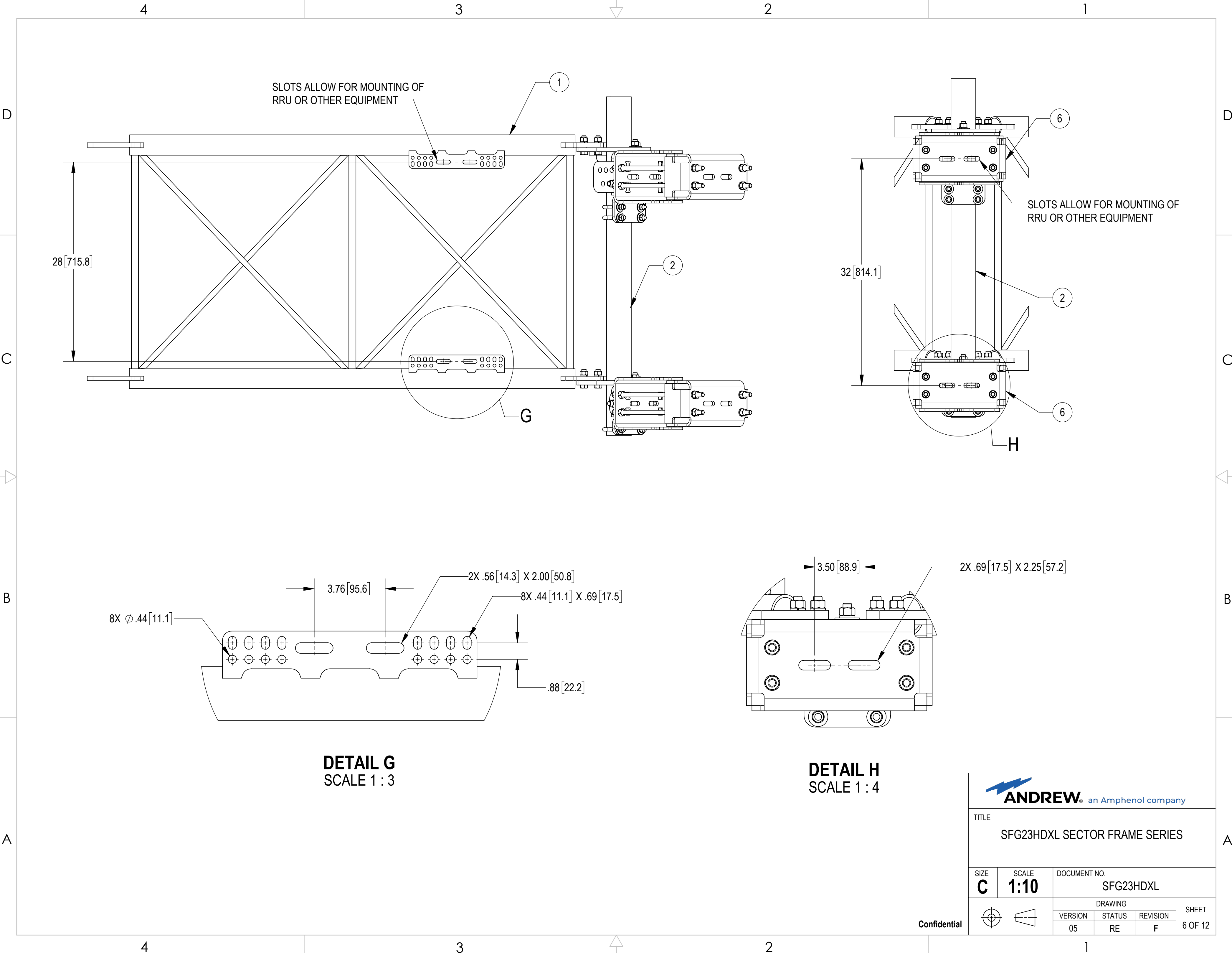
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VERSION 05	STATUS RE	REVISION F	

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TITLE
SFG23HDXL SECTOR FRAME SERIES

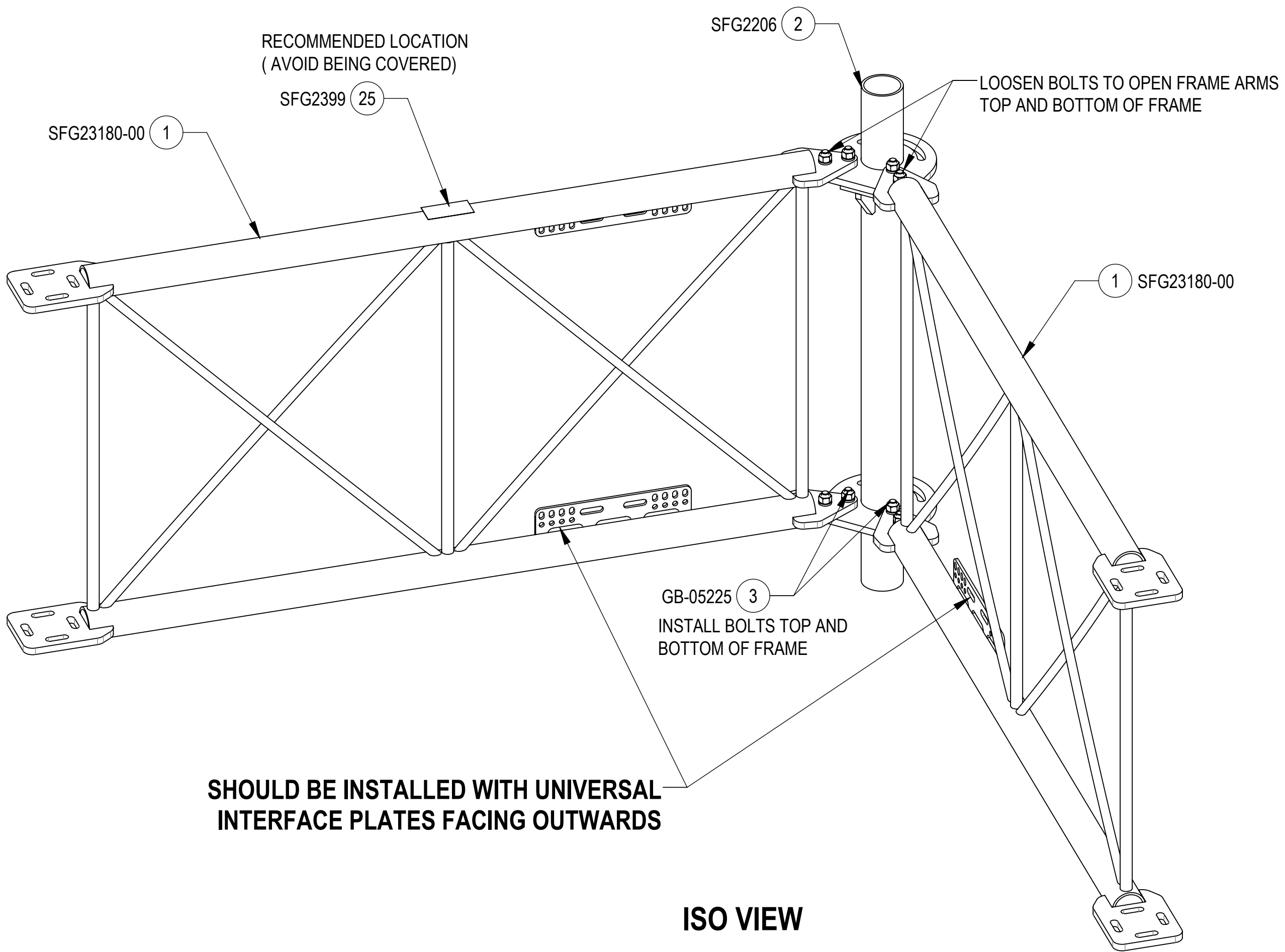
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	DRAWING			SHEET 6 OF 12
	VERSION 05	STATUS RE	REVISION F	

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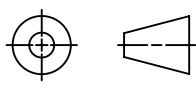
4 3 2 1

INSTALLATION SEQUENCE - REFERENCE ONLY
STEP 1: LOOSEN BOLT KITS (GB-05225) TO OPEN STANDOFF ARMS(SFG23180-00). INSTALL ADDITIONAL 4X BOLT KITS (GB-05225). ATTACH LABEL (SFG2399) ON TOP OF STANDOFF ARMS(SFG23180-00) . (WIPE GALVANIZED SURFACE WITH ALCOHOL CLEANER BEFORE APPLYING LABEL.)



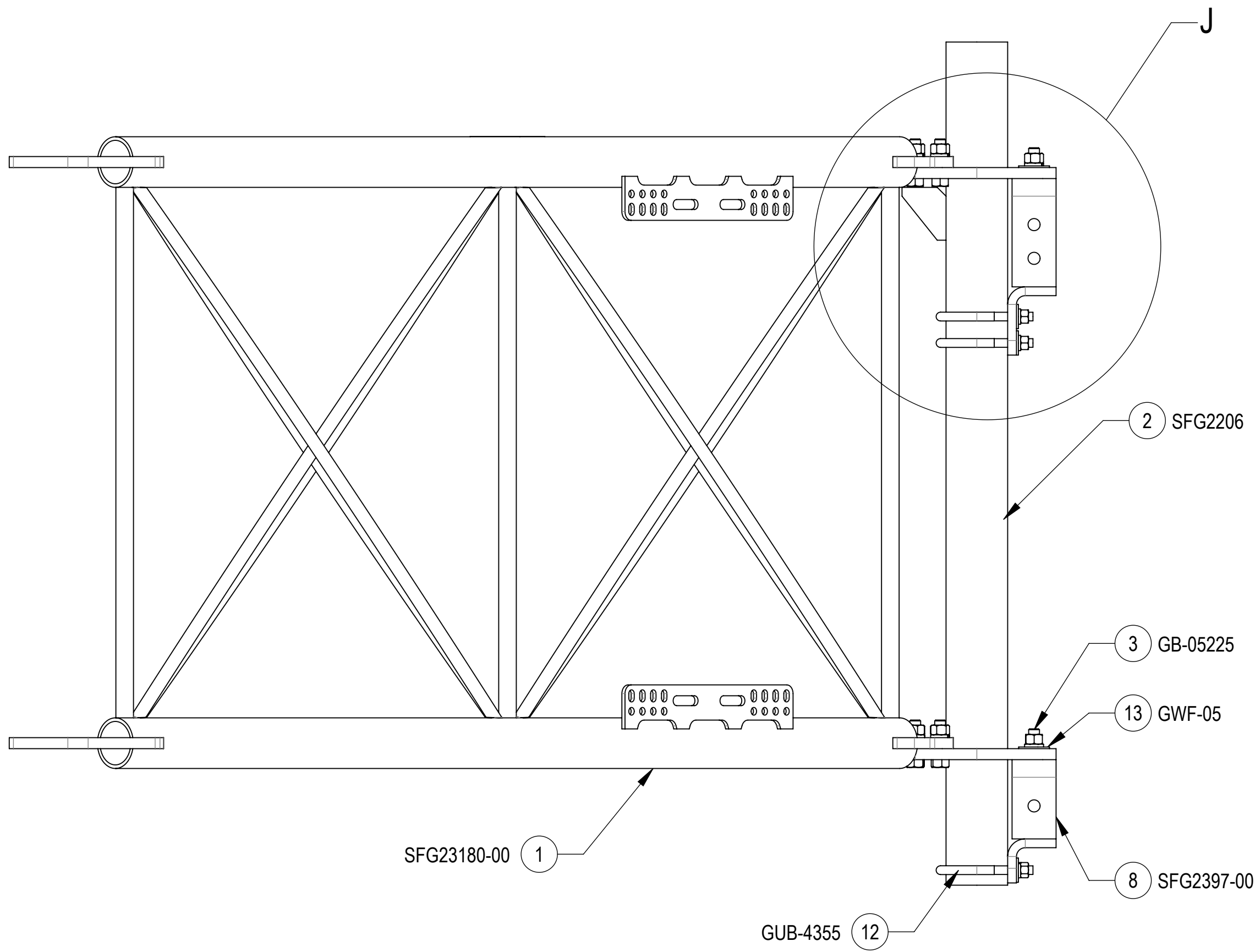
TOP

BOTTOM

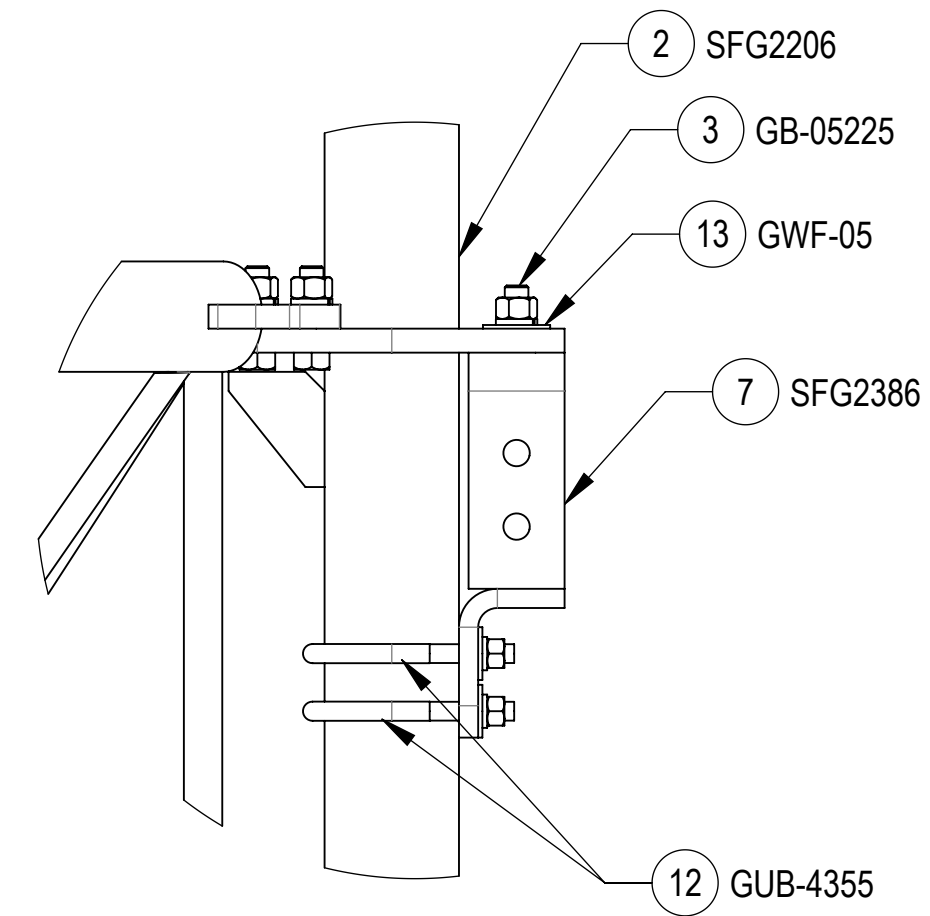
				
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				7 OF 12

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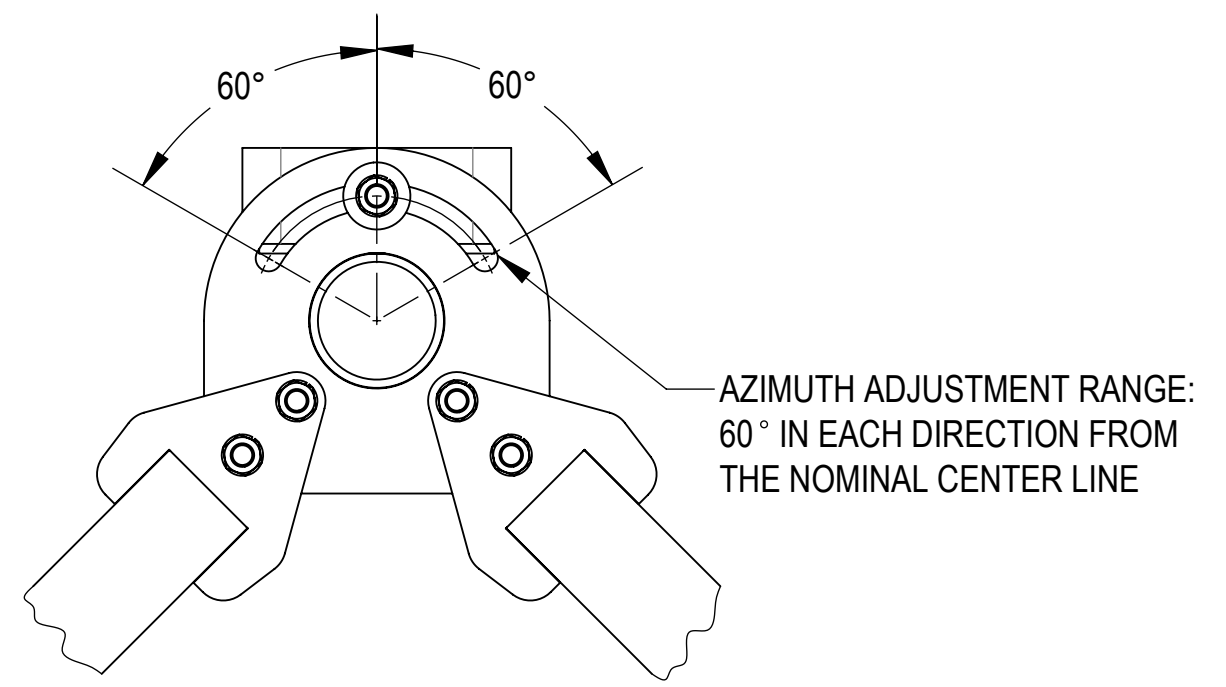
STEP 2: AT TOP, ATTACH AZIMUTH BRACKET (SFG2386) TO BACK VERTICAL ARM MOUNT (SFG2206) USING BOLT KITS (GB-05225), U-BOLTS (GUB-4355) AND FLAT WASHERS (GWF-05).
AT BOTTOM, ATTACH AZIMUTH BRACKET (SFG2397-00) TO BACK VERTICAL ARM MOUNT (SFG2206) USING BOLT KITS (GB-05225), U-BOLTS (GUB-4355) AND FLAT WASHERS (GWF-05).



SIDE VIEW



DETAIL J
SCALE 1 : 5



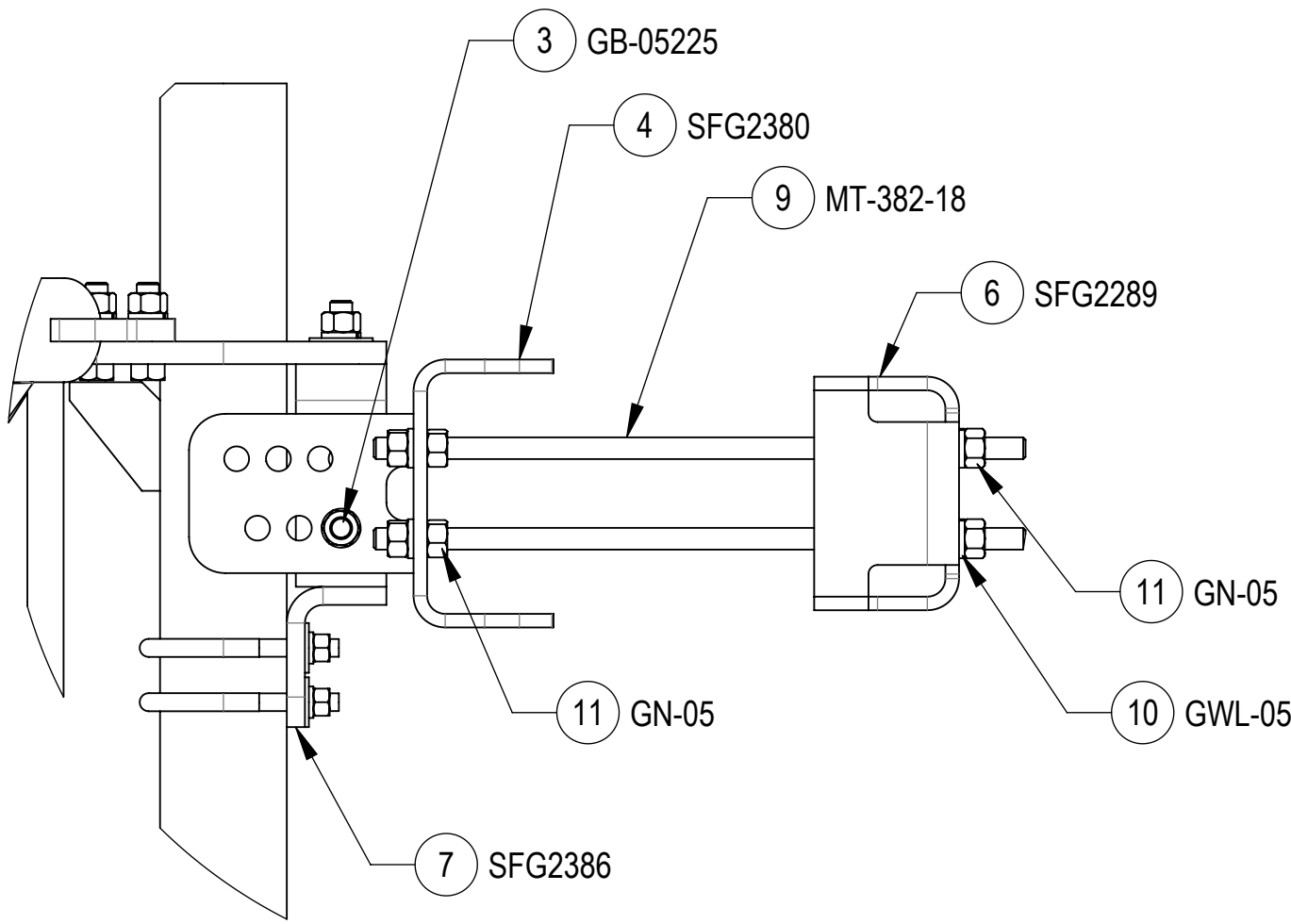
TOP CROP VIEW

TOP
BOTTOM

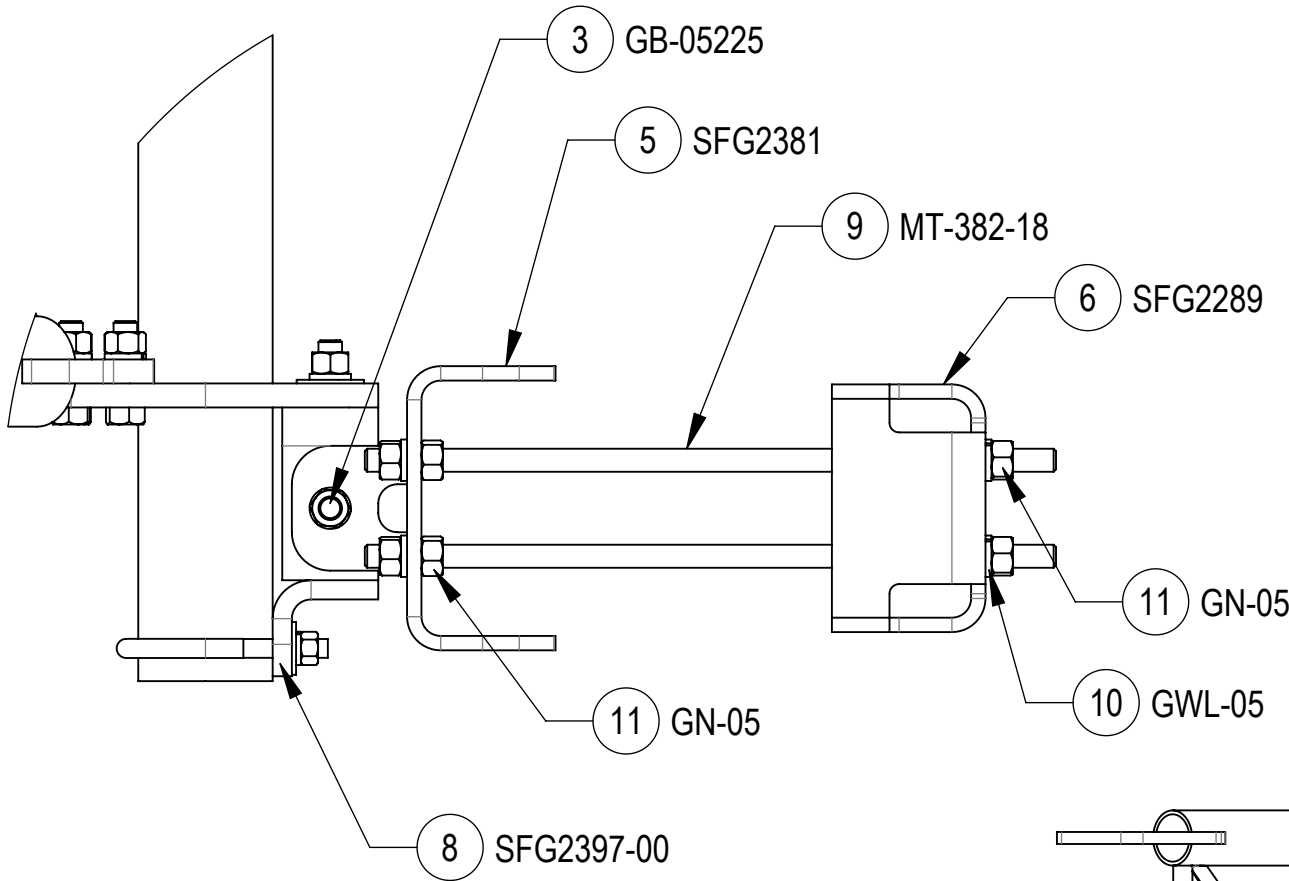
				
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		SHEET 8 OF 12		

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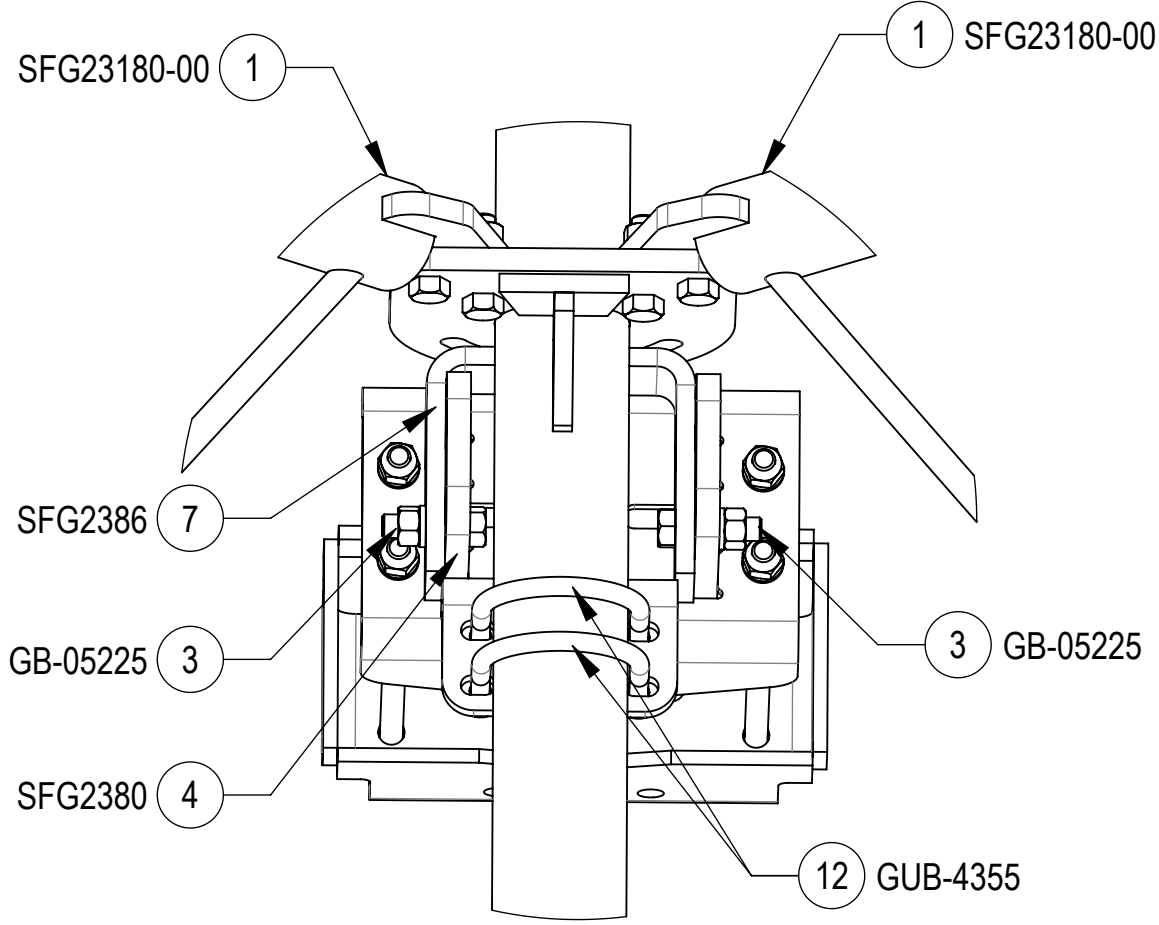
STEP 3: AT TOP, ATTACH TOP TAPER BRACKET (SFG2380) AZIMUTH BRACKET (SFG2386) USING BOLTS KITS (GB-05225);
AT BOTTOM, ATTACH LOWER TOWER LEG BRACKET (SFG2381) TO AZIMUTH BRACKET (SFG2397-00) USING BOLTS KITS (GB-05225).



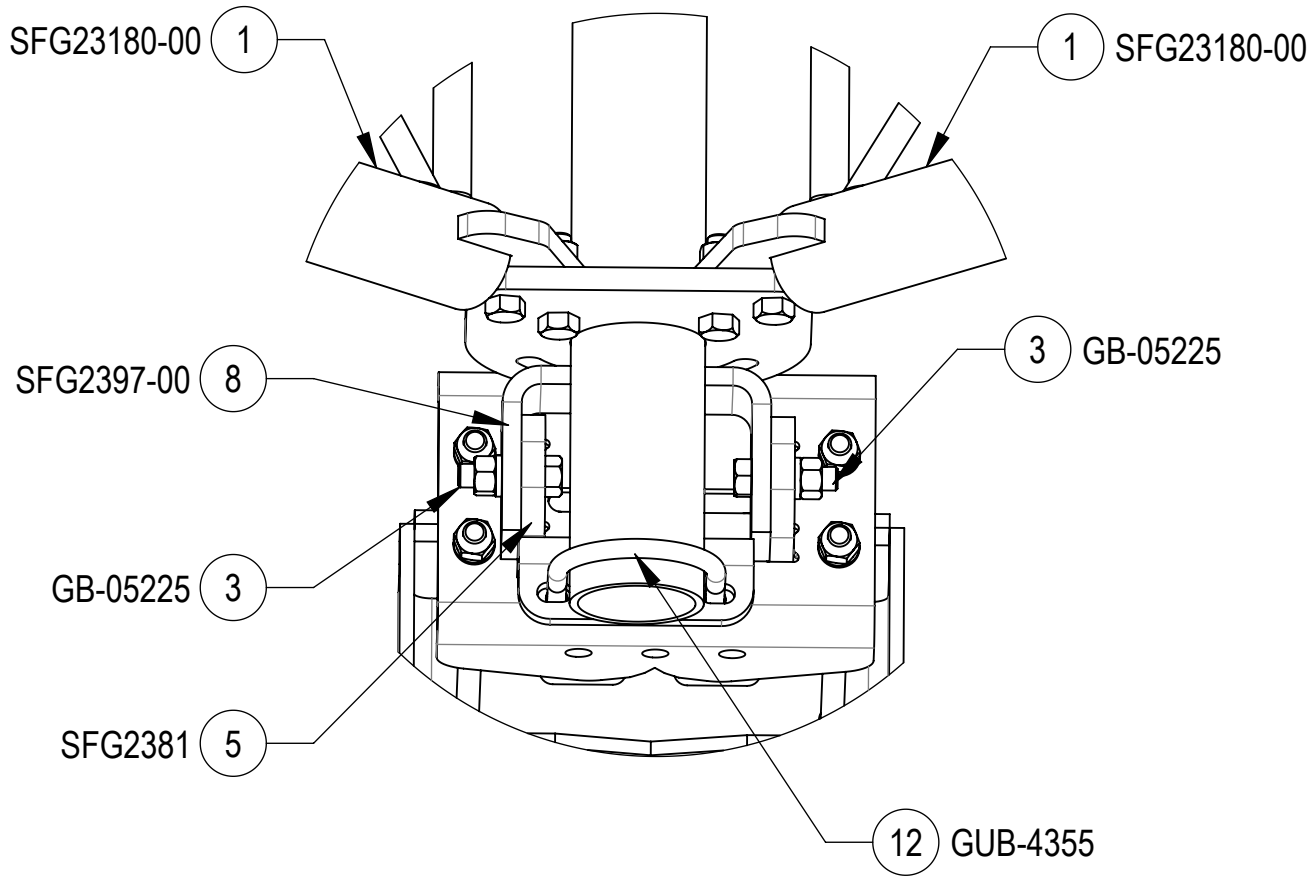
DETAIL L
SCALE 1 : 5



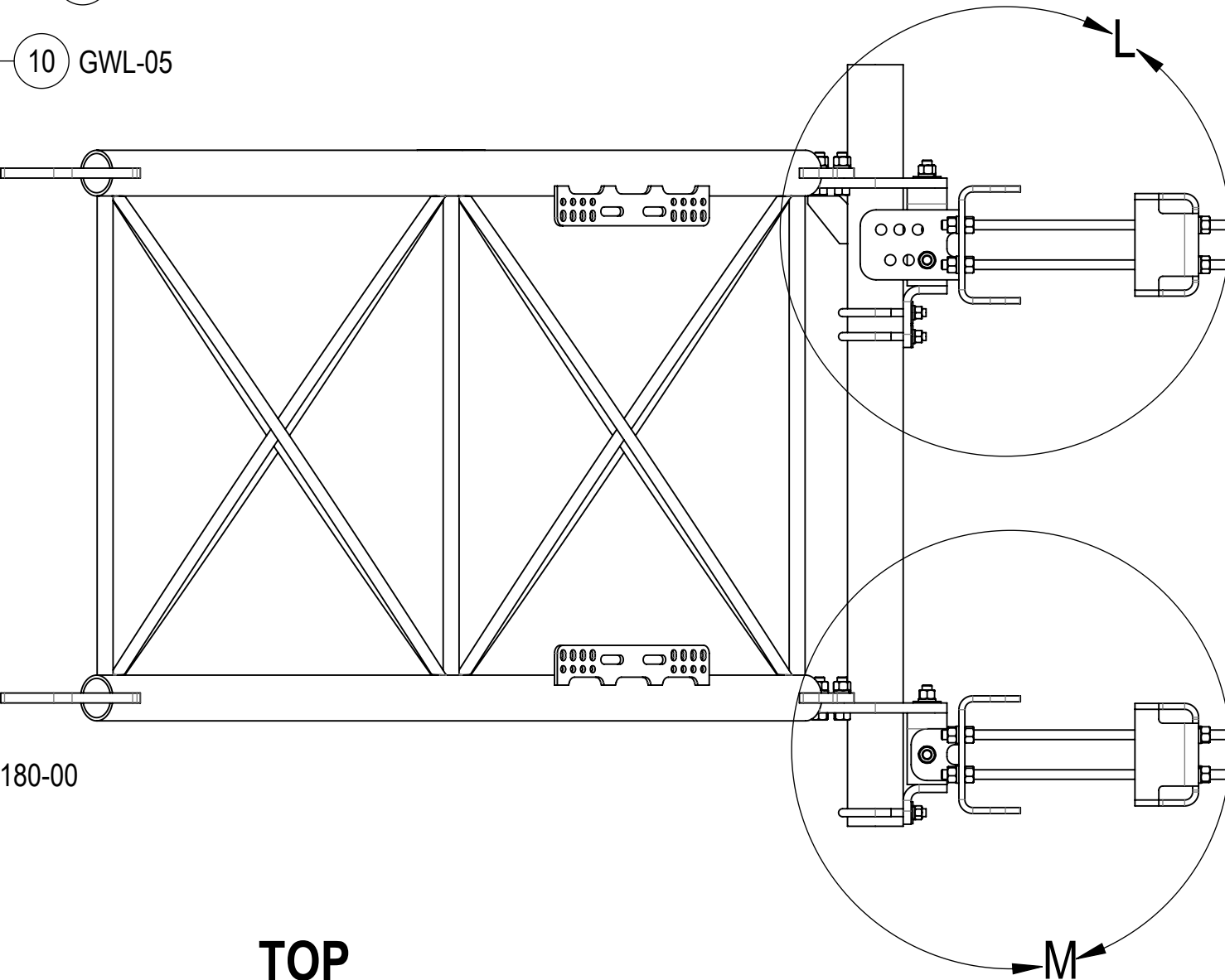
DETAIL M
SCALE 1 : 5



DETAIL ISO TOP ROTATED VIEW
SCALE 1 : 5



DETAIL ISO BOTTOM ROTATED VIEW
SCALE 1 : 5

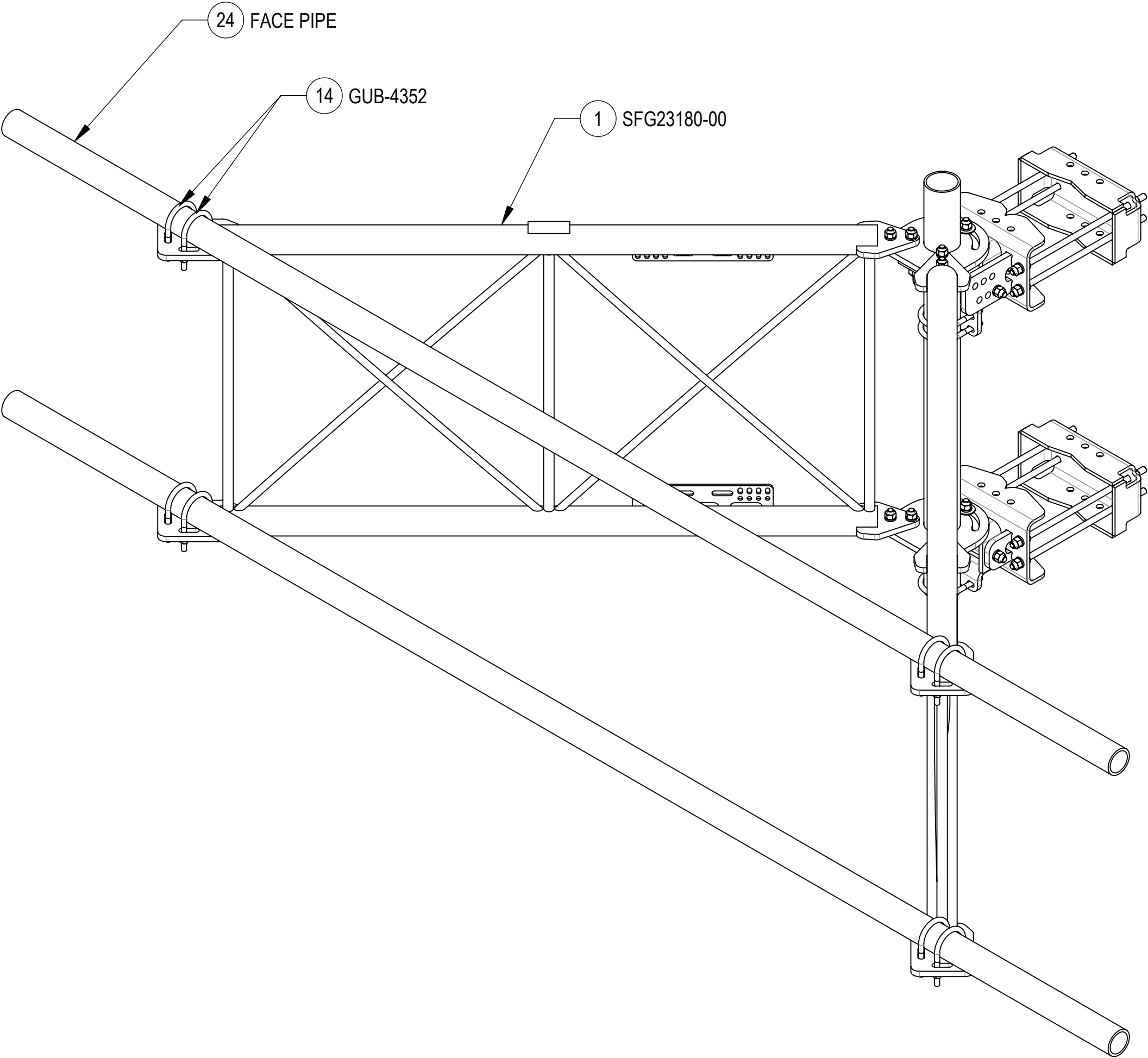


TOP
↓
BOTTOM

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TITLE SFG23HDXL SECTOR FRAME SERIES				
SIZE C	SCALE 1:10	DOCUMENT NO. SFG23HDXL		
 		DRAWING		
		VERSION 05	STATUS RE	REVISION F
				SHEET 9 OF 12

STEP 4: ATTACH FACE PIPES TO STANDOFF ARMS (SFG23180-00) USING U-BOLTS (GUB-4352).



TOP

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BOTTOM

 **ANDREW**® an Amphenol company

TITLE

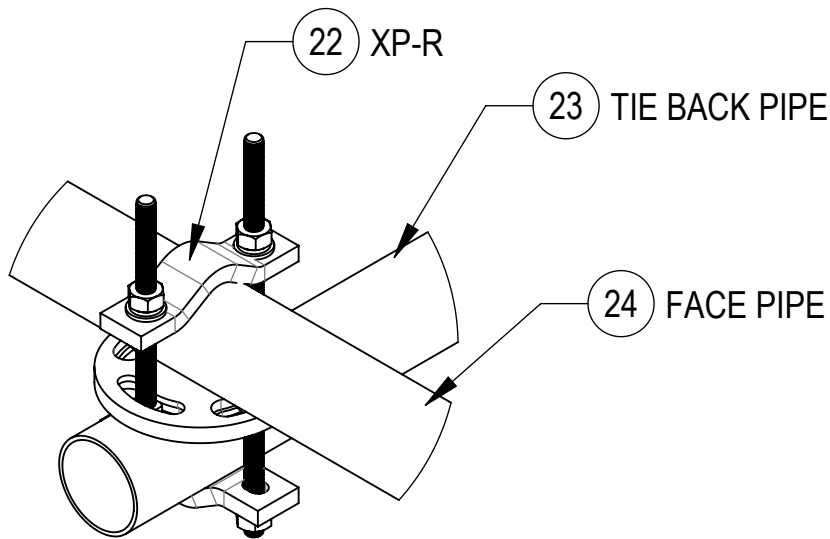
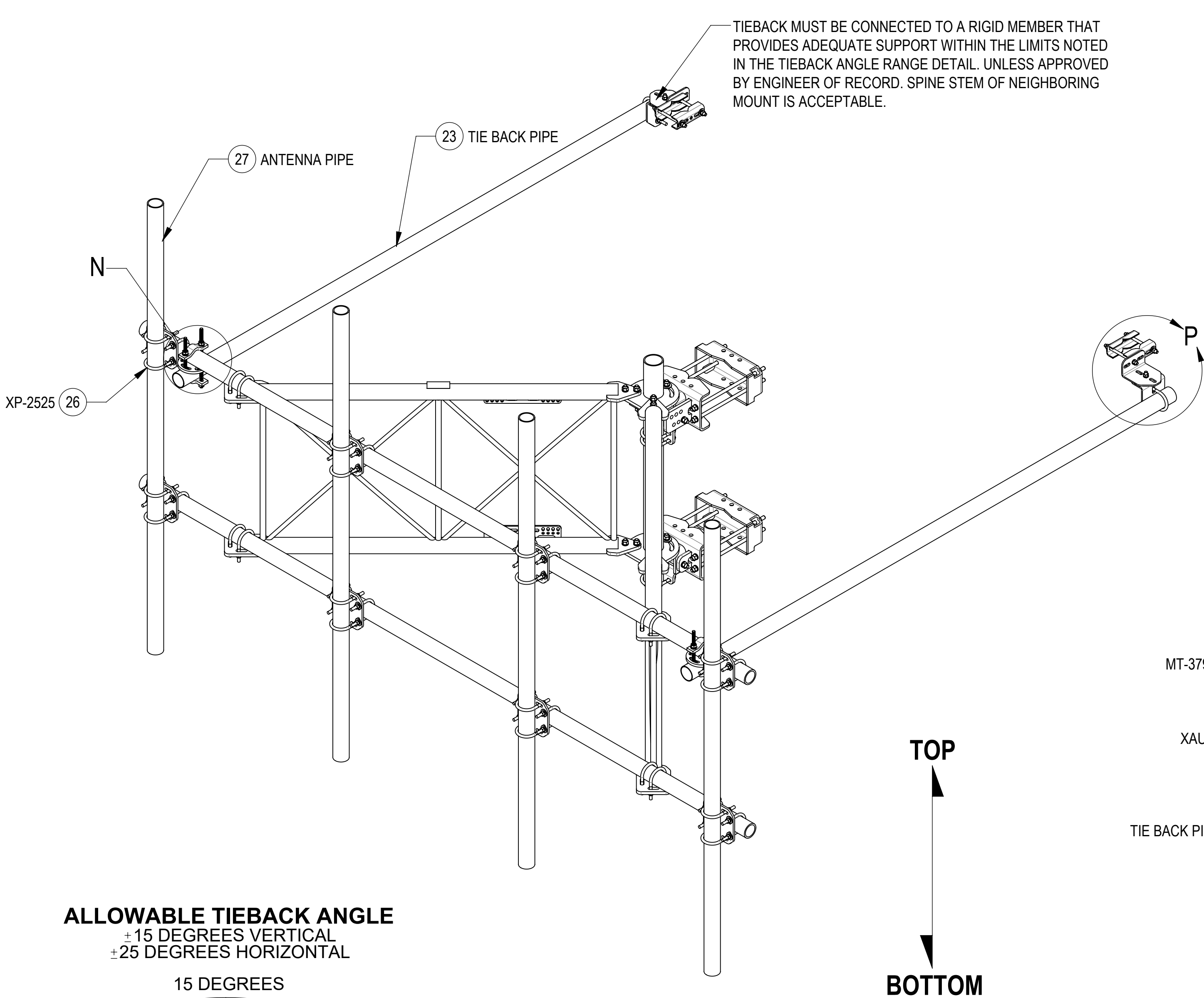
SFG23HDXL SECTOR FRAME SERIES

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		VERSION	STATUS	REVISION	
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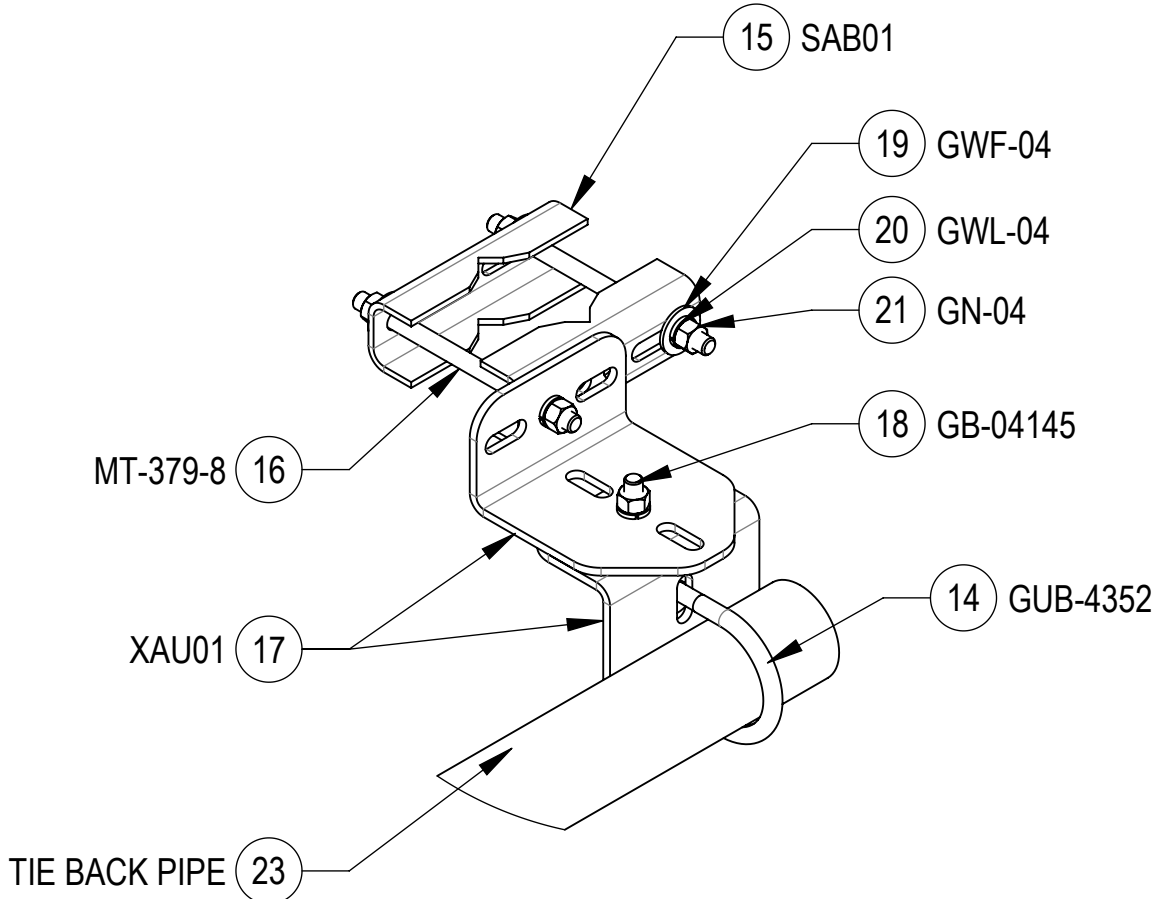
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STEP 5: ATTACH ANTENNA PIPES TO FACE PIPES USING CROSSOVER PLATE KITS (XP-2525).
ATTACH TIE BACK PIPES TO FACE PIPES USING ROUND CROSSOVER PLATE KITS (XP-R).

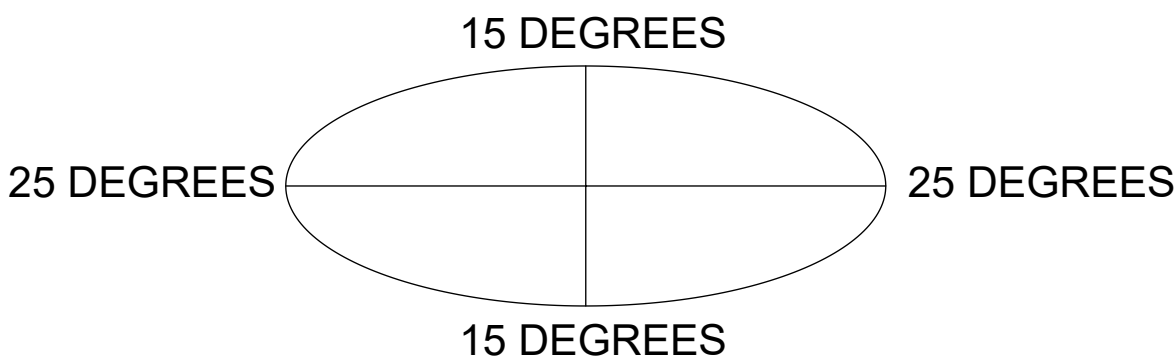


DETAIL N
SCALE 1 : 5



DETAIL P
SCALE 1 : 5

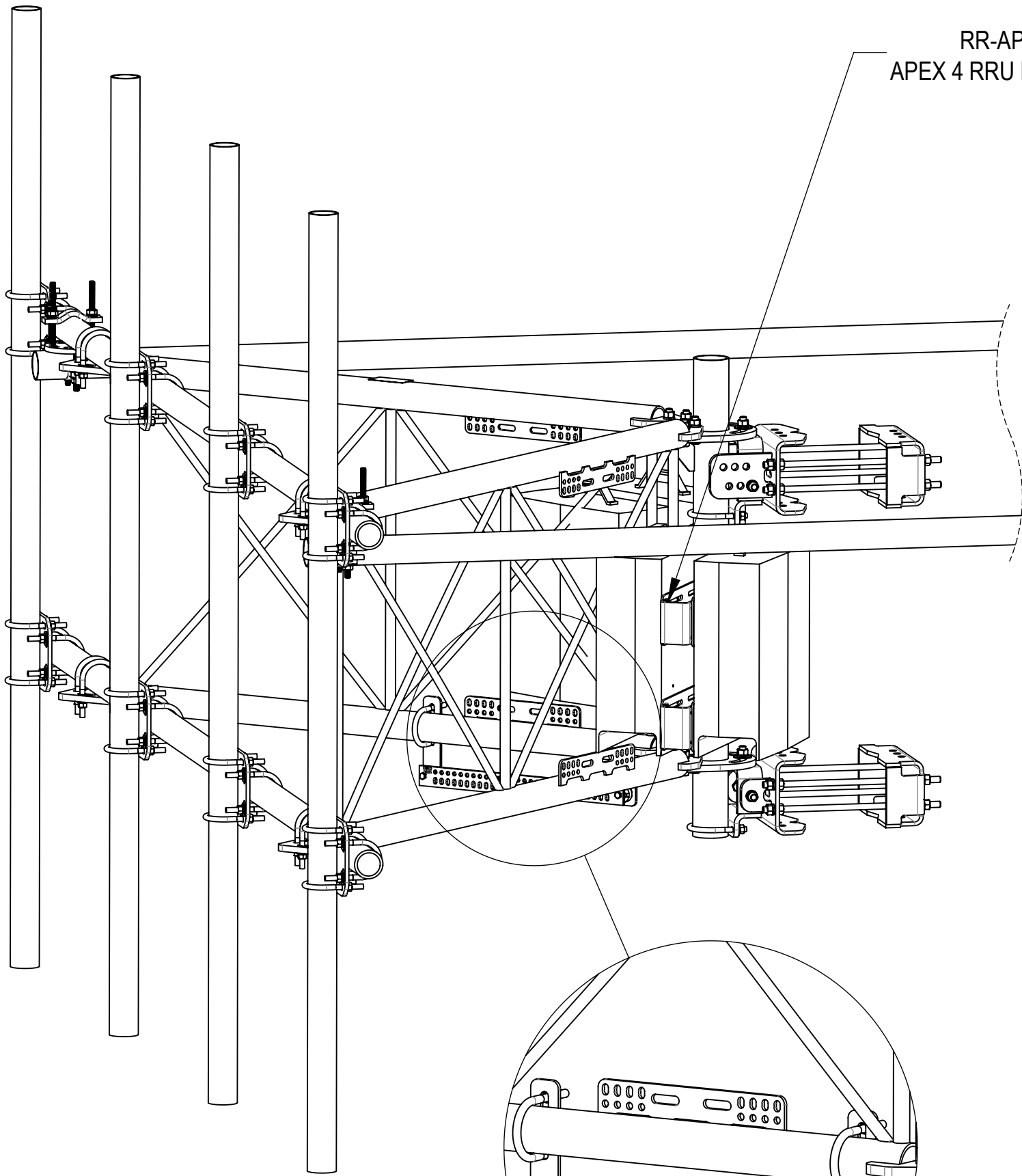
ALLOWABLE TIEBACK ANGLE
±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL



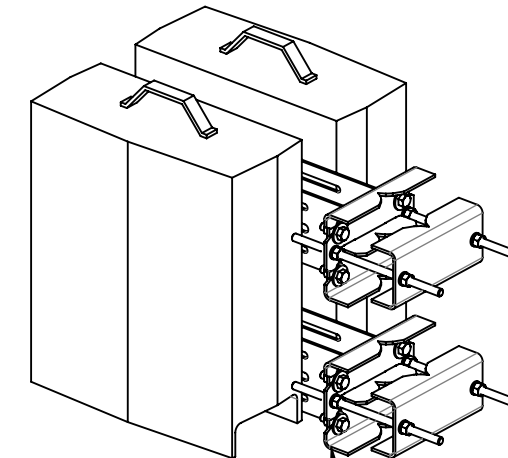
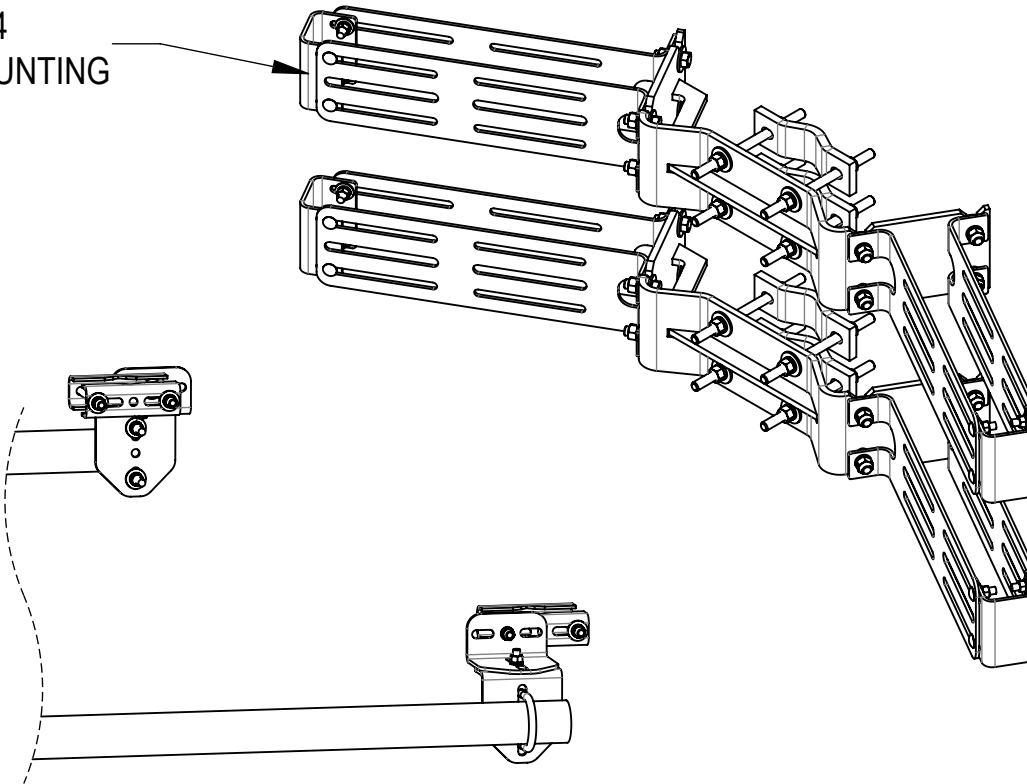
				
TITLE SFG23HDXL SECTOR FRAME SERIES				
SIZE C	SCALE 1:14	DOCUMENT NO. SFG23HDXL		
 		DRAWING		
		VERSION 05	STATUS RE	REVISION F
SHEET 11 OF 12				

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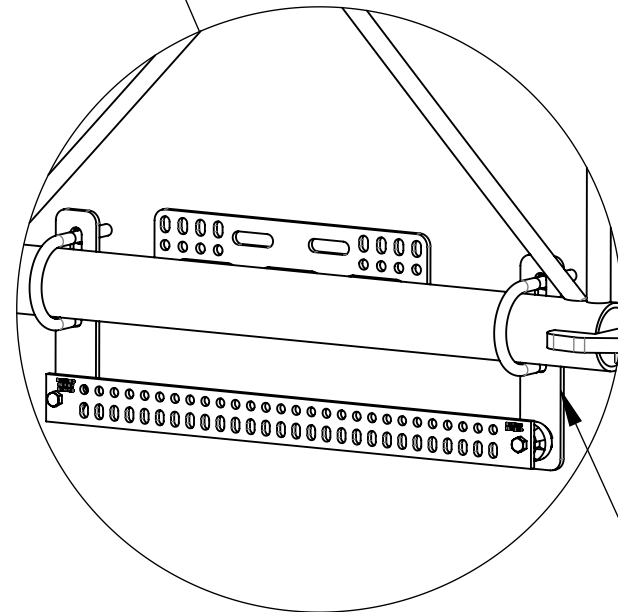
ACCESSORIES ORDERED SEPARATELY:



RR-APEX4
APEX 4 RRU MOUNTING

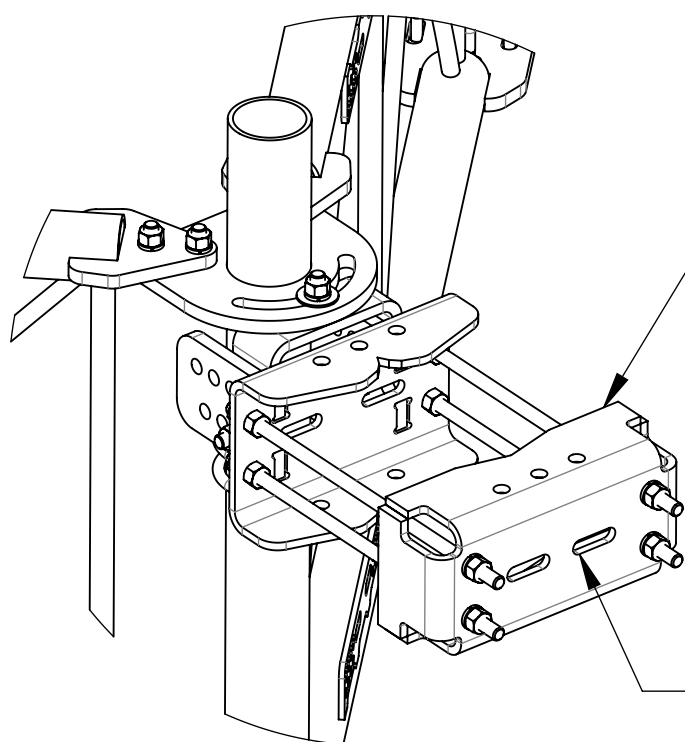


RR-FA2
FAST ACCESS RRU MOUNT



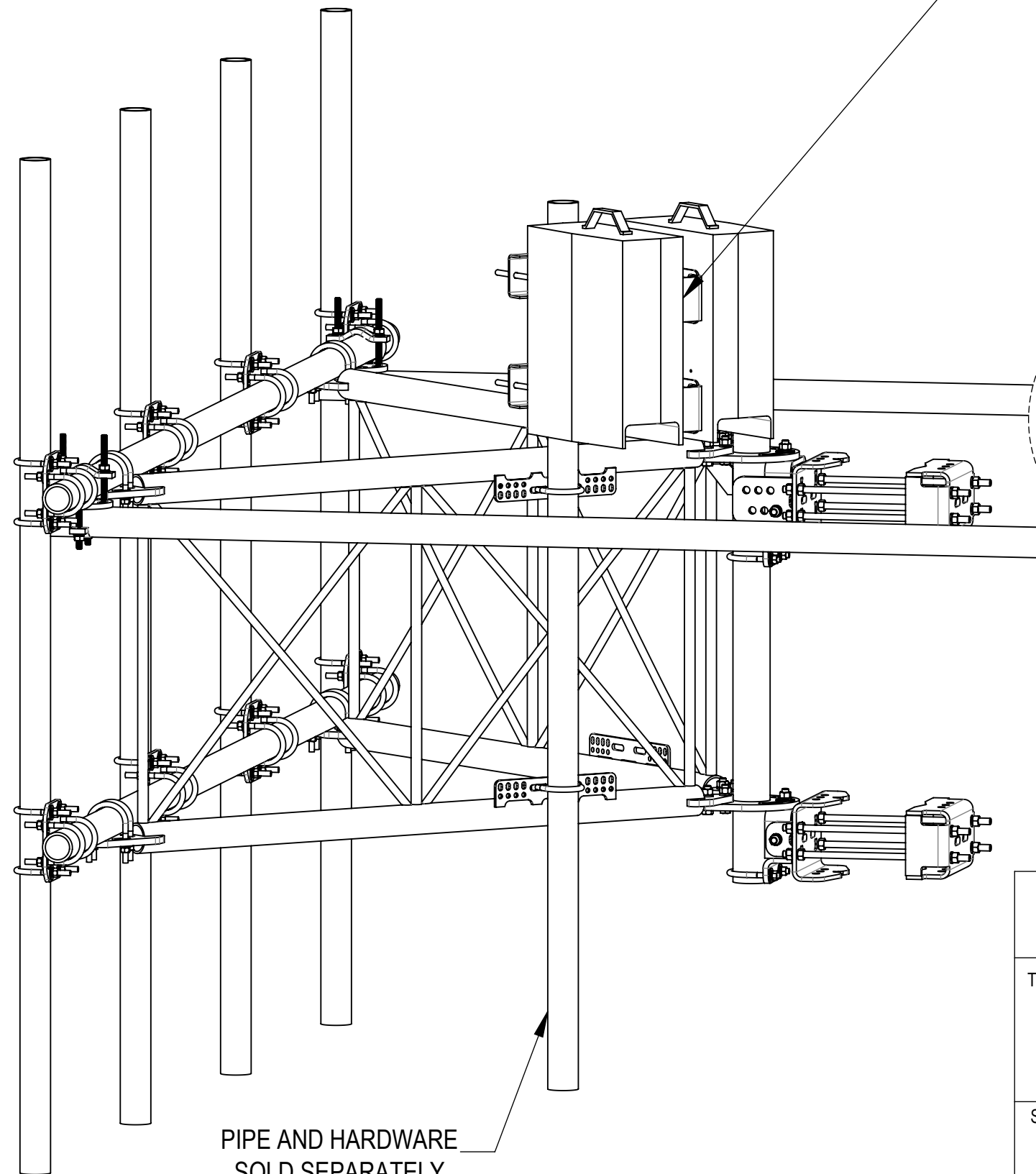
DETAIL Q
SCALE 1 : 8

GBSF278

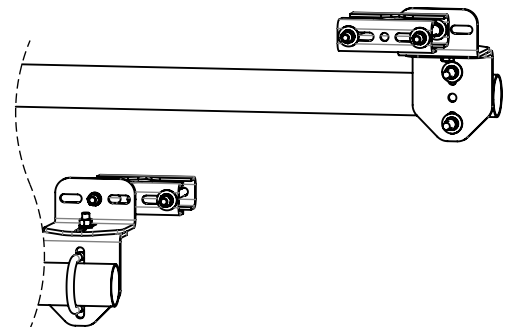


6 SFG2289

SLOTS ALLOW FOR MOUNTING OF
RRU OR OTHER EQUIPMENT



PIPE AND HARDWARE
SOLD SEPARATELY



ANDREW an Amphenol company

TITLE
SFG23HDXL SECTOR FRAME SERIES

SIZE **C** SCALE **1:13** DOCUMENT NO. **SFG23HDXL**

DRAWING			SHEET 12 OF 12
VERSION	STATUS	REVISION	
05	RE	F	

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