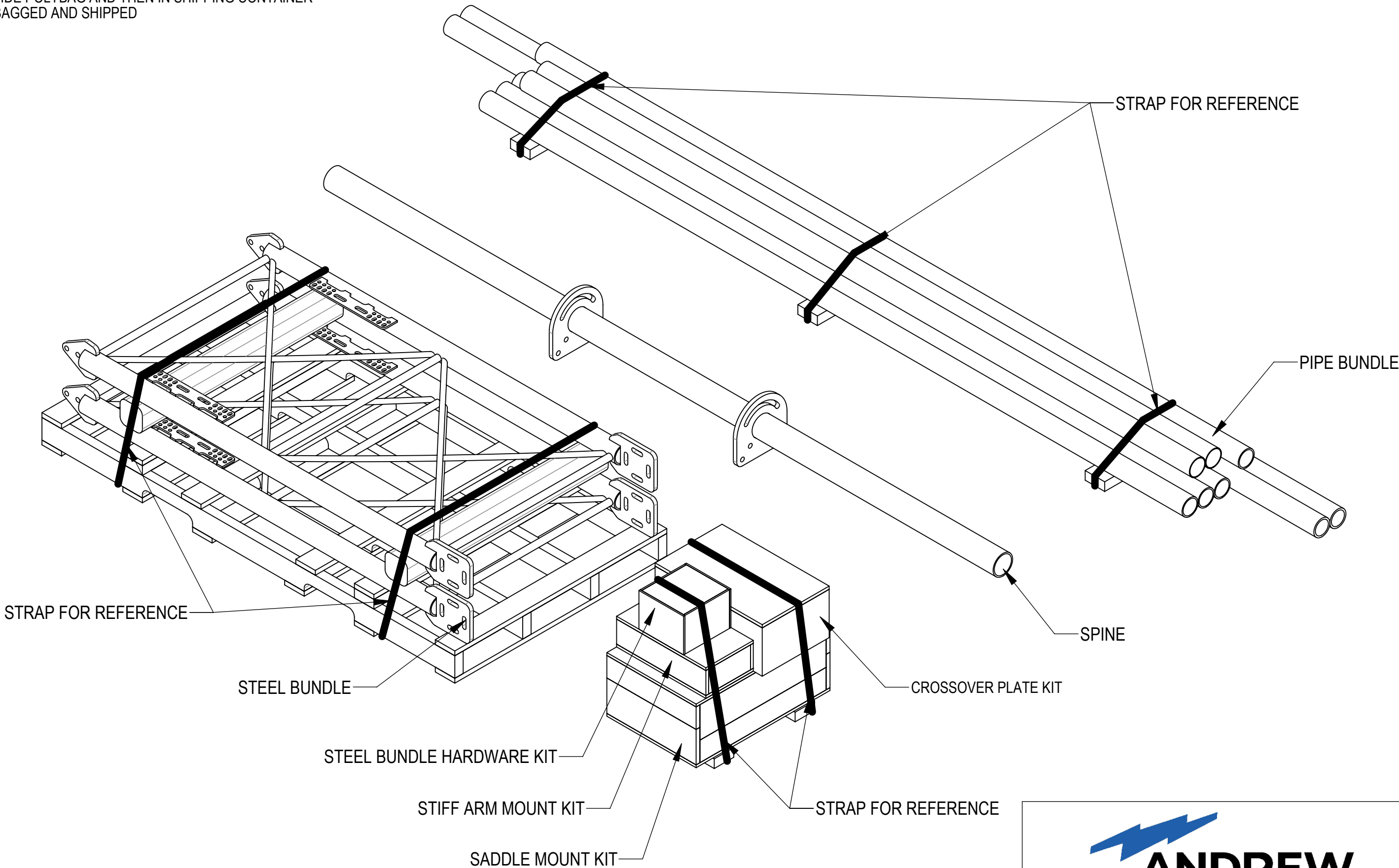


- 1.0 GENERAL NOTES
- 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS [X. X]
- 1.2 FOR PATENT INFO: <https://www.adwpat.com>
- 2.0 DESIGN NOTES
- 2.1 ANY HAZARDS OR OBSTRUCTIONS TO THE CLIMBING FACILITY AND SAFETY CLIMB MUST BE IDENTIFIED PRIOR TO INSTALLING THE APPURTENANCE. ADDITIONAL PRODUCTS MAY BE REQUIRED 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
B	ADDED SFG23RHDXL12-4-96, SFG23RHDXL14-4-96, SFG23RHDXL14-4-126, SFG23RHDXL14-5-96 AND SFG23RHDXL14-5-126 TO SERIES	RY1002 22NOV23	YC1015 40183018CMO
C	ADDED SFG23RHDXL11-3-96, SFG23RHDXL12-4-126, SFG23RHDXL13-4-96, SFG23RHDXL15-4-96 AND SFG23RHDXL15-5-96 TO SERIES	RY1002 11DEC23	YC1015 40182550CMO
D	CHG PALLET FROM QVPALLET TO 74X38PALLET; UPDATED SFG23180-00 TO ADD UNIVERSAL INTERFACE PLATES	RY1002 25JUL24	XK1001 40200655CMO
E	UPDATED EPA TABLE	YMENG 12DEC24	CB1094 40210882CMO
F	SHEET 4&8: ADDED AZIMUTH ADJUSTMENT RANGE VIEW & NOTE	JL1183 10JAN25	BA1025 40212102CMO



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TOLERANCES		SAP MATERIAL MASTER			
1 PLACE .X[X] ± 0.2[6.3]	3 PLACE .XXX[X] ± 0.060[1.5]	SEE TABLE1			
2 PLACE .XX[X] ± 0.12[3.0]	ANGLES ± 2°				
FINISH		MATERIAL			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994		NAME	DATE	SFG23RHDXL SECTOR FRAME SERIES	
		CE YMENG	08OCT23		
		RW LL1090	06/16/2025		
		AD YMENG	06/16/2025		
		RE YMENG	06/16/2025		
ECN 40212102CMO		SCALE	DOCUMENT NO.	SFG23RHDXL	
SIZE		Auth Group	INSL		
C					
MODEL		DRAWING		SHEET 1 OF 12	
VERSION	STATUS	REVISION	VERSION		
04	RE	E	05	RE	F

DENSITY	lbs/in³
MASS	lbs
VOLUME	in³
SURFACE AREA	in²
HEIGHT	
LENGTH	
WIDTH	

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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-U2080HDG23	SFG22HDX-HK01	SFG23RHDXL-SB01	SFG23RHDXL-HK01	PB02TEB0211P	PB02TEB0308K0211P	PB02TEB0310K0211P	PB02TEB0212P	PB02TEB0408K0212P	PB02TEB0410K0212P	PB02TEB0213P	PB02TEB0408K0213P	PB02TEB0410K0213P	PB02TEB0214P	PB02TEB0408K0214P	PB02TEB0410K0214P	PB02TEB0508K0214P	PB02TEB0510K0214P	PB02TEB0215P	PB02TEB0408K0215P	PB02TEB0410K0215P	PB02TEB0508K0215P	PB02TEB0510K0215P	SFG2204	SFG23100	XP-2525-4	XP-2525-6	XP-2525-8				
SFG23RHDXL-11-B	SF,11',BASE-KIT	743.66	11.70	12.52	29.06	17.07	18.94	43.21	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-					
SFG23RHDXL11-3-96	SECTOR FRAME 11' FACE,(3) 96" ANT	931.77							3	1	1	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-
SFG23RHDXL11-3-126	SF,11',(3)2.88"X126"-PIPES-PIM-SPACED	977.03							3	1	1	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-
SFG23RHDXL-12-B	SF,12',BASE-KIT	766.73	12.50	12.52	30.02	18.13	18.94	44.49	-	1	1	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-				
SFG23RHDXL12-4-96	SECTOR FRAME 12' FACE,(4) 96" ANT	1017.54							4	1	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
SFG23RHDXL12-4-126	SECTOR FRAME 12' FACE,(4) 126" ANT	1077.88							4	1	1	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
SFG23RHDXL-13-B	SF,13',BASE-KIT	774.42	12.76	12.52	30.34	18.48	18.94	44.91	-	1	1	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-				
SFG23RHDXL13-4-96	SECTOR FRAME 13' FACE,(4) 96" ANT	1025.23							4	1	1	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
SFG23RHDXL13-4-126	SF,13',(4)2.88"X126"-PIPES-PIM-SPACED	1085.57							4	1	1	1	1	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	1
SFG23RHDXL-14-B	SF,14',BASE-KIT	797.49	13.56	12.52	31.30	19.54	18.94	46.18	-	1	1	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-				
SFG23RHDXL14-4-96	SECTOR FRAME 14' FACE,(4) 96" ANT	1048.30							4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	1	-	-	1
SFG23RHDXL14-4-126	SECTOR FRAME 14' FACE,(4) 126" ANT	1108.64							4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	1	-	-	1
SFG23RHDXL14-5-96	SECTOR FRAME 14' FACE,(5) 96" ANT	1111.00							5	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	1	1	-
SFG23RHDXL14-5-126	SECTOR FRAME 14' FACE,(5) 126" ANT	1186.42							5	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1	1	1	-
SFG23RHDXL-15-B	SF,15',BASE-KIT	805.17	13.83	12.52	31.62	19.90	18.94	46.61	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-	-	-					
SFG23RHDXL15-4-96	SECTOR FRAME 15' FACE,(4) 96" ANT	1055.98							4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	1	
SFG23RHDXL15-4-126	SF,15',(4)2.88"X126"-PIPES-PIM-SPACED	1116.33							4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	1	
SFG23RHDXL15-5-96	SECTOR FRAME 15' FACE,(5) 96" ANT	1118.69							5	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1	1	-	
SFG23RHDXL15-5-126	SF,15',(5)2.88"X126"-PIPES-PIM-SPACED	1194.11							5	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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 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: SFG23RHDXL13-4-126 HAS A FRONT EPA OF 12.76 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 23.64 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 30.34 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 59.38 FT²;



TITLE

SFG23RHDXL SECTOR FRAME SERIES

SIZE

C

SCALE

1:16

DOCUMENT NO.

SFG23RHDXL





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VERSION

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STATUS

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REVISION

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SHEET

2 OF 12

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D

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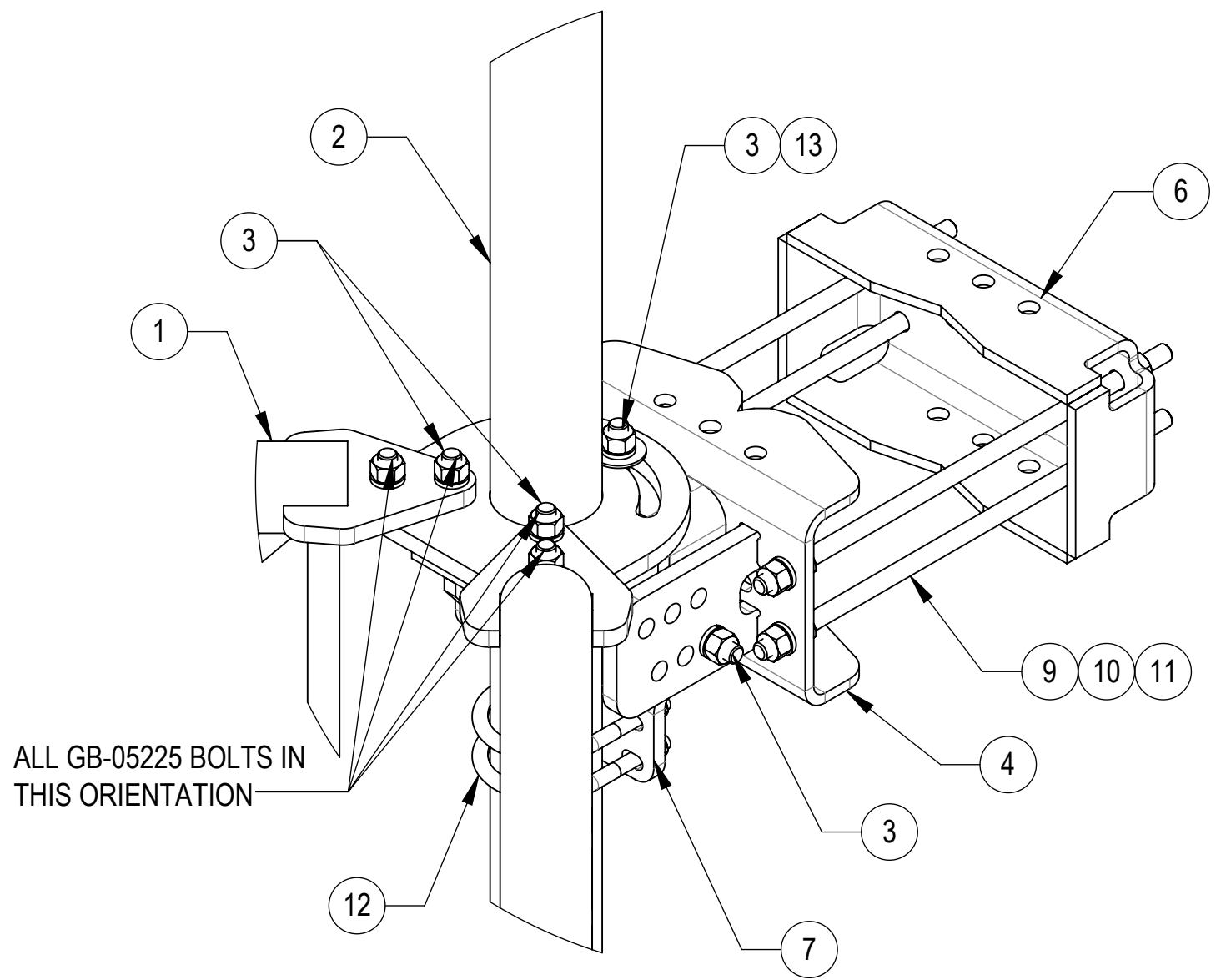
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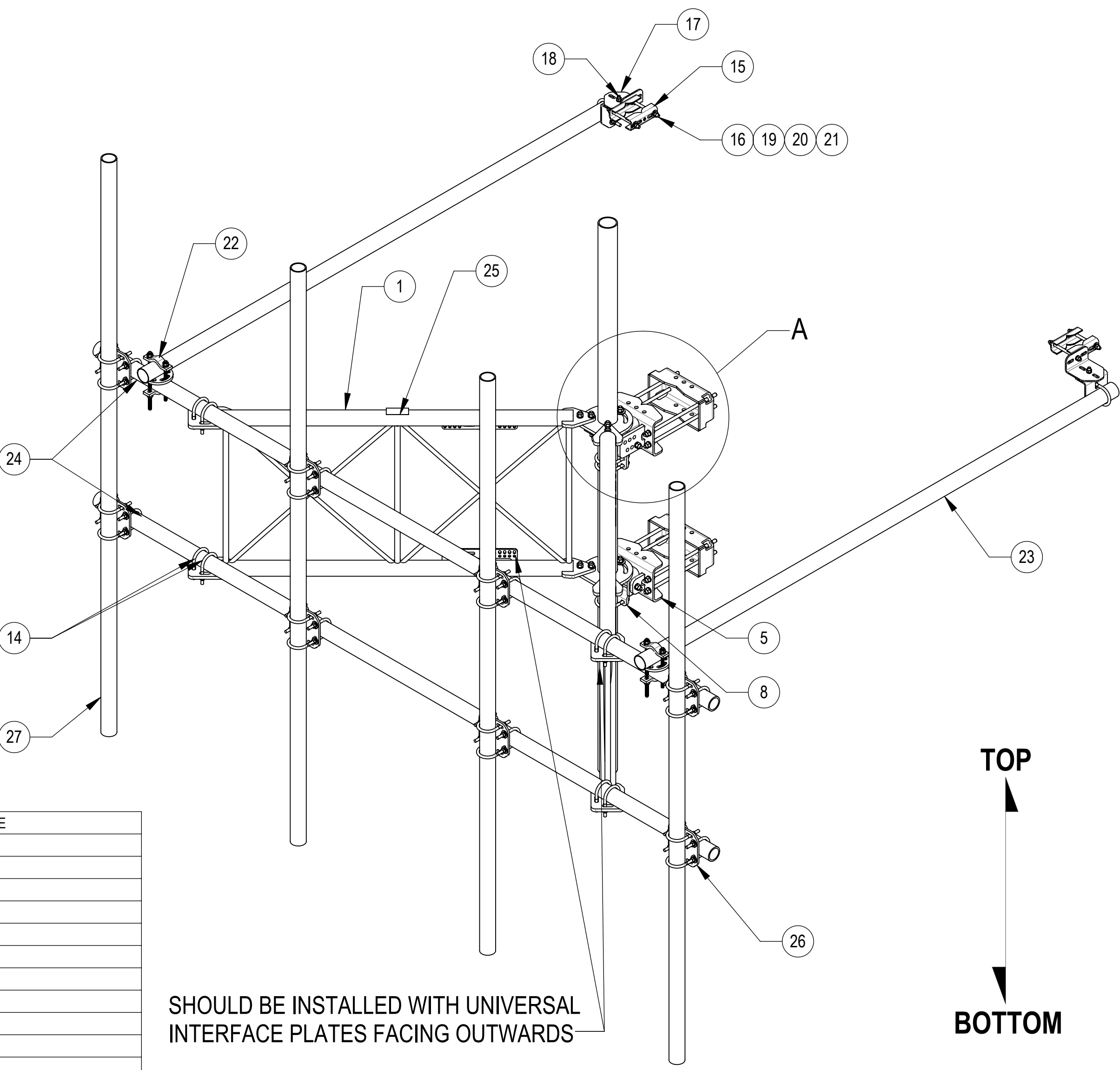


DETAIL A
SCALE 1 : 5

SFG23RHDXL-13-4-126 SHOWN FOR REFERENCE
(NOT ALL CONFIGURATIONS INCLUDE ALL ITEMS, SEE NOTES IN TABLE)

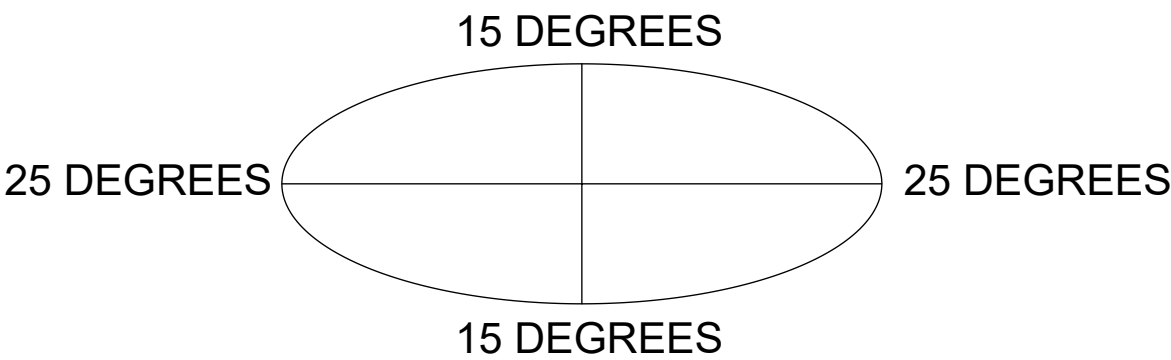
COMPONENT PART NUMBERS PROVIDED FOR ASSEMBLY PURPOSES;
INDIVIDUAL COMPONENTS MAY BE SHIPPED AS PARTS WITHIN AN INCLUDED KIT.

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE
1	SFG23180-00	ARM, STANDOFF, SFG23	2	123.29 LBS	
2	SFG2204	WELDMENT, BACK VERTICAL ARM MOUNT	1	97.29 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, 1.70D	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	MT546156276	PIPE, 2.875"OD X 156"	2	99.95 LBS	PART NO. SEE INDIVIDUAL DRAWING
25	SFG23100	LABEL, SFG23RHDXL	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	MT-546-126	PIPE, 2.875"OD X 126"	4	61.05 LBS	PART NO. AND QTY SEE INDIVIDUAL DRAWING



SHOULD BE INSTALLED WITH UNIVERSAL
INTERFACE PLATES FACING OUTWARDS

ALLOWABLE TIEBACK ANGLE
± 15 DEGREES VERTICAL
± 25 DEGREES HORIZONTAL

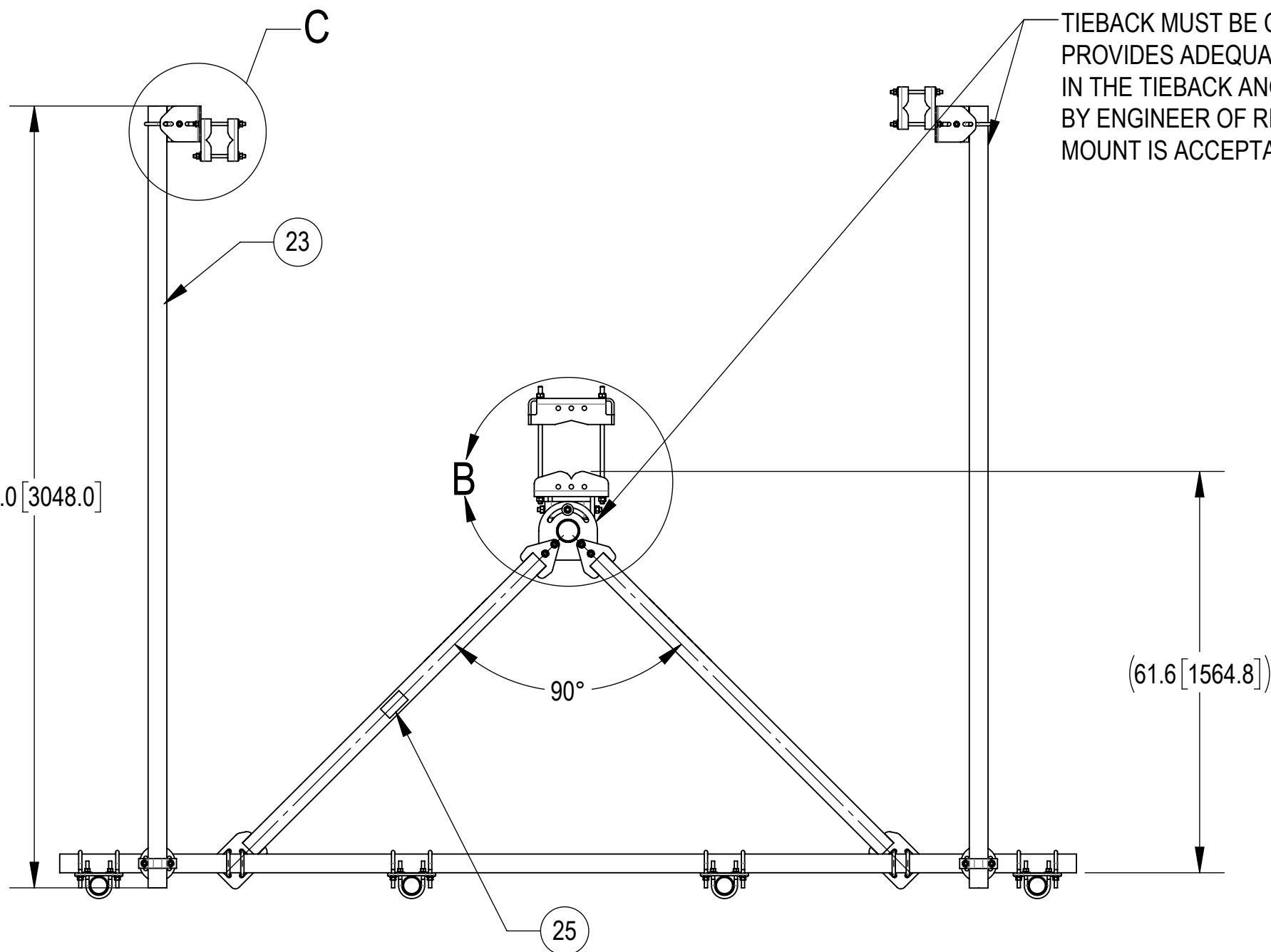


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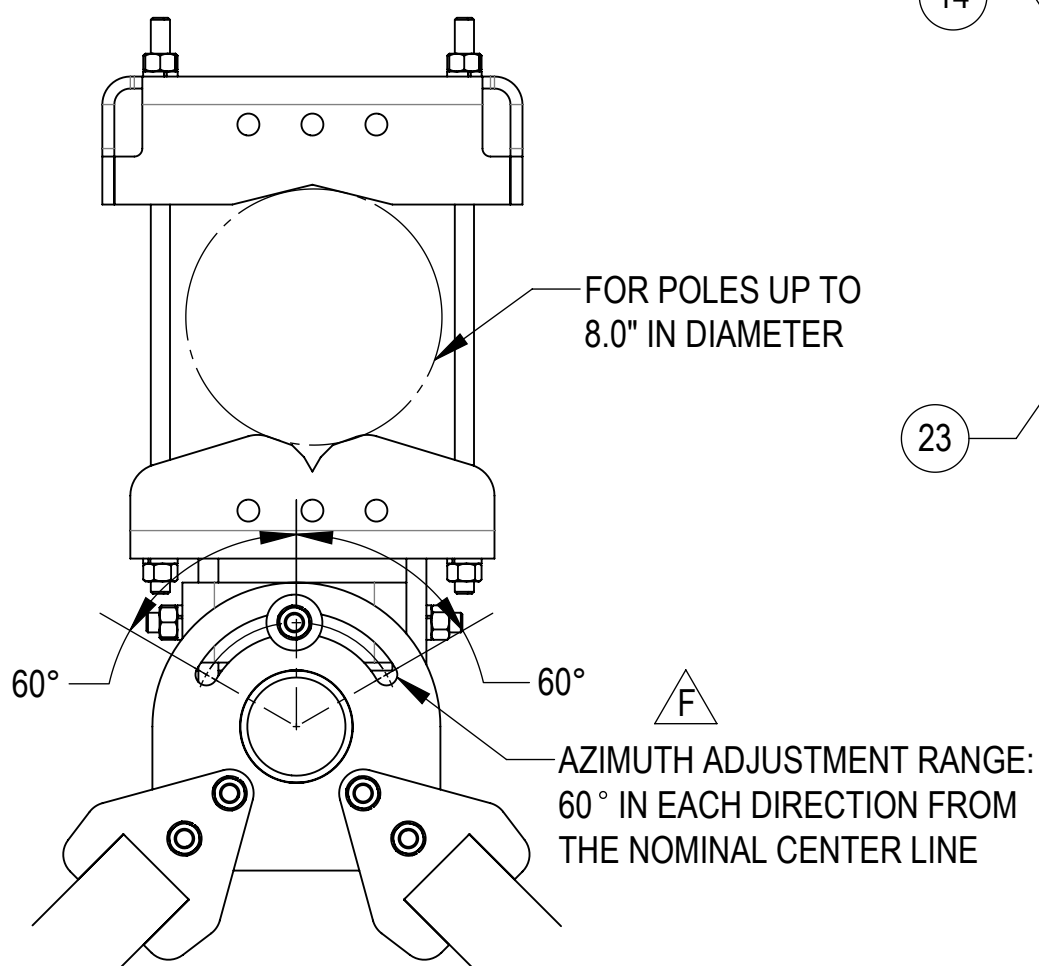
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TITLE
SFG23RHDXL SECTOR FRAME SERIES

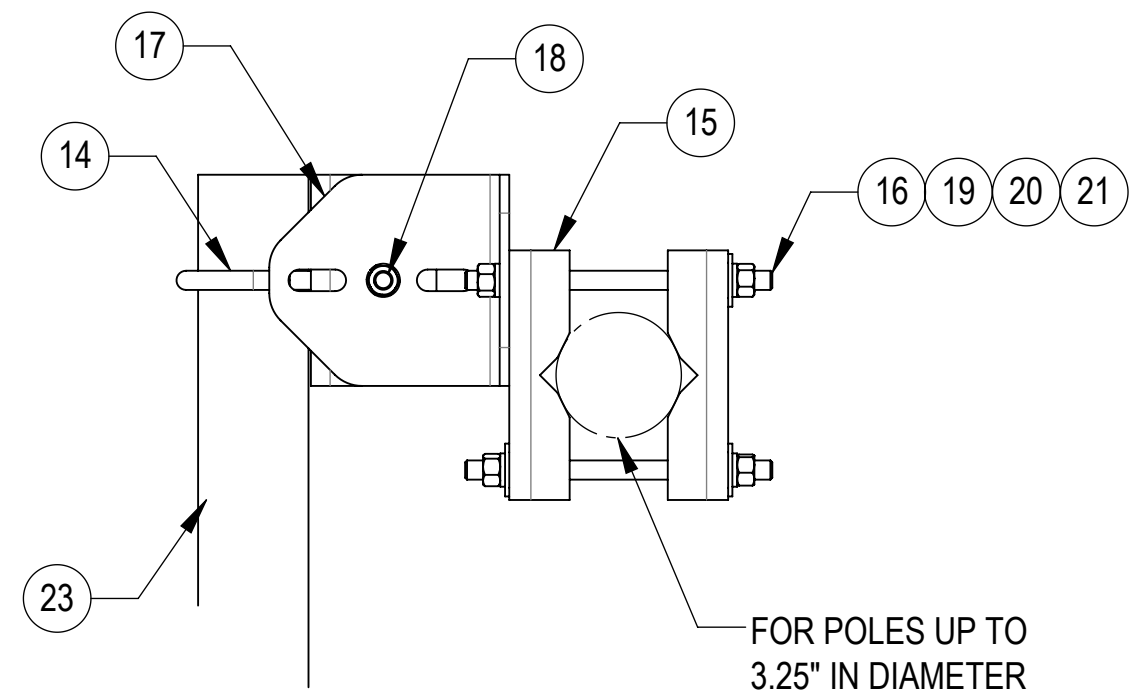
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 		DRAWING			SHEET 3 OF 12
		VERSION 05	STATUS RE	REVISION F	



SFG23RHDXL-13-4-126 SHOWN FOR REFERENCE
(NOT ALL CONFIGURATIONS INCLUDE ALL ITEMS, SEE NOTES IN TABLE ON SHEET 3)

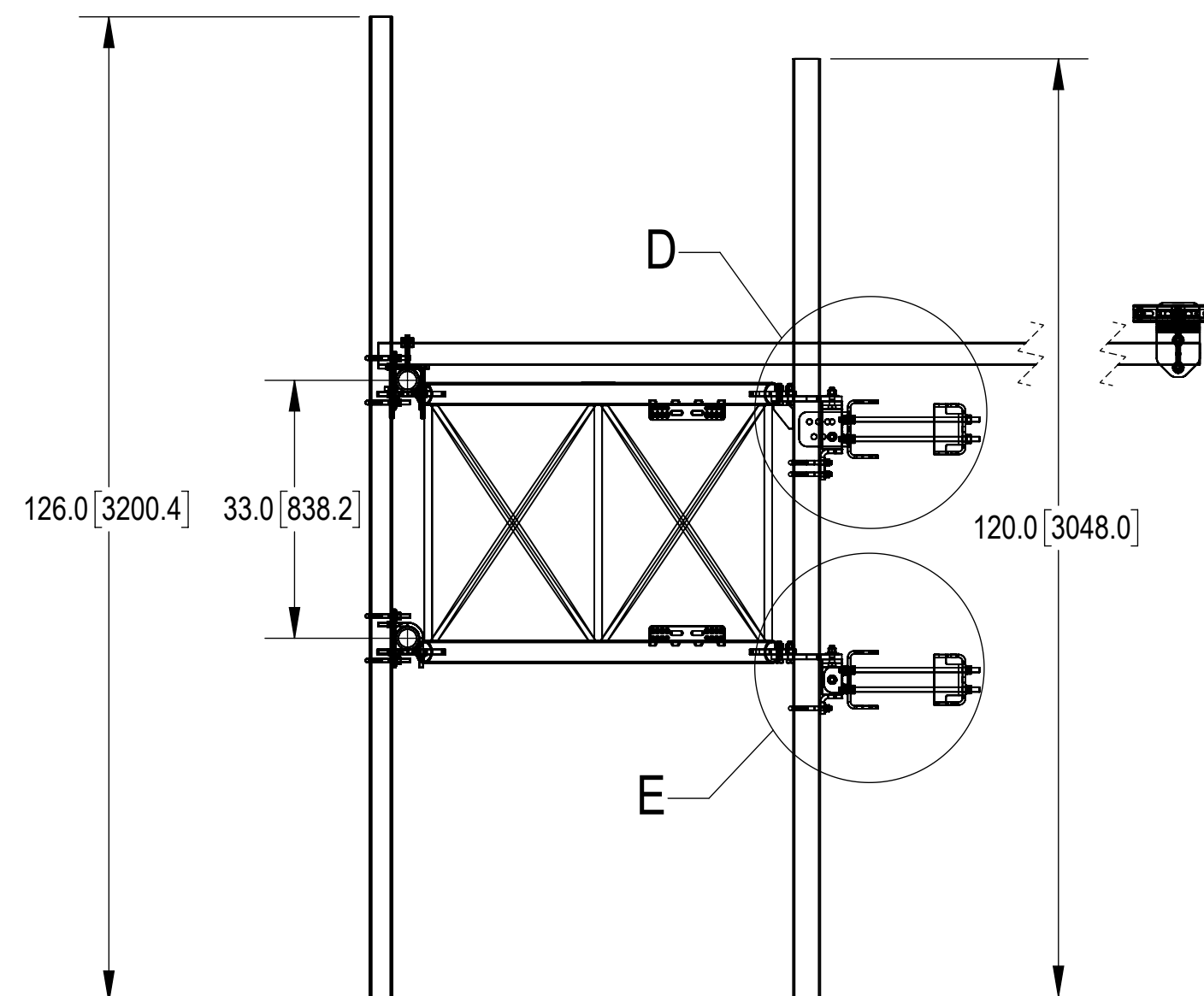
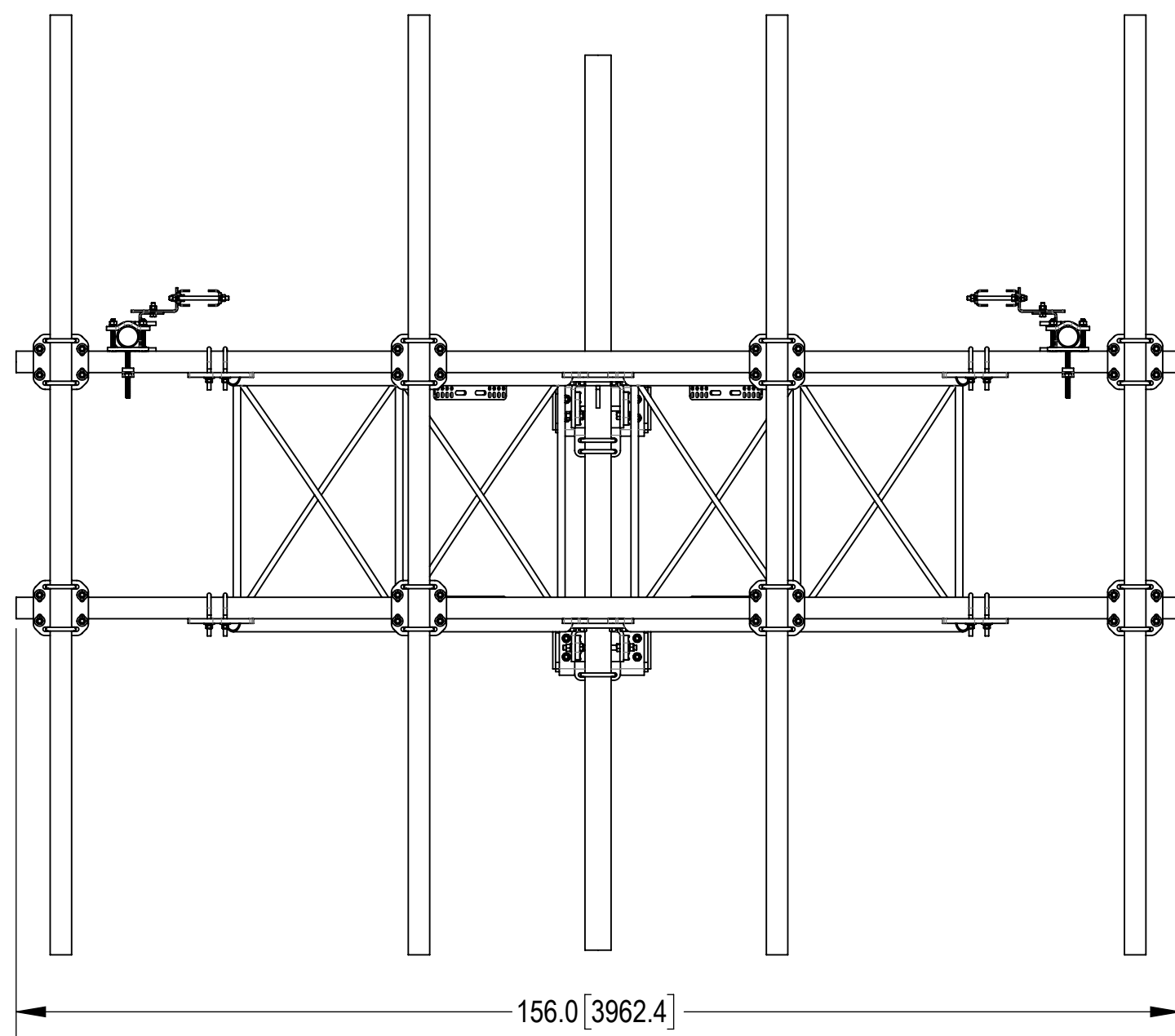
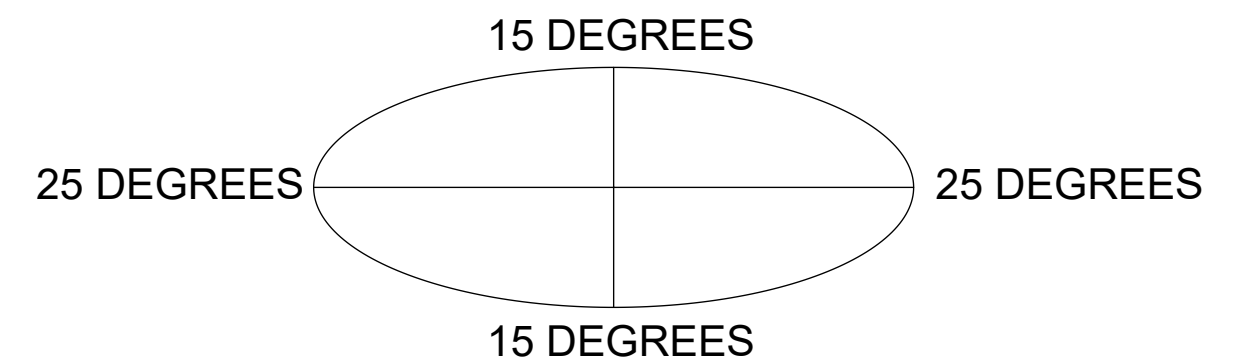


DETAIL B
SCALE 1 : 6



DETAIL C
SCALE 1 : 5

ALLOWABLE TIEBACK ANGLE
±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL

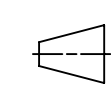
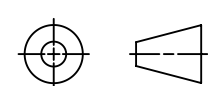


TOP
BOTTOM

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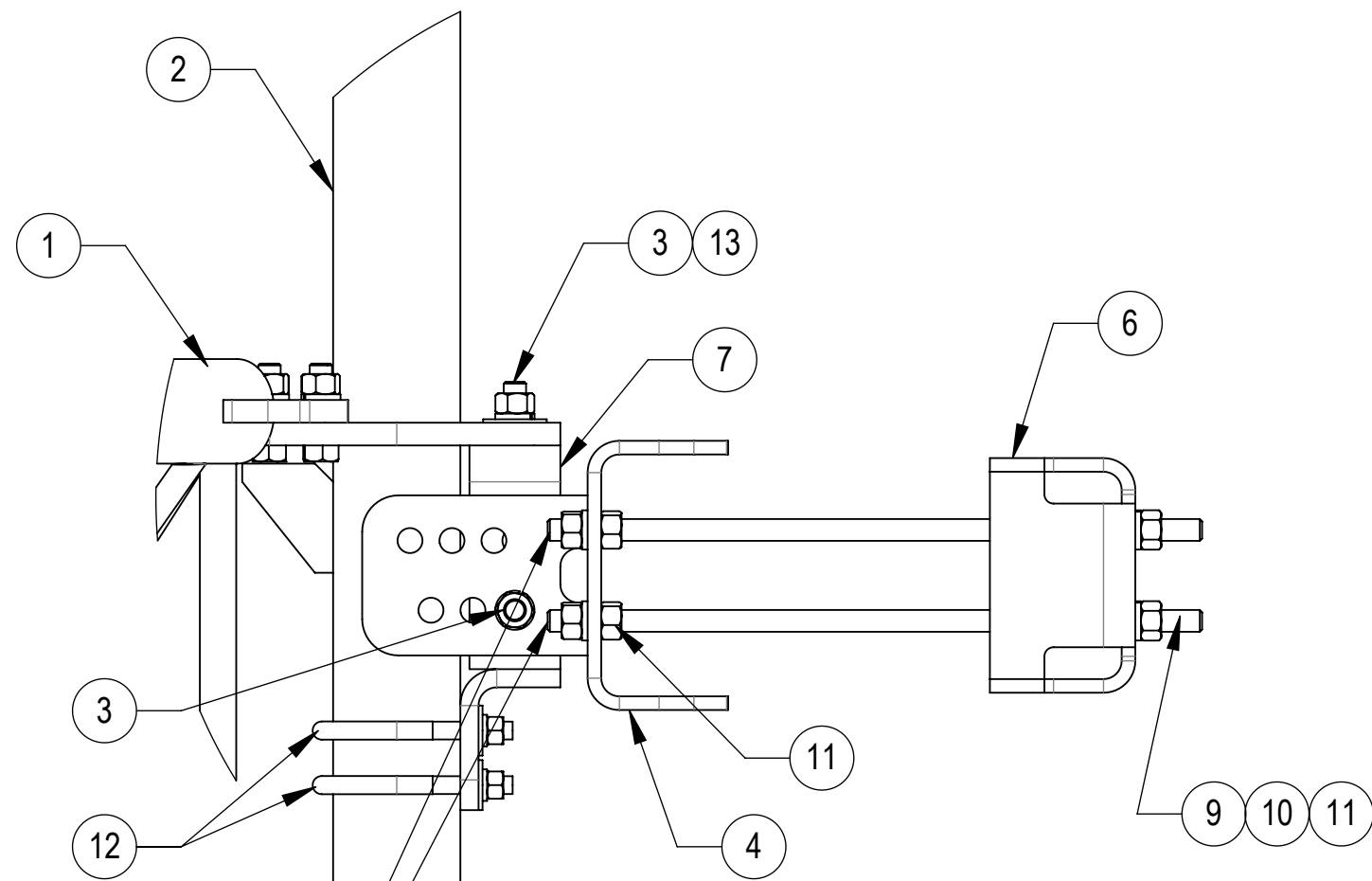
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SIZE **C** SCALE **1:21** DOCUMENT NO. **SFG23RHDXL**



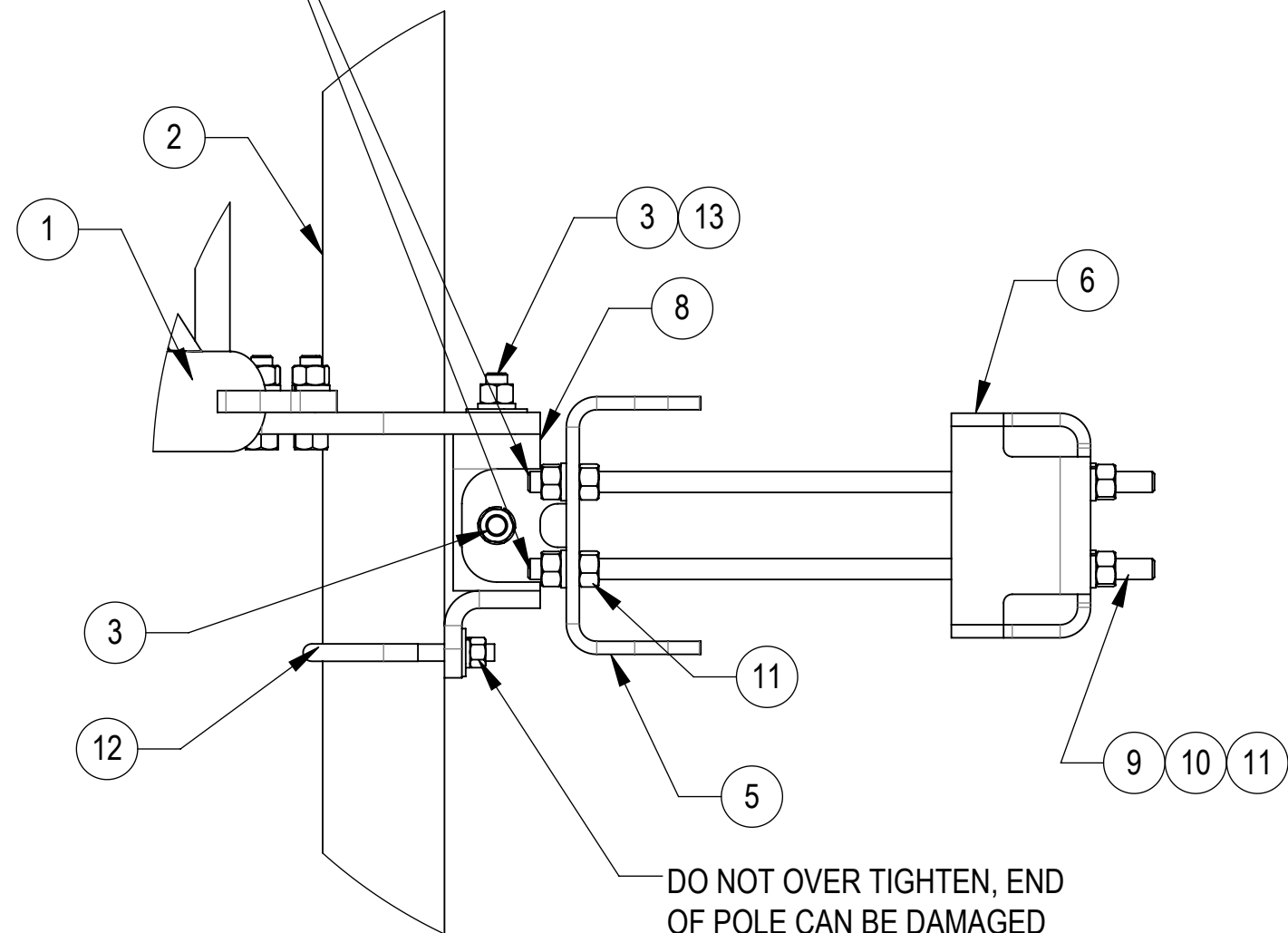
DRAWING			SHEET 4 OF 12
VERSION	STATUS	REVISION	
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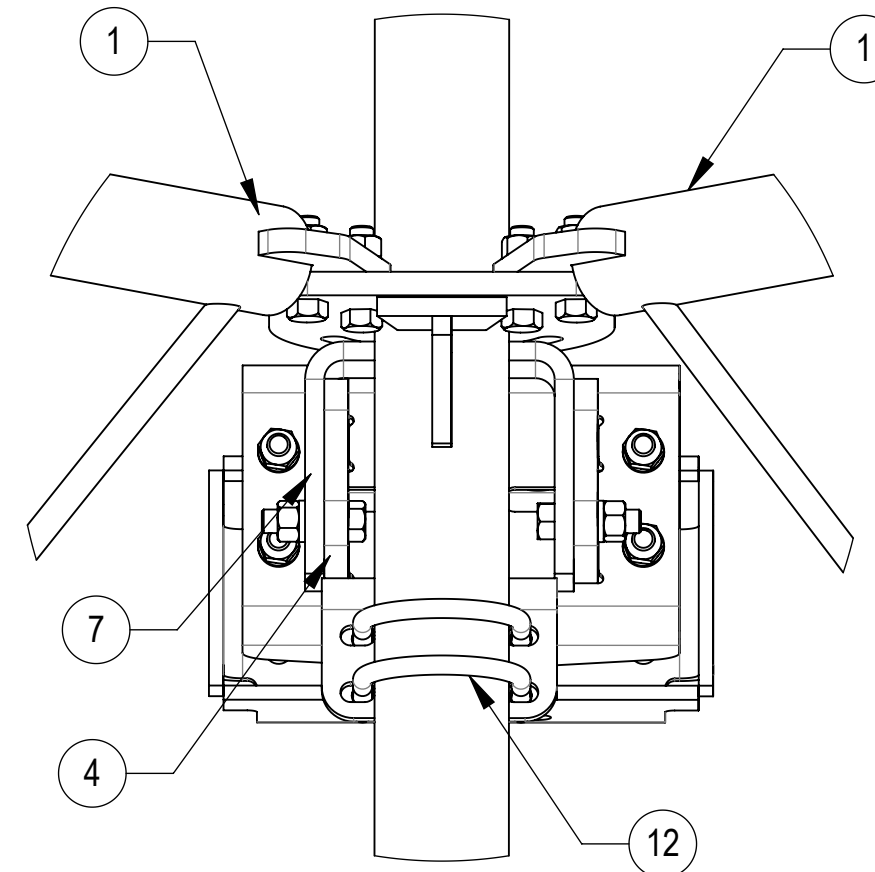
DETAIL D
SCALE 1 : 5

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

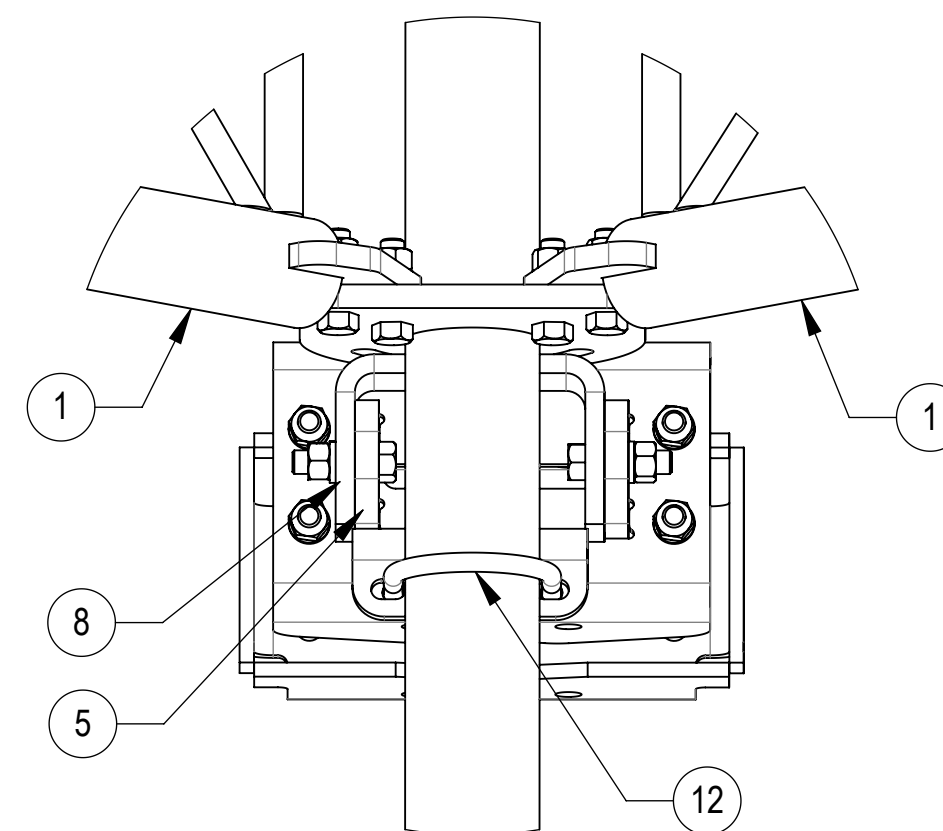


DETAIL E
SCALE 1 : 5

DO NOT OVER TIGHTEN, END OF POLE CAN BE DAMAGED



DETAIL ISO TOP ROTATED VIEW
SCALE 1 : 5



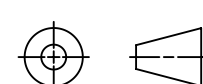
DETAIL ISO BOTTOM ROTATED VIEW
SCALE 1 : 5

TOP
BOTTOM

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SFG23RHDXL SECTOR FRAME SERIES

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05 RE F 5 OF 12

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1

SLOTS ALLOW FOR MOUNTING OF
RRU OR OTHER EQUIPMENT

1

2

6

2

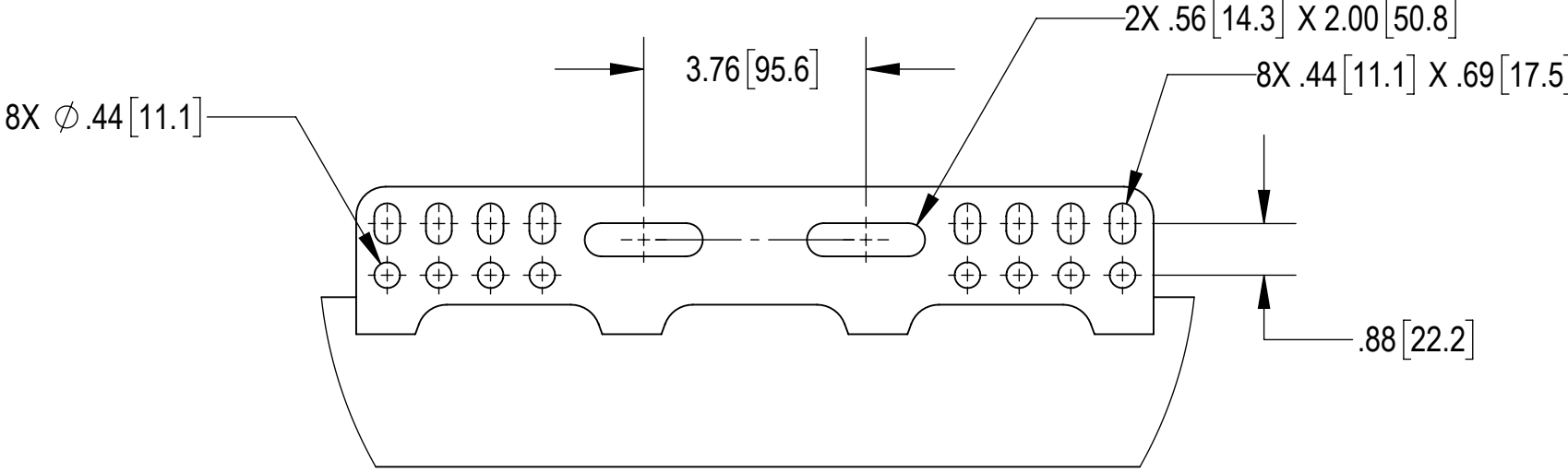
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SLOTS ALLOW FOR MOUNTING OF
RRU OR OTHER EQUIPMENT

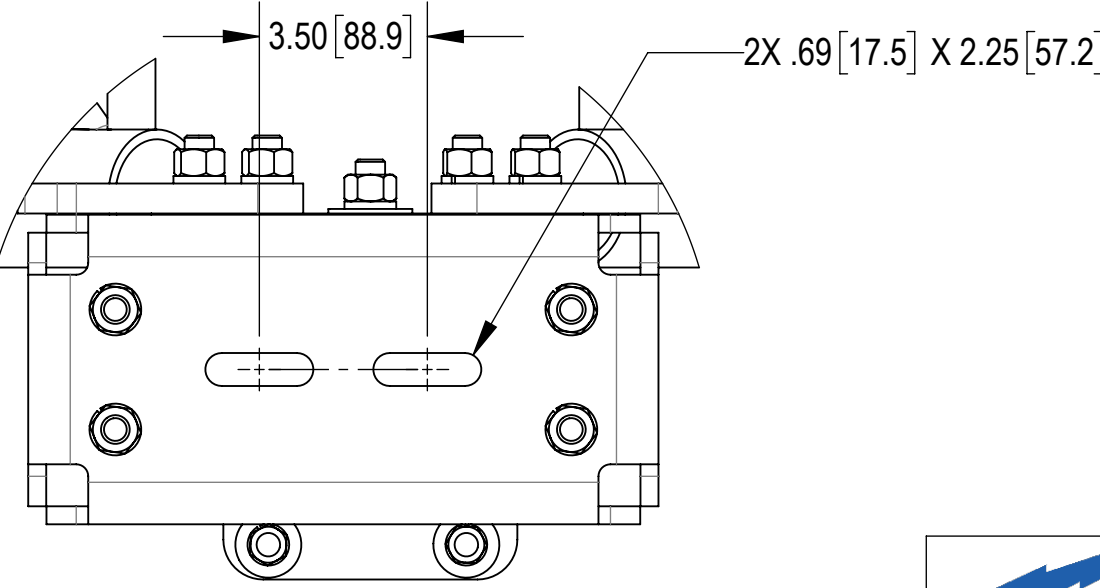
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SIDE VIEW

BACK CROP VIEW



DETAIL F
SCALE 1 : 3



DETAIL G
SCALE 1 : 4

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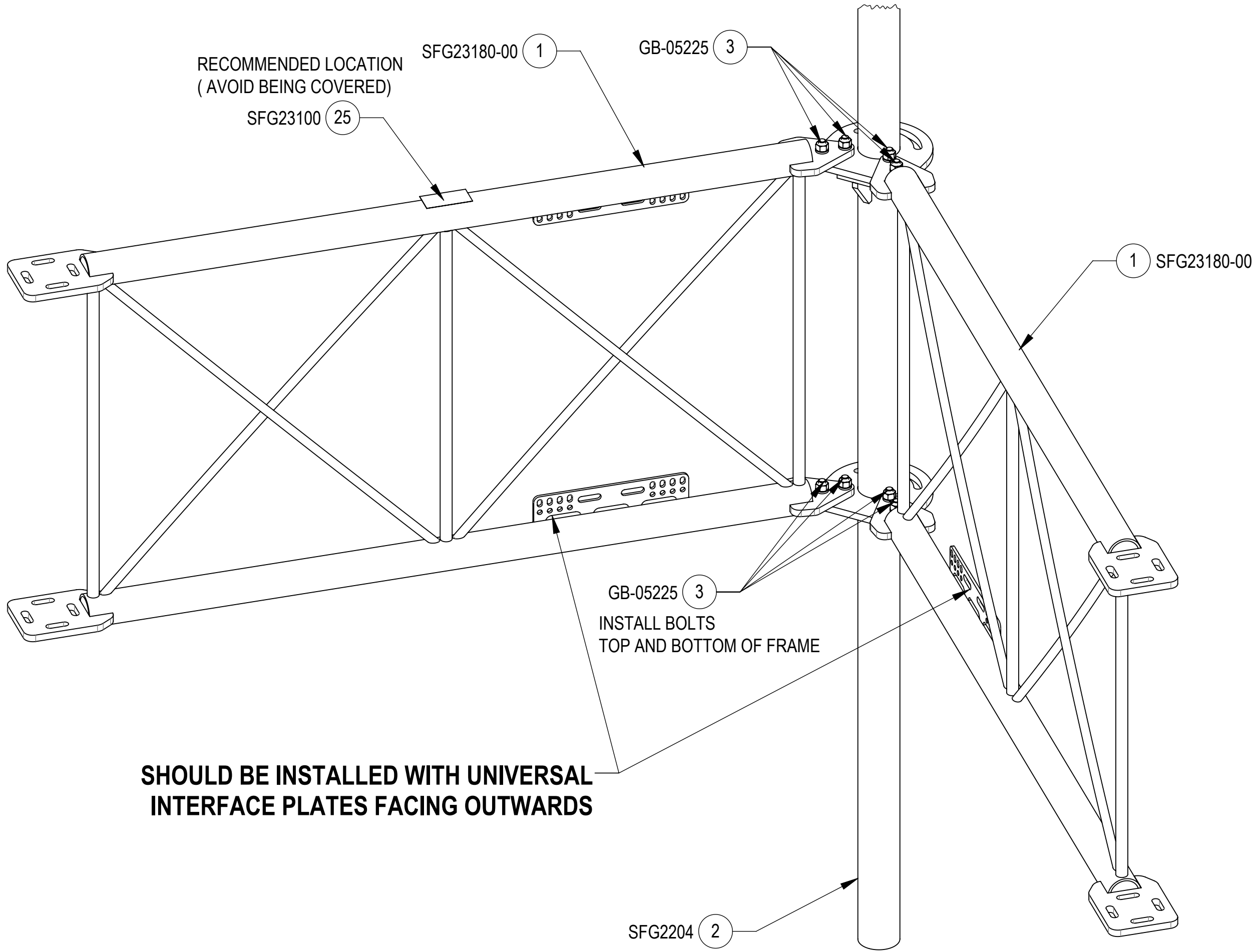
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SIZE **C** SCALE **1:10** DOCUMENT NO. **SFG23RHDXL**

DRAWING			SHEET 6 OF 12
VERSION	STATUS	REVISION	
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INSTALLATION SEQUENCE - REFERENCE ONLY
STEP 1: ATTACH STANDOFF ARMS (SFG23180-00) TO BACK VERTICAL ARM MOUNT (SFG2204) USING BOLT KITS (GB-05225)
ATTACH LABEL (SFG23100) ON TOP OF STANDOFF ARMS(SFG23180-00) . (WIPE GALVANIZED SURFACE WITH ALCOHOL CLEANER BEFORE APPLYING LABEL.)



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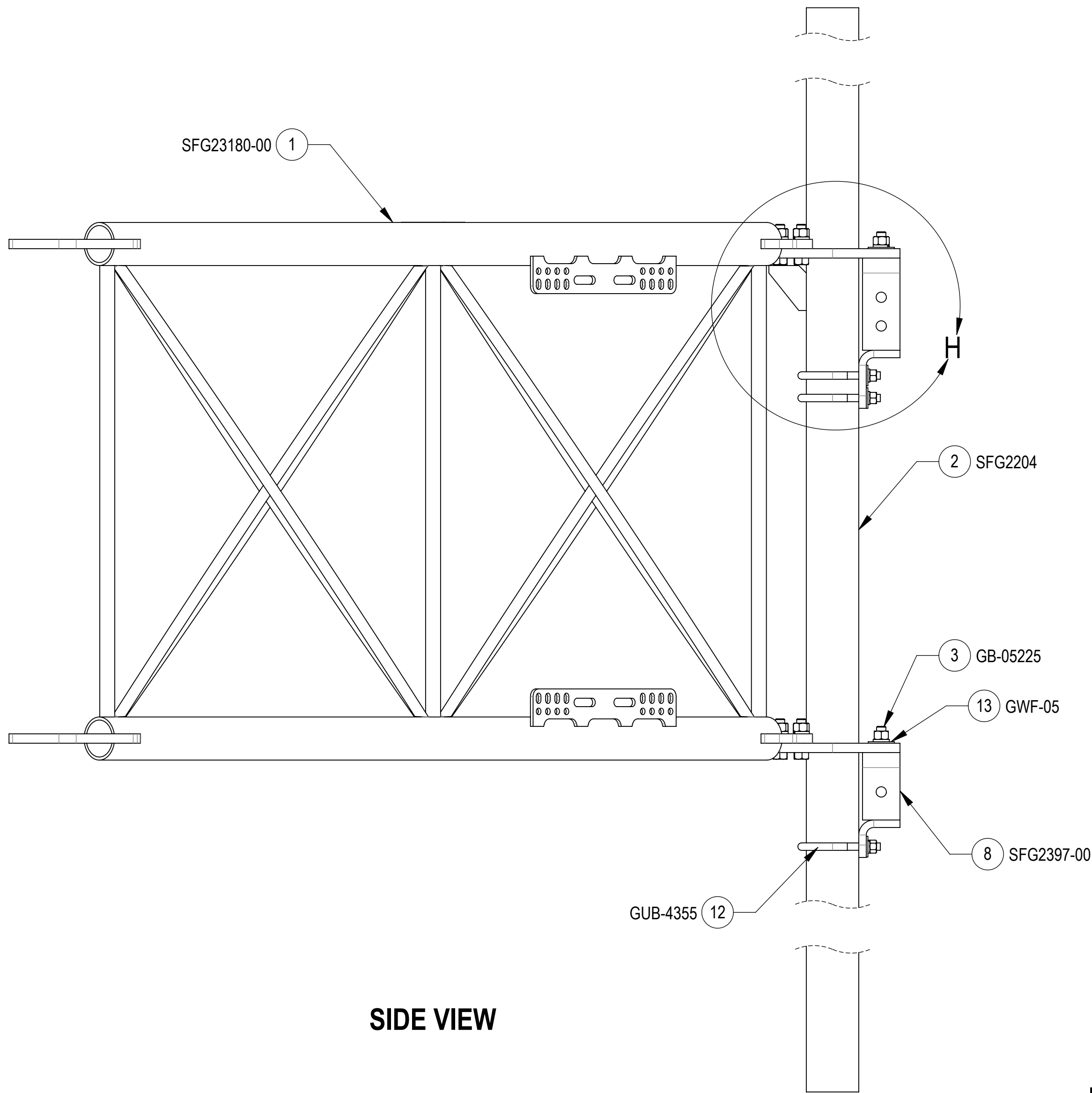
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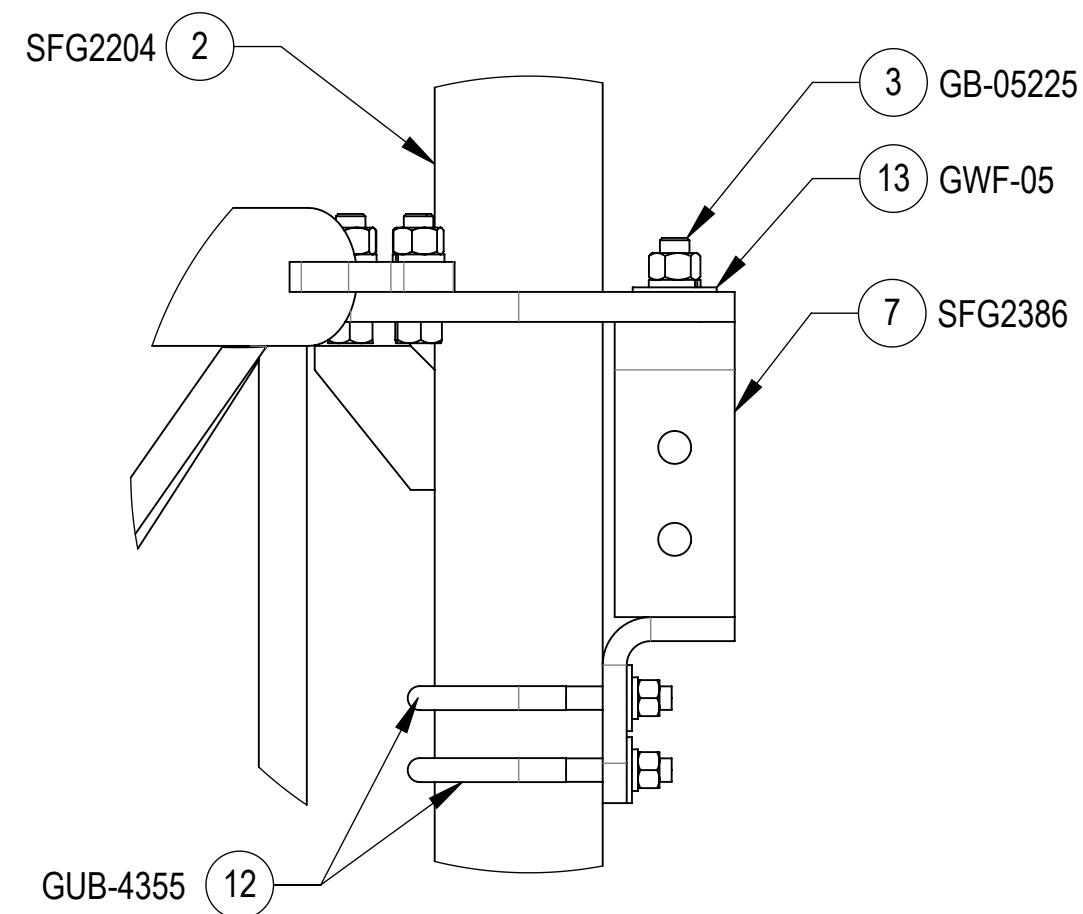
DRAWING			SHEET 7 OF 12
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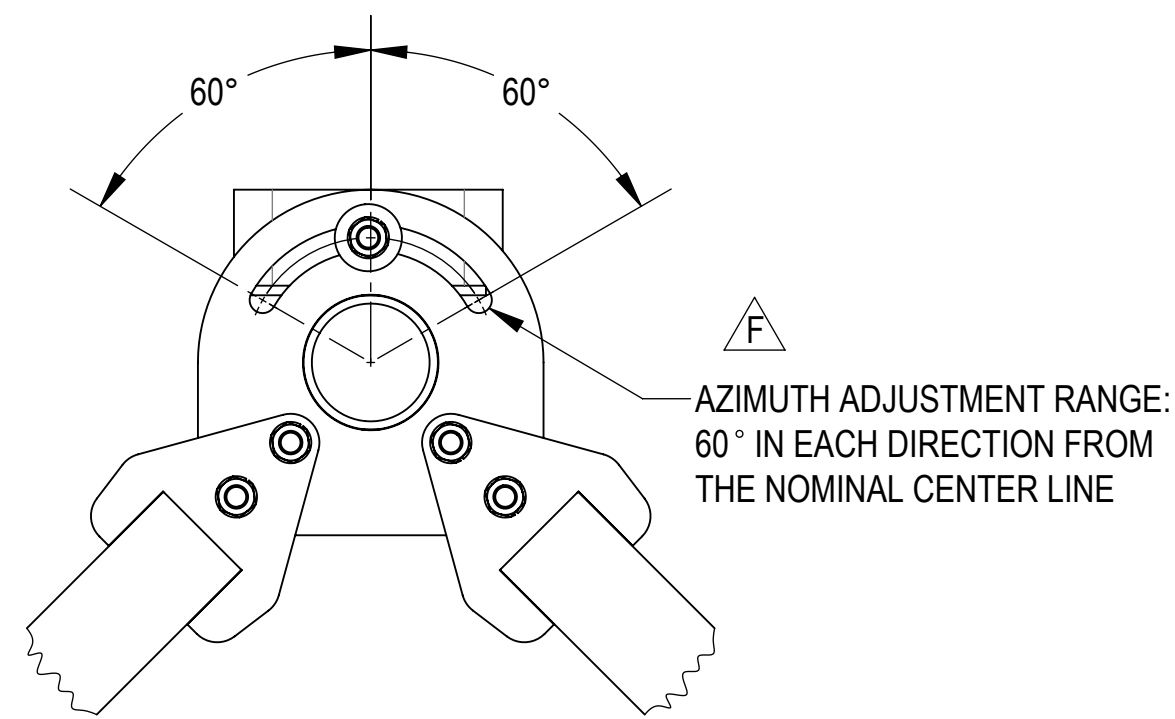
STEP 2: AT TOP, ATTACH AZIMUTH/TAPER BRACKET (SFG2386) TO BACK VERTICAL ARM MOUNT (SFG2204) USING BOLT KIT (GB-05225),
FLAT WASHER (GWF-05) AND U-BOLT KITS (GUB-4355);
AT BOTTOM, ATTACH AZIMUTH/TAPER BRACKET (SFG2387-00) TO BACK VERTICAL ARM MOUNT (SFG2204) USING BOLT KIT (GB-05225),
FLAT WASHER (GWF-05) AND U-BOLT KIT (GUB-4355);



SIDE VIEW

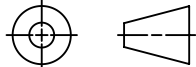


DETAIL H
SCALE 1 : 4

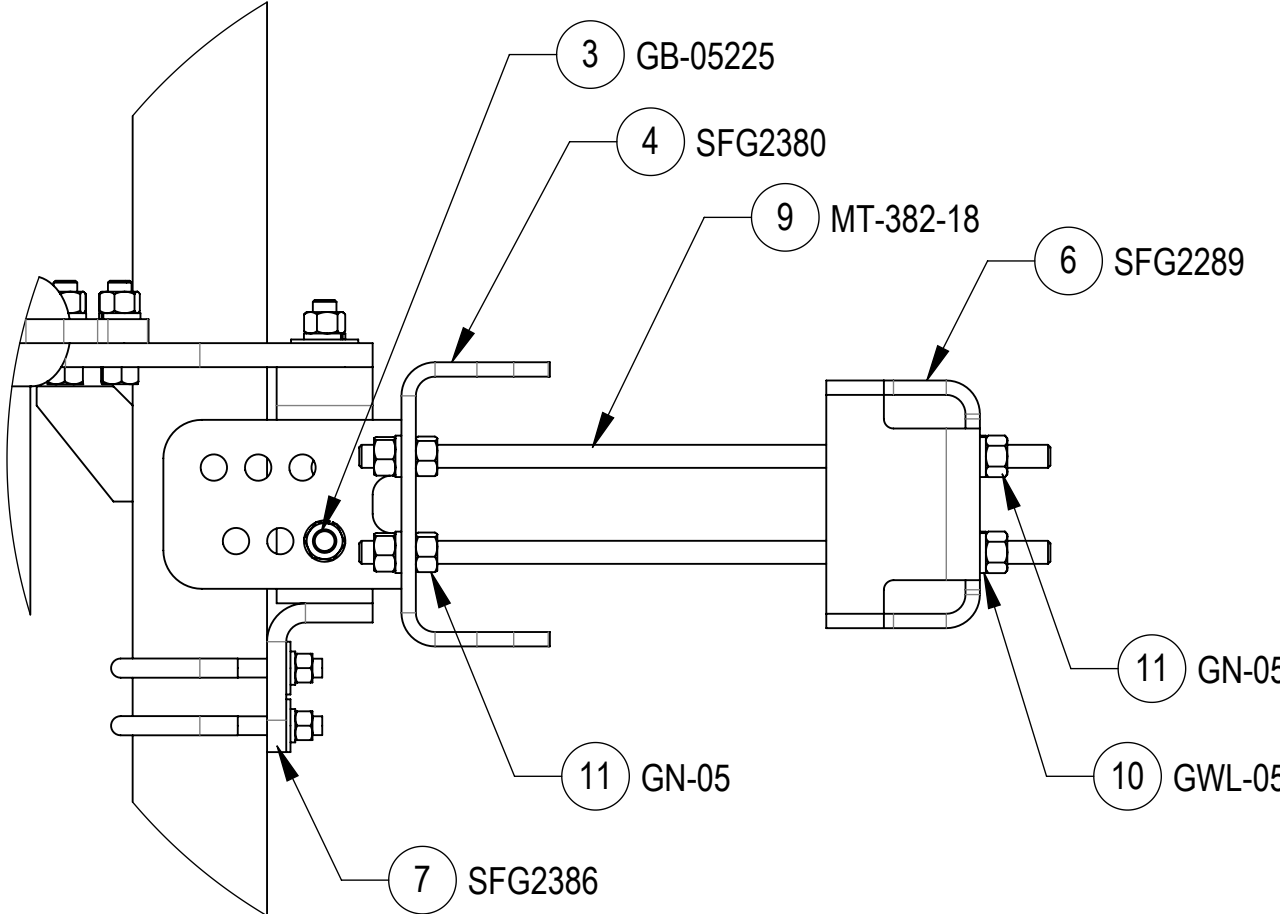


TOP CROP VIEW

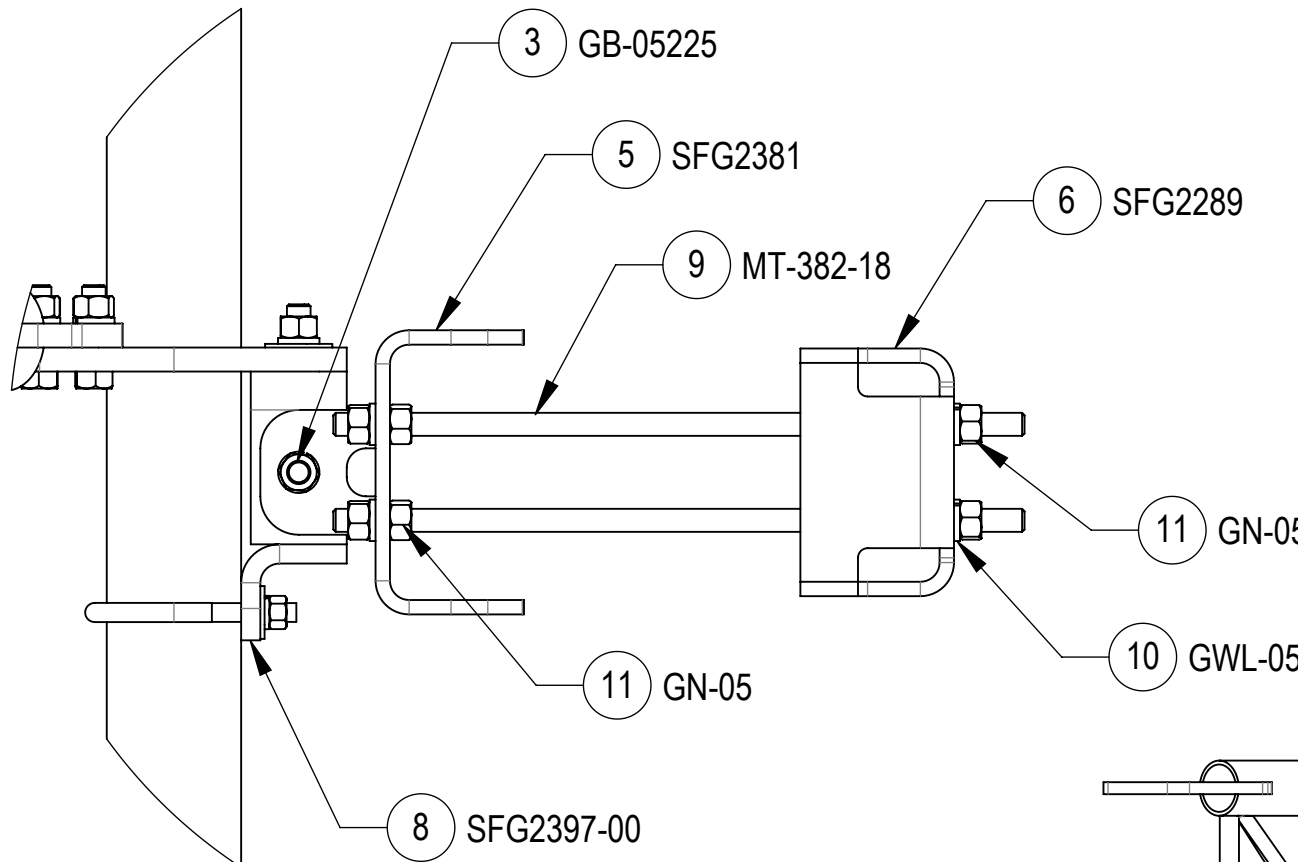
TOP
↓
BOTTOM

				
TITLE SFG23RHDXL SECTOR FRAME SERIES				
SIZE C	SCALE 1:24	DOCUMENT NO. SFG23RHDXL		
		DRAWING		
		VERSION 05	STATUS RE	REVISION F
Confidential		SHEET 8 OF 12		

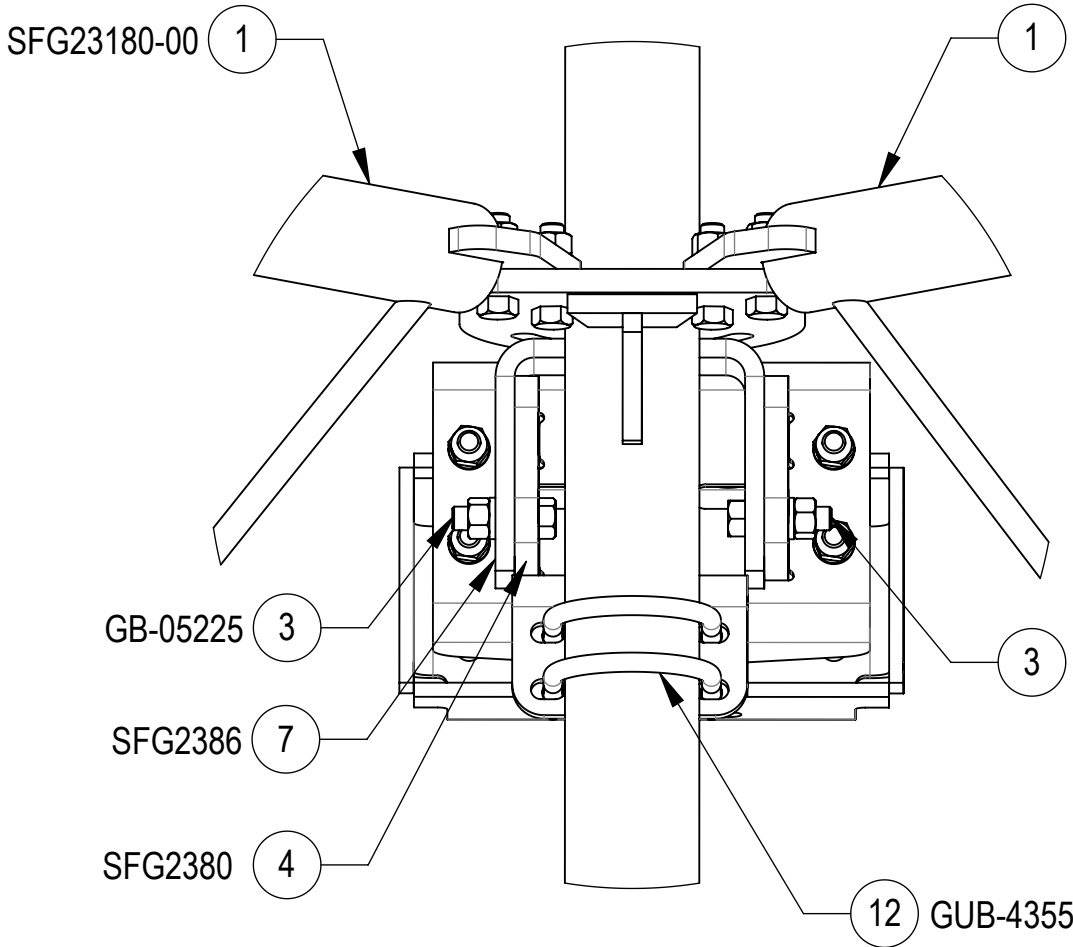
STEP 3: AT TOP, ATTACH TOP TAPER BRACKET (SFG2380) AZIMUTH/TAPER BRACKET (SFG2386) USING BOLTS KITS (GB-05225)
AT BOTTOM, ATTACH LOWER TOWER LEG BRACKET (SFG2381) TO AZIMUTH/TAPER BRACKET (SFG2397-00) USING BOLTS KITS (GB-05225)



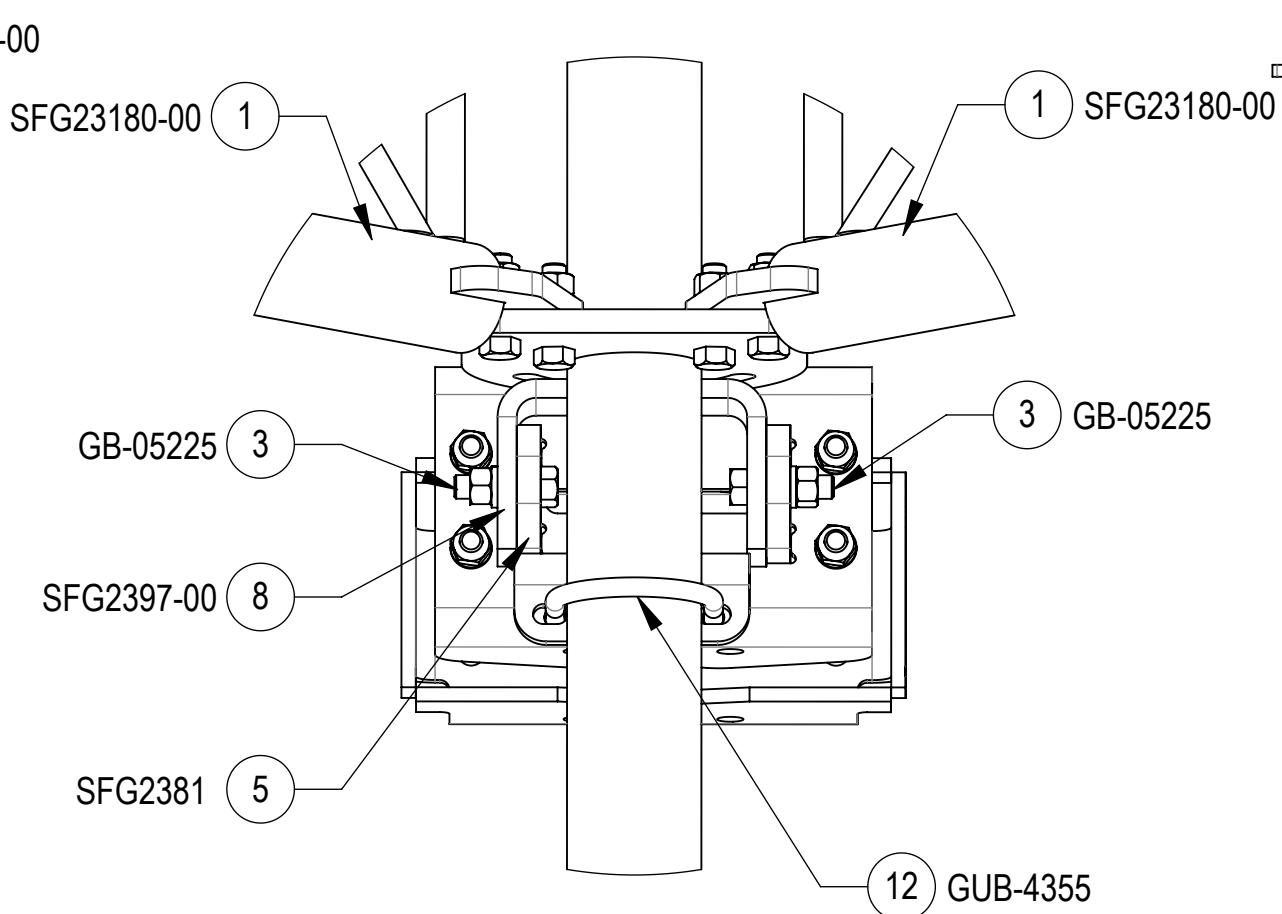
DETAIL J
SCALE 1 : 5



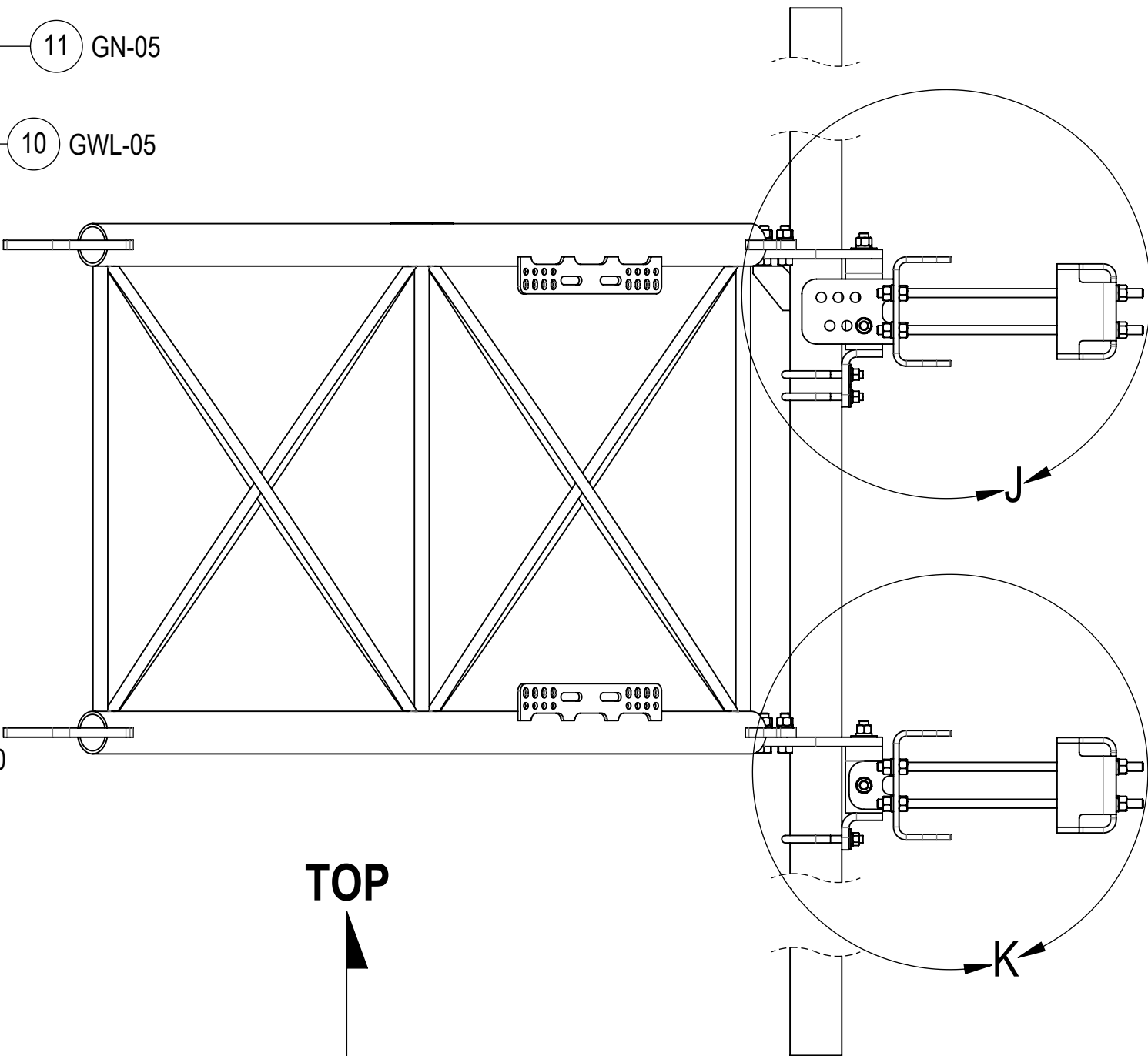
DETAIL K
SCALE 1 : 5



DETAIL ISO TOP ROTATED VIEW
SCALE 1 : 5



DETAIL ISO BOTTOM ROTATED VIEW
SCALE 1 : 5

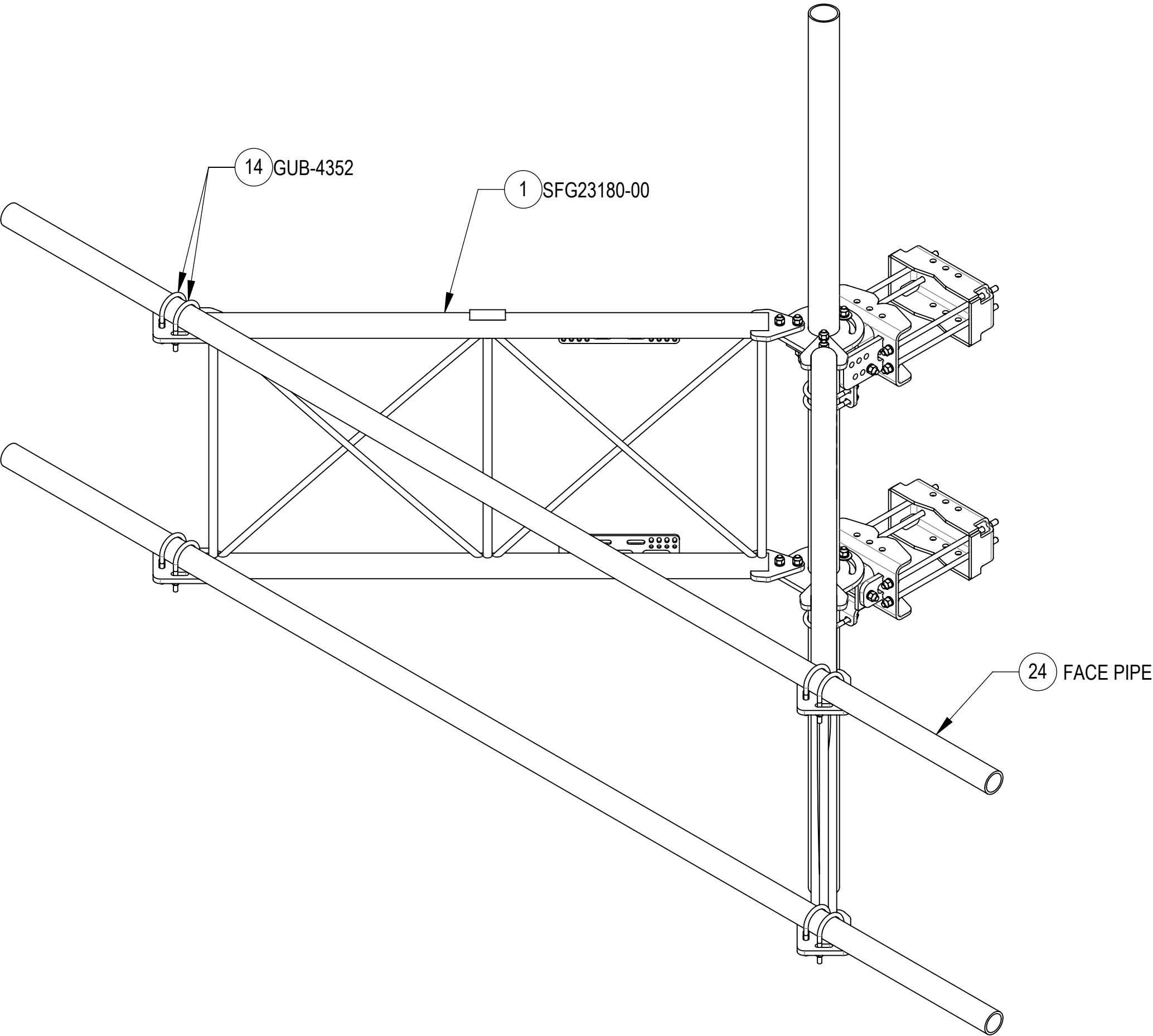


TOP
↓
BOTTOM

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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
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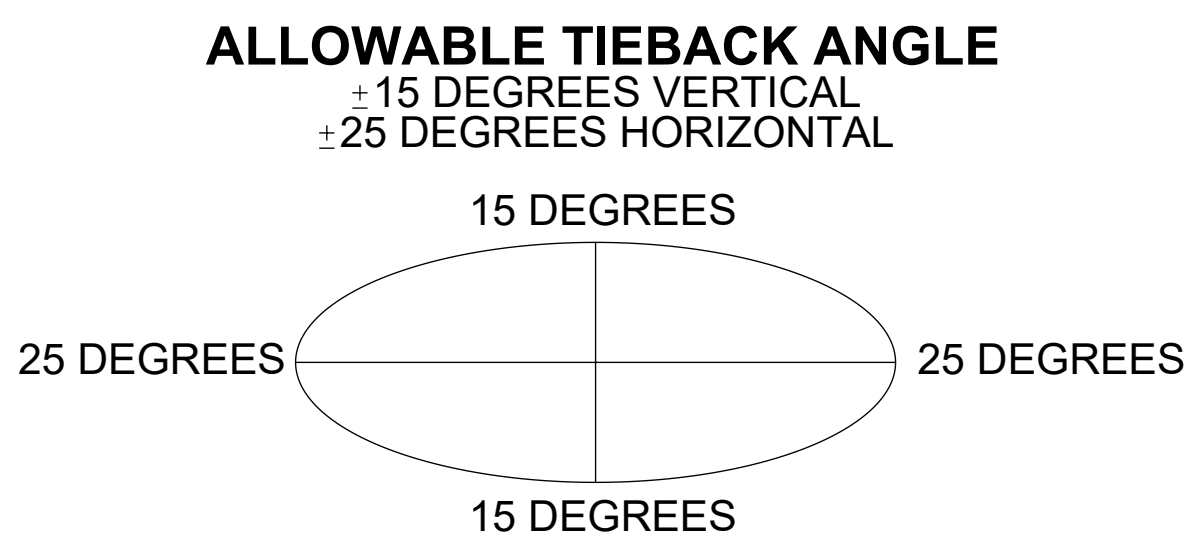
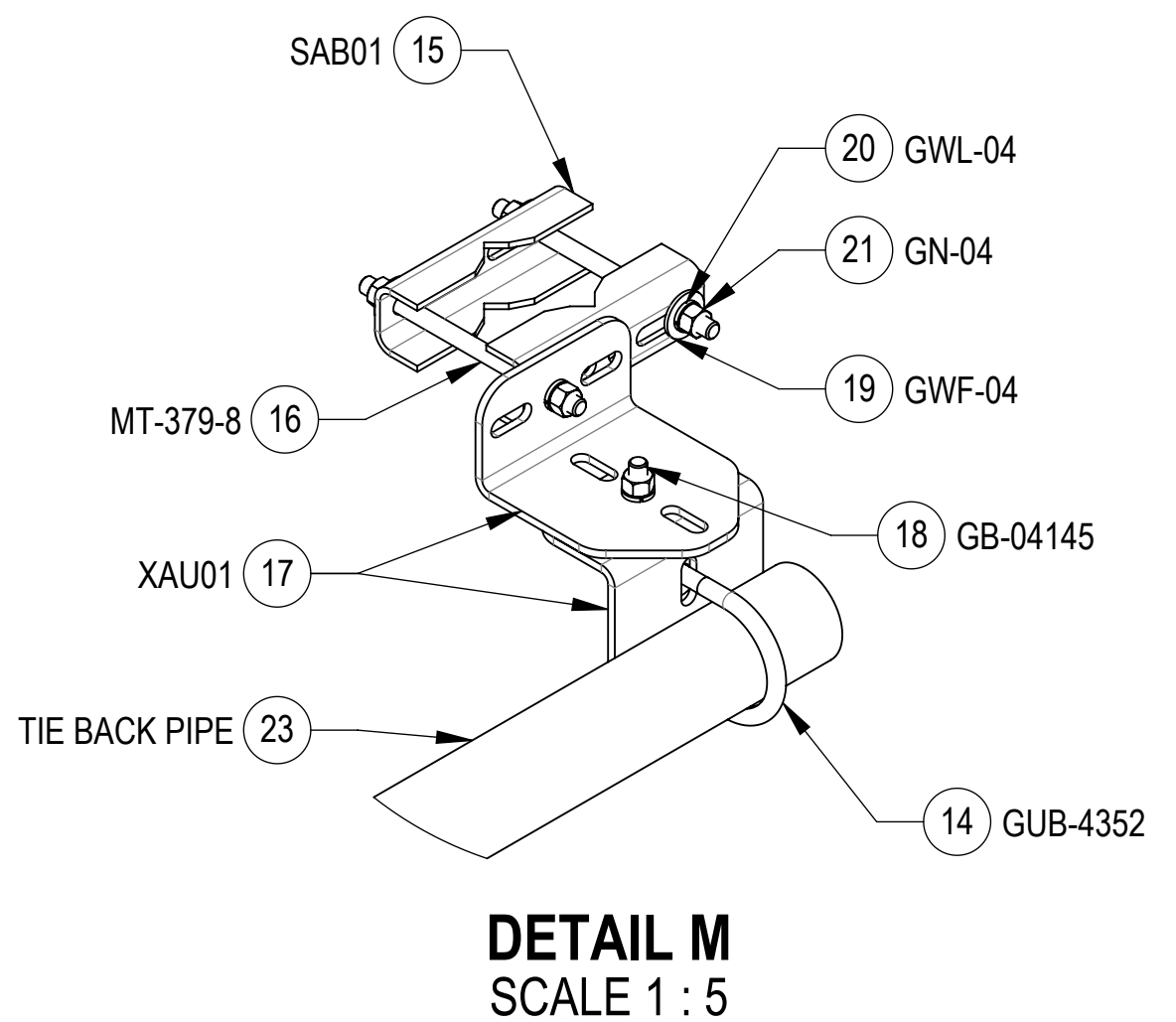
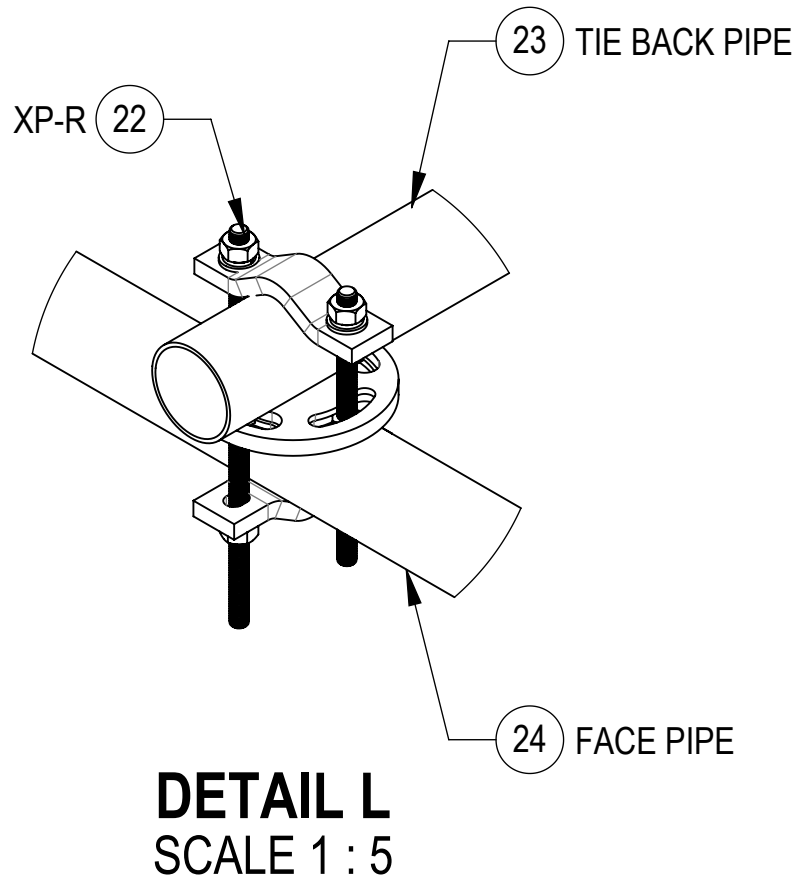
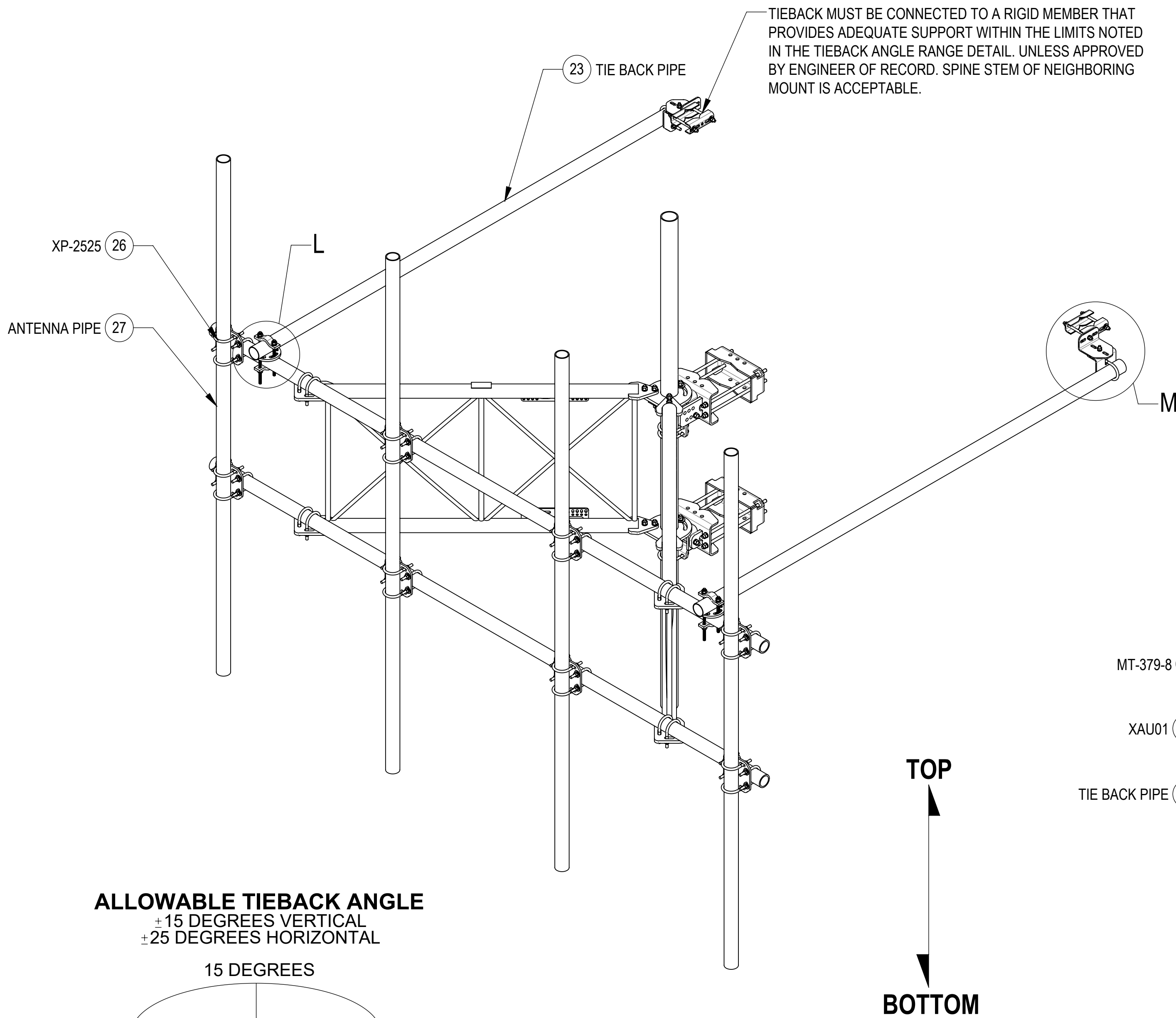


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VERSION 05	STATUS RE	REVISION F

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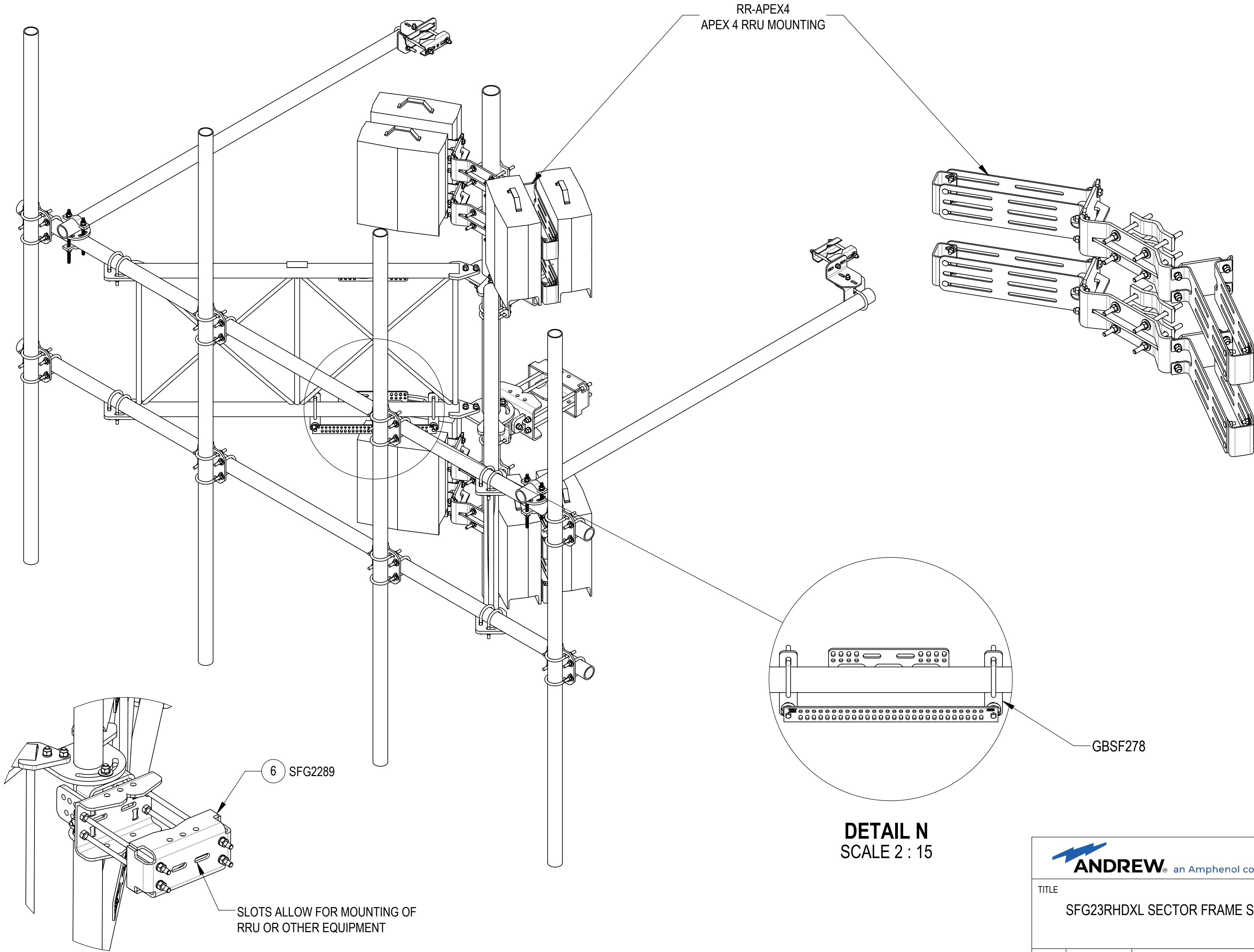
STEP 5: ATTACH ANTENNA PIPES TO FACE PIPES USING CROSSOVER PLATES KITS (XP-2525) .
ATTACH TIE BACK PIPES (MT546120120) TO FACE PIPES USING ROUND CROSSOVER PLATES KITS (XP-R).



TOP
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BOTTOM

				
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ACCESSORIES ORDERED SEPARATELY:



				
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