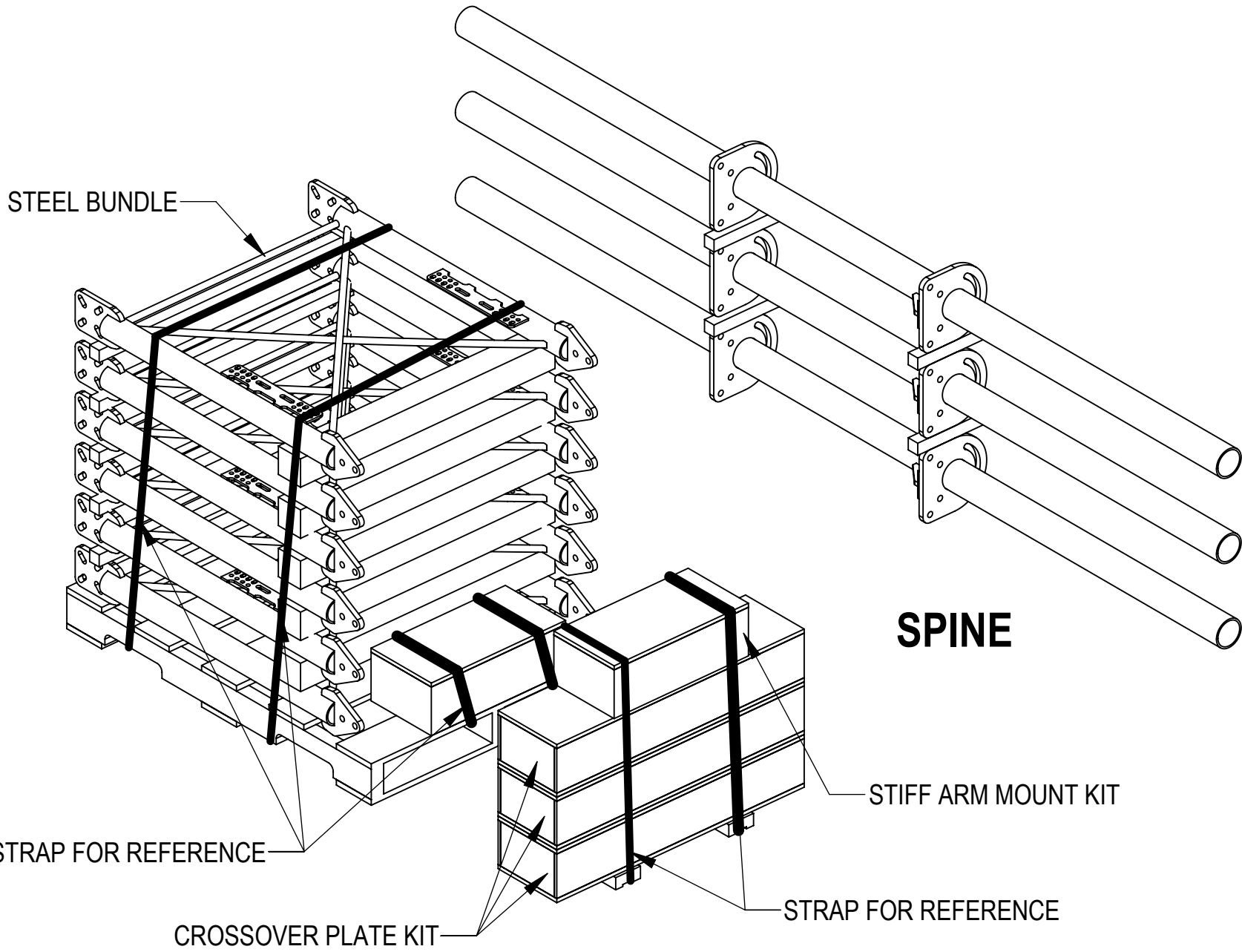
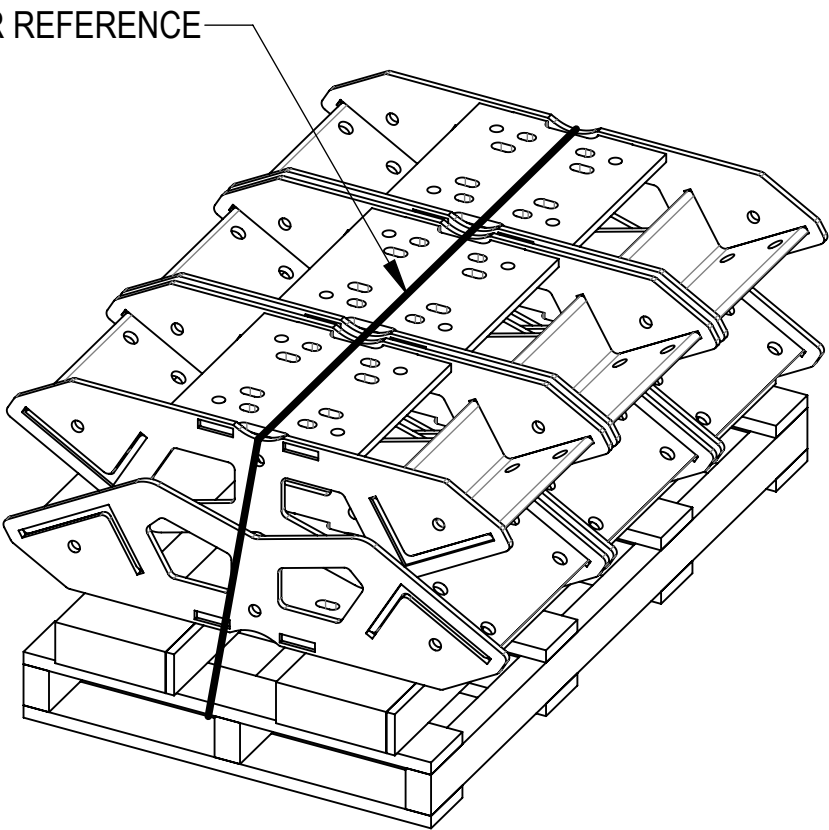
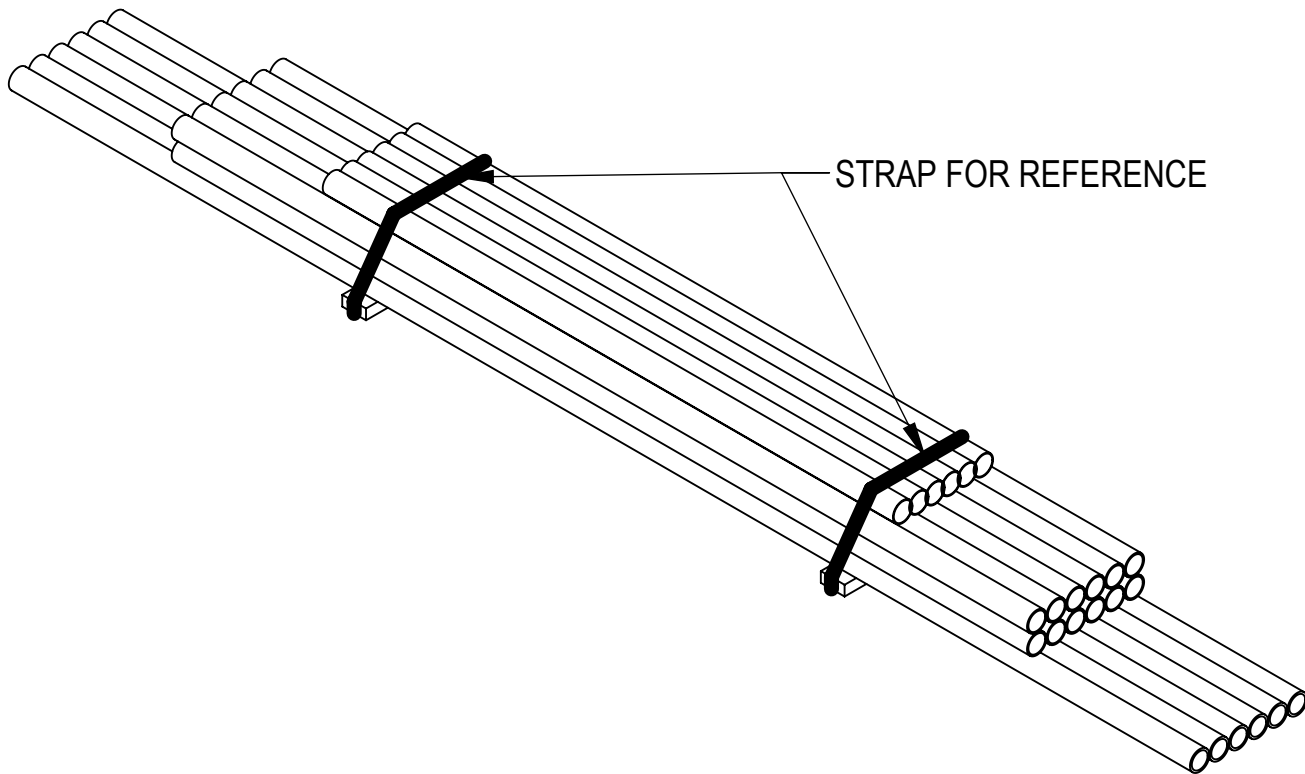


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- 1.0 GENERAL NOTES
- 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS [X. X]
- 1.2 FOR PATENT INFO: <https://www.adwpat.com>
- 2.0 DESIGN NOTES
- 2.1 ANY HAZARDS OR OBSTRUCTIONS TO THE CLIMBING FACILITY AND SAFETY CLIMB MUST BE IDENTIFIED PRIOR TO INSTALLING 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 FITS MONOPOLES 15" TO 50" OD.
- 2.3 MIN RECOMMENDED POLE THICKNESS 3/16"
- 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	MRC 27JAN21	BCROSS 10256
B	CORRECTED INSTALLATION OF TIE BACK CORRECT TORQUE NOTES, CHANGED GRAPHIC TO REPRESENT	ZX1005 22OCT21	BCROSS 15083
C	MCG22HDX SERIES BOM STANDARDIZATION, UPDATED TOP MID ON DRAWING	YX1027 31MAY22	BCROSS 40149023CMO
D	SFG2398 WAS SFG2350	YMENG 05JAN24	YW1045 40185676CMO
E	SHHET 2: ADDED MCG23RHDX-13MB, MCG23RHDX-15MB, MCG23RHDX-15M12120 & MCG23RHDX-15M15120	JL1183 07MAY24	CB1094 40194988CMO
F	UPDATED SFG23175 TO ADD UNIVERSAL INTERFACE PLATES	YX1027 29AUG24	BA1025 40202715CMO
G	SHEET 4&8: ADDED AZIMUTH ADJUSTMENT RANGE VIEW & NOTE	JL1183 10JAN25	BA1025 40212102CMO



ANDREW® an Amphenol company											
TOLERANCES						SAP MATERIAL MASTER					
1 PLACE .X[X] ± .25[6.3]			3 PLACE .XXX[X] ± .060[1.5]			SEE TABLE1					
2 PLACE .XX[X] ± .12[3.0]			ANGLES ± 2°								
FINISH					MATERIAL						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994		NAME	DATE	MCG23RHDX SERIES							
	CE	ES1081	12/04/20								
	RW	NSUN	06/12/2025								
				SCALE 1:16 DOCUMENT NO. MCG23RHDX							
	AD	YMENG	06/12/2025								
	RE	YMENG	06/12/2025								
	ECN 40212102CMO										
SIZE	Auth Group		INSL	MODEL			DRAWING			SHEET 1 OF 10	
C				VERSION 03	STATUS RE	REVISION D	VERSION 07	STATUS RE	REVISION G		

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PART NUMBERS, WEIGHTS, & EPA

TABLE 1: CONFIGURATIONS																																													
						INCLUDED PARTS																																							
PART NO.	DESCRIPTION	WEIGHT (LBS)	(EPA)A (FT2)*	(EPA)A 1/2" ICE THICKNESS (FT2)*	ANTENNA PIPES	MC-RM1550-3D	MCG23HDX-HK02	MCG23RHDX-SB01	PB0607B0610P	PB0607B0908K0610P	PB091TEK0607B0610P	PB0607B0910K0610P	PB0607B1208K0610P	PB12TEK0607B0610P	PB0607B1210K0610P	PB0607B0612P	PB0607B0908K0612P	PB0607B0910K0612P	PB0607B1208K0612P	PB12TEK0607B0612P	PB0607B1210K0612P	PB15TEK0607B0612P	PB0607B0614P	PB0607B0908K0614P	PB0607B0910K0614P	PB0607B1208K0614P	PB12TEK0607B0614P	PB0607B1210K0614P	PB15TEK0607B0614P	PB0607B0613P	PB0607B0615P	PB0607B12TEK0615P	PB0607B15TEK0615P	XP-2525-4	XP-2525-6	XP-2525-8	XP-2525-12	XP-2525-OFF-12	XP-2525-15	SFG2204	SFG2398				
MCG23RHDX-10MB	G23 MP 10' SPINE, 10' FACE, NO AP	1889.3	20.96	30.03	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3				
MCG23RHDX-10M996	G23 MP 10' SPINE, 10' FACE, (9) 96" AP	2453.62			9	1	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3		
MCG23RHDX-10M9120	G23 MP 10' SPINE, 10' FACE, (9) 120" AP	2557.04			9	1	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3		
MCG23RHDX-10M9126	G23 MP 10' SPINE, 10' FACE, (9) 126" AP	2589.39			9	1	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3		
MCG23RHDX-10M1296	G23 MP 10' SPINE, 10' FACE, (12) 96" AP	2641.73			12	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3	3	
MCG23RHDX-10M12120	G23 MP 10' SPINE, 10' FACE, (12) 120" AP	2779.62			12	1	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3	3	
MCG23RHDX-10M12126	G23 MP 10' SPINE, 10' FACE, (12) 126" AP	2822.75			12	1	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3	
MCG23RHDX-12MB	G23 MP 10' SPINE, 12' FACE, NO AP	1981.56	22.24	31.73	-	1	1	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3			
MCG23RHDX-12M996	G23 MP 10' SPINE, 12' FACE, (9) 96" AP	2545.89			9	1	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3		
MCG23RHDX-12M9126	G23 MP 10' SPINE, 12' FACE, (9) 126" AP	2681.65			9	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3		
MCG23RHDX-12M1296	G23 MP 10' SPINE, 12' FACE, (12) 96" AP	2734.00			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3	
MCG23RHDX-12M12120	G23 MP 10' SPINE, 12' FACE, (12) 120" AP	2871.88			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3	
MCG23RHDX-12M12126	G23 MP 10' SPINE, 12' FACE, (12) 126" AP	2915.02			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3	
MCG23RHDX-12M15120	G23 MP 10' SPINE, 12' FACE, (15) 120" AP	3094.46			15	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	3	3
MCG23RHDX-14MB	G23 MP 10' SPINE, 14' FACE, NO AP	2073.83	24.02	34.00	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3		
MCG23RHDX-14M996	G23 MP 10' SPINE, 14' FACE, (9) 96" AP	2638.15			9	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3	
MCG23RHDX-14M9126	G23 MP 10' SPINE, 14' FACE, (9) 126" AP	2773.92			9	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3	
MCG23RHDX-14M1296	G23 MP 10' SPINE, 14' FACE, (12) 96" AP	2826.26			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3
MCG23RHDX-14M12120	G23 MP 10' SPINE, 14' FACE, (12) 120" AP	2964.15			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	3	-	-	-	-	-	3	3
MCG23RHDX-14M12126	G23 MP 10' SPINE, 14' FACE, (12) 126" AP	3007.28			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	3	-	-	-	-	-	3	3
MCG23RHDX-14M15120	G23 MP 10' SPINE, 14' FACE, (15) 120" AP	3186.73			15	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	3	-	-	-	-	-	3	3
MCG23RHDX-13MB	MP_SF,13'FP,NOAP	2004.63	22.56	32.16	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3	3		
MCG23RHDX-15MB	MP_SF,15'FP,NOAP	2096.9	23.84	33.85	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3	3		
MCG23RHDX-15M12120	MONO 3 SCTR FR 15' FACE,(12) 120" ANT	3101.64			12	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	3	3	
MCG23RHDX-15M15120	MONO 3 SCTR FR 15' FACE,(15) 120" ANT	3209.79			15	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	3	3		

* (EPA)A DOES NOT INCLUDE ANTENNA PIPES AND MOUNTING HARDWARE. IF DESIRED, ADD ANTENNA PIPE PER TABLE 2

TABLE 2: EPA OF EACH ANTENNA PIPE		
ANTENNA PIPE	(EPA)A (FT²)	(EPA)A W/ 1/2" ICE THICKNESS (FT²)
2-7/8" X 96"	1.84	2.48
2-7/8" X 120"	2.30	3.10
2-7/8" X 126"	2.42	3.26

NOTE:
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: MCG23RHDX-12M1296 HAS A 3-SECTOR EPA OF 22.74 FT² WITH NO ICE PLUS 12 ANTENNA PIPES WITH A 3-SECTOR EPA OF 12X1.84=22.08 FT² WITH NO ICE.
SO, THE TOTAL EPA OF 44.80 FT² FOR THE MCG23RHDX-12M1296.



TITLE

MCG23RHDX SERIES

SIZE

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SCALE

1:32

DOCUMENT NO.

MCG23RHDX



VERSION

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STATUS

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SHEET

2 OF 10

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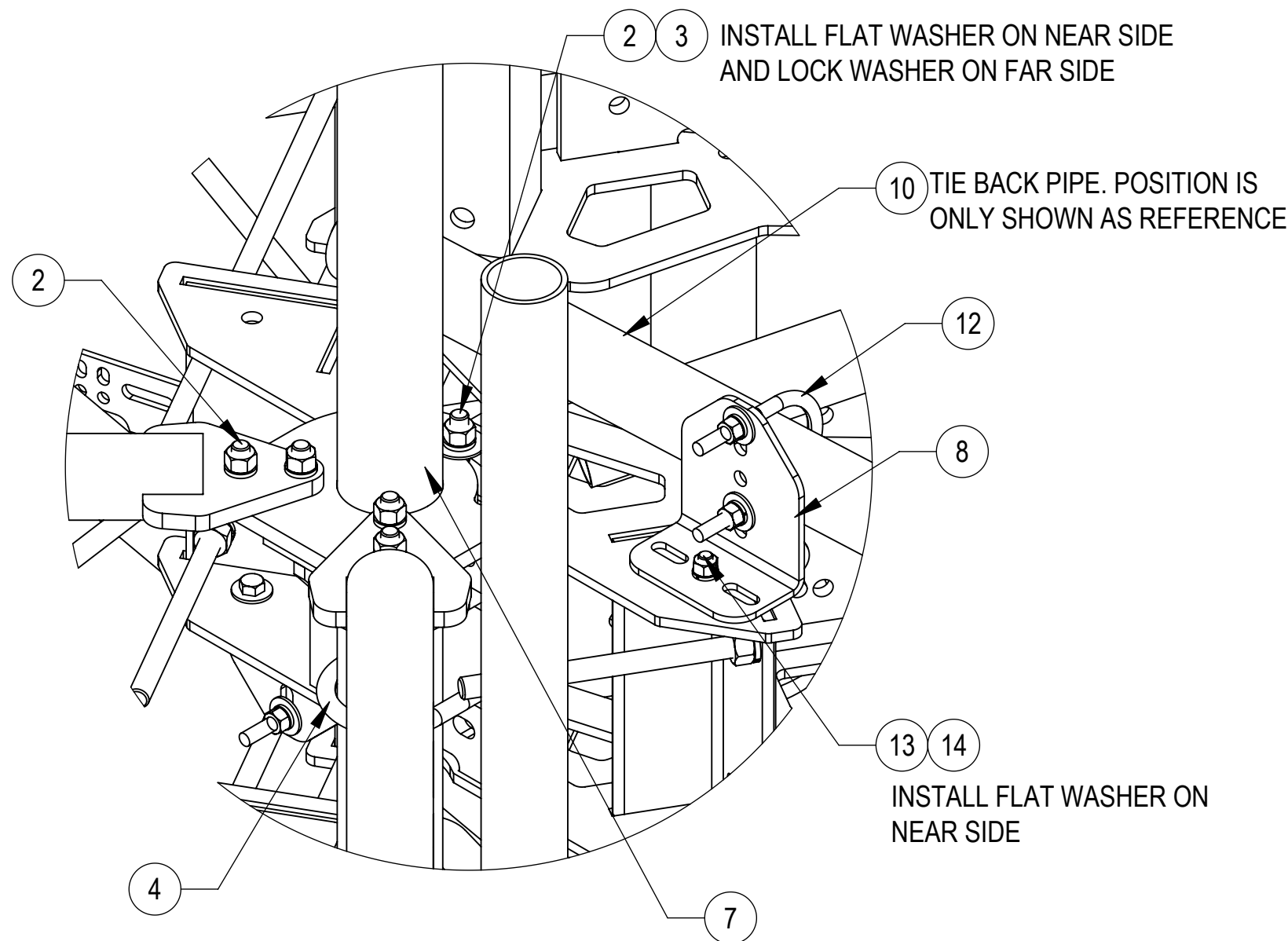
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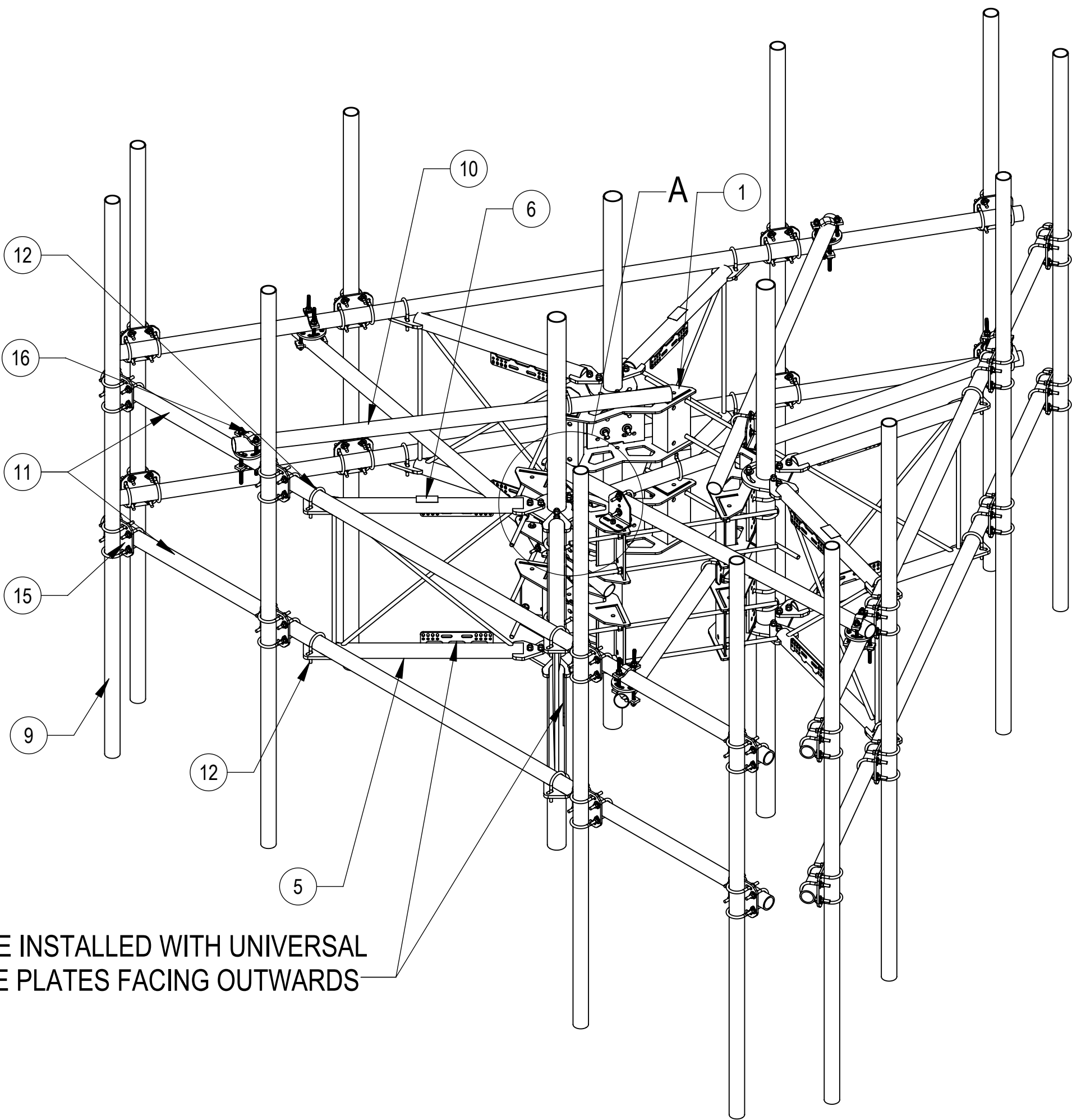
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DETAIL A
SCALE 1 : 5

MCG23RHDX-14M12126 SHOWN FOR REFERENCE
(NOT ALL CONFIGURATIONS INCLUDE ALL ITEMS SEE NOTES IN TABLE)

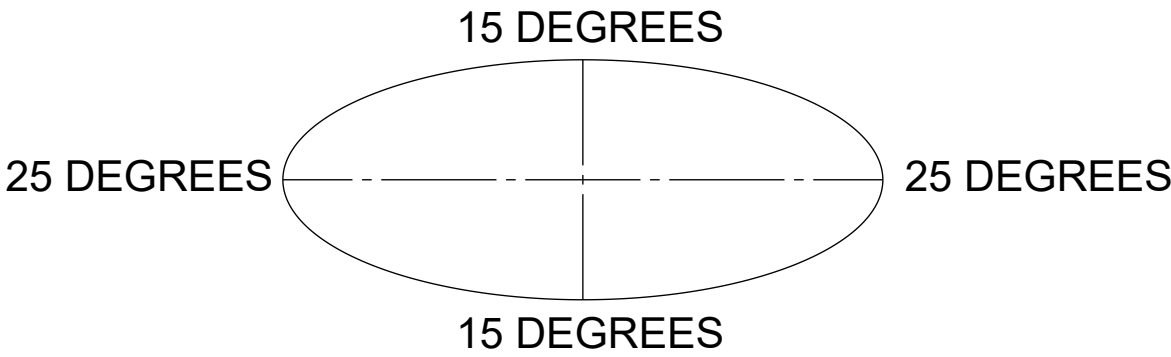


TOP
BOTTOM

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 NO.
1	MC-RM1550-3	15" - 50" OD RINGMOUNT	2	229.90 LBS	
2	GB-05225	5/8" X 2-1/4" GALV BOLT KIT	30	0.28 LBS	
3	GWf-05	5/8" GALV FLAT WASHER, 1.7OD	6	0.06 LBS	
4	GUB-53560	5/8" X 3-5/8" X 6" GALV U-BOLT	12	1.30 LBS	
5	SFG23175	ARM STANDOFF SFG23	6	66.61 LBS	
6	SFG2398	LABEL, SFG23RHDX	3	0.03 LBS	
7	SFG2204	WELDMENT, BACK VERTICAL ARM MOUNT	3	97.29 LBS	
8	XAU01	ANGLE, CROSSOVER, 1.9-3.5" X 1.9-3.5" OD	6	2.98 LBS	
9	MT-546-126	PIPE, 2.875"OD X 126"	12	61.05 LBS	PART NO. AND QTY SEE INDIVIDUAL DRAWING
10	MT546084120	2.88" OD X 84" LONG PIPE	6	24.81 LBS	
11	MT546174276	PIPE, 2.875"OD X 174"	6	111.49 LBS	PART NO. SEE INDIVIDUAL DRAWING
12	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	18	0.71 LBS	
13	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	6	0.13 LBS	
14	GWf-04	1/2" GALV FLAT WASHER	6	0.04 LBS	
15	XP-2525	CROSSOVER PLATE KIT, 2-7/8 OD X 2-7/8 OD	24	8.37 LBS	QTY SEE INDIVIDUAL DRAWING
16	XP-R	CROSSOVER PLATE, ROUND, UP TO 3.5" OD	6	6.20 LBS	

ALLOWABLE TIEBACK ANGLE
± 15 DEGREES VERTICAL
± 25 DEGREES HORIZONTAL



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TITLE MCG23RHDX SERIES				
SIZE C	SCALE 1:32	DOCUMENT NO. MCG23RHDX		
 		DRAWING		
		VERSION 07	STATUS RE	REVISION G
				SHEET 3 OF 10

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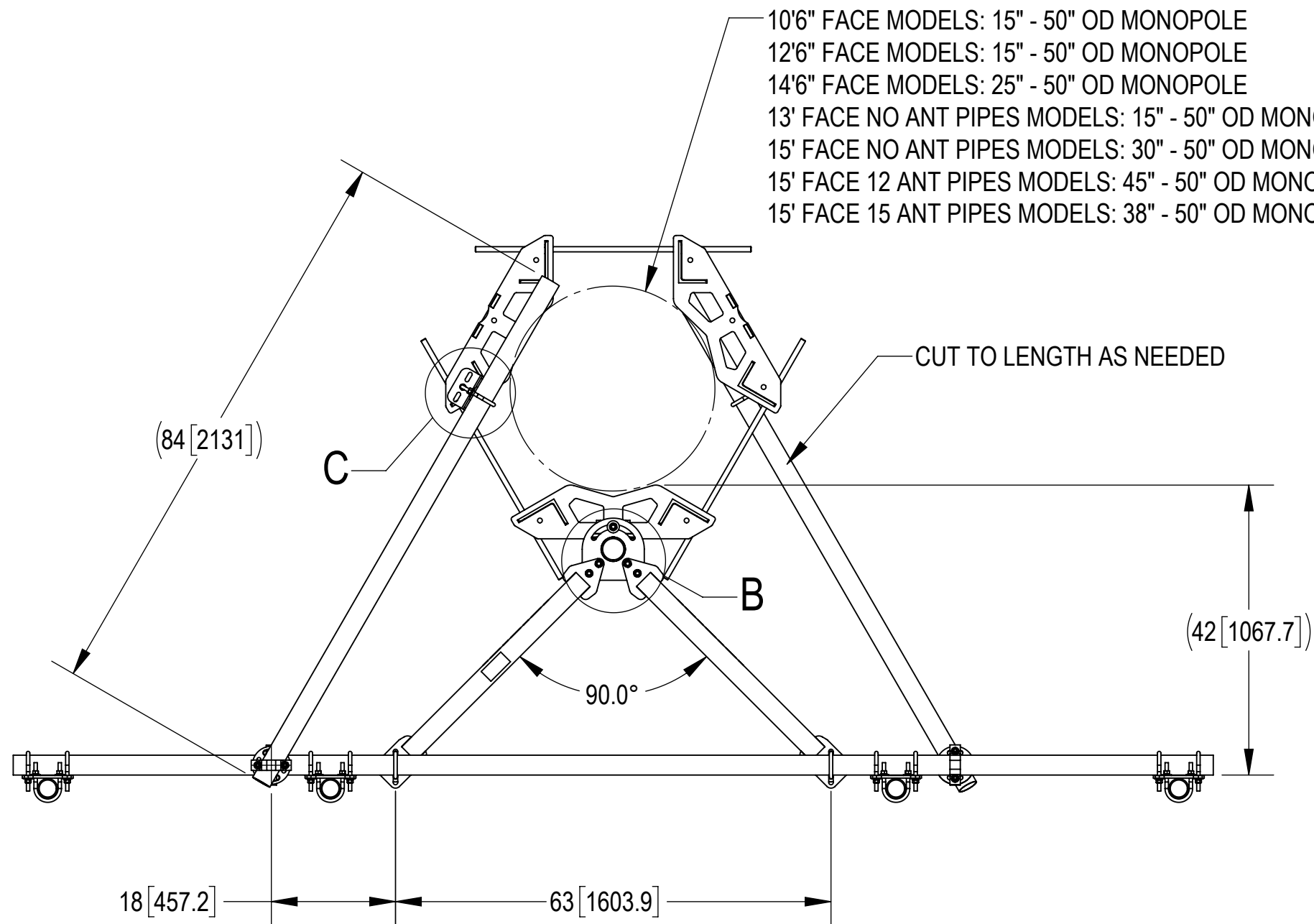
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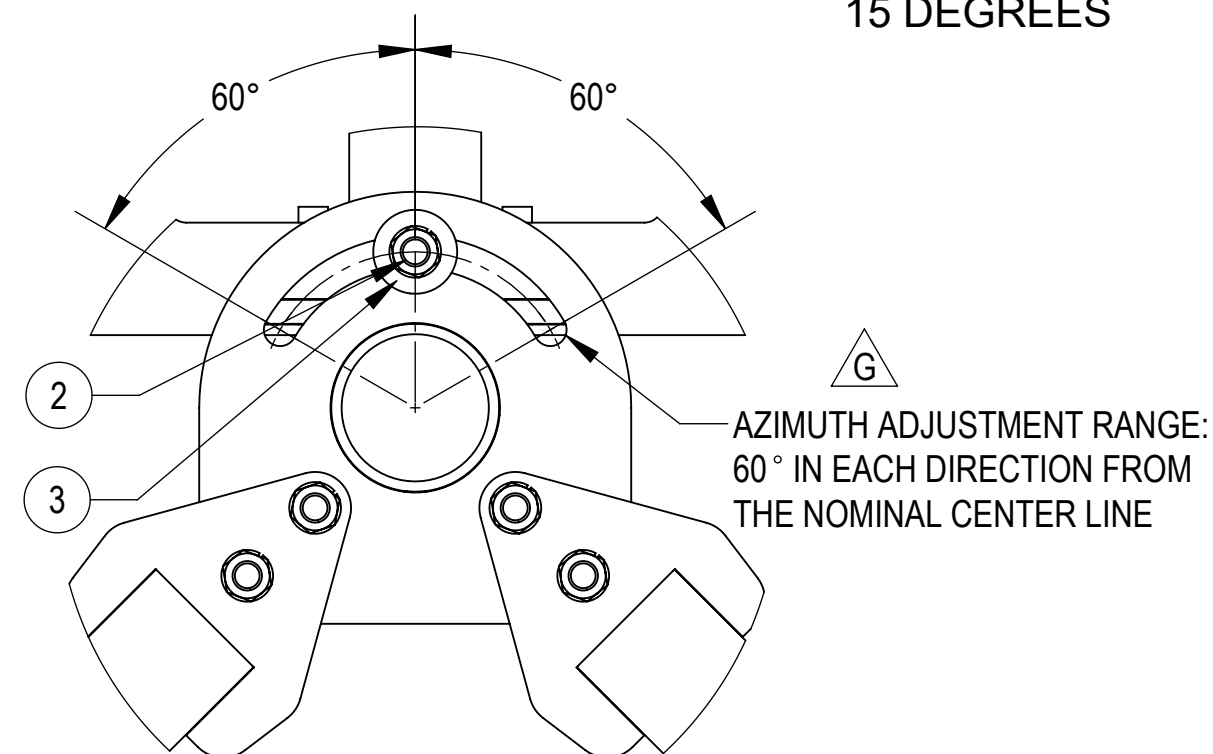
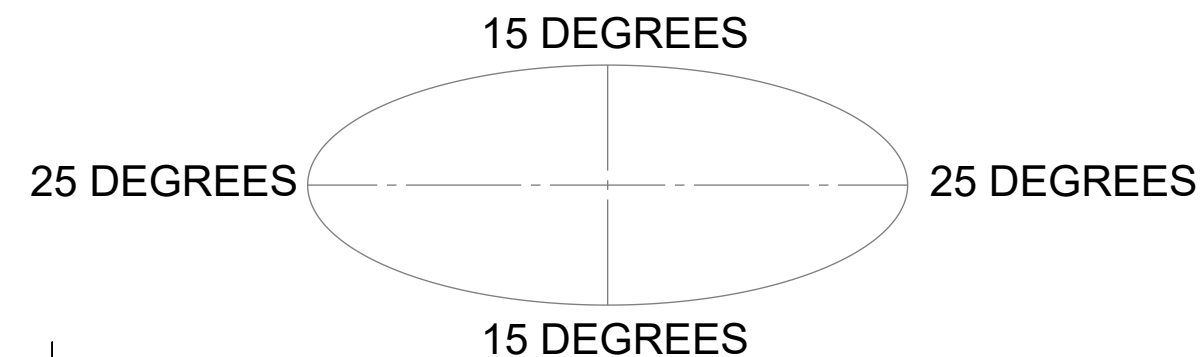
- 10'6" FACE MODELS: 15" - 50" OD MONOPOLE
- 12'6" FACE MODELS: 15" - 50" OD MONOPOLE
- 14'6" FACE MODELS: 25" - 50" OD MONOPOLE
- 13' FACE NO ANT PIPES MODELS: 15" - 50" OD MONOPOLE
- 15' FACE NO ANT PIPES MODELS: 30" - 50" OD MONOPOLE
- 15' FACE 12 ANT PIPES MODELS: 45" - 50" OD MONOPOLE
- 15' FACE 15 ANT PIPES MODELS: 38" - 50" OD MONOPOLE

CUT TO LENGTH AS NEEDED

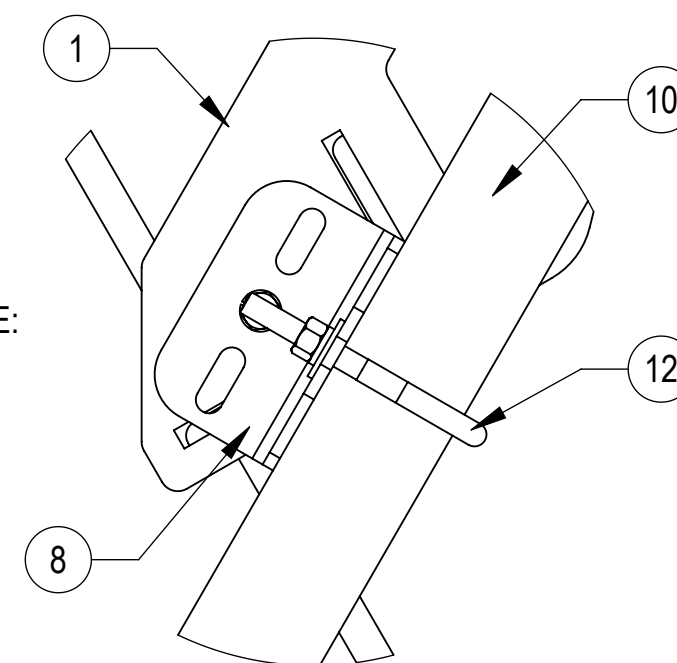


ALLOWABLE TIEBACK ANGLE

±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL



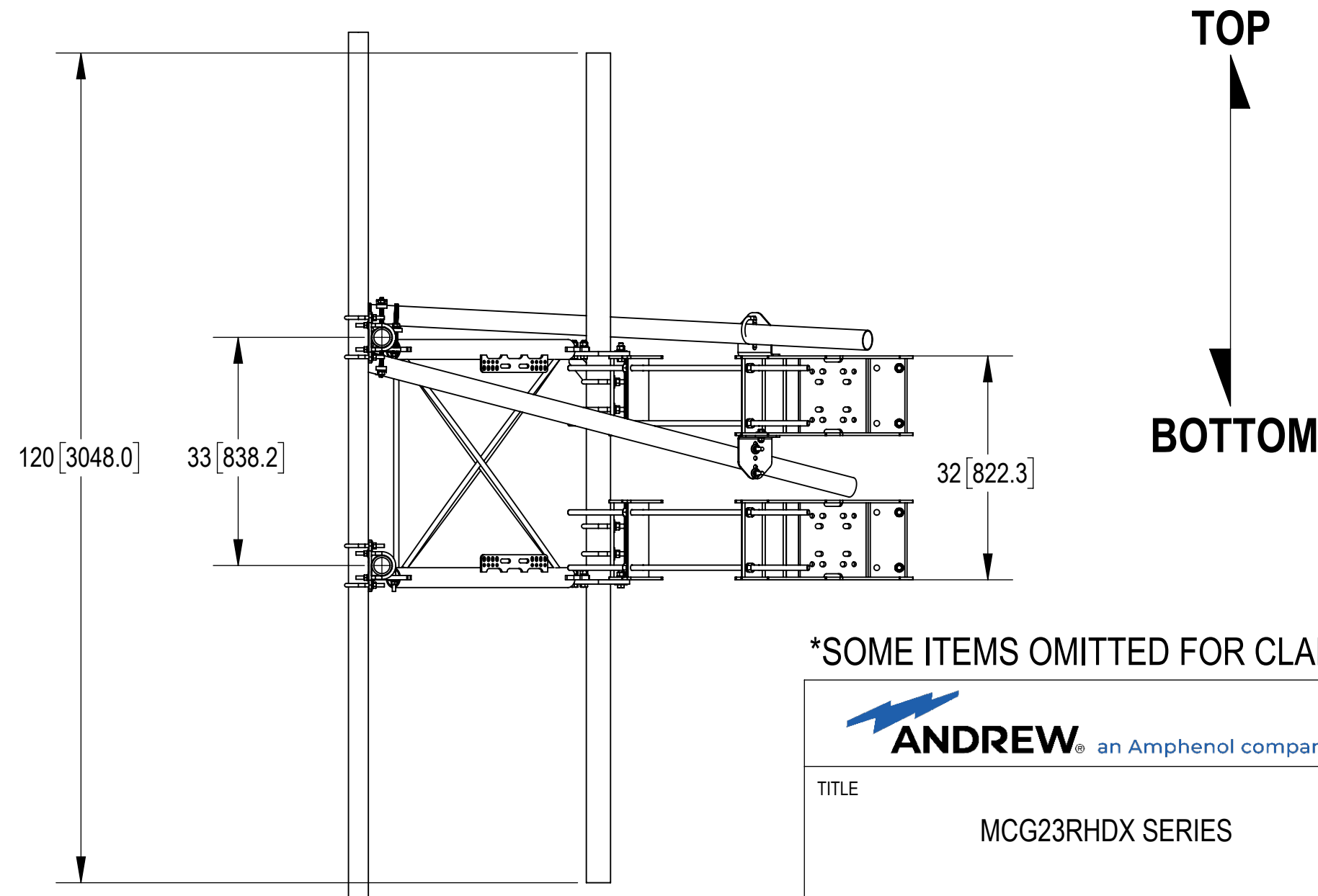
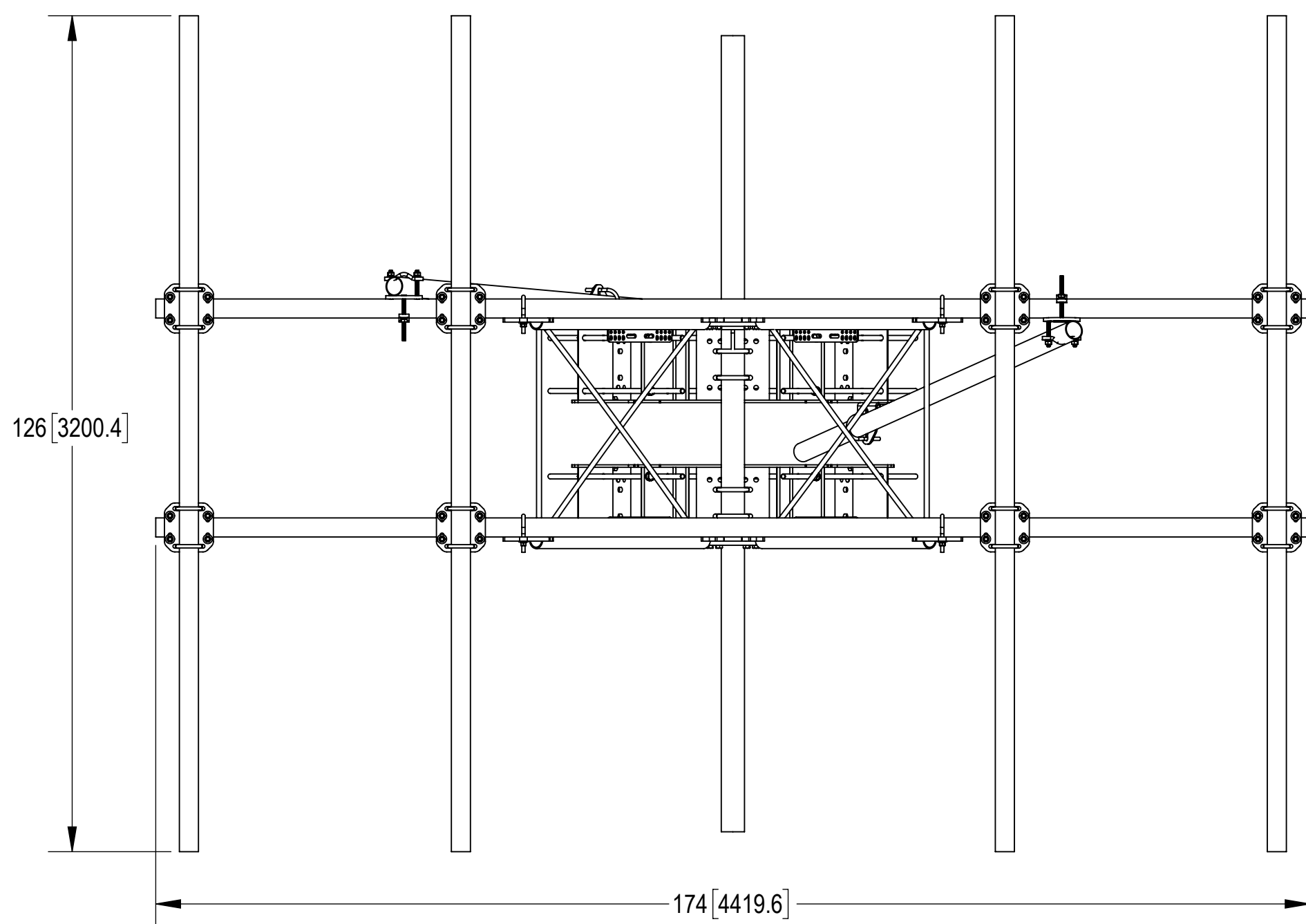
DETAIL B
SCALE 1 : 4



DETAIL C
SCALE 1 : 4

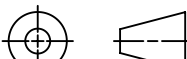
MCG23RHDX-14M12126 SHOWN FOR REFERENCE

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

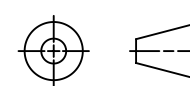


SOME ITEMS OMITTED FOR CLARITY

ANDREW an Amphenol company

TITLE					
MCG23RHDX SERIES					
SIZE	SCALE	DOCUMENT NO.			
C	1:20	MCG23RHDX			
		DRAWING		SHEET 4 OF 10	
		VERSION	STATUS		REVISION
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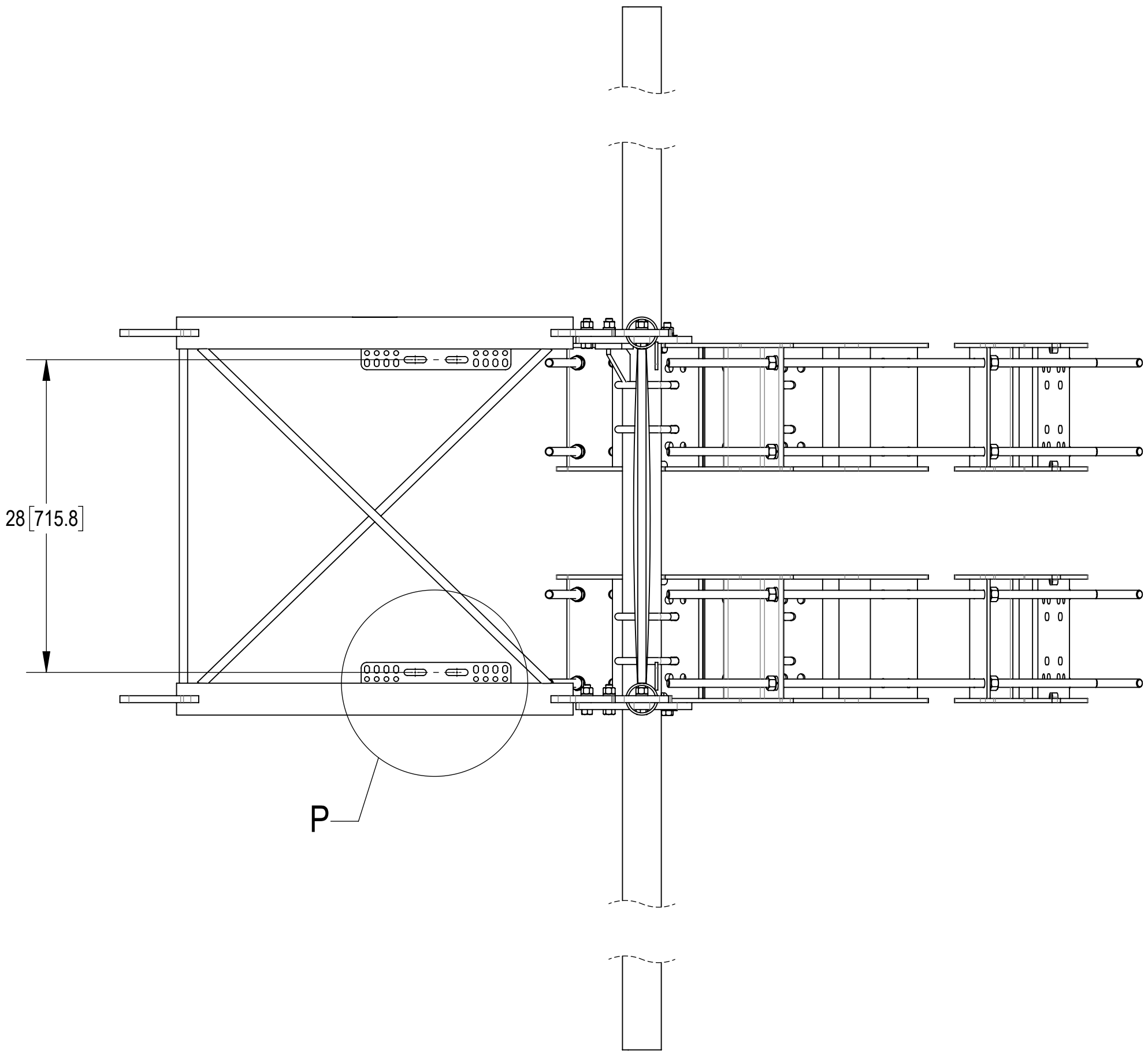
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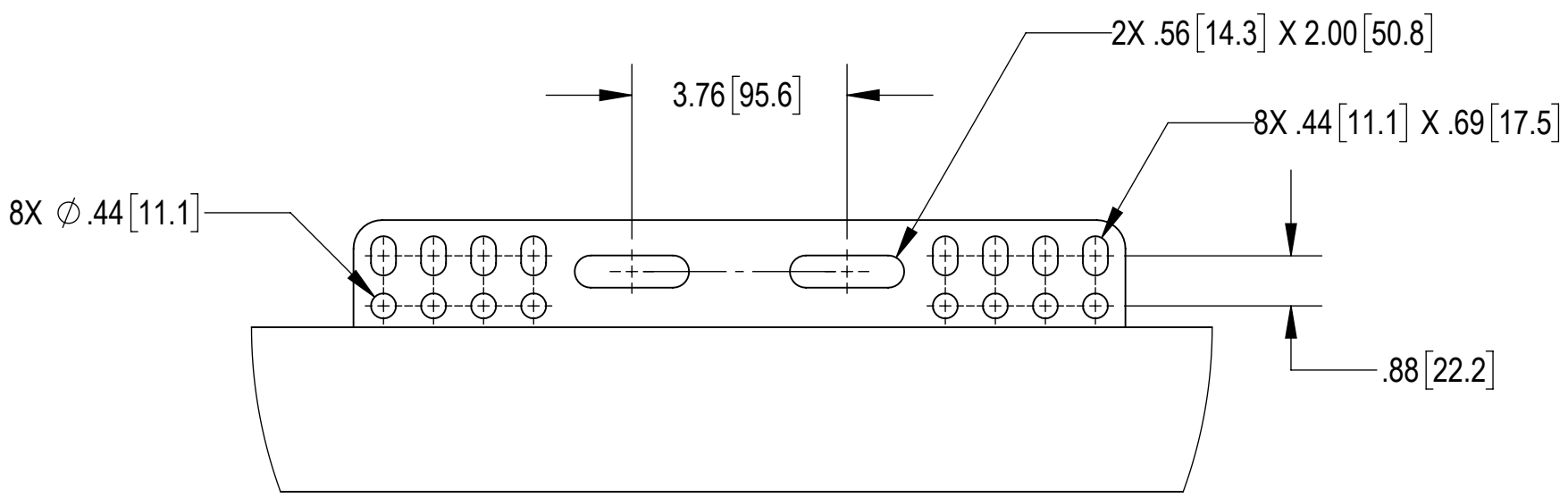
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SIDE VIEW



DETAIL P
SCALE 1 : 3

SOME ITEMS OMITTED FOR CLARITY

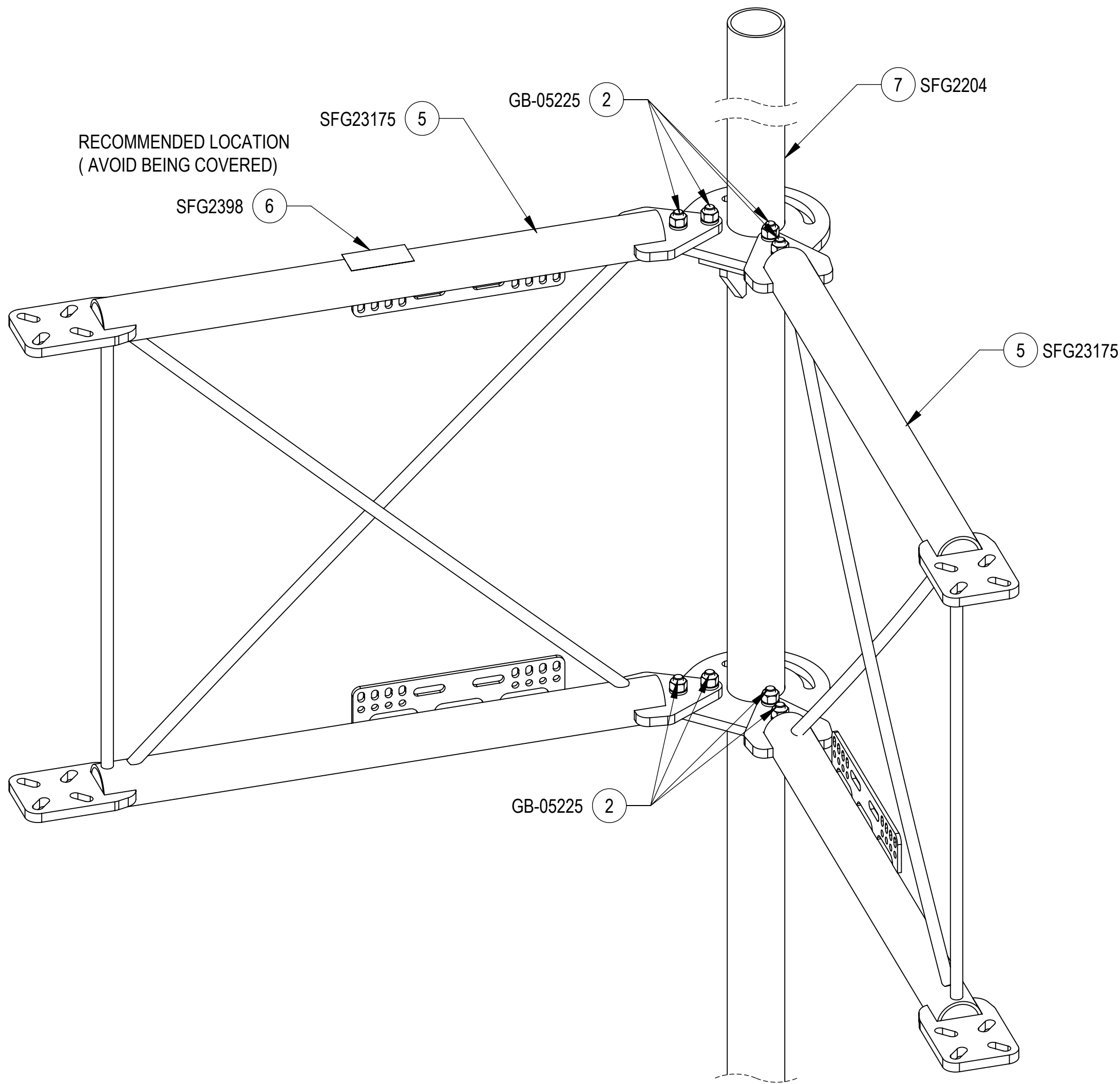


TITLE				
MCG23RHDX SERIES				
SIZE	SCALE	DOCUMENT NO.		
C	1:32	MCG23RHDX		
		DRAWING		
		VERSION	STATUS	REVISION
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				SHEET
				5 OF 10

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INSTALLATION SEQUENCE - REFERENCE ONLY

STEP 1: ATTACH STANDOFF ARMS (SFG23175) TO BACK VERTICAL ARM MOUNT (SFG2204) USING (GB-05225) BOLT KITS
ATTACH LABEL (SFG2398) ON TOP OF STANDOFF ARMS(SFG23175) . (WIPE GALVANIZED SURFACE WITH ALCOHOL CLEANER BEFORE
APPLYING LABEL.)



ISO VIEW

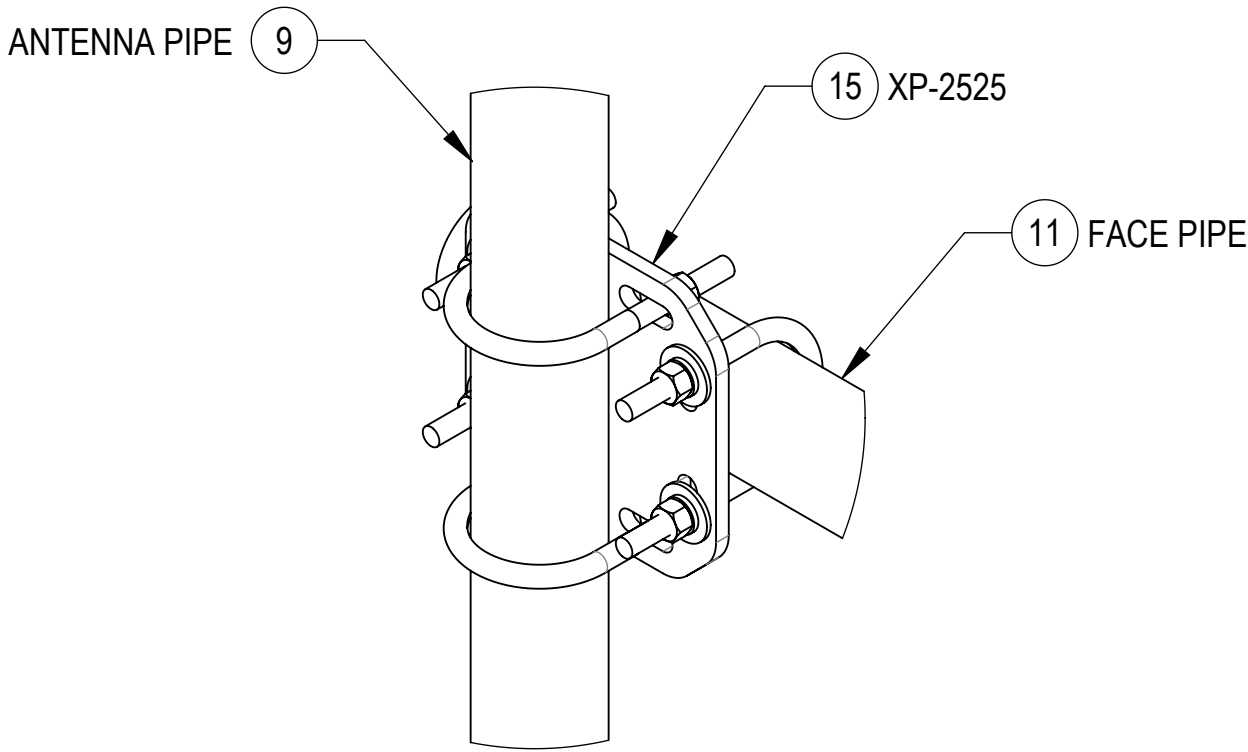
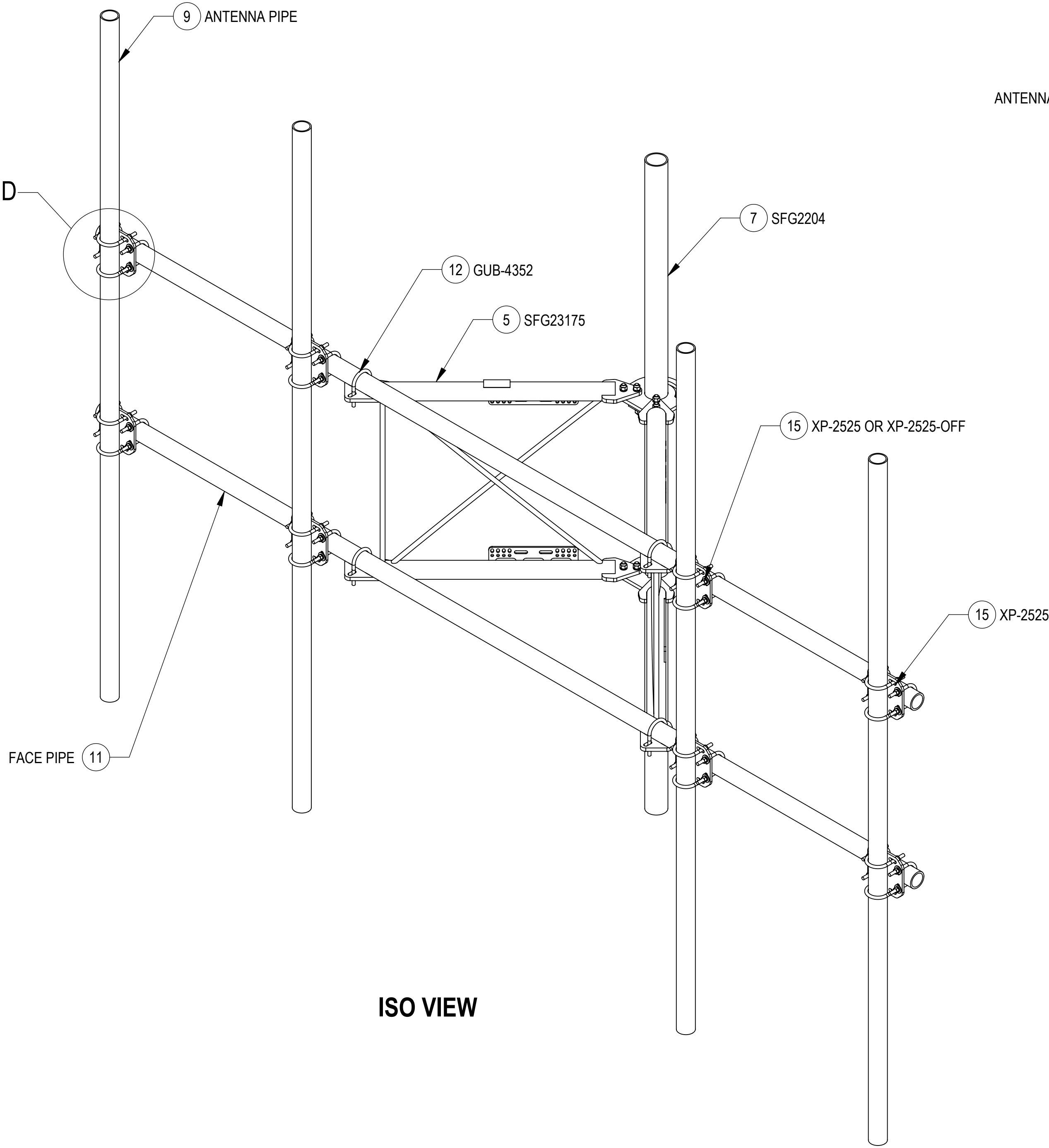
TOP
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SOME ITEMS OMITTED FOR CLARITY

				
TITLE MCG23RHDX SERIES				
SIZE C	SCALE 1:4	DOCUMENT NO. MCG23RHDX		
 		DRAWING		
		VERSION 07	STATUS RE	REVISION G
		SHEET 6 OF 10		

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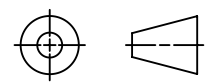
STEP 2: ATTACH FACE PIPES TO STANDOFF ARMS (SFG23175) USING U-BOLTS (GUB-4352)
AND THEN ATTACH ANTENNA PIPES TO FACE PIPES USING CROSSOVER PLATE KITS (XP-2525 OR XP-2525-OFF)



DETAIL D
SCALE 1 : 4

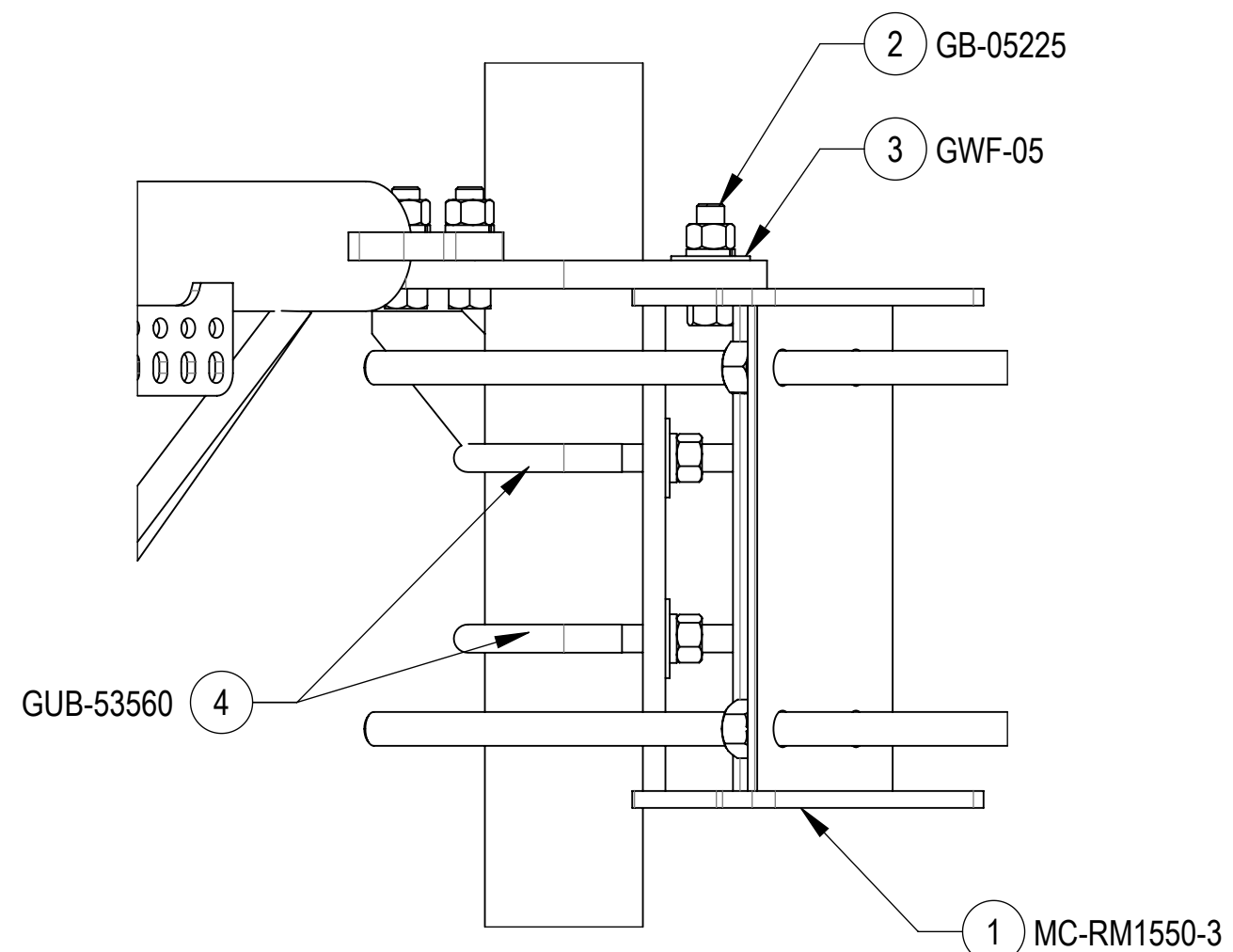
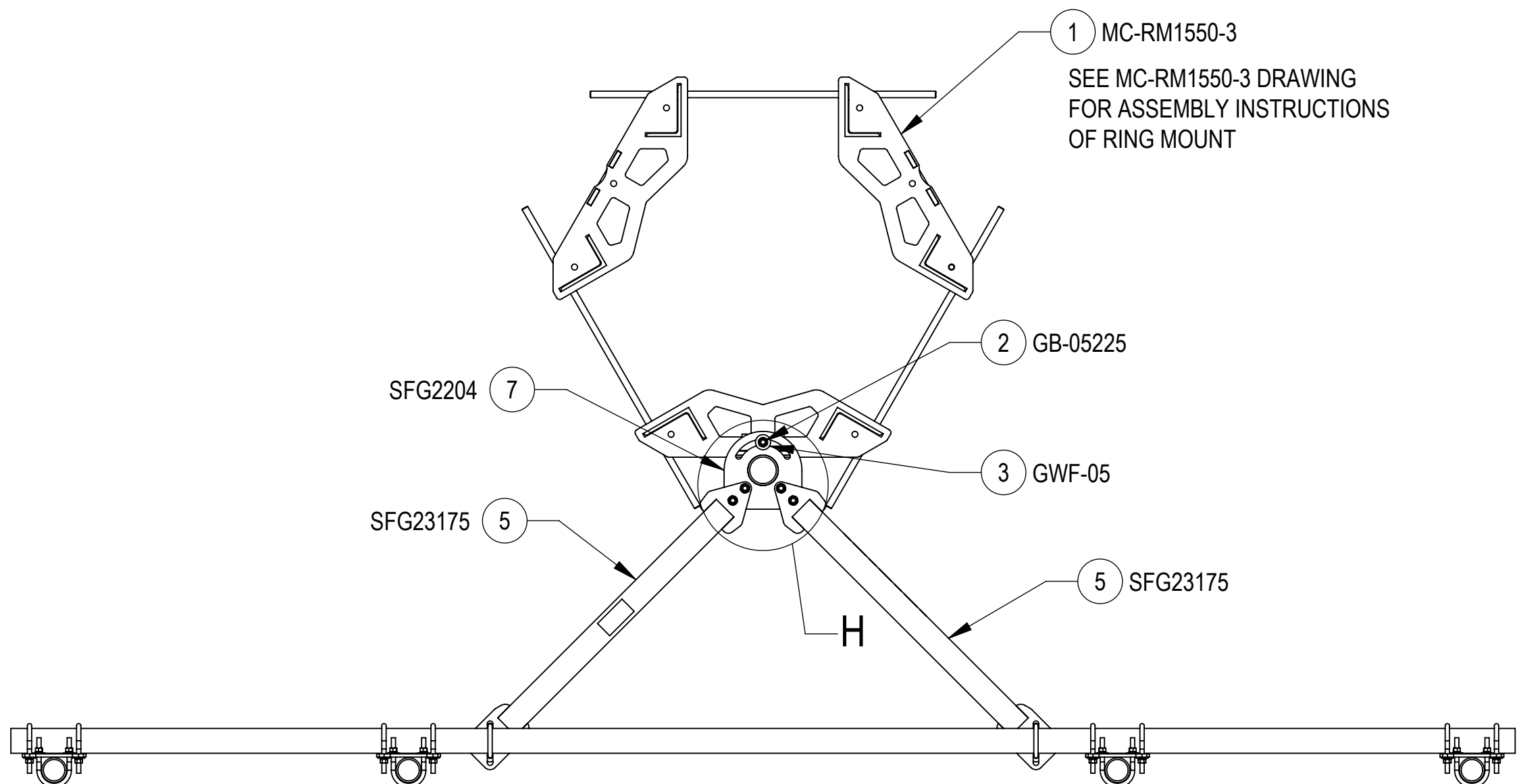
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SOME ITEMS OMITTED FOR CLARITY

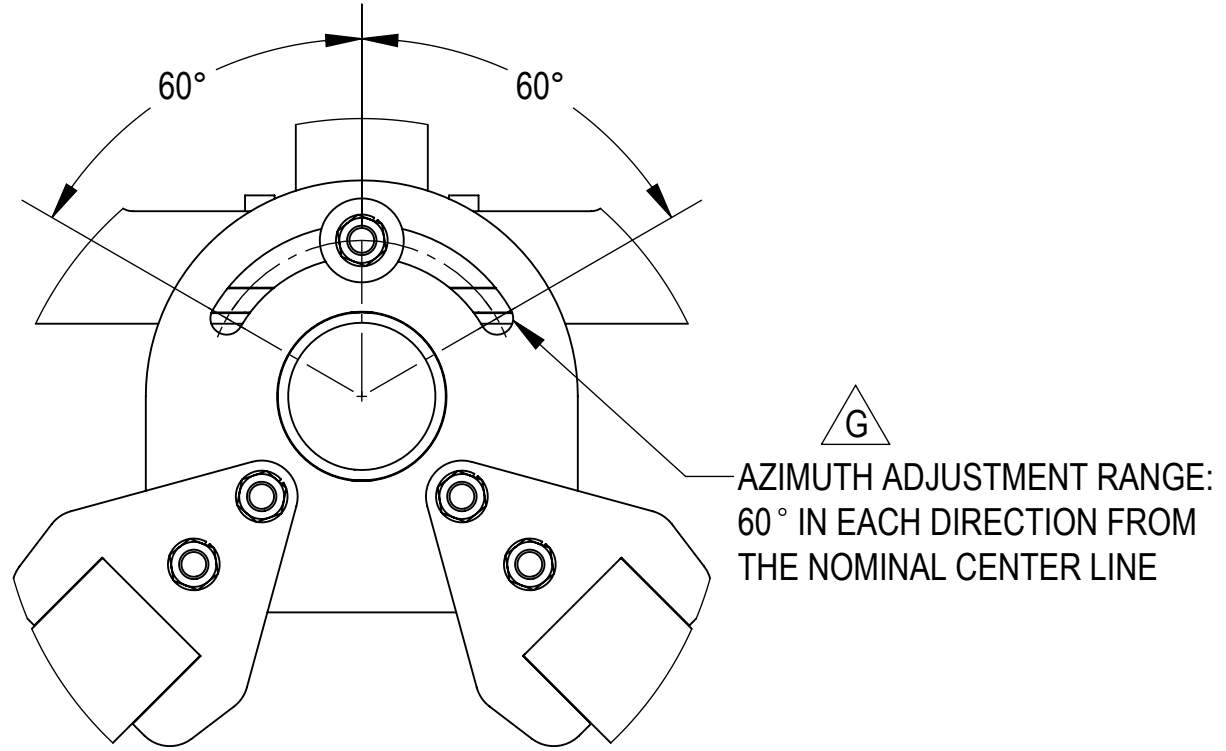
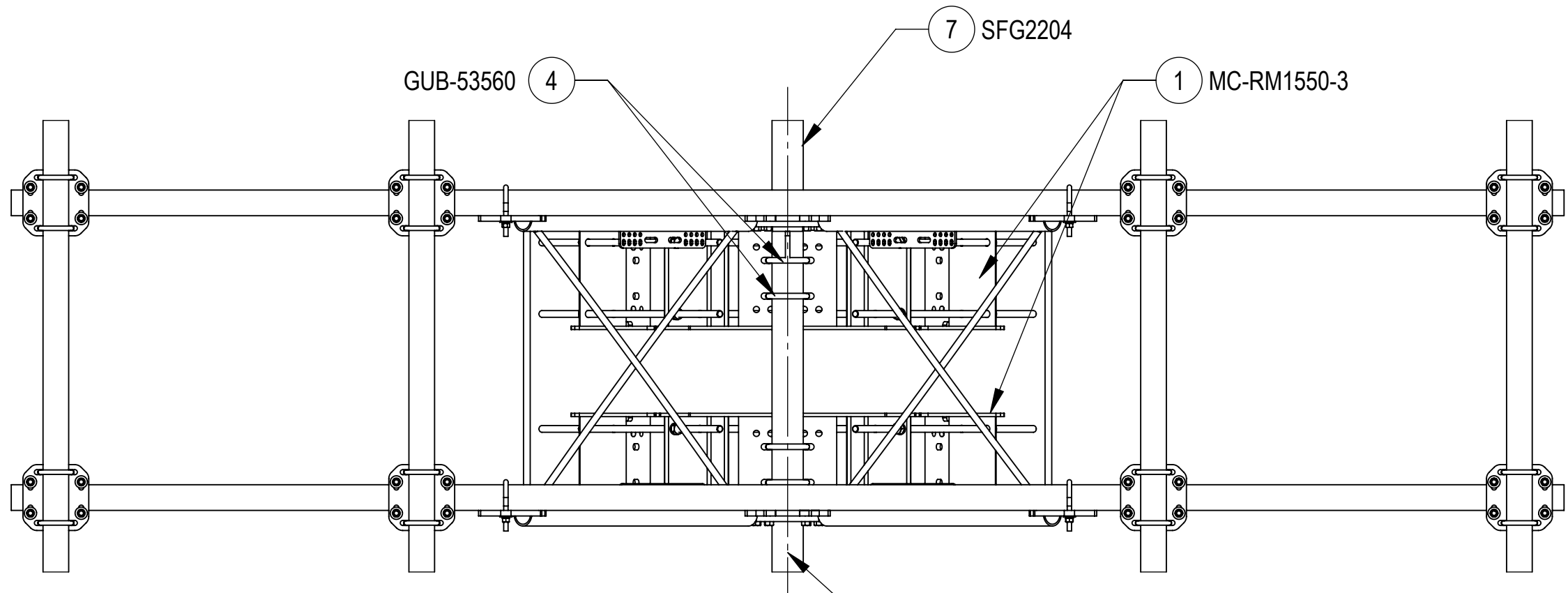
				
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SIZE C	SCALE 1:12	DOCUMENT NO. MCG23RHDX		
		DRAWING		
		VERSION 07	STATUS RE	REVISION G
		SHEET 7 OF 10		

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STEP 3: ATTACH BACK VERTICAL ARM MOUNT (SFG2204) TO RING MOUNTS (MC-RM1550-3) USING BOLT KITS (GB-05225), FLAT WASHERS (GWF-05) AND U-BOLT (GUB-53560)



SIDE CROP VIEW



DETAIL H
SCALE 1 : 4

SOME ITEMS OMITTED FOR CLARITY

				
TITLE				
MCG23RHDX SERIES				
SIZE	SCALE	DOCUMENT NO.		
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SHEET				8 OF 10

Confidential

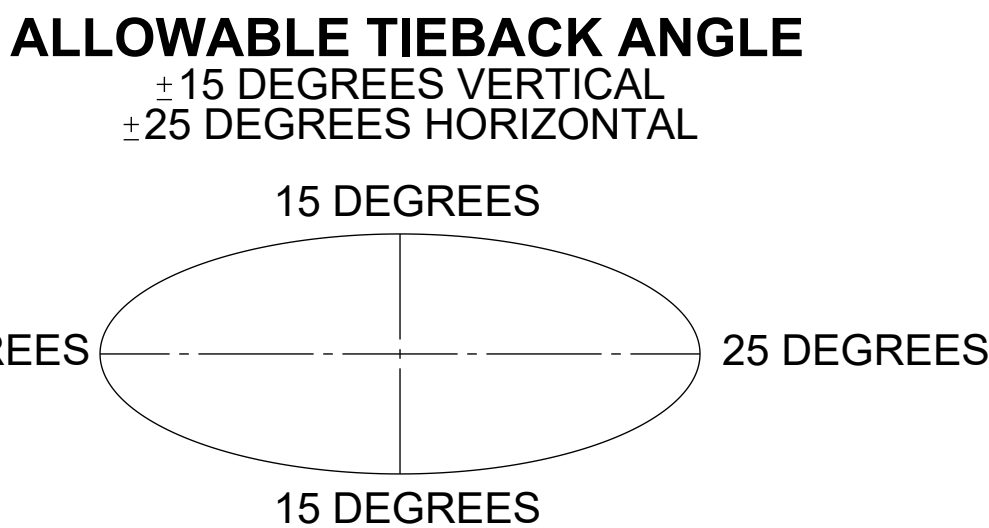
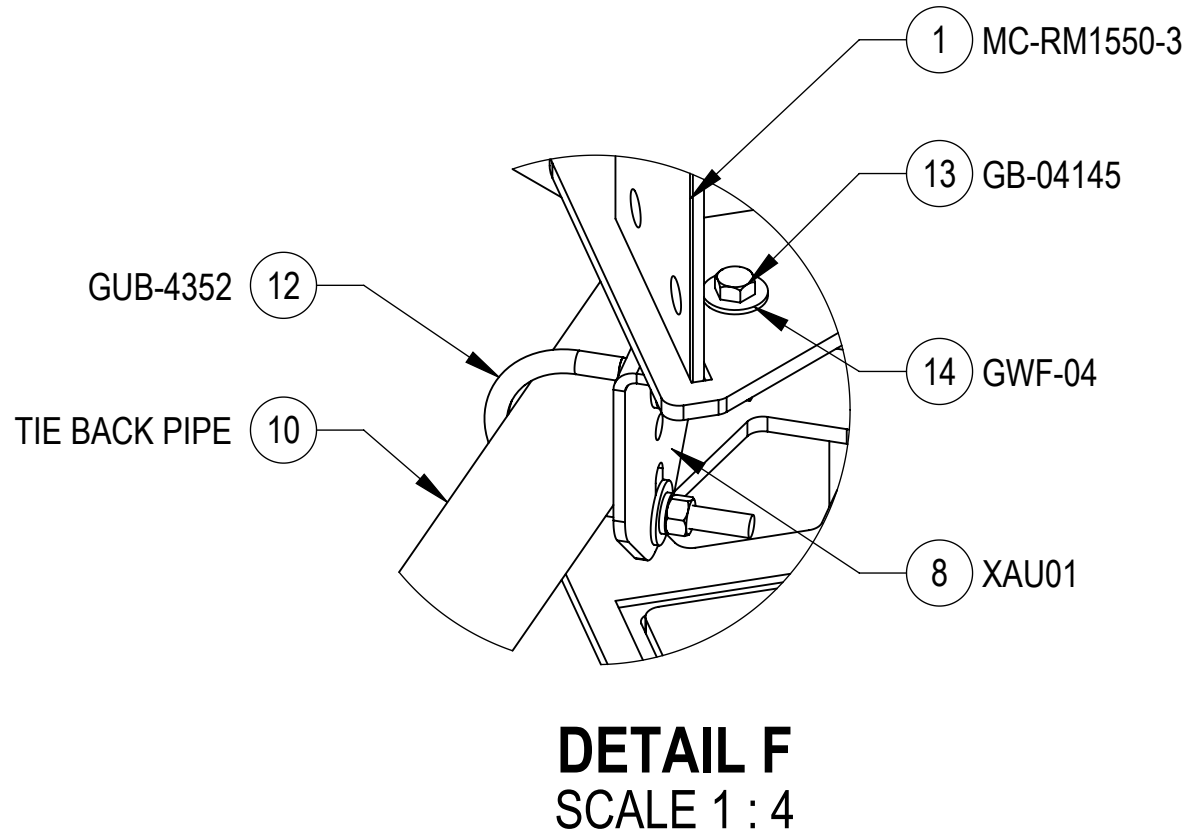
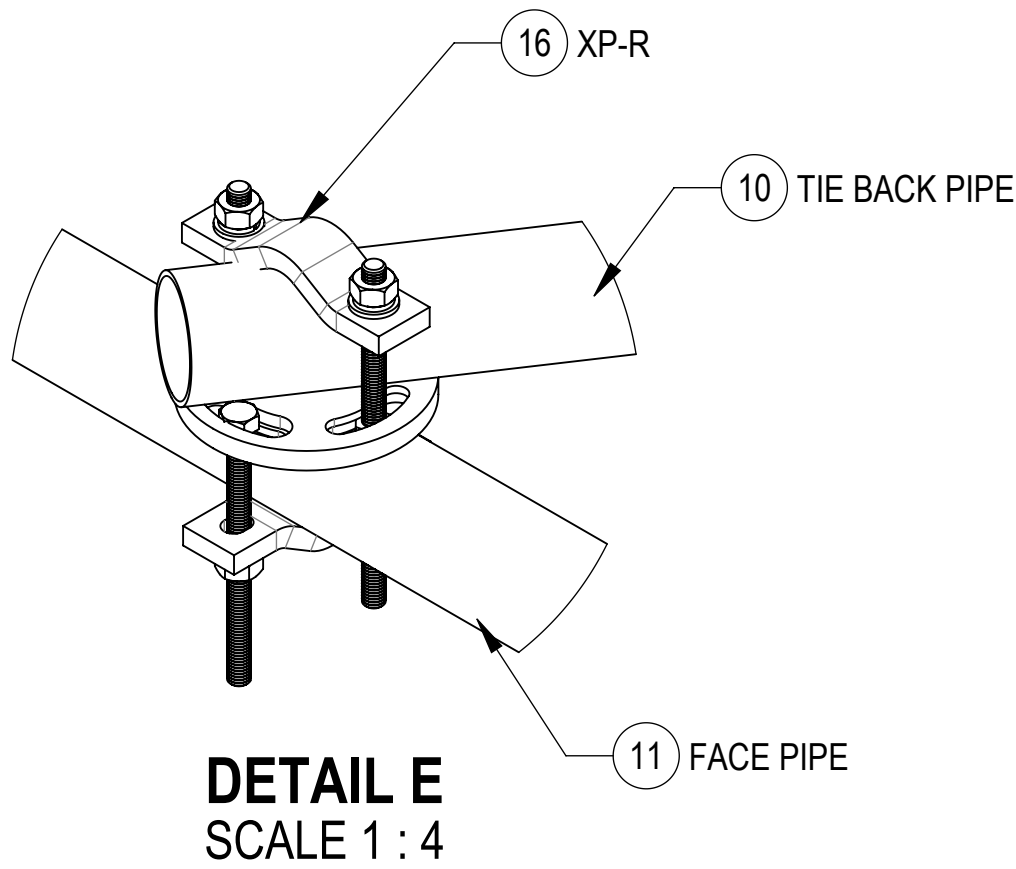
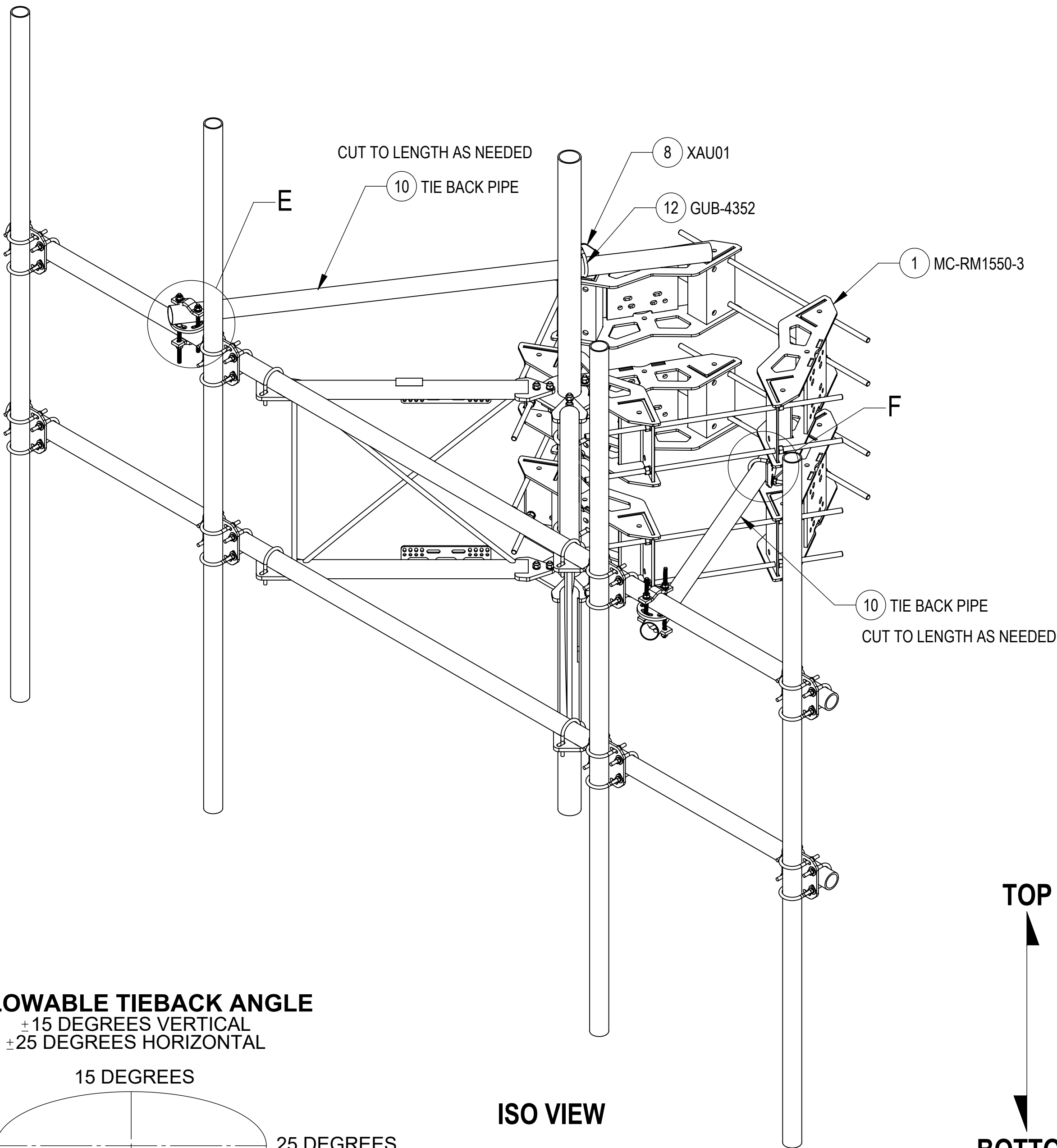
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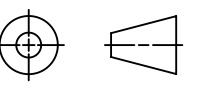
4321

STEP 4: ATTACH TIE BACK PIPES TO FACE PIPES USING XP-R

STEP 5: ATTACH TIE BACK PIPES TO RING MOUNTS (MC-RM1550-3) USING CROSSOVER ANGLES (XAU01), BOLT KITS (GB-04145), FLAT WASHER (GWF-04) AND U-BOLT (GUB-4352)

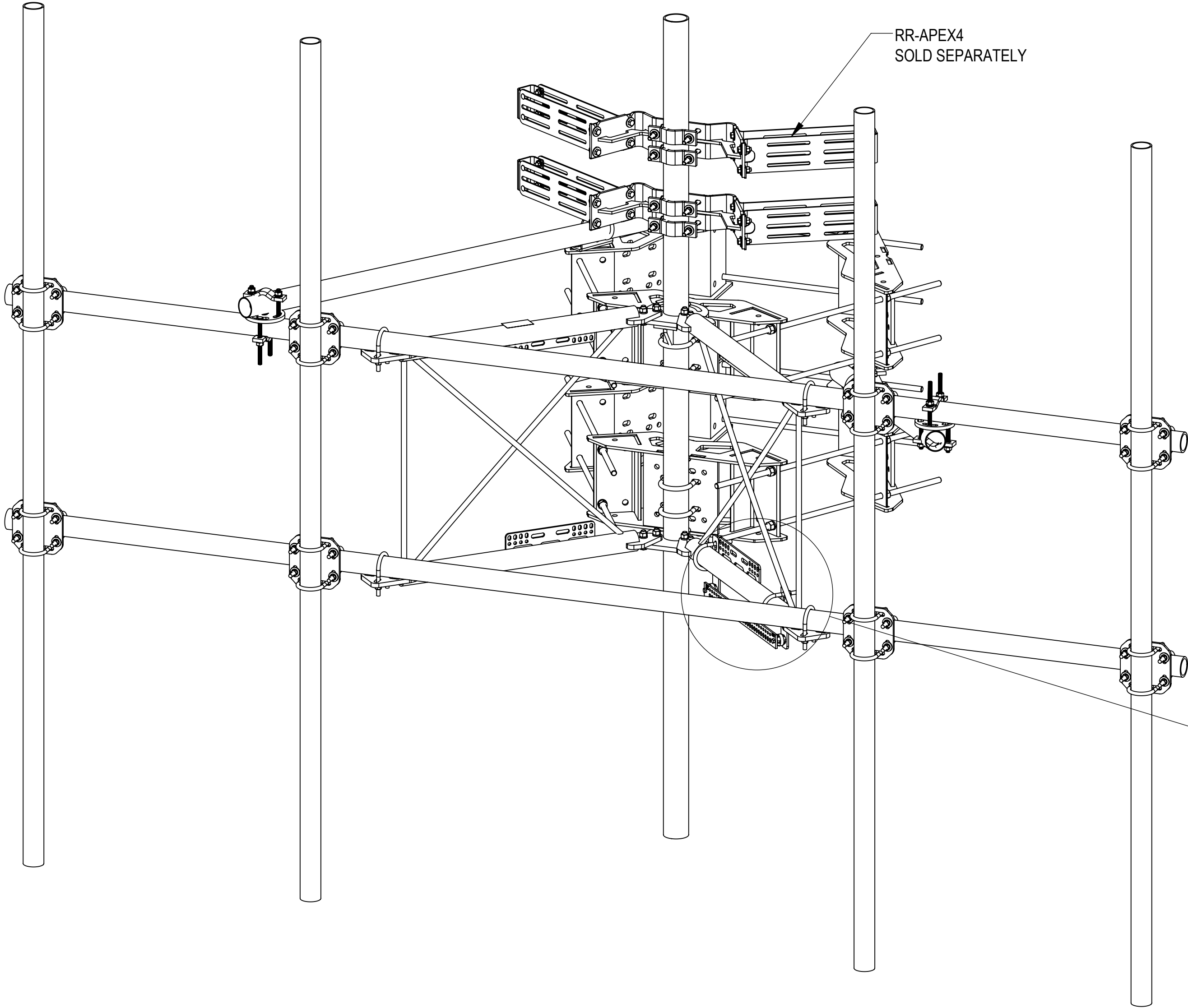


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SHEET				9 OF 10

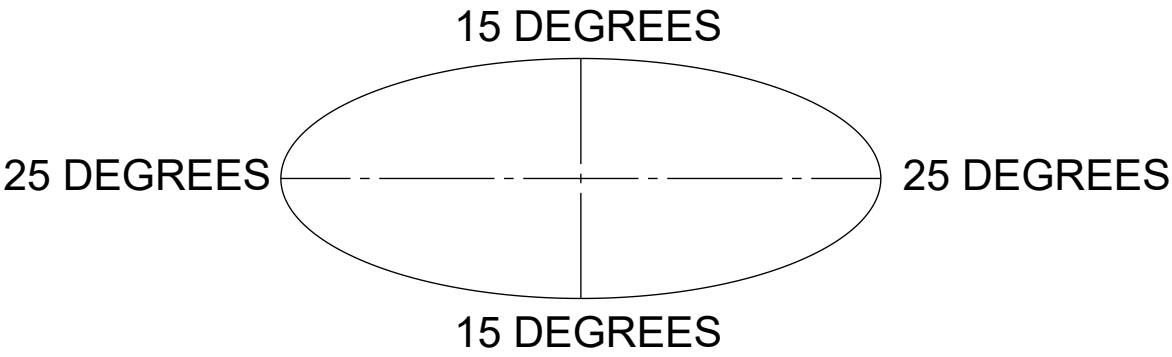
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OPTIONAL ACCESSORIES:



ALLOWABLE TIEBACK ANGLE

±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL



DETAIL G
SCALE 1 : 8

SOME ITEMS OMITTED FOR CLARITY

				
TITLE MCG23RHD X SERIES				
SIZE C	SCALE 1:16	DOCUMENT NO. MCG23RHD X		
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		VERSION 07	STATUS RE	REVISION G

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