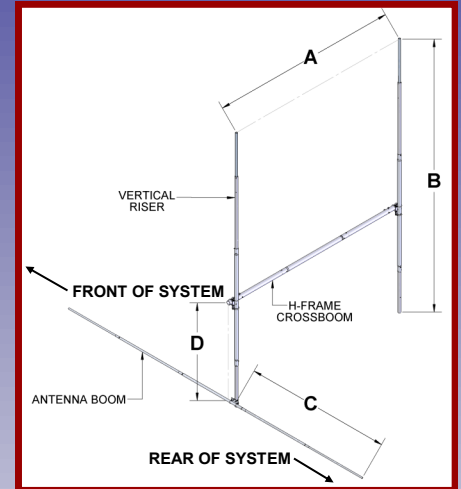
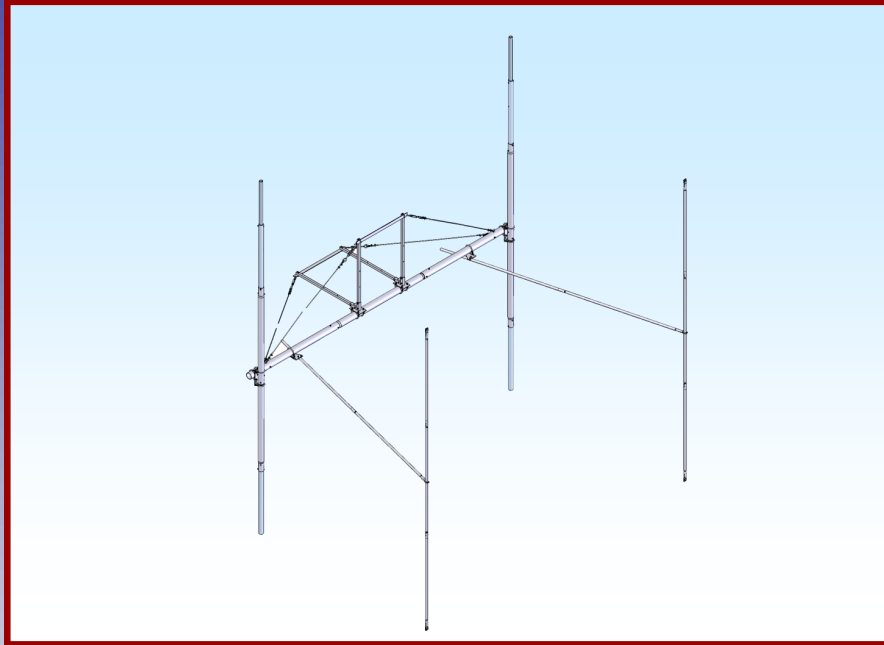




M2 Antenna Systems, Inc.

Model No: FGHTB2MXP20X2



SPECIFICATIONS:

Model	HFTB2MXP20-2X2	Weight	77 LBS
Band.....	2M	A Dim	147"
Antenna.....	2MXP20	B Dim	180"
T-Brace	Y	C Dim	100"
Cross Boom Dia	3.0	D Dim	77"
Wind Load w/o Ant.....	8.0 SQ FT		

FEATURES:

M2 has been a leader in high performance antennas since it started back in 1984. In addition to specialized antenna designs, we also developed a diverse line of multiple antenna support structures (loosely referred to as H frames) to maintain that high level of performance. Just like the antenna, the support structure becomes nearly as complex and varied. All antennas have a defined near field size and shape and in order to achieve maximum "array performance", the support structure must accommodate the careful coupling of these near fields.

In many cases the support structure, has to meet special customer requirements like size, weight, wind speed or area, and weather issues. Our standard H frames then are a composite of these features that should satisfy most customer needs. We enjoy discussing your needs and offering our opinion regarding what best can meet your situation.

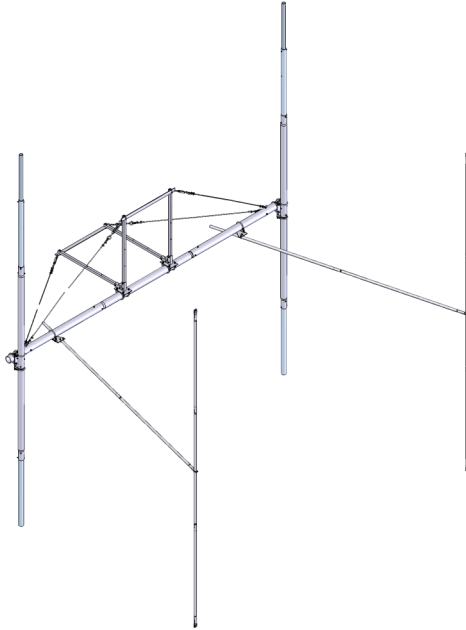
CROSSBOOM ASSEMBLY DETAIL

All installations are unique in some way, which means it's OK to preassemble certain hardware, or rearrange the assembly process to meet specific site requirements. A quick review of the assembly notes and drawings should help firm up the appropriate strategy. Please remember to double-check all hardware for tightness BEFORE it becomes inaccessible.

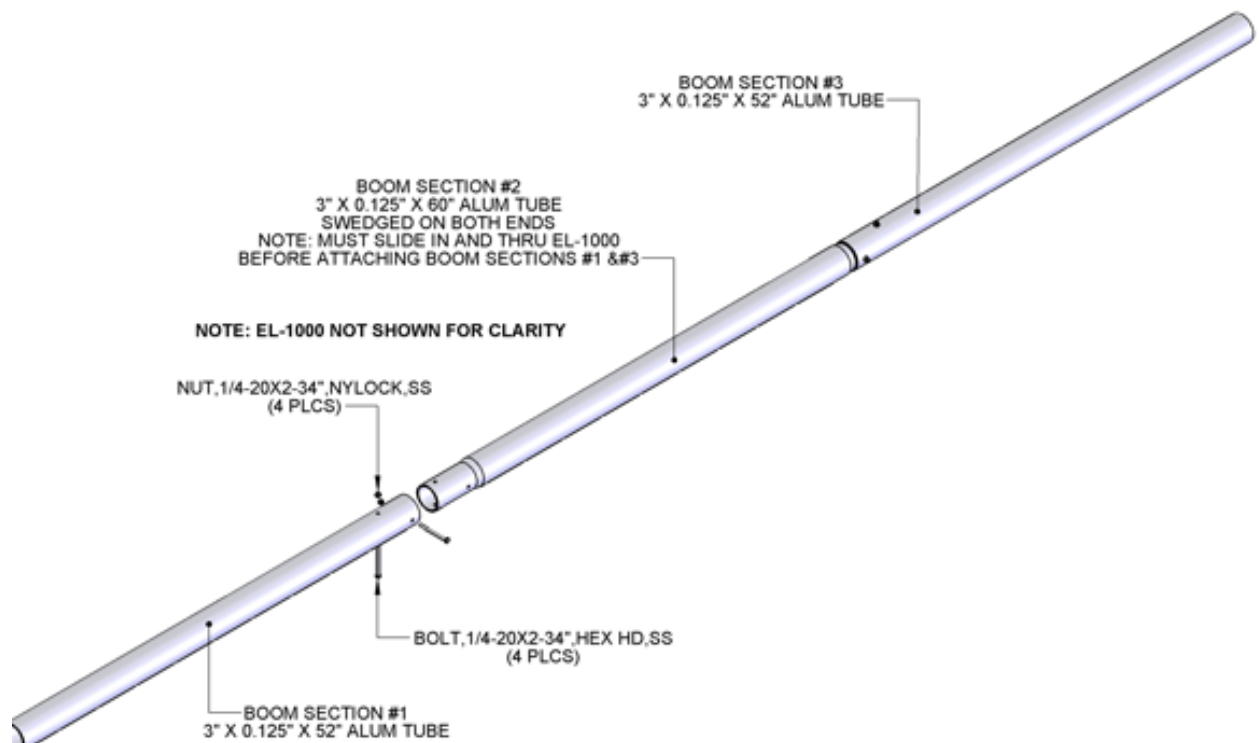
These notes assume an assembled cross boom of adequate dimensions and U-bolts of the same size for attaching H-frame plates. Unless you ordered a COMPLETE M2 'H' FRAME. If you just ordered the vertical booms and specified a cross boom U-bolt size when ordering, some drilling or other fabrication may be necessary. Stainless locknuts or nuts and lock washers are supplied for all kit U-bolts. All other assembly hardware is stainless steel unless otherwise noted. Forged steel parts are galvanized.

Two containers of zinc paste (Penetrox, Noalox, or equiv.) has been provided to enhance assembly. Apply a thin coat wherever two pieces of aluminum come in contact or any other electrical connections are made. It is also useful on screw and bolt threads as an ANTI SEIZE compound.

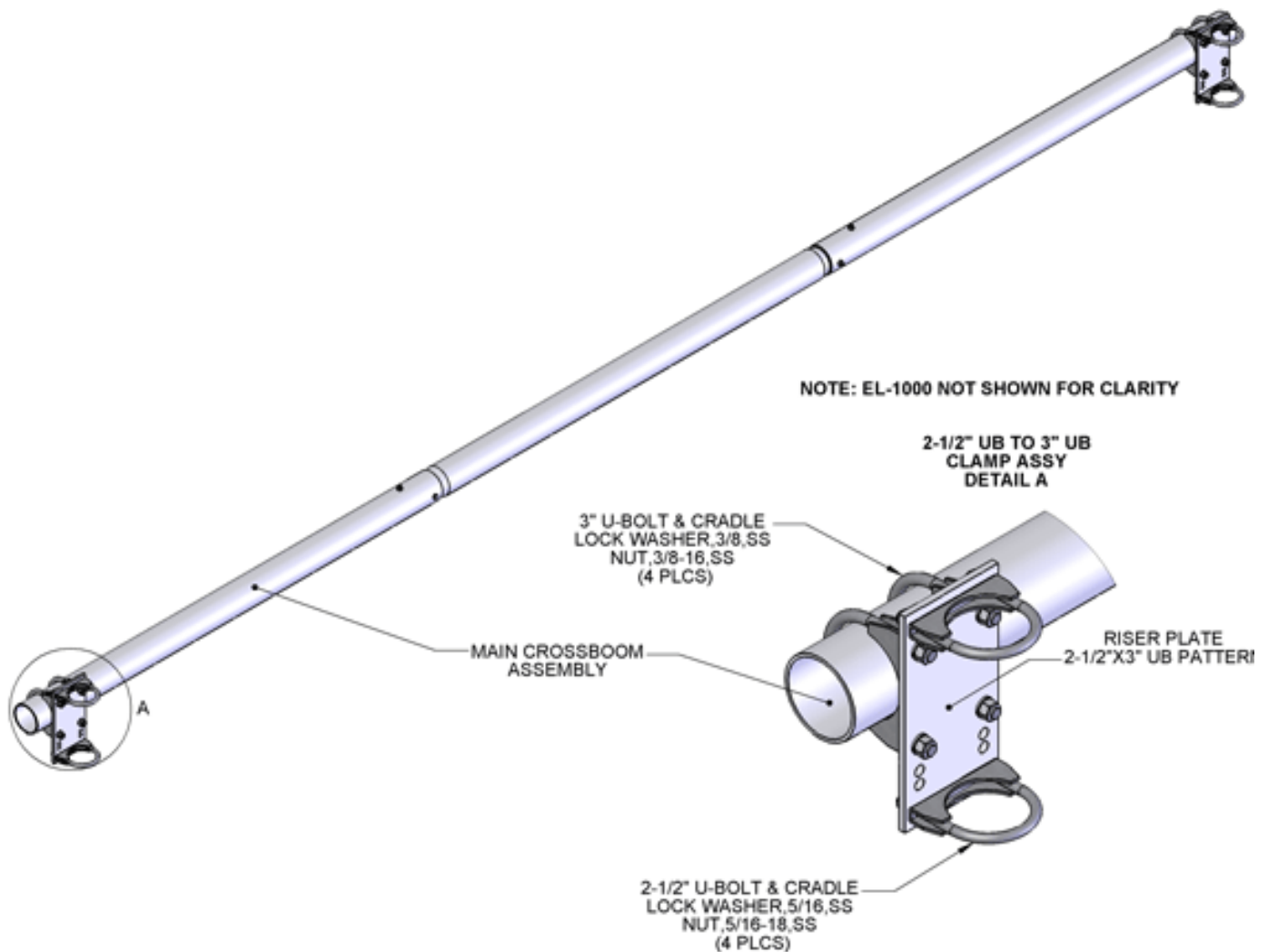
REFER TO THE 'H' FRAME DRAWINGS AND THE 'T' BRACE KIT DRAWINGS FOR PLACEMENT AND HARDWARE CALLOUT.



NEXT: ASSEMBLE VERTICAL BOOMS and MOUNT ANTENNAS



VERTICAL RISER PLATE DETAIL



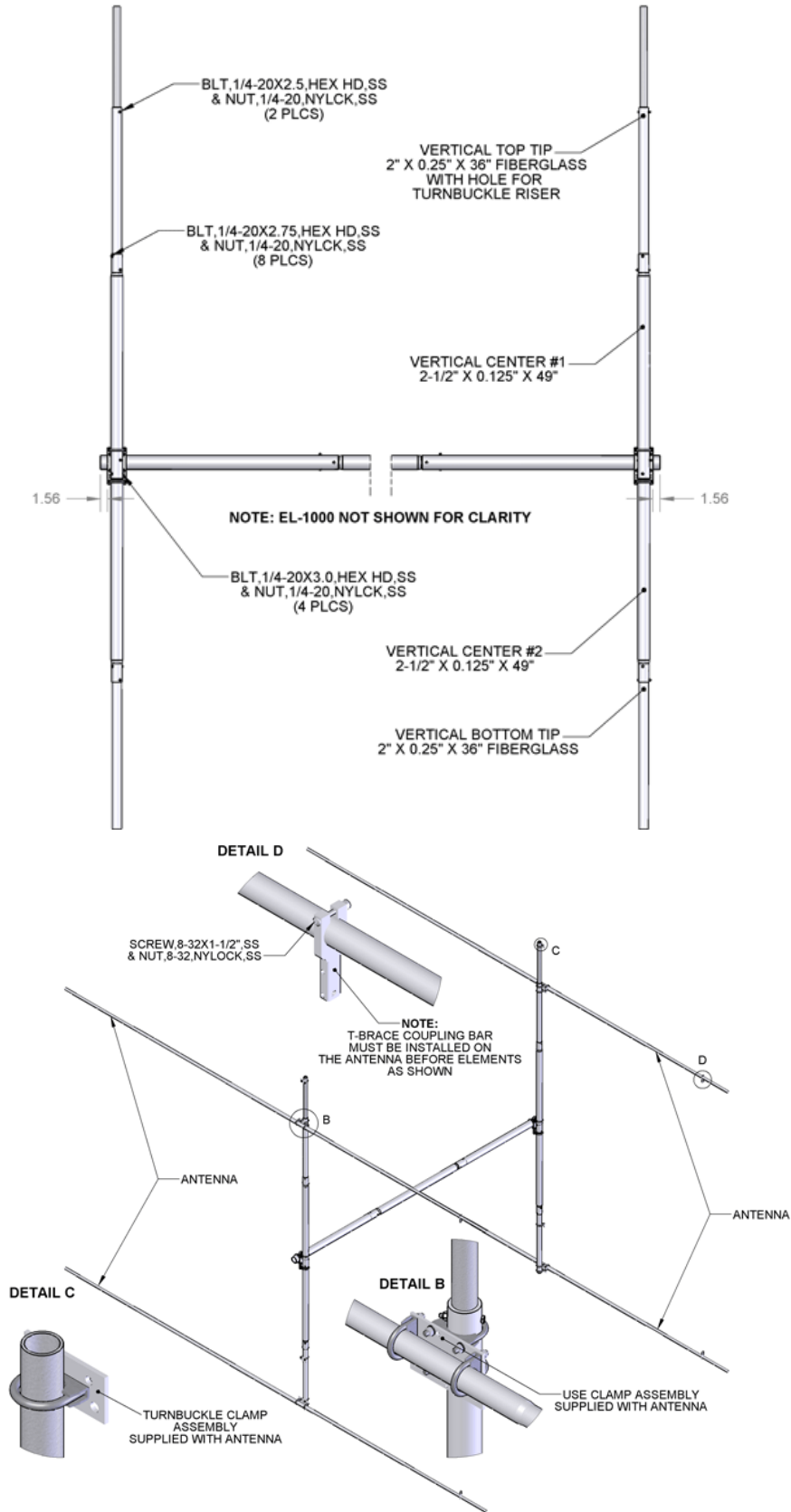
Attach the VERTICAL BOOM assemblies to each end of the MAIN BOOM, noting the correct spacing for the antennas in the array.

Make sure that each vertical boom is aligned with the other so when all antennas are mounted, the left side of the array will point at the same point as the right side.

Some tweaking of alignment and balancing will probably be necessary once the whole array is assembled and in place on the main boom.

(SEE PICTURES ON NEXT PAGE)

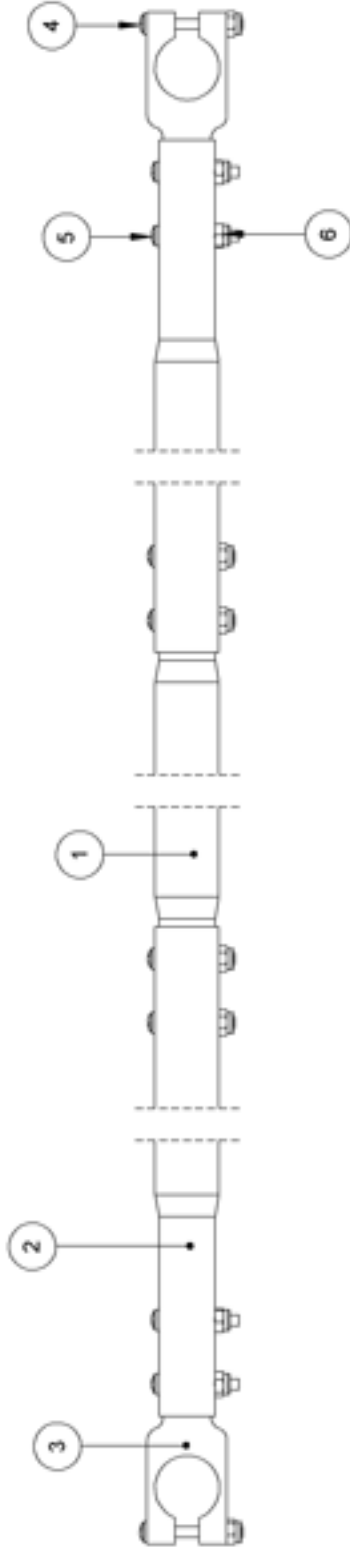
VERTICAL RISER & T-BRACE ASSEMBLY



Next we recommend that you assemble the sub assemblies used on the T-Brace kits. Please see the following drawings and their respective BOM's for hardware callouts and placement.

VERTICAL T-BRACE ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1		1" X 0.058" X 60" (SBE) ALUM TUBE	1
2		VERTICAL TBRACE TIP	2
3	M2AMC0300	T-BRACE COUPLING ARM	2
4	HSC00830800	SCRW,8-32X1.50,PH,PHL,SS	2
5	HSC00830700	SCRW,8-32X1.250,PHL PAN HD,SS	8
6	HNT00830150	NUT,8-32,NYLCK,SS	10

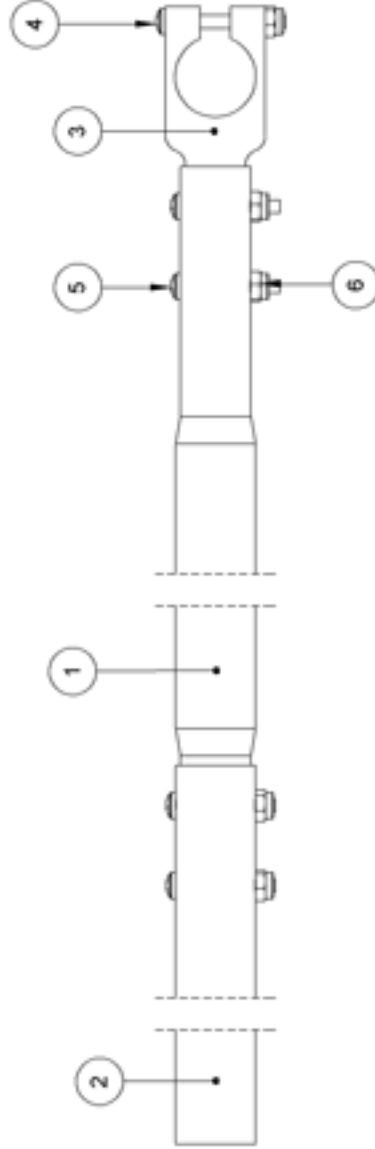


M2 ANTENNA SYS. INC. 4607 N. SELLAND AVE. FRESNO, CA 93722 509-433-8873		NAME: JLS DATE: 3/12/2008
DRAWN: JLS	CHECKED: JLS	DATE: 3/12/2008
DESCRIPTION: 2MXP20 H-FRAME VERTICAL T-BRACE ASSY		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES FRACTIONAL .030 DECIMAL .015 THREE PLACE DECIMAL .005		Q.A. COMMENTS:
INTERPRET GEOMETRIC TOLERANCING PER:		SIZE PART # A
MATERIAL:		VERTICAL TBRACE ASSY
FINISH:		REV
NEXT ASSY:		SHEET 1 OF 1
USED ON:		1
APPLICATION:		2
DO NOT SCALE DRAWING		3
		4
		5

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED
HEREIN IS THE SOLE
PROPERTY OF M2 ANTENNA
SYS. INC.
ANY REPRODUCTION IN PART
OR AS A WHOLE WITHOUT THE
WRITTEN PERMISSION OF M2
ANTENNA SYS. INC. IS
PROHIBITED

HORIZONTAL T-BRACE ASSEMBLY

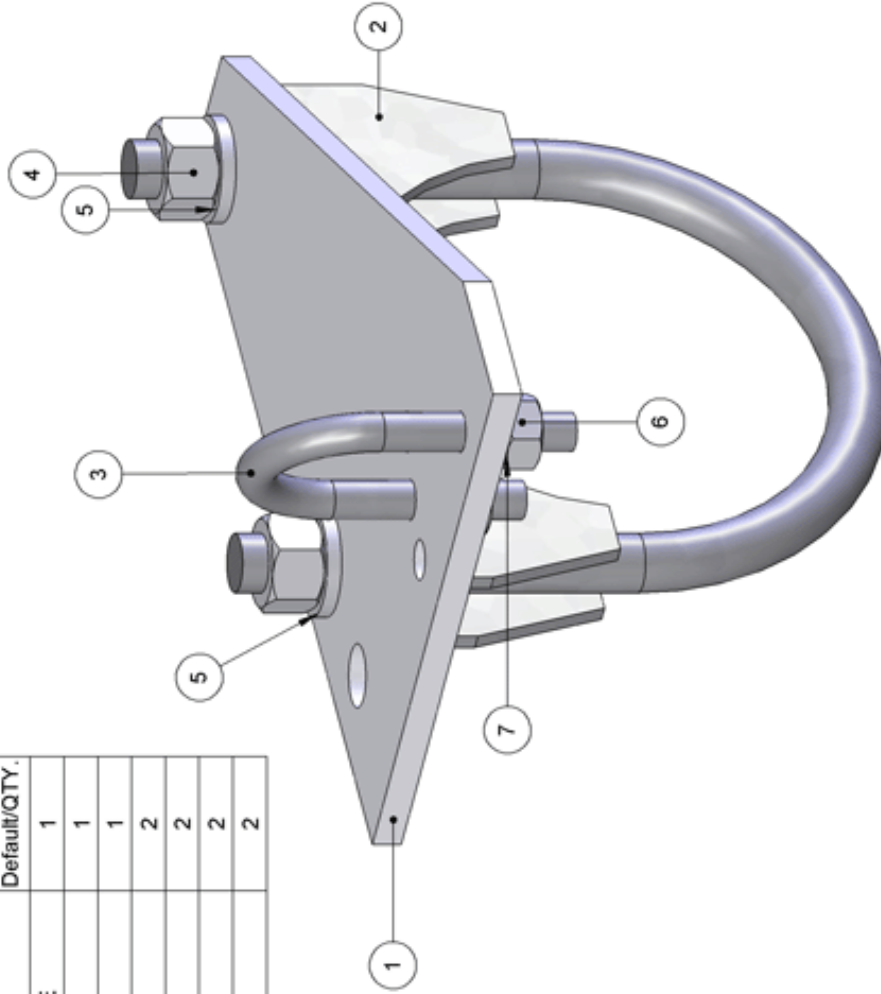
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HORIZONTAL TBRACE#1	1" X 0.058" X 60" (SBE) ALUM TUBE	1
2	HORIZONTAL TBRACE#2	1" X 0.058" X 60" ALUM TUBE	1
3	M2AMC0300	T-BRACE COUPLING ARM	1
4	HSC00830800	SCRW,8-32X1.50,PH,PHL,SS	1
5	HSC00830700	SCRW,8-32X1.250,PHL PAN HD,SS	4
6	HNT00830150	NUT,8-32,NYLCK,SS	5



M2 ANTENNA SYS. INC. 4602 N. SELLAND AVE. FRESDNO CA. 93722 509-433-8873		NAME: JLS DATE: 2/13/2008
DRAWN: JLS CHECKED: JLS ENG APPR.: MFG APPR.:	DESCRIPTION: 2MXP20 H-FRAME HORIZONTAL T-BRACE ASSY	
Q.A. COMMENTS:	SIZE: A PART #: HORIZONTAL T BRACE ASSY	REV:
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONS: 1/32 DECIMALS: .005 TWO PLACE DECIMALS: .015 THREE PLACE DECIMALS: .005		
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL: FINISH: DO NOT SCALE DRAWING		
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF M2 ANTENNA SYS. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF M2 ANTENNA SYS. INC. IS PROHIBITED	APPLICATION: USED ON NEXT ASSY: USED ON:	SHEET 1 OF 1

T-BRACE CLAMP ASSEMBLY

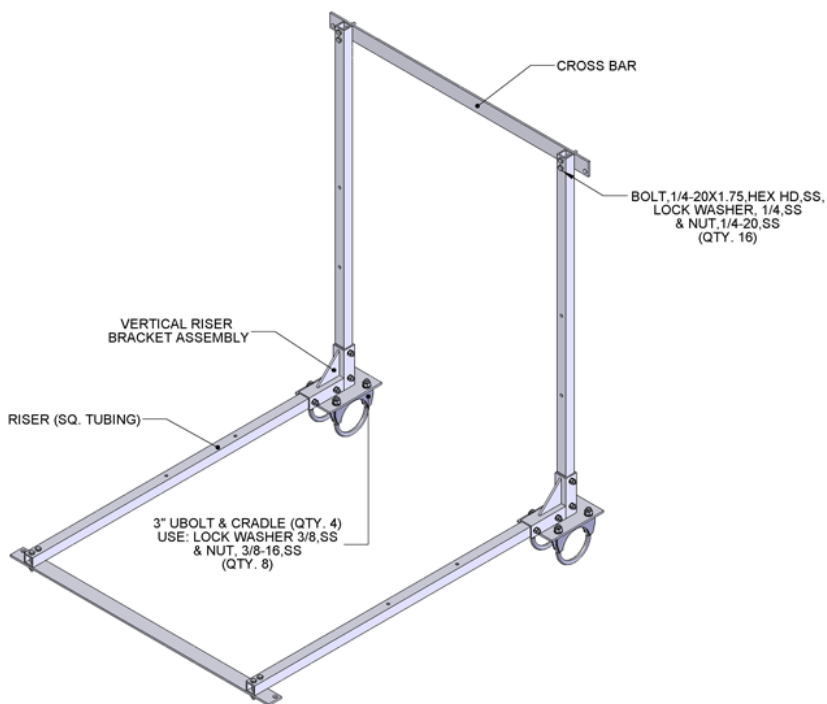
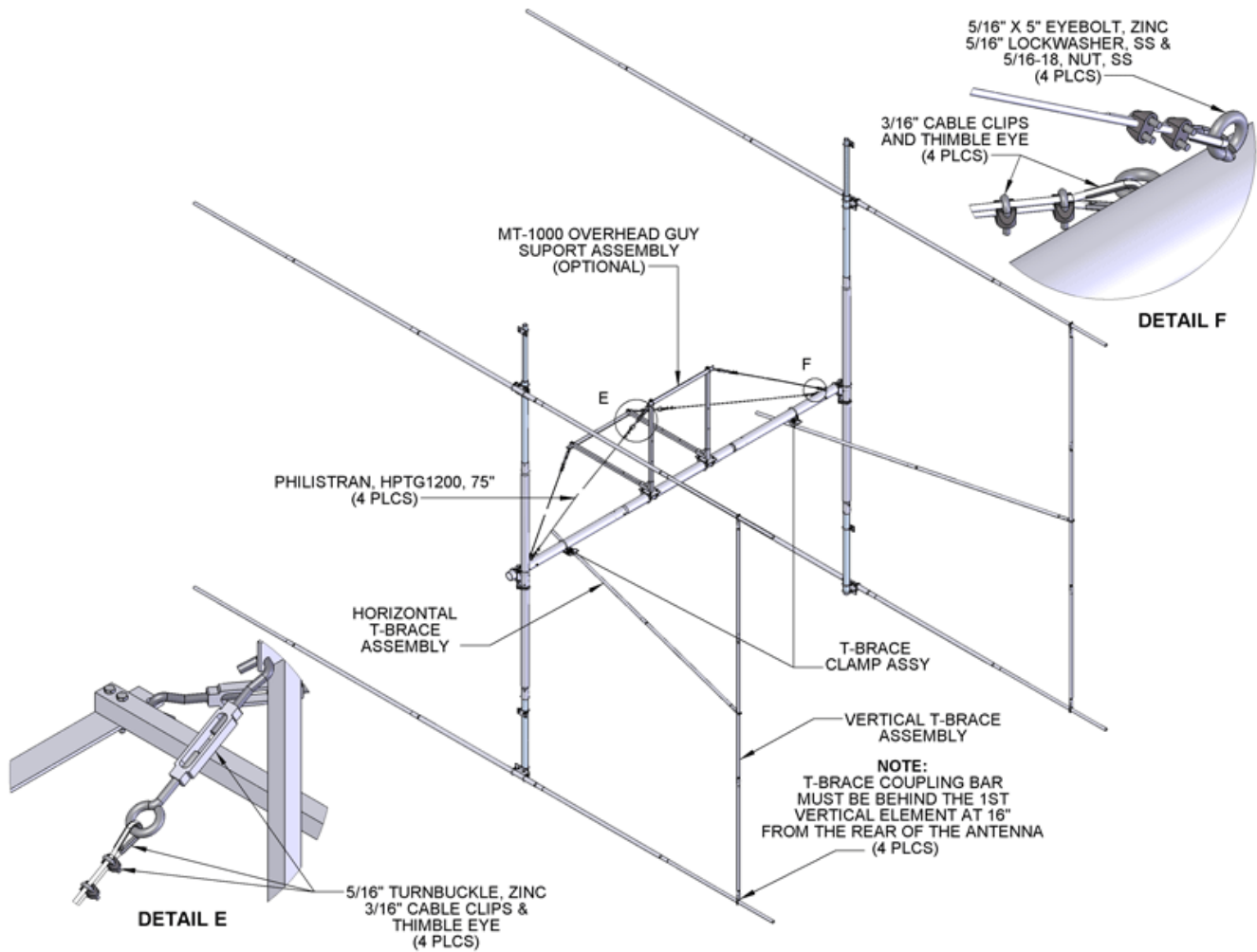
ITEM NO.	PART NUMBER	DESCRIPTION	Default/QTY.
1	M2AHF0005	ANGLED T-BRACE PLATE	1
2	3.0 UB ASSY	3" U-BOLT & CRADLE	1
3	1.0 UB	1" U-BOLT	1
4	HNT03750100	NUT, 3/8-16, SS	2
5	HWS03750150	WSHR, 3/8, SPL RING, SS	2
6	HNT02500500	NUT, 1/4-20, HEX, SS	2
7	HWS02500150	WSHR, 1/4, SPL RING, SS	2



UNLESS OTHERWISE SPECIFIED		NAME	DATE	M2 ANTENNA SYS. INC. 4402 N. SELLAND AVE. FRESNO CA. 93722. 558-432-8873	
DIMENSIONS ARE IN INCHES		JLS	2/26/2008	DESCRIPTION	
TOLERANCES:		JLS	2/26/2008	H-FRAME PART T-BRACE CLAMP ASSY	
FRACTIONAL: .030		ENG APPR.		SIZE	PART #
DECIMAL: .015		MFG APPR.		A	T BRACE CLAMP ASSY
THREE PLACE DECIMAL: .006		Q.A.		REV	1
INTERPRET GEOMETRIC TOLERANCING PER:		COMMENTS:		SHEET 1 OF 1	
MATERIAL					
FINISH					
NEXT ASSY		USED ON			
APPLICATION					
DO NOT SCALE DRAWING					

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED
HEREIN IS THE SOLE
PROPERTY OF M2 ANTENNA
SYS. INC.
ANY REPRODUCTION IN PART
OR AS A WHOLE WITHOUT THE
WRITTEN PERMISSION OF M2
ANTENNA SYS. INC. IS
PROHIBITED

T-BRACE & OVERHEAD SUPPORT



MT-1000 overhead guy support assembly and hardware drawing shown on the left. MT-1000 overhead guy support is used with MT-1000 option. Otherwise MT-1000 overhead guy support is not supplied.

Carefully manufactured by:

M2 Antenna Systems, Inc.
4402 N. Selland Ave. Fresno, CA
93722

(559) 432-8873 Fax (559) 432-3059

Web: www.m2inc.com

HFTB2MXP20-2X2 PARTS & HARDWARE

<u>DESCRIPTION</u>	<u>QUANTITY</u>
3" MAIN CROSSBOOM	
CROSSBOOM TUBE 3" X .125 X 60" SBE	1
CROSSBOOM TUBE 3" X .125 X 52" PLAIN	2
VERTICAL BOOM RISER PLATE 1/4" X 4" (2.5" UB PATTERN)	2
U-BOLT & CRADLE, 3"	4
U-BOLT & CRADLE, 2-1/2"	4
HARDWARE	
BOLT, 1/4-20 X 3-1/2" SS	4
NUT, 1/4-20, NYLOCK SS	4
LOCKWASER, 3/8" SS	8
NUT, 3/8-16 SS	8
LOCKWASER, 5/16" SS	8
NUT, 5/16-18 SS	8
Zinc Paste (Penetrox, Noalox or equivalent) container.....	2
VERTICAL BOOM COMPONENTS	
VERTICAL BOOM RISER, 2-1/2" X 0.125 X 49" SOE	2
VERTICAL BOOM RISER, 2-1/2" X 0.125 X 49" SBE.....	2
VERTICAL BOOM RISER, 2" X 0.25 X 36" FIBERGLASS.....	4
VERTICAL BOOM RISER, 1-1/2" X 0.125 X 24" FIBERGLASS	2
HARDWARE	
LOCKWASER, 5/16" SS	8
NUT, 5/16-18 SS	8
BOLT, 1/4-20 X 3-1/2" SS	4
BOLT, 1/4-20 X 2-3/4" SS	8
BOLT, 1/4-20 X 2-1/2" SS	2
NUT, 1/4-20, NYLOCK SS	14
T-BRACE COMPONENTS	
VERTICAL T-BRACE, 1" X .058 X 60" SBE	2
VERTICAL T-BRACE, 1" X .058 X 47-7/8" SOE	4
HORIZONTAL T-BRACE, 1" X .058 X 60" SBE	2
HORIZONTAL T-BRACE, 1" X .058 X 60"	2
T-COUPLING, 1" X .375 X 3.75	6
ANGLE PLATE, 4 X 6 X .188	2
U-BOLT & CRADLE, 3"	2
U-BOLT 1"	2
HARDWARE	
LOCKWASHER, 3/8" SS	4
NUT, 3/8-16 SS	4
LOCKWASHER, 1/4" SS	4
NUT, 1/4-20 SS	4
SCREW, 8-32 X 1-1/2" SS	6
SCREW, 8-32 X 1-1/4" SS	24
NUT, 8-32, NYLOCK, SS	30

HFTB2MXP20-2X2 PARTS & HARDWARE

MT-1000 OVERHEAD GUY SUPPRT COMPONENTS

VERTICAL RISER BRACKET	2
RISER (SQ. TUBING)	4
CROSS BAR	2
U-BOLT & CRADLE, 3"	4
HARDWARE	
EYE BOLT WITH NUT, 5/16-18 X 5.0, ZINC.....	4
THIMBLE EYE, 1/8"	8
CABLE CLIP, 1/8"	16
PHILISTRAN, HPTG1200, 75"	4
TURNBUCKLE, 5/16", ZINC.....	4
LOCKWASHER, 5/16" SS	4
NUT, 5/16-18 SS	4
LOCKWASHER, 3/8" SS	8
NUT, 3/8-16 SS	8
BOLT, 1/4-20 X 1-3/4" SS	16
LOCKWASHER, 1/4" SS	16
NUT, 1/4-20 SS	16

M² ANTENNA SYSTEMS, INC.

4402 N. Selland Ave.

Fresno, CA 93722

(559) 432-8873 Fax: 432-3059

www.m2inc.com Email: sales@m2inc.com

HFTB2MXP20-2X2 PARTS & HARDWARE

4 BAY PHASING LINE OPTIONS.
PHASING LINE ARE OPTIONAL AND BUILT TO CUSTOMER SPECIFICATIONS.
OUR PHASE LINES ARE PHASE MATCHED AND CUT IN HALF WAVE MULTIPLES.

PHASE LINE OPTION #1

POWER DIVIDER, 2 PORT, VHF (1/4 WAVE)	6
PHASING LINE, LMR-400, 105"(?), "N" MALE CONN.....	8
PHASELINE, LMR-400, TO CNTR 2 PORTS, 3WL, 209"(?) , "N" CONN.....	4
OR	
PHASELINE, LMR-600, TO CNTR 2 PORT, 3WL, 211"(?) , "N" CONN	4

PHASE LINE OPTION #2

POWER DIVIDER, 4 PORT, VHF (1/2 WAVE)	2
PHASE LINE, LMR-400, 5WL, 308"(?) , "N" MALE CONN.	8

M² ANTENNA SYSTEMS, INC.

4402 N. Selland Ave.

Fresno, CA 93722

(559) 432-8873 Fax: 432-3059

www.m2inc.com Email: sales@m2inc.com