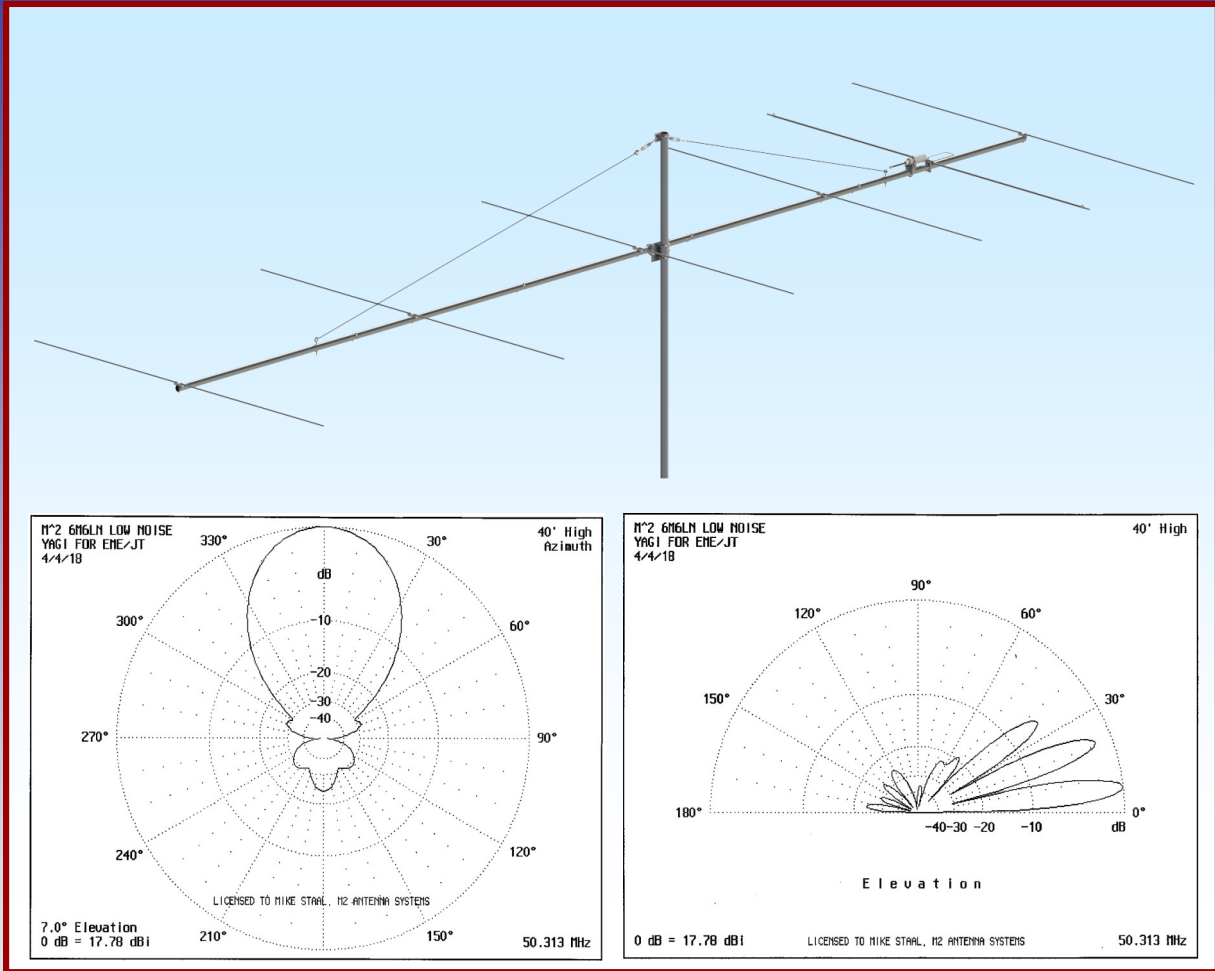




M2 Antenna Systems, Inc.

Model No: 6M6LN



SPECIFICATIONS:

Model	6M6LN	Input Connector.....	“UHF” Female
Frequency Range	50.0 To 50.7 MHz	Power Handling.....	1.5 kW
Gain	11.9 dBi*	Boom Length / Dia	24’ 0” / 1-1/2”
*Gain Ref to Ground 40’	17.75 dBi **	Maximum Element Length	9’ 8-1/8”
Front to back.....	24 dB Min.**	Turning Radius:.....	13’ 7”
Beamwidth	E=50° H=54°	Stacking Distance	20’ High & 20’ Wide
Feed type.....	Hairpin Match	Mast Size	2” (1-1/2” optional)
Feed Impedance.....	50 Ohms Unbalanced	Wind Area / Survival	2.7 Sq. Ft. / 85 MPH
Maximum VSWR.....	1.5:1 Nominal	Weight / Ship Wt.	18 Lbs. / 20 Lbs.

*Subtract 2.14 from dBi for dBd

**Referenced at a 40’ install height.

FEATURES:

The 6M6LN is M2 Antenna Systems’ newest 6M Yagi. The design requirements for this antenna were low noise and wide bandwidth. With the current trend up in frequency for FT8 and other digital modes, many antennas have a higher VSWR at the current activity centers. The 6M6LN was designed with this in mind. The 6M6LN was optimized for low noise in both the E and H planes, providing a low, total noise pattern. The 6M6LN is made with the same M2 Quality as all of our products and uses no hose clamps or unsealed feed points. It is also a great building block for a two or four Yagi array, with a stacking distance similar to our 6M5XHP. The boom length is a manageable 24 feet long.

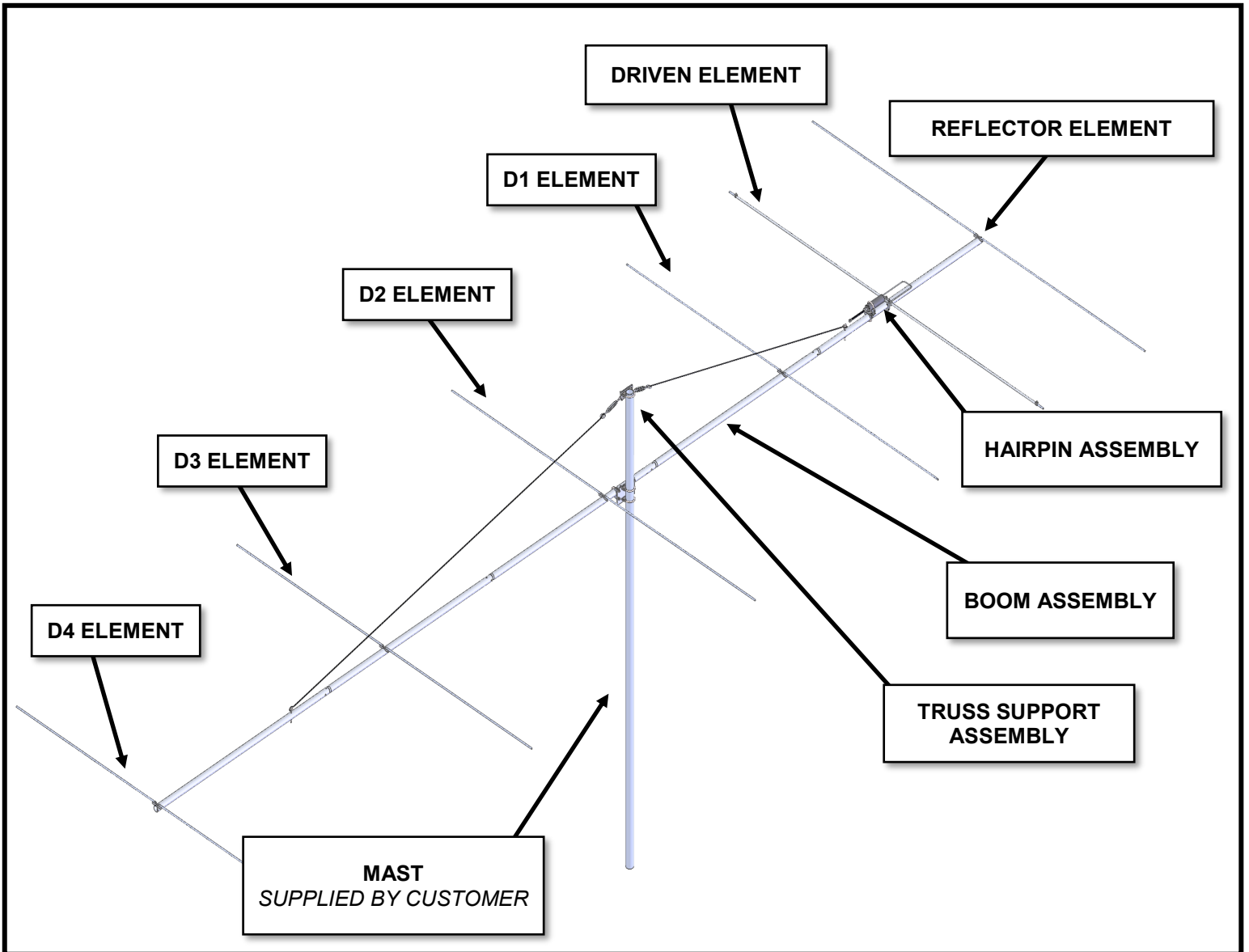
M2 Antenna Systems, Inc. 4402 N. Seland Ave. Fresno, CA 93722

Tel: (559) 432-8873 Fax: (559) 432-3059 Web: www.m2inc.com

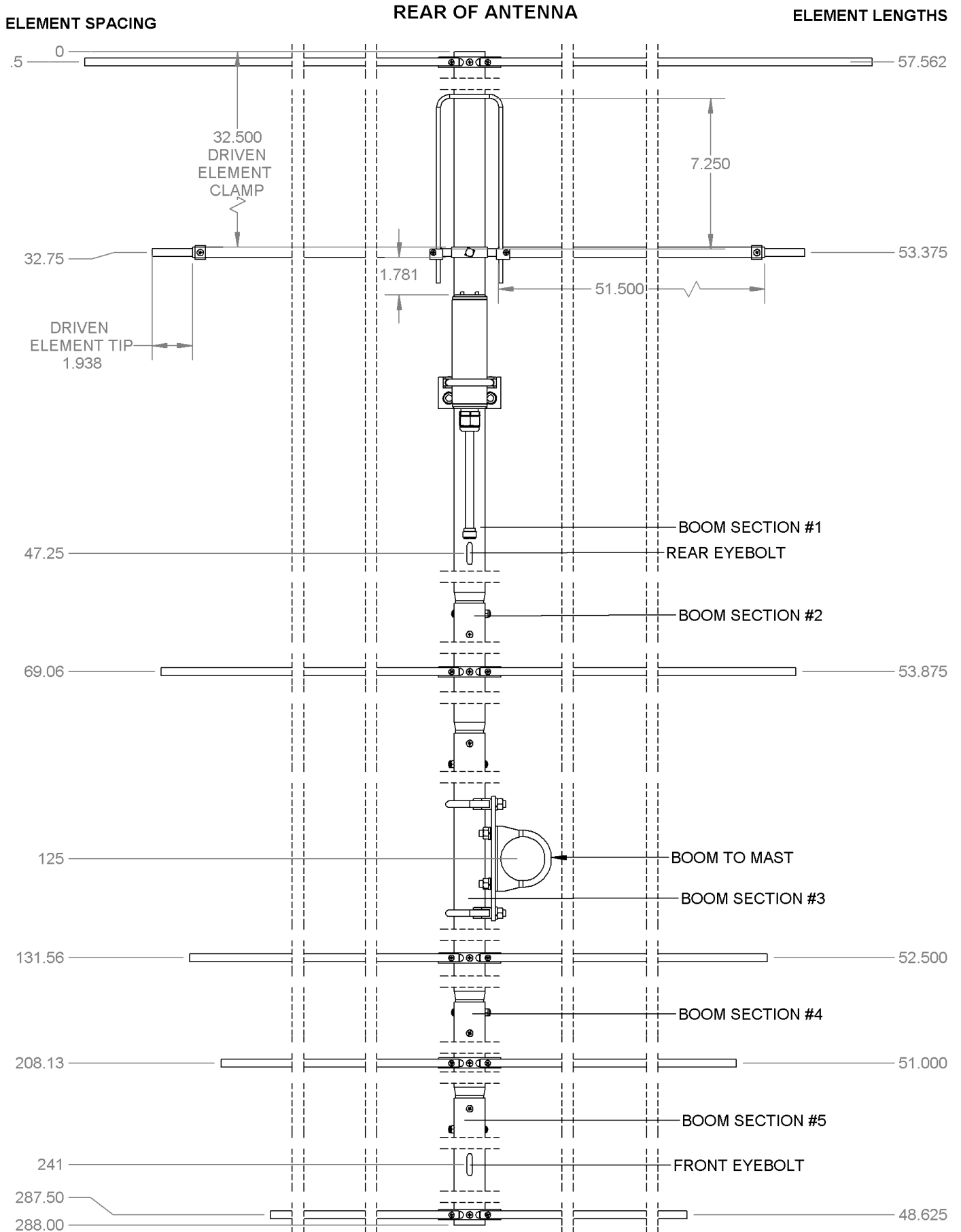
©2018 M2 Antenna Systems Incorporated

4/452018
REV B

6M6LN ANTENNA OVERVIEW



6M6LN DIMENSION SHEET

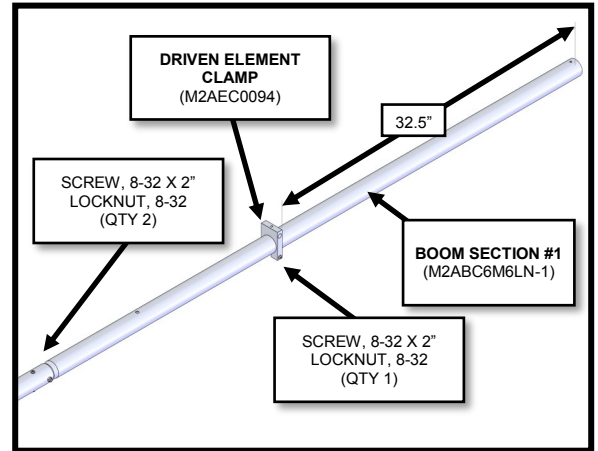


6M6LN ASSEMBLY MANUAL

TOOLS REQUIRED: Phillips screwdriver, 1/4", 11/32", 7/16", and 1/2" wrench or socket, and tape measure.

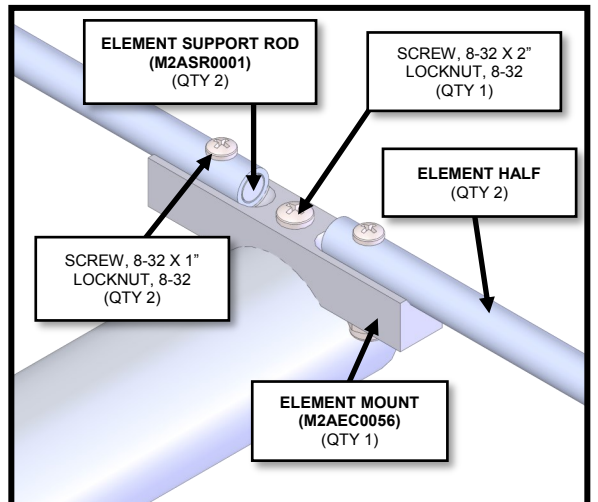
STEP 1:

Layout the BOOM SECTIONS as shown on DIMENSION SHEET and assemble with hardware provided. Apply a light coating of Penetrox to all metal to metal contacts and on screw threads to minimize the chance of galling. Tighten the nuts securely. Slide the DRIVEN ELEMENT CLAMP onto the end of BOOM SECTION #1 (non tapered end) for later use with the DRIVEN ELEMENT ASSEMBLY. Set the DRIVEN ELEMENT CLAMP at 32.5" from the rear of the boom to the inside face of the DRIVEN ELEMENT CLAMP. Tighten DRIVEN ELEMENT CLAMP into proper position.

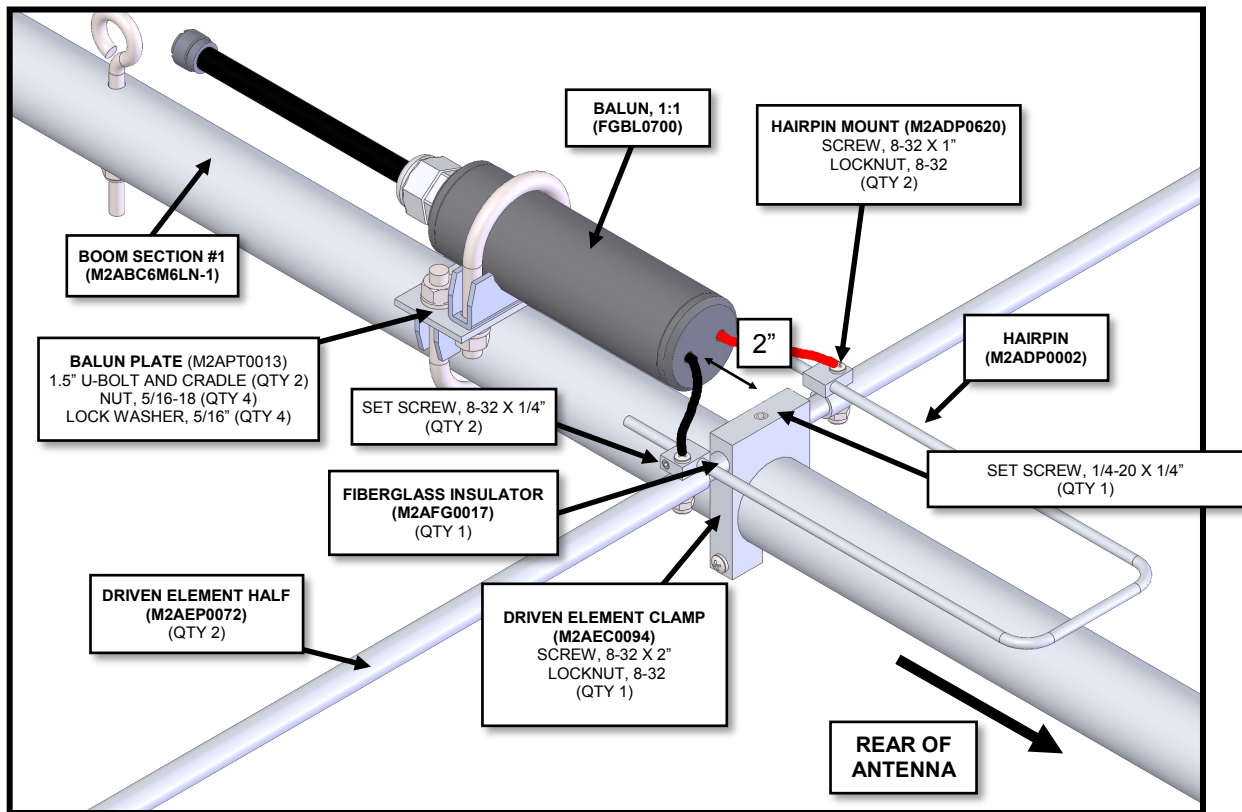


STEP 2:

Using the DIMENSION SHEET as reference, insert the SUPPORT RODS into each ELEMENT TUBE and line up the holes on the ELEMENT TUBES and ELEMENT SUPPORT RODS. Install the ELEMENT HALVES on the ELEMENT MOUNTS. Install all ELEMENT MOUNTS to the BOOM ASSEMBLY.



6M6LN ASSEMBLY MANUAL



STEP 4:

Insert the FIBERGLASS INSULATOR into the DRIVEN ELEMENT CLAMP. Center the FIBERGLASS INSULATOR. Make sure the holes in the FIBERGLASS INSULATOR are vertically oriented. Secure the FIBERGLASS INSULATOR with the bolt. Using the end with the through hole, slide one DRIVEN ELEMENT HALF onto one end of the FIBERGLASS INSULATOR. Loosely secure the HAIRPIN MOUNT (on top), DRIVEN ELEMENT HALF, and FIBERGLASS INSULATOR using the screw. Repeat steps for the opposite side of the FIBERGLASS INSULATOR.

STEP 5:

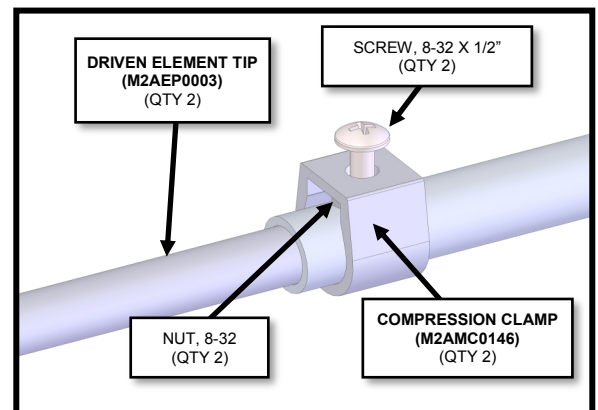
Cut the BALUN WIRES to 2.0". Strip 0.25" of insulation. Crimp and solder the RING TERMINALS. Using the BALUN PLATE, mount the BALUN in front of the DRIVEN ELEMENT CLAMP already mounted. Locate the screw used to secure the HAIRPIN MOUNT. Remove the screw used to secure the HAIRPIN MOUNT. Attach the BALUN WIRE CONNECTOR (on top), HAIRPIN MOUNT (middle), DRIVEN ELEMENT HALF and FIBERGLASS INSULATOR. Tighten screw with LOCKNUT.

STEP 6:

Using DIMENSION SHEET, locate final position of HAIRPIN. Set into position with SET SCREW.

STEP 7:

Insert a nut into the center of the COMPRESSION CLAMP. Insert the screw into the nut a couple of turns to hold nut in place. Slide the COMPRESSION CLAMP onto the end of the ELEMENT CENTER. Insert the DRIVEN ELEMENT TIP into the ELEMENT CENTER. Using DIMENSION SHEET, slide the DRIVEN ELEMENT TIP to the correct extended length and tighten the COMPRESSION CLAMP securely.



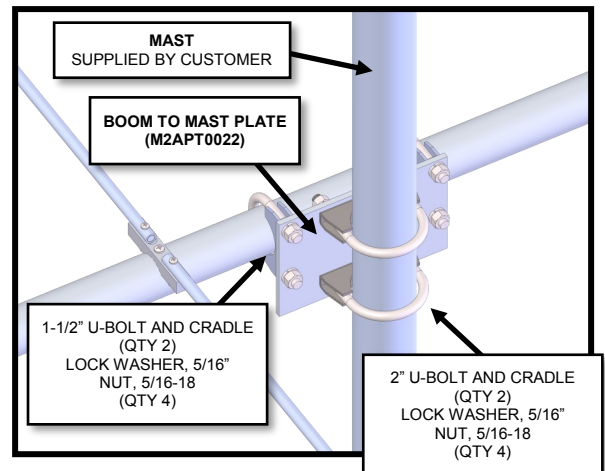
6M6LN ASSEMBLY MANUAL

STEP 8:

Mount the BOOM TO MAST PLATE perpendicular to elements at the physical balance point of the antenna with your coax temporarily attached. See the DIMENSION SHEET for the recommended starting position. Secure the U-BOLTS and CRADLES with hardware. Mount the antenna to your mast using supplied U-BOLTS and CRADLES.

STEP 9:

Install the EYEBOLTS to the BOOM. See DIMENSION SHEET for proper position. Secure with a LOCKNUT.

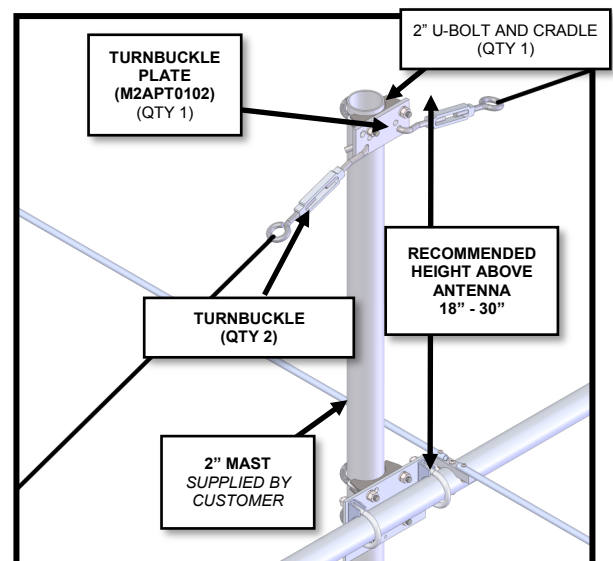


STEP 10:

The following "easy method" is usually sufficient, but you can locate the truss between 18" - 30" above the boom to accommodate your particular installation. Additional DACRON ROPE may be required for taller truss heights. Install the TURNBUCKLE PLATE *temporarily* to the MAST. Just leave the hardware loose and rest the plate assembly on the antenna. Loosen the turnbuckles, so that they are mostly open. Attach the TURNBUCKLES to the TURNBUCKLE PLATE.

STEP 11:

Uncoil DACRON ROPE. Secure one end to the REAR EYEBOLT, taking two turns through the EYEBOLT, then adding three HALF HITCHES. Seal cord ends with heat (lighter, propane torch, etc.) and tape to the main length. Connect the DACRON ROPE to the REAR TURNBUCKLE. Secure the DACRON ROPE to the REAR TURNBUCKLE using the same method used to attach to EYEBOLT. Cut the remaining rope to use for the FRONT EYEBOLT.



STEP 12:

Repeat previous step for the front truss.

STEP 13:

Lift the TURNBUCKLE PLATE up until the BOOM bows up slightly. Secure the TURNBUCKLE PLATE into final position. Use the TURNBUCKLES for final tension adjustment. Safety wire the TURNBUCKLES to prevent them from loosening.

STEP 14:

Install the MAIN FEED LINE to the BALUN. Tighten the "N" CONNECTOR carefully, and route the FEED LINE forward on the boom, securing it with the CABLE TIES provided. Leave an adequate LOOP for rotation around the tower. Seal the balun areas where the wires and cable exit the balun for additional weatherproofing.

NOTE: When stacking this antenna with other HF models, maintain a minimum 5' of separation, more if practical. Mount horizontally polarized VHF and UHF antennas at least 40" above or below this antenna to minimize interaction.

6M6LN STACKING INFORMATION

INSTALLATION AND STACKING INFORMATION

- A.** A mast or cross boom that is mounted to the boom *in the element plane* must be non-conductive (fiberglass, etc.).
- B.** To protect your investment in this high performance antenna, always use high quality coax and connectors. Old, corroded, or poor quality materials are common sources of **serious** performance losses.
- C.** If possible, test the antenna, connectors and feedline BEFORE installing to your mast or tower. Set antenna on a tall (non-metallic) ladder or temporary mast. Check for continuity and match across the bandwidth. It should be similar to rated specifications.
- D. STACKING REMINDERS:**
1. All driven element blocks **MUST** be oriented to the same side of boom. On models with ferrite baluns, the red leads must connect to the same side of each driven element.
 2. All boom-to-mast plates **MUST** be mounted at the same side and location on the boom.
 3. Feed / phasing lines **MUST** be of equal electrical length or multiples of 1 wavelength in order to maintain equal phasing in the array. Improper phasing can severely deteriorate performance.
 4. If you are unsure about stacking multiple antennas, please call **M²** and let us help you **DO IT RIGHT**.

THIS COMPLETES THE ANTENNA ASSEMBLY.

Carefully manufactured by:
M² ANTENNA SYSTEMS, INC.
4402 N. Selland Ave.
Fresno, CA 93722
(559) 432-8873 Fax: 432-3059
www.m2inc.com Email: sales@m2inc.com

6M6LN PARTS & HARDWARE

DESCRIPTION	QTY.
BOOM SECTION #1, 1.5" X .065" X 60", SOE (M2ABS6M6LN-1).....	1
BOOM SECTION #2, 1.5" X .065" X 60", SOE (M2ABS6M6LN-2).....	1
BOOM SECTION #3, 1.5" X .065" X 60", SOE (M2ABS6M6LN-3).....	1
BOOM SECTION #4, 1.5" X .065" X 60", SOE (M2ABS6M6LN-4).....	1
BOOM SECTION #5, 1.5" X .065" X 60" (M2ABS6M6LN-5)	1
ELEMENT TUBE, 3/8" X .049" X SEE DIMENSION SHEET	10
ELEMENT SUPPORT ROD, 1/4" X 10" (M2AEP0060)	10
DRIVEN ELEMENT TIP, .375" X .049" X 6" (M2AEP0003).....	2
DRIVEN ELEMENT HALF, .500" X .049" X 51.5", TWO HOLES (M2AEP0072)	2
FIBERGLASS INSULATOR, 3/8" X 10" (M2AFG0017)	1
HAIRPIN (M2ADP0002).....	1
HAIR PIN MOUNT (M2ADP0620).....	2
ELEMENT MOUNT (M2AEC0056)	5
DRIVEN ELEMENT CLAMP (M2AEC0094).....	1
COMPRESSION CLAMP, .500" (M2AMC0146).....	2
BALUN, 1:1 WITH SO239 CONNECTOR (FGBL0700)	1
DACRON ROPE, 3/16" x 20'	1
BOOM TO MAST PLATE, 4" X 6" X .188" (M2APT0022).....	1
TURNBUCKLE PLATE, 2" X 4" X .125" (M2APT0102)	1
BALUN PLATE, 1.5" X 3" X .125" (M2APT0013)	1
ASSEMBLY INSTRUCTIONS.....	1

HARDWARE

U-BOLT & CRADLE, 2"	3
U-BOLT & CRADLE, 1-1/2"	4
TURNBUCKLE, 5/16", HOOK AND EYE	2
NUTS, 5/16-18, SS	14
LOCK WASHERS, 5/16", SS	14
EYEBOLTS, 1/4" x 4", SS	2
SET SCREW, 1/4-20 X 1/4", SS	1
LOCKNUT, 1/4-20, SS.....	2
SCREW, 8-32 X 2", PHILLIPS PAN HEAD, SS	6
SCREW, 8-32 X 1-3/4", PHILLIPS PAN HEAD, SS	8
SCREW, 8-32 X 1", PHILLIPS PAN HEAD, SS	12
SCREW, 8-32 X 1/2", PHILLIPS PAN HEAD, SS	2
SET SCREW, 8-32 X 1/4", SS	2
NUT, 8-32, SS	2
LOCKNUT, 8-32, SS.....	26
CABLE TIES, 7".....	5
ALLEN WRENCH, 5/64"	1
PENETROX (SMALL CUP)	1

M² ANTENNA SYSTEMS, INC.

4402 N. Selland Ave.

Fresno, CA 93722

(559) 432-8873 Fax: 432-3059

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