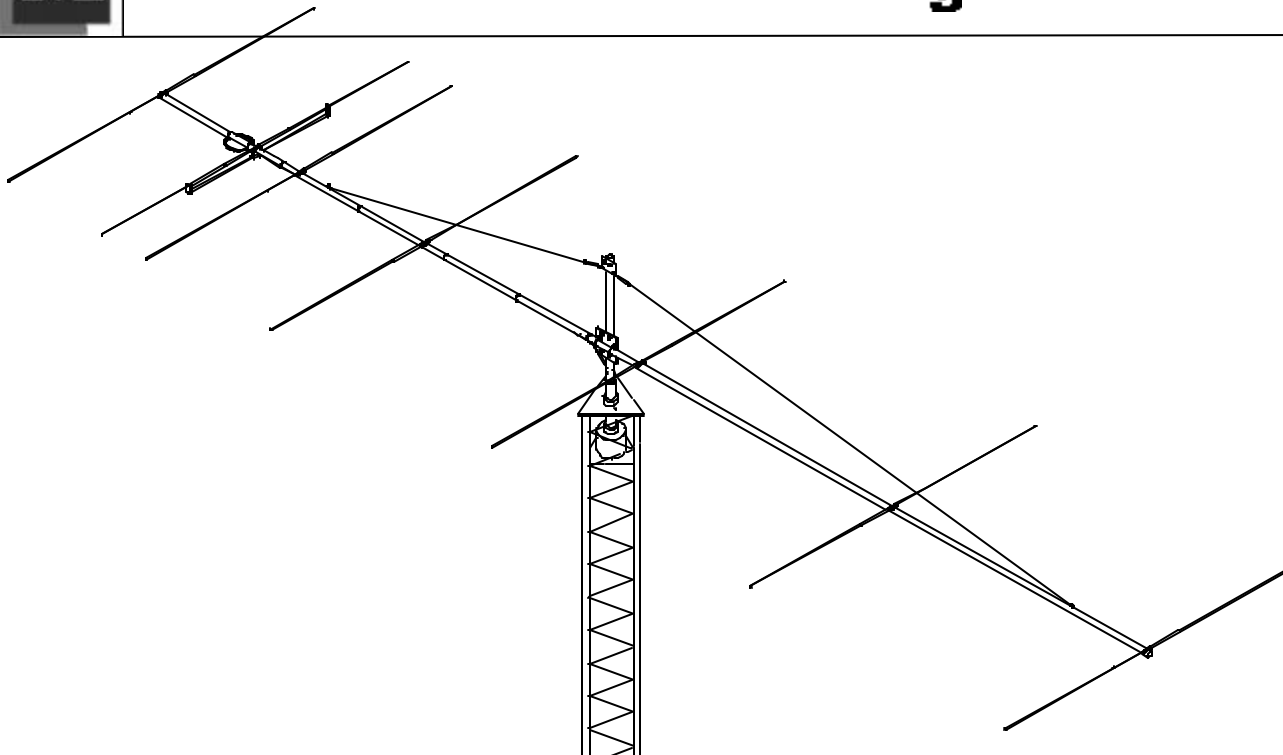


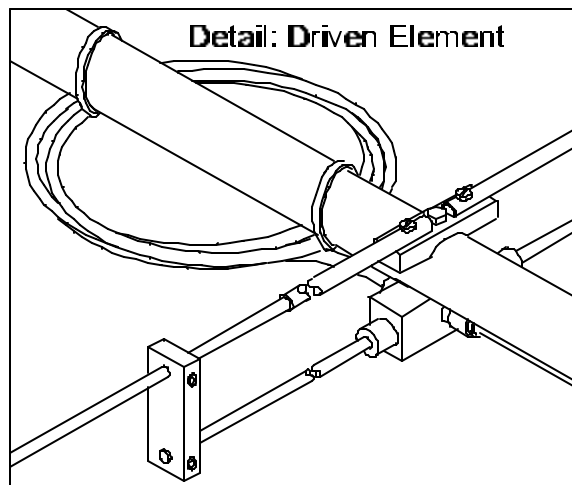


6M7 6 Meter Yagi



SPECIFICATIONS

Model	6M7
Frequency	49.5-50.5 MHz
Gain.....	10.5 dBd
Front to back.....	23 dB
Beamwidth E - Plane.....	E=42° / H=50°
Stacking Distance.....	24' Wide, 22' High
Feed Impedance / Conn.	50 Ohms / "N" fem.
VSWR.....	1.2:1 @ 50.1 MHz
Power Handling.....	1.5 KW
Match Type	'T' Match
Balun.....	4:1 Coaxial
Lightening Protection	All Elements Grounded
Boom Length / Dia.....	26' 9" / 2" O.D.
Element Type.....	1/4" Rod with 3/8" Sleeve
Mast Size.....	2"
Wind Area / Survival	3 sq ft / 100 MPH
Weight / Ship Wt.....	17 Lbs / 19 Lbs UPS



FEATURES

The 6M7 is a mid-sized 7 element antenna designed with the aid of computer technology to produce maximum gain for its boom length. Features include machined aluminum element mounting blocks, O-ring sealed connectors and balun, silicone-gel sealed "T" match block, and stainless steel hardware. Elements are 1/4" aluminum rod with 3/8" tube center sleeves, and all are DC grounded. An overhead guy system is provided for additional boom support.

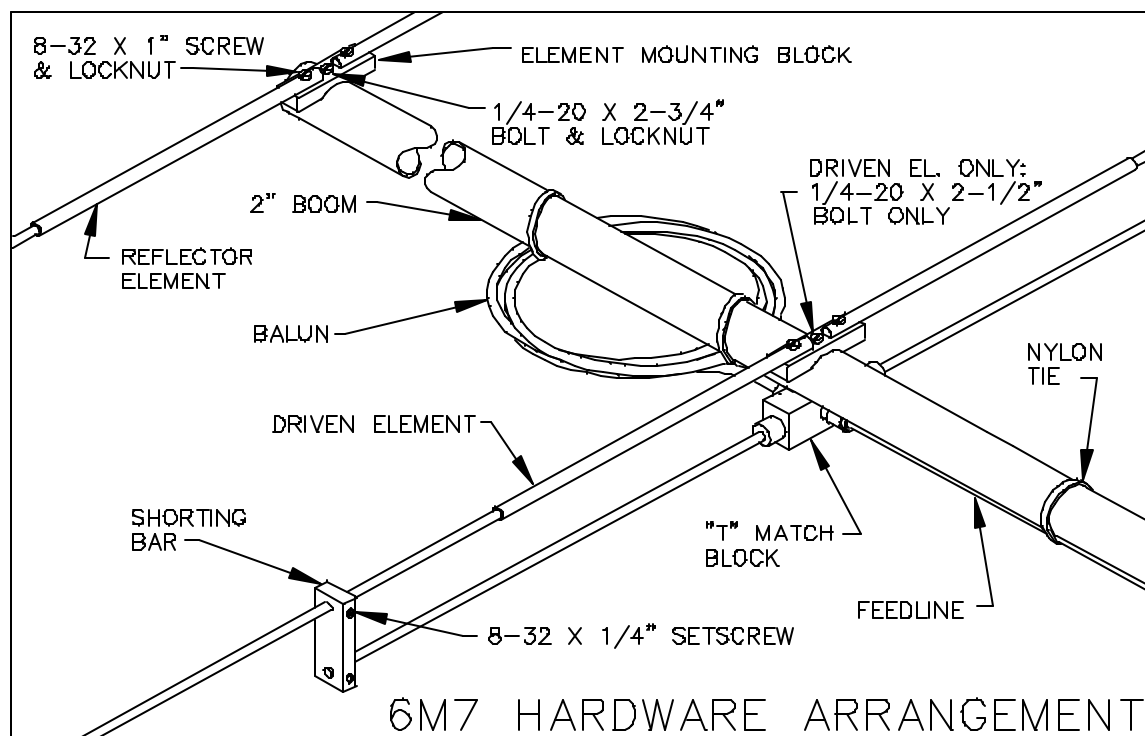


6M7 Assembly Manual

9-13-98
REV:
2-14-00

TOOLS REQUIRED: Screwdriver, 11/32 wrench, socket or spintite, a 7/16" and 1/2" wrench or socket, tape measure.

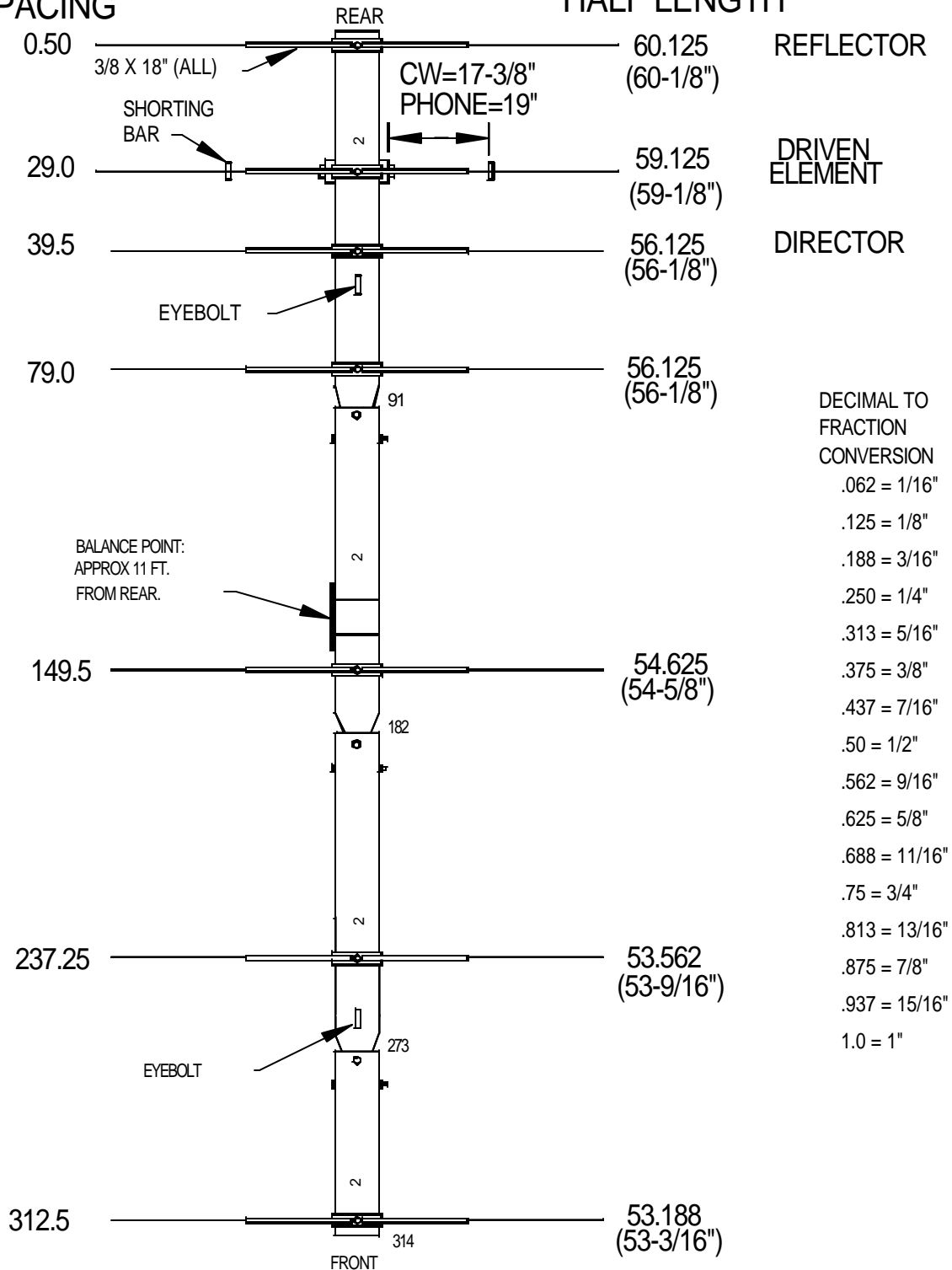
1. Layout the boom sections as shown on Dimension Sheet and assemble with 1/4-20 x 2-1/2" bolts and locknuts. Note: the REAR boom section, #1, has the most holes. Section #2 has one element mounting hole 36-1/2" from the swaged (necked down) end. Section #3 has one at 39-3/4" from the swaged end. Section #4 is unswaged. Tighten the nuts securely.
2. Use the Dimension Sheet as reference for installing the ELEMENT HALVES on to the ELEMENT MOUNTING BLOCKS. Use the 8-32 x 1" screws and locknuts. Install screws from bottom of blocks.
3. Mount the longest element (REFLECTOR - 60-1/8" element halves) to the hole at the rear end of the boom using a 1/4-20 x 2-3/4" bolt and locknut. Tighten securely.
4. Mount the DRIVEN ELEMENT next with a **2-1/2" bolt**, threading it into the T' MATCH BLOCK held to the underside of the boom. Orient the match block with the "N" feed connector pointed to the front. Mount the DIRECTOR ELEMENTS using **1/4-20 x 2-3/4"** bolts and locknuts.
5. Thread the gold SEAL NUTS all the way onto the two small connectors on the 'T' match block, **black neoprene side out**. Then connect the balun connectors and tighten them **GENTLY** with a 7/16" end wrench. Now back out the seal nuts until they are up against the face of the balun connectors and tighten them about 1/2 turn with a 1/2" end wrench. Secure coiled balun to boom with two nylon ties.
6. Install two 8-32 x 1/4" Setscrews into each SHORTING BAR. Then slide a SHORTING BAR onto each DRIVEN ELEMENT HALF and onto the 1/4" "T" match rods. Position so there is 17-3/8" between the outer edge of the match block and the inner edge of the shorting bar (also see Dimension Sheet). Align rods and element halves parallel and tighten the set screws with the 5/64" Allen wrench provided.
7. Install the feedline, mating and tightening the Male 'N' connector carefully. Route the cable forward to



6M7 DIMENSION SHEET

ELEMENT
SPACING

ELEMENT
HALF LENGTH



the balance point of the boom (about 11 ft. from rear), securing it with the cable ties provided.

8. Mount the BOOM TO MAST PLATE perpendicular to elements at the physical balance point of the antenna with the feedline installed (usually about 11 ft. from rear of the boom). Secure with the 2" U-bolts, 5/16" stainless steel lockwashers and nuts. Do not over-tighten as severe boom distortion and subsequent weakening can occur. 2" U-bolts and stainless hardware are also supplied for attaching plate to your mast.

9. Install the 1/4" x 4" EYEBOLTS to the front and rear boom sections, eyes up and parallel with boom. Secure with 1/4-20 locknuts.

10. To prepare the overhead guy system, begin by **temporarily** installing a 2" U-bolt through the 2" x 4" TURNBUCKLE PLATE and into the top set of 2" U-bolt holes on the boom to mast plate. Add a couple of 5/16" nuts to hold in place. Unscrew turnbuckle eyes / hooks until only a thread or two shows inside the turnbuckle body and hook to turnbuckle plate.

11. Uncoil DACRON CORD. Secure one end to rear eyebolt, taking two turns through the eyebolt, then adding three TIGHT half-hitches. Pull hard on cord to set the knots. Repeat for the front eyebolt. Seal cord ends with heat (lighter, propane torch, etc) and tape to main length.

12. Equalize cord length at turnbuckle plate and cut. Put two turns through rear turnbuckle eye, pull slack out of rope, and add three TIGHT half-hitches. Repeat for front cord section. Seal and tape cord ends.

13. Both cords should now be fairly taut and parallel with boom. Disconnect the 2" U-bolt securing the turnbuckle plate and lift the turnbuckle plate up until the boom bows up slightly. This is approximately how high the plate will need to be mounted on the mast when the antenna is installed.

14. During final installation on the tower / mast, secure the turnbuckle plate at the appropriate height with the 2" U-bolt. Then lean or pull on the cords to increase the tension and help the knots take their final "set." Make sure the knots are not slipping. When the guy system has taken a "set", readjust the turnbuckle plate height until boom is straight and level. Finer adjustments can be made at any time, if necessary, with the turnbuckles. Safety-wire the turnbuckles to preserve settings.

15. When the antenna is installed in position on the mast, the main feedline can be attached and sealed at that time. REMEMBER to support the feedline at the antenna boom and on the mast. Leave an adequate feedline loop for rotation around the tower. 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.

THIS COMPLETES THE ANTENNA ASSEMBLY.

16. INSTALLATION AND STACKING INFORMATION

A. A mast or crossboom that is mounted to this antenna *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 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.

2. All boom-to-mast plates MUST be mounted at the same point 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.

If you are unsure about stacking multiple antennas, please call **M²** and let us help you DO IT RIGHT.

Carefully manufactured by:

M² ENTERPRISES

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6M7 PARTS LIST

DESCRIPTION	QTY.
Boom Section 2 x .065 x 41" STR. Alum.....	1
Boom Section 2 x .065 x 95" S.O.E. Alum.....	3
Element, 1/4 Rod w. 3/8 Sleeve x see Dim. Sheet....	14
Driven `T' Match Assembly	1
Balun, $\lambda/4$, 50 MHz, RG-6	1
Boom to Mast Plate 4 x 6 x 3/16 Alum.....	1
Turnbuckle Plate, 2" x 4"	1
Dacron Cord, 3/16" x 21'	1
Assembly Instructions	1
U-Bolt 2"	5

HARDWARE BAG

Shorting Bars 3/4 x 1/4 x 3-3/8" machined alum.	2
Element Mounting Blocks 3/4 x 3/8 x 3" alum.....	7
Eyebolt, 1/4-20 x 4"	2
Turnbuckles, 1/4"	2
Bolt, 1/4-20 x 2-3/4" ss	6
Bolt, 1/4-20 x 2-1/2" ss	7
Locknut 1/4-20 ss.....	14
Nuts 5/16-18 ss.....	10
Lockwashers 5/16 Split Ring	10
Screw, 8-32 x 1" ss.....	14
Locknut, 8-32 ss.....	14
Cable Ties 14" Black.....	4
Screw Internal Hex Set 8-32 x 1/4 ss.....	4
Allen Wrench 5/64.....	1
Nut Seals	2