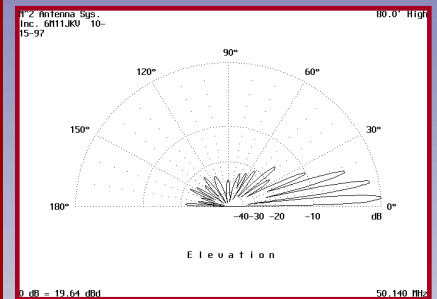
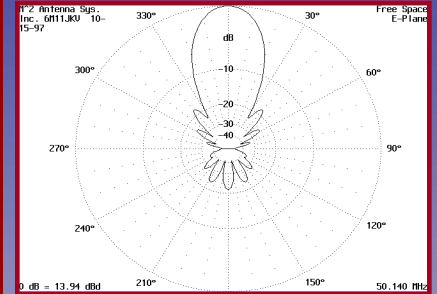
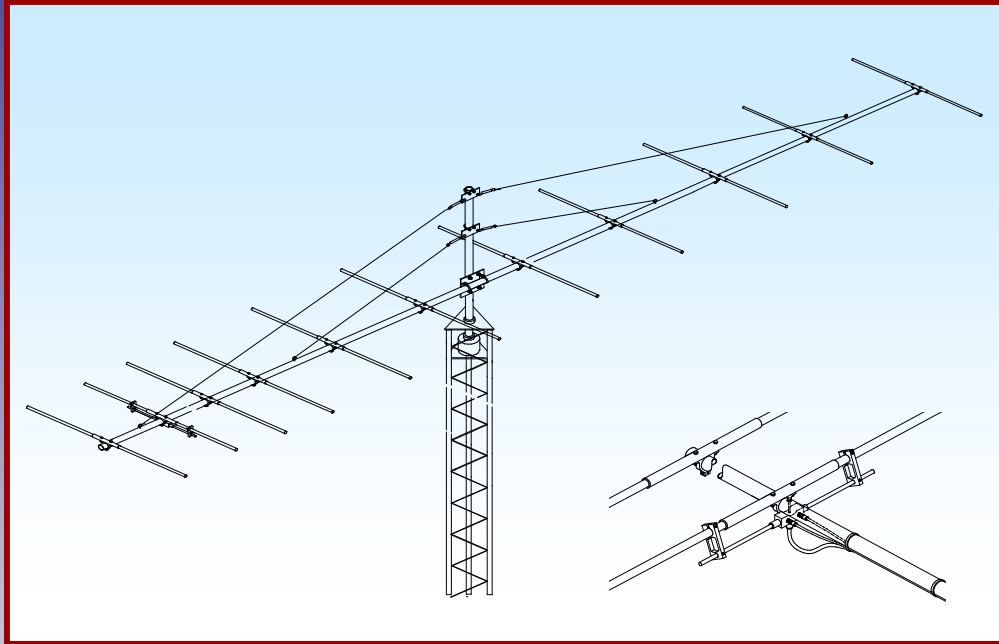




M2 Antenna Systems, Inc. Model No: 6M11JKV



SPECIFICATIONS:

Model	6M11JKV	Power Handling.....	3.5 kW
Frequency Range	49.9 To 50.5 MHz	Boom Length / Dia	69' 2" / 3", 2-1/2" & 2"
*Gain	16.10 dBi	Maximum Element Length	102-3/8"
Front to back.....	>21 dB Typical	Turning Radius:.....	37' 6"
Beamwidth	E=26° H=29°	Stacking Distance	36' High & 38' Wide MAX.
Feed type.....	"T" Match	Mast Size	2" Nom.
Feed Impedance.....	50 Ohms Unbalanced	Wind area / Survival.....	10.7 Sq. Ft. / 100 MPH
Maximum VSWR	1.2:1	Weight / Ship Wt.	83 Lbs. / 95 Lbs.
Input Connector	"N" Female		

***Subtract 2.14 from dBi for dBd**

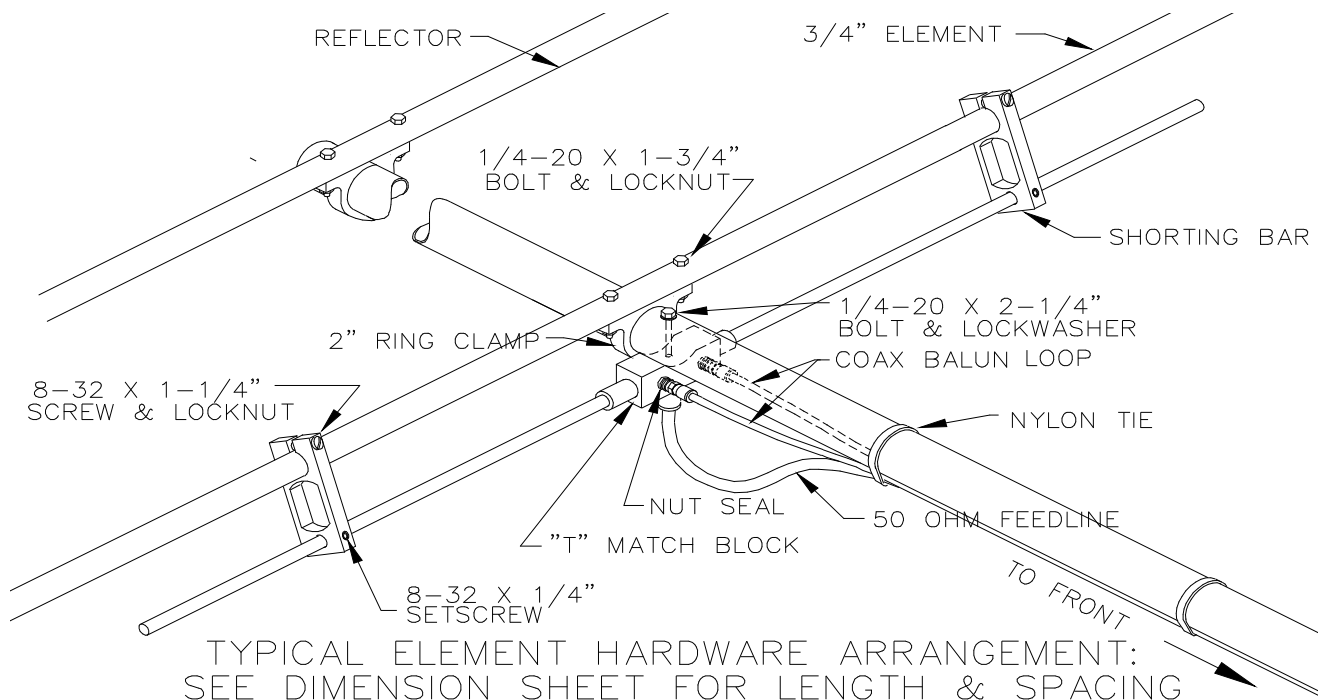
FEATURES:

This premier design Yagi was produced for Jim Treybig, **W6JKV** for use on his new 60 acre ranch outside Austin Texas. This rugged performer is unmatched in the industry and clearly is the king of the 6 meter band. The free space gain is 14 dBd and when horizon ground gain of 5+ dB is added in, moon echoes are not only possible but probable with power of 400 Watts or more. Structural features begin with the 3" x 1/8" wall 36 foot center section tapering down through 2-1/2" sections to 2" diameter tips. Rugged, machined clamps support 3/4" diameter elements and all elements are grounded to the boom. The driven element is also a 3/4" diameter tube for improved efficiency and bandwidth, fed by a 'T' match with adjustable shorting bars. Stainless screws lock the joints together. The "T" match block is CNC-machined and internal connections are sealed with a space-age silicone gel with dielectric strength nearly 4 times greater than air. All three connectors feature 'O' ring seals. The balun cable features double seals; one at the cable and a "seal nut" at the face of connector where it mates with the female. Dual overhead guy support lines maintain the clean lines and structural integrity. Jimmy liked the antenna so much he has put up four more in a quad array in preparation for the fireworks of the new sun spot cycle. How about you? Are you ready for the new millennium? This very special antenna is made to order and sold only factory direct. We like to meet and speak directly with the new owners of this Yagi!

6M11JKV ASSEMBLY MANUAL

Note: A cup of zinc paste (PENETROX, NOALOX, or equivalent) has been provided to enhance the quality of all the electrical joints in this antenna. Apply a thin coat wherever two pieces of aluminum come in contact.

1. Refer to the Dimension Sheet. Note the different boom sections and the approximate position of each element. Slide the 2" and 2-1/2" RING CLAMPS into their approximate positions on the appropriate boom sections. For example, the rear boom section, 2" x 68", has two 2" ring clamps, one located roughly at 1" from the rear end (with no boom assembly holes) and one about 44" forward. Note this section also has a 1/4" hole (for "T" match block) and a 3/8" hole for an eyebolt. Spread the ring clamp fingers with a flat blade screwdriver to ease movement on boom. Loosely add a 1/4-20 x 1" bolt and locknut to fingers of all clamps. The boom is assembled later in step #6
2. Return to the rear boom section. Mount the 'T' MATCH ASSEMBLY BLOCK Use a single 1/4-20 x 2-1/4" bolt. Make sure the Driven Element ring clamp is to the rear of the "T" match block. Now slide the ring clamp up against the 'T' match block and rotate until the element channel is on the opposite side of the boom from the 'T' match block. Tighten the 1/4-20 x 1" bolt and locknut to hold the clamp in position.
3. Sort the 3/4" x 48" CENTER sections: 8 are drilled with holes 3-3/8" apart for the 2" ring clamps and 3" saddle clamps. Three are drilled with holes 4-1/2" apart for the 2-1/2" ring clamp.
4. Select a 3/4" x 48" tube drilled for a 2 inch ring clamp and attach it at the driven element location. Use two 1/4-20 x 1-3/4" bolts dropped through the tube and then down through the ring clamp. Add the two locknuts and tighten. Slide a 4-3/8" shorting bar on each side.
5. Add the 8-23 x 1-1/4" screw and locknut and the two 8-32 x 1/4" set screws to each SHORTING BAR. Slide the shorting bars down onto the 1/4" 'T' MATCH rods and position them according to the Dimension Sheet: measuring from the outer face of the "T" match block to the inner face of the shorting bar. Align the rods parallel with the element sections and tighten the hardware. A 5/64" Allen wrench has been provided for the set screws.



6M11JKV ASSEMBLY MANUAL

6. Now assemble all the boom sections. Secure with two 1/4-20 x (See Dimension sheet) bolts and locknuts. Tighten each joint securely, alternating back and forth between the two bolts at each joint until no movement occurs in the joint.

7. Attach the remaining 3/4" inch element sections to the 2 and 2-1/2" ring clamps. ALL ELEMENTS MUST BE ALIGNED WITH THE DRIVEN ELEMENT Next mount the last four center elements on the 3" diameter boom sections using two 3" **SADDLE CLAMPS** and two 1/4-20 x 4-1/2" bolts and locknuts for each element.

8. Now adjust **ELEMENT SPACING** following the Dimension Sheet. Since the Driven Element is fixed, **use it as the primary measurement reference**. Dimensions given are "center to center" but can also be used with a measuring tape, hooked and measured "edge to edge". After setting spacing, align elements with the Driven Element and tighten the 1/4-20 bolts and locknuts at each element.

9 Unroll the balun and attach it to the two connectors on the T match block. Secure balun (and the main feed line if possible) to the boom with cable ties. If the feed point will be inaccessible after installation it may prove convenient at this time to install a feedline section forward to the balance point. Secure with the nylon ties supplied (ties should be snug, but not crushing cable). Seal feed and balun connectors with black tape, coax seal or equivalent.

9. Note our suggested balance point on the DIMENSIONS SHEET or pick up the boom and mark the balance point. Center the BOOM TO MAST PLATE here, and secure with two 3" U-bolts, cradles, stainless lockwashers and nuts. 4 heavy duty 2" U-bolts are supplied for attaching the antenna to the mast.

NOTE: THIS ANTENNA MAY BE SUPPLIED WITH ITS OWN OPTIONAL MAST AND MOUNTING PLATE which is used in conjunction with our MT3000 ELEVATION ROTATOR. THE ANTENNA SHOULD BE LAYING FLAT OR BEING SUPPORTED LEVEL FOR THE FOLLOWING STEPS.

11. Mount a temporary or OPTIONAL MAST mast to the plate using the 2" U-bolt supplied. Attach one turnbuckle plate with 1/2" forged turnbuckles 12" below the top of the mast using a standard 2" U-bolt and cradle. Attach the second turnbuckle plate to the mast about 6 inches below the top plate. Unscrew turnbuckle eyes / hooks until only a thread or two shows **inside** the turnbuckle body and hook to turnbuckle plate.

12. Attach the longest cable / eyebolt in the hole near the front of the boom. The next longer cable is the rear overhead guy. and goes to the hole just behind the driven element. The two other cables are the inner set and attach at the inner set of eyebolt holes. SEE THE DIMENSION SHEET. Secure with 3/8" split ring lockwashers and nuts.

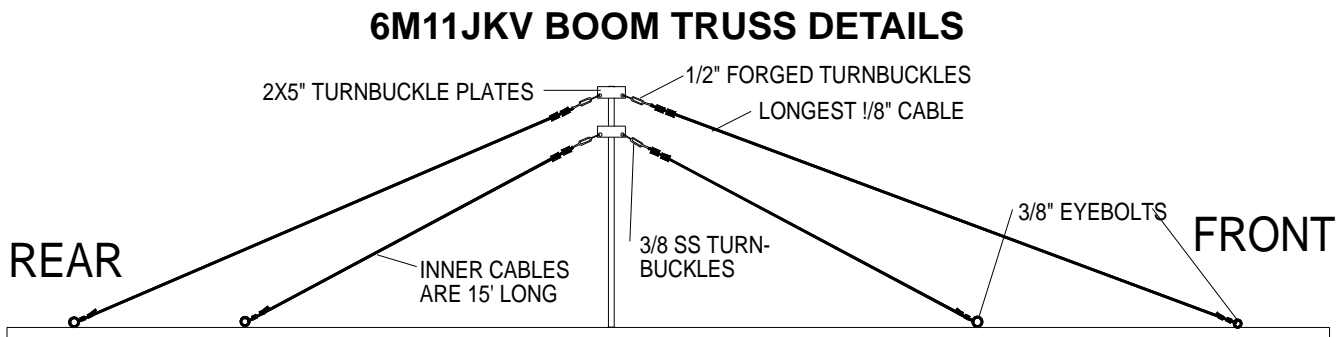
13. Route the guy cables to the turnbuckle and attach the outer cables to the large 1/2" forged turnbuckles the same way as at the eyebolts. Attach the inner cable to the smaller 3/8" turnbuckles attached to the other turnbuckle plate. Pull as much slack out of the cables as possible before setting and tightening the cable clips.

14A. Now loosen the U-bolt holding the top turnbuckle plate and slide it to the top up the mast until the ends of the boom lift off the ground or above level. Tighten the U-bolt at this point. Now repeat this step for the lower (inside guy set) turnbuckle plate. Level the boom by adjusting the plate positions and turnbuckles. When complete safety wire the turnbuckles so they are unable to unwind.

6M11JKV ASSEMBLY MANUAL

15. During final installation on the tower / mast, secure the turnbuckle plate at the appropriate height with the 2" U-bolt. Adjust turnbuckle plate height until boom is straight and level. Finer adjustments can be made at any time, if necessary, with the turnbuckles. When boom leveling is complete, safety wire the turnbuckles to prevent undesired loosening.

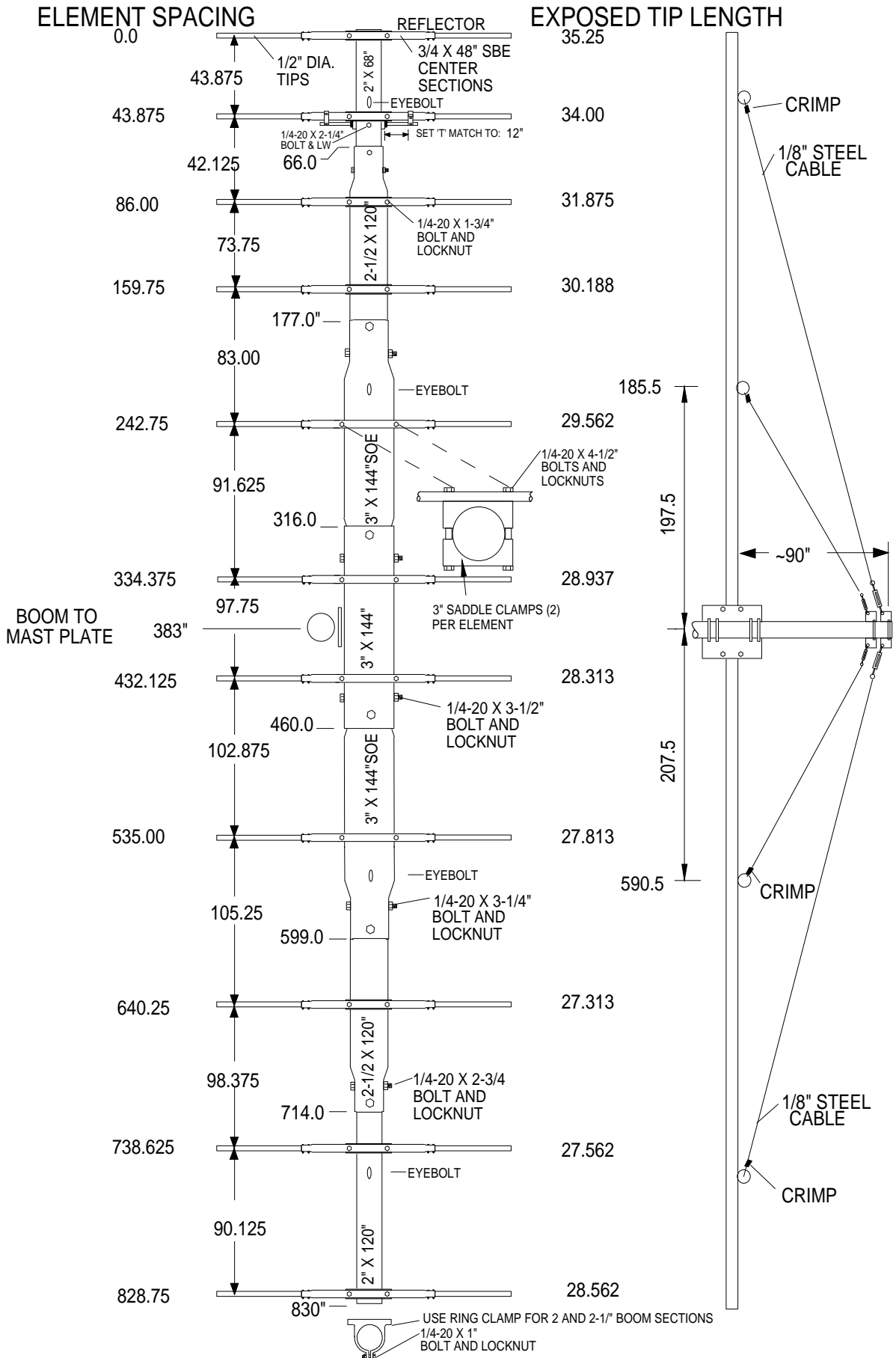
16. This completes the ASSEMBLY. After the antenna is installed in position on the mast or on the MT3000A elevation mechanism, the main feedline can be attached and sealed at that time. REMEMBER to support the feedline at the antenna boom and on the mast. Leave an adequate feedline loop for rotation around the tower. Mount horizontally polarized VHF and UHF antennas at least 80" above or below this antenna to minimize interaction.



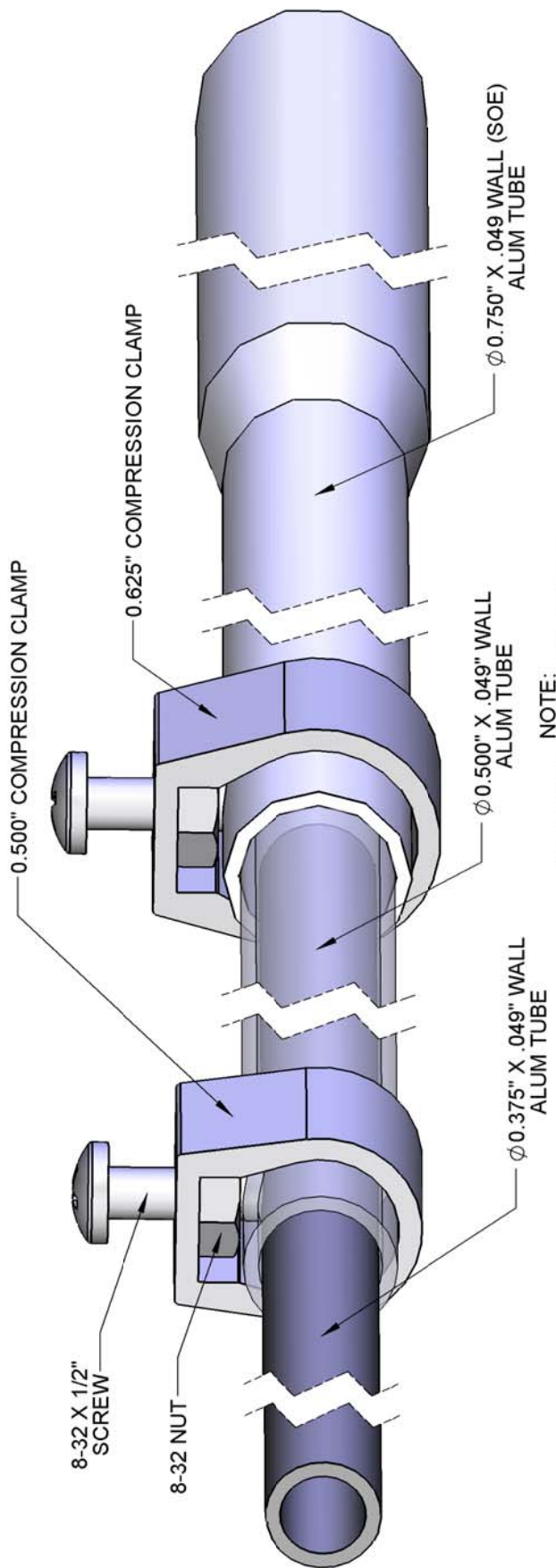
Carefully designed and manufactured by:

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6M11JKV DIMENSION SHEET



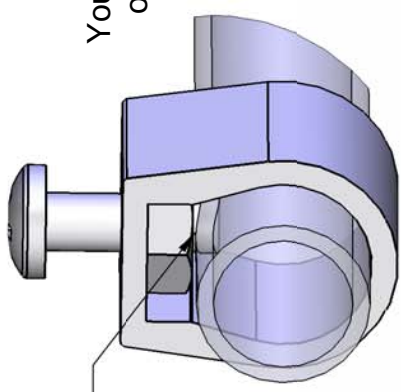
GENERIC COMPRESSION CLAMP DETAIL



NOTE:
TUBES SHOWN TRANSPARENT
TO SHOW MORE DETAIL

NOTE:

Generic layout to show
how compression clamps work.
Your antenna may have one or the other
or may even have both compression
clamp sizes.



NOTE:
8-32 X 1/2" SCREW
PRESSES ON INNER TUBE

NOTE: INSIDE TUBE NOT SHOWN FOR CLARITY

6M11JKV PARTS & HARDWARE

DESCRIPTION	Qty
Boom section, 2" x .058 x 68" straight	1
Boom section, 2" x .058 x 120" straight	1
Boom section, 2.5" x .065 x 120" SOE	2
Boom section, 3" x .125 x 144" straight	1
Boom section, 3" x .125 x 144" SBE.....	2
Element section, 3/4" x 48" TYPE I	8
Element section, 3/4" x 48" TYPE II	3
Element tip sections, 1/2" x .049 x See Dimension sheet	22
'T' match Assembly	1
Balun, RG-6U, 1/2 wavelength	1
Ring clamp, 2"	4
Ring clamp, 2.5"	3
Saddle clamp, 3".....	8
Boom to mast plate, HD 8 x 8x x1/4" (2"HD X 3"U-BOLTS).....	1
Aircraft cable, 1/8" for outer rear overhead guy 29 ft.....	1
Aircraft cable, 1/8" for outer front overhead guy 32 ft.	1
Aircraft cable, 1/8" for inner overhead guys 18 ft.....	2
Turnbuckle plate, 2 x 5 x .188 alum.....	2
Turnbuckles, 1/2" forged.....	2
Turnbuckles, 3/8" ss	2
U-bolt and cradle, 3"	2
U-bolt and cradle, heavy duty 2".....	4
U-bolt and cradle, standard 2"	2
Assembly Instructions.....	1

IN HARDWARE BAG.....	Qty
Cable clips, for 1/8" cable	8
Cable eyes, 1/8"	4
Shorting bars, 1/2" x 1" x 4.375", machined alum.....	2
Nut, 3/8-16 ss	16
Lockwasher, 3/8" split ring, ss	16
Nut, 5/16-18 ss	4
Lockwasher, 5/16", split ring, ss	4
Bolt, 1/4-20 x 4-1/2" ss	8
Bolt, 1/4-20 x 3-1/2" ss	4
Bolt, 1/4-20 x 3-1/4" ss	4
Bolt, 1/4-20 x 2-3/4" ss	4
Bolt, 1/4-20 x 2-1/4" ss	1
Bolt, 1/4-20 x 1-3/4" ss	14
Bolt, 1/4-20 x 1" ss.....	7
Nut, 1/4-20 locking, ss	29
Lockwasher, 1/4" split ring, ss	1
Set screw, 8-32 x 1/4" internal Allen head, ss	4
Screw, 8-32 x 1-1/4" ss.....	2
Screw, 8-32 x 1" ss.....	44
Locknut, 8-32 ss	46
Nylon tie, large black, 11"	5
Nut Seals	2
Zinc Paste, 1 Oz.....	1