



M2 Antenna Systems, Inc.

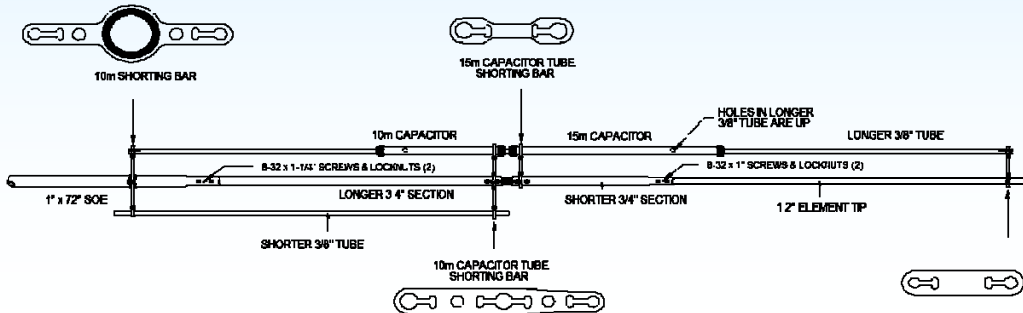
Model No: KT34M2



10m		
f, MHz	G, dBi	F/B, dB
28.0	7.3	18
28.2	7.3	23
28.4	7.4	25
28.6	7.5	24
29.2	7.6	20

15m		
f, MHz	G, dBi	F/B, dB
21.0	6.9	19
21.1	6.9	22
21.2	7.0	24
21.3	7.0	24
21.45	7.1	23

20m		
f, MHz	G, dBi	F/B, dB
14.0	6.5	17
14.1	6.6	24
14.2	6.7	21
14.35	6.8	23



SPECIFICATIONS:

Model	KT34M2	Input Connector	SO-239, Others avl.
Frequency Range.....	14.0-14.350 MHz	Power Handling	3 kW, Higher avl.
Frequency Range.....	21.0-21.450 MHz	Boom Length / Dia.....	16' / 3.0 x .065 Wall
Frequency Range.....	28.0-29.0 MHz	Element Length / Dia.....	25' / 1" To 1/2"
*Gain in free space.....	See Chart	Turning Radius:	15'
Front to back	See Chart	Stacking Distance.....	37' To 43'
Feed type	"T" Match	Mast Size.....	2" to 3" Nom.
Feed Impedance.	50 Ohms Unbalanced	Wind area / Survival	4.5 Sq. Ft. / 100 MPH
Maximum VSWR.....	1.5:1	Weight / Ship Wt.....	40 Lbs. / 62 Lbs.

***Subtract 2.14 from dBi for dBd**

FEATURES:

The KT34M2 is now the best performing and strongest short tribander available today. All four elements resonant on each band. A dual driven element allows a beautiful flat match, broad gain, and high front to back curves across 10, 15, and 20M. A 3kW 4:1 balun efficiently matches the antenna to 50Ω. All sheet metal parts has been upgraded to our new machined shorting bars, stiffening and strengthening the antenna noticeably. The long term performance is enhanced by the total contact machined joints. This antenna will be competitive with most monobanders! Be surprised, get the NEW KT34M2.

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05/26/15
 Rev.01

KT34M2 ASSEMBLY MANUAL

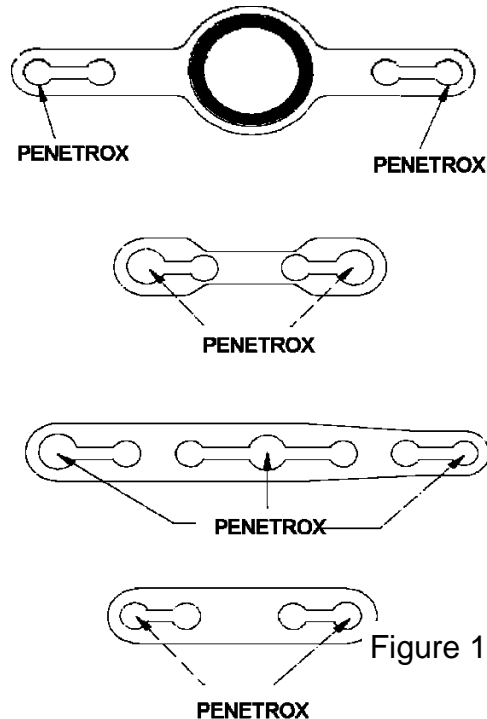
Tools: Phillips head screw driver, 'green', 11/32" nut driver, 7/16" wrench, 7/16" socket, socket wrench, tape measure, and a friend.

NOTE: To prevent galling of the stainless steel hardware, apply a light coating of Penetrox to all bolts and screws. The term 'SWAGE' refers to a physical reduction made in one diameter of tubing in order to fit into or over another.

1. SHORTING BARS

Included with this kit are five different shorting bars, pictured in Figure 1. First locate the 10m shorting bars and shorting bar insulators (black or white). For each 10m shorting bar press a single shorting bar insulator into the large hole. This can be done initially with a vise or with a hammer and a block of wood. After the insulator has been partially set into the hole, take two element clamp plates and center the shorting bar on top of the two plates. Now place the block of wood on top of the insulator and give a final strike. You should hear a snap. This

is the indication that the insulator has been secured. Next install the 8-32 hardware listed to the right of each part into each respective shorting bar. Remember to apply a light coating of Penetrox to the threads of each screw. Finger tighten each locknut for now. Locate the small container of Penetrox and for each shorting bar, apply a light coating to the walls as indicated in the figure.



8-32 x 1" SCREW (2)
8-32 LOCKNUT (2)

8-32 x 1" SCREW (2)
8-32 LOCKNUT (2)

Figure 1

2. CAPACITOR TUBE ASSEMBLY

There are three sizes of capacitor tubes. Tube sizes 8", 9" and 10" are for the 10m capacitor while the 16" pieces are for 15m. **NOTE: THESE CAPACITOR TUBE SHOULD BE VERY CLEAN INSIDE. PUSH KLEENEX OR EQUIVALENT THROUGH AS REQUIRED TO REMOVE CHIPS, OIL ETC.** Locate the bag of capacitor caps. As shown in Figure 2, starting with the 8" tube, slide on the long 10M shorting bar about an inch. Then lay a capacitor cap on a flat surface and with your own weight/strength, press on a cap. Turn the tube over, and install another cap. Each capacitor cap will engage the 3/4" tube 3/8"(.375) so a measurement can be taken to

insure complete engagement of the caps to the tube, simply measure between the inside edge of the two installed caps, it should be 5/8"(.625) to 3/4"(.750) shorter than the capacitor tube being measured. Repeat this procedure for the 9" and 10" capacitor tubes. For the 16" tubes follow the same procedure but slide on a different shorting bar as shown in the figure.

KT34M2 CAP ASSEMBLY

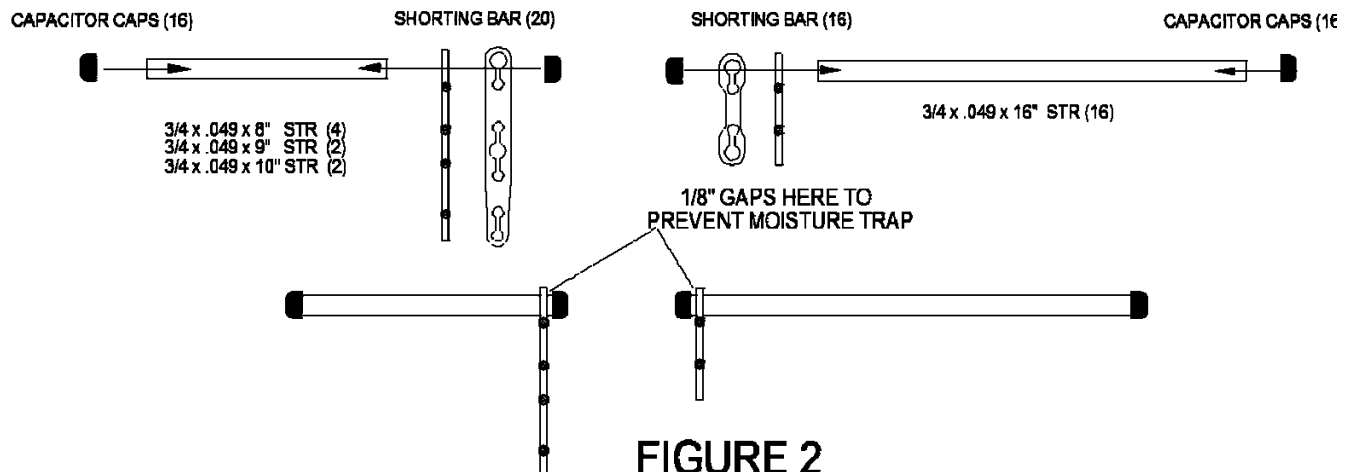


FIGURE 2

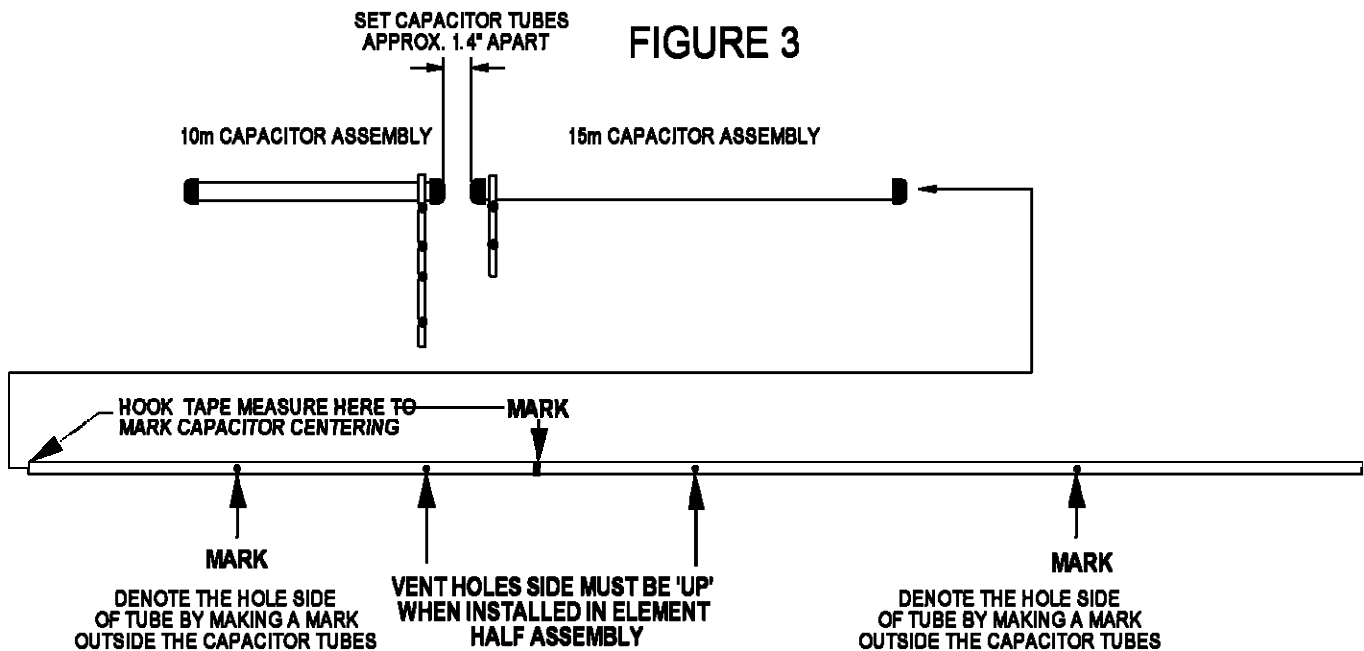
KT34M2 ASSEMBLY MANUAL

3. CAPACITOR ASSEMBLIES ONTO LONGER 3/8" TUBES

Locate the (8) longer 3/8" diameter tubes. Upon inspecting the tubes, you'll notice there are two holes drilled on one side only. These holes equalize the atmospheric pressure in the capacitors and prevent moisture build up inside the capacitor tubes. Denote the hole side of the tube by making a identifying mark NEAR the tube end, with a pen or marker. Following the information in Table 1, make another mark on the hole side of the tube indicating the location of where to initially center the two capacitor tubes (about 1/4" apart) As shown in Figure 3 below, make this measurement from the side that has the shorter distance from hole to tube end. Now pair up the capacitor assemblies with the correct 3/8" tube sizes using the first three columns of Table 1.

TABLE 1

ELEMENT	10m CAPACITOR TUBE	15m CAPACITOR TUBE	3/8" DIA. TUBE	CENTER CAPACITOR TUBES ON 3/8" DIA TUBE
REFLECTOR	10"	16"	80"	29"
REAR DRIVEN	9"	16"	80"	28"
FRONT DRIVEN	8"	16"	74"	28"
1ST DIRECTOR	8"	16"	72"	26-1/2"



For each set of capacitor tube assemblies and 3/8" tubes, insert the 3/8" tube as shown in Figure 3 into the back end of the 15m capacitor assembly. Move the capacitor up the length of the tube until the face of the black capacitor cap ON THE SHORTING BAR SIDE of the capacitor assembly is within 1/4" from the mark you made. Now slide on the 10m capacitor tube assembly up the length of the tube in the same fashion, making sure that the face of the capacitor cap is at the mark. There should now be about 1/4" separation distance between the two capacitor assemblies. If the caps are tight together moisture can stay there a long time increasing the chance for water to migrate inside the capacitor. This is bad as water in any capacitor will cause VSWR problems.

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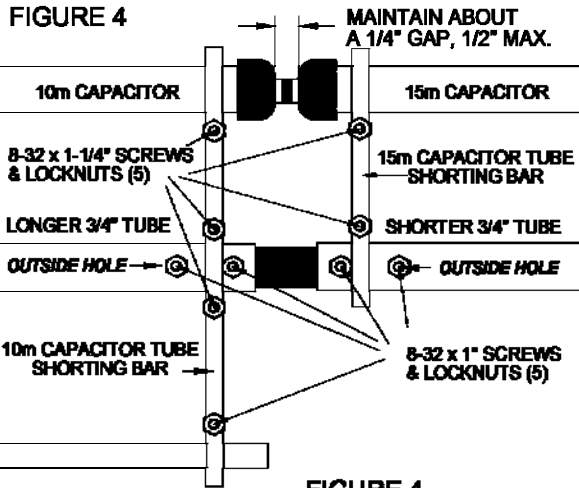


FIGURE 4

4. GENERAL ASSEMBLY OF HALF ELEMENT SECTIONS

We recommend assembling the half element sections on a clean, flat surface. There is an “DIMENSION/ ASSEMBLY” drawing for each of the four elements with both the right and left halves shown on each page. We also recommend briefing yourself with the general directions before skipping to the assembly drawings.

The general assembly procedure for a half element section begins with laying each capacitor assembly on a level surface, with the 10m capacitor tube on the left hand side. Locate the two swaged 3/4” diameter tubes and the 5/8 x 6” fiberglass rod. **NOTE: BE SURE TO USE THE CORRECT LENGTH 3/4” SECTIONS MATCHING UP WITH THE 10M CAPACITOR LENGTH.** Insert the fiberglass rod into the LIGHTLY swaged end side of the longer 3/4” section. Align the two holes and secure loosely with a single 8-32 x 1” screw and lock nut in the **outer hole** as shown in Figure 4. Next slide the

other end of the fiberglass rod into the center hole of the 10M shorting bar connected to the 10m capacitor. Now slide the lightly swaged end of the shorter 3/4” x 12” tubing through the hole of the shorting bar connected to the 15m capacitor tube. Secure with a single 8-32 x 1” screw and locknut, again through the “OUTER HOLE” in the figure. Now insert the inner two 8-32 x 1” screws and locknuts, and tighten LIGHTLY. NOTE: IF YOU OVER TIGHTEN, YOU MAY NOT BE ABLE TO MOVE THE SHORTING BARS TO THE FINAL POSITION. Slide the two shorting bars right up against the two inner locknuts as shown. Now tighten all four inner and outer screws and locknuts. Position the capacitor tube assembly so that the gap rests in between the two shorting bars and MAKE SURE THE MARKS YOU MADE ON THE 3/8” TUBE ARE UP. Tighten all of the 8-32 hardware installed to this point.

Locate the appropriate 1/2’ element tip section and insert the end with two holes into the 3/4 x 12” swaged end. Secure the 1/2” tip with two 8-32 x 1” screws and locknuts. With a tape measure hooked to the inner edge of the 15m capacitor tube shorting bar, make a mark on the 3/8” tube at the dimension called out for the 15m shorting bar. Slide the 15m shorting bar onto the 3/8 and 1/2” tube and set the inner edge of the bar to the mark. Install

KT SERIES HALF ELEMENT DETAIL

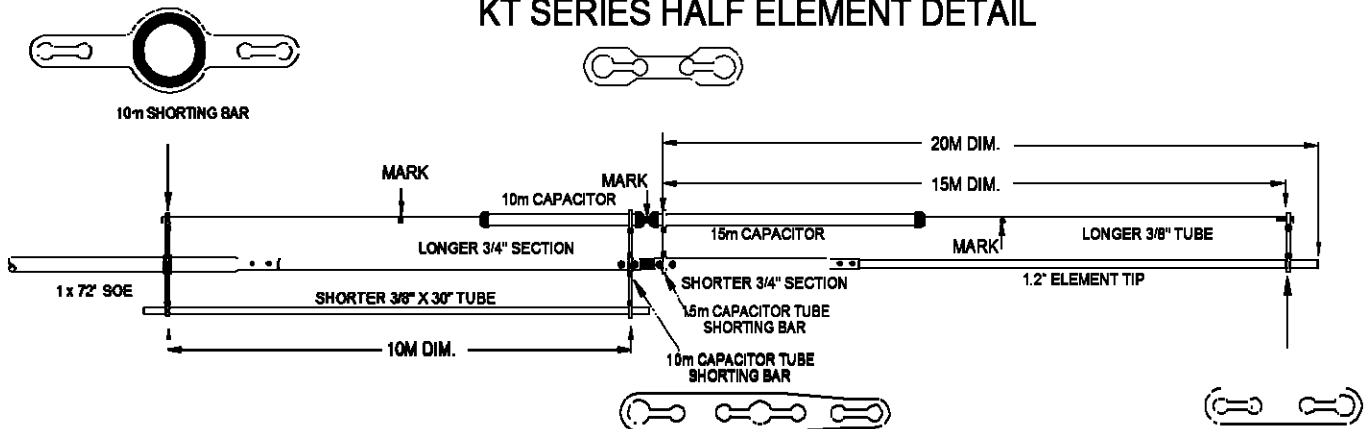


FIGURE 5

two 8-32 x 1” screws, add locknuts, align with the other two bars, and tighten.

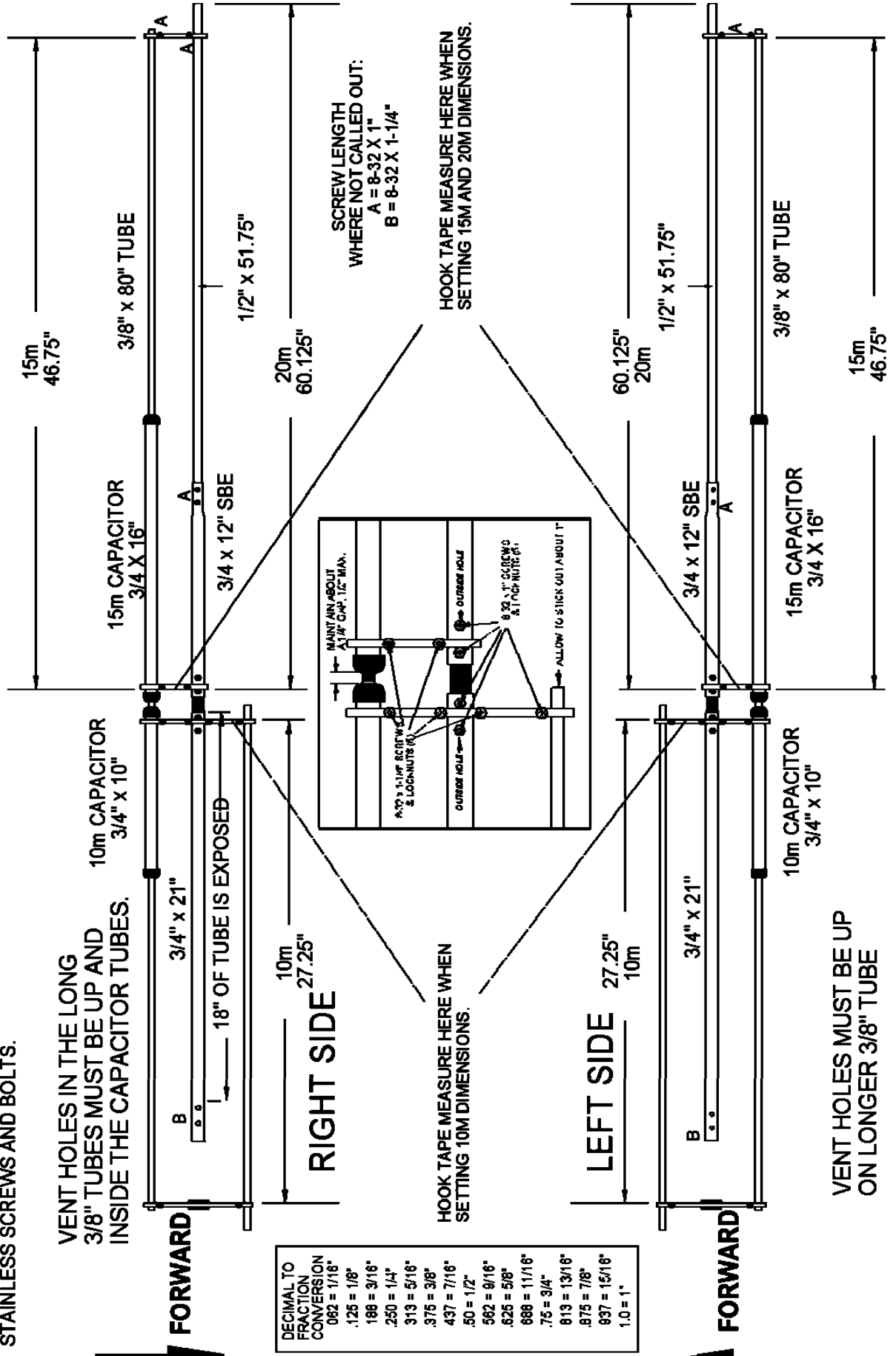
Locate the 10m shorting bar and the shorter 3/8” tube. Using a tape measure connected to the inner edge of the 10m capacitor tube shorting bar, mark the dimension called out for the 10m shorting bar. Slide on the 10m shorting bar, set the inner edge to the mark and tighten the top 8-32 screw. Now insert the shorter 3/8” tube through the other hole on the 10m shorting bar and into the free hole on the 10m capacitor tube shorting bar. Allow the tube to extend 1” past the shorting bar connected to the 10m capacitor and tighten the 8-32 hardware on both of the shorting bars.

Using the general directions above and the four TIP DIMENSION assembly drawings, proceed in fabricating the 8 half element sections. After double checking your dimensions and making sure that your elements are labeled correctly proceed to the next step.

KT34M2 ASSEMBLY MANUAL

KT34M2 REFLECTOR TIP DIMENSIONS TOP VIEW

*ASSEMBLE ON A FLAT SURFACE
*MAKE SURE THE SMALL "VENT"
HOLES IN THE LONG 3/8" TUBES
ARE UP BY MARKING THE TUBE
OUTSIDE THE CAPACITORS.
*USE PENETROX OR OIL ON ALL
STAINLESS SCREWS AND BOLTS.



DECIMAL TO FRACTION CONVERSION
.062 = 1/16"
.125 = 1/8"
.188 = 3/16"
.250 = 1/4"
.313 = 5/16"
.375 = 3/8"
.437 = 7/16"
.50 = 1/2"
.562 = 9/16"
.625 = 5/8"
.688 = 11/16"
.75 = 3/4"
.813 = 13/16"
.875 = 7/8"
.937 = 15/16"
1.0 = 1"

KT34M2 ASSEMBLY MANUAL

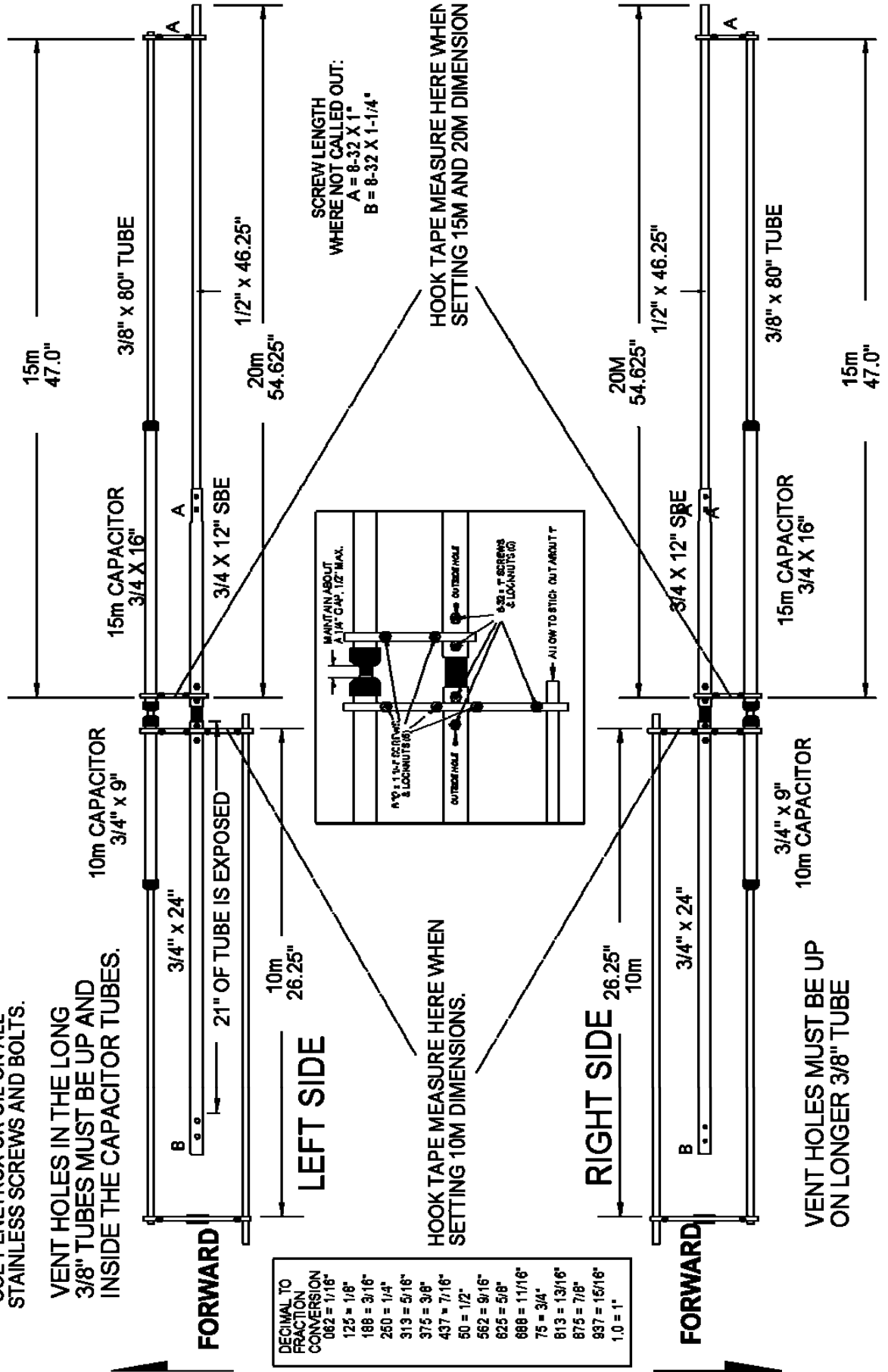
KT34M2 REAR DRIVEN TIP DIMENSIONS

TOP VIEW

*ASSEMBLE ON A FLAT SURFACE
 *MAKE SURE THE SMALL "VENT" HOLES IN THE LONG 3/8" TUBES ARE UP BY MARKING THE TUBE OUTSIDE THE CAPACITORS.
 *USE PENETROX OR OIL ON ALL STAINLESS SCREWS AND BOLTS.

VENT HOLES IN THE LONG 3/8" TUBES MUST BE UP AND INSIDE THE CAPACITOR TUBES.

VENT HOLES MUST BE UP ON LONGER 3/8" TUBE

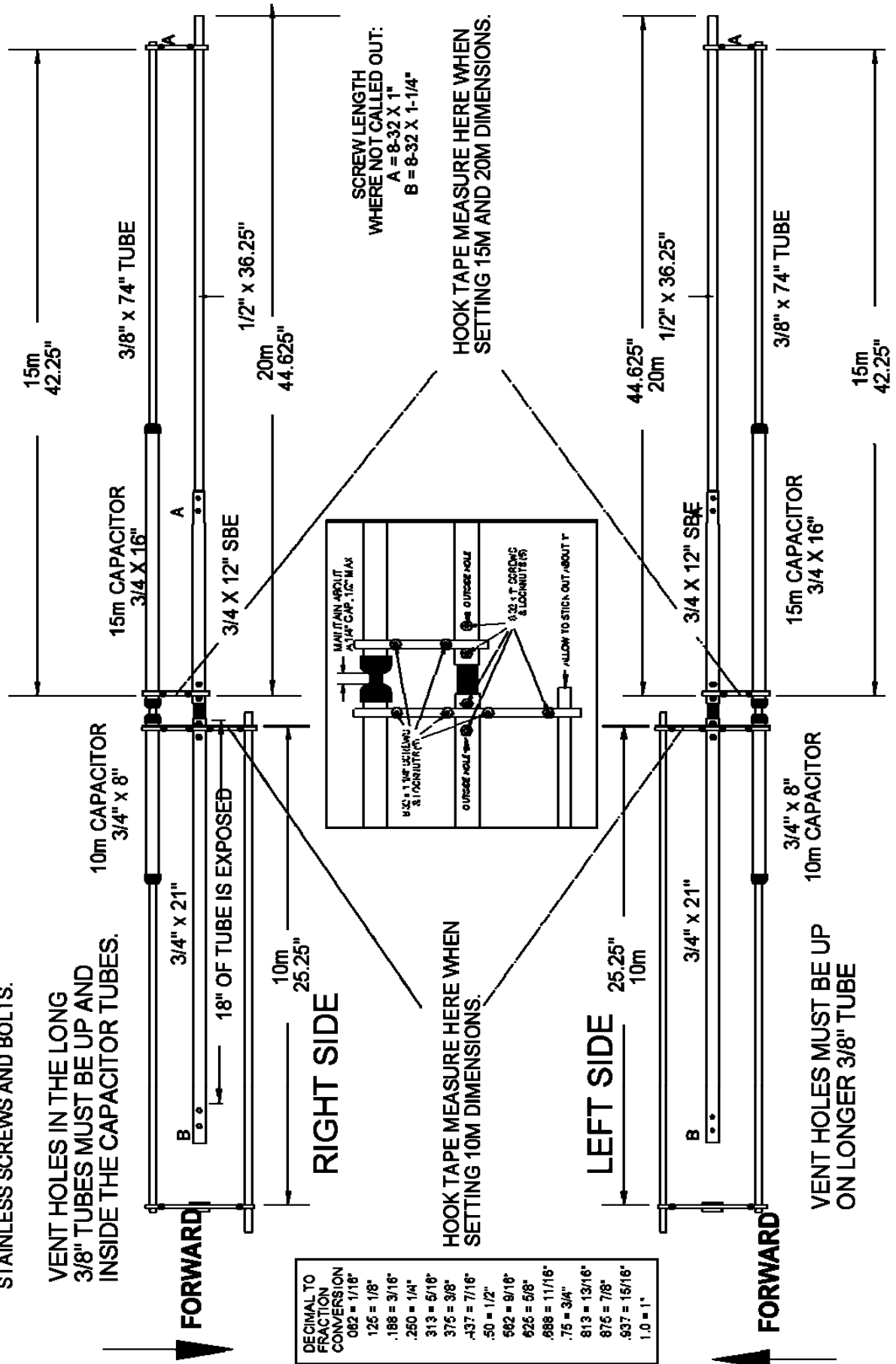


DECIMAL TO FRACTION CONVERSION
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250 = 1/4"
313 = 5/16"
375 = 3/8"
437 = 7/16"
50 = 1/2"
562 = 9/16"
625 = 5/8"
688 = 11/16"
75 = 3/4"
813 = 13/16"
875 = 7/8"
937 = 15/16"
1.0 = 1"

KT34M2 ASSEMBLY MANUAL

KT34M2 FRONT DRIVEN TIP DIMENSIONS TOP VIEW

- *ASSEMBLE ON A FLAT SURFACE
- *MAKE SURE THE SMALL "VENT" HOLES IN THE LONG 3/8" TUBES ARE UP BY MARKING THE TUBE OUTSIDE THE CAPACITORS.
- *USE PENETROX OR OIL ON ALL STAINLESS SCREWS AND BOLTS.



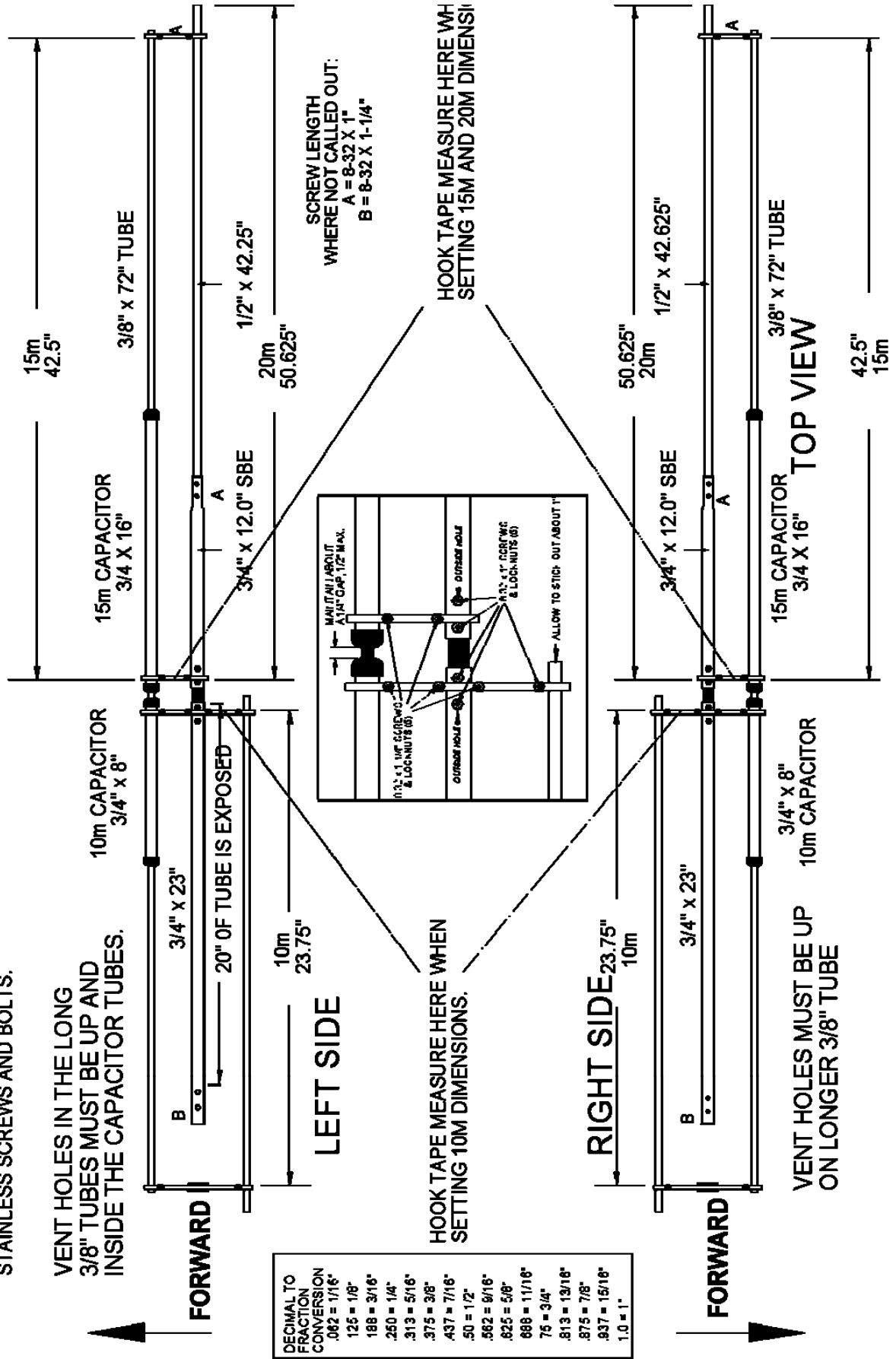
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.75 = 3/4"
.813 = 13/16"
.875 = 7/8"
.937 = 15/16"
1.0 = 1"

KT34M2 ASSEMBLY MANUAL

KT34M2 1ST DIRECTOR TIP DIMENSIONS TOP VIEW

- *ASSEMBLE ON A FLAT SURFACE
- *MAKE SURE THE SMALL "VENT" HOLES IN THE LONG 3/8" TUBES ARE UP BY MARKING THE TUBE OUTSIDE THE CAPACITORS.
- *USE PENETROX OR OIL ON ALL STAINLESS SCREWS AND BOLTS.

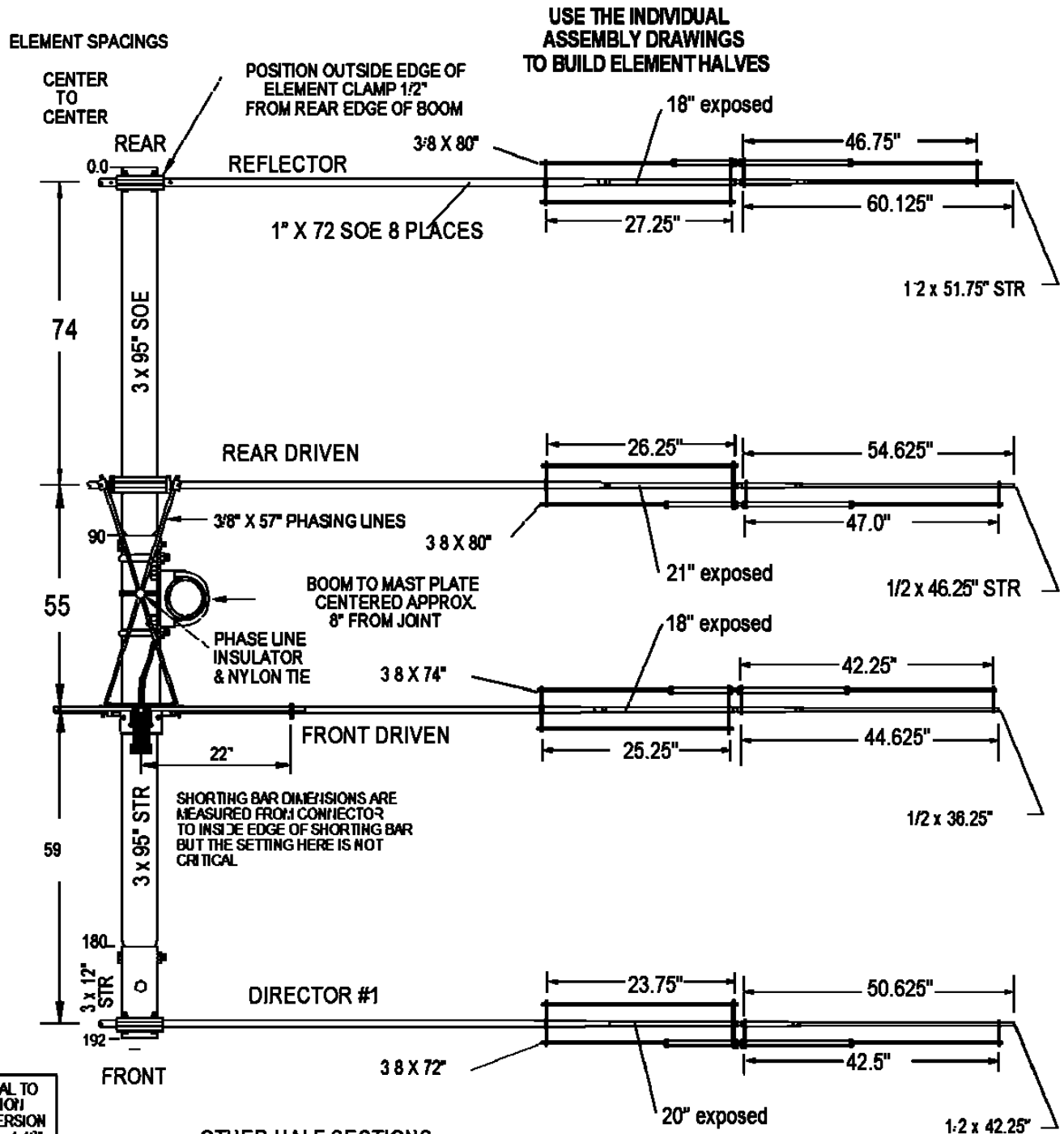
VENT HOLES IN THE LONG 3/8" TUBES MUST BE UP AND INSIDE THE CAPACITOR TUBES.



DECIMAL TO FRACTION CONVERSION
.062 = 1/16"
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VENT HOLES MUST BE UP ON LONGER 3/8" TUBE

KT34M2 DIMENSION SHEET



DECIMAL TO FRACTION CONVERSION

.062	= 1/16"
.125	= 1/8"
.188	= 3/16"
.250	= 1/4"
.313	= 5/16"
.375	= 3/8"
.437	= 7/16"
.50	= 1/2"
.562	= 9/16"
.625	= 5/8"
.688	= 11/16"
.75	= 3/4"
.813	= 13/16"
.875	= 7/8"
.937	= 15/16"
1.0	= 1"

OTHER HALF SECTIONS REMOVED FOR CLARITY

TO PREVENT GAULING OF THE STAINLESS STEEL HARDWARE, APPLY A LIGHT COATING OF PENETROX OR OIL TO THE THREADS OF ALL BOLTS AND SCREWS

TERMS:
 STR: STRAIGHT PIECE OF TUBING
 SOE: SWAGED ONE END
 SBE: SWAGED BOTH ENDS
 SWAGE: A PHYSICAL REDUCTION MADE IN ONE DIAMETER OF TUBING IN ORDER TO FIT INTO ANOTHER.

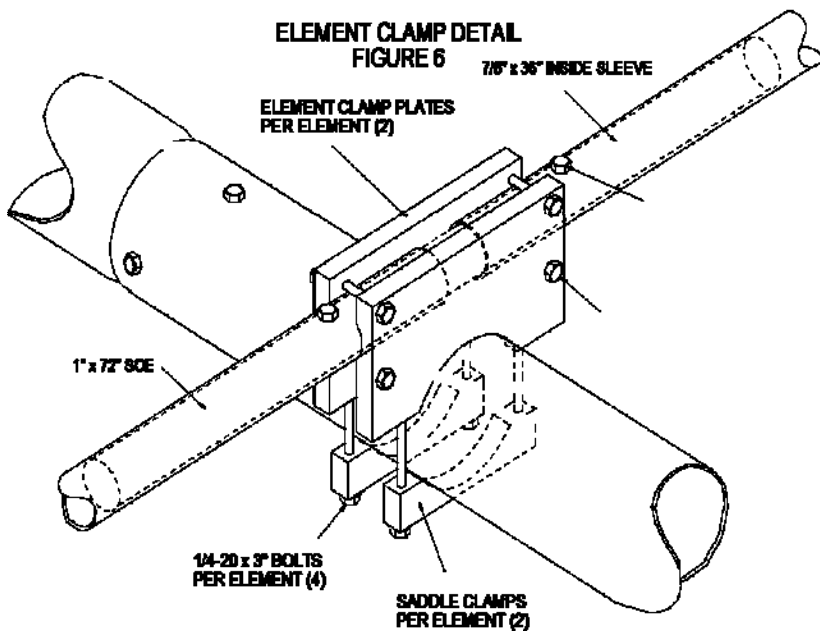
KT34M2 ASSEMBLY MANUAL

5. HF CLAMP PLATE PAIR ASSEMBLY

Locate the 8 element clamp plates, the Balun 'L'-Bracket, 2-1/2" U-bolt & Saddle, and element clamp cap. Assemble the plates into four pairs with the radii facing each other using four 1/4-20 x 2" bolts. On one of the 'alike'-pair combinations, attach the Balun 'L'-Bracket to the outside clamp plate with the flat side up and higher than the plates. Install the 2-1/2" U-bolt & Saddle combination on the top side of the 'L'-Bracket and add the 5/16" nuts and lockwashers. This assembly will be used for the FRONT DRIVEN ELEMENT. Finger tighten all the hardware.

6. FRONT AND REAR DRIVEN ELEMENT ASSEMBLY

Take the element clamp plate pair assembly for the FRONT DRIVEN ELEMENT (previous step) and one of the 'alike' element clamp pairs, and for both insert a 7/8 x 14-3/4" fiberglass rod through the plates. Orient the four holes up and make sure the rod is centered. Tighten the four bolts evenly on the clamp plates. Locate the four 7/8" poly disc insulators. Slide a poly disc onto both ends of each 7/8" fiberglass rod and position them right up against the element clamp plates. They are supposed to be tight so if the discs won't fit onto the rod, try soaking them in HOT water for a few minutes. Locate four of the 1 x 72" SOE (swaged one end) tubes. Select two to be used for the FRONT DRIVEN ELEMENT. Locate the two 'T'-match shorting bars and slide one about 2 feet onto each of the straight ends of the 1" tubes you have selected. The other pair of 1 x 72" SOE tubes will be for the REAR DRIVEN ELEMENT. For all four 1" tubes, slide the straight ends on both sides of the two fiberglass rods. Align the holes, insert two 1/4-20 x 2" bolts up through the bottom, and temporarily lay the two assemblies flat.



Locate the eight 3/8" clamp blocks. Spread a little Penetrox on each clamp block face. Slide two clamp blocks with their faces towards one another onto the 1/4-20 bolt posts on each element assembly and thread on the 1/4-20 locknuts. Do not tighten the locknuts at this time.

7. REFLECTOR, AND DIRECTOR #1 INNER SECTION ASSEMBLY

Locate the remaining four 1 x 72" SOE (swaged one end) tube sections and the two 7/8 x 36" aluminum center sleeves. With the two remaining pairs of element clamp plates, insert a 7/8" center sleeve and slide onto both sides of the sleeve, a 1 x 72" tube section. Align the two holes and secure with 1/4-20 x 1-1/2" bolts and locknuts. Orient the tubes so that the locknuts are down and centered. Tighten the 1/4-20 hardware evenly. A gap between the two tube sections is normal.

8. BOOM ASSEMBLY

Prior to assembling the boom, inspect each mating surface and holes for any metal chips or burrs. Apply a light coating of PENETROX to the swaged ends of each piece. Using the DIMENSION SHEET as a guide, lay out the three 3" pieces as shown. Note that the single straight section is the FRONT end of the antenna. Now assemble the boom and secure the pieces together with 1/4-20 x 3-1/2" bolts and locknuts. Tighten until no movement is felt at each joint.

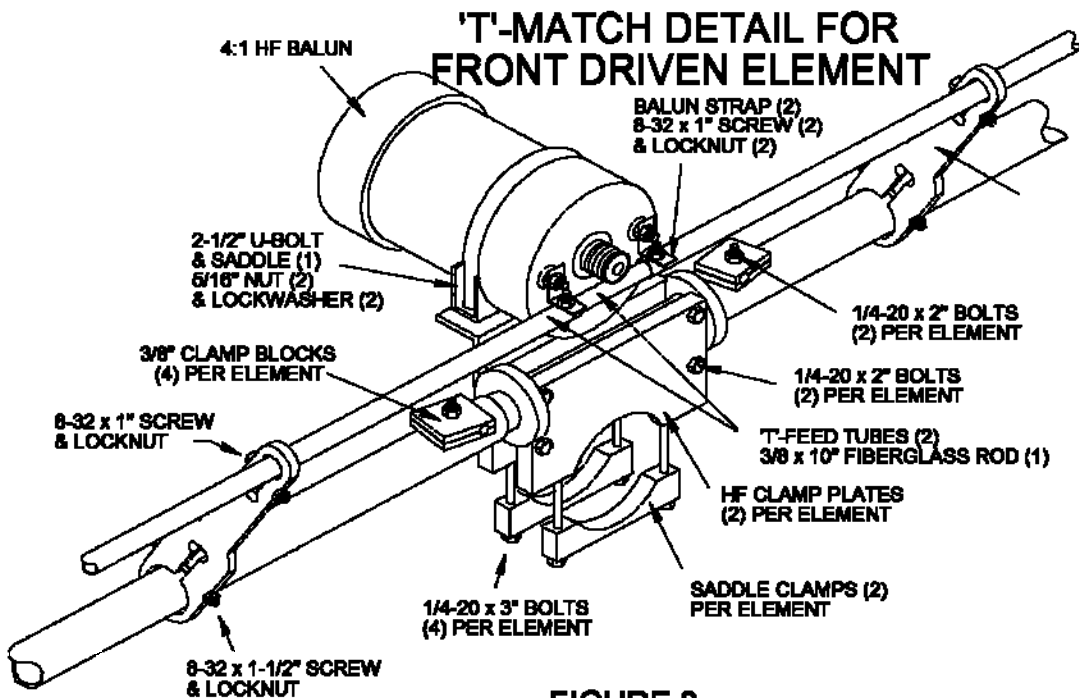
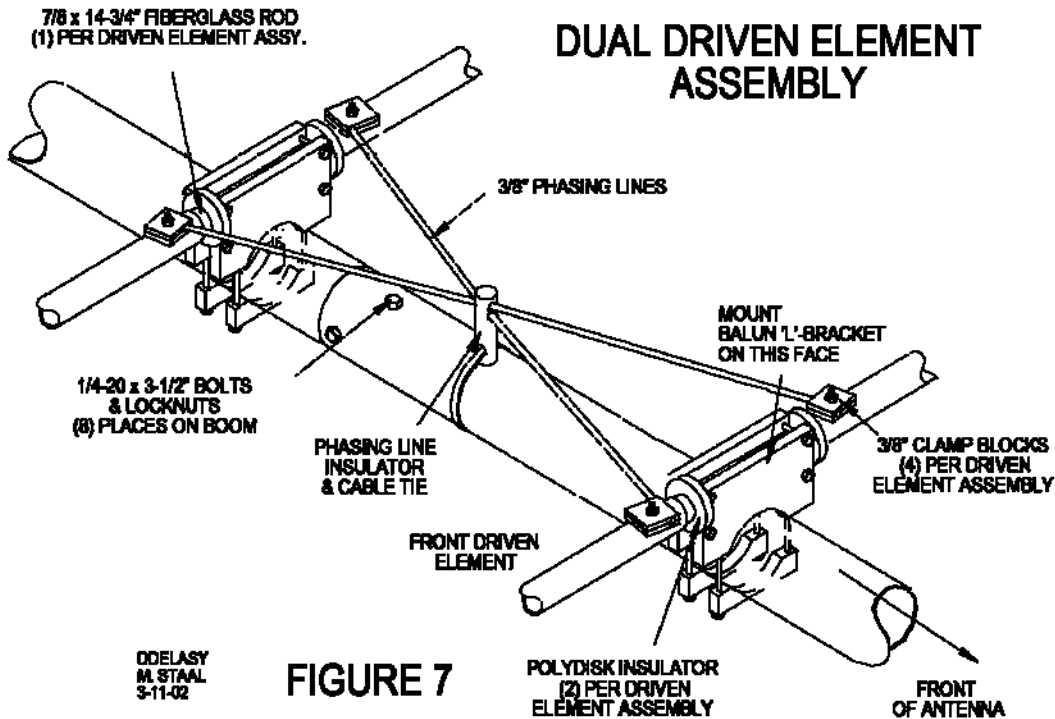
9. ELEMENT INSTALLATION

We advise that you elevate the antenna boom onto a couple of sawhorses or bucks for the remaining assembly steps. Use the DIMENSION SHEET as a guide to properly install the elements onto the boom. If you have not labeled which side of the element faces towards the front of the antenna, you will want to pay close attention to the DIMENSION SHEET. In fact, you might want to label them now. You also might want to have a friend handy to keep the antenna from moving on you.

Place the REFLECTOR ELEMENT onto the boom in the orientation shown on the DIMENSION SHEET. Set the outside edge of the element clamp plate 2-1/2" from the rear of the boom. Locate two 3" saddles, apply zinc paste or grease to the threads and insert two 1/4-20 x 3" bolts through each of the holes. Next attach the two saddles to the underside of the element clamp plates, and lightly tighten the entire assembly, so the element won't move. Using a tape measure hooked to the outside edge of the clamp plate facing the rear, mark off the

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location for the outside edge of the element clamp on the REAR DRIVEN ELEMENT assembly with a marking pen or pencil. Install the REAR DRIVEN ELEMENT as you did for the REFLECTOR. Make sure you follow the element placement on the DIMENSION SHEET. Continue installing the rest of the elements in the same fashion. After all of the elements have been installed take a couple of steps back and look down from the end of the antenna. Check to see if the elements are lined up with one another. If any need to be fixed, simply loosen the saddles, straighten, and re-tighten.



10. INSTALLATION OF PHASING LINES (see figure 7)
Locate the two 3/8" tube phasing lines, the phasing line insulator, and one cable tie. Insert both tubes into the two holes on the insulator. Temporarily loosen the 1/4-20 locknuts located on the FRONT and REAR DRIVEN

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ELEMENTS and slide each phasing line into one pair 3/8" clamp blocks. Allow the ends of the phasing lines to TEMPORARILY stick out 4" past the ends of the clamp blocks. Now pull the phasing lines back, guiding them into the clamp block set on the other driven element. Now re-tighten the four 1/4-20 locknuts. Set the insulator about midway between the two elements and secure it with large nylon tie inserted through the bottom hole and around the boom. TIP: (For maximum life of the cable tie, cover the tie with 2 to 3 wraps of Scotch 33 or equivalent black electricians tape).

11. BALUN INSTALLATION

Refer to the figures 6 and 7 on DUAL DRIVEN AND T-MATCH ASSEMBLY for this procedure.

Loosen the 2-1/2" U-bolt on the L-bracket and insert the 4:1 HF Balun with the connector facing towards the front of the antenna. MOUNT WITH THE DRAIN HOLE DOWN. Position the Balun so that the U-bolt hits the edge of the front cap. Now tighten the U-bolt just enough to hold firmly in place. BE CAREFUL! Over tightening might crack the case of the Balun. Remove the wire balun leads shipped with the balun and install the "L" shaped straps on each of the balun mounting posts. (shorter side).

12. 'T'-MATCH INSTALLATION

Refer to figure 6 on DUAL DRIVEN AND T-MATCH ASSEMBLY for this procedure.

Locate the two 1/2 x 23-1/2" 'T'-Feed tubes and 3/8 x 10" fiberglass insulator. Install the 3/8" fiberglass insulator into one of the 1/2" 'T'-feed tubes. Align the holes and temporarily secure with a 8-32 x 1" screw. Now feed the undrilled ends of both 'T'-feed tubes into the two 'T'-match shorting bars. Slide one of them back so you can install the other end of the 3/8" fiberglass rod into the other 1/2" tube. Align the holes and secure with another 8-32 x 1" screw. With all of the hardware loose, rotate the entire 'T'-Match assembly up so that the two 8-32 screws fit right into the two Balun straps. Secure the two 8-32 screws with two 8-32 locknuts. Now set the two shorting bars to the dimensions shown on the DIMENSION SHEET and tighten all the hardware.

13. Now it is time to install the completed tip sections. Refer to the main overview of the antenna called the "KT34M2 DIMENSIONS SHEET". Paying close attention to the DIMENSION SHEET, and the ORIENTATION of the CAPACITORS, insert the individual element halves for the REFLECTOR into the swaged ends of the 1 x 72" tubes. Secure them with 8-32 x 1-1/4" screws and locknuts and tighten securely.

14. Now move on to the REAR DRIVEN ELEMENT TIPS AND **BE CAREFUL!** This element is not installed in the same orientation as the REFLECTOR. Add the hardware and tighten as before.

15. Continue by adding the FRONT DRIVEN ELEMENT TIPS and then the DIRECTOR TIPS. Secure them with 8-32 x 1-1/4" screws and locknuts as before and tighten all hardware.

16. BOOM TO MAST PLATE INSTALLATION

Locate the boom to mast plate, 3" U-bolts & saddles, and 2" U-bolts & saddles. Install the four 2" U-bolts on one side of the boom to mast plate. Center the plate at the location shown on the DIMENSION SHEET, and install it using the 3" U-bolts, saddles, 3/8" nuts, and lockwashers. If possible, attach the feedline to the balun and route it back to near the boom to mast plate and secure. Seal the connector with black tape, coax seal or equivalent. A 3" U-bolt pattern exists should you need to mount the antenna to a 3" mast.

This completes the ASSEMBLY. REMEMBER to support the feedline at the antenna boom and on the mast. Leave an adequate feedline loop for rotation around the tower.

REMEMBER YOU CANNOT STACK A TRIBAND BEAM WITH ANOTHER ANTENNA WORKING ON THE SAME BAND AS THE TRIBANDER. Serious interaction will result and loss of performance of both antennas maybe noted. Two KT34M2 tribanders can be stacked together but the spacing must be at least 32 feet apart. When stacking this antenna with other H.F. models like 17 and 12 meters, maintain at least 8' separation; more if practical. Mount horizontally polarized 2M VHF and UHF antennas at least 40" above or below this antenna to minimize interaction. We have noticed that large 2 wavelength (40 foot) long 6M Yagis even stacked at 10 feet above will interact and can cause some loss of front to back on the tribander.

Carefully designed and manufactured by:

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

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KT34M2 PARTS & HARDWARE

DESCRIPTION	QTY
Boom section, 3"x .065 x 95" SOE, holes in swage.....	1
Boom section, 3" x .065 x 95" SOE, holes both end.....	1
Boom section, 3" x .065 x 12"	1
Element, 1" x 72 SOE.....	8
Sleeve, center, 7/8 x .058 x 36"	2
Element, 3/4 x .049 x 24", SOE to fit 5/8 fiberglass	2
Element, 3/4 x .049 x 23", SOE to fit 5/8 fiberglass	2
Element, 3/4 x .049 x 21", SOE to fit 5/8 fiberglass	4
Element, 3/4 x .049 x 12 SBE to fit 5/8 fg and 1/2" tube	8
Capacitor tube, 3/4 x .049 x 16"	8
Capacitor tube, 3/4 x .049 x 10"	2
Capacitor tube, 3/4 x .049 x 9"	2
Capacitor tube, 3/4 x .049 x 8"	4
Element, 1/2 x .049 x 51-3/4"	2
Element, 1/2 x .049 x 46-1/4"	2
Element, 1/2 x .049 x 42-1/4"	2
Element, 1/2 x .049 x 36-1/4"	2
T Match tubes, 1/2 x .049 x 23-1/2"	2
Linear loading tube, 3/8 x .049 x 80"	4
Linear loading tube, 3/8 x .049 x 74"	2
Linear loading tube, 3/8 x .049 x 72"	2
Phasing line tube, 3/8 x .049 x 57"	2
Linear loading tube, 3/8 x .049 x 30"	8
Fiberglass rod, 7/8 x 14-3/4".....	2
Boom to mast plate, 1/4 x 6 x 8 alum.	1
Balun, HF 4:1 standard 3 kW	1
Cable ties, large	3
Penetrox cup	1
Assembly manual	1
IN BAG #1	
Fiberglass rod, 5/8 x 6"	8
IN BAG #2 / 3	
U-bolt and saddle, 3"	2
U-bolt and saddle, 2-1/2"	1
U-bolt and saddle, 2"	2
IN BAG #4	
Element clamp plates, 3/8 x 2-1/2 x 4"	8
IN BAG #5	
Saddle clamp, 1/2 x 1" x 4", to fit 3" tube	8

KT34M2 PARTS & HARDWARE

IN BAG #6 (MISCELLANEOUS)

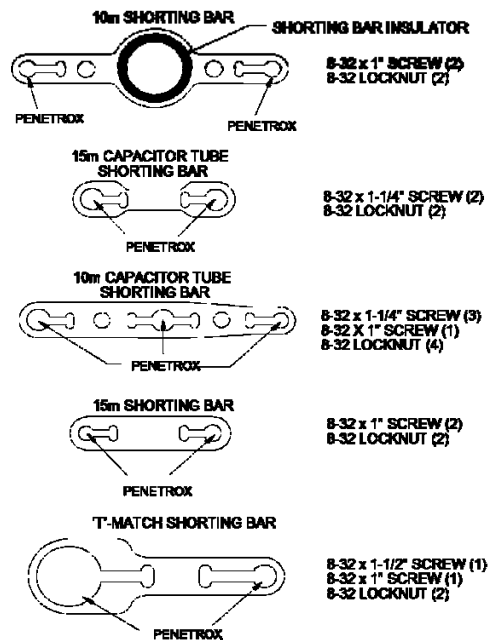
Clamp Block, 3/8"	8
Phasing Line Insulator black delrin, 3/4 x 3"	1
Balun 'L'-Bracket, 1" x 1" x 4"	1
Balun Straps	2
Fiberglass Insulator, 3/8" x 10"	1
Poly Disk Insulator, 7/8" dia. hole	4

IN BAG #7

Capacitor Caps	32
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IN BAG #8

Shorting Bar, 15m	8
Shorting Bar, 15m capacitor tube	8
Shorting Bar, 10m capacitor tube	8
Shorting Bar, 10m	8
'T' Match	Shorting bar 2



IN BAG #9

Shorting Bar Insulator, Delrin, Black 1-1/2" Dia.	8
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IN HARDWARE BAG #10

Nut, 3/8-16 ss	4
Lockwasher, 3/8" split ring ss	4
Nut, 5/16-18 ss	6
Lockwasher, 5/16" split ring, ss	6
Bolt, 1/4-20 x 3-1/2" ss.....	4
Bolt, 1/4-20 x 3" ss.....	16
Bolt, 1/4-20 x 2" ss.....	20
Bolt, 1/4-20 x 1-1/2" ss.....	4
Nut, 1/4-20 locking, ss	28

IN HARDWARE BAG #11

Screw, 8-32 x 1-1/2" ss.....	2
Screw, 8-32 x 1-1/4" ss.....	58
Screw, 8-32 x 1" ss.....	106
Nut, 8-32 locking, ss	164