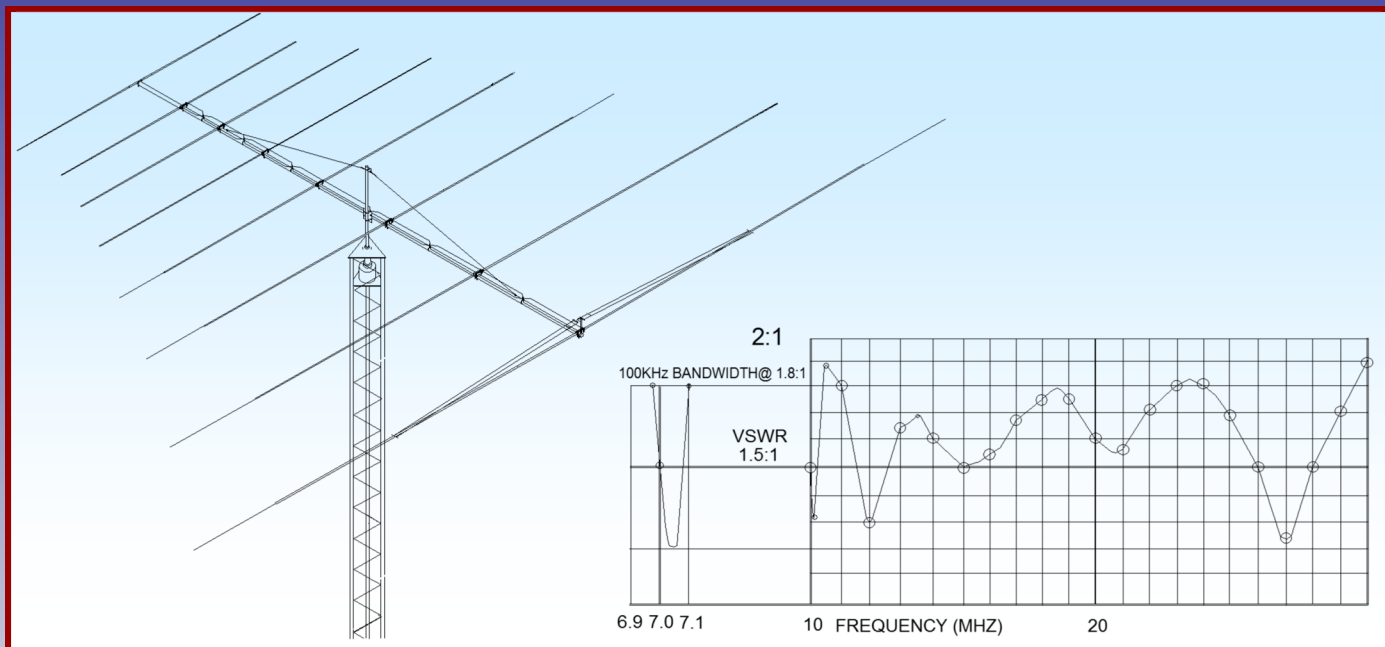




M2 Antenna Systems, Inc.

Model No: 7&10-30LP8-125



SPECIFICATIONS:

Model	7&10-30LP8-125	Input Connector	SO-239, Other avl.
Frequency Range	10-30 MHz Continuous	Power Handling	3 kW, Higher avl.
and a separate frequency tunable from 6.6 to 8.0 MHz		Boom Length / Dia	29.5' / 3.0 x .125 Wall
*Gain free space / 65'	5.2 dBi / 10.5 dBi 10-30	Maximum Element Length	49'
*Gain free space / 65'	2 dBi / 6.5 dBi 6.6-8.0	Turning Radius:	28'
Front to back	15 dB 10-30 MHz	Mast Size	2" to 3" Nom.
Beamwidth	E=70° Typical	Wind area / Survival	14.0 Sq. Ft. / 125 MPH
Feed Impedance	50 Ohms Unbalanced	Weight / Ship Wt.	130Lbs. / 161 Lbs.
Maximum VSWR	2.0:1		

***Subtract 2.14 from dBi for dBd**

FEATURES:

This special "skip frequency" hybrid log periodic is part of our rugged SURVIVOR SERIES of logs and Yagis. Aside from the fact that it will survive the worst that Mother Nature can do, it is a versatile performer. Commercial and government users need frequency agility and this antenna provides immense bandwidth and performance for the cost. For the amateur radio operator it covers **SEVEN** Amateur Bands with high efficiency and no traps! Machined aluminum element to boom clamps and solid fiberglass rod center insulators are just a few of the unique structural features in this remarkable antenna.

The 7&10-30LP8-125 is a single, economical antenna system that matches up with today's modern solid state equipment and maintains performance from band edge to band edge. Low wind load and less weight put less demands on the rotator and tower structures.

Maritime, Government, Commercial, MARS, Scientific and Amateur users are finding the 7&10-30LP8-125 SURVIVOR reliably fills a variety of communication requirements. When properly installed at 65 feet or higher this eight element antenna is a world wide, world-class performer. Solid electrical and structural design will maintain communications when other antennas have long since faded into the noise.

7&10-30LP8-125 ASSEMBLY MANUAL

BEFORE YOU BEGIN: Look over the DIMENSION SHEET, HARDWARE AND ELEMENT ASSEMBLY DRAWINGS to get familiar with the various parts of the log periodic. Tools handy for assembly process: screwdriver, 11/32, 7/16, 1/2, 9/16 and 5/8" spin-tites, end wrenches and/or sockets, measuring tape.

Two containers of zinc paste (Penetrox, Noalox, or equiv.) has been provided to enhance and maintain the quality of all electrical junctions on this antenna. 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.

Note: Element Overhead Support has been upgraded. Please see pages titled: Element Overhead Support Upgrade for more details before you start your assembly process.

1. ASSEMBLING THE ELEMENT MOUNTING PLATES. SEE HARDWARE DRAWINGS.
The clamp plates fit THREE diameters of fiberglass rod insulators. Pair them up as follows:
A. The four 3 x 6 x 1/2" plates milled with a 5/8" radius channel are for ELEMENT #1 and #2 (the rear linear loaded element) and clamps a 1-1/4" x 24" fiberglass rod.

B. The two other 3 x 6 x 1/2" clamp plates, milled with a 1/2" radius channel, are for ELEMENT #3 and clamps 1" x 24" fiberglass rods.

C. Elements #4 through #7 use a single 2-1/2 x 4 x 3/8" plate and a matching rectangular 1-3/4 x 4 x 1/4" clamp cap, and clamps 7/8 x 29-3/4 inch long fiberglass rods. (Elements #4, 5, 6, and 7 use a single bottom cradle each).

D. Element #8, the front director element mounts differently, using two clamp cradles as described in step 13.

E. Start by assembling the 1-1/4" rod MOUNTING PLATES together with 1/4-20 x 2-1/2" bolts to the four outer holes. Add the 1/4-20 locknuts finger tight. Slip in the 1-1/4 X 24" fiberglass rod and rotate until the element mounting holes are vertical. ***Center the rod and tighten the hardware EVENLY, so the plates are parallel and the same amount of threads are showing through all the locknuts.***
2. The Element #1 mounting plate set also requires a 1" square x 24" WELDED VERTICAL SUPPORT POST to anchor the element support and linear loading lines. Orient the post plates so they will extend over the element center. Install 1/4-20 x 3-3/4 bolts through the post and mount it to the middle two holes of the mounting plates and secure with 1/4-20 locknuts. Install turnbuckles in the plates holes and extend the turnbuckles so one thread on each end appears inside the body in preparation for later steps
3. Assemble the remaining element clamp plate sets to the fiberglass rods. The hardware is as follows: The mounting plate pairs for ELEMENTS #2 & #3 each require SIX 1/4-20 x 2-1/2" bolts and locknuts. Element #2 use a 1-1/4" X 24" Fiberglass rod. Element #3 use a 1" X 24" Fiberglass rod. The next three elements (#4 5 & 6) each require FOUR 1/4-20 x 1-1/2" bolts and locknuts and 7/8" X 29-3/4" Fiberglass rod.
4. For Element #7 attach the 1 x 1 x 4" Balun Bracket to the top two holes on one of the element clamp plates using two 1/4-20 x 2" bolts. Insert two 1/4-20 x 1-3/4" bolts in the bottom two holes. Insert the remaining 7/8 x 29-3/4" fiberglass rod and secure all 1/4-20 hardware. See the drawing HARDWARE ARRANGEMENT FOR ELEMENT #7.
5. Now slide a POLY DISC INSULATOR (1-1/4", 1" or 7/8" internal Dia.) onto each end of ALL fiberglass rods and push them up against the clamp plates. The disc insulators are sometimes a very tight fit on the rods. If so, place them in hot water a few moments before installation. Set clamp plate assemblies aside for later.

7&10-30LP8-125 ASSEMBLY MANUAL

6. #2 THROUGH #7 ELEMENT ASSEMBLY.

Refer to the DIMENSION SHEET and ELEMENT ASSEMBLY DETAIL.

The correct hardware to join the various sizes are as follows:

For 1-1/2" to 1-1/4" tubing use 8-32 x 1-3/4" screws.

For 1-1/4" to 1" tubing use 8-32 x 1-1/2" screws.

For 1" to 3/4" tubing use 8-32 x 1-1/4" screws.

For 3/4" to 1/2" tips use 5/8" compression clamp (see compression clamp & tip assembly sheet).

Locknuts have been provided for all the element assembly screws. Tighten the nuts until the joint doesn't move when wiggled or shook. The element butt section closest to the boom always has one hole located at the butt for a 1/4-20 bolt, 1/2" longer than the element section diameter. Loosely install the bolts at this time as they must be removed later while installing the elements to the fiberglass rod insulators. Assemble elements #2 through #7. Pair up element halves and set aside.

7. ELEMENT #1 ASSEMBLY. Refer to Element assembly #1 hardware detail, Element assembly detail and Element #1 linear loading tuning detail sheets.

A. Assemble the 1-1/4" x 60" and the 1" x 39" outer element sections first. Connect the two sections with 8-32 x 1-1/2" screws and locknuts.

B. Prepare the LINEAR LOADING DUAL SUPPORT ARMS (1-1/4" central hole) with three 8-32 x 1/4" Allen head SET SCREWS (5/64 Allen wrench supplied), two 8-32 x 1-3/4" screws and locknuts, and a white polyethylene STEPPED INSULATOR (into 3/4" hole). Slide a DUAL SUPPORT ARM on each 1-1/4" section and position 27" from the butt end. Orient the large stepped side of insulator towards element tip and arms in mirror images between element halves. Add the element overhead support clamp I" past the dual support arm on the out portion of the element. WHEN THESE 1-1/4" ELEMENT SECTIONS ARE FINALLY FIT INTO THE 1-1/2" DIAMETER ELEMENT SECTION, ORIENT THE STRAIGHT SIDE OF THE ARMS UP.

Prepare two ABS LL SUPPORT INSULATORS. These are flat, black 1 inch x 6 inch ABS bars. Attach them to the short 3/8 x 1-1/2 x 3" Linear loading support arm with 1-1/4" hole. Use 8-32 x 1" screws and locknuts. Slide these on the 1-1/4" element sections and position at 3 inches from the butt. Orient the insulators in the same plane as the Dual support arms. Secure with 8-32 x 1-3/4" screws and locknuts.

C. Prepare the four 3/4" hole LINEAR LOADING SUPPORT ARMS with two 8-32 x 1-1/4" screws and locknuts and a 1/2" x 1-1/2" white poly LINEAR LOADING INSULATOR (centered in arm). Slide two arms onto each 3/4" element section. Do not position at this time.

D. Prepare the two 1/4" x 1/2" LINEAR LOADING SUPPORT ARMS with two 8-32 x 1" screws and locknuts and a 1/2" x 1" white poly LINEAR LOADING INSULATOR. Slide arms onto the 1/2 x 56" element tip sections. Install the 1/2" element tip sections to the 3/4" element section using the 5/8" compression clamp (see compression clamp & tip assembly sheet).

E. Assemble the 1-1/2" element pieces and overlapping sleeves as shown in the Element assembly detail sheet. Take your time and use lubrication when needed.

F. Prepare the two 1-1/2" PHASING LINE CLAMP BLOCKS AND PLATES by applying a little paste to the channels on each face. Then loosely assemble plates to blocks, channel to channel, with 1/4-20 x 1" FLATHEAD SCREWS AND LOCKNUTS. Loosely install an 8-32 x 2" screw and locknut through block clamp fingers. Apply zinc paste to the last inch of the 1-1/2" element butts and then install a PHASING LINE CLAMP BLOCK assembly onto the end of each element butt, small clamp plate oriented to element butt.

7&10-30LP8-125 ASSEMBLY MANUAL

G. Slide the 1-1/2" element pieces and overlapping sleeves onto the 1-1/4" fiberglass rod (held by element clamp plates) and align the 1/4" holes. Insert a 1/4-20 x 2" bolt and secure with 1/4-20 locknut. Repeat for the other element half. Now position each phasing line clamp block about 1/4" away from the disc insulator and with the 8-32 element clamp screw oriented to the bottom. Tighten screw and locknut just enough to keep the block from moving (it will be repositioned when phasing lines are installed). Repeat for other element half. Now add the outer element assemblies to the 1-1/2" sections using 8-32 x 1-3/4" screws and locknuts.

H. Place the element on a level surface with the support post up. FROM THE ELEMENT BUTT SIDE, feed a 3/16" x 135" LINEAR LOADING ROD through the ABS LL Support insulator and on to the un-insulated side of the DUAL SUPPORT ARM until 5/8" extends beyond arm. Tighten the 8-32 x 1/4" set screws. Install two SHAFT RETAINERS, one at a time, onto this rod tip and snug up to dual support arm.

NOTE: to start the RETAINER, hold the 3/8 x 3" PUSH TUBE in your hand with one end between your thumb and forefinger. Now center retainer on this end, "dish" into tube, and hold in place with the same thumb and forefinger. Grasp the linear loading rod near the end with your other hand and firmly push the retainer onto the rod.

In the same way, feed another 135" LINEAR LOADING ROD through the ABS LL support insulator and on through the white poly stepped insulator until 5/8" extends beyond insulator. Install two SHAFT RETAINERS, one at a time, onto this rod tip and snug up to insulator. Install two 8-32 x 1/4" set screws into a SPLICE BLOCK and install block on the 3/16" rod tip up against the retainers. Tighten set screw. Repeat for other element half.

I. Slide a 3/16" x 144" rod through the white poly linear loading insulators on the 3 arms beyond the dual support arm. Insert the inner rod end into splice block at the dual support arm and tighten set screw. SEE THE FREQUENCY CHART on the Element #1 LINEAR LOADED TUNING DETAILS sheet and select the desired center frequency for Element #1. Cut this outer linear loading rod to the desired dimension. Position the outermost linear loading arm about 6" from tip. Space the other arms to support the rod at equal intervals. Then tighten all clamp screws. Repeat for other element half.

J. Next, pre-assemble both pair of LINEAR LOADING SHORTING BARS using (5) 8-32 x 7/8" screws and locknuts. NOTE: THE BARS ARE NOT SYMETRICAL IN THE CENTER GROOVES. Now pass about 4" of HPTG-1200 through the CENTER groove and around the strain relief back through the offset grooves so you have about 2-1/2 inches of cable end coming back for later clamping. CONSULT THE FREQUENCY CHART and use a tape measure to mark each rod at the CORRECT "A" DIMENSION measured as shown. Slide a shorting bar set onto the rod ends and position the shorting bar clamps at your marks. Level the bars; equalize the rod tension and begin tightening the outer screws. Once everything is straight and aligned, tighten all 5 screws. Repeat for the other side.

NOTE: DO NOT TRIM OFF THE EXCESS ROD BEYOND THE SHORTING BAR TO 5", UNTILL FINAL TUNING IS ACHIVED. IF OPERATION IS DESIRED BELOW 6.950 MHZ, THE FULL LENGTH OF THE LINEAR LOADING RODS MAY BE REQUIRED.

K. Cut the 30 ft. phyllstrand into to equal length and rout though the element support clamps and pull tight. (see the self locking method shown on the addendum) Rout the other end of the cable through the thimble and upper turnbuckles and wire clips and pull tight and tighten the clips, equally tension the cables using the turnbuckle. To check your tension, lift the element up at the center and note the element droop. Each element should droop 10" to 16" at the tip.

L. Now rout the linear loading phyllstrand through the lower turn buckles and thimbles and add the wire clips. Pull the cable though and tighten the wire clips. Use the turnbuckles to tension them just to slightly help the main element supports. This completes Element # 1 assembly, set aside for now.

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8. BOOM ASSEMBLY

Locate the boom ends drilled for the splice section, note the markings on both. Inspect the splice section for burrs and file off any found. Also inspect the inside of the boom sections for any aluminum chips or dirt. Wipe out with a clean rag. Now apply a small amount of light oil to the coupling rings on the splice section and gently insert into one boom section. Align the holes and install the 1/4-20 x 3-1/2" bolts and locknuts finger tight. Now carefully align the two boom sections together and slide the second boom section onto the splice. Align the holes and add the hardware. Once all the bolts are in, tighten the nuts until the boom sections firm up and no joint movement is felt when wiggling the boom. Add the 3/8 EYEBOLTS securing with 3/8-16 nuts and split ring lock washers, align the eyes with the boom and tighten.

9. Orient the boom with the eyebolts "up". The boom end with the eyebolt at 52" from end is the "REAR". Using a tape measure and a marking pen or masking tape, place a mark 1/2" in from the **rear** of the boom. This will be where you position the back edge of the clamp plate for element #1. Now measure forward 78.75" from that mark and make another mark. Identify this position as element #2. Continue marking the locations of all the elements using the element spacing figures given on the Dimension Sheet.
10. Attach Element #1, the linear loaded element, to the boom. For ease of element installation, support the boom about 3' above ground, eyebolts "up." Loosely attach two BOTTOM CRADLES to the bottom of the clamp plates using the 1/4-20 x 2-3/4" hardware. Slip Element #1 over the rear of the boom, placing the back edge of the rear plate on your first mark. **ALIGN** the elements horizontal perpendicular to the eyebolts and tighten bolts **EVENLY** and firmly. Use element #1 as the element alignment reference.
11. Mount the next element clamp assemblies in element position #2, and #3. First place the clamp plates on the boom at the mark and then add the two bottom cradles and 1/4-20 x 2-3/4" bolts. Align with the first element clamp and tighten **gently**. **FINAL ALIGNMENT** of all the elements will be done after the elements are mounted.
12. Mount the clamp plates with the 7/8" diameter fiberglass rods, again positioning each clamp at the mark, aligning with element #1 clamp and tightening **gently**. Only one cradle is required.
13. Now mount the DIRECTOR. See Element #8 hardware detail. Insert the 3/4" x 60" element sections into the 7/8 x 30" center tube, align the holes and insert two 1/4-20 x 5" bolts. Install an inverted cradle onto the bolts and up against the 7/8" sleeve section. Place this assembly on the boom. Add the bottom cradle and the locknuts. Align the completed element with the element #1 at the other end of the boom and tighten the nuts. Install the Director's 1/2" tip sections with compression clamps.
14. **MOUNTING ELEMENT HALVES #2 THROUGH #6. REFER TO DIMENSION SHEET AND ELEMENT HARDWARE DETAIL DRAWINGS.**
Prior to slipping the element halves on the fiberglass insulators, apply a little **zinc oxide paste** to the last inch of each element butt. Apply a little paste to the channels in all the small PHASING LINE CLAMP CAPS and the larger PHASING LINE CLAMPS. This paste inhibits corrosion and helps to assure a reliable, low loss joint for many years. Then loosely assemble plates to blocks, channel to channel, with 1/4-20 x 1" FLATHEAD SCREWS AND LOCKNUTS. Loosely install an 8-32 screw and locknut through PHASE LINE CLAMPS fingers using 8-32 x 1-1/2" screws for 1" clamps and 8-32 x 1-3/4" screws for 1-1/4" clamps. Install a PHASING LINE CLAMP BLOCK assemblies onto the end of each element butt with small clamp plate oriented to element butt.
15. On element #2, slide 1-3/8" x 56" sleeve over the 1-1/4" fiberglass rod end and align the 1/4" holes. Then add the element half, over the sleeve and rod, align the holes and add a 1/4-20 x 2" bolt and locknut. Tighten securely. Repeat for the other element half.
16. On element #3, slide 1-1/8" x 12" sleeve, 1-3/8" sleeve x 55", over 1" Fiberglass rod and align the

7&10-30LP8-125 ASSEMBLY MANUAL

1/4" holes. Then add the element half, over the sleeve and rod, align the holes and add a 1/4-20 x 1-3/4" bolt and locknut. Tighten securely. Repeat for the other element half. Install element halves #4 through #7 to the 7/8" fiberglass rod insulators using 1/4-20 x 1-1/2" bolts and locknuts.

17. Now carefully align elements #2 through #8 to element #1. TIGHTEN each bottom cradle EVENLY AND SECURELY.

18. INSTALLING THE PHASING LINES. SEE DIMENSION SHEET & HARDWARE ASSEMBLY DRAWINGS

Start with the shortest set between element #6 and #7. For each set, feed the phasing lines through a 3/4" x 3" PHASE LINE STANDOFF so that the spacer sits at the crossover point between the lines. Hold the spacer in place loosely around the boom with a large nylon tie but don't tighten it yet. Adjust phasing lines so that their bends are even and the lines run parallel to the boom.

A. Apply a small amount of conductive paste to the rod ends and feed the #7 ends into the clamp block channels until 1/4" extends beyond the clamp. Tighten the 1/4-20 x 1" flathead screws and locknuts on element #7. Then adjust the block assemblies flush to the disc insulators and tighten 8-32 clamp screws. Insert the other rod ends into the clamp block assemblies on element #6 but do not tighten. Continue to the next phasing line set between element #5 and #6. Apply paste and insert the ends into the clamp blocks at element #7 and NOW tighten the flathead screws and nylon tie.

While installing the phase lines, you might find that some of them will extend 1 - 2" past their respective clamp blocks. **This is OK.** You can trim them back, in order to fit flush with the clamp block faces, if you desire.

B. Continue in the same fashion tightening the hardware and nylon ties as you go.

Note the phasing lines between elements #2 and #3: The bends in this set of phasing lines are **offset**, with the **crossover point closer to element #3**. This offset is to allow for I-bolt clearance.

Note the phasing lines between elements #3 and #4: The bends in this set are **offset**, with the **crossover point closer to element #3**. This offset is to allow proper placement of the boom to mast plate.

C. Attach the 16 turn COIL to element #1 screw studs before securing phasing lines. position coil upright, but clearing the support post and tighten the nuts. Try to keep the coil tightly wound, spread no more than 5" to 6".

19. MOUNTING THE 4:1 BROAD BAND BALUN

Secure the BALUN to the BALUN BRACKET with a 2-1/2" U-bolt and cradle. Tighten nuts only enough to secure balun. DO NOT OVER TIGHTEN - BALUN HOUSING COULD BE DAMAGED! Position balun with the connector pointing towards the rear of the boom and leads easily reaching PHASING LINE CLAMPS screw studs. Now remove the 1/4" nuts from the clamp block screws. Apply some zinc paste to the lugs on the balun leads and place over each screw stud. Replace the nuts and re-tighten.

20. Attach the BOOM TO MAST PLATE with the two large 3 inch U-bolts. Center it at the Delrin stand-off between element #3 and #4. Reshape the phasing lines as needed to clear the plate by at least 1/2".

21. OVERHEAD BOOM SUPPORT SYSTEM.

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A. Attach one end of the 5/16" Dacron cord to the rear eyebolt using two turns around the eyebolt and a series of three half hitches or equivalent knots. Finish with about 6 inches of cord after the knots. ***Without cutting the cord, do the same at the front eyebolt.*** Pull on the knots ***HARD*** to ***SET*** them. Seal ends with heat or flame to prevent fraying. Tape the excess 6 inches of cord back to main cord tightly with black vinyl electricians tape.

B. TEMPORARILY insert a 2 inch U-bolt through the turnbuckle plate and add two nuts so about 1/2 inch of the threads stick out. Insert this assembly through the top set of 2" U-bolt holes in the boom to mast plate from the boom side and add two more nuts. Open the two 3/8" turnbuckles up until just ***a thread or two*** from each end shows ***inside*** the body of the turnbuckle. Hook the turnbuckles into the holes at the edge of the turnbuckle plate. Equalize the Dacron cord over the plate and cut it. Take two wraps of the cord through the eye of the rear turnbuckle, ***PULL*** the cord as tight as possible and make the knots as before. Repeat for the front cord section and turnbuckle. Cut off any excess over one foot long and again seal and tape back to the main cord.

C. Now ***DISASSEMBLE*** the U-bolt from the boom to mast plate. Before installation, if possible, install a short temporary mast, attach turnbuckle, and let the overhead guy system support the boom overnight. The Dacron cord ***DOES NOT STRETCH UNDER THIS LOAD*** but it's weave will take a ***SET*** and the boom may droop just a bit. If your boom droops again following final adjustments, check your knots. They may be slipping.

D. After final installation of the antenna, the turnbuckle plate is installed loosely with a 2" U-bolt, and raised up the mast. When the boom is straight the U-bolt is tightened. This should place the turnbuckle plate 4 to 6 feet above the boom. Do the final boom straightening with the turnbuckles and safety wire to preserve adjustments.

22. Install all element tip sections that may have been removed or omitted to facilitate other assembly procedures.
23. Check ALL hardware for tightness. Check ALL element sections, especially tip sections, for correct placement. Make any final adjustments to linear loading tension.
24. Attach feed line section to balun and route to the mast plate. Secure at regular intervals with tape or nylon ties.
25. When mounting this log periodic on a tower or mast with other antennas there may be interaction with other nearby antennas, particularly if they are resonant in the 7 to 30 MHz band. In general VHF and/or UHF antennas mounted for ***HORIZONTAL POLARITY*** should be at least 40 inches above or below the log antenna. Use good quality 50 Ohm feed line to feed the log and be sure your tower and rotator system can handle to wind area and weight of this antenna.

THIS COMPLETES THE ANTENNA ASSEMBLY

Carefully designed and manufactured by:

M² ANTENNA SYSTEMS, INC.

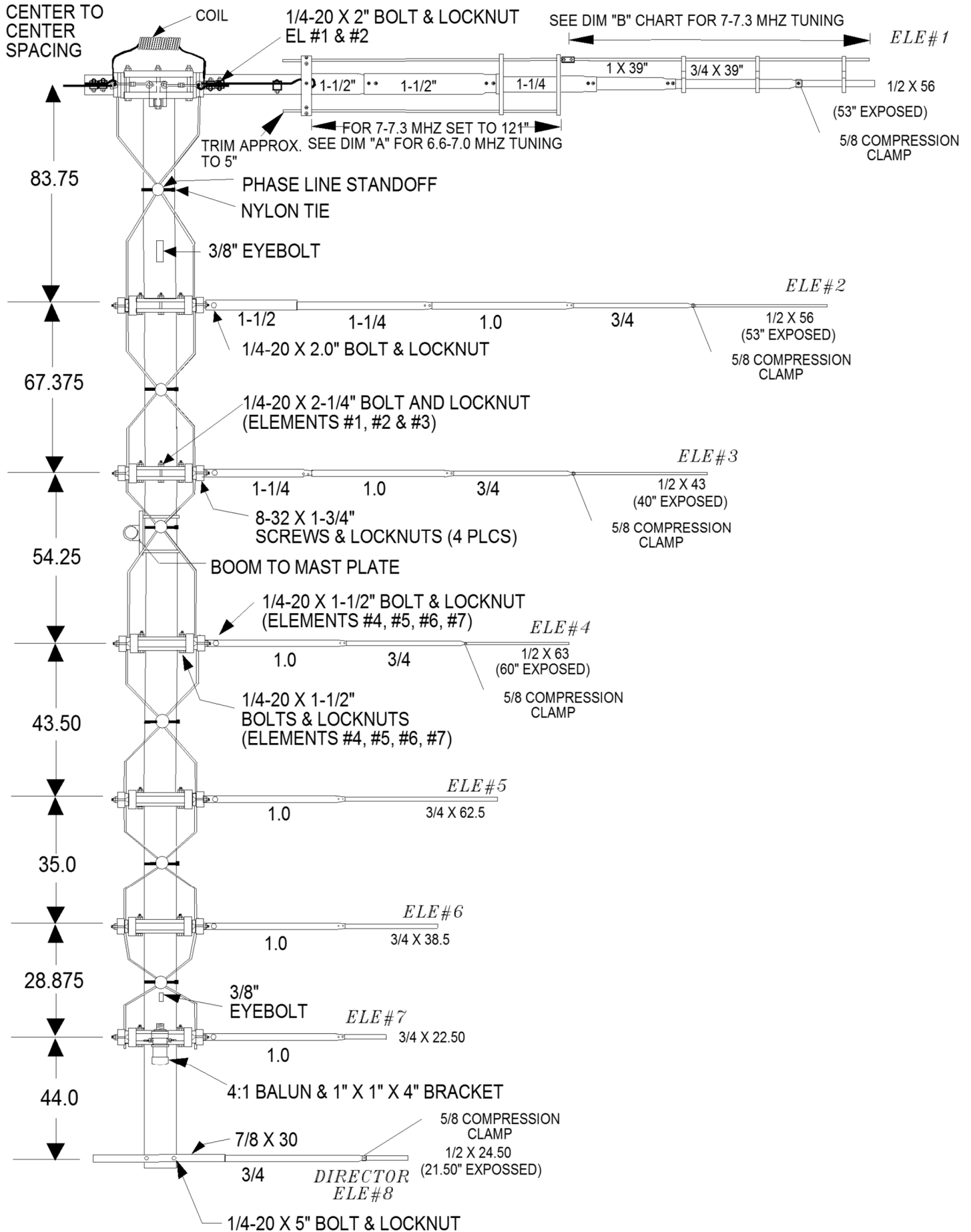
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FRESNO, CA 93722

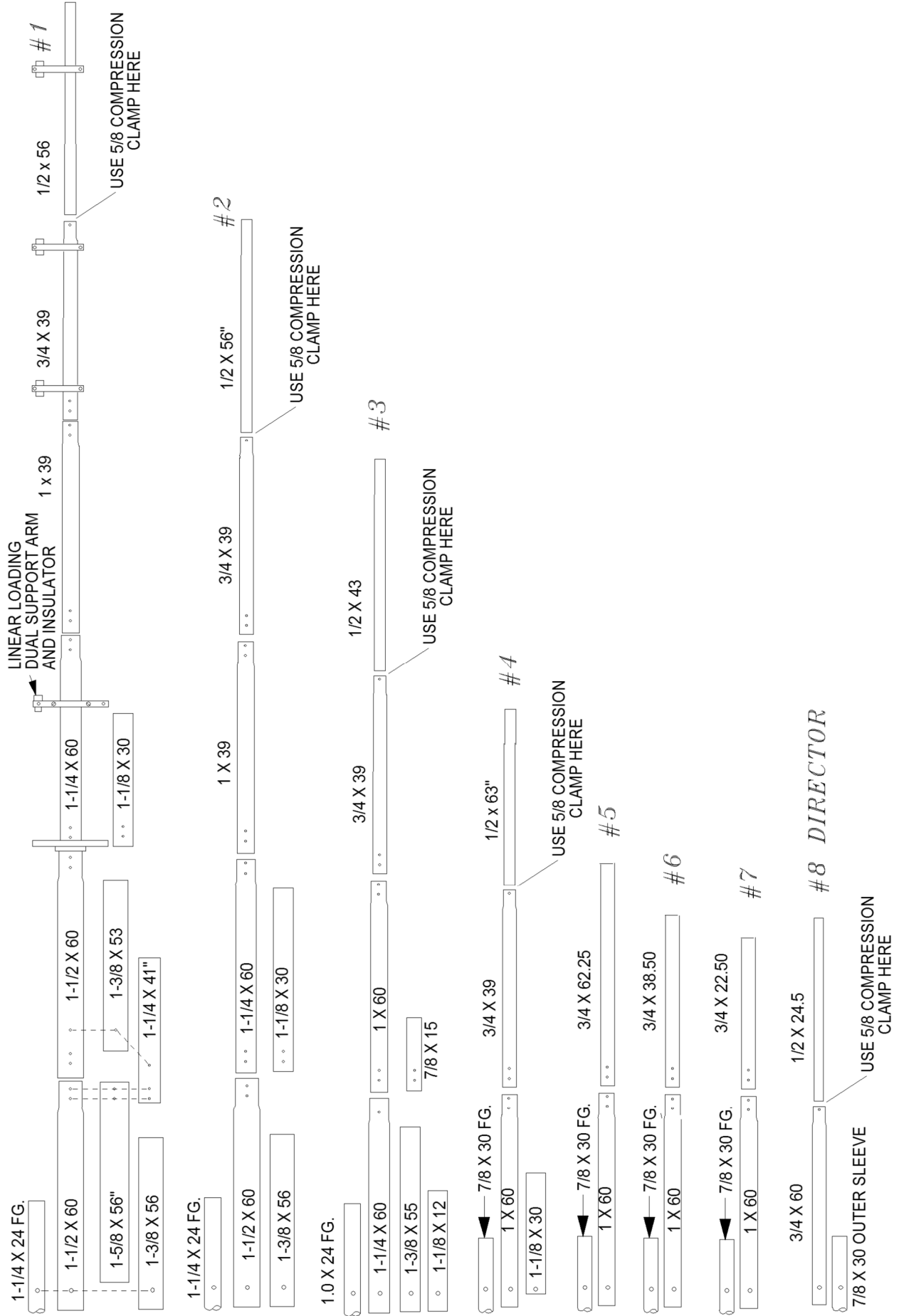
(559) 432-8873 Fax: 432-3059

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

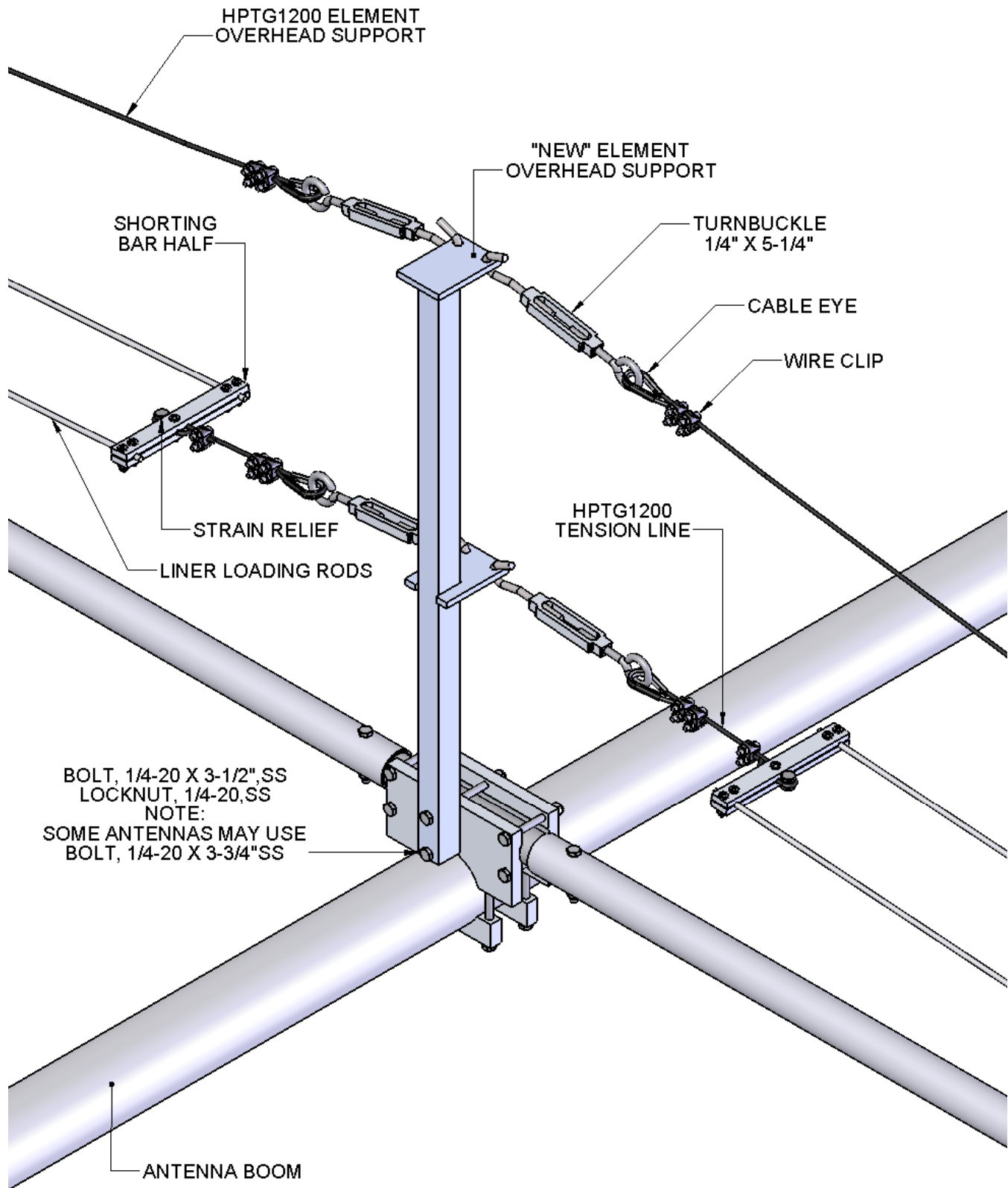
7&10-30LP8-125 DIMENSION SHEET



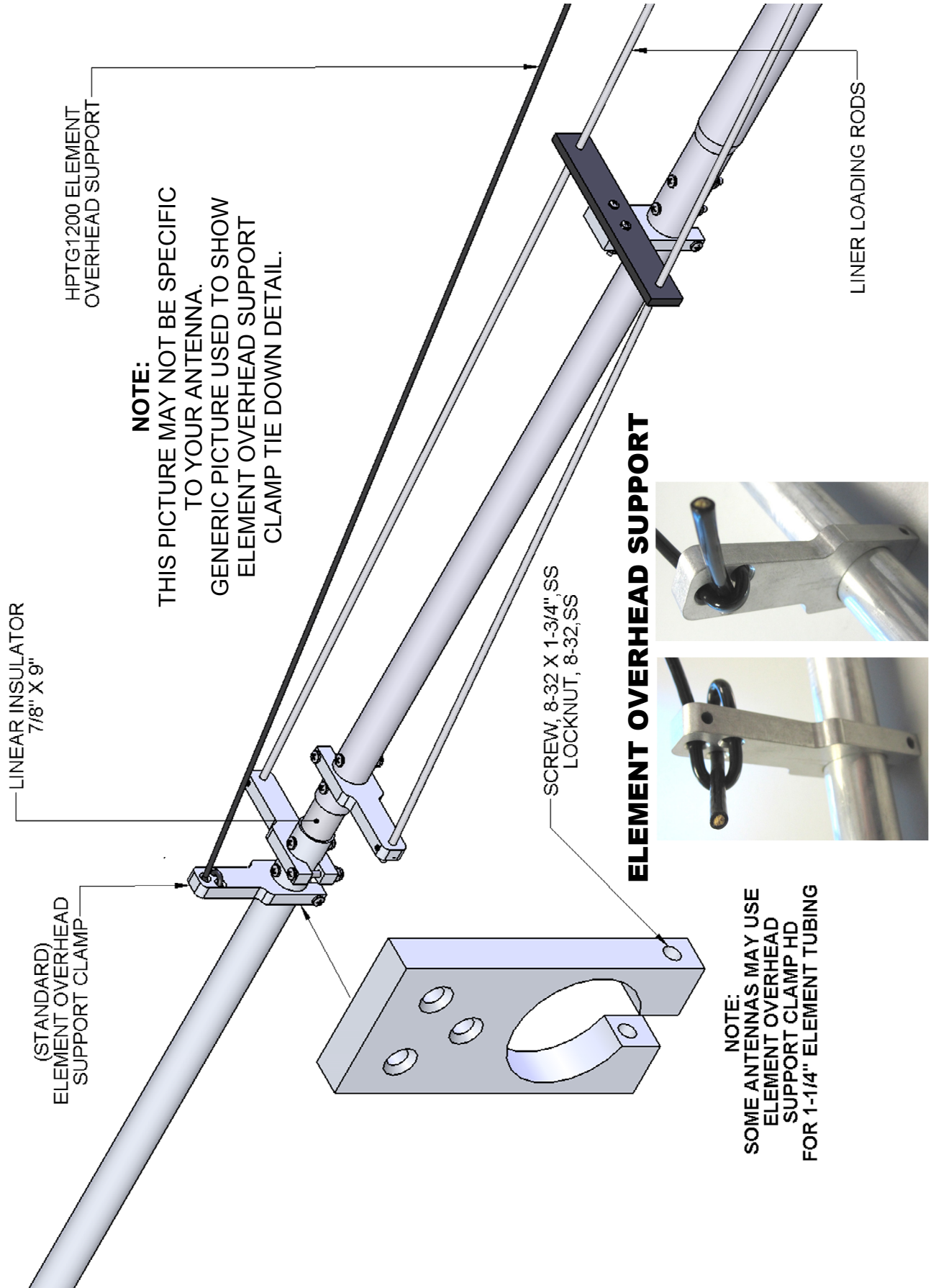
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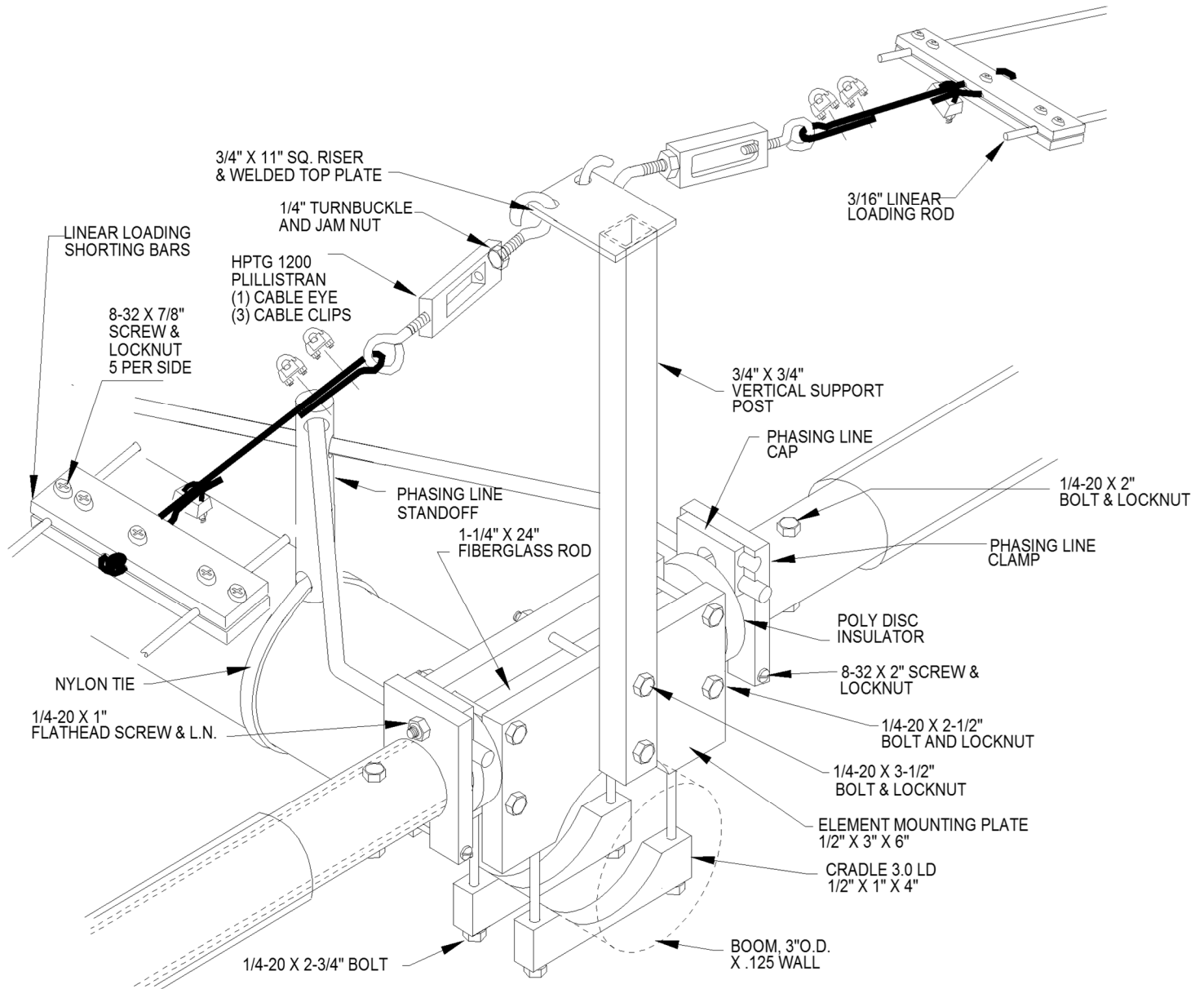
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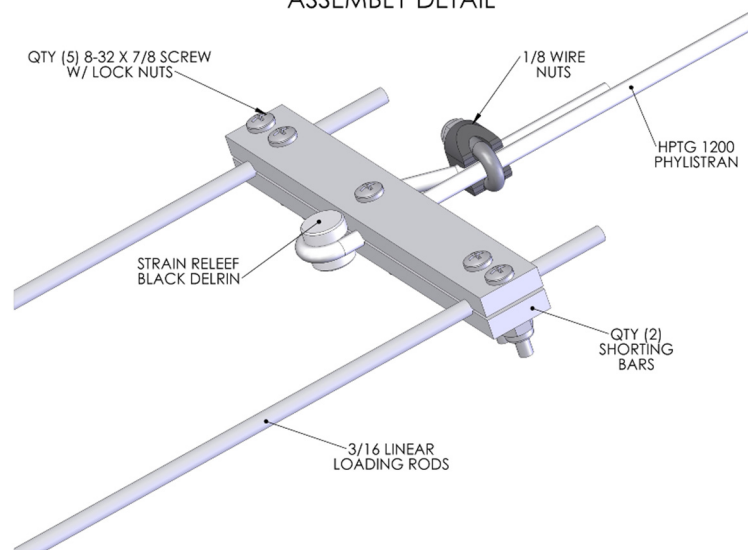
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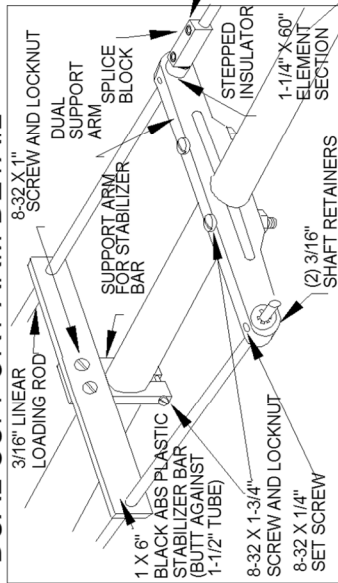
7&10-30LP8-125 ASSEMBLY DETAIL



SHORTING BAR AND HPTG PHYLISTRAN ASSEMBLY DETAIL



DUAL SUPPORT ARM DETAIL



THESE POINTS• WERE TAKEN FROM ACTUAL MEASUREMENTS
TAKEN AT 45 FEET. FOR EXTENDED TUNING RANGE BELOW
6.6 MHZ OR ABOVE 8.0 MHZ. CONTACT M2 FACTORY

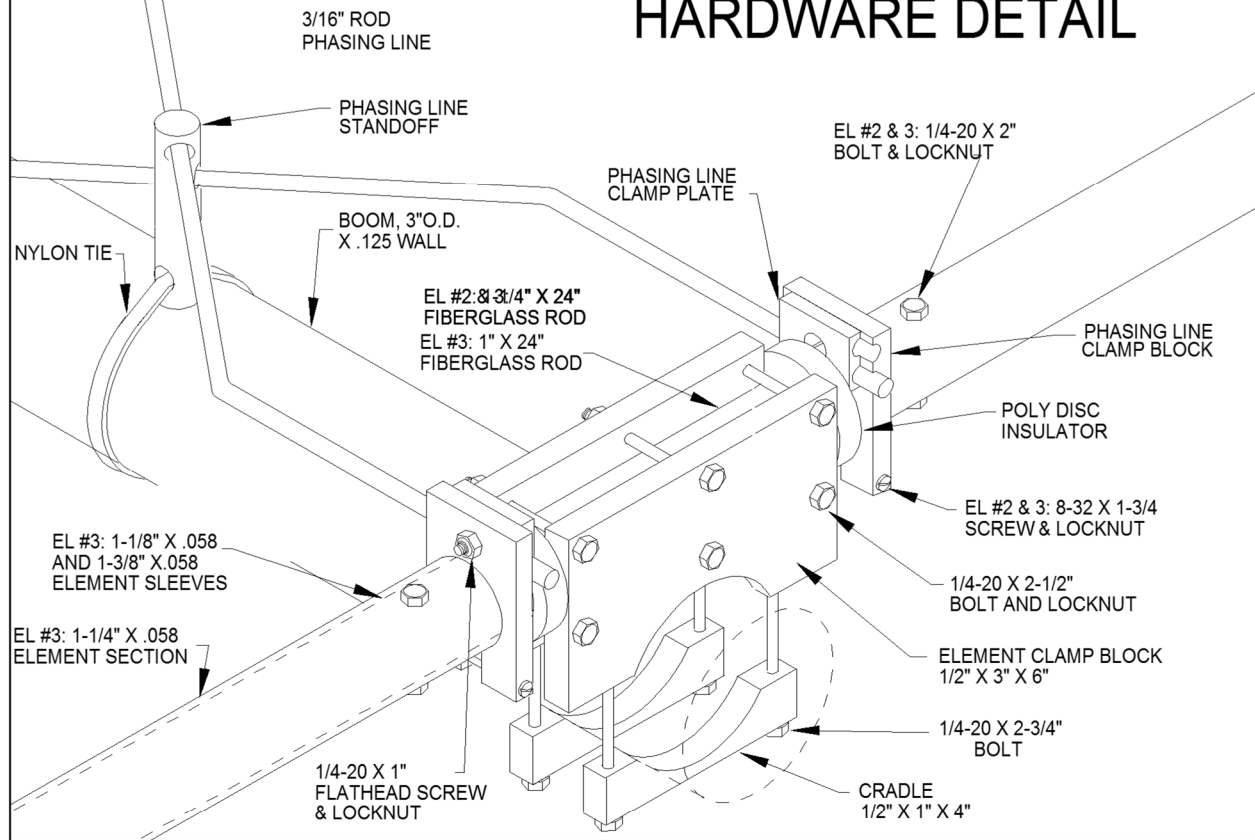


TRIM OFF EXCESS
3/16 ROD TO 5"
PAST SHORTING BAR
1-1/2"x60" &
OUTER 1-5/8"
SLEEVE
32 X 7/8"
SCREW &
LOCKNUT
5 PLCS.

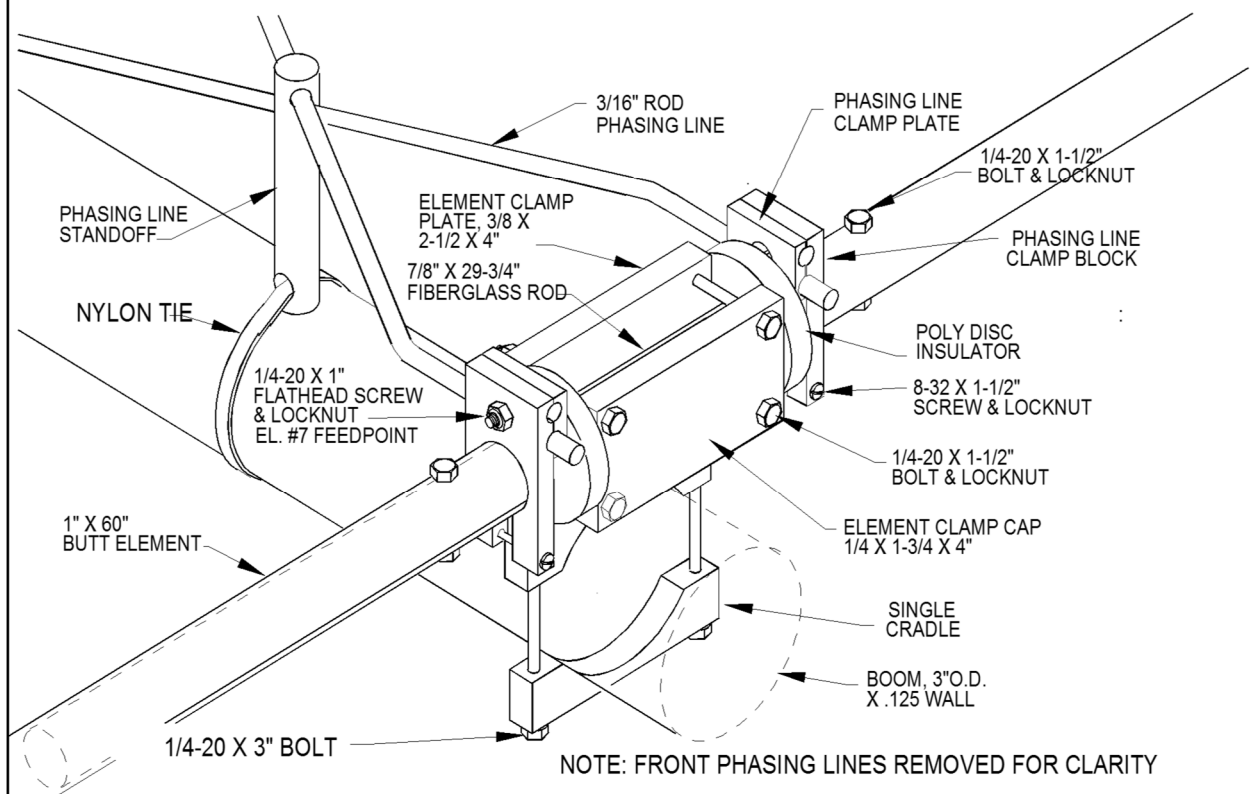
7&10-30LP8-125
ELEMENT #1
LINEAR LOADING
TUNING DETAILS

7&10-30LP8-125 ASSEMBLY DETAIL

ELEMENTS #2 & 3 HARDWARE DETAIL

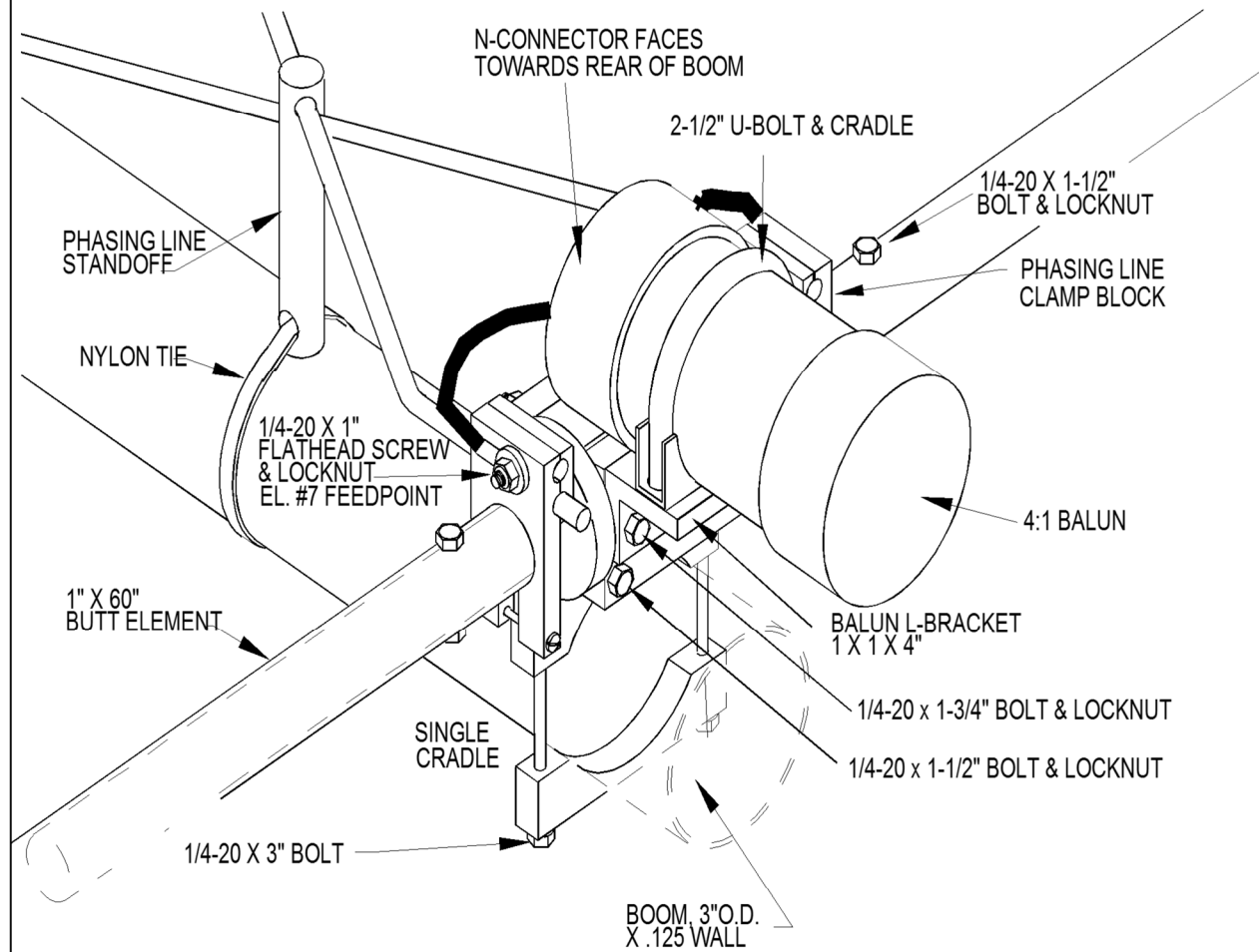


ELEMENT #4 - #6 HARDWARE DETAIL

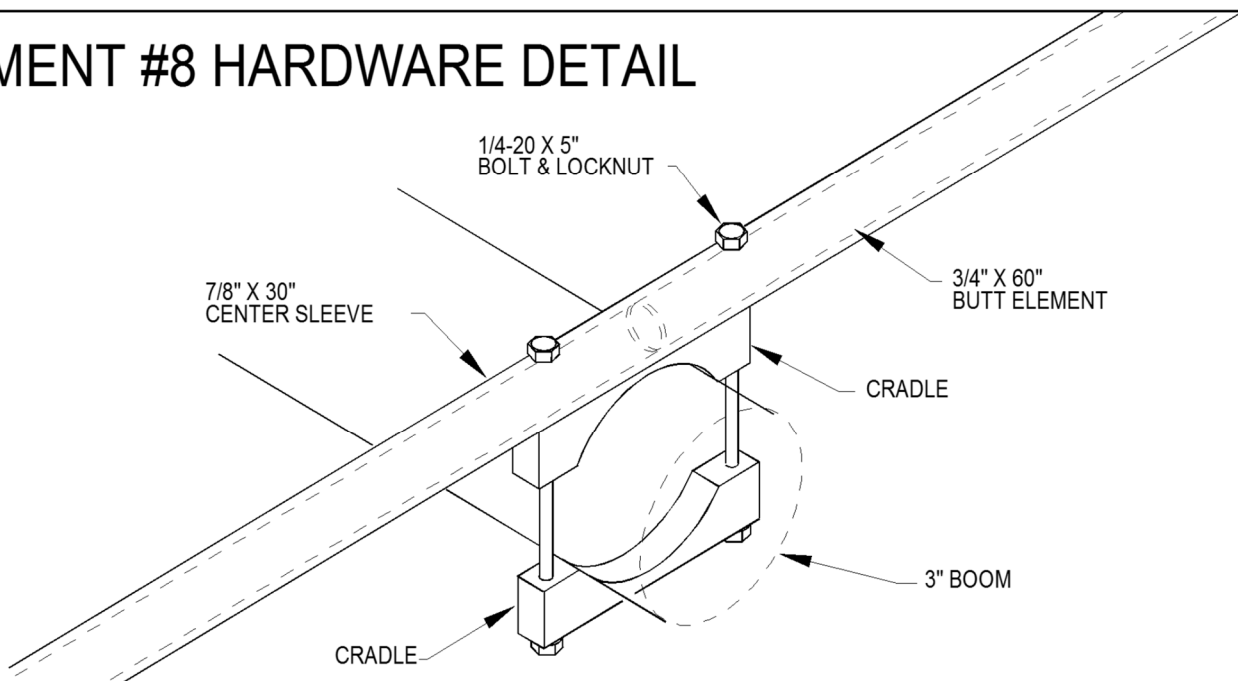


7&10-30LP8-125 ASSEMBLY DETAIL

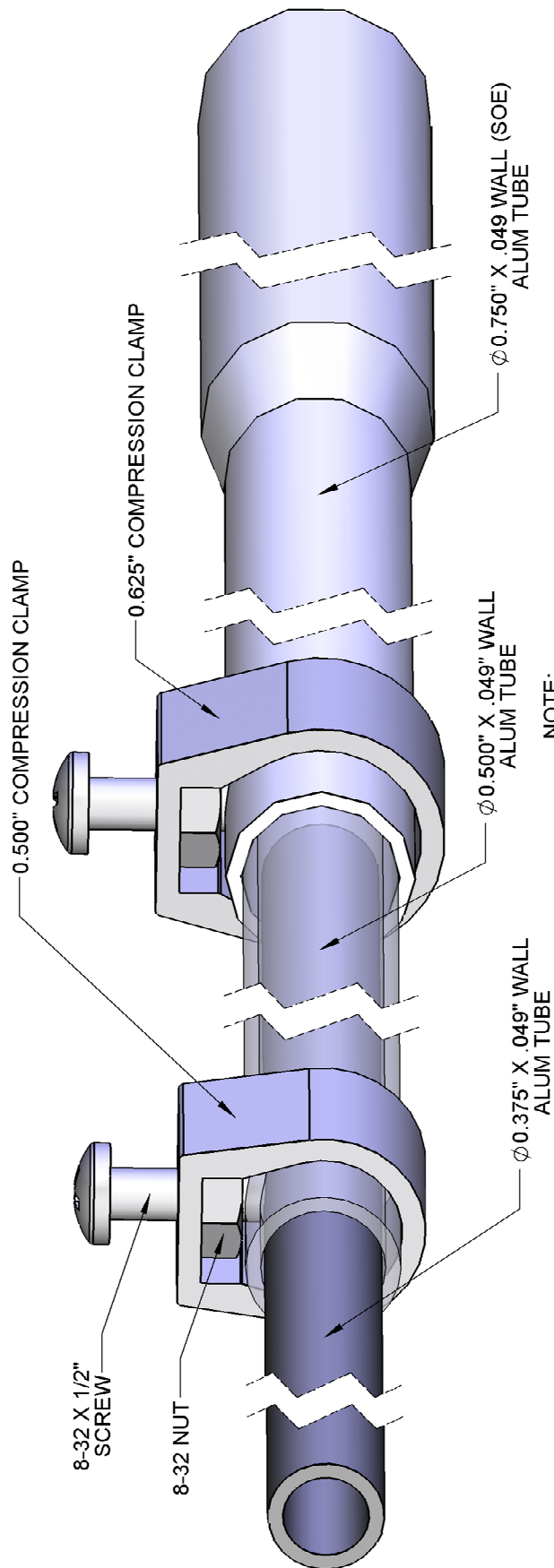
ELEMENT #7 HARDWARE DETAIL



ELEMENT #8 HARDWARE DETAIL



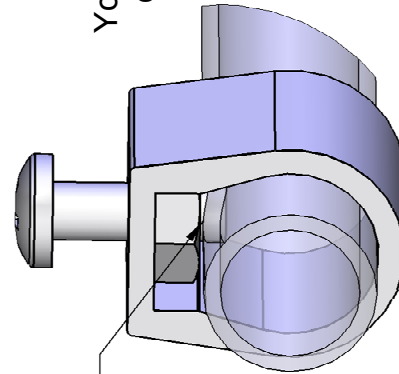
GENERIC COMPRESSION CLAMP DETAIL



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

7&10-30LP8-125 PARTS & HARDWARE

DESCRIPTION	QTY
BOOM SECTION, 3 X .125 X 180" ALUMINUM.....	2
BOOM SPLICE ASSEMBLY, 2-1/2 X .125 X 120" WITH 5 COUPLING RINGS, ALUM.	1
ELEMENT SLEEVE, 1-5/8 X .058 X 56" ALUMINUM	2
ELEMENT, 1-1/2 X .058 X 60" SOE ALUMINUM, 1/4" HOLE	4
ELEMENT, 1-1/2 X .058 X 60" SOE ALUMINUM, BUTT DRILLED	2
SLEEVE, 1-3/8 X .058 X 56" ALUMINUM, 1/4" HOLE	4
SLEEVE, 1-3/8 X .058 X 53" ALUMINUM, 1/4" HOLE	2
SLEEVE, 1-3/8 X .058 X 55" ALUMINUM, 1/4" HOLE	2
ELEMENT, 1-1/4 X .058 X 60" SOE ALUMINUM, BUTT DRILLED	4
ELEMENT, 1-1/4 X .058 X 60" SOE ALUMINUM, 1/4" HOLE	2
SLEEVE, 1-1/4 X .058 X 41" ALUMINUM, BUTT DRILLED	2
SLEEVE, 1-1/8 X .058 X 30" ALUMINUM, BUTT DRILLED	4
SLEEVE, 1-1/8 X .058 X 30" ALUMINUM, 1/4" HOLE	2
SLEEVE, 1-1/8 X .058 X 12" ALUMINUM, 1/4" HOLE	2
ELEMENT, 1 X .058 X 60" SOE ALUMINUM, BUTT DRILLED	2
ELEMENT, 1 X .058 X 60" SOE ALUMINUM, 1/4" HOLE	8
ELEMENT, 1 X .058 X 39" SOE ALUMINUM, BUTT DRILLED	4
SPLICE, 7/8 X .058 X 30" 1/4" HOLE (DIR #8).....	1
SLEEVE, (#3 DIR) 7/8 X .058" X 15" ALUMINUM, BUTT DRILLED	2
ELEMENT, 3/4 X .049 X 60" SOE ALUMINUM, 1/4" HOLE	2
ELEMENT, 3/4 X .049 X 39" SOE ALUMINUM, BUTT DRILLED	8
ELEMENT TIP, 3/4 X .049 X 62.25" ALUMINUM	2
ELEMENT TIP, 3/4 X .049 X 38.5" ALUMINUM	2
ELEMENT TIP, 3/4 X .049 X 22.50" ALUMINUM	2
ELEMENT, 1/2 X .049 X 63" ALUMINUM	2
ELEMENT, 1/2 X .049 X 56" ALUMINUM.....	4
ELEMENT, 1/2 X .049 X 43" ALUMINUM.....	2
ELEMENT, 1/2 X .049 X 24.5" ALUMINUM.....	2
LOG PHASING ROD, 3/16 X 88.75" ALUMINUM	2
LOG PHASING ROD, 3/16 X 72.375" ALUMINUM	2
LOG PHASING ROD, 3/16 X 59.25" ALUMINUM	2
LOG PHASING ROD, 3/16 X 48.5" ALUMINUM	2
LOG PHASING ROD, 3/16 X 41.0" ALUMINUM	2
LOG PHASING ROD, 3/16 X 35.0" ALUMINUM	2
LINEAR LOADING ROD 3/16 X 144" ALUMINUM ROD	2
LINEAR LOADING ROD 3/16 X 135" ALUMINUM ROD	4
FIBERGLASS ROD INSULATOR, 1-1/4 X 24"	2
FIBERGLASS ROD INSULATOR, 1 X 24"	1
FIBERGLASS ROD INSULATOR, 7/8 X 29.75"	4
SUPPORT POST, SQUARE TUBE, 3/4 X 3/4 X .125 X 11" ALUM., WELDED	1
BOOM TO MAST PLATE, 8 X 8 X 1/4" ALUMINUM, PUNCHED.....	1
BALUN, 4:1 FERRITE CORE, 3 KW	1

ELEMENT OVERHEAD SUPPORT UPGRADE.....	QTY
Support Post, LL, 1" X 1" X 24" (M2AVR0050)	1
Element Overhead Support Clamp HD	2
Element Overhead Support Line, HPTG1200 x 30'	1
Turnbuckle, 1/4 X 5-1/4", Hook and Eye	2
Cable Eye, 6/16"	2
Wire Clip, 1/8"	4
Bolt, 1/4-20 x 3-1/2"	2
Locknut, 1/4-20,ss.....	2
Nut, 1/4-20,ss.....	2
Screw, 8-32 x 1-3/4", Pan Head Phil,ss	2
Locknut, 8-32,ss.....	2

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HARDWARE BOX:

ELEMENT MOUNTING PLATE, 1/2 X 3 X 6", .625" RADIUS	4
ELEMENT MOUNTING PLATE, 1/2 X 3 X 6", .500" RADIUS	2
SMALL ELEMENT MOUNTING PLATE, 3/8" X 2-1/2 X 4" ALUMINUM, MACHINED	4
SMALL ELEMENT MOUNTING CAP, 1/4 X 1-3/4 X 4" ALUMINUM, MACHINED	4
CRADLE 3.0 LD, 1/2 X 1.0 X 4" ALUMINUM, MACHINED	12
PHASE LINE CLAMP, 3/8 X 1-3/4 X 2-5/8" WITH 1-1/2" HOLE MACHINED	4
PHASE LINE CLAMP, 3/8 X 1-1/2 X 2-7/16" WITH 1-1/4" HOLE MACHINED	2
PHASE LINE CLAMP, 3/8 X 1-1/4 X 2-3/16" WITH 1" HOLE MACHINED	8
PHASING LINE CLAMP CAP, 1/4 X 3/4 X 1-1/4" ALUMINUM, MACHINED	14
POLY DISK INSULATOR, 3/8 X 2", MACHINED 1 1/4" HOLE	4
POLY DISK INSULATOR, 3/8 X 2", MACHINED 1" HOLE	2
POLY DISK INSULATOR, 3/8 X 2", MACHINED 7/8" HOLE	8
PHASE LINE STANDOFF, 3/4 X 3.0" DELRIN, MACHINED	6
STEPPED INSULATOR, 3/4 X 1-1/2" POLY	2
LINEAR LOADING INSULATOR, 1/2 X 1-1/2" POLY	6
SPLICE BLOCK, 1/4 X 1/2 X 1" ALUMINUM, MACHINED FOR 3/16 ROD	2
LINEAR LOADING DUAL SUPPORT ARM, 3/8 X 1-3/4 X 5.750", 1-1/4 HOLE	2
LINEAR LOADING SUPPORT ARM, 1/4 X 1 X 3.750" ALUMINUM MACHINED	4
LINEAR LOADING SUPPORT ARM, 1/4 X 3/4 X 3.875" ALUMINUM MACHINED	2
ABS LL SUPPORT INSULATOR, 1/4 C 1 X 6" BLACK ABS PLASTIC	2
LINEAR LOADING STAIBILIZER SUPPORT ARM, 1-1/4 HOLE, MACH ALUM.	2
LINEAR LOADING SHORTING BAR , 1/4 X 3/4 X 5.875"	4
PHASE LINE STRAIN RELIEF	2
TURNBUCKLE PLATE, 2 X 5 X 3/16" ALUMINUM, PUNCHED	1
EYEBOLTS, 3/8" X 6"	2
TURNBUCKLES, 3/8" HOOK AND EYE	2
BOOM SUPPORT LINE, 5/16 X 30 FT. DACRON,	1
LL SUPPORT LINE HPTG-1200 X 40"	2
U-BOLT, 3"	2
U-BOLT, 2" HEAVY DUTY, 3/8	4
U-BOLT, 2"	1
U-BOLT, 2-1/2"	1
5/8" COMPRESSION CLAMP	10
NYLON TIES, LARGE 14.5" BLACK	10
COIL, #10 AWG 16 TURNS ON 3/4" FORM	1
ZINC PASTE (PENETROX OR NOALOX OR EQUIVALENT) CUPFULL	2
BALUN BRACKET, 1 X 1 X 4"	1
ASSEMBLY MANUAL	1

HARDWARE BAG #1

NUT, 3/8-16, STAINLESS	14
NUT, 5/6-18, STAINLESS	4
LOCK WASHER, 3/8" SPLIT RING, STAINLESS	14
LOCK WASHER, 5/16" SPLIT RING, STAINLESS	4

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BAG #2:

TURNBUCKLE, 1/4" , HOOK AND EYE, STAINLESS	2
BOLT, 1/4-20 X 5" HEX CAP, STAINLESS	2
BOLT, 1/4-20 X 3-1/2", STAINLESS	6
BOLT, 1/4-20 X 3", STAINLESS	12
BOLT, 1/4-20 X 2-3/4", STAINLESS	8
BOLT, 1/4-20 X 2-1/2", STAINLESS	16
BOLT, 1/4-20 X 2.0", STAINLESS	4

BAG #3:

BOLT, 1/4-20 X 1-3/4", STAINLESS	4
BOLT, 1/4-20 X 1-1/2", STAINLESS	22
SCREW, 1/4-20 X 1" COUNTERSUNK, FLATHEAD, STAINLESS	14
NUT, 1/4-20 LOCKING, STAINLESS	74

BAG #4:

SCREW, 8-32 X 2" PANHEAD, STAINLESS	8
SCREW, 8-32 X 1-3/4" PANHEAD, STAINLESS	18
SCREW, 8-32 X 1-1/2" PANHEAD, STAINLESS	20
SCREW, 8-32 X 1-1/4" PANHEAD, STAINLESS	36
SCREW, 8-32 X 1.0" PANHEAD, STAINLESS	8
SCREW, 8-32 X 7/8" PANHEAD, STAINLESS	10
SCREW, 8-32 X 1/2" PANHEAD, STAINLESS	10
NUT, 8-32 LOCKING, STAINLESS	105
NUT, 8-32, STAINLESS	10
SET SCREW, 8-32 X 1/4", STAINLESS	15
KEEPER, 3/16, STAINLESS	13
CABLE EYES, 3/16	2
CABLE CLIPS, 3/16"	6
PUSH TUBE, 3/8 X 3", ALUMINUM	1
ALLEN WRENCH, 5/64"	1

Carefully designed and manufactured by:

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7&10-30LP8-125 ASSEMBLY MANUAL

