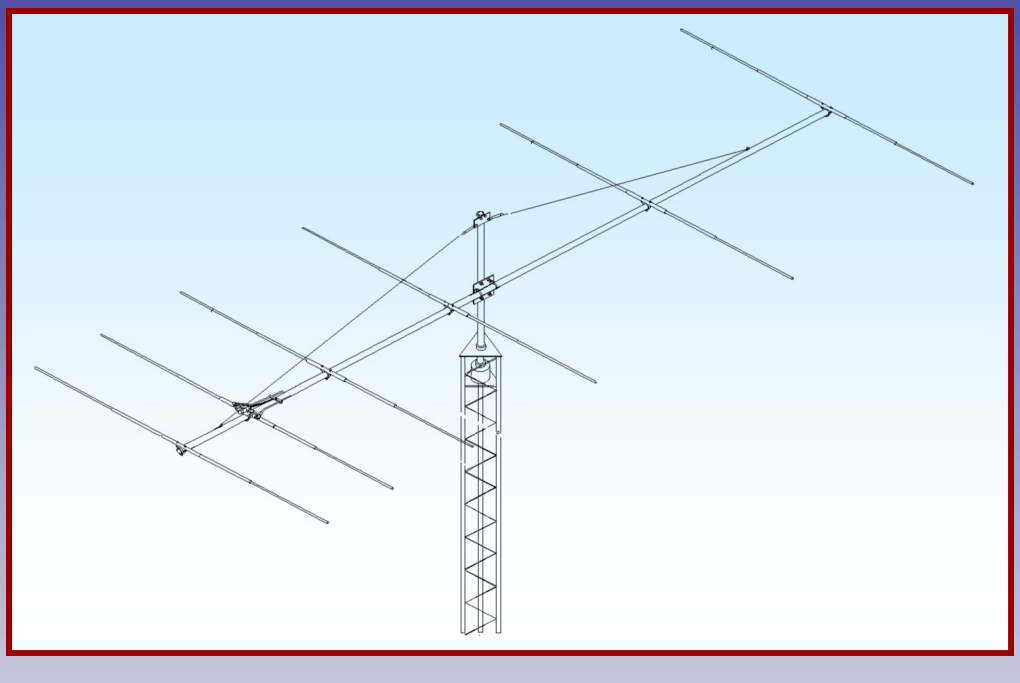
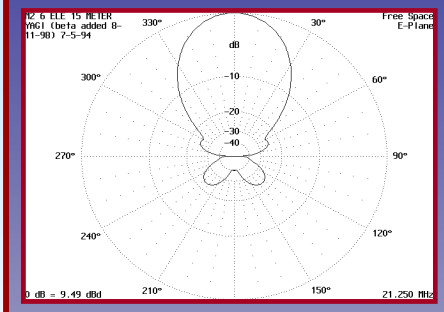
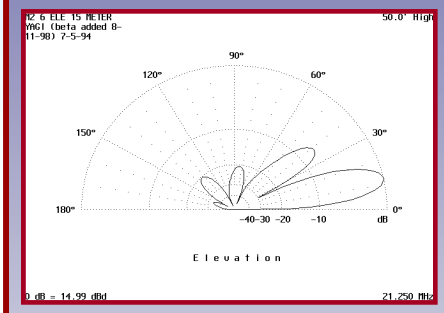
M2 Antenna Systems, Inc.
Model No: 15M6DX







SPECIFICATIONS:

Model	15M6DX
Frequency Range	21.0 To 21.450 MHz
*Gain, (FS) / Over gnd	11.5dBi / 16.9dBi @47'
Front to back	23 dB Typical
Beamwidth	E=48° / H=53°
Feed type	Hair pin match
Feed Impedance	50 Ohms Unbalanced
Maximum VSWR	1.5:1
Input Connector	SO-239, Others avl.
Power Handling	3 kW, Higher avl.
Boom Length / Dia	44' 10" / 2-1/2" & 2"
Element Length / Dia.	23' 8" / 1" To 1/2"
Turning Radius:	27'
Stacking Distance	40' To 50'
Mast Size	2" to 3 " Nom.
Wind area / Survival	7.68 Sq. Ft. / 100 MPH
Weight / Ship Wt.	50 Lbs. / 68 Lbs.

***Subtract 2.14 from dBi for dBd / FS = Free Space**

FEATURES:

The 15M6DX design joins our quality series of SUPER GAIN Yagis made possible by careful computer optimization. Full band coverage, combined with excellent overall VSWR, allows total frequency agility while maintaining excellent gain and pattern. It is also ideal for stacking. Mechanically, the 15M6DX features our CNC machined aluminum element-to-boom ring clamps which ground all the elements for static and lighting protection. Elements are sleeved and double bolted to each clamp with stainless hardware. A rugged and versatile hairpin match and high power 1:1 coaxial balun keep the efficiency high. All hardware is stainless steel except the U-bolts. The 15M6DX Yagi is designed to be a trouble free, DX pileup topper for years to come.

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2/26/13
Rev.03

15M6DX 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.3

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 ALL the appropriate boom sections. Now assemble the boom sections using the 1/4-20 bolts and locknuts, 1/4-20 x 2-1/2" for the 2" boom sections and 1/4-20 x 3" for the 2-1/2" boom sections. Install the 5/16 x 4" eyebolts in the rear and front boom sections using stainless nuts and lockwashers. Now place the reflector ring clamp 1/2" from the end of the boom. Spread the ring clamp fingers with a flatbladed screwdriver to ease movement on boom. Loosely add a 1/4-20 x 1" bolt and locknut.

2. Locate the 1" x 5' (60") element sections and the five 7/8" x 30" CENTER SPLICE sections: four are drilled with holes 3-3/8" apart for the 2" ring clamps / one is drilled with holes 4-1/2" apart for the 2-1/2" ring clamp. Slide a 7/8" x 30" CENTER SPLICE (for 2" ring clamp) halfway into the butt end of one 1" section and line up the holes. Push a 1/4-20 x 1-3/4" bolt through this hole and add the second 1" element section. Add another 1-3/4" bolt and place this assembly into the REFLECTOR ring clamp channel. Add the 1/4" locknuts and tighten.

3. Refer to the HARDWARE ARRANGEMENT SHEET for a detailed assembly of the DRIVEN ELEMENT. Note that the balun mounting plate and 7/8 x 29 3/4 fiberglass rod mounts to the ring clamp using 1/4-20 x 1-3/4 bolt and locknuts. Remember to slide the poly rings into place before installing the 1.0 x 60" tubes. Continue assembly per drawing.

4. Pair up the remaining 1" inch element sections and 7/8" x 30" sleeves and mount to the ring clamps as in step #3. Note: the 30" sleeve for the 2-1/2" ring clamp separates the 1" element butts by about 1". This is normal.

5. Pair up the 1/2" tip sections by length. Install the longest pair (27-7/8") into a pair of 3/4" x 60" Element sections and secure with 5/8" compression clamp (See generic compression clamp detail sheet). Then install these 3/4" / 1/2" assemblies into the 1" Reflector elements. Secure with 8-32 x 1-1/4" screws and locknuts. Repeat for all elements, using the shorter lengths forward. See the Dimension Sheet for supplied lengths.

6. 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." After setting spacing, align elements with the Driven Element and tighten the 1/4-20 x 1" bolts.

7. Pick up the boom and mark the balance point. Center the BOOM TO MAST PLATE here, multiple U-bolt holes vertical, and secure with two 2-1/2" U-bolts, cradles, stainless lockwashers and nuts. Four 2" U-bolts are supplied for attaching the antenna to your 2" mast.

8. To prepare the overhead guy system, begin by ***temporarily*** installing a 2" U-bolt through the 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.

9. 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.

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

11. Both cords should now be fairly taut and parallel with boom. Disconnect the 2" U-bolt holding the turnbuckle plate and lift it 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.

12. 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", loosen the 2" U-bolt and adjust turnbuckle plate height until boom is straight and level. Finer adjustments can be made at any time, if necessary, with the turnbuckles.

13. This completes the ASSEMBLY. 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 feed line at the antenna boom and on the mast. Leave an adequate feed line loop for rotation around the tower. Mount horizontally polarized VHF and UHF antennas at least 40" above or below this antenna to minimize interaction.

Carefully designed and manufactured by:

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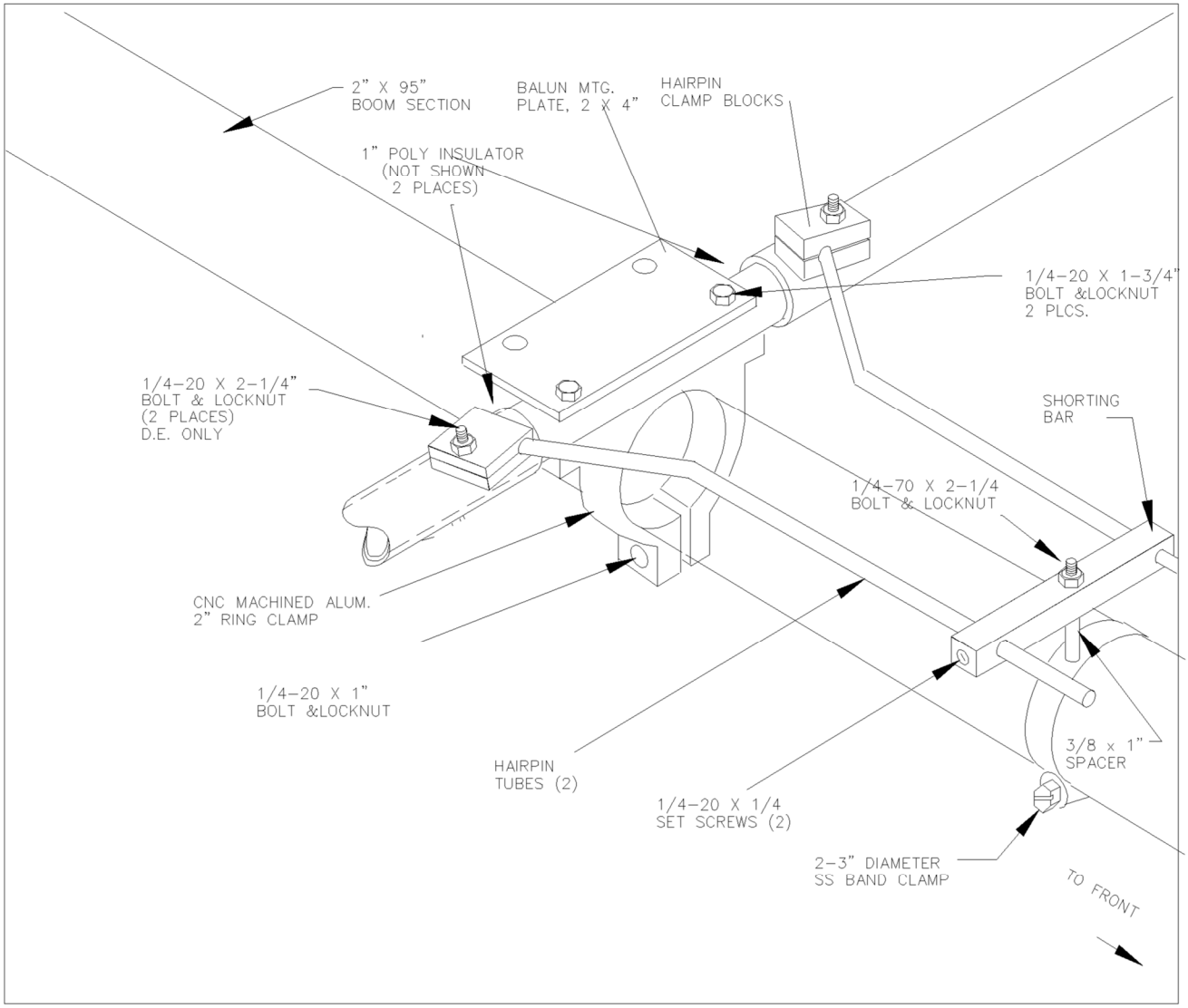
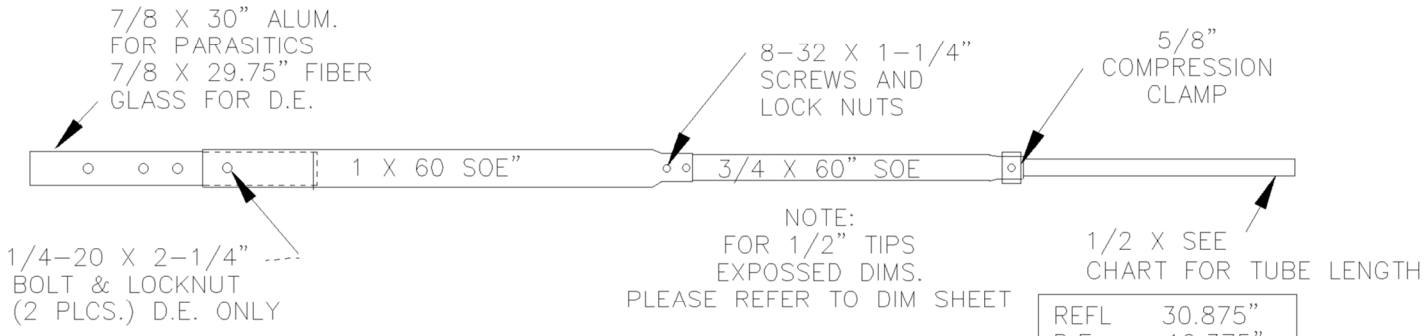
15M6DX ASSEMBLY DETAILS

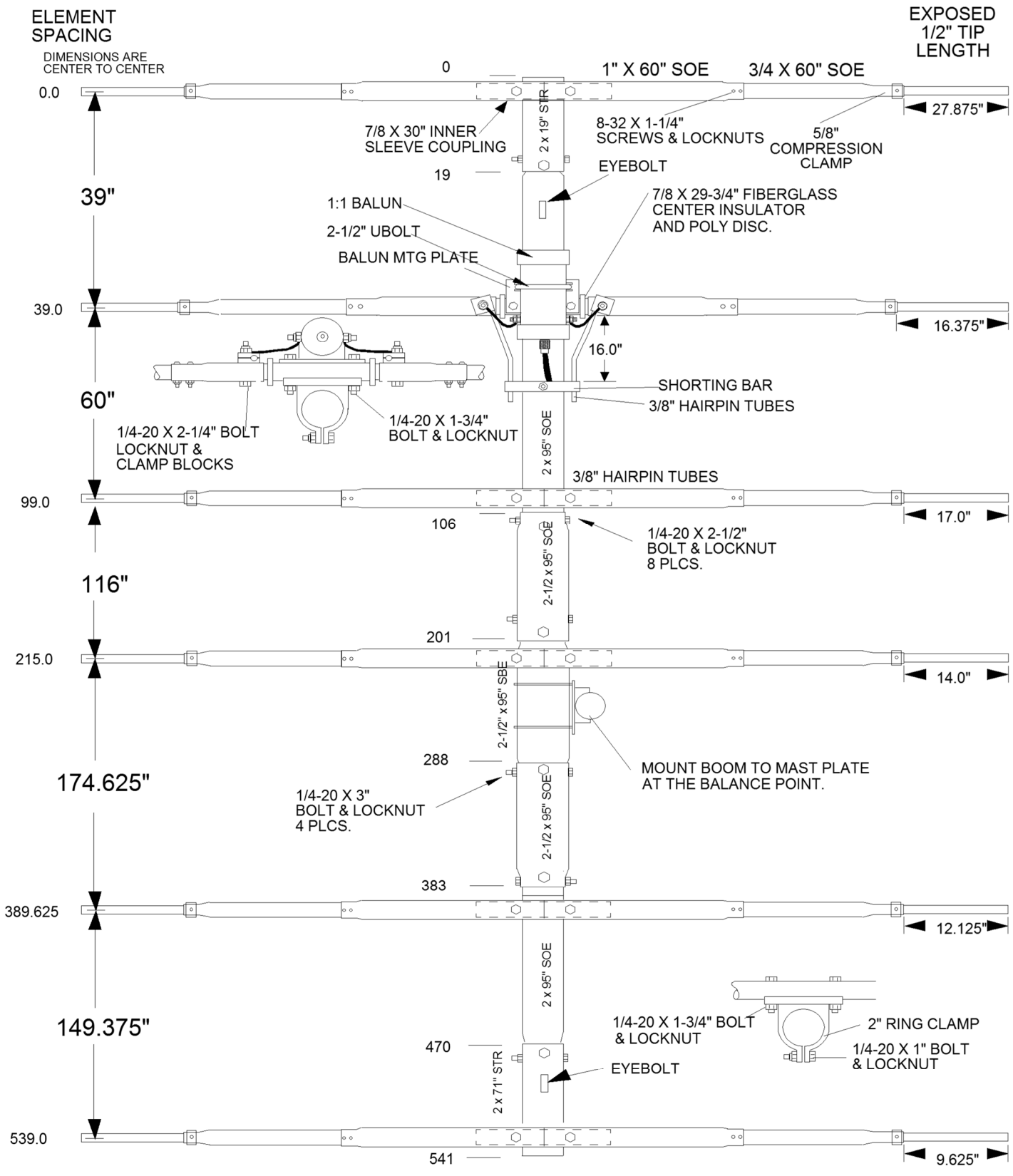


15M6DX ELEMENT HALF



REFL	30.875"
D.E.	19.375"
D1	20.0"
D2	17.0"
D3	15.125"
D4	12.625"

15M6DX DIMENSION SHEET



NOT TO SCALE

15M6DX PARTS & HARDWARE

DESCRIPTION	Qty
Boom section, 2” x .065 x 19” straight	1
Boom section, 2” x .065 x 71” straight	1
Boom section, 2" x .065 x 95” swaged one end	2
Boom section, 2-1/2” x .065 x 95” swaged one end	2
Boom section, 2-1/2” x .065 x 95” swaged both ends	1
Element section, 1” x .058 x 60” swaged one end	12
Element section, 3/4” x 0.049 x 60”	12
Element tip, 1/2” x .049 x see Dimension Sheet	12
Sleeve, element, 7/8” x .058 x 30”, 2” RC (M2AEP0015)	4
Sleeve, element, 7/8” x .058 x 30”, 2-1/2” RC (M2AEP0016)	1
Fiberglass insulator, 7/8 x 29-3/4” (M2AFG0041)	1
Polydisc, 7/8” (M2ADI0040)	2
Hairpin tube, 3/8 x 30”	2
Shorting bar, hairpin 1/2 x 1/2 x 5” (M2ASB0262)	1
Clamp block, Hairpin, 1” x 1/4 x 1-1/4” alum. (M2AMC0261)	4
Spacer, hairpin, 3/8” x 1” tube	1
Balun, 1:1 3-30MHz, standard	1
Plate, Balun mounting, 2 x 4” alum (M2APT0018)	1
Band clamp, 2-3” ss modified # 32	1
Boom to mast plate, 8” x 8” x .25” (M2APT0072)	1
Ring clamp, 2” (M2AEC0200)	5
Ring clamp, 2-1/2” (M2AEC0220)	1
Dacron rope, 5/16” x 40’	1
Eyebolts, 5/16” x 4”	2
Turnbuckles, 5/16”, hook & eye	2
Turnbuckle Plate, 2” x 5” x .188” (M2APT0113)	1
U-bolt and cradle, 2”	5
U-bolt and cradle, 2-1/2”	3
5/8” Compression Clamp (M2AMC0145)	12
Assembly Instructions	1

IN HARDWARE BAG	Qty
Nut, 5/16-18 ss	18
Lockwasher, split ring 5/16"	18
Bolt, 1/4-20 x 3” ss	4
Bolt, 1/4-20 x 2-1/2" ss	8
Bolt, 1/4-20 x 2-1/4 ss	3
Bolt, 1/4-20 x 1-3/4" ss	12
Bolt, 1/4-20 x 1" ss	6
Set screw, 1/4-20 x 1/4" ss	2
Nut, 1/4-20 locking, ss	35
Screw, 8-32 x 1-1/4” ss	24
Screw, 8-32 x 1” ss	24
Screw, 8-32 x 1/2”, ss	12
Nut, 8-32, ss	12
Nut, 8-32 locking, ss	50
Nylon tie, large black, 11”	3
Zinc paste, 1 oz. cup	1
Allen wrench 1/8"	1

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