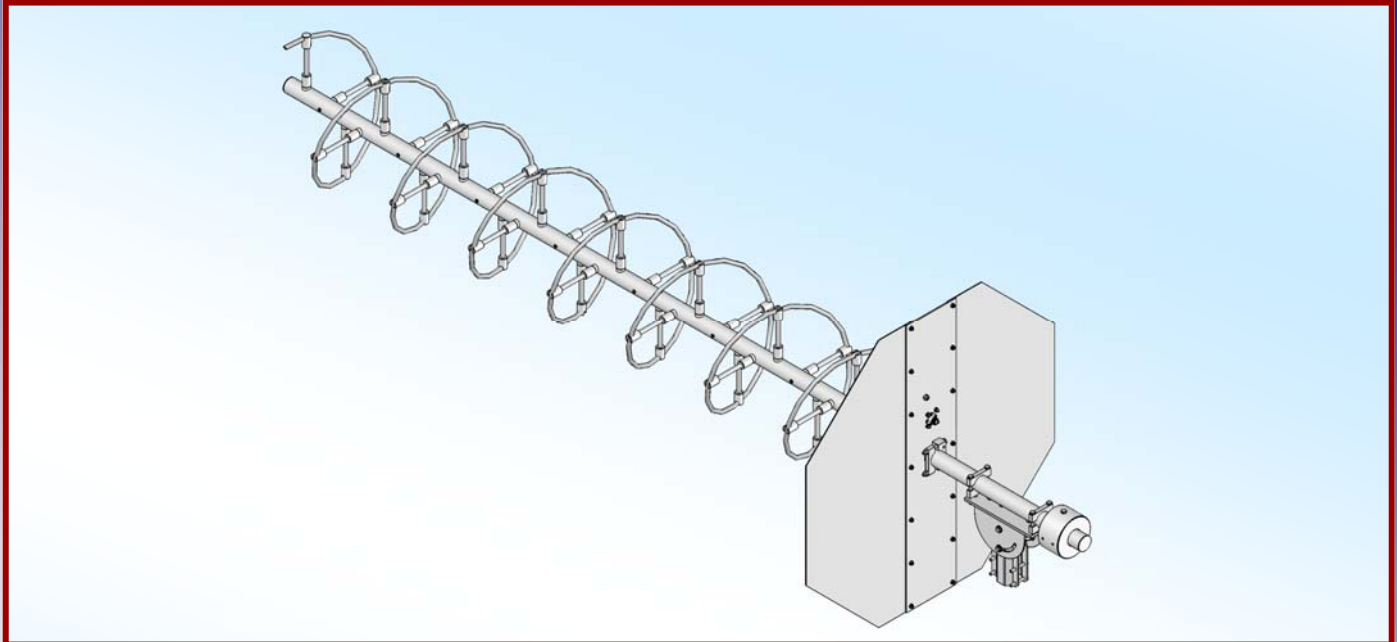




M2 Antenna Systems, Inc. Model No: FG225-400-8



SPECIFICATIONS:

Model	FG225-400-8	Ellipticity	<3db
Frequency Range.....	225 To 400 mHz	Connector.....	Type "N" Female
*Gain	12 dB Nominal	Power Handling	1 kW, Higher avl.
Beamwidth	225 mHz = 53°	Boom Length / Dia.....	96" / 1-1/2"
	400 mHz = 30°	Turning Radius:.....	90"
Impedance.	50 Ohms Unbalanced	Mast Size.....	2" Nom.
VSWR	1.2 Typical	Wind Survival	100 MPH
Polarity	RHCP or LHC	Weight / Ship Wt.....	35 Lbs. / 38 Lbs.
	(Customer Specified)		

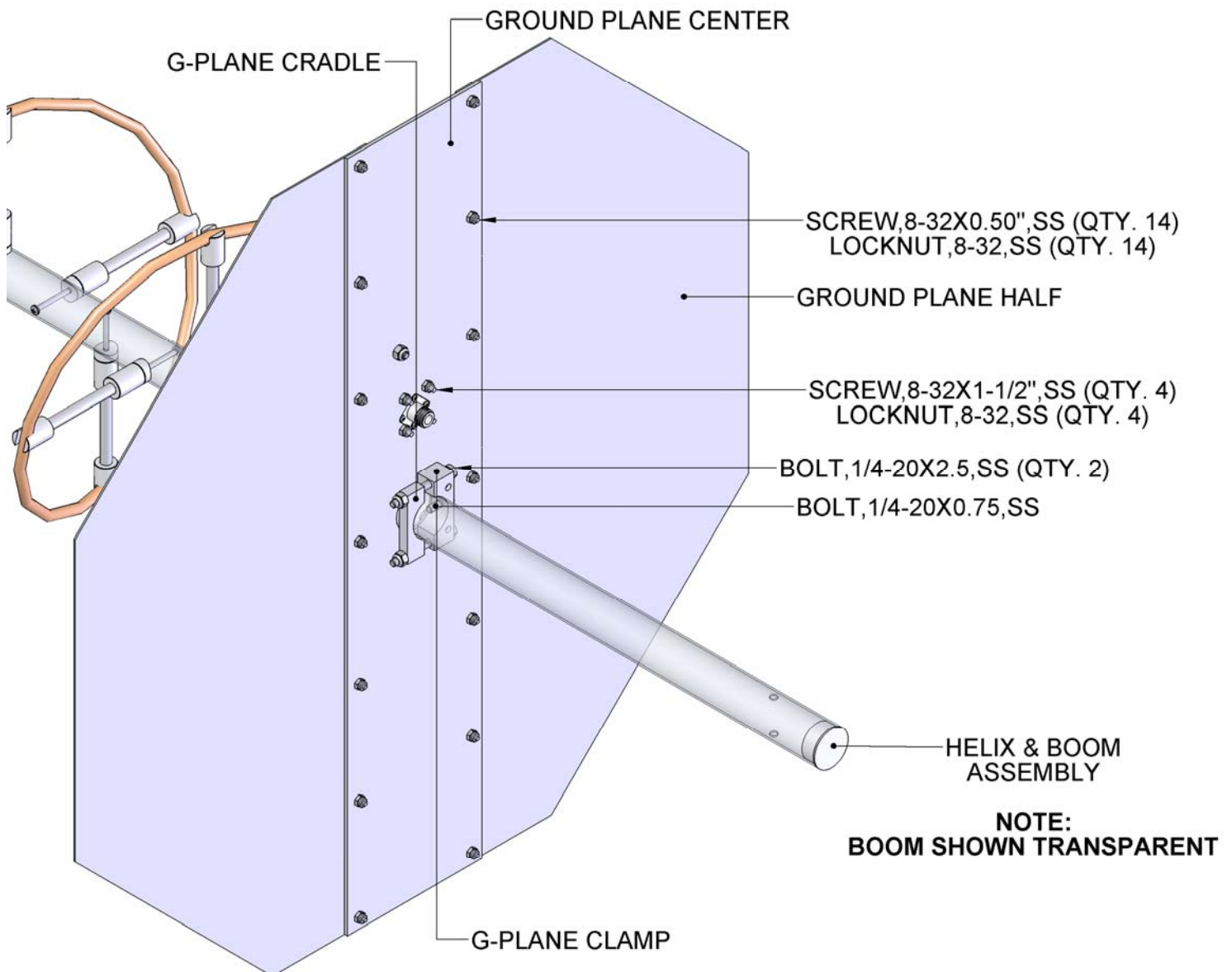
FEATURES:

The M2 225-400-8 Helix antenna offers medium performance characteristics for specialized fixed and rapid deploy operations within the 225 to 400 MHz band. It is perfect for either terrestrial or satellite applications. The antenna is supplied with a manually adjustable Azimuth / Elevation mount and a counter weight. The antenna is shipped with the helix assembled less ground plane. Finishes are optional. The steel adjustable mounting fixture and counterweight are zinc plated. Optional arrays of 2 or more are available. Other frequency ranges and gains are also available down to 100 MHz. Complete motorized, computer controlled AZ-EL systems are also manufactured by M2. Where circular polarity is not required but high bandwidth is, M2 offers a line of various log periodic antennas from 5 to 1300 MHz. If it is antenna related, we probably have made it. Call us with your requirements.

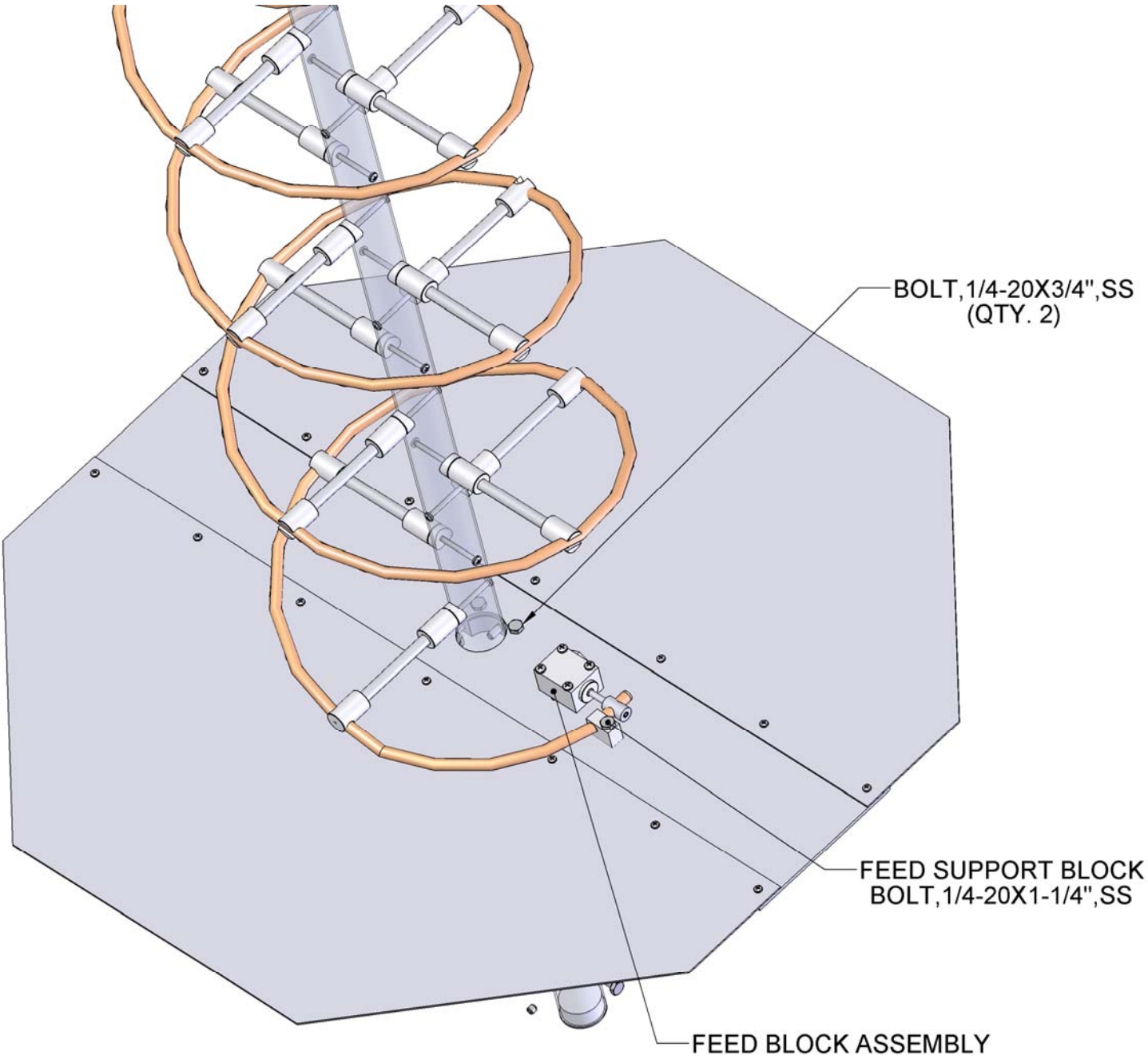
HELICAL 225-400-8

TOOLS REQUIRED: #2 Phillips head screwdriver, 11/32 nut driver and 7/16" socket open end wrench.

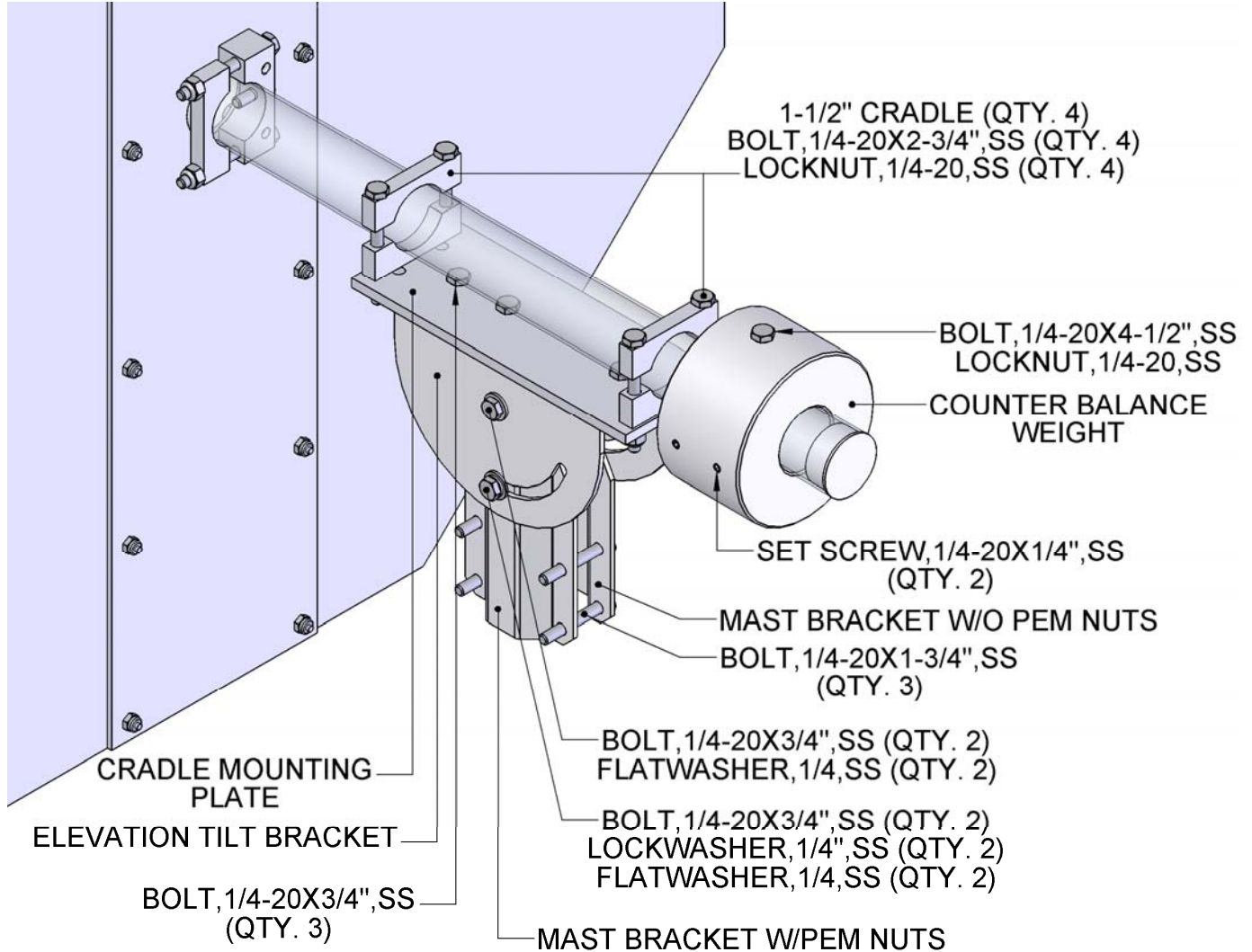
1. Unpack the factory assembled HELICAL antenna, the GROUND PLANE CENTER PLATE, and the two (2) GROUND PLANE HALFS. Attach the Ground plane halves to the Ground plane center Plate using 8-32 x 1/2" screws and locknuts.
2. Add the g-plane clamp #1 to the center reflector plate near the center hole using 1/4-20 x 3/4 bolts. Then slide the assembly up the rear end of the helix boom. Align the hole in the rear boom section of the helix assembly with that of the g-plane clamp #1 and use a 1/4-20 x 3/4" bolt to set the position of the ground plane by threading the bolt through the g-plane clamp #1 and into the boom. This sets the position of the ground plane. Then add the g-plane clamp #2 and secure with 1/4-20 x 2.5" bolts and locknuts.
3. Slide the 'N'-connector block assembly on the helix and rotate the connector down through the large hole in the plate. Secure the block to the plate with four (4) 8-32 x 1-1/2" screws and locknuts. Now install the 1/4-20 x 1/4" set screw in the round end of the feed block assembly and tighten, using the supplied 1/8" Allen wrench. Note the black markings around the Helix tube and set screw markings from original test assembly. Helix should protrude no more than 1/8" past the feed post. This completes the assembly.



HELICAL 225-400-8



HELICAL 225-400-8



4. Assemble the Elevation Bracket hardware as shown on the assembly picture. For the time being set the elevation angle to 0 deg. (mast bracket perpendicular to the antenna). Attach the cradle mounting plate to the elevation tilt bracket. Next, using four 1/4-20 x 2 3/4" bolts and locknuts, attach the four saddles loosely to the cradle mounting plate. Now slide the entire assembly onto the back of the boom, position right up against the mounting plate collar, and set the feed connector to the desired rotational orientation. Tighten the four saddle bolts.

5. With an associate, slide the antenna onto the top of a 2" support pole. Point the antenna to the proper azimuth and elevation angles, and tighten all of 1/4-20 hardware on the mast clamp bracket. Add the optional counter balance weight to the end of the helical, slide the weight to a position that will provide balance to the antenna system, add 1/4-20 set screws to hold the position of counter balance.

This completes the assembly.

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HELICAL 225-400-8 PARTS & HARDWARE

DESCRIPTION.....	QTY
HELIX & BOOM ASSEMBLY	1
FEED BLOCK ASSEMBLY	1
FEED SUPPORT BLOCK	1
GROUND PLANE CENTER.....	1
GROUND PLANE HALF	2
G-PLANE CLAMP (R. 0.750).....	1
G-PLANE CRADLE (R. 0.750).....	1
ELEVATION TILT BRACKET.....	1
MAST BRACKET W/PEM NUTS	1
MAST BRACKET W/O PEM NUTS.....	1
CRADLE MOUNTING PLATE.....	1
CRADLE, 1.5"	4
COUNTER BALANCE WEIGHT	1
ASSEMBLY MANUAL.....	1
HARDWARE:	
BOLT, 1/4-20 X 4-1/2", SS	1
BOLT, 1/4-20 X 2-3/4", SS	4
BOLT, 1/4-20 X 2-1/2", SS	2
BOLT, 1/4-20 X 1-3/4", SS	4
BOLT, 1/4-20 X 1-1/4", SS	1
BOLT, 1/4-20 X 3/4", SS	10
SET SCREW, 1/4-20 X 1/4", SS	2
FLATWASHERS, 1/4, SS.....	4
LOCKWASHERS, 1/4, SS.....	2
LOCKNUT, 1/4-20, SS	10
SCREW, 8-32 X 1-1/2", SS	4
SCREW, 8-32 X 1/2", SS	14
LOCKNUT, 8-32, SS	18
ALLEN HEAD WRENCH, 1/8".....	1

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