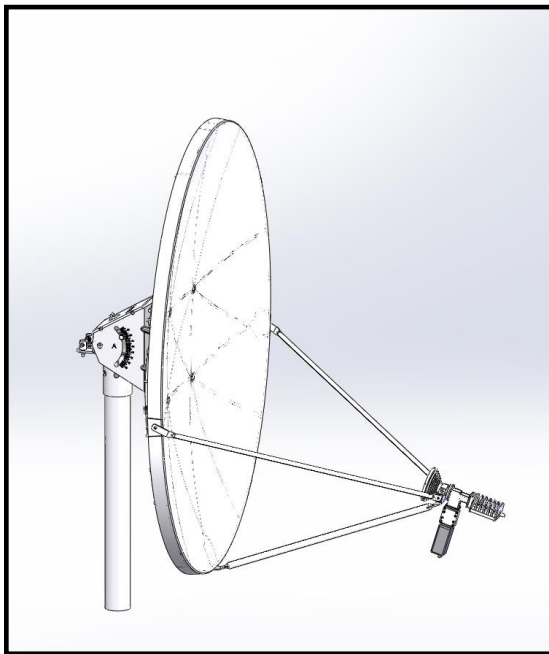


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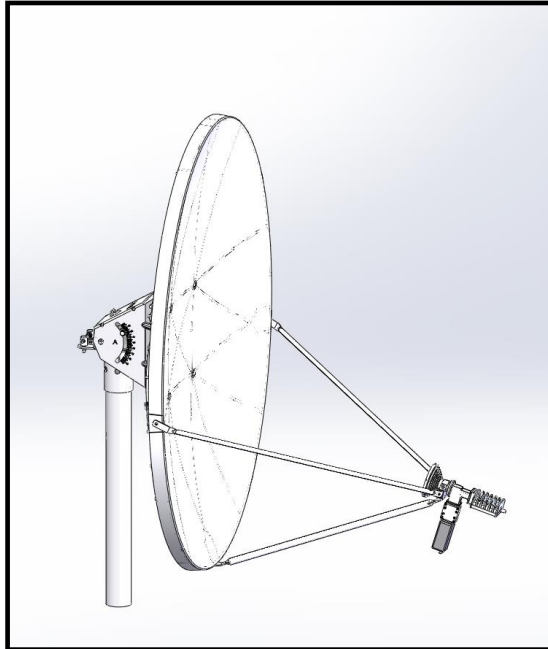
ASSEMBLY MANUAL
Revision A

SERIES 1122 1.2M Ku-BAND ANTENNA SYSTEM

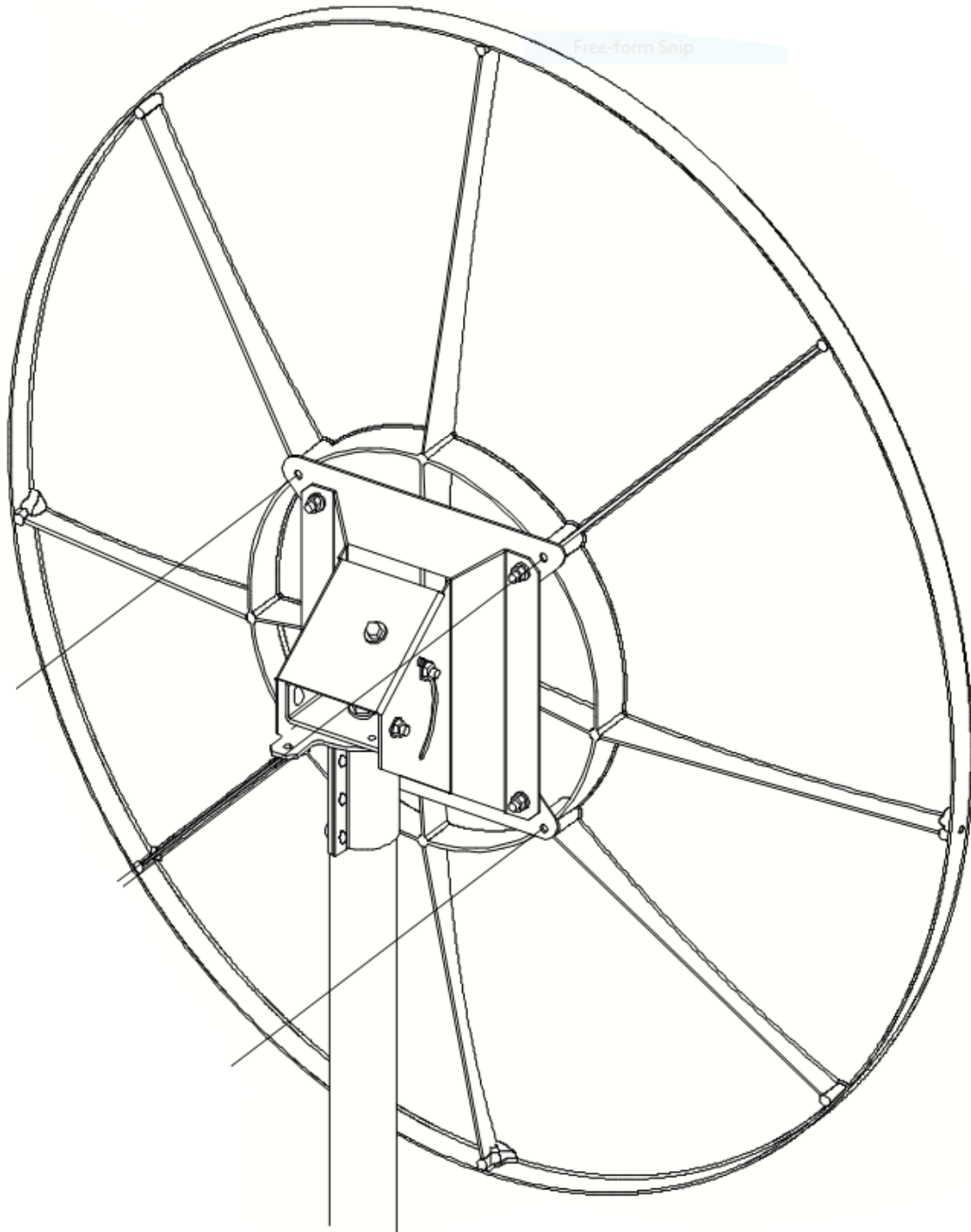


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1.2M Ku-BAND SERIES 1122 ANTENNA SYSTEM



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Series 1122 Antenna System

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SECTION I INTRODUCTION**1.0 GENERAL INFORMATION**

This manual describes the assembly and installation of CPI's 1.2 meter antenna system. The CPI 1.2 meter is a rugged and reliable antenna which will operate in the Ku-Band frequency with high efficiency and at the same time successfully withstand the effects of the environment. The CPI 1.2 meter has an f/d ratio of 0.6 and an offset angle of 22.6°. This system is commonly used with a CPI ku-band feed assembly.

These instructions are listed by sections that cover all areas of assembly and installation. Additional sections are included in the manual to provide information on antenna alignment to the satellite and maintenance.

1.1 UNPACKING AND INSPECTION

The system containers should be unpacked and inspected at the earliest date to insure that all material has been received and is in good condition. A complete packing list for each major component is supplied.

1.2 FREIGHT DAMAGE

Any damage to materials while in transit should be immediately directed to the freight carrier. He will instruct you on matters regarding any freight damage claims.

1.3 MATERIAL – MISSING OR DAMAGED

Any questions regarding missing or damaged materials that are not due to the freight carrier should be directed to CPI's Customer Service Department at:

**CPI Satcom & Antenna Technologies
1700 Cable Drive NE
Conover NC 28613 USA
Phone 770-689-2040
www.cpii.com**

1.4 MECHANICAL INSTALLATION TOOLS

The hardware supplied with this antenna system is U.S. SAE standard size. However, the sizes have been chosen to allow use with compatibly sized metric wrenches as shown in the table below.

HARDWARE SIZE	SAE WRENCH SIZE	METRIC WRENCH SIZE	MAXIMUM REC. TORQUE
5/16" Bolt	1/2"	13 mm	12 ft-lbs (16.3 n-m)
3/8" Bolt	9/16"	14 or 15 mm	20 ft-lbs (27.2 n-m)

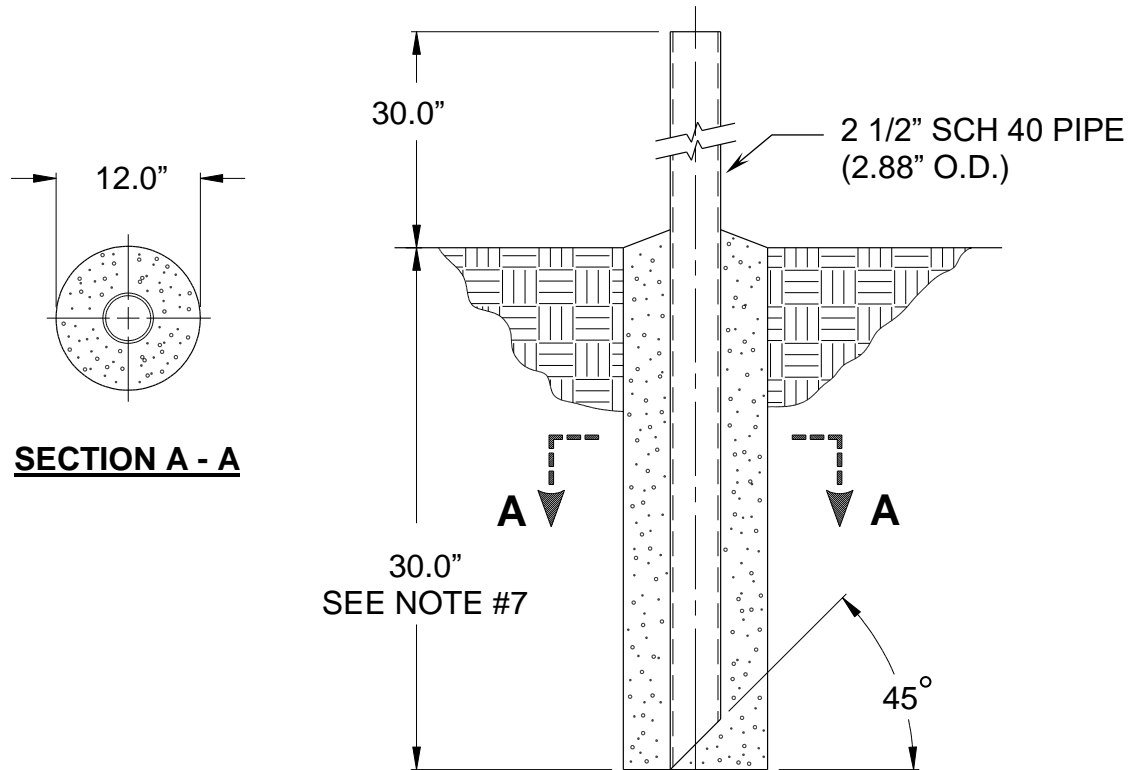
Also recommended for installation:

Compass - graduated to .5°
Adjustable Wrench
Hex wrench or screwdriver (for LNB and BUC install)

1.5 FOUNDATION INTERFACE

The required interface from the foundation to the mount is 2.88" O.D. (2-1/2" schedule 40 pipe) or a 3" O.D. x 0.25" wall (76mm O.D. x 5.0mm wall) steel pipe. A suggested in-ground foundation is shown in Figure 1.

Also available from CPI, as options, are a kingpost pedestal mount and/or a non-penetrating mast mount.

SUGGESTED IN-GROUND FOUNDATION**FIGURE 1.****NOTES:**

1. 2 1/2" schedule 40 pipe should conform to ASTM A53.
2. All concrete should conform to building code standards and have a minimum compressive strength of 3000 PSI at 28 days. (Per ACI-318-77)
3. Soil bearing capacity should be no less than 2000 PSF.
4. Concrete should be poured against undisturbed soil.
5. Allow concrete 24 hours set time before installation of antenna.
6. The antenna should be properly grounded to meet applicable local codes.
7. Minimum depth as shown or extend to local frost line.
8. Foundation meets the design requirements as set forth by the uniform building code. (1982 edition)

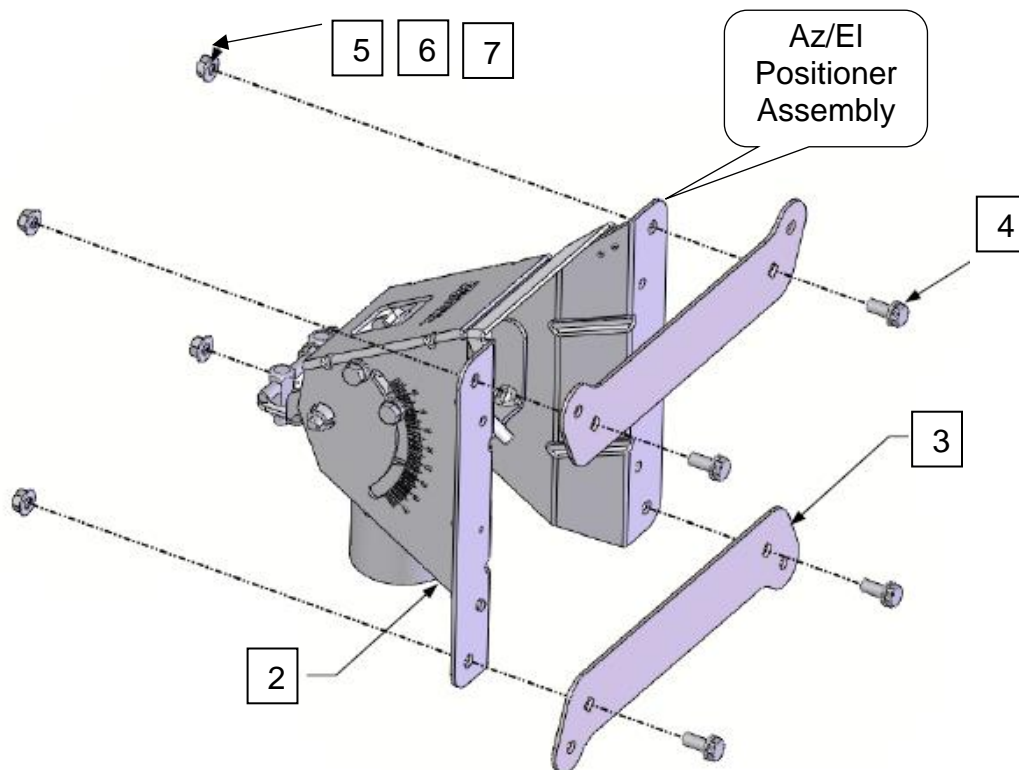
(ABOVE DESIGN IS A SUGGESTED FOUNDATION ONLY. CPI DOES NOT REPRESENT OR WARRANT THAT ANY PARTICULAR DESIGN OR SIZE OF FOUNDATION IS APPROPRIATE FOR ANY LOCALITY OR EARTH STATION INSTALLATION.)

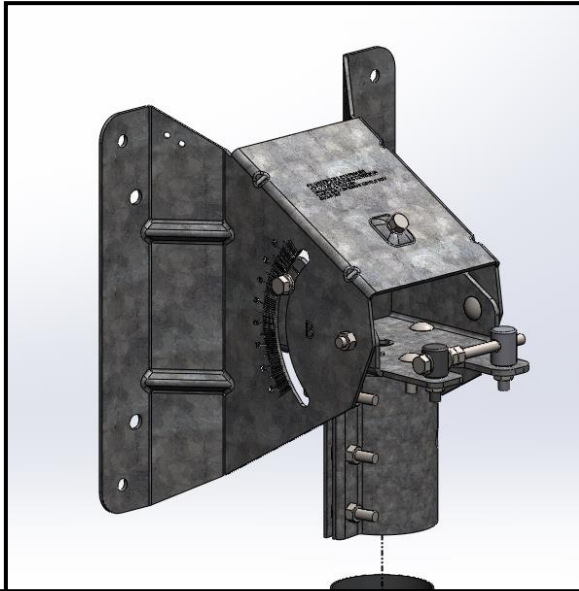
SECTION II ANTENA ASSEMBLY**2.1 REFLECTOR AND SUPPORT ASSEMBLY**

REFLECTOR AND SUPPORT ASSEMBLY PART LIST			
ITEM	PART NO.	DESCRIPTION	QTY
1	0179-245	1.2M .6 F/D Reflector	1
2	0185-4332	Az/EI Positioner Assembly	1
3	0158-246	Interface Plate	2
4	8032-008	Bolt, Hex Head, 3/8"-16 x 1.00"	4
5	8201-042	Flat Washer, 3/8"	4
6	8202-042	Lock Washer, 3/8"	4
7	8102-007	Nut, Hex, 3/8"-16	4
8	8319-006	Screw, Hi-Lo Thread, 27/64" x 1.38"	4

Step 1

Install the interface plates (Item 3) to the az/el positioner (Item 2) as shown. Insert the 3/8" Hex bolts (Item 4) through the plates and secure with flat washers, lock washers, and nuts (Items 5, 6, 7).





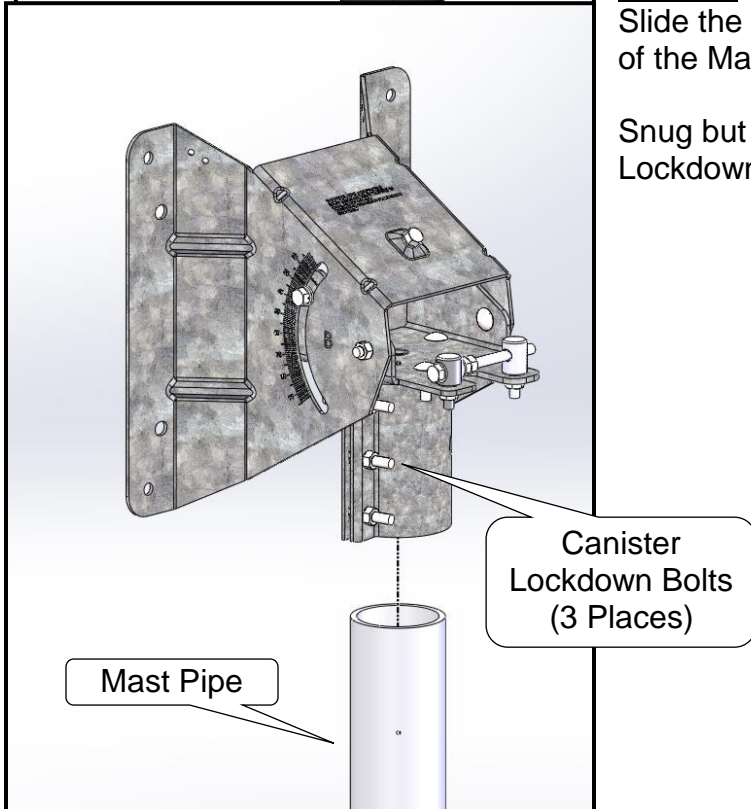
STEP 2.

The Az/EI Positioner Assembly is supplied with a Mast Sleeve for use on 2.88" OD mast pipes. If the install is on a 2.88" OD mast pipe, the Mast Sleeve should be inserted into the Canister before proceeding to reduce the Canister's inside diameter appropriately. If the install is on a 3.00" OD (76mm OD) mast pipe, the Mast Sleeve can be omitted and discarded.

STEP 3.

Slide the Az/EI Positioner Assembly over the top of the Mast Pipe until fully seated.

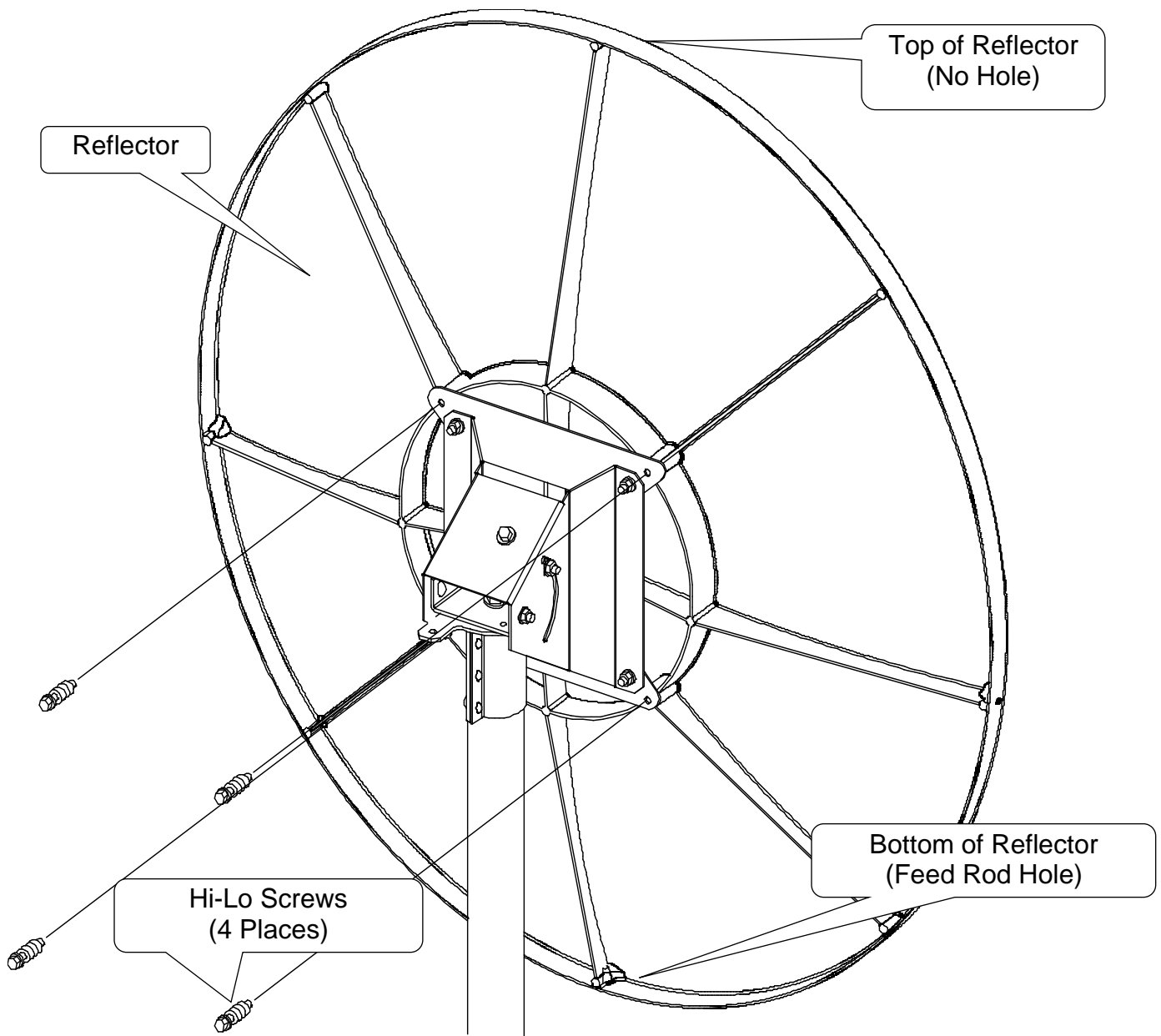
Snug but do not tighten the three Canister Lockdown Bolts.



STEP 4.

Align the four holes in the Reflector with the four holes in the Az/EI Positioner and attach using a Hi-Lo screw in each of the four holes. Tighten the four screws to 15 ft/lbs for the 1.2M antenna

Note: The “bottom” and “sides” of the Reflector can be identified by the presence of a Feed Rod mounting hole not present in the “top” of the Reflector.



2.2 FEED AND FEED SUPPORT ASSEMBLY

The Series 1122 Antenna can be equipped with a variety of RxO and RxTx feed assemblies. Refer to the instructions packed with the feed assembly to correctly install the feed system. When complete, proceed to Section 3.0 to finish the antenna alignment.

SECTION III ANTENNA POINTING**3.0 ANTENNA POINTING**

Note: The 1.2 meter reflector contains a 22.6° elevation offset look angle. Therefore, when the reflector aperture is perpendicular to the ground, the antenna is actually looking 22.6° in elevation. The Elevation Scale located on the side of the Az/EI Positioner allows for this offset angle.

Note: The following alignment procedure is intended only as a general reference guide for this antenna. For proper antenna performance, accurate alignment is critical. Therefore, it is recommended that your own detailed procedure be used or contact CPI Technical Support Department for additional recommendations.

STEP 1: **BEFORE ADJUSTING ELEVATION, LOOSEN THE HARDWARE ON BOTH SIDES OF THE POSITIONER (2 PLACES EACH SIDE). REFER TO FIGURE 3-1 FOR LOCATION.**

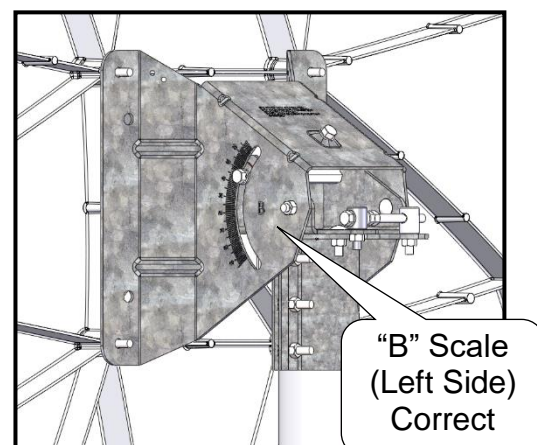
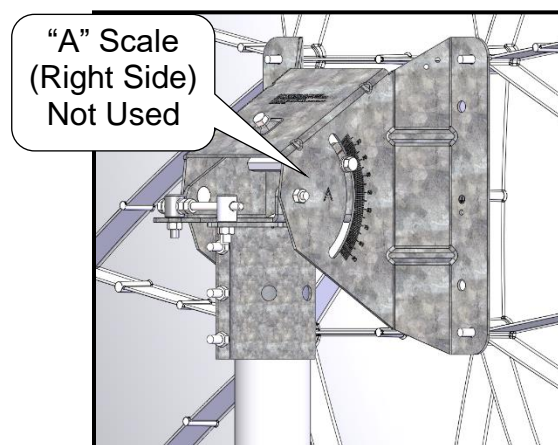
Adjust the Reflector up or down in elevation by turning the 5/16" Elevation Adjust Bolt at the top of the Az/EI Positioner until the desired elevation is read on the side of the Positioner. See Figure 3-1.

Once adjusted, snug the hardware at the sides of the Positioner.

Note: *The Az/EI Positioner has a scale on each side of the elevation bracket labeled "A" and "B" as shown below. For the Series 1122 antenna, the "B" scale should be used (left side of Az/EI Positioner when viewed from behind).*

Note: *This scale is used for nominal readings and is accurate to ± 2 degrees.*

Note: *Elevation Adjust Bolt is for adjustment only, it is not intended to be part of the structural integrity of the assembly, therefore "tightening" the Elevation Adjust Bolt is not necessary.*



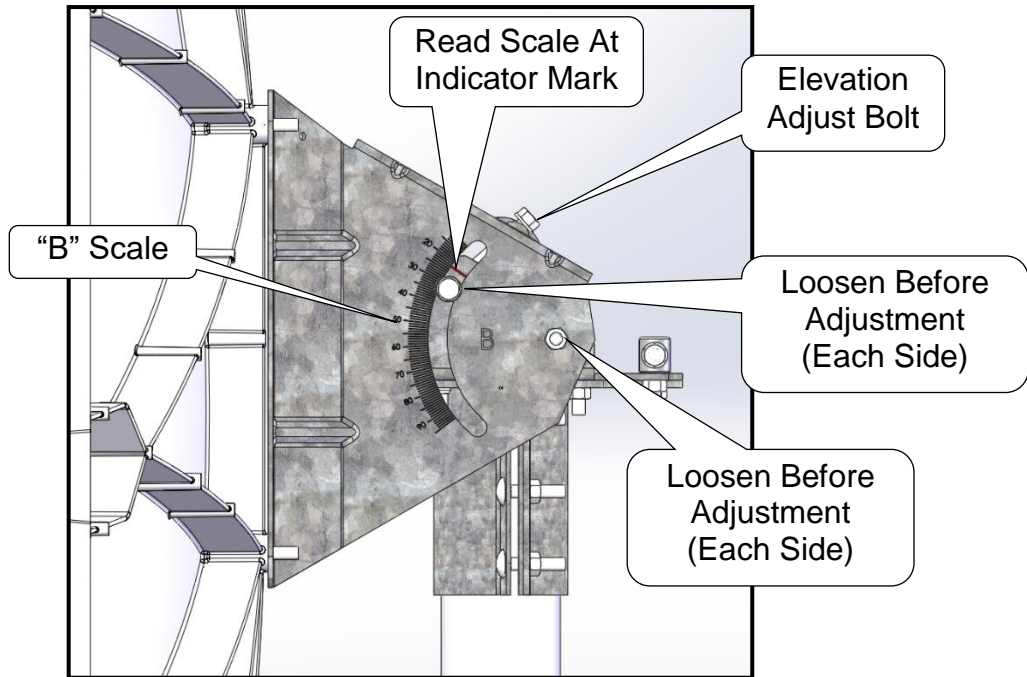


Figure 3-1

STEP 2: Coarse Azimuth Adjustment: With the electronics set to acquire the satellite, rotate the entire Antenna in azimuth (about the mast pipe) until the target satellite is identified. Once the target satellite is located, securely tighten the Canister hardware (3 places). See Figure 3-2.

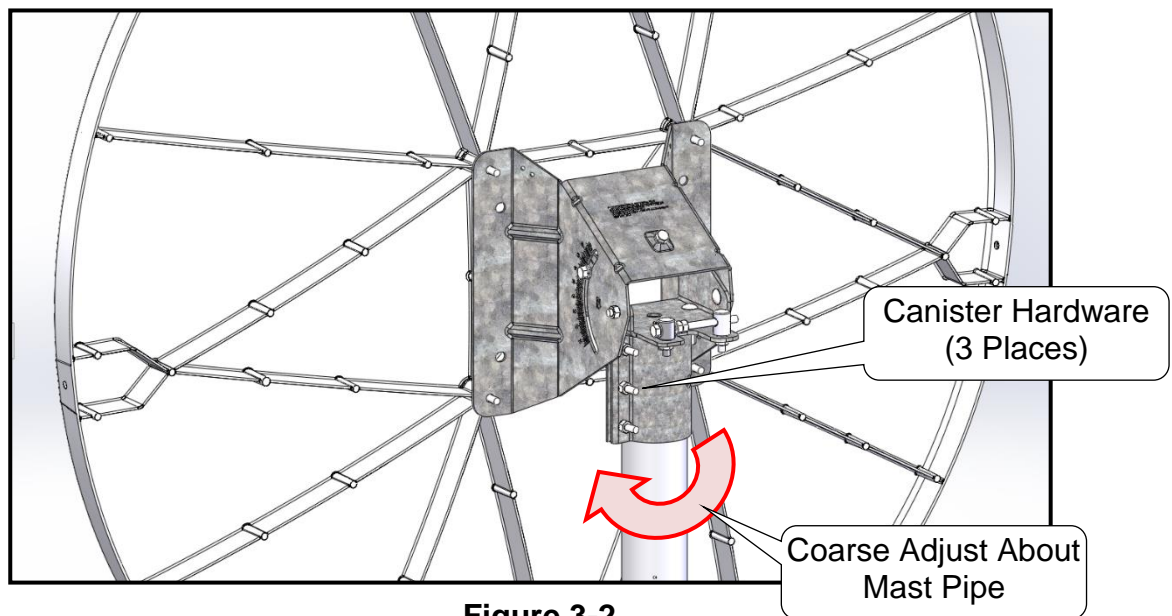


Figure 3-2

STEP 3: Fine Azimuth Adjustment: Once the target satellite is located, fine adjustments in azimuth can be made by **loosening the three Locking Hex Nuts on the underside of the Canister top plate of the Az/el Positioner and the two hex nuts under the Azimuth Pivot Posts.**

With this hardware loosened, adjustments in azimuth can be made by turning the Azimuth Adjust Bolt at the back of the Az/El Positioner in either direction. See Figure 3-3.

Note: *Azimuth Adjust Rod is for adjustment only, it is not intended to be part of the structural integrity of the assembly, therefore “tightening” the Azimuth Adjust Bolt is not necessary.*

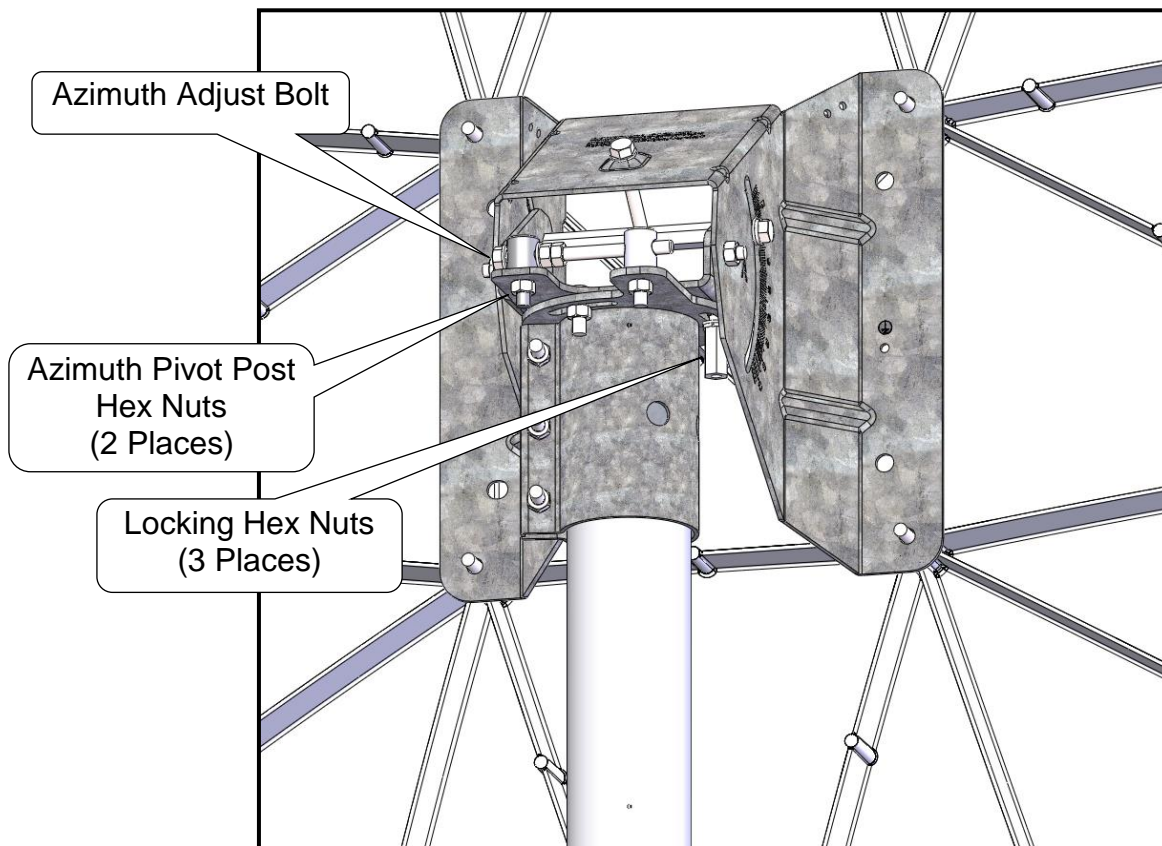


Figure 3-3

STEP 4: Peak the antenna signal by fine adjustments made in both Azimuth and Elevation until the optimum signal is achieved.

STEP 5: Securely tighten all hardware used for adjustment.

SECTION IV MAINTENANCE**4.0 MAINTENANCE OVERVIEW**

After installation, the antenna requires only periodic inspection. It is anticipated that maintenance, if required, will be minimal and easily handled by a local or in-house maintenance staff.

4.1 REFLECTOR

CPI's reflector does not require any maintenance. The composite construction of the reflector is virtually impervious to any damages that could be caused by weather or atmospheric conditions. It is only necessary to inspect for any physical damage done by vandalism or very severe weather conditions.

Should any damage be detected to a portion of the reflector, contact the Customer Service Department at CPI for recommendations involving reflector repair.

4.2 MOUNT AND REFLECTOR SUPPORT STRUCTURE

The mount and reflector support structure supplied with this antenna is of steel construction and have a galvanized finish.

If there are any signs of structural failure, the mount members that are damaged should be repaired or replaced.

4.3 FEED AND FEED SUPPORT

The feed support rods should be inspected to insure that all hardware is secure. The feed/radio mounting bolts should be tight.

The feed horn window should be inspected to insure that it is intact so that no moisture can collect inside the feed horn.