

- I. Return the rotator to full CW position.

FOR CUSTOMER USE:

Enter the number/color of each lead connected to the terminals.

1	2	3	4
5	6	7	8

Section 6. Mounting the Rotator

INSIDE TOWER

The rotator is mounted inside a tower (see Figure 3) to the flat tower plate by means of six (6) bolts furnished in the hardware kit. Use the following procedure:

1. Locate the rotator in the tower directly under the bushing. **Note that the tower plate must be cut out to allow the connecting 8-wire cable to pass through the plate. Use the template in the back of the manual. Too small of a hole can cause the terminal wiring to short out.**
2. Reattach the wires in exactly the same manner as used in the trial assembly and secure the wires to the tower in such a manner that the wires will not be strained.
3. The rotator is attached to the tower plate by means of six (6) bolts and lockwashers (see Figure 4). The flat tower plate must be drilled in six (6) places using the template provided with this manual unless the tower plate is already properly drilled.
4. Tighten the six (6) bolts, but not to final tightness. Observe how the rotator turns. It must rotate in such a manner as to turn the mast concentrically to the thrust bearing.
5. Trial assemble the mast to the top of the rotator using the U-bolts, nuts and

lockwashers through the rotator and clamp plate as shown in Figure 4. The maximum mast diameter that may be used is $2\frac{1}{8}$ " O.D. We recommend $1\frac{1}{2}$ " nominal steel pipe with 1.9" O.D. in standard wall thickness of .145". For stacked arrays or very large beams, we recommend extra heavy-duty wall thickness of .200". Both steel pipes can be purchased to specification ASTM-A120.

NOTE: Apply a coating of heavy motor oil or grease to the threads of the stainless steel bolts and U-bolts to prevent seizing.

On any inside tower installation, care must be exercised to get the antenna mast shimmed to the exact rotational center of the rotator. The geometry is such that a mast of 2.062" ($2\frac{1}{16}$ " [52 mm]) O.D. pipe will be exactly centered. If the O.D. of your mast is less than this, you should shim out to these dimensions. For each .0625" ($\frac{1}{16}$ " [1.6 mm]) less mast diameter used, .031" ($\frac{1}{32}$ " [.8 mm]) of shim stock must be

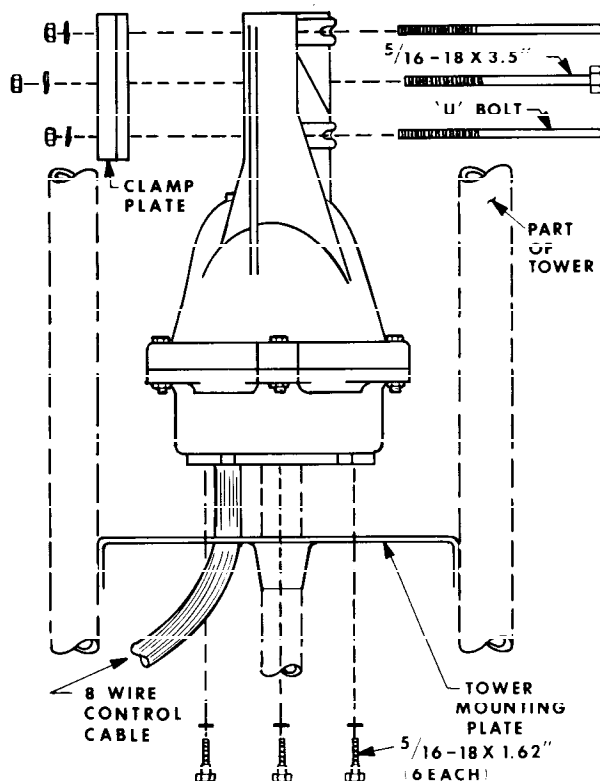


Figure 4
Rotator Mounting in a Tower

wrapped around the mast at the clamping points. Put differently, subtract your mast diameter from $2\frac{1}{16}"$ and divide the difference by 2.

Example 1

Proper O.D. = $2.062"$
 Your O.D. = $1.900"$ (Nominal $1\frac{1}{2}"$ pipe
 Difference = $.162"$ has O.D. of $1.9"$)

Shim to Use = $.081"$ ($.162" \div 2 = .081$)

Example 2

Proper O.D. = $2\frac{1}{16}"$
 Your O.D. = 2
 Difference = $\frac{1}{16}"$

Shim to Use = $\frac{1}{32}"$ or $.031$ ($\frac{1}{16}" \div 2 = \frac{1}{32}"$)

Example 3

Proper O.D. = $2\frac{1}{16}"$
 Your O.D. = $1\frac{3}{4}"$
 Difference = $\frac{5}{16}"$

Shim to Use = $\frac{5}{32}"$ or $.156"$ ($\frac{5}{16}" \div 2 = \frac{5}{32}"$)

Example 4

Proper O.D. = 52 mm
 Your O.D. = 48 mm
 Difference = 4 mm

Shim to Use = 2 mm ($4 \text{ mm} \div 2 = 2 \text{ mm}$)

6. If the rotator, top bushing and mast are properly aligned, there should be unrestricted rotation through 360° . If not, the rotator may have to be moved slightly on the flat plate. If a high quality bearing is used in the top of the tower (*recommended*), the shimming procedure must be done more carefully as closer tolerances are required. ***It is important that the rotator does not try to turn the mast eccentrically with the top bushing or bearing.***

7. Tighten the six (6) bolts carefully—to approximately 175 inch-pounds of torque.
8. Drill through the antenna mast and rotator casting, using a $\frac{5}{16}"$ drill. Locate the hole in the clamp plate that is furnished. Insert the bolt through the clamp plate, mast and rotator and tighten all bolts to 150 inch-pounds. Refer to Figure 4.
9. Return the rotator to the full CW "S" position. Mount the beam pointing South. The coaxial cable should be looped as per Figure 3, in such a manner that it will not foul or tangle when the beam turns around in a circle to the full 360° counterclockwise position.

OUTSIDE TOWER

Referring to Figures 5, 6 and 7, an outside tower or pole mount is made in the same manner except that the rotator is fastened by four (4) bolts only (not six) to the Lower Mast Support, PN 51467-10. Since the eccentricity of the rotator turning in reference to the tower is no longer important, the shimming procedure is not necessary. The four (4) screws must be torqued to the same specification and the 8-wire cable securely fastened. The lower mats should be pinned with the $\frac{5}{16}"$ -18 x 4" bolt as shown in Figure 5.

CAUTION

The rotator is designed for vertical operation with the bell shaped housing in the up position. Water and other contamination will get into the motor unit if it is mounted horizontally or upside down.