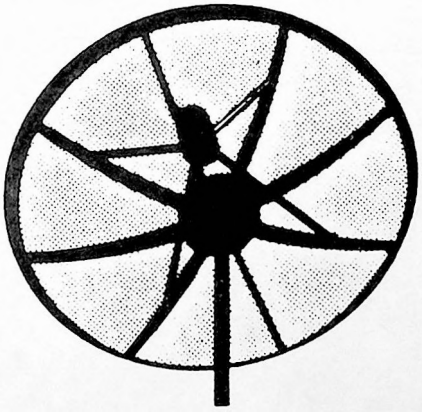
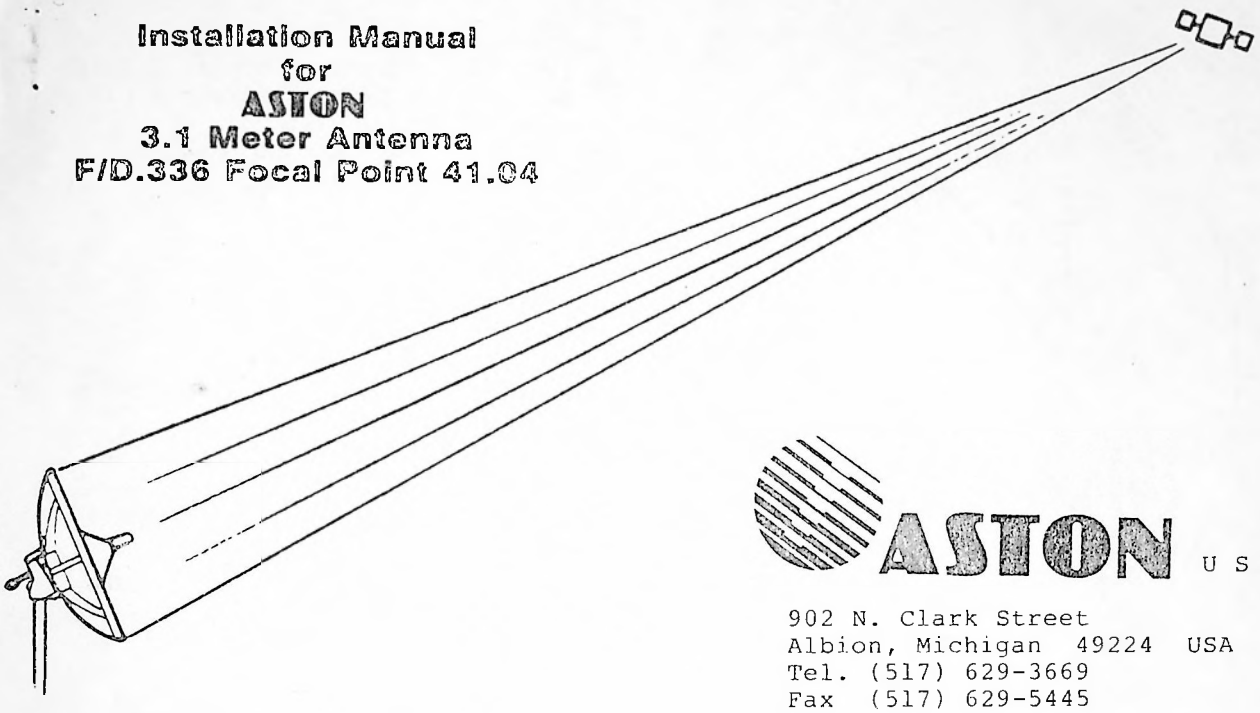
ASTON

3.1 METER ANTENNA



MODEL 108

Installation Manual
for
ASTON
3.1 Meter Antenna
F/D.336 Focal Point 41.04



ASTON U S A

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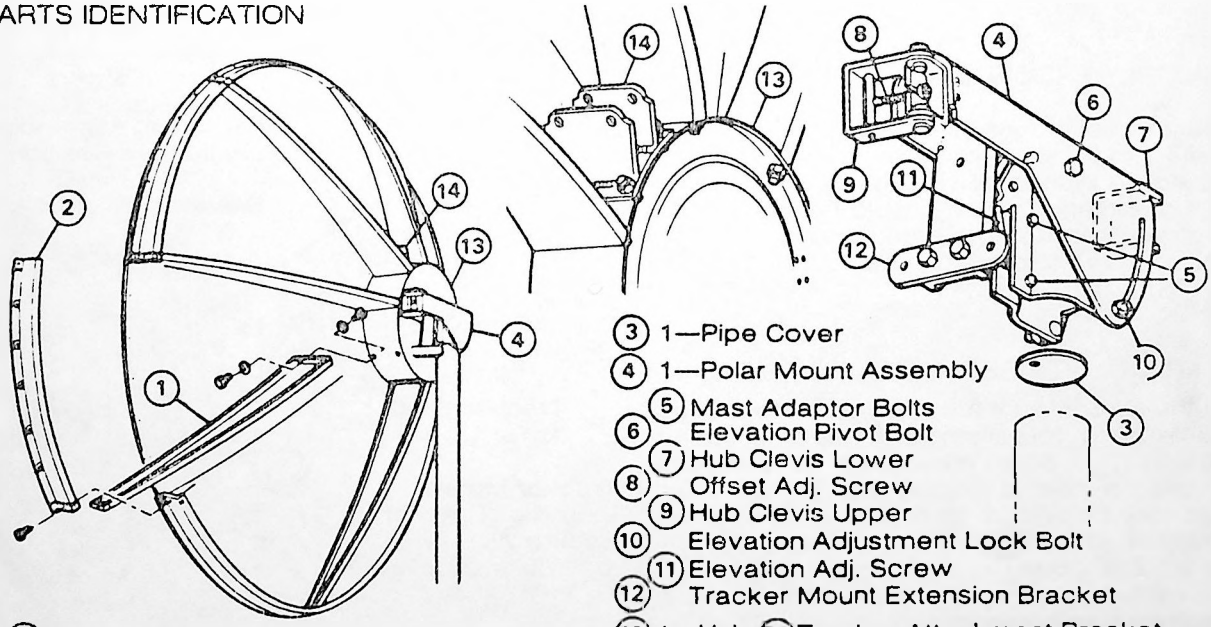
PARTS IDENTIFICATION

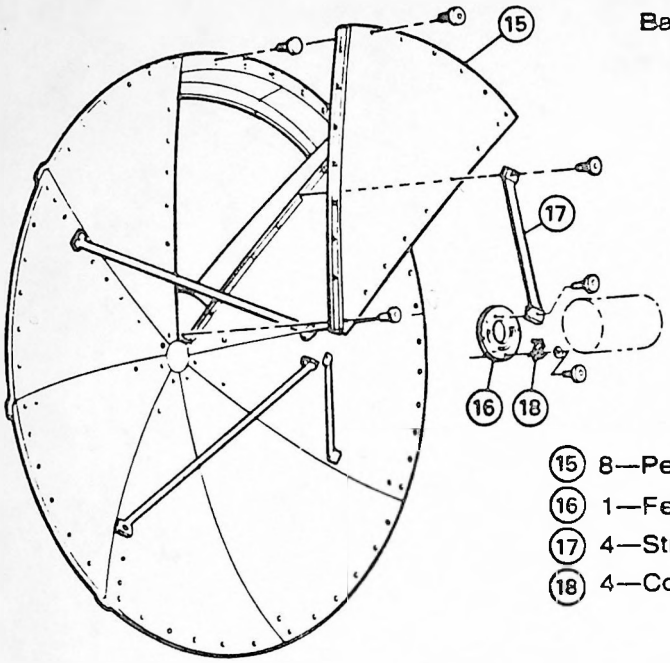


(1) 8—Radial Beams
(2) 8—Outboard Skirts
(3) 1—Pipe Cover
(4) 1—Polar Mount Assembly
(5) Mast Adaptor Bolts
(6) Elevation Pivot Bolt
(7) Hub Clevis Lower
(8) Offset Adj. Screw
(9) Hub Clevis Upper
(10) Elevation Adjustment Lock Bolt
(11) Elevation Adj. Screw
(12) Tracker Mount Extension Bracket
(13) 1—Hub (14) Tracker Attachment Bracket

Bag Reflector Hardware
- (122) Well Nuts
- (126) 1/4-20 x 5/8 Hex Socket S.S. Screws

Bag Hub Hardware

(20)	5/16-18 x 3/4" HX Bolts	(4)	3/8" Washers
(40)	5/16 Washers	(4)	1/2-13 x 1 1/4" HX Bolts
(20)	5/16-18 HX Nuts	(4)	1/2" Washers
(4)	3/8-16 x 1" HX Bolts	(2)	Rubber Plugs



Bag Feed Hardware

(16) 1/4-20 x 5/8 Hex Socket S.S. Screws
(4) 1/4-20 x 3/4 Hex Socket S.S. Screws
(20) 1/4" Washers S.S.
(16) 1/4-20 Hex Nuts S.S.
(4) Cover Mount Adaptor

(15) 8—Petals
(16) 1—Feed Mount Plate
(17) 4—Struts
(18) 4—Cover Mount Adaptor

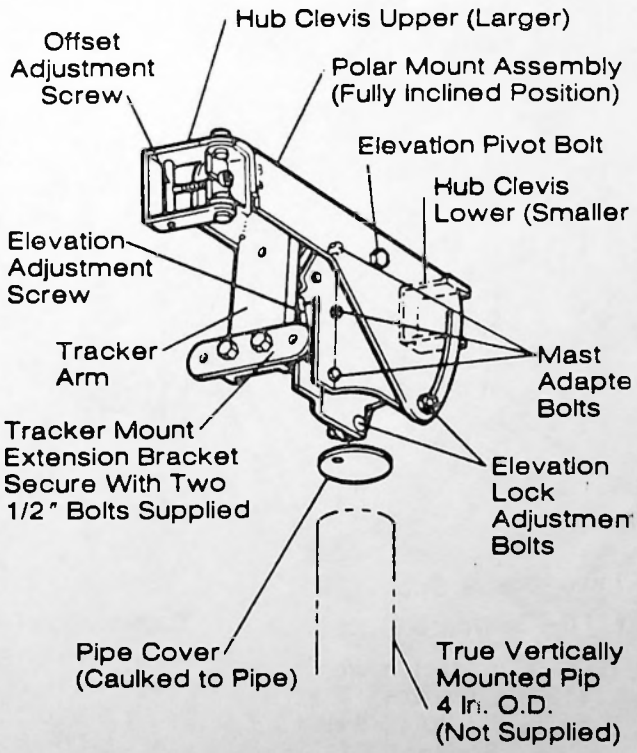
ASSEMBLY PROCEDURE

Antenna must be installed to a true vertically mounted four inch outside diameter pipe (not supplied). A pipe cover is provided to prevent pipe from interior rust. It should be caulked to the pipe. Painting the pipe exterior is also recommended to prevent rust.

POLAR MOUNT ASSEMBLY TO PIPE

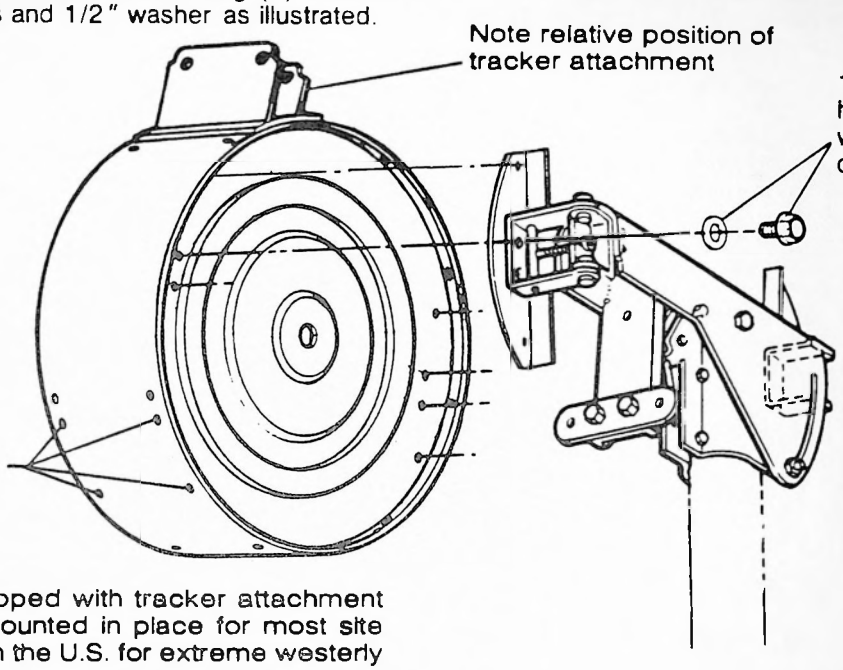
Slide the polar mount assembly down as far as possible onto four inch O.D. pipe (properly covered). The polar mount will be correctly positioned at the end of assembly. Tighten polar mount to pipe with three mast adapter bolts. Illustration two shows the mount in a fully inclined position. The polar mount should be tightened w/ elevation adjustment bolts and remain in this position throughout assembly.

CAUTION Tightening of Elevation adjustment bolts and mast adapter bolts is critical prior to dish assembly. Without tightening these bolts, the dish will be uncontrollable during assembly.



HUB ASSEMBLY TO POLAR MOUNT

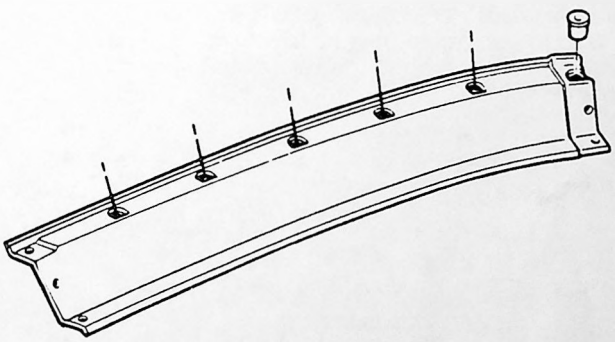
Bolt hub to upper & lower clevis using (2) 1/2-13 x 1-1/4" long bolts and 1/2" washer as illustrated.



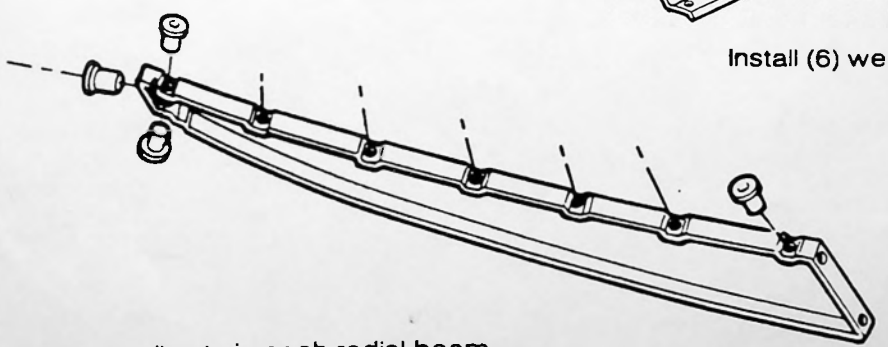
NOTE Hub is shipped with tracker attachment bracket mounted in place for most site locations in the U.S. for extreme westerly locations mount tracker attachment to opposite side of hub using same hardware.

RADIAL BEAMS TO CENTER HUB

Rubber bushed well nuts and stainless steel screws are provided in reflector hardware bag. With this hardware, attach outboard skirts to radial beams and petals to both radial beams and outboard skirts.

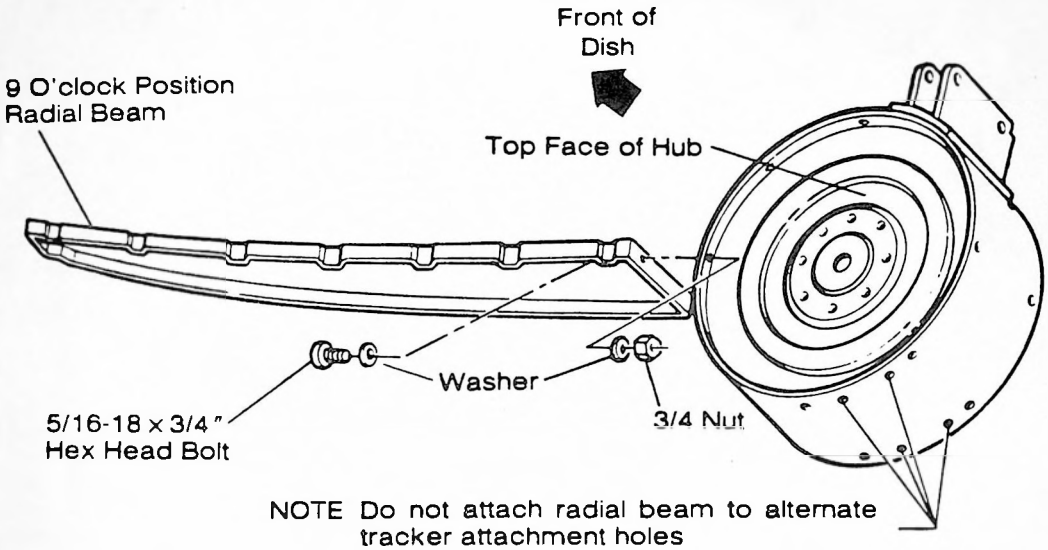


Install (6) well nuts in each outboard skirt.



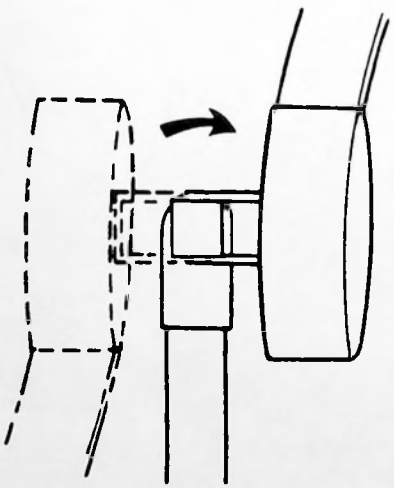
Install (9) well nuts in each radial beam.

From the front of dish, starting at 9 o'clock position, (in line with lower pivot) attach first radial beam with 5/16-18 x 3/4" hex bolts, washers and nuts from hub hardware bag.



NOTE Do not attach radial beam to alternate tracker attachment holes

Continue installing three additional radial beams in a counterclockwise direction. Then rotate hub up and over polar mount to the opposite side and install the remaining four radial beams in the same manner.

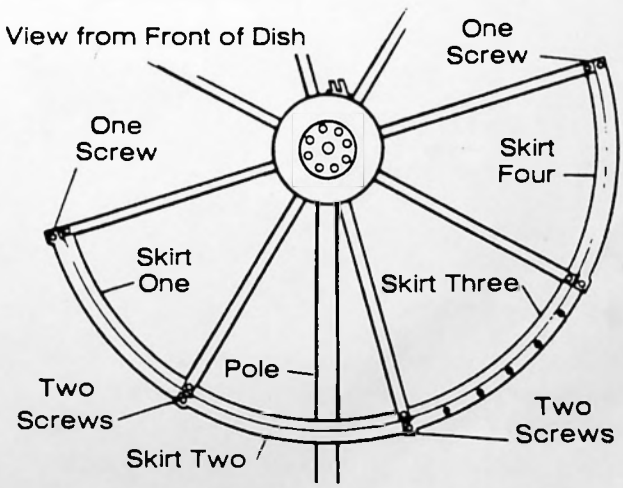


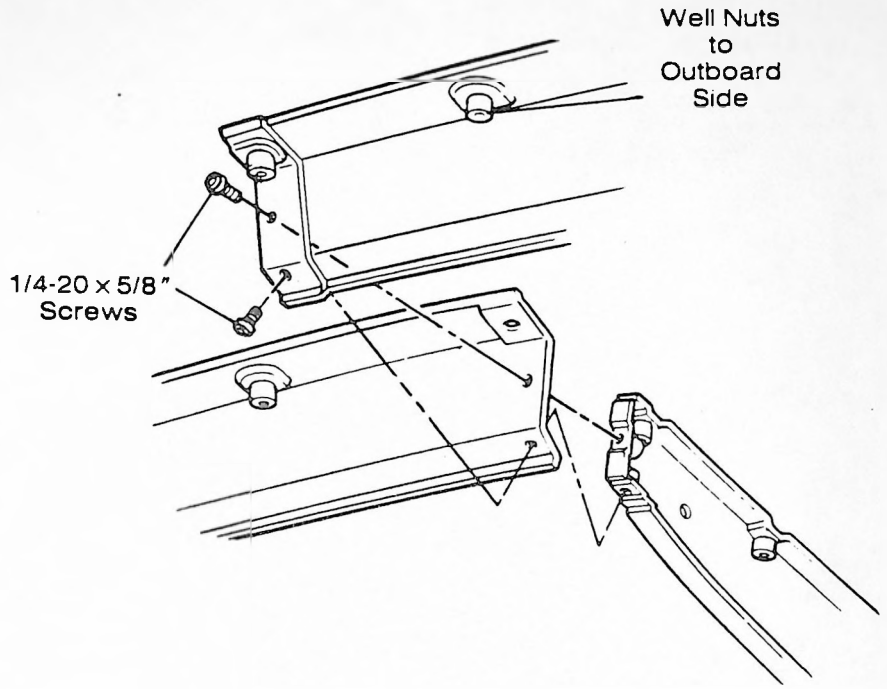
NOTE Each radial beam is located 180° across hub from beam on opposite side.

OUTBOARD SKIRTS TO RADIAL BEAMS

Starting at left hand side begin attaching outboard skirts as shown noting recessed ends for overlap. (two) 1/4-20 x 5/8" long screws are used at each radial beam and are secured by (two) well nuts previously installed.

NOTE Use a single screw at radial beam ends to hold them in place until hub is rotated up and over polar mount to opposite side allowing access to install remaining four outboard skirts.





PETALS TO FRAMEWORK
(HUB, BEAMS & SKIRT)

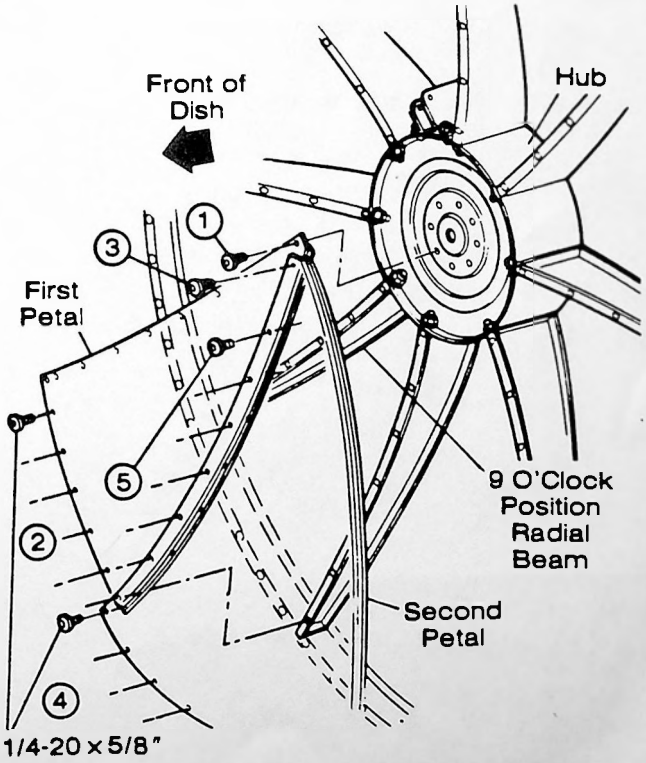
Again working counterclockwise from front of dish, starting at nine o'clock, install first petal onto hub as shown with a 1/4-20 x 5/8" screw from reflector hardware bag. (1)

Next install six screws into well nuts in outboard skirt. (2) DO NOT screw petal onto nine o'clock position radial beam.

NOTE Offset along this edge of petal will require the last (eighth) petal to be installed below this offset. Continue installing second, third and fourth petals as follows:

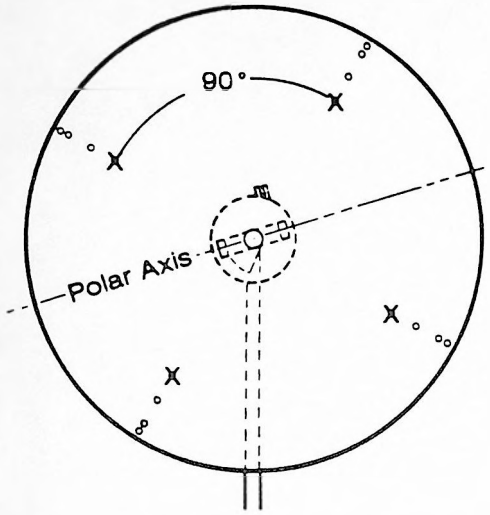
One screw to hub (3), six screws to outboard skirt (4) and final screws to radial beam. (5) Always install screws to radial beams starting at the hub and working outward to outboard skirt.

After fourth, petal is attached, rotate assembly up and over polar mount to opposite side and proceed with final four petals working counter-clockwise. As noted above the final (eighth) petal must be installed beneath offset on first petal.

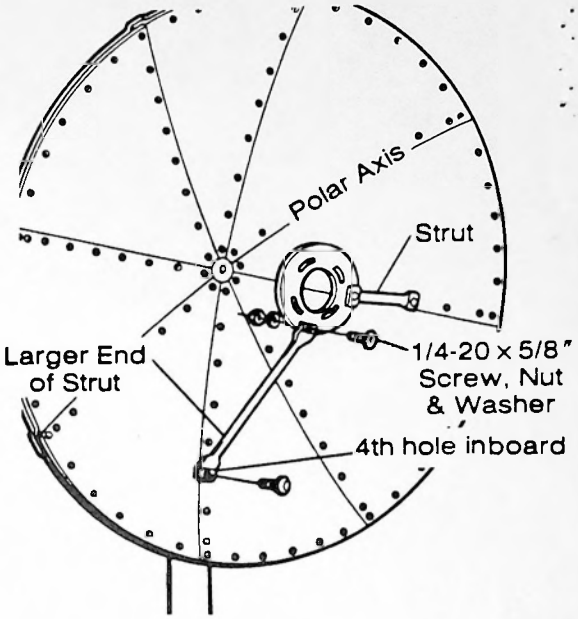


FEED MOUNT PLATE AND STRUTS TO REFLECTOR

Remove (two) 5/8" long screws from reflector and attach two struts to reflector surface (see illustration). The larger flanged end mounts to reflector surface at 4th screw hole in from perimeter. Use 1/4-20 x 3/4" long screws from feed hardware bag.



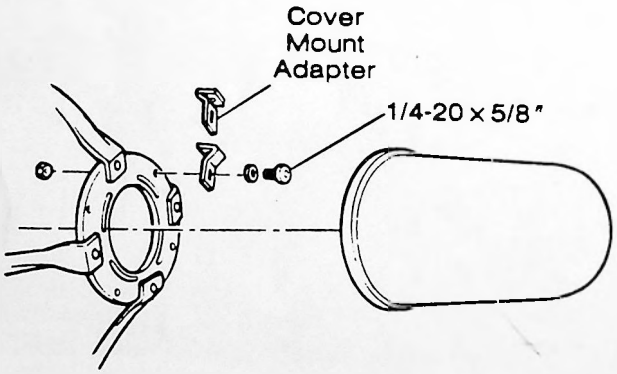
Fourth inboard hole remove 5/8 screw & replace with strut (large end) and 3/4 screw



Secure feed mount plate under strut flanges with 1/4-20 x 5/8" long screws, nut and washer as illustrated. Rotate reflector to opposite side and attach final two struts.

COVER MOUNT ADAPTERS TO FEED MOUNT PLATE

Four cover mount adapter clips are provided to attach L.N.A. cover. Each clip is installed with 1/4-20 x 5/8" screw, washer and nut from feed assembly hardware bag.



The TRUMP 3.1 METER ANTENNA has now been completely assembled. Now aim it.

SETTING THE ANTENNA ON THE POLAR ARC

The following steps are required to properly establish antenna tracking along the satellite belt.

1. Polar mount axis aligned to true north/ south
2. Elevation angle set to antenna site latitude
3. Offset angle set to track satellite orbital belt

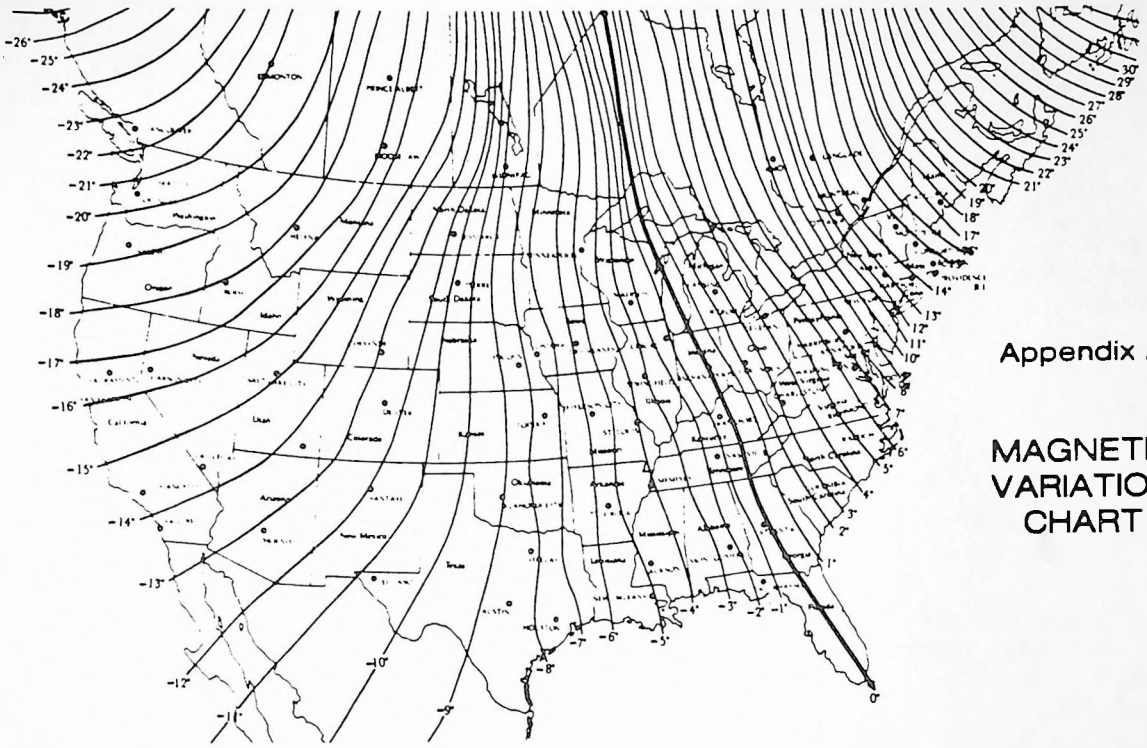
The Trump polar mount is designed to incorporate both azimuth (east-west swing) and elevation (up-down) adjustments. This design allows the antenna to track the satellite belt with only one actuator to move the reflector.

1. ALIGNING THE POLAR MOUNT AXIS TO TRUE NORTH/SOUTH

Aligning the polar mount axis to true north/ south orientation may be accomplished using a good compass and Appendix A.

Site magnetic variation and site latitude (to be used later) may also be obtained from your local airport.

Loosen the (3) mast adapter screws and the elevation pivot bolt enough to allow and polar mount assembly to be rotated on the mounting pipe.



Appendix A

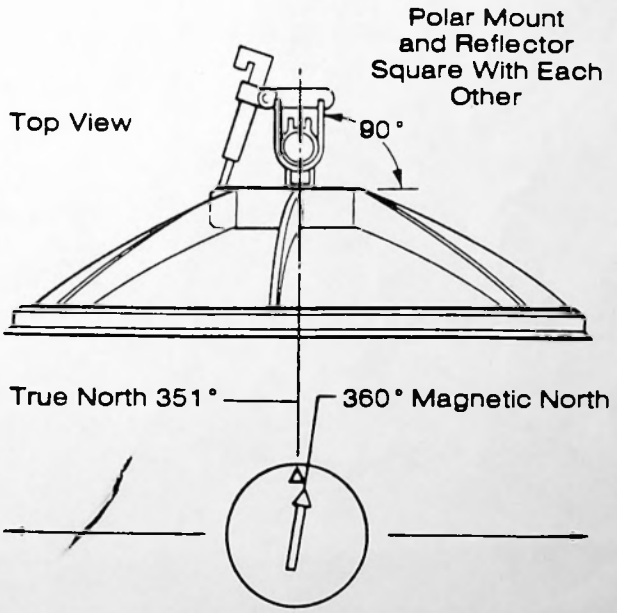
MAGNETIC VARIATION CHART

Align the reflector and polar mount square with each other using the tracker actuator (not supplied).

Rotate complete assembly on pipe to face approximately south.

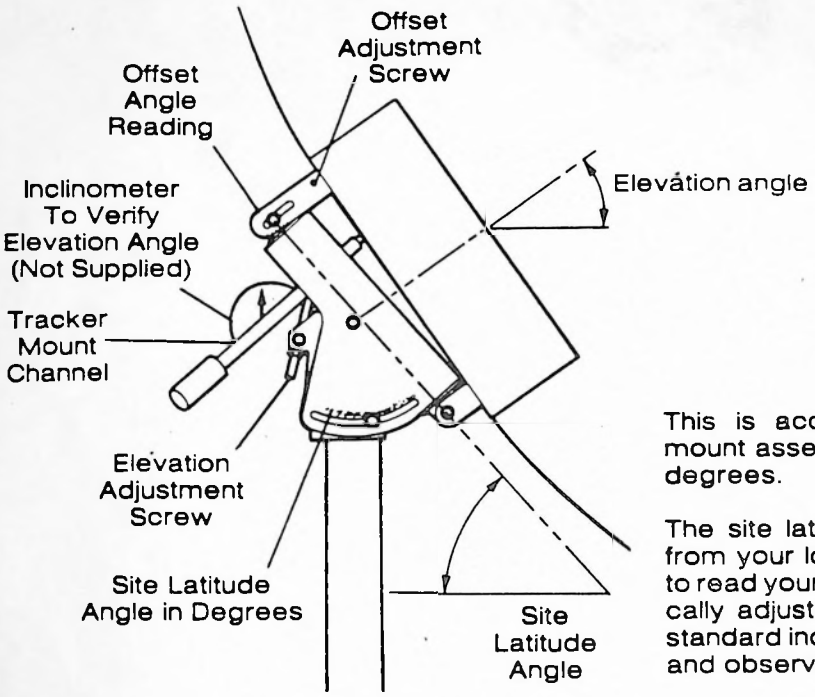
With compass held steady, move about in front of the reflector until the true north and magnetic north align as illustated below. (True north must aim directly at mounting pipe.) Again rotate complete assembly on pipe until reflector is aimed directly at compass location. Then snug up the three mast adaptor bolts.

Magnetic north is 360°/0° on the compass if the magnetic variation is (+) add it to zero. If the magnetic variation is (–) subtract it from 360°.



The above illustration uses a magnetic variation of (–9°) resulting in a true north reading of 351° as would be the case in Oklahoma City, since it is located on the (–9°) variation line.

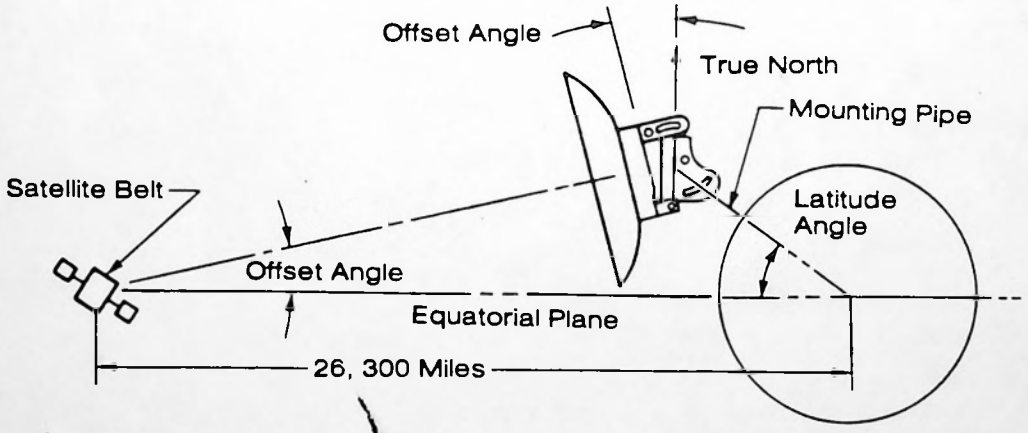
2. SETTING THE ELEVATION ANGLE TO THE ANTENNA SITE LATITUDE.



This is accomplished by inclining the polar mount assembly to read directly in site latitude degrees.

The site latitude in degrees may be obtained from your local airport. Simply set polar mount to read your latitude. Elevation angle is automatically adjusted. To verify elevation angle set a standard inclinometer on tracker mount channel and observe reading.

3. SETTING THE OFFSET ANGLE



The polar mount rotates about a true north axis — perpendicular (90°) to the quatorial plane. In order for the antenna to aim at the satellite belt the reflector must be tilted forward (offset angle) to look down at the satellite belt. This angle is set directly with the calibrations on the upper clevis (see illustration). Set offset angle to nearest 1/4°.