WINEGARD®

QUADSTAR™ 7.5' ANTENNA MOUNT AND FEED SUPPORT
INSTRUCTIONS

Antenna Specifications (Model QD-0750)

Reflector Diameter: 7.5 (2.3m)
Hole Size: .078", 36% open
Frequency Range:
- C-Band: 3.7 - 4.2 GHz
- Ku-Band: 10.9 - 12.7 GHz

Gain:
- C-Band: 40 dB
- Ku-Band: 48 dB @ 12 GHz

Half Power Beamwidth: 25° @ C-band
F/D Ratio: 0.35
Cross Polarization: -25dB down
Side Lobes: 20dB down
Feed Type: Prime Focus
Depth: 16"
Focal Length: 31-1/2"
Gauge: .032" Expanded Aluminum
Operating Temperature: -40° F to +140° F
Finish: Smoked Chrome, Powder Coat
Shipping Weight: 53.0 lbs.
Package Dimensions:
50" L x 50" W x 14" D

TOOLS REQUIRED

(2) 1/2" Open end wrenches
(2) 7/16" Open end wrenches
(1) 5/16" Nut driver
(1) 10" Crescent wrench
(1) Box or tube 21" long
(1) Framing square
(1) Universal protractor

NOTE - WINEGARD MOUNT DISCLAIMER

To insure maximum safety, Winegard recommends no roof or wall installation be attempted without a professional engineer's structural analysis. Local zoning and/or building codes and insurance companies may require architect or structural engineer approval prior to installation. It is the purchaser's responsibility to verify that the above steps are taken.

Winegard Company
3000 Kirkwood St., Burlington, IA 52601-2000

Printed in U.S.A. 2451898 Rev. 1/93

INSTRUCTIONS

Inspect for damage and make sure all parts are accounted for.

PARTS LIST

Antenna Carton QD-0750

4	Reflector Segments	
1	Plate, Dish Center	2745580

Mount Carton MT-1075 or OM-1075 or EX-1075

1	Mount Assembly	
1	Housing Feed Assembly	2200055
1	Housing End Cover	2200056

Buttonhook Carton BF-0750

1	Instruction Manual	2451898
1	Buttonhook	
1	Buttonhook Support Tube	
4	3/8"-24x2" Cap Screws	2160243
4	3/8"-24x1" Cap Screws	2160242
8	3/8"-24 Hex Nut (Keps)	2160284
8	3/8" Flat Washer	2160029
12	5/16"-18x3" Cap Screws	2160266
12	5/16" Hex Nuts (Keps)	2160288
16	5/16" Flat Washer	2160027
4	1/4"-20x7/8" Cap Screw	2160240
4	1/4"-20 Hex Nuts	1160332
4	1/4" Lock Washer	2160031
4	1/4" Flat Washer	2160024
[4	#10x1/2" SHWH Screws	2160194
[4	#10x1/2" Flat Washer	1140302
Or 4 Plastic Snap Lock Fasteners		2200110

Quadfeed Carton QF-0750

1	Instruction Manual	2451898
4	Quad Feed Legs	2745581
4	3/8"-24x2" Cap Screws	2160243
4	3/8"-24 Hex Nuts (Keps)	2160284
8	3/8" Flat Washer	2160029
12	5/16"-18x3" Cap Screws	2160266
12	5/16"-18 Hex Nuts (Keps)	2160288
16	5/16" Flat Washer	2160027
4	1/4"-20x1-3/4" Cap Screw	2160238
4	1/4"-20x7/8" Cap Screw	2160240
Or 4 Plastic Snap Lock Fasteners		2200110
12	1/4"-20 Hex Nuts	1160332
16	1/4" Flat Washer	2160024
8	1/4" Lock Washer	2160031
[4	#10x1/2" Screws	2160194
[4	#10-9/16" Flat Washer	1140302
1	Plastic Plug	2200072
1	Slotted Quad Feed Leg	2745556

SITE SELECTION

Your Winegard QuadStar™ antenna is designed to capture the very weak signals being transmitted by geostationary satellites over 22,000 miles away. The large surface of the antenna must precisely reflect and focus the radio waves to the feedhorn and LNB. Because the microwave signal is extremely weak, the antenna must be as efficient as possible. Proper site selection and installation are essential to the proper operation and enjoyment of your satellite antenna.

Any obstructions between the antenna and the satellite(s) will degrade the signal level and, subsequently, the picture quality. Objects such as trees, buildings, utility poles, etc. will interfere with the microwave signal if they are in a direct line between the reflecting surface of the antenna and the satellite.

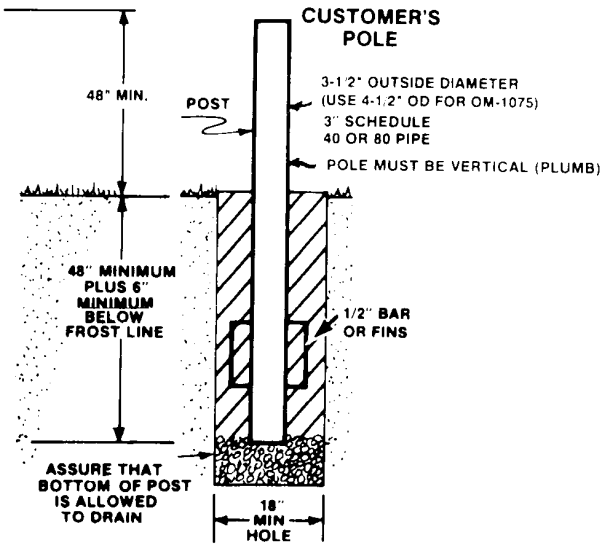
A site for the antenna should be selected that offers an unrestricted view of the entire satellite belt. Take into account future tree growth and future use of the area immediately in front of the antenna position.

SITE PREPARATION

Because of the large surface area of the reflector, the load transmitted to the mount base can be very great in moderate to severe winds. The local area around the antenna site will determine the type of support structure necessary. In a heavily wooded area or low area with surrounding hills, the wind is not usually as severe as in an open area, hilltop location or top-of-building site.

CAUTION

The installation shown here is adequate in some areas. However, the Winegard Company recommends that a registered professional engineer be consulted to secure a soil analysis at the antenna site to determine the bearing strength of the soil.



MOUNT ASSEMBLY/ADJUSTMENT

STEP 1: Set the mount onto the ground pipe and orient the pivot beam so it is pointing approximately south.

STEP 2: Snug up the azimuth locking bolts enough to secure the mount to the pole. Install the actuator per instructions supplied with the actuator.

STEP 3: Place protractor or level on the locations marked with an **X** in Figure 1 and make sure the mount is plumb left and right.

STEP 4: Place protractor squarely on pivot beam assembly. Set polar axis angle for mount latitude. Adjust the nuts on threaded polar axis adjustment. See Figure 1.

NOTE

Two sets of holes are provided to keep the threaded rod at right angles to the pivot beam assembly. Polar axis angles shown in Table 1 include slight correction to improve tracking at end of arc.

NOTE

Attaching a power supply temporarily to the actuator to orient the back-up structure will aid in installation.

STEP 5: Use the actuator to position back-up structure at right angles to pivot beam assembly. Use straight edge across the face of the ring to hold protractor. See Figure 2. Adjust declination offset for your latitude per Table 1.

TABLE 1 - DECLINATION CHART

Latitude degrees	Declination offset angle degrees	Latitude degrees	Declination offset angle degrees	Latitude degrees	Declination offset angle degrees
1	0.15	26	3.81	51	6.70
2	0.30	27	3.95	52	6.79
3	0.46	28	4.08	53	6.88
4	0.61	29	4.21	54	6.97
5	0.76	30	4.34	55	7.05
6	0.91	31	4.47	56	7.14
7	1.06	32	4.60	57	7.22
8	1.21	33	4.72	58	7.30
9	1.36	34	4.85	59	7.37
10	1.51	35	4.97	60	7.45
11	1.66	36	5.09	61	7.52
12	1.81	37	5.21	62	7.59
13	1.96	38	5.33	63	7.66
14	2.11	39	5.45	64	7.72
15	2.26	40	5.56	65	7.78
16	2.40	41	5.68	66	7.84
17	2.55	42	5.79	67	7.90
18	2.69	43	5.90	68	8.01
19	2.84	44	6.00	69	8.01
20	2.98	45	6.11	70	8.06
21	3.12	46	6.21	71	8.11
22	3.26	47	6.31	72	8.16
23	3.40	48	6.41	73	8.20
24	3.54	49	6.51	74	8.24
25	3.68	50	6.61	75	8.28

FIGURE 1
MT-1075
OM-1075
17°-70°

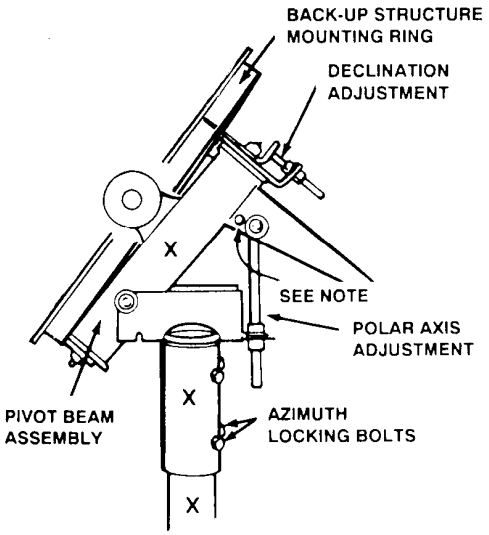


FIGURE 2

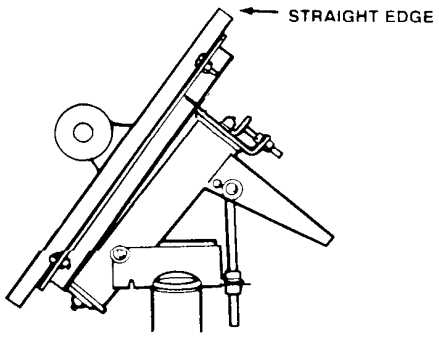


FIGURE 1
EX-1075
0°-50°

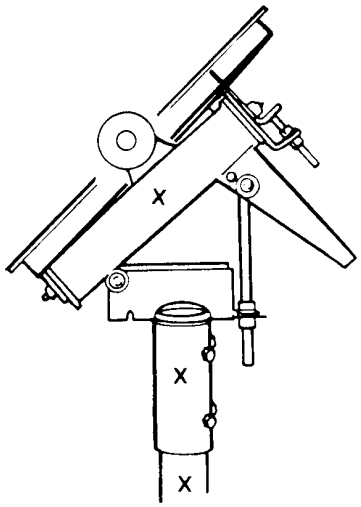
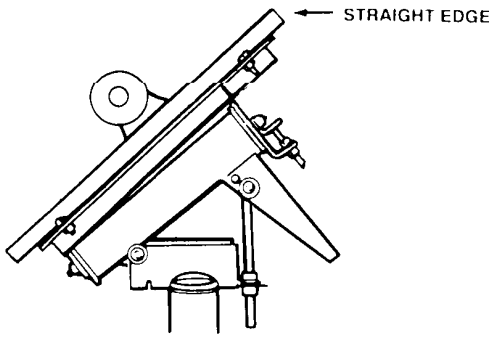


FIGURE 2



REFLECTOR ASSEMBLY

NOTE
Assembling the reflector may require more than one person.

STEP 1: Begin antenna assembly. A level surface about 10' square is required for assembly of reflector. Lay down a protective cover if necessary to prevent damage to painted surfaces.

STEP 2: Attach two segments of the reflector together with (2) 5/16"-18x3" bolts. Place these bolts in the first two holes starting at rim of reflector. Use 5/16" flat washers under heads of bolts and nuts. TIGHTEN BOLTS SECURELY, **BUT DO NOT CRUSH RIBS OF REFLECTOR.**

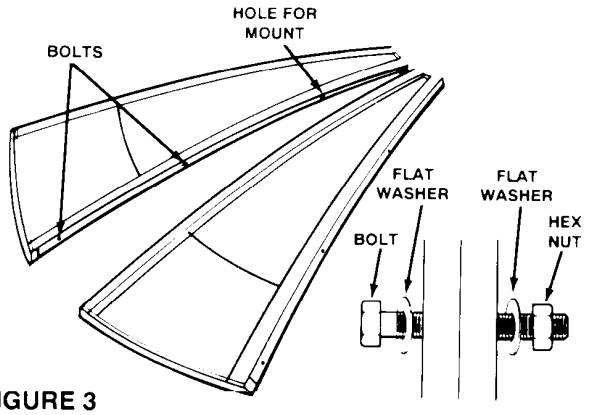


FIGURE 3

STEP 3: Attach center support plate to one half of reflector assembly with (2) 3/8"-24x2" bolts. Use flat washers on both sides and secure with hex nuts. See Figure 4.

STEP 4: Repeat steps 1 and 2 for remaining two reflector segments.

STEP 5: If using a quad feed support, install the 1-1/2" plastic plug in center hole. If using a buttonhook feed support, attach the buttonhook support tube to the center plate with (4) 3/8"-24x1" bolts. Tighten securely. See Figure 4.

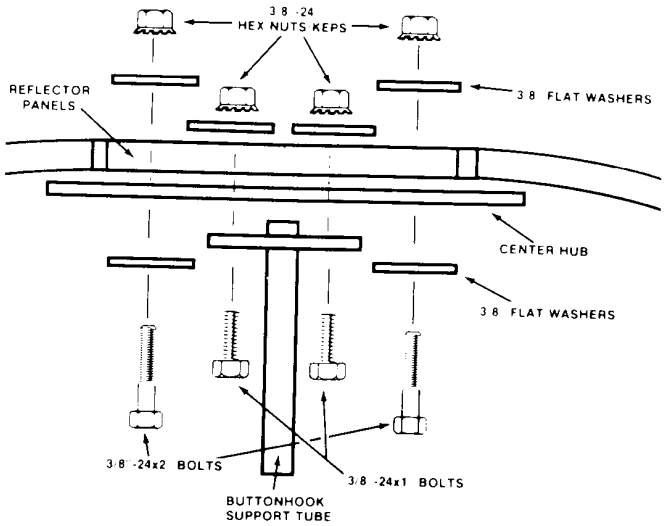


FIGURE 4

STEP 6: Attach the two reflector halves together in same way as the quarter sections.

STEP 7: Stand reflector assembly up against mount ring and drive actuator in or out to align holes between brackets and antenna ribs.

STEP 8: Attach reflector assembly to mount ring with (4) 5/16"-18 bolts, (8) 5/16" flat washers. Do not tighten bolts until all are in place.

QUAD FEED SUPPORT ASSEMBLY

STEP 1: Attach support legs with slotted holes to rim of reflector at the center of each segment. Attach with 1/4"-20x1-3/4" bolts. Use flat washers on both sides and lock washers under hex nut. Two persons are required for this step. See Figure 5. *** HOLES HAVE BEEN PUNCHED AT EITHER END OF ONE OF THE QUAD FEED SUPPORT LEGS, SHOULD YOU WISH TO RUN CABLES INSIDE. INSTALL THIS LEG IN THE DESIRED POSITION.**

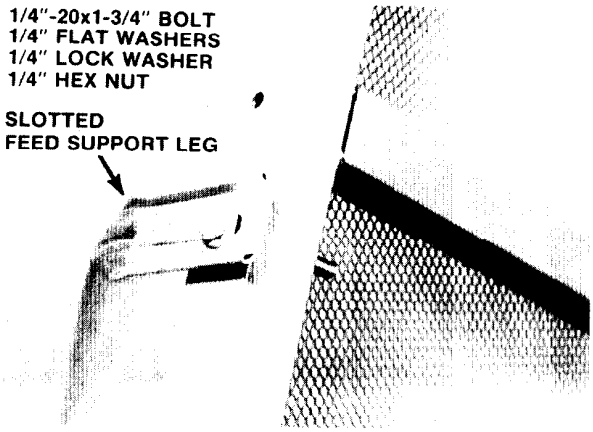


FIGURE 5

STEP 2: Attach support legs to feedhorn. See Figure 6.

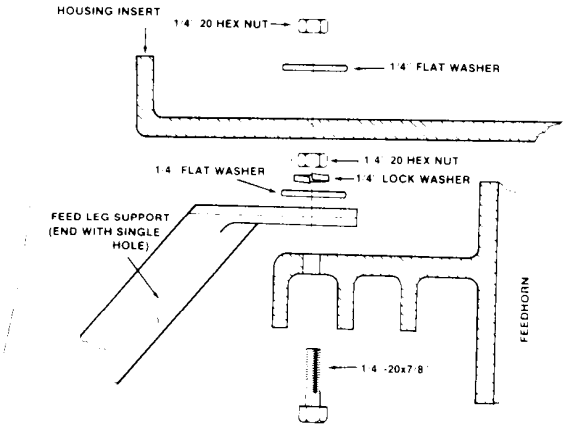


FIGURE 6

STEP 3: Assemble feedhorn and LNB according to instructions supplied. Use template or other means provided to determine orientation of feed assembly. Attach wiring to feed support leg with tape or wire ties or feed wiring through hole proveded in feed support leg. See Figure 7.

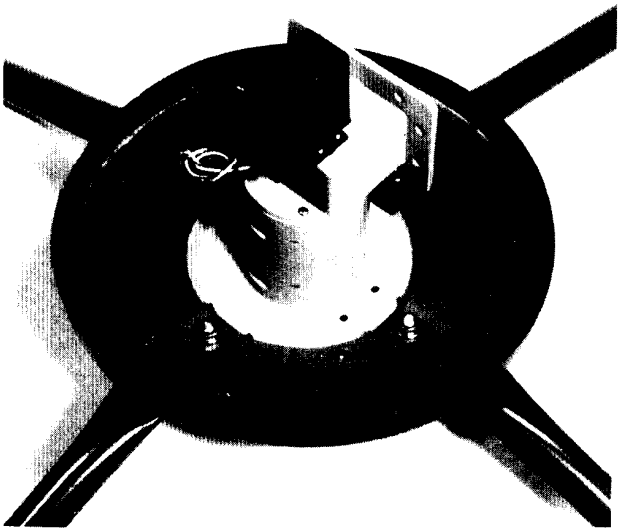


FIGURE 7

STEP 4: Adjust focal length & centering. See Figure 8.

NOTE
The focal length given (31-1/2") is approximate. Each reflector and location should be optimized by adjusting in and out for best picture.

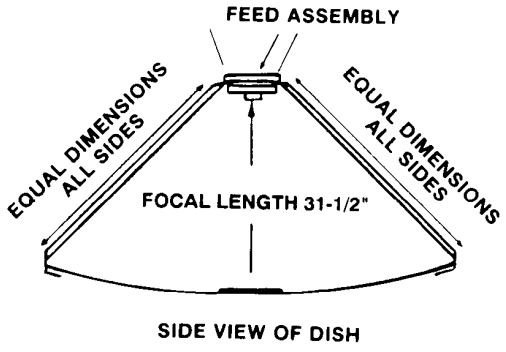


FIGURE 8

BUTTONHOOK ASSEMBLY

STEP 1: Assemble feedhorn and LNB on buttonhook. Complete wiring and place assembly in buttonhook support. Make alignment for focal length, centering and polarization.

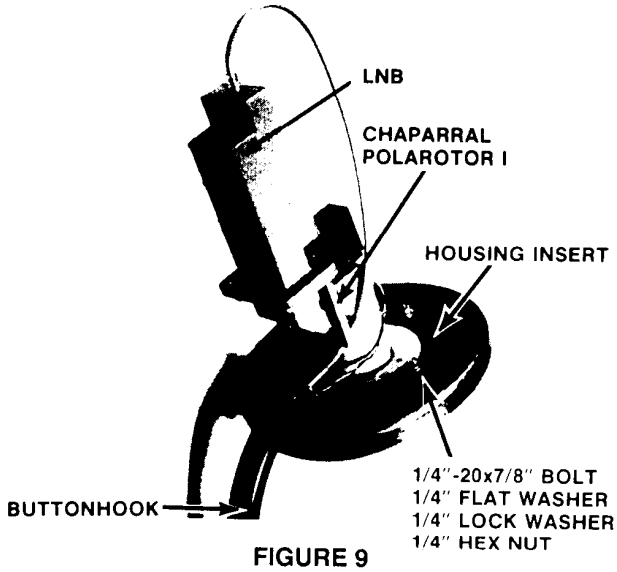


FIGURE 9

STEP 2: The focal length is 31-1/2". This distance should be set between the focal point reference of the feedhorn and the front surface of the clamp plate of the buttonhook. Focal length adjustment is accomplished by loosening the bolt holding the buttonhook assembly in the center hub of the antenna and sliding it in or out as necessary. See Figure 10 and 11.

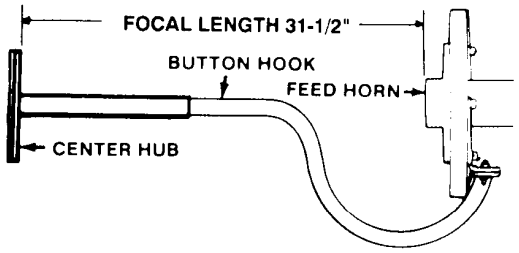


FIGURE 10

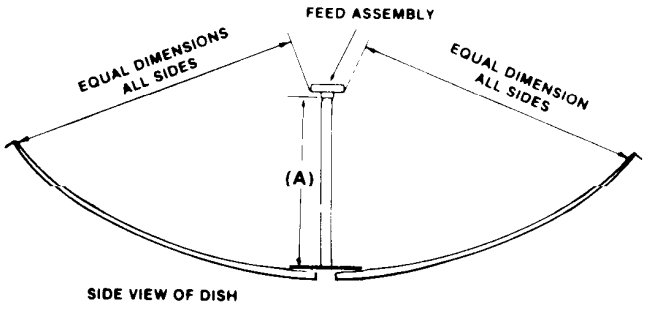


FIGURE 11

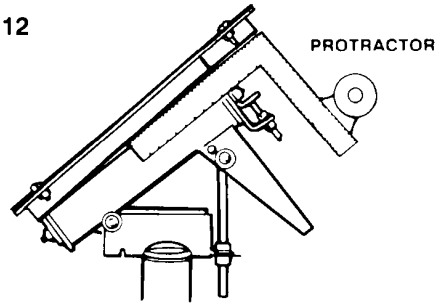
EITHER QUAD OR BUTTONHOOK FEED

With antenna completely assembled and installed on the mount, check the alignment of the feed assembly to the center of the reflector. All distances must be equal or the bore sight of the antenna will not match measurements made on the mount.

FINAL MOUNT ADJUSTMENT

STEP 1: Adjust actuator to move antenna towards Satcom F3. Use a framing square to check elevation angle while making this adjustment. See Figure 12. Check elevation angle after each adjustment. Be sure to keep long leg of framing square perpendicular (vertical) when checking elevation angle. See Figure 13 for elevation angles.

FIGURE 12



NOTE

Elevation angles are given to Satcom F3 in Figure 13. Try to estimate angle to nearest degree. Exact printouts of elevation angles of all satellites for your area are available on request from Winegard Company. If requested, we must know the latitude and longitude of your location. Your local airport or municipal engineering office can give you this information.

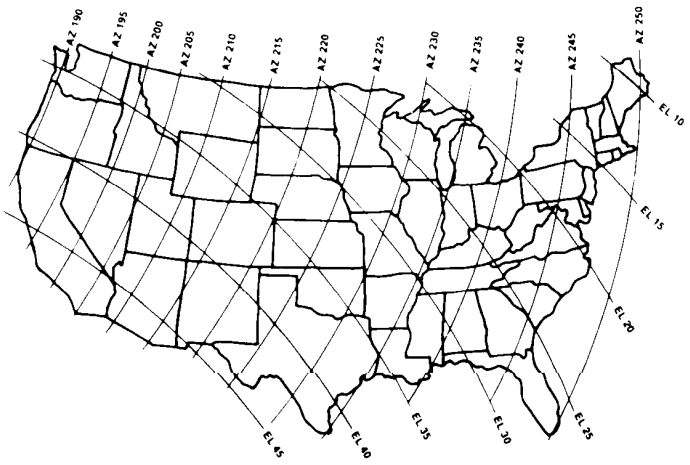


FIGURE 13
Finding the Satellite (Satcom F3)

STEP 2: Loosen the azimuth locking bolts enough to allow the antenna to rotate. See Figure 14. Rotate the antenna slowly so the pivot beam passes through a line with true north. The receiver should be in the SCAN mode. When a picture flashes on the screen, remove the receiver from the scan mode and rotate the antenna for the best picture.

FINE TUNING

Once you have pinpointed a satellite signal, the final polar tracking adjustments must be made. Refer to your Satellite Antenna Bearing Data or a list of the satellites and their services, and choose the most eastward and the most westward satellites you wish to receive.

If, when you move the antenna between the eastern and western satellites, it is necessary to make a fine adjustment in the Polar Axis Angle, the pivot is not perfectly aligned with true north.To correct this situation, aim the antenna at the most western satellite, tune the receiver to a channel that is easily identified and adjust the actuator and the adjustment of the polar axis angle for the best picture.

Make a reference mark on the pivot beam assembly above the polar axis adjustment and measure the distance between the mark and the mount base as shown in Figure 14.

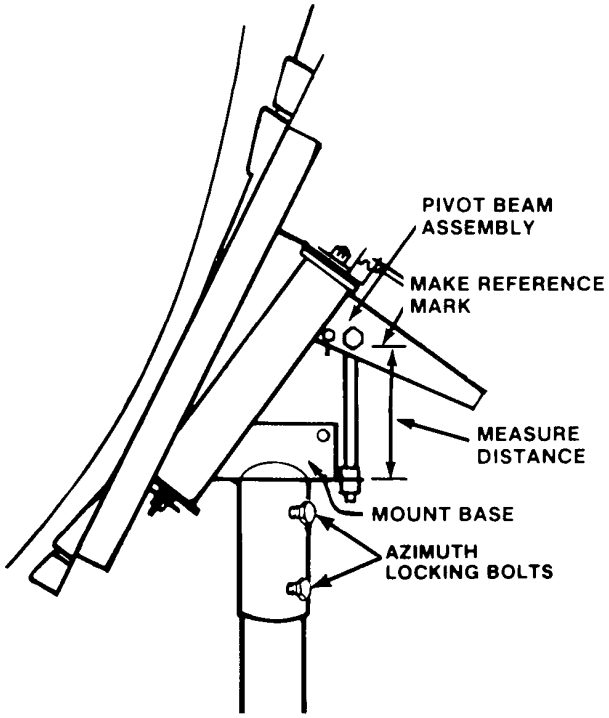


FIGURE 14

Turn the antenna to the most eastern satellite and again adjust the polar axis adjustment for the best picture. Measure the distance between the mark and the mount base. Divide the difference between the two measurements and add it to the smaller of the distances. Set the polar axis adjustment at this distance. Loosen the azimuth locking bolts and carefully rotate the antenna until the best picture is restored. Tighten locking bolts securely and check tracking alignment. **Tighten azimuth locking bolts to 40 ft. lbs.**

FINAL ADJUSTMENTS

Once you have achieved proper tracking of the polar arc, focal and feed centering should be checked. The focal length and focal point are approximations and may vary from one reflector to the next. Refer to Figures 8, 10 and 11.

NOTE
Use the meter output terminals of the receiver or a TV set while making these adjustments.

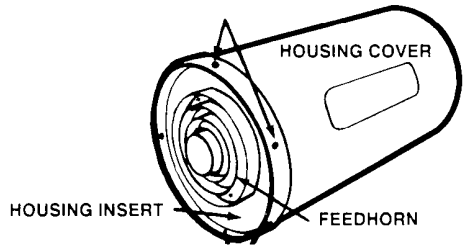
ATTACHING FEED COVER

STEP 1: If using buttonhook feed support, use template (bottom right) to cut out hole for support tube.

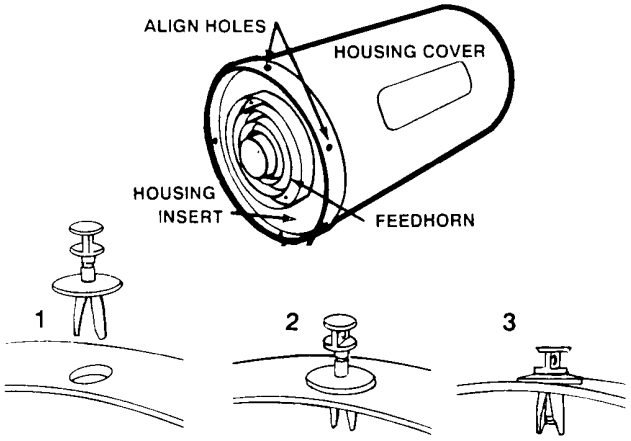
STEP 2: Attach feed housing cover as shown using either screws or plastic fasteners provided.

SCREWS

(4) #10 FLAT WASHERS; (4) #10X1/2" THREAD CUTTING SCREWS



PLASTIC FASTENERS



WARNING
If you live in a wet and cold climate, it is recommended you drill two (2) holes 3/16" in diameter in the outer band of the bottom section of the antenna. This allows water to drain from outer band. Without drainage, water will freeze and deform band, causing paint to peel.

MOPPING UP

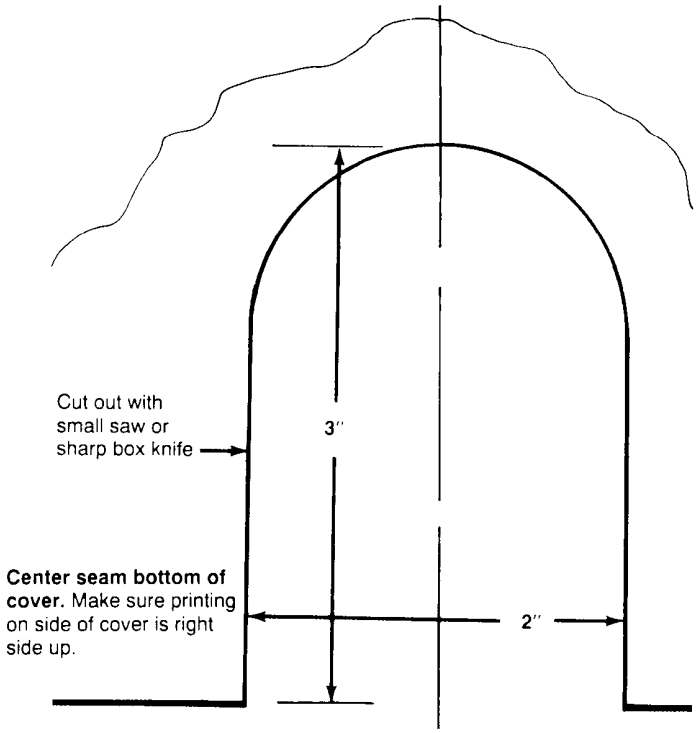
At this point, you should have a fully operational Earth Station. By adjustment of only the actuator, you should be able to change from satellite to satellite.

Once all adjustments have been made, re-check all hardware to ascertain that all connections are tightened properly. Route all cables and secure them in a manner to prevent any strain on the connectors and connections. Route all connecting cables between the antenna and receiver in a safe and secure manner. Burial of the cable is suggested for the most secure installation. Use PVC or conduit to protect cabling or use special direct burial cable.

HELPFUL HINTS

ICE and SNOW are reflective at microwave frequencies and will effectively alter the front reflective surface of the antenna. They also add weight to the reflector and will usually degrade the picture quality. It is suggested the ice and snow be removed as soon as practical and not be allowed to accumulate to any great degree.

FEEDHORN and LNB - The feedhorn and LNB opening must remain clear. Many types of insects (wasps, spiders, etc.) look at the feedhorn and LNB wave guides as the ultimate in modern housing. Remember that any obstruction to the microwave signal will degrade the picture. If picture degradation is noticed, do not fail to check the LNB.



Center seam bottom of cover. Make sure printing on side of cover is right side up.

WINEGARD®

SATELLITE (TVRO) DEVICES - FIVE YEAR LIMITED WARRANTY

WINEGARD COMPANY warrants this satellite antenna and mount to be free of defects in material and workmanship for a period of five (5) years from the date of purchase.

This warranty is effective only if the satellite antenna and mount is returned, "prepaid", to Winegard Company in Burlington, Iowa and proof of the date of purchase is supplied with the return of the product. The product must be returned under a "Return Authorization" number obtained by writing WINEGARD COMPANY, 3000 KIRKWOOD STREET, BURLINGTON, IOWA 52601-2000. All returned products must have a "Return Authorization" number attached to each component.

This limited warranty does not apply if the satellite and/or mount is damaged, deteriorates or fails because of: Improper or inadequate installation or failure of supporting hardware not supplied by the manufacturer; Neglect, accident or misuse; Modifications of the product as originally manufactured; Installation of the satellite antenna on a mount other than that manufactured by Winegard Company, or use of the mount with an antenna not manufactured by Winegard Company; Any act of nature, including, but not limited to, damage from winds in excess of hurricane force, lightning, ice, corrosive environment such as salt spray and acid rain.

This limited warranty does not apply to the labor necessary to remove, package, prepare and ship said satellite antenna and/or mount or freight to and from Winegard Company, and is applicable only to the original purchaser. The manufacturer, at its option, reserves the right to either repair or replace a satellite antenna or mount which it deems to be defective, and is not responsible for labor necessary to reinstall said repair or replacement.

The repair or replacement of the satellite antenna and/or mount, at the option of the manufacturer, is your exclusive remedy under this limited warranty. **WINEGARD COMPANY WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.** Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you. Further, this warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

WINEGARD COMPANY WILL NOT ASSUME ANY LIABILITIES FOR ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, MADE BY ANY OTHER PERSON.

WARRANTY SERVICE PROCEDURE

FOR ANTENNA AND MOUNT WARRANTIES AND FOR CLAIM OR SERVICE INFORMATION, CONTACT YOUR WINEGARD DISTRIBUTOR.

NOTICE TO CUSTOMER:

The Communications Policy Act of 1984 permits the use of this device by an individual to privately view satellite programming which is not encrypted, providing either a marketing system to authorize the viewing has not been established, or such a system has been established and the individual receiving such programming has obtained authorization for viewing.

Individuals should contact their local Zoning Board or other municipal authorities to ensure compliance with local and state laws and regulations governing construction, placement and/or use of Home Satellite TV Reception Systems.

WINEGARD®

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