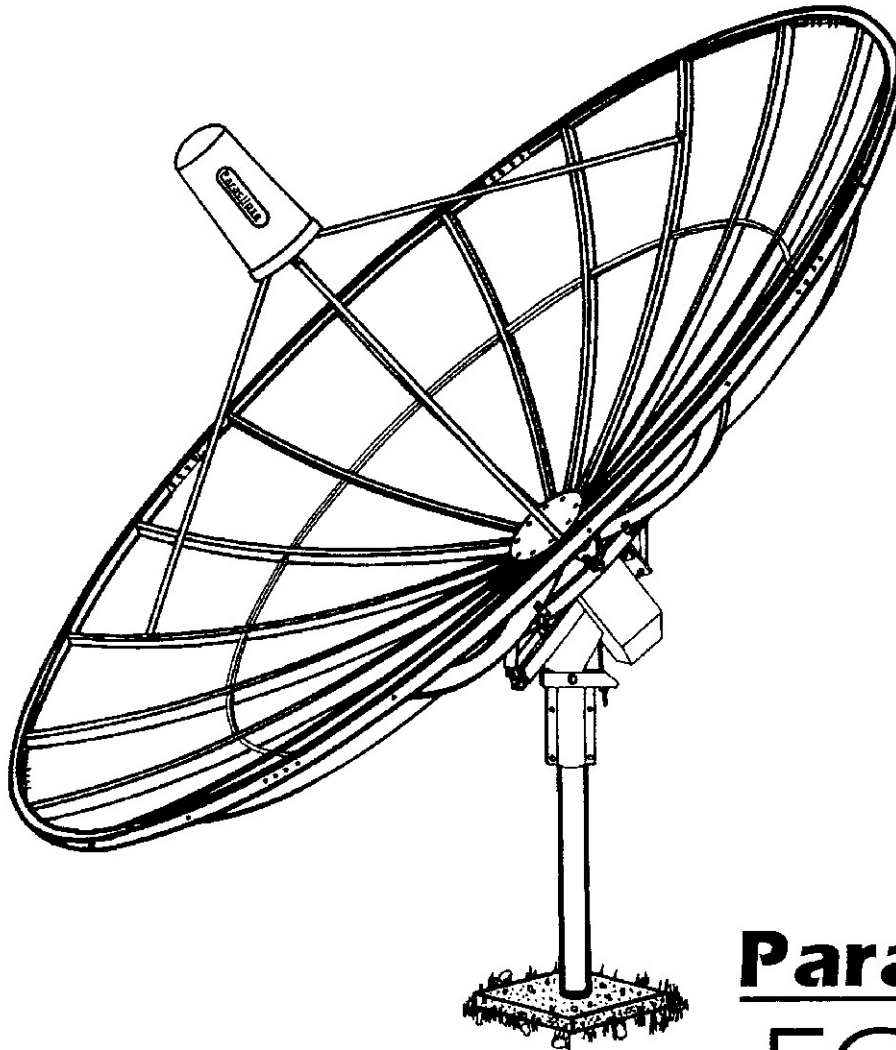


# **Paraclipse®**

HIGH PERFORMANCE ANTENNAS  
*Your Complete Reflector Source*

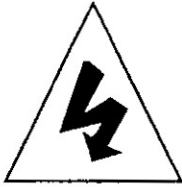


**Paraclipse®**  
**ECLIPSE**  
**12 TRACER 180**

**MOTORIZED HORIZON-TO-HORIZON MOUNT  
INSTALLATION AND ASSEMBLY INSTRUCTIONS**

FILL OUT WARRANTY CARD PROVIDED AND RETURN TO PARACLIPSE TO SECURE VALUABLE EXTENDED WARRANTY RIGHTS.

## Welcome to the world of satellite television and your Paraclipse satellite antenna



This symbol is intended to alert you of the presence of unusually dangerous voltage within the unit's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



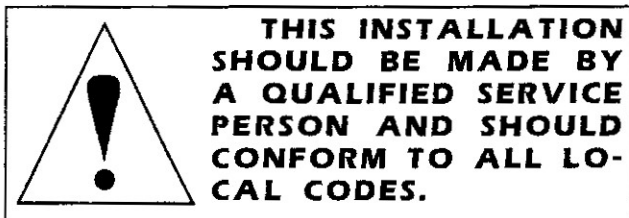
This symbol is intended to alert you of the presence of important operating and maintenance instructions in the literature accompanying the unit.

### WE RECOMMEND THE FOLLOWING:

**1. Site location:** THIS IS EXTREMELY IMPORTANT! We recommend that the site survey be performed by qualified personnel to ensure proper antenna location and to test for microwave interference.

**2.** Read the instructions thoroughly prior to assembly so that you may become more familiar with our method of installation.

**3.** Please keep this assembly instruction manual for future reference. The information below and inside this manual will help you when ordering replacement parts and with questions you may have about your antenna.



### MAINTENANCE AND OPERATION:

The condition of your antenna should be checked at least once a year and after severe weather conditions. Replace or tighten any loose or missing hardware, watch for signs of rust on steel components and provide proper protection. Inspect weather protection for electronics and motor drive. The main gear teeth and the chain should be greased annually with automotive wheel-bearing grease. The grease zerk on the main gear shaft should receive four to six pumps of lithium-based general purpose chassis grease from a grease gun.

Check site location for any obstruction to movement of antenna and clear branches, etc. as needed.

**ANTENNA SHOULD BE PLACED IN A STOWED POSITION FOR HEAVY STORMS, SNOW OR LONG UNATTENDED PERIODS OF TIME. THE STOWED POSITION IS WITH THE ANTENNA POINTED AT EITHER HORIZON.**

Please fill out warranty card provided and return to Paraclipse.

Write the serial number of your antenna, the date of purchase, and the name, address, and phone number of your **Paraclipse** dealer. The serial number can be found on ends of packaging boxes, on the antenna mount, and on the packing list packed with the antenna.

Serial #: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Dealer: \_\_\_\_\_

Telephone: \_\_\_\_\_

# Paraclipse® ECLIPSE

This assembly manual is written for the Eclipse 12' H-H (horizon to horizon) series antennas.

## Manufacturer's Note

A home satellite antenna system is extremely difficult to correctly install without proper training and specialized equipment. It is therefore recommended that installation be done by an authorized dealer.

Before starting installation, check applicable local building codes and restrictions.

## TOOLS:

- 1) 7/16" open end wrench
- 2) 1/2" open end wrench
- 3) 9/16" open end wrench
- 4) 3/4" open end wrench
- 5) 15/16" open end wrench
- 6) 3/4" socket and ratchet
- 7) Adjustable crescent wrench
- 8) Tape measure
- 9) Flat blade screwdriver
- 10) Phillips screwdriver
- 11) Drill with 3/8" bit
- 12) Compass
- 13) Inclinometer (optional)
- 14) Custom screwdriver (See page 13)
- 15) Pliers

## MATERIALS:

- 1) 4" o.d. x 7' pipe (3 1/2" schedule 40 black pipe)
- 2) Approximately 2/3 cubic yard of concrete

## TRACER PARTS LIST

- #901205 - One fully assembled motor assembly
- #213569 - One clamp assembly for 3 1/2" o.d. pipe
- #212397 - One bolt kit containing:
  - #160018 - One 3/8" x 1" roll pin
  - #170379 - One cloth bag
  - #213717 - One threaded elevation adjusting rod
  - #220003 - Four 1/2" nuts
  - #220027 - Two 5/8" nyloc nuts
  - #220042 - Two 3/4" nuts
  - #220285 - Two 1/2" NF nuts
  - #230079 - One 5/8" i.d. flanged bushing
  - #700574 - Four 1/2" x 2 3/4" bolts
  - #700688 - One 5/8" x 5 1/2" bolt
  - #700805 - One 5/8" x 2" bolt
  - #701012 - Two 1/2" x NF 1 1/2" bolts
  - #800008 - Six 1/2" lock washers
  - #800059 - One 5/8" flatwasher
  - #800086 - Four 3/4" flatwashers

## 12 TRACER 180

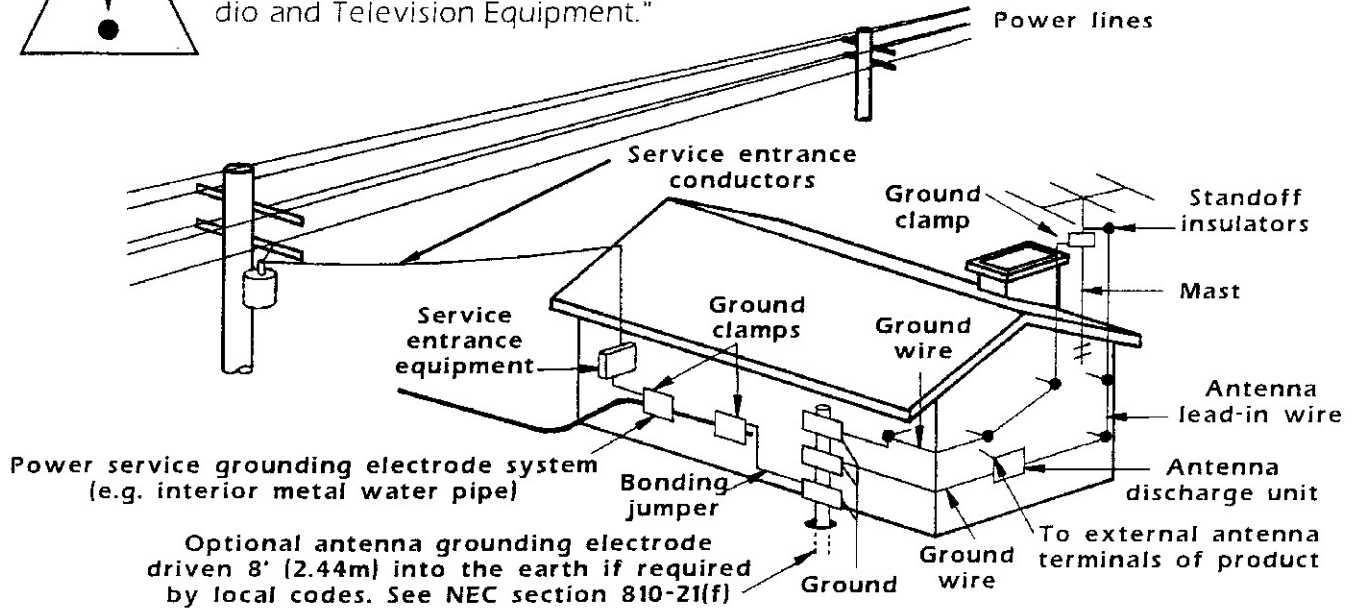
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# GROUNDING FOR PARACLIPSE ANTENNA



Example of antenna grounding according to National Electric Code instructions contained in Article 810 "Radio and Television Equipment."



**1.** Use #10 AWG (2.6mm) copper, #8 AWG (3.3mm) aluminum, #17 AWG (1.2mm) copper-clad steel or bronze wire, or larger, as a ground wire. Use a 0.625" ground rod 8' minimum into ground.

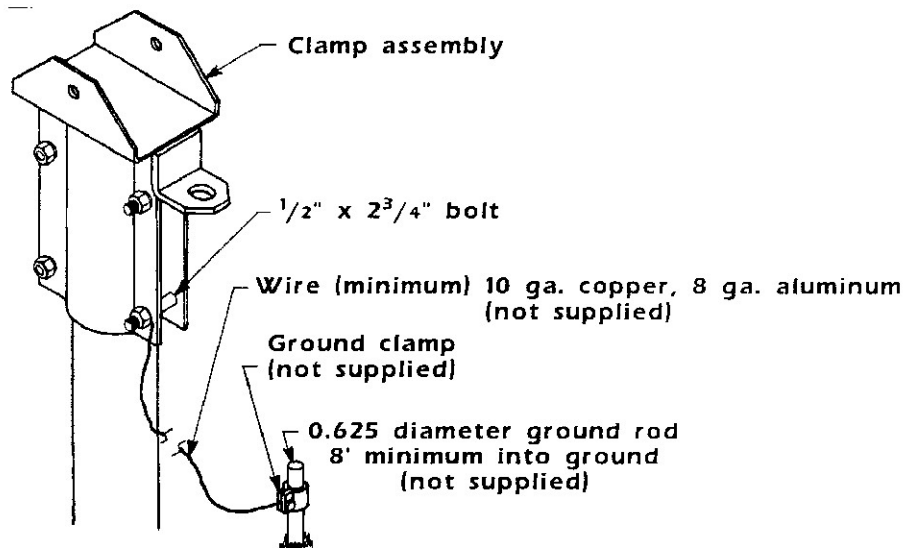
**2.** Secure antenna lead-in and ground wires to house with standoff insulators spaced from 4'-6' (1.22-1.83 m) apart.

**3.** Mount antenna discharge unit as close as possible to where lead-in enters house.

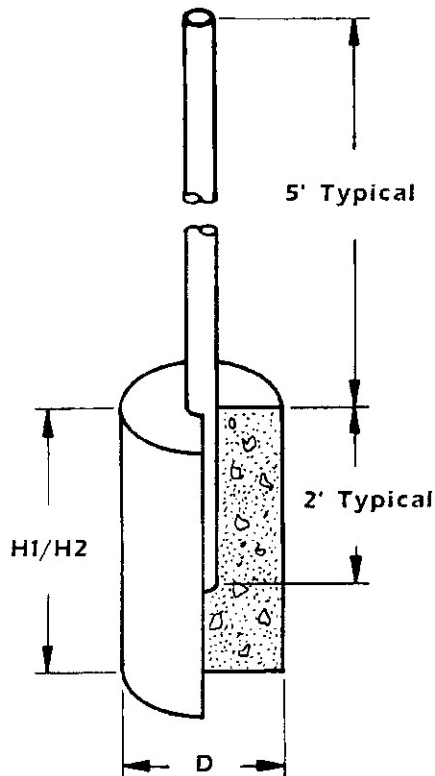
**4.** Use jumper wire not smaller than #6 AWG (4.1mm) copper, or equivalent, when a separate antenna-grounding electrode is used. See NEC section 810-21(i).

## TYPICAL GROUNDING CONFIGURATION

**NOTE:** This is a typical grounding configuration only. It should be noted that multiple grounding locations may be required to thoroughly ground the antenna. It is suggested that a ground wire be installed at the clamp assembly on the lower  $\frac{1}{2}$ " x  $2\frac{3}{4}$ " bolt and at the back hub plate of the antenna.



# FOOTINGS



1. The hole for the antenna footing should be dug in accordance with the chart below in order to adequately support the antenna during violent weather, hard freeze, or muddy conditions. The base pipe must be mounted absolutely plumb in concrete.

2. For a hole depth over 3' we recommend using reinforcing bar in the concrete.

3. **Above ground requirements (please see drawing)** For most areas, 5' of base pipe above the ground is all that is needed. For special clearance requirements (snow, uneven terrain, etc.) add the needed clearance requirement to the standard 5' to determine above ground requirements.

D	Diameter of hole
H1	Depth of hole, natural soil
H2	Depth of hole, paved soil

SOIL TYPE	Soft	Medium	Hard	Rock
<b>80-85 mph wind force</b>				
D	1'7"	1'7"	1'2"	1'0"
H1	4'6"	3'6"	3'6"	2'0"
H2	3'0"	3'0"	2'6"	2'0"
<b>90-95 mph wind force</b>				
D	1'7"	1'7"	1'2"	1'0"
H1	5'6"	5'6"	4'6"	2'0"
H2	3'6"	3'6"	3'0"	2'0"

**SOIL REFERENCE:**

- Soft clayey silts, sandy clays, or silty clays
- Medium medium dense sand, silty sand, or clayey sand
- Hard sandy gravel or gravel
- Rock fractured or solid sandstone or better

**NOTE: The soil type determination shall be made by the antenna installer.**

# CLAMP ASSEMBLY AND MOTOR ASSEMBLY INSTALLATION

## CLAMP ASSEMBLY INSTALLATION

1. Place clamp assembly on 3 1/2" o. d. base pipe and insert four 1/2" x 2 3/4" bolts, four 1/2" nuts, and four 1/2" lock washers. (See Fig. 1)

## MOTOR ASSEMBLY INSTALLATION

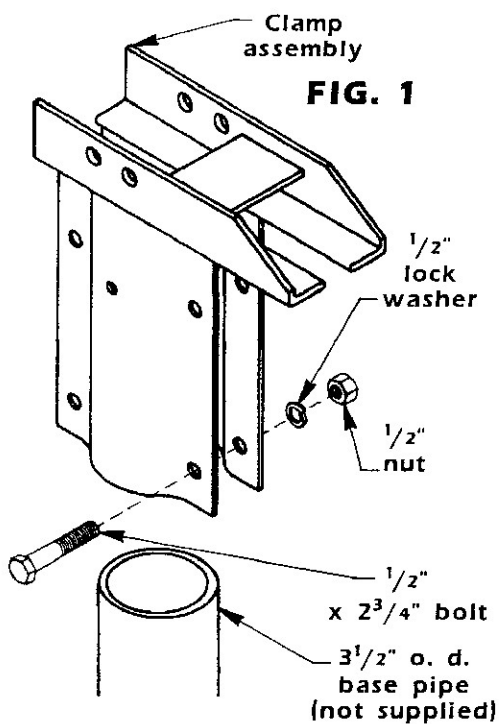
1. Attach motor assembly to clamp assembly with one 5/8" x 5 1/2" bolt, one 5/8" nyloc nut, and one 5/8" flat washer. **NOTE:** See chart below and Fig. 2 for correct hole to insert 5 1/2" bolt.

2. Lift motor assembly upward to allow threaded elevation adjusting rod to be inserted. **NOTE:** See chart below and

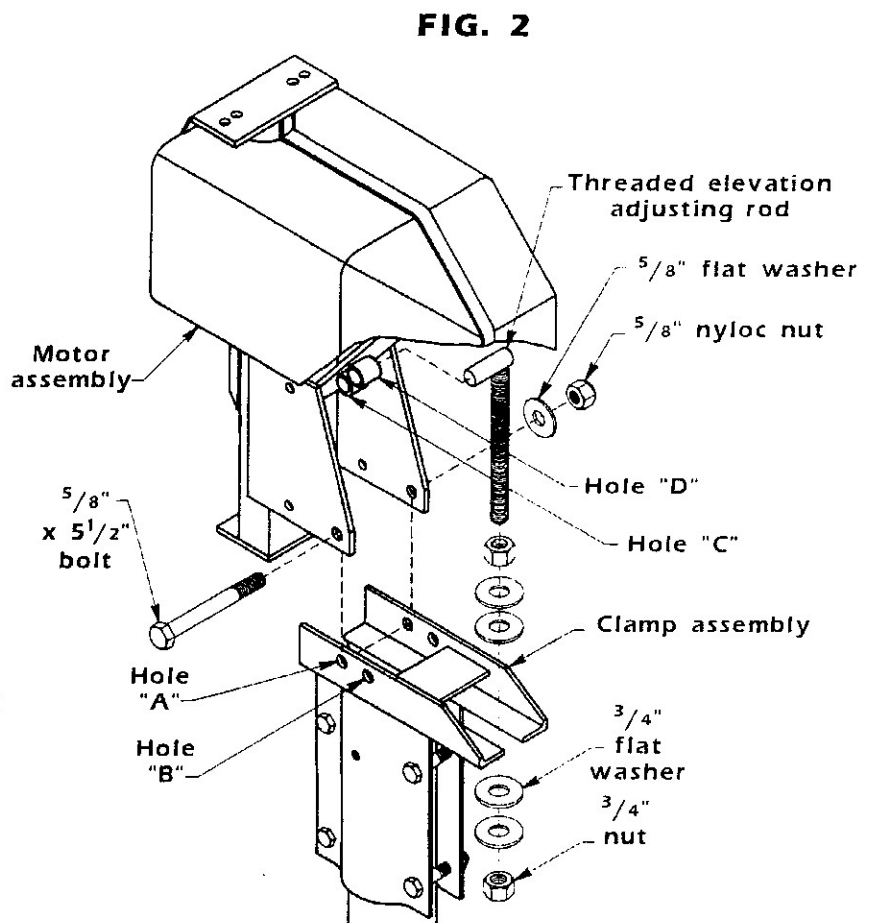
fig. 2 for correct hole to insert threaded elevation adjusting rod.

3. Insert threaded end of threaded elevation adjusting rod into the slot on the clamp assembly using two 3/4" nuts and four 3/4" flat washers. (See Fig. 2) **NOTE:** Later steps will be easier if the motor assembly is now adjusted to the lowest position.

4. Remove the left weather cover of the motor assembly and connect a temporary voltage source (preferably an "east-west" control box) to terminals one and two. Run the motor to the top (arc-zenith) position.



LATITUDE	HOLE LOCATIONS
0° to 20°	"A"/"C"
20° to 50°	"A"/"D"
50° to 60°	"B"/"D"



## HUB BRACKET ASSEMBLY INSTALLATION

1. Attach the hub bracket assembly to the motor assembly using two  $\frac{1}{2}$ " NF x  $1\frac{1}{2}$ " bolts, two  $\frac{1}{2}$ " lock washers, and two  $\frac{1}{2}$ " NF nuts. (See Fig. 3)

**NOTE:** Insert the bolts into the holes of the hub bracket assembly according to Fig. 3 and the chart at right.

**Example:** For  $1^\circ$  declination, use holes labeled "A". For  $3^\circ$  declination, use holes labeled "B".

	LATITUDE	DECLINATION
"A"	$0^\circ-13^\circ$	$0^\circ-2^\circ$
"B"	$13^\circ-27^\circ$	$2^\circ-4^\circ$
"C"	$27^\circ-44^\circ$	$4^\circ-6^\circ$
"D"	$44^\circ-75^\circ$	$6^\circ-8^\circ$

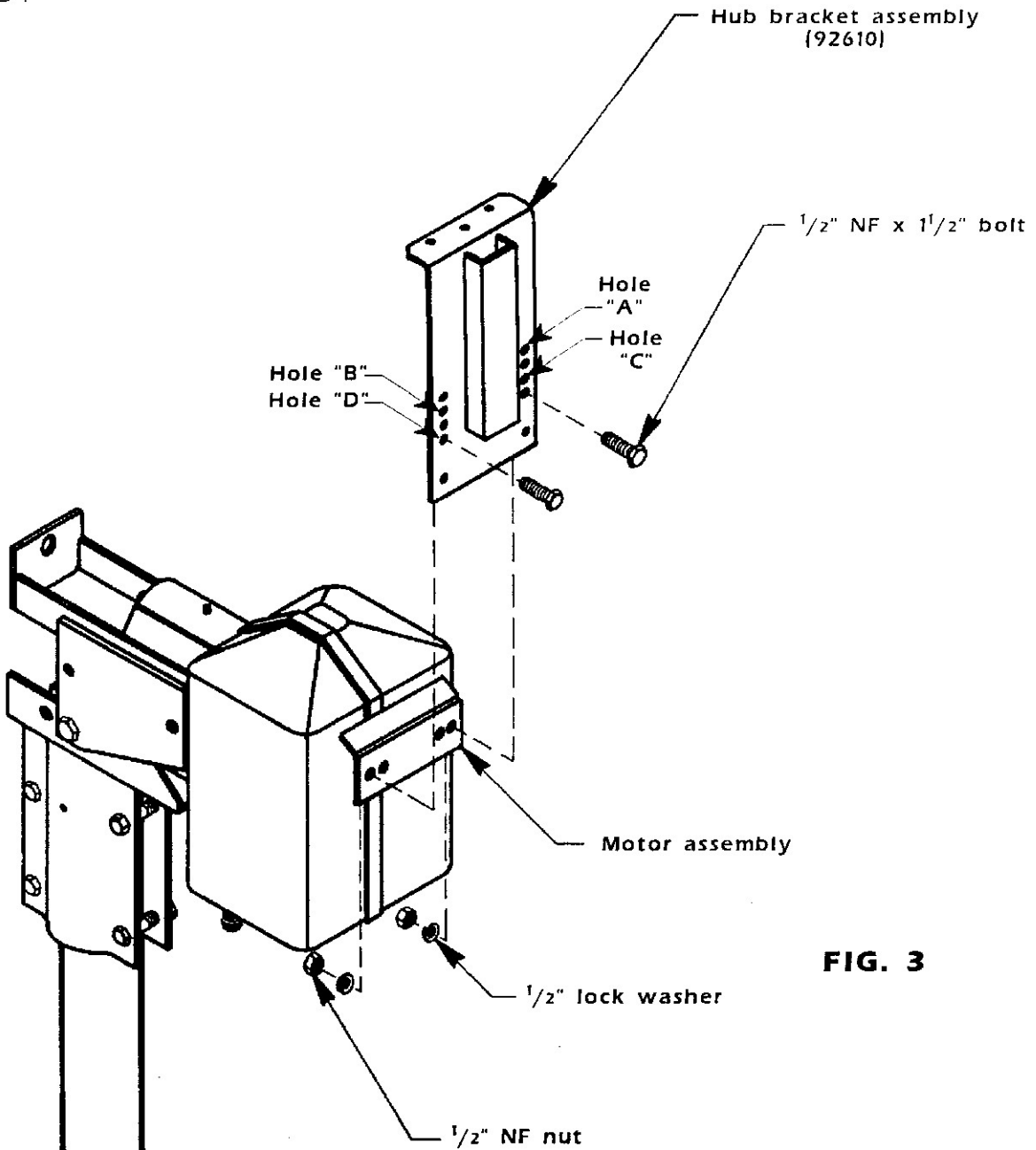


FIG. 3

## DECLINATION BRACKET ASSEMBLY INSTALLATION

1. Install one flanged bushing in the outermost hole of the two holes at the bottom of the motor assembly so that the flanged end of the bushing is underneath. (It may be necessary to tap bearing in with a hammer.) (See Fig. 4)

2. With the flanged bushing in place, attach the preassembled declination bracket assembly to the motor assembly and secure with one  $\frac{5}{8}$ " nyloc nut, two bearing washers, and one  $\frac{5}{8}$ " flat washer. (See Fig. 5)

FIG. 4

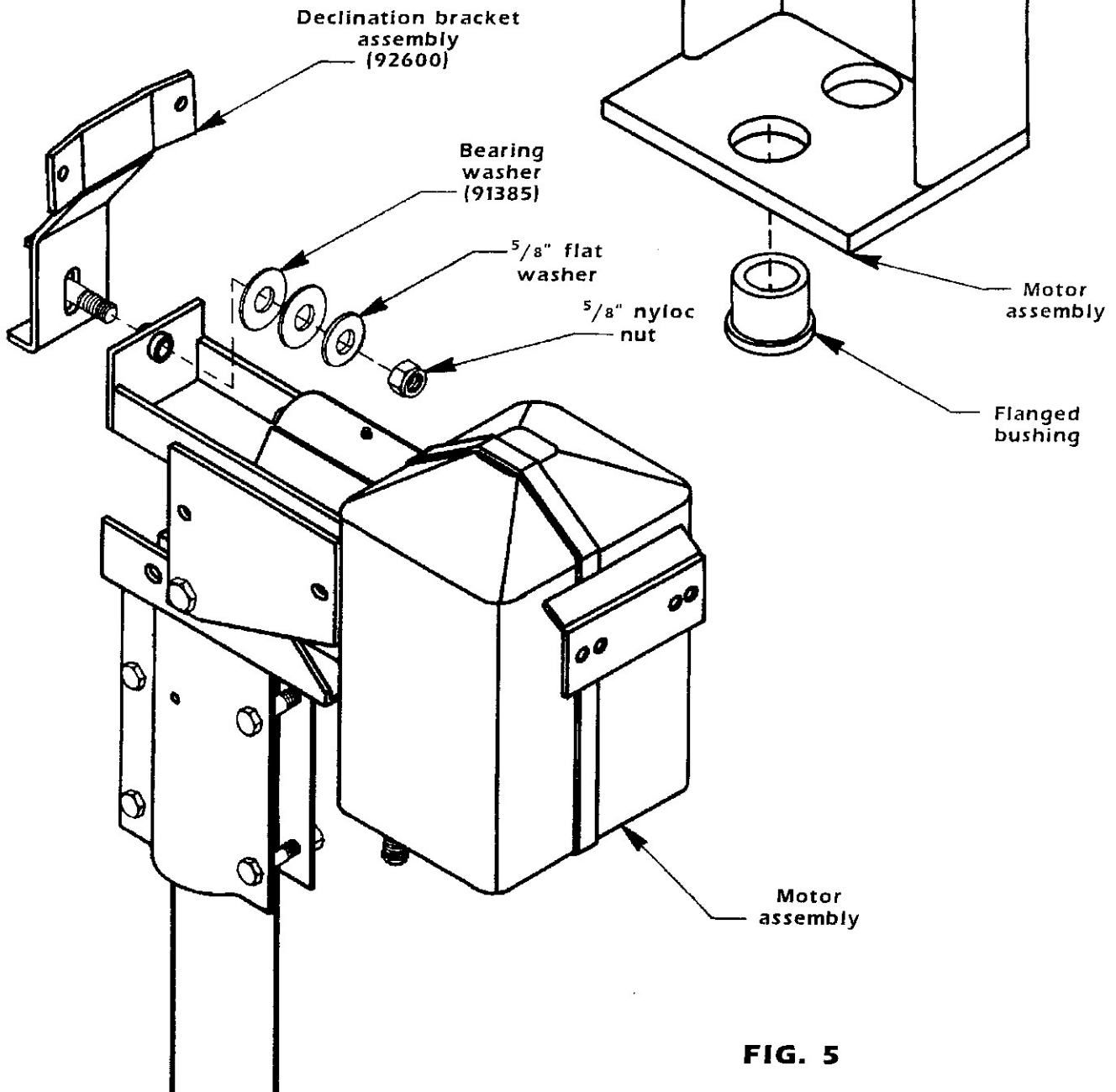


FIG. 5



## AZIMUTH BAR AND PREASSEMBLED RING ASSEMBLY INSTALLATION

1. On the preassembled hub support ring assembly, locate the two open holes on the back hub plate. After locating the two open holes, remove the  $\frac{3}{8}$ " x 3" carriage bolt and the  $\frac{3}{8}$ " nyloc nut between the two open holes. Attach the preassembled hub support ring assembly to the hub bracket assembly using the  $\frac{3}{8}$ " x 3" carriage bolt and the  $\frac{3}{8}$ " nyloc nut that were just removed along with two  $\frac{3}{8}$ " x 1" bolts and two  $\frac{3}{8}$ " nyloc nuts. **Do not tighten!** (See Fig. 6)

2. Attach the preassembled hub support ring assembly to the declination bracket assembly using two  $\frac{5}{16}$ " x  $1\frac{3}{4}$ " bolts and two  $\frac{5}{16}$ " nyloc nuts. **Do not tighten!** (See Fig. 6)

3. Attach the two azimuth bars to the two bottom holes of the hub bracket assembly using two  $\frac{1}{2}$ " x 1" bolts and two  $\frac{1}{2}$ " nyloc nuts. Attach the other end of the azimuth bars to the hub support ring assembly tabs using two  $\frac{1}{2}$ " x 1" bolts and two  $\frac{1}{2}$ " nyloc nuts. (See Fig. 6)

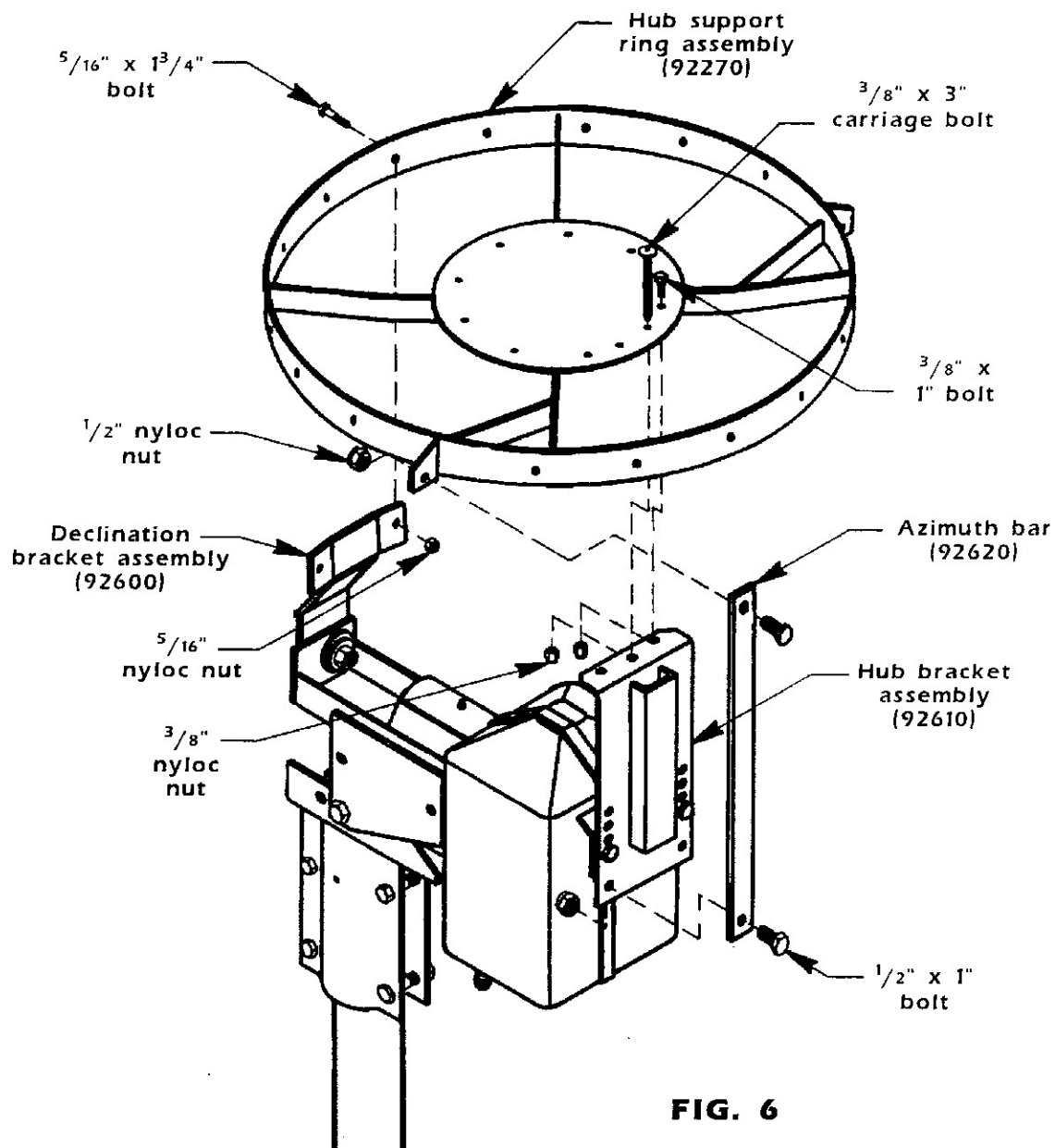


FIG. 6

# REFLECTOR RIB ASSEMBLY

## RIB ASSEMBLY

1. The hub assembly should be sitting in the zenith position (bird bath method) to allow for ease of rib and mesh installation.

2. Begin by sliding all eighteen ribs onto the rib locator plate fingers. (See Fig. 7)

**NOTE:** Three ribs are specifically marked with distinctively colored dots. These three ribs must be positioned with the corresponding dots on the 9-hole hub plate, assuring correct feed support pole alignment.

3. Make sure that all the ribs are set firmly against the hub plate assembly.

**NOTE: Do not bolt the ribs to the rib anchor brackets yet!**

4. After installing all the ribs, snug up the hub plate assembly bolts.

## MESH PANEL AND OUTER RING ASSEMBLY

**NOTE:** The mesh panels used on the **ECLIPSE** series are now preformed for enhanced KU-band performance. The contour of the panels must be installed correctly for this antenna to perform as such. Viewing at an angle prior to installation will ensure the preformed shape of each panel. (See Fig. 8) Install each panel into the rib grooves with the curved side down (outwardly).

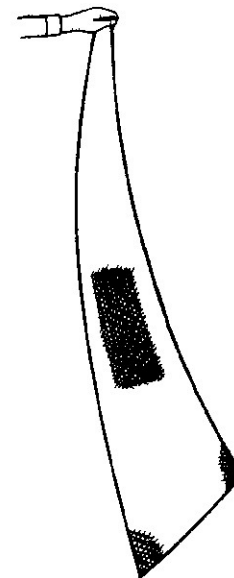


FIG. 8

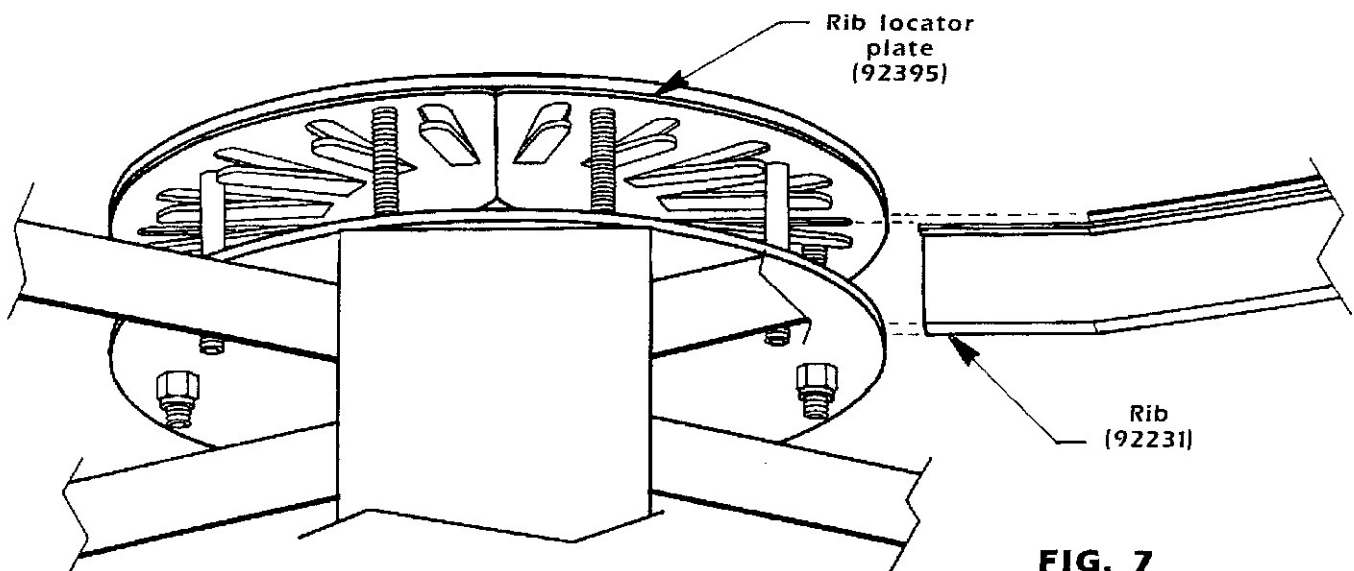
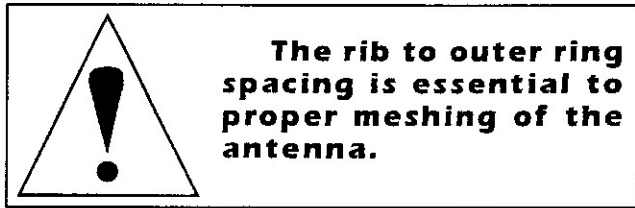


FIG. 7

## MESH PANEL AND OUTER RING ASSEMBLY (Cont'd)

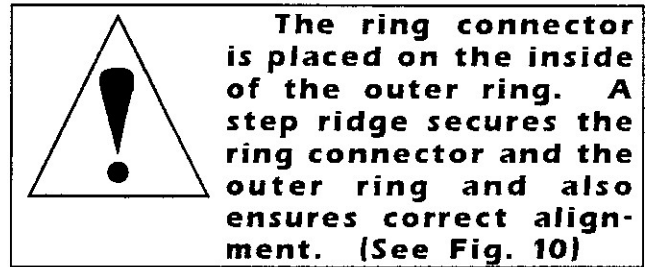
1. Secure the six outer ring sections to the eighteen ribs. Fasten loosely with  $\frac{1}{4}$ " x 1" bolts and  $\frac{1}{4}$ " flat washers. Allow approximately  $\frac{3}{8}$ " spacing between the rib and the outer ring. (See Fig. 9)



2. Slide four of the mesh panels into place, gently working each panel down its rib groove and up against the 9-hole hub plate. After all four panels are in place, secure them by finger tightening the bolts securing the outer ring to the ribs.

**CAUTION:** Make sure that the mesh is fitting into the groove on the outer ring without causing it to bend or fold. **"DO NOT TIGHTEN THE  $\frac{1}{4}$ " x 1" BOLTS AT THIS TIME!"**

3. Use a ring connector to fasten the outer ring sections together. Bolt the ring connector in place with four  $\frac{1}{4}$ " x  $\frac{5}{8}$ " bolts, four  $\frac{1}{4}$ " flat washers and four  $\frac{1}{4}$ " nyloc nuts. (Leave the  $\frac{1}{4}$ " x  $\frac{5}{8}$ " bolts loose.) (See Fig. 10)



4. Follow the above steps 1 through 3 for the remaining four sections of three mesh panels and one section of two mesh panels, making sure to just slightly tighten the outer ring and ring connector bolts. (Final tightening will be explained in ANTENNA TIGHTENING PROCEDURE.)

FIG. 9

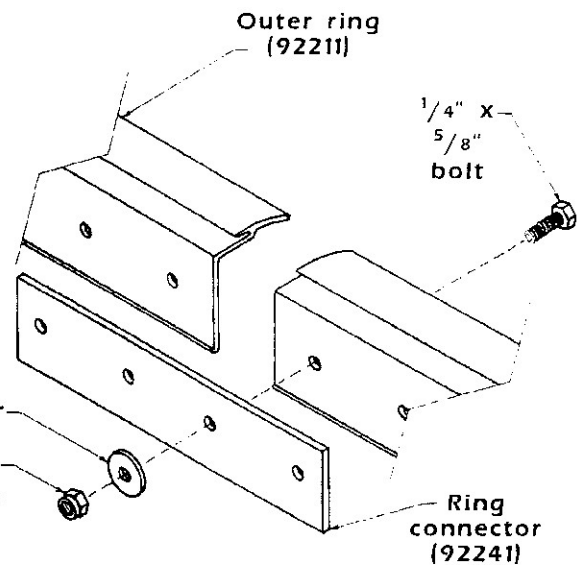
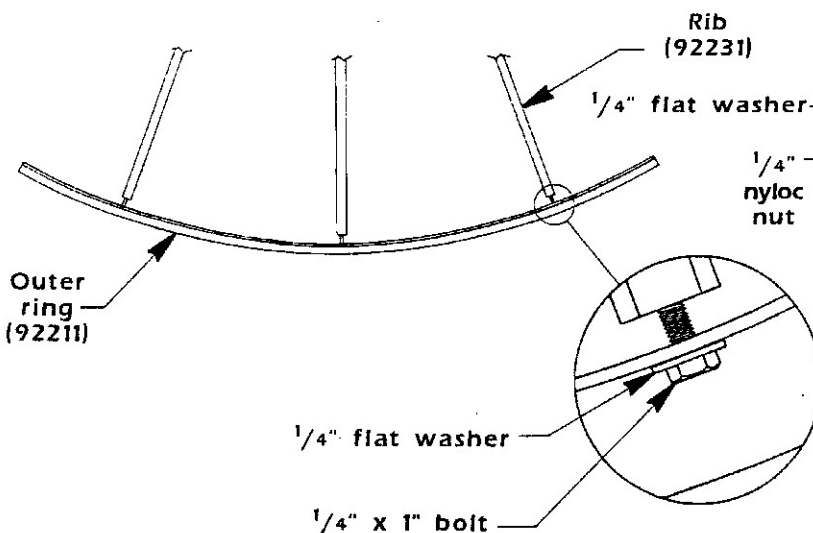


FIG. 10

# ANTENNA TIGHTENING PROCEDURE AND RIB ANCHOR BRACKET ATTACHMENT

## ANTENNA TIGHTENING PROCEDURE

1. First tighten the twenty-four ring connector bolts. (One final complete turn after engaging the surface of the outer ring will ensure a proper torque setting on these bolts.)
2. Tighten the eighteen  $\frac{1}{4}$ " x 1" bolts attaching the outer rings firmly to the ribs.
3. Firmly tighten all the hub assembly bolts except for the two  $\frac{5}{16}$ " x  $1\frac{3}{4}$ " bolts connected to the declination bracket assembly.

## RIB ANCHOR BRACKET ATTACHMENT

1. Fasten the ribs to the rib anchor brackets using sixteen  $\frac{1}{4}$ " x  $1\frac{1}{4}$ " bolts and  $\frac{1}{4}$ " nyloc nuts. (See Fig. 11)
2. Doing one at a time, attach two rib anchor brackets to the two  $\frac{5}{16}$ " x  $1\frac{3}{4}$ " bolts connected to the declination bracket assembly by removing and reattaching the  $\frac{5}{16}$ " nyloc nuts. (See Fig. 11)
2. Attach the remaining fourteen rib anchor brackets to the hub support ring assembly using one  $\frac{5}{16}$ " x  $1\frac{1}{2}$ " bolt, one  $\frac{5}{16}$ " flat washer, and one  $\frac{5}{16}$ " nyloc nut apiece. Tighten. (See Fig. 11)

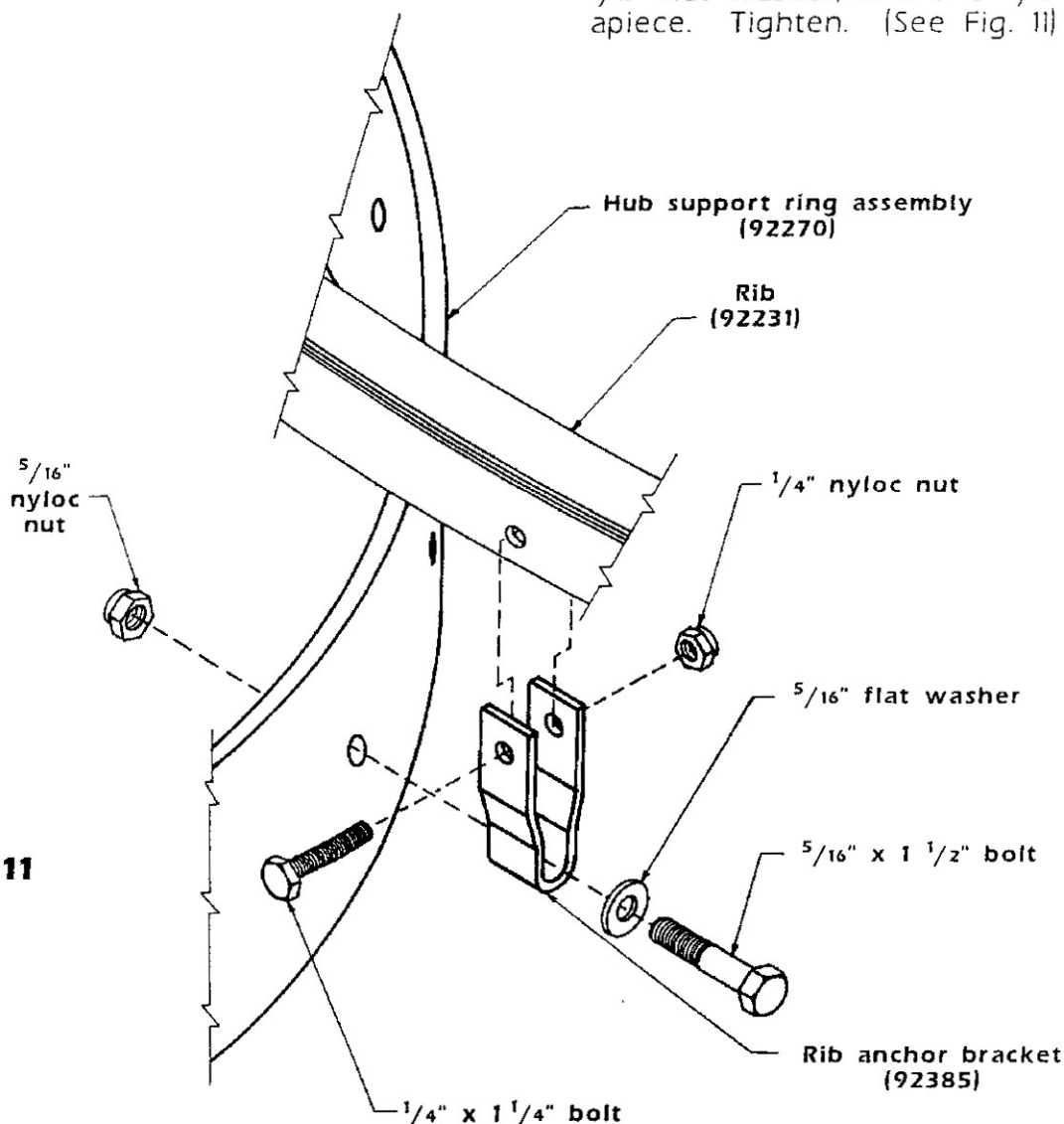


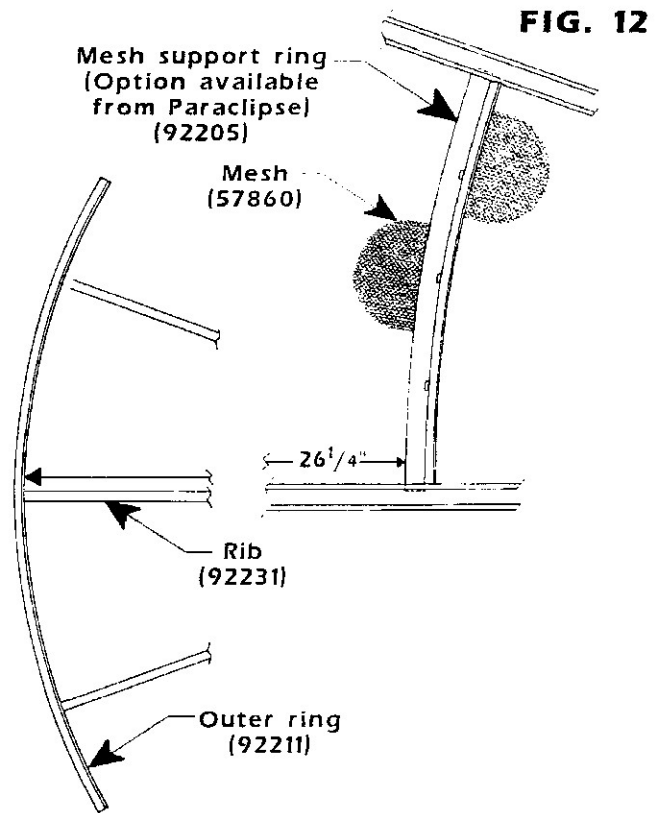
FIG. 11

**MESH SUPPORT RING (Option available from Paraclipse)**

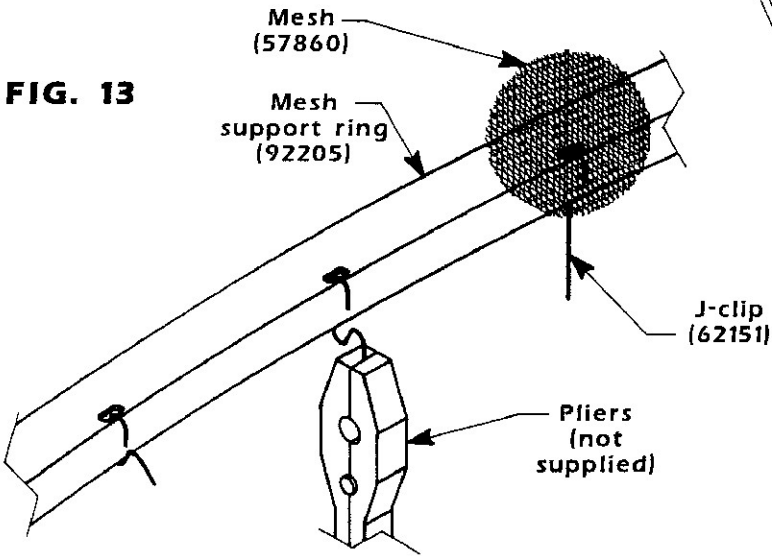
1. Slide ends of mesh support ring (under assembled mesh) into rib grooves pushing downward (toward the center) until stopped. The distance from the outer ring extrusion to the outer edge of the mesh support ring is 26 1/4". Measure both ends of each mesh support ring from the outer ring extrusion to ensure proper location of the mesh support ring on the antenna.. (See Fig. 12)

2. Attach mesh to mesh support ring with three J-clips by sliding J-clip through mesh into mesh support ring slots and bending bottom of J-clip around mesh support ring as shown. (See Fig. 13)

3. Repeat steps 1 and 2 with remaining seventeen mesh support rings.

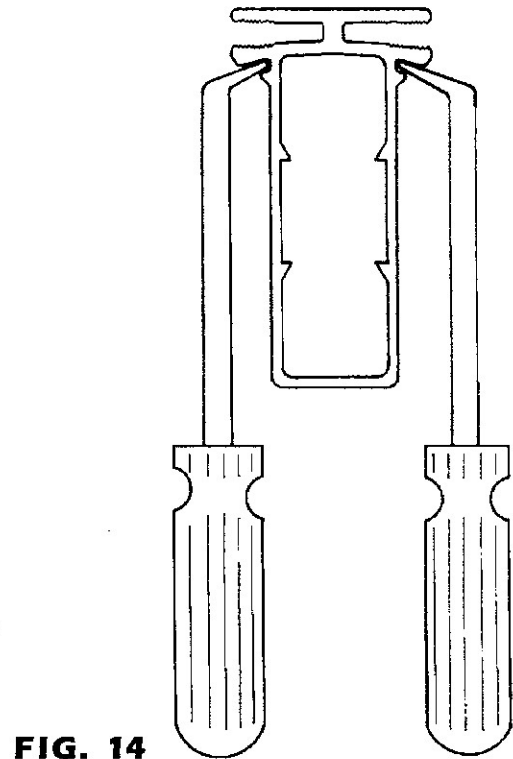


**FIG. 13**



**MESH LOCKING (Mandatory procedure)**

1. The assembled mesh can be locked in place with the use of two modified screwdrivers. Simply insert the screwdrivers into the grooves underneath the mesh panel and pry one toward the center of the antenna and one away from the center of the antenna. Three places on each rib should be satisfactory. (See Fig. 14)



**FIG. 14**

## FEED SUPPORT POLE ASSEMBLY

1. Attach the three feed support poles provided to the three ribs with colored dots using three  $\frac{1}{4}$ " x  $2\frac{1}{2}$ " bolts, six  $\frac{1}{4}$ " flat washers and three  $\frac{1}{4}$ " nyloc nuts. (See Fig. 15)

2. Attach the feed plate to the three feed support poles, using three  $\frac{1}{4}$ " x 1" bolts, six  $\frac{1}{4}$ " flat washers and three  $\frac{1}{4}$ " nuts. (See Fig. 15)

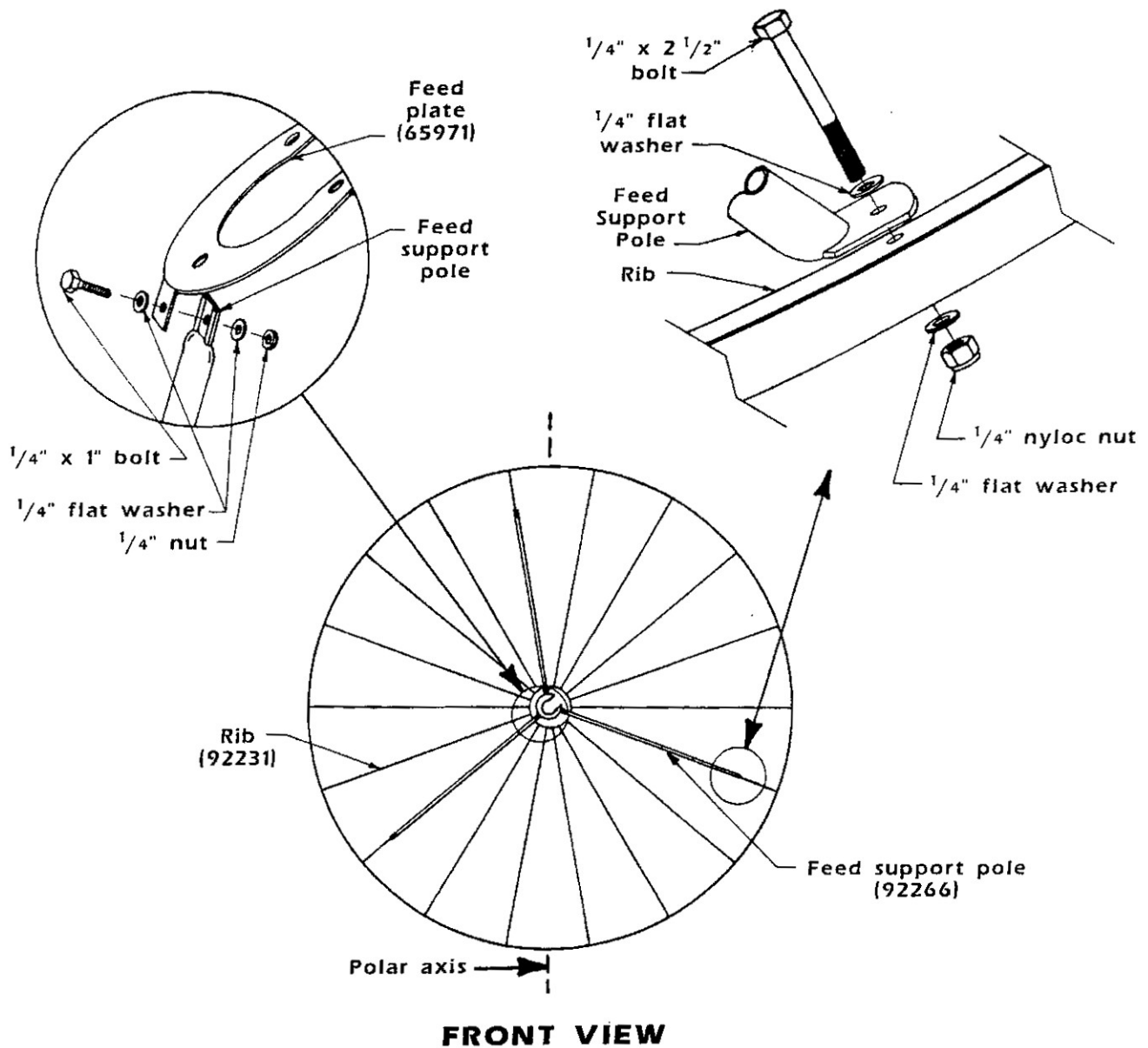


FIG. 15

## FEED HORN COVER ASSEMBLY (With optional feed plate)

**1.** Attach the feed horn assembly and LNA cover doughnut to the feed plate using three  $\frac{1}{4}$ " x  $2\frac{1}{2}$ " bolts, three  $\frac{1}{2}$ " x 1" nylon thumb screws (to be threaded into feed plate), three  $\frac{1}{4}$ " nuts, three  $\frac{1}{4}$ " nyloc nuts, and six  $\frac{1}{4}$ " flat washers. (See Fig. 16)

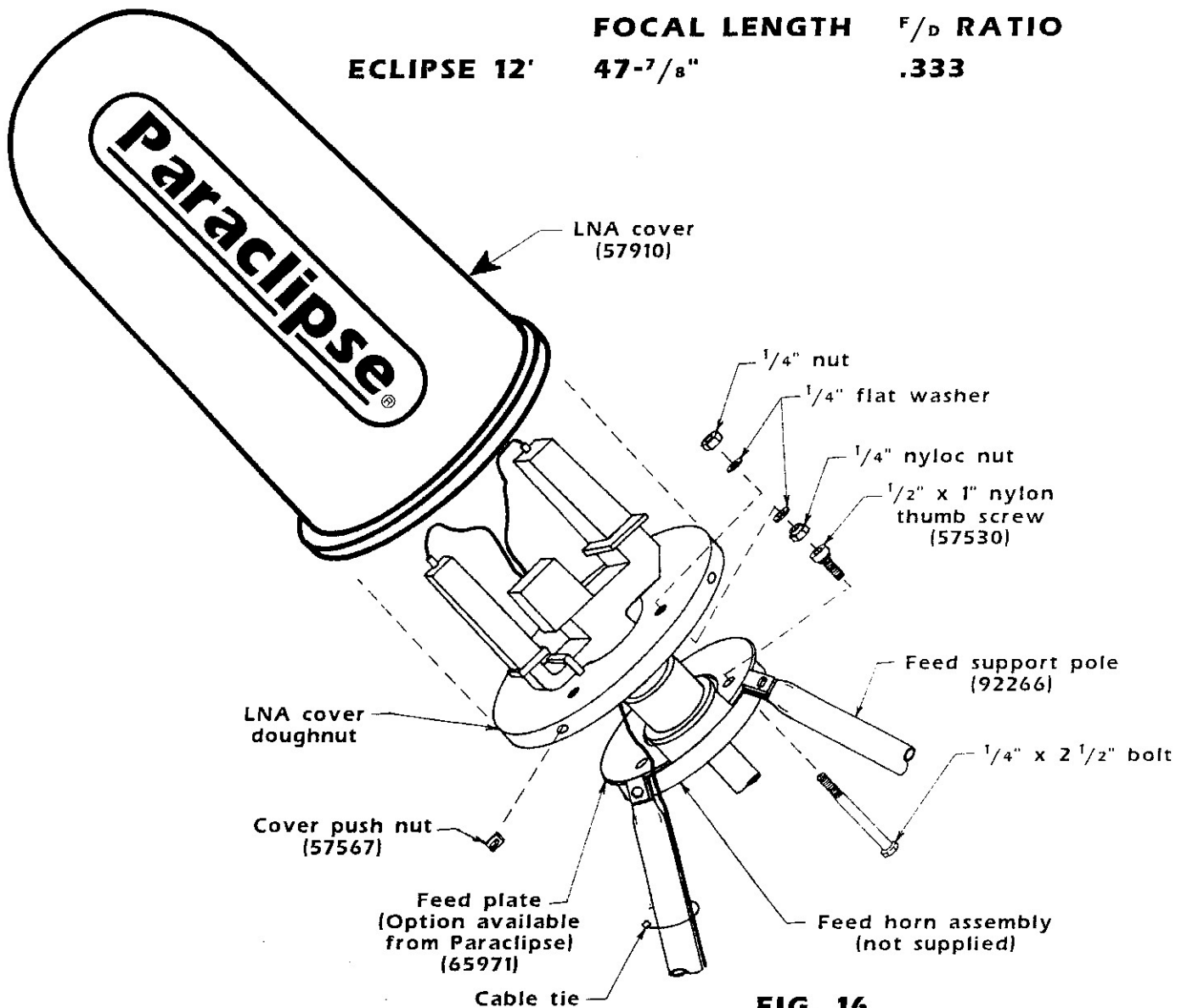
**2.** Attach and secure cables to one of the three feed support poles and the back of a corresponding rib with the use of seven cable ties and four adhesive cable mount blocks.

**3.** Centering of the feed assembly is a must. This type of alignment to the face of the reflector can be accomplished with the use of a centering tool (optional).

**4.** Adjust the focal distance to the specifications listed. Focal length is measured from the top of the 9-hole hub plate to the point recommended by the feed manufacturer. (Usually  $\frac{1}{8}$ " inside the waveguide.)

**5.** Attach LNA cover to doughnut with four cover push nuts. (See Fig. 16)

FOCAL LENGTH	F/D RATIO
47- $\frac{7}{8}$ "	.333



**FIG. 16**

## FEED HORN COVER ASSEMBLY (Without optional feed plate)

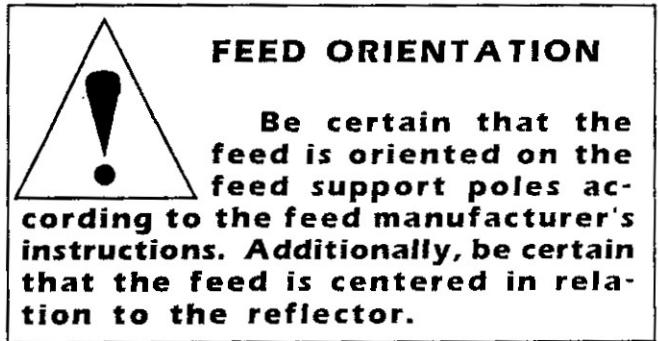
1. Using one  $\frac{1}{4}$ " x  $1\frac{1}{2}$ " bolt and one  $\frac{1}{4}$ " nut, connect all three feed support poles. This will correctly position the feed support poles for feed centering.

2. Attach LNB(s) to the feed as per manufacturer's instructions.

3. The LNB wires should be secured to a feed support pole and the back of a corresponding rib using seven cable ties and four adhesive cable mount blocks.

4. Remove the  $\frac{1}{4}$ " x  $1\frac{1}{2}$ " bolt and  $\frac{1}{4}$ " nut that attached the three feed support poles together during installation.

5. Attach the feed and the LNA cover donut to the feed support poles using



three  $\frac{1}{4}$ " x  $1\frac{1}{2}$ " bolts, six  $\frac{1}{4}$ " flat washers, and six  $\frac{1}{4}$ " nuts. (See Fig. 17)

6. Adjust feed to the correct focal length. (See specifications on page 19.)

7. Attach top of LNA cover to the donut using the special cover push nuts provided. (See Fig. 17)

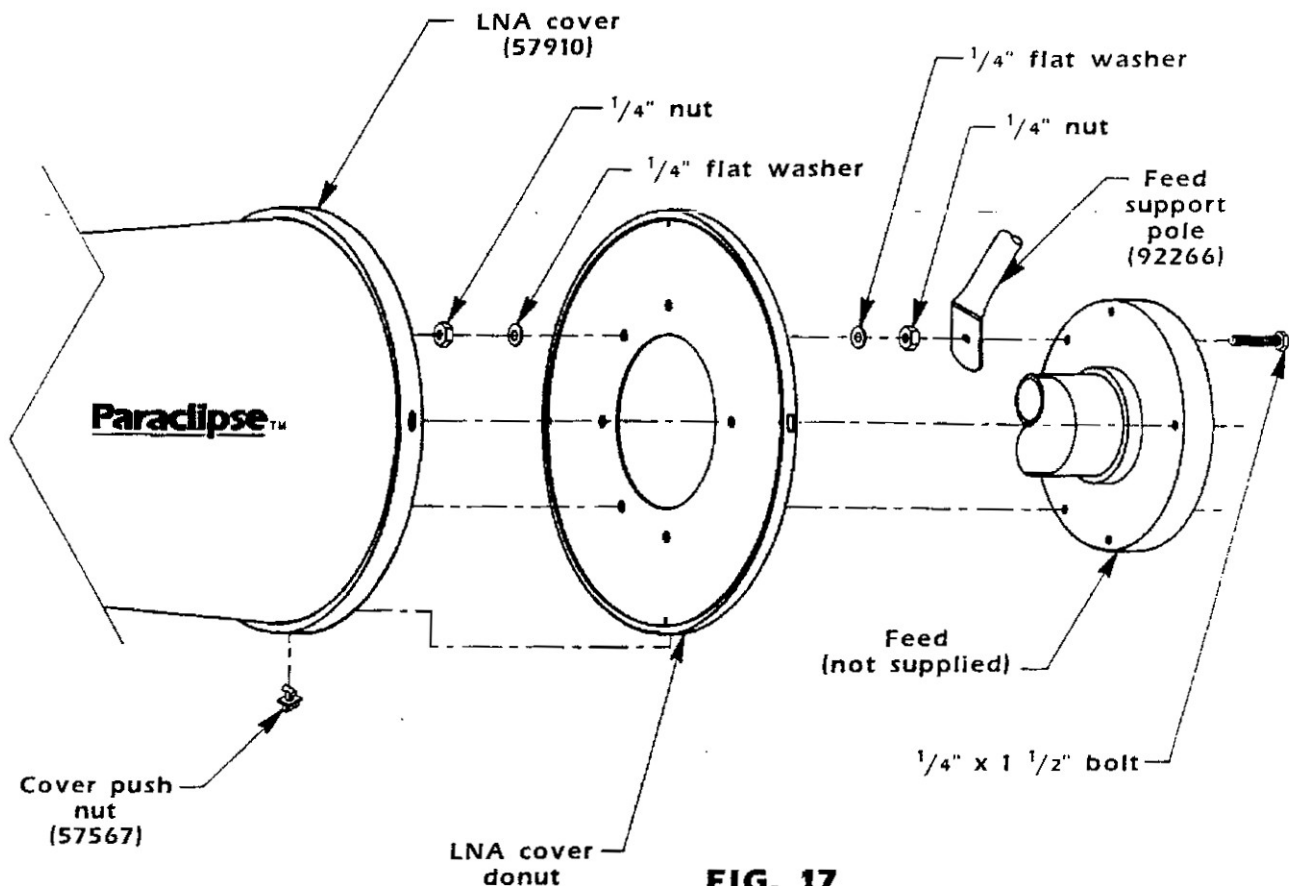


FIG. 17



# ELEVATION AND DECLINATION ADJUSTMENT

## DECLINATION ADJUSTMENT

1. Use the declination chart to find the correct amount of offset in your area. This measurement is critical and should be set in accordance with the chart below.

2. Predetermine your correct latitude. To adjust declination, loosen the  $\frac{5}{8}$ " nyloc nut on the declination bolt. Turn the  $\frac{3}{8}$ " x  $3\frac{3}{4}$ " bolt until the correct declination is achieved. An inclinometer may be used to set accurately the declination angle, using the reference shown in Fig. 18.

3. Retighten all declination hardware.

## ELEVATION ADJUSTMENT

1. Using the clamp assembly as a compass sighting reference, rotate the mount on the base pipe to obtain a true north-south orientation. **Tighten clamp assembly bolts only moderately!**

2. Place inclinometer on polar axis as shown in Fig. 18 and adjust threaded elevation adjusting rod to give a reading of **site latitude plus  $\frac{1}{2}^\circ$** .

**EXAMPLE:** Denver, Colorado, U.S.A.: Latitude  $40^\circ$

a.) Set elevation angle at  $40^\circ$  plus  $\frac{1}{2}^\circ = 40\frac{1}{2}^\circ$ .

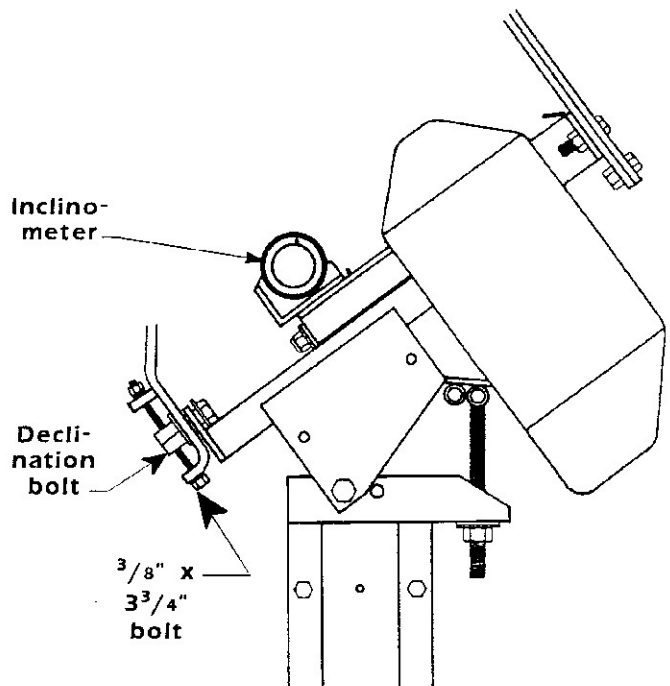
b.) From the chart below, the declination angle for  $40^\circ$  latitude is  $5\frac{1}{2}^\circ$ .

c.) Combined angle is  $40\frac{1}{2}^\circ$  plus  $5\frac{1}{2}^\circ = 46^\circ$ .

d.) Therefore, if the declination has been set correctly in step 1 on page 7 and step 2 on this page, the inclinometer should read  $46^\circ$  when placed on the motor assembly as shown in Fig. 18.

3. Now track the satellite arc, using the method preferred by the installer.

DECLINATION & ELEVATION CHART			
Polar axis angle (equal to installation site latitude)	Declination (in degrees)	Polar axis angle (equal to installation site latitude)	Declination (in degrees)
A	B	A	B
0	0.00	32	4.60
2	0.30	34	4.85
4	0.61	36	5.09
6	0.91	38	5.33
8	1.21	40	5.56
10	1.51	42	5.79
12	1.81	44	6.00
14	2.11	46	6.21
16	2.40	48	6.41
18	2.69	50	6.61
20	2.98	52	6.79
22	3.26	54	6.97
24	3.54	56	7.14
26	3.81	58	7.30
28	4.08	60	7.45
30	4.34	62	7.59



**FIG. 18**

## ALIGNMENT PROCEDURE AND FINAL STEPS

**1.** Set antenna elevation. The elevation will vary with the latitude of your location. Use the Declination & Elevation Chart as a guideline.

**2.** It is necessary to search for the most southerly satellite from your location. Refer to a "Satellite Guide" or consult your nearest dealer.

Begin with the antenna pointed in a southerly direction (for antenna location sites in northern hemisphere) or northerly direction (for antenna sites in southern hemisphere). To begin searching, turn your receiver on to scan-tune (if your receiver is not so equipped, have someone slowly tune the receiver through the transponders). Next, turn the antenna slightly in the direction of the satellite.

**3.** Systematically search for the satellite by making one-turn-at-a-time adjustments of the threaded elevation adjusting rod. With each adjustment of elevation, slowly swing the antenna using the motor drive from east to west, while looking for a signal on your television.

**NOTE:** If no signal can be found, recheck the antenna elevation/declination, north-south alignment and plumb of mount. If no problem is found with the mechanical alignment, consult the owner's manual for your receiver or call your local dealer.

**4.** When you find your first satellite, turn off the scan-tune and adjust to an active transponder (channel).

**5.** Carefully adjust elevation and azimuth to maximum signal strength using the signal strength meter on your receiver; or, if available, use a digital or analog volt-ohm meter (VOM). You may also adjust visually by observing your television for the best picture.

**6.** Turn on scan-tune once again and swing antenna, using the motor drive while looking for other satellites. If no other satellites are "visible," or you can not receive all the satellites (and your signal path is not blocked), the mount is not aligned to true north/south.

**7. North/south alignment: NOTE:** If installation is located east of 105° W longitude, reverse all "west/east" and "raise/lower" references.

**a)** Swing antenna to the most westerly satellite and adjust azimuth and elevation for absolute maximum signal. Swing antenna to the most easterly satellite and do same. If any azimuth or elevation adjustments are required to peak signal on this satellite, the north/south alignment will still need minor correction.

**b)** If you raise the antenna with the threaded elevation adjusting rod to improve the picture, rotate the mount slightly (a fraction of an inch) counterclockwise. If you lower the antenna to improve the picture, rotate the mount slightly clockwise.

**c)** Repeat steps a) and b) until there is no adjustment needed from the most westerly to the most easterly satellites.

**8.** While observing a signal strength meter or watching the television picture, retighten all nuts and bolts on the mount firmly to ensure that the signal remains at maximum. Recheck antenna tracking from west to east to make sure the mount has not moved.

Your **PARACLIPSE** antenna is now aligned to track the Clarke orbit belt. Therefore, complete your wiring to the television viewing location per instructions provided with your receiver.

### FINAL STEPS

**1.** Run antenna to each limit switch and bend limit switch blade to obtain desired stopping point. (One limit may be increased to get best snow-dumping position.)

**2.** Drill  $\frac{3}{8}$ " hole in pole, using the existing hole in the clamp assembly for guide. Drive one  $\frac{3}{8}$ " lock pin into hole to secure the clamp assembly.

**3.** Connect final wiring as follows: **a.)** Motor wires to terminals one and two. **b.)** "Sensor" or "Pulse" wire to terminal three. **c.)** "Shield" or "Drain" wire to terminal four. **d.)** "Ground" wire to terminal five.

**4.** Check cable routing to prevent binding or pinching as antenna moves across arc.

**5.** Install weather covers and seal overlapping edges with RTV silicone.

**6.** Complete indoor work and programming.

## SPECIFICATIONS

<b>C Band gain Mid-band</b>	41.9 dB
<b>KU Band gain Mid-band</b>	49.6 dB
<b>C band efficiency Mid-band</b>	63%
<b>2" Spacing approved (C &amp; KU)</b>	Yes
<b>F/D</b>	0.333
<b>Focal Point (see notes)</b>	47-7/8"
<b>Wind survival (please see warranty policy)</b>	70 mph (100 mph stowed)
<b>Sensor</b>	High resolution reed sensor provides 10 counts per degree; i.e. 7 counts across KU band video (at 3 dB points), or 20 counts across C band video
<b>Accuracy</b>	Excellent antenna pointing accuracy-repeatability, due to high resolution sensor and freedom from mechanical deflection or gear backlash
<b>Motor</b>	24 v./36 v. D.C. input, at 2-1/2 amperes
<b>Limits</b>	Limit switches stop mount at 150° rotation, adjustable to 180° if desired
<b>Speed</b>	Traverses 150° of arc in 70-80 seconds

### NOTES:

- 1.** Specifications of Paraclipse products are determined by range test or engineering computation methods.
- 2.** Different feed horn designs call for special mounting and focal requirements. Call for correct applications or follow manufacturer's suggestions.

# **Paraclipse®**

HIGH PERFORMANCE ANTENNAS

*Your Complete Reflector Source*

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