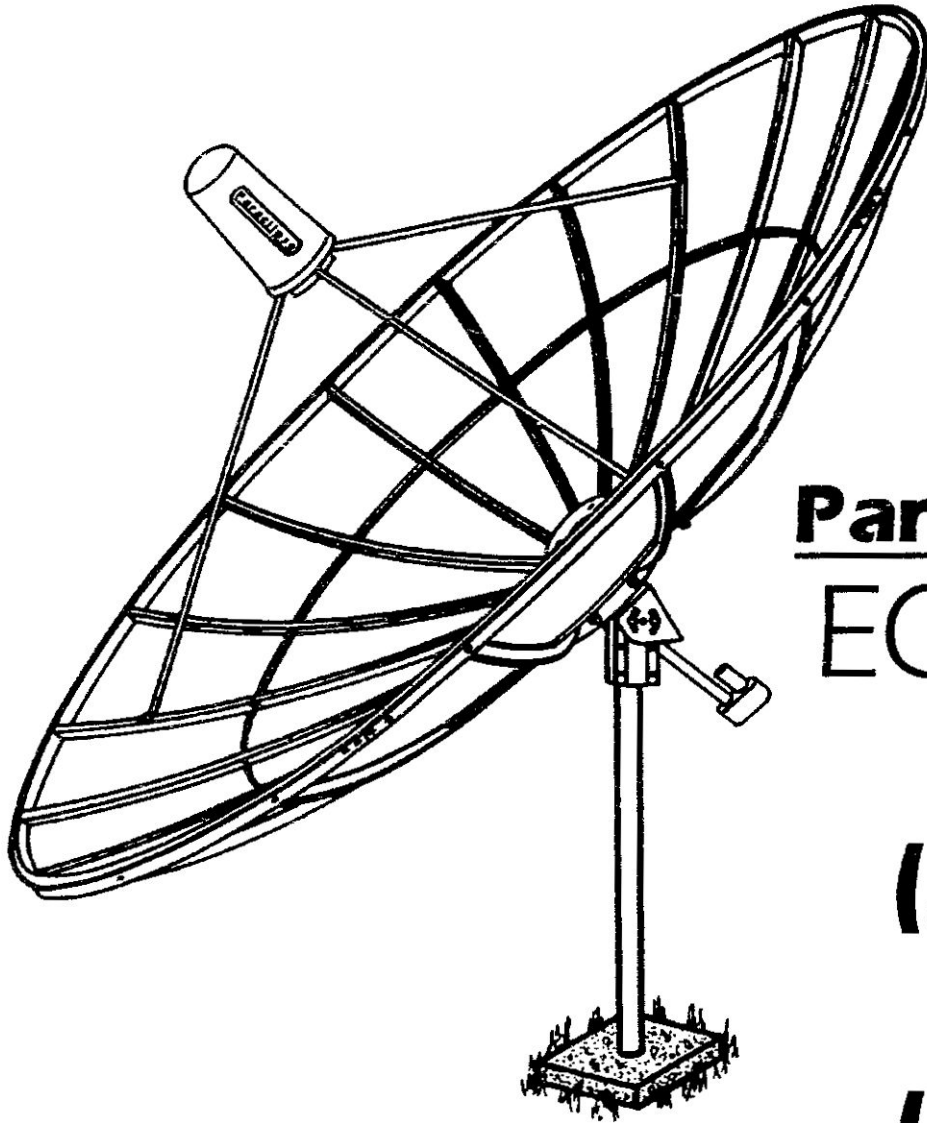


# **Paraclipse**<sup>®</sup>

**HIGH PERFORMANCE ANTENNAS**  
*Your Complete Reflector Source*



**Paraclipse**<sup>®</sup>

**ECLIPSE**

**12'**

**(3.8 m)**

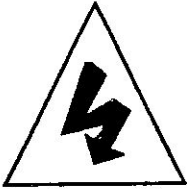
**10'**

**(3.0 m)**

**INSTALLATION &  
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.



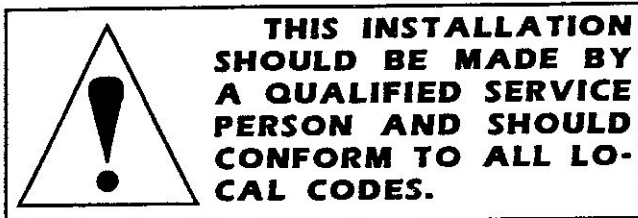
This symbol is intended to alert you of the presence of important operating and maintenance instructions in the literature accompanying the unit.

### 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 and perform any maintenance called for by motor drive manufacturer.

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' (3.8 m) and 10' (3.0 m) series antennas. Any unique assembly differences within this manual will be noted by the following bold headings:

## **12' (3.8 m) 10' (3.0 m)**

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### **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:**

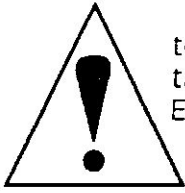
- 1) 7/16" open end wrench
- 2) 1/2" open end wrench
- 3) 9/16" open end wrench
- 4) 3/4" open end wrench
- 5) Adjustable crescent wrench
- 6) Compass
- 7) Inclinometer (optional)
- 8) Custom screwdriver (See page 17)
- 9) Pliers
- 10) Centering tool (optional)

### **MATERIALS:**

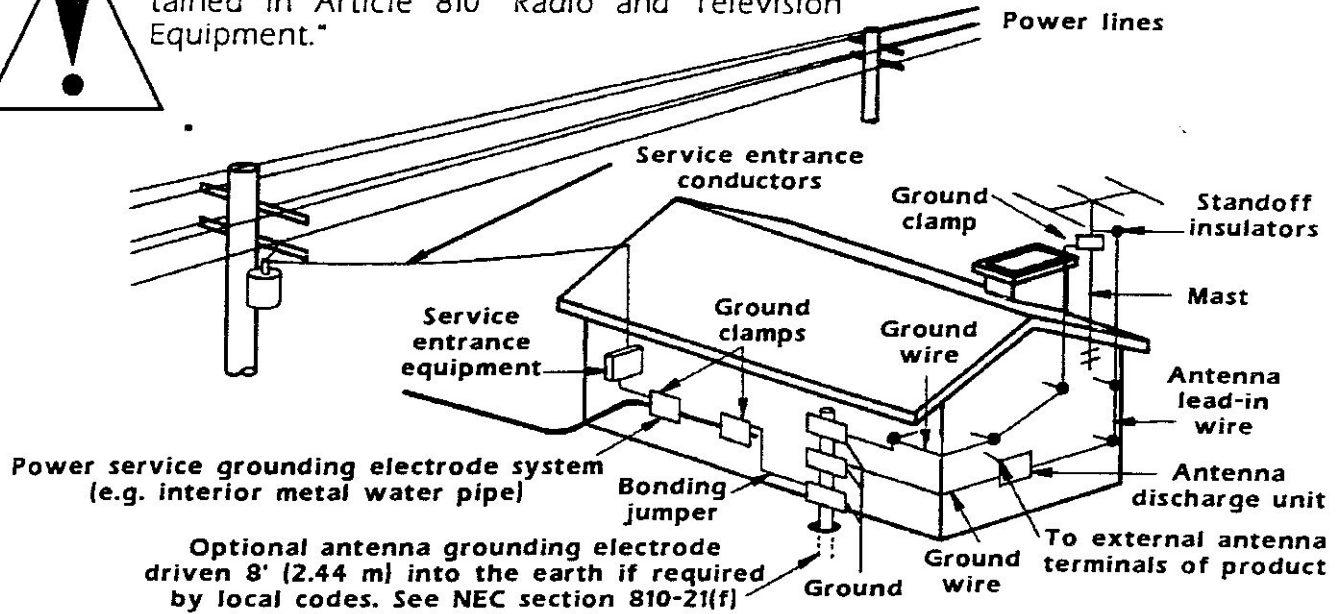
- 1) 3.5" (88.9 mm) o. d. x 7' (2.13 m) pipe (3" schedule 40 black pipe)
- 2) Approximately 2/3 cubic yard (1/2 cubic meter) of concrete

**NOTE:** On assembly illustrations where circled numbers rather than part names are noted, please refer to page 22 for part identification.

# 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 (2.6 mm) copper, #8 AWG (3.3 mm) aluminum, #17 AWG (1.2 mm) copper-clad steel or bronze wire, or larger, as a ground wire. Use a 0.625" (16 mm) ground rod 8' (2.4 m) minimum into ground.

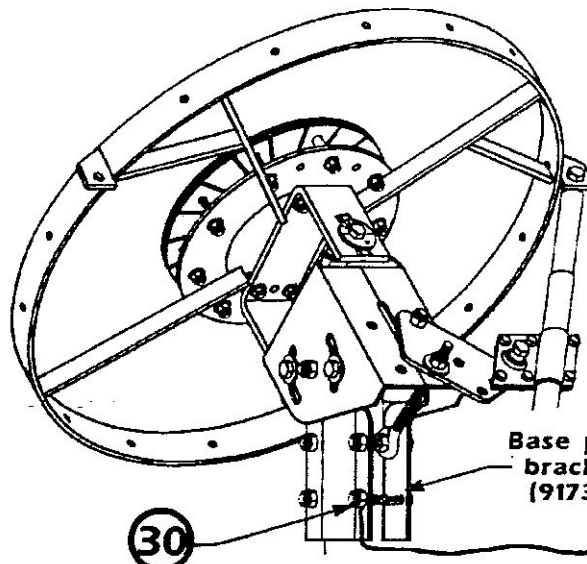
**2.** Secure antenna lead-in and ground wires to house with stand off insulators spaced from 4'-6' (1.22-1.83 m) apart.

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

**4.** Use jumper wire not smaller than #6 AWG (4.1 mm) 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 mount and at the back hub plate of the antenna.



For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.

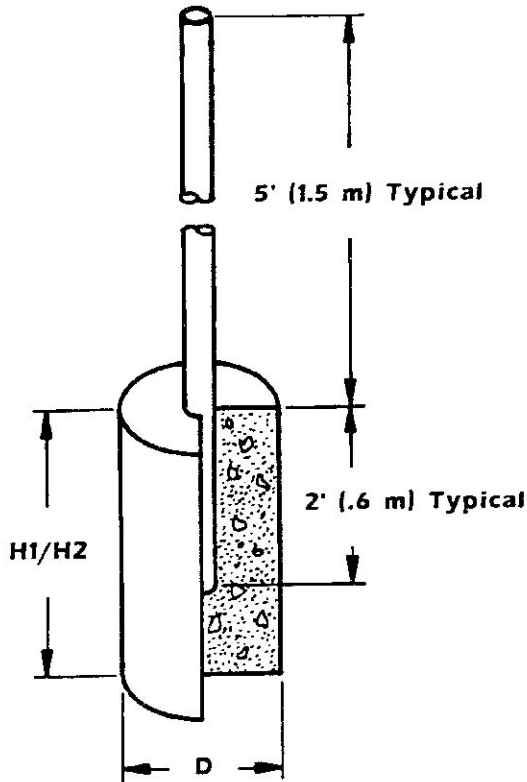
Wire (minimum) 10 ga. (3.4 mm) copper, 8 ga. (4.1 mm) aluminum (not supplied)

Ground clamp (not supplied)

0.625" (16 mm) diameter ground rod 8' (2.4 m) minimum into ground (not supplied)



## 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' (.9 m) we recommend using reinforcing bar in the concrete.

3. **Above ground requirements (please see drawing)** For most areas, 5' (1.5 m) 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' (1.5 m) 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 (129 to 137 kph) wind force</b>				
<b>D</b>	17" (.48 m)	17" (.48 m)	12" (.36 m)	10" (.31 m)
<b>H1</b>	4'6" (1.37 m)	3'6" (1.07 m)	3'6" (1.07 m)	2'0" (.61 m)
<b>H2</b>	3'0" (.91 m)	3'0" (.91 m)	2'6" (.76 m)	2'0" (.61 m)
<b>90-95 mph (145 to 153 kph) wind force</b>				
<b>D</b>	17" (.48 m)	17" (.48 m)	12" (.36 m)	10" (.31 m)
<b>H1</b>	5'6" (1.68 m)	5'6" (1.68 m)	4'6" (1.37 m)	2'0" (.61 m)
<b>H2</b>	3'6" (1.07 m)	3'6" (1.07 m)	3'0" (.91 m)	2'0" (.61 m)

### 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.**

## PREASSEMBLED MOUNT INSTALLATION

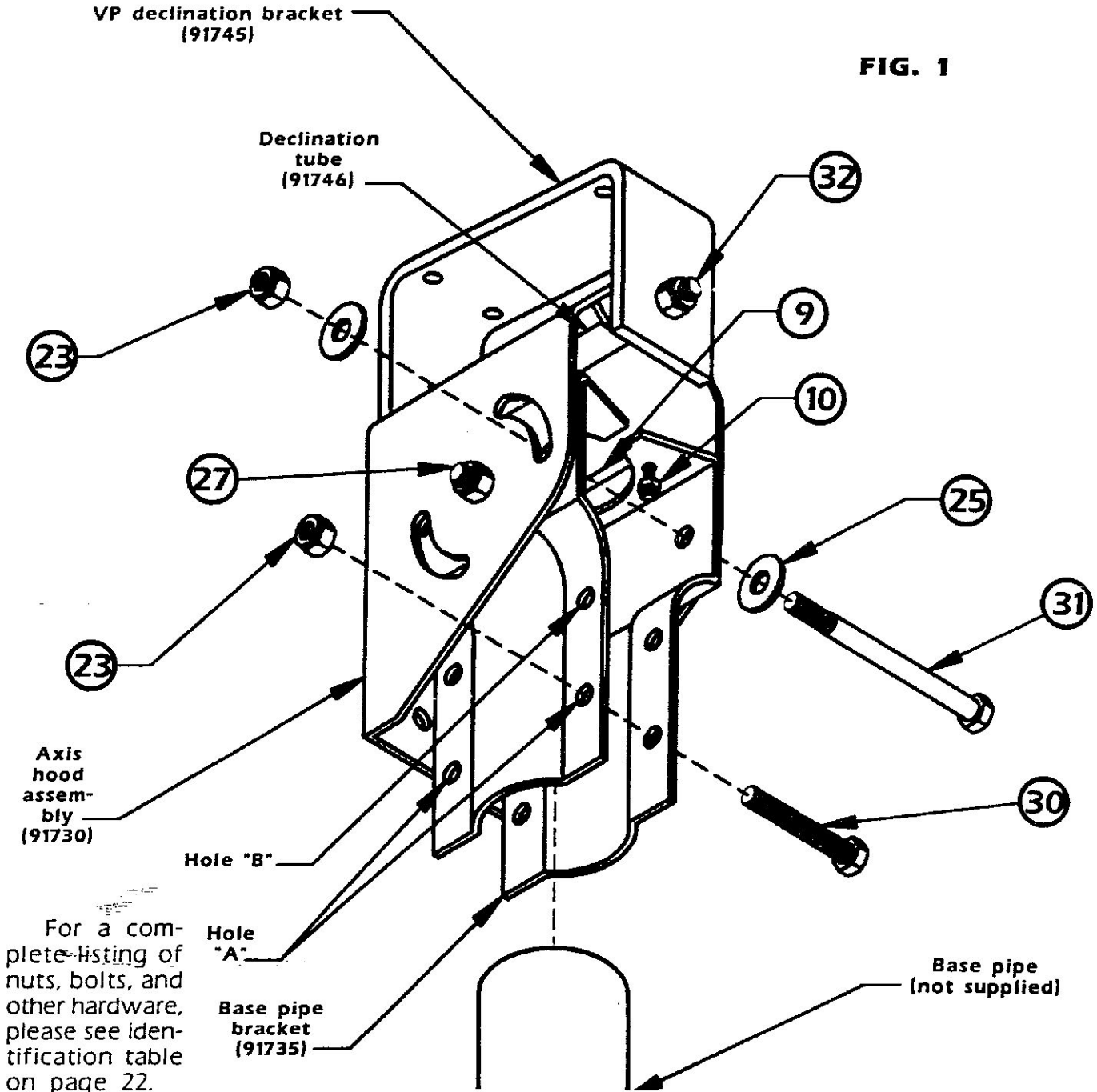
1. Slide the preassembled VP mount onto the base pipe. (See Fig. 1)

2. Insert three  $\frac{1}{2}$ " x  $3\frac{1}{4}$ " bolts into the bottom two holes of the base pipe brackets (labeled hole "A" in Fig. 1) and one of two upper holes (labeled hole "B"

in Fig. 1). Attach these using three  $\frac{1}{2}$ " nyloc nuts. Do not tighten. (See Fig. 1)

3. Insert two  $\frac{1}{2}$ " x 6" bolts through the slots in the axis hood assembly and the holes in the base pipe brackets and attach using four  $\frac{1}{2}$ " USS flatwashers and two  $\frac{1}{2}$ " nyloc nuts. Do not tighten. (See Fig. 1)

FIG. 1



## 1/2" ELEVATION BOLT INSTALLATION

**NOTE:** Before attaching the 1/2" elevation bolt, predetermine the side of the mount to which the actuator will be attached. For North American locations only, determine if your site is east or west of 105° W longitude. If your site is east of 105° W longitude, the actuator will be attached to the right hand side (facing the back of the mount). If your site is west of 105° W longitude, your actuator will be attached to the left hand side. For all other locations, predetermine which side of the satellite arc has the largest concentration of satellites that you wish to track and attach the actuator to that side.

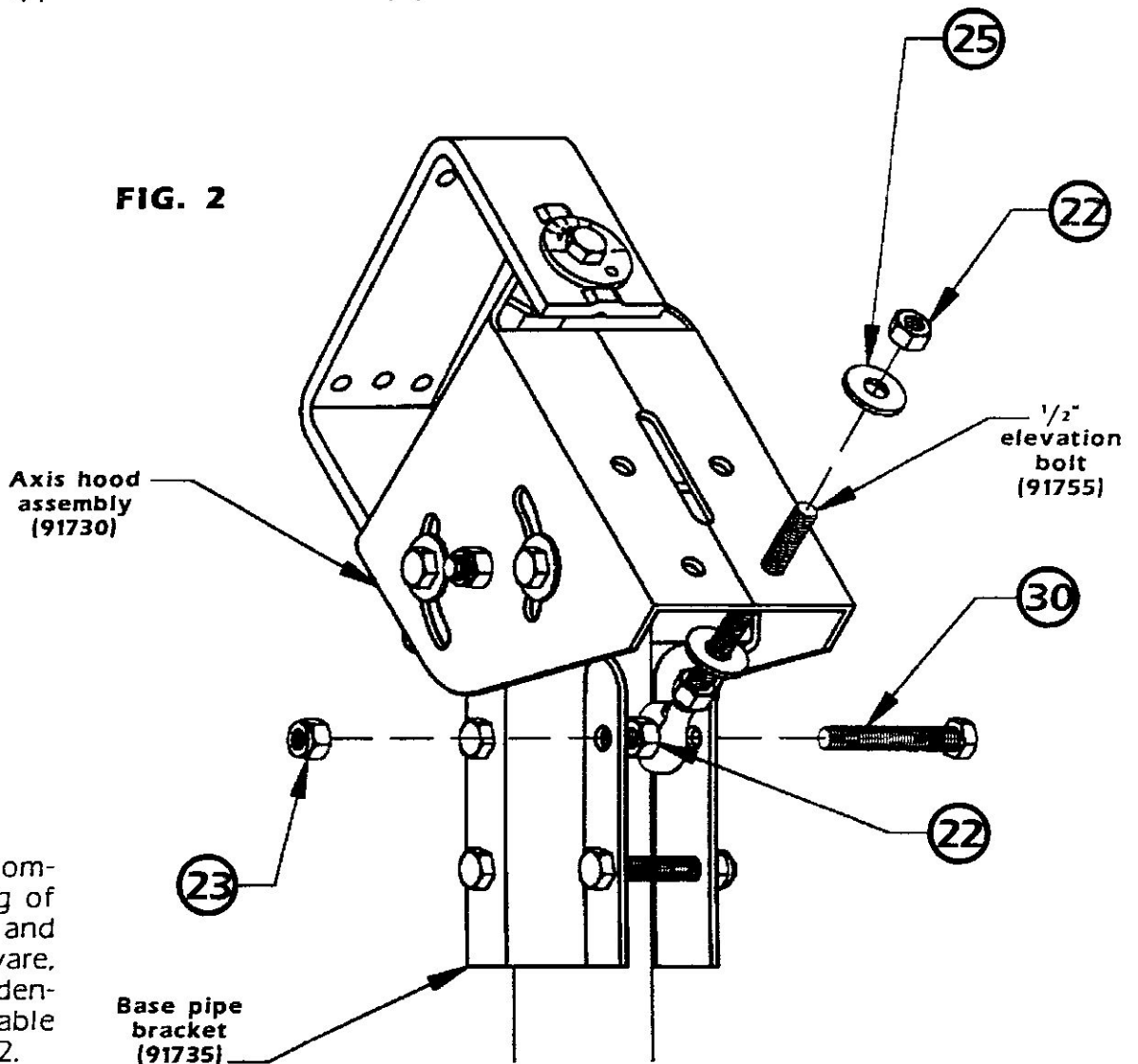
**1.** Attach the 1/2" elevation bolt to remaining upper holes of the base pipe

brackets using one 1/2" x 3 1/4" bolt, one 1/2" nut, and one 1/2" nyloc nut. Do not tighten. (See Fig. 2)

**NOTE:** The 1/2" elevation bolt installation shown in Fig. 2 is for when the actuator is to be attached on the right hand side. If the actuator is to be attached on the left hand side, reverse the installation order of step #1.

**2.** Attach the 1/2" elevation bolt to one of the two lower holes of the axis hood assembly using two 1/2" USS flat-washers and two 1/2" nuts. (See Fig. 2)

**FIG. 2**



For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.


# PREASSEMBLED HUB SUPPORT RING ASSEMBLY AND SHIM(S) INSTALLATION (12')

1. Using the latitude of your installation site and the **Declination and Elevation Chart on page 20**, determine how many shims, if any, are needed. Also, if shim(s) are needed, determine whether the shim(s) should be added to the top of the VP declination bracket (the side with the declination cam) or to the bottom of the VP declination bracket.

2. Attach the preassembled hub support ring assembly to the VP declination bracket and shim(s), if needed, using two  $\frac{3}{8}$ " x  $3\frac{1}{2}$ " carriage bolts, two  $\frac{3}{8}$ " x  $3\frac{3}{4}$ " carriage bolts, four  $\frac{3}{8}$ " flatwashers, and

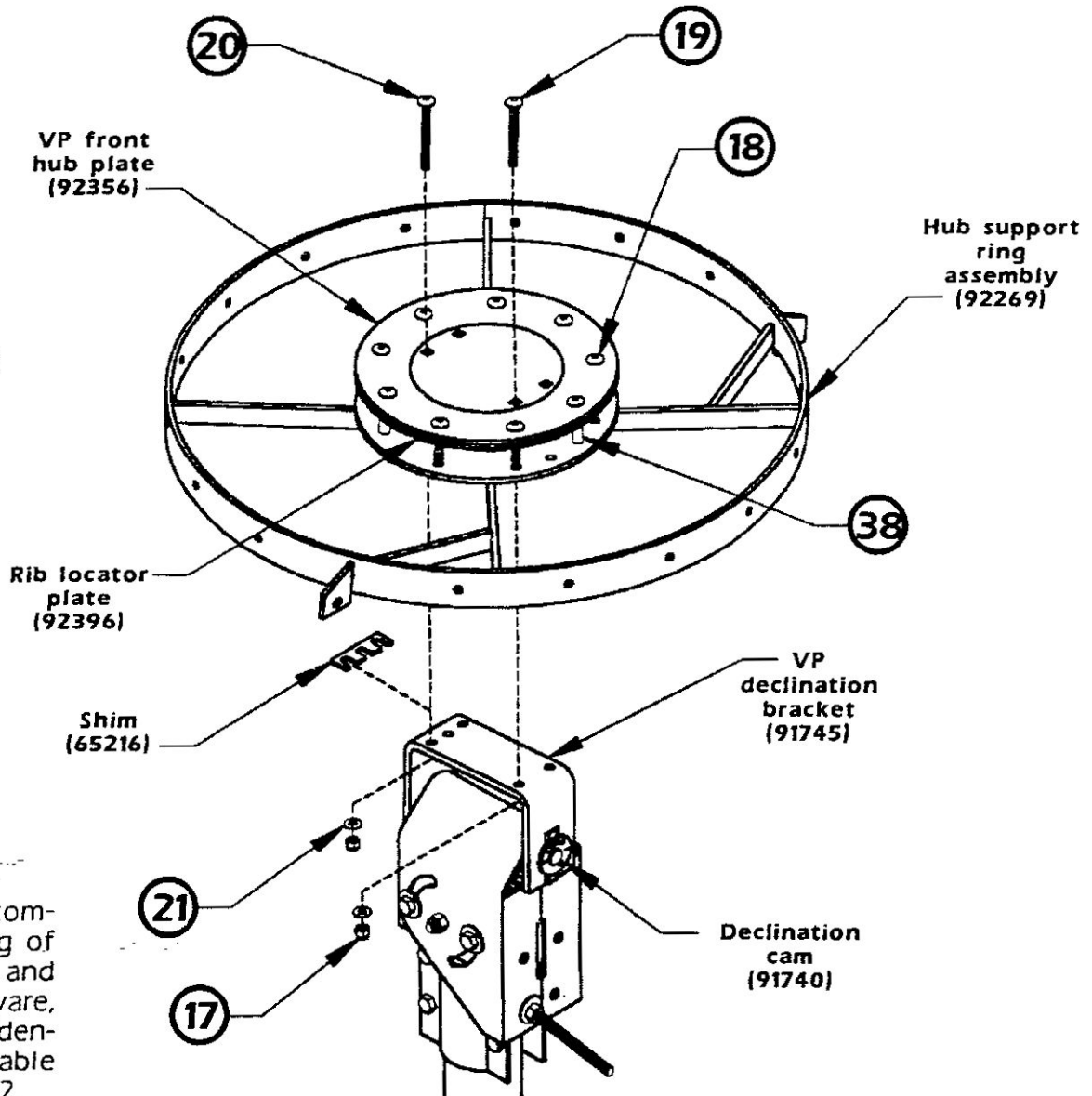
four  $\frac{3}{8}$ " nyloc nuts. Do not tighten. (See Fig. 3)

**NOTE: The  $\frac{3}{8}$ " x  $3\frac{3}{4}$ " carriage bolts will be used on the side of the VP declination bracket to which the shim(s), if any, are added.**



**CAUTION! The pre-assembled hub support ring assembly may sway until secured with an actuator.**

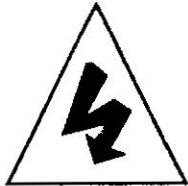
**FIG. 3**



For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.



## ACTUATOR AND ACTUATOR EXTENSION INSTALLATION (12')



**1.** Remove one  $\frac{1}{2}$ " USS flatwasher and one  $\frac{1}{2}$ " nut off of the  $\frac{1}{2}$ " elevation bolt. **Slide either hole "B" or "C" of the actuator extension onto the  $\frac{1}{2}$ " elevation bolt. (See note.)** Replace the  $\frac{1}{2}$ " USS flatwasher and  $\frac{1}{2}$ " nut that you just removed. Attach the actuator extension through hole "A" to the axis hood assembly using one  $\frac{1}{2}$ " x 1" bolt and one  $\frac{1}{2}$ " nyloc nut. Do not tighten. (See Fig. 5 and 6)

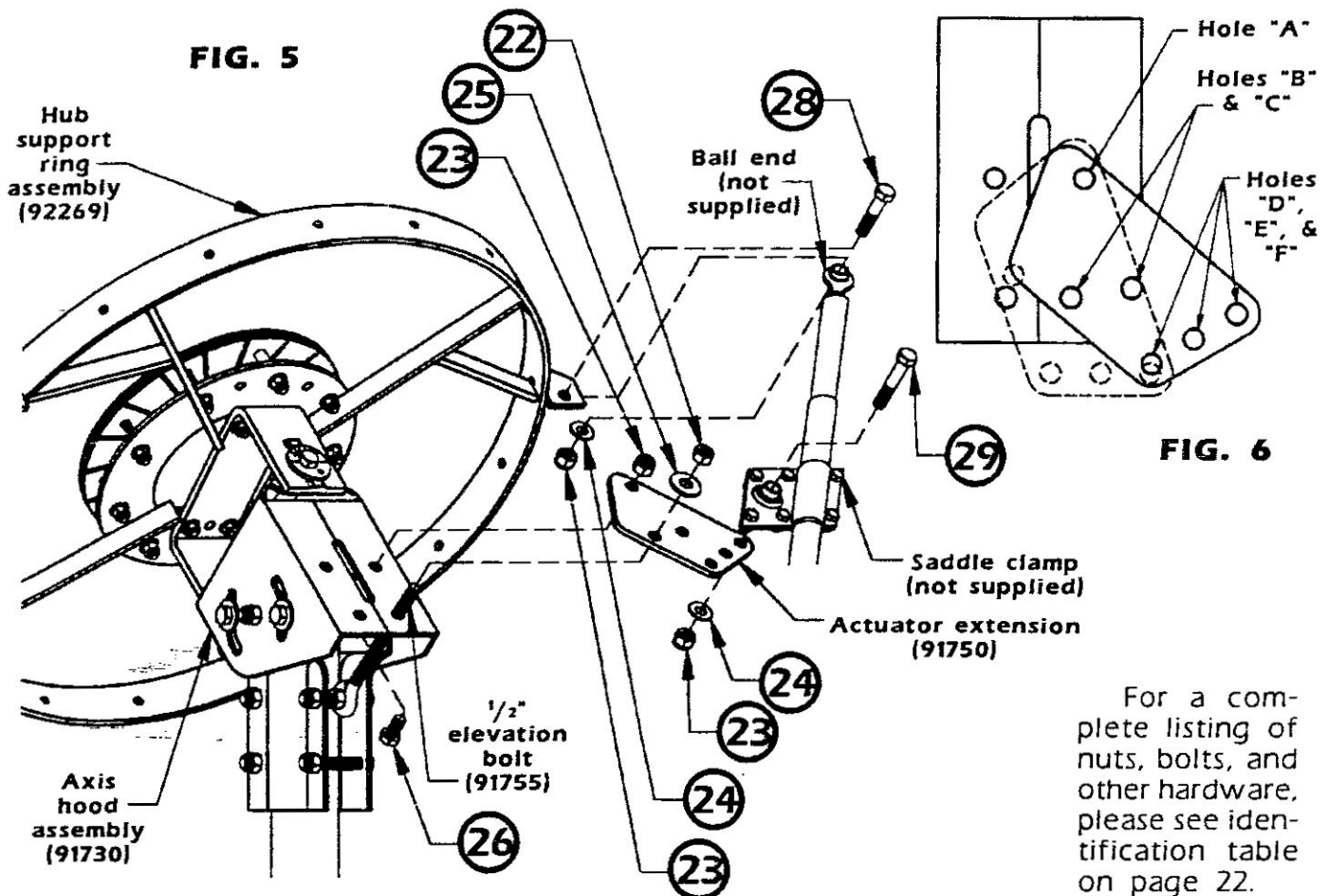
**NOTE:** Your choice of either hole "B" or "C" will depend on the satellite arc that you wish to track. **Select the one that best suits your needs.** (See Fig. 6)

**2.** Attach the actuator (not supplied) by its saddle clamp end to the actuator extension through hole "D", "E", or "F" using one

$\frac{1}{2}$ " x  $2\frac{3}{4}$ " bolt, one  $\frac{1}{2}$ " flatwasher, and one  $\frac{1}{2}$ " nyloc nut. **(See note.)** Do not tighten. (See Fig. 5 and 6)

**NOTE:** Your choice of either hole "D", "E", or "F" will depend on the beginning and end of the arc "extremes" that you wish to track. **Select the one that best suits your needs.** (See Fig. 6)

**3.** Attach the actuator (not supplied) by its ball end to the tab on the hub support ring assembly using one  $\frac{1}{2}$ " x  $2\frac{1}{4}$ " bolt, one  $\frac{1}{2}$ " flatwasher, and one  $\frac{1}{2}$ " nyloc nut. (See Fig. 5)



For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.



# ACTUATOR EXTENSION AND AZIMUTH ARM ASSEMBLY INSTALLATION (10')

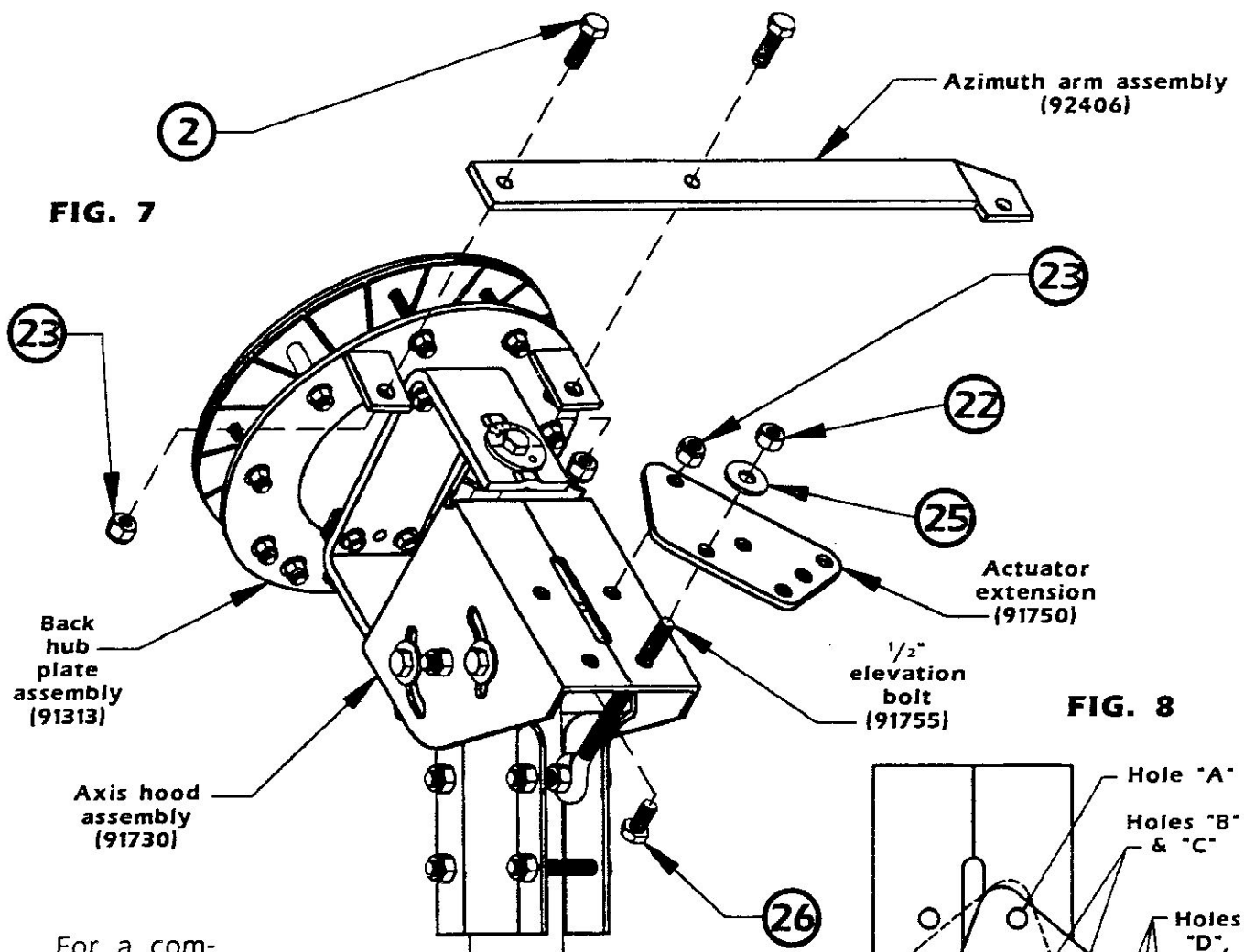
1. Attach the azimuth arm assembly to the tabs of the back hub plate assembly using two  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolts and two  $\frac{1}{2}$ " nyloc nuts. (See Fig. 7)

**NOTE:** Make sure that the tab of the azimuth arm assembly is on the same side that the  $\frac{1}{2}$ " elevation bolt is attached.

2. Remove one  $\frac{1}{2}$ " USS flatwasher and one  $\frac{1}{2}$ " nut off of the  $\frac{1}{2}$ " elevation bolt. **Slide either hole "B" or "C" of the actuator extension onto the  $\frac{1}{2}$ "**

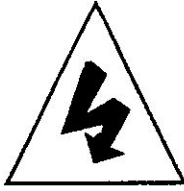
**elevation bolt. (See note.)** Replace the  $\frac{1}{2}$ " USS flatwasher and  $\frac{1}{2}$ " nut that you just removed. Attach the actuator extension through hole "A" to the axis hood assembly using one  $\frac{1}{2}$ " x 1" bolt and one  $\frac{1}{2}$ " nyloc nut. Do not tighten. (See Fig. 7 and 8)

**NOTE:** Your choice of either hole "B" or "C" will depend on the satellite arc that you wish to track. **Select the one that best suits your needs.** (See Fig. 8)



For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.

## ACTUATOR INSTALLATION (10')

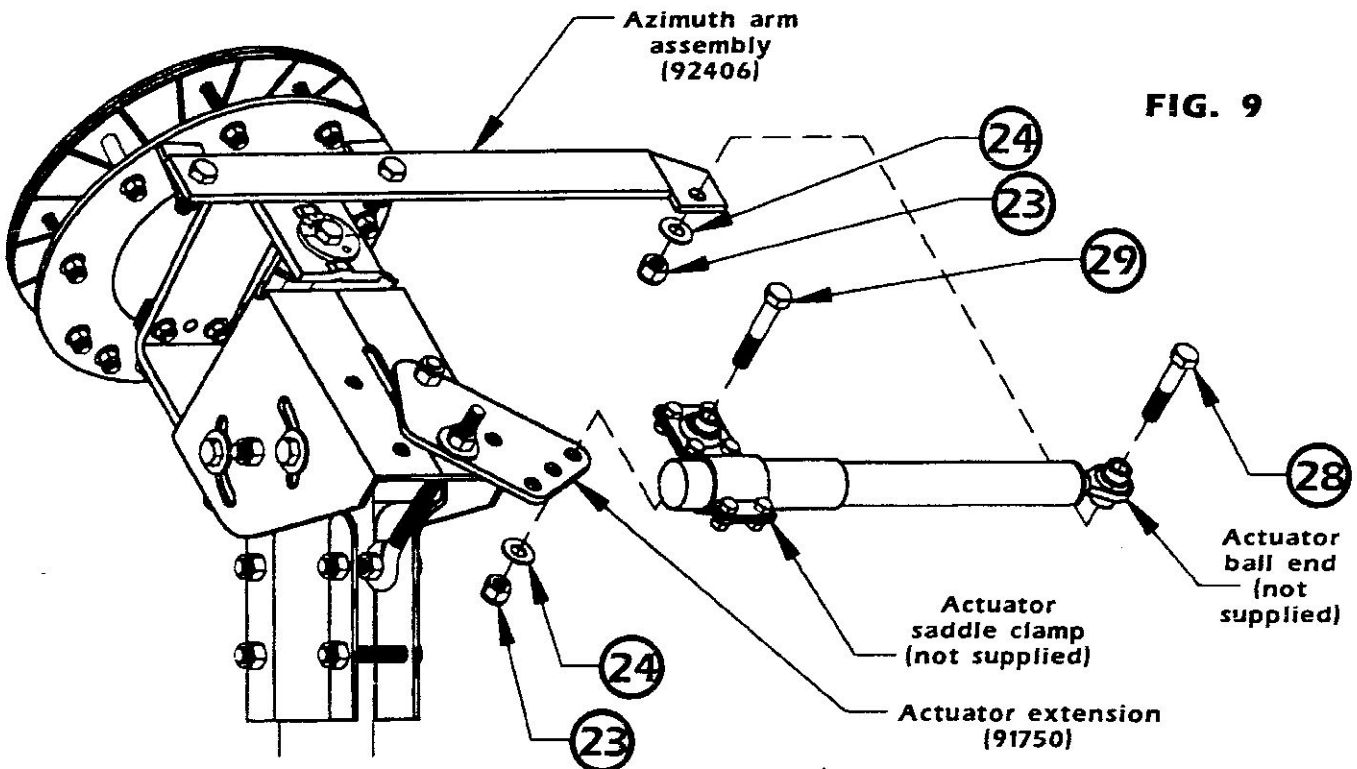


**1.** Attach the actuator (not supplied) by its saddle clamp end to the actuator extension through hole "D", "E", or "F" using one  $\frac{1}{2}$ " x  $2\frac{3}{4}$ " bolt, one  $\frac{1}{2}$ " flatwasher, and one  $\frac{1}{2}$ " nyloc nut. **(See note.)** Do not tighten. (See Fig. 8 on the preceding page and Fig. 9 on this page.)

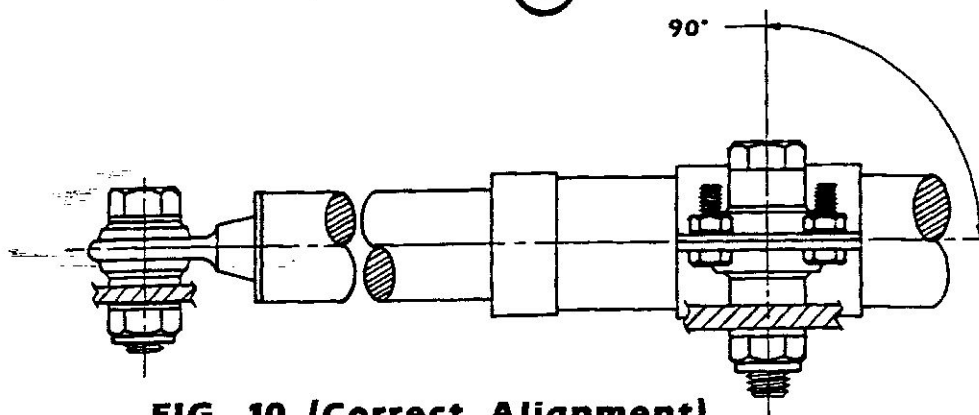
**NOTE:** Your choice of either hole "D", "E", or "F" will depend on the beginning and end of the arc "extremes" that you wish to track. **Select the one that**

**best suits your needs.** (See Fig. 8 on the preceding page.)

**2.** Attach the actuator (not supplied) by its ball end to the tab on the azimuth arm assembly using one  $\frac{1}{2}$ " x  $2\frac{1}{4}$ " bolt, one  $\frac{1}{2}$ " flatwasher, and one  $\frac{1}{2}$ " nyloc nut. (See Fig. 9)



**FIG. 9**



**FIG. 10 (Correct Alignment)**

For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.

## RIB INSTALLATION

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

2. Slide all eighteen ribs onto the rib locator plate. (See Fig. 11)

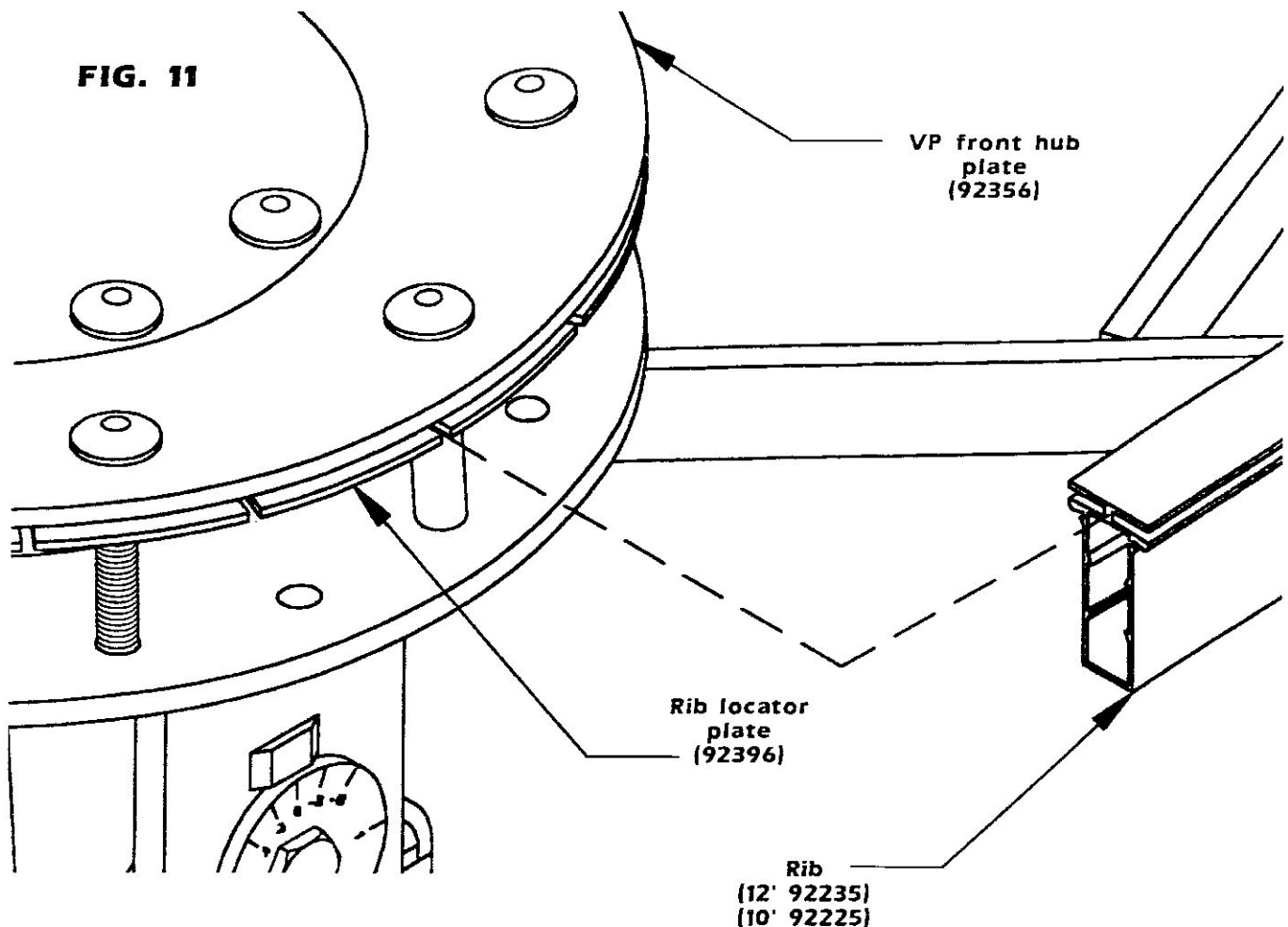
**NOTE:** The three ribs with hole (which are used for feed poles) are specifically marked with orange dots. These three ribs must be positioned with the corre-

sponding orange dots on the VP front hub plate, assuring correct feed support pole alignment.

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

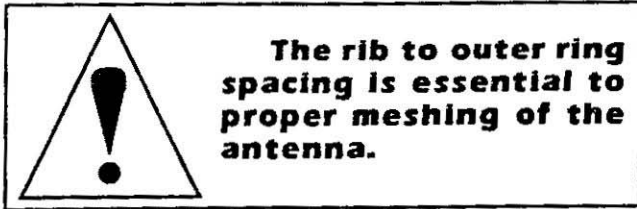
**NOTE: On the 12' Eclipse antenna, do not bolt the ribs to the rib anchor brackets yet!**

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



## OUTER RING AND RING CONNECTOR INSTALLATION

1. Secure the six outer ring sections to the eighteen ribs. Fasten loosely with eighteen  $\frac{1}{4}$ " x 1" bolts and eighteen  $\frac{3}{16}$ " USS flat washers. Allow approximately  $\frac{3}{8}$ " (10 mm) spacing between the rib and the outer ring. (See Fig. 12)



2. Use six ring connectors to fasten the outer ring sections together. Bolt the

ring connectors in place with four  $\frac{1}{4}$ " x  $\frac{5}{8}$ " bolts, four  $\frac{3}{16}$ " USS flat washers and four  $\frac{1}{4}$ " nyloc nuts apiece. (Leave the  $\frac{1}{4}$ " x  $\frac{5}{8}$ " bolts loose.) (See Fig. 13)

**NOTE:** If the last outer ring connection is difficult, loosen the bolts at the hub plates.

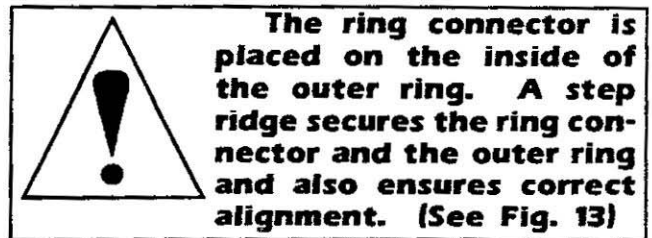


FIG. 12

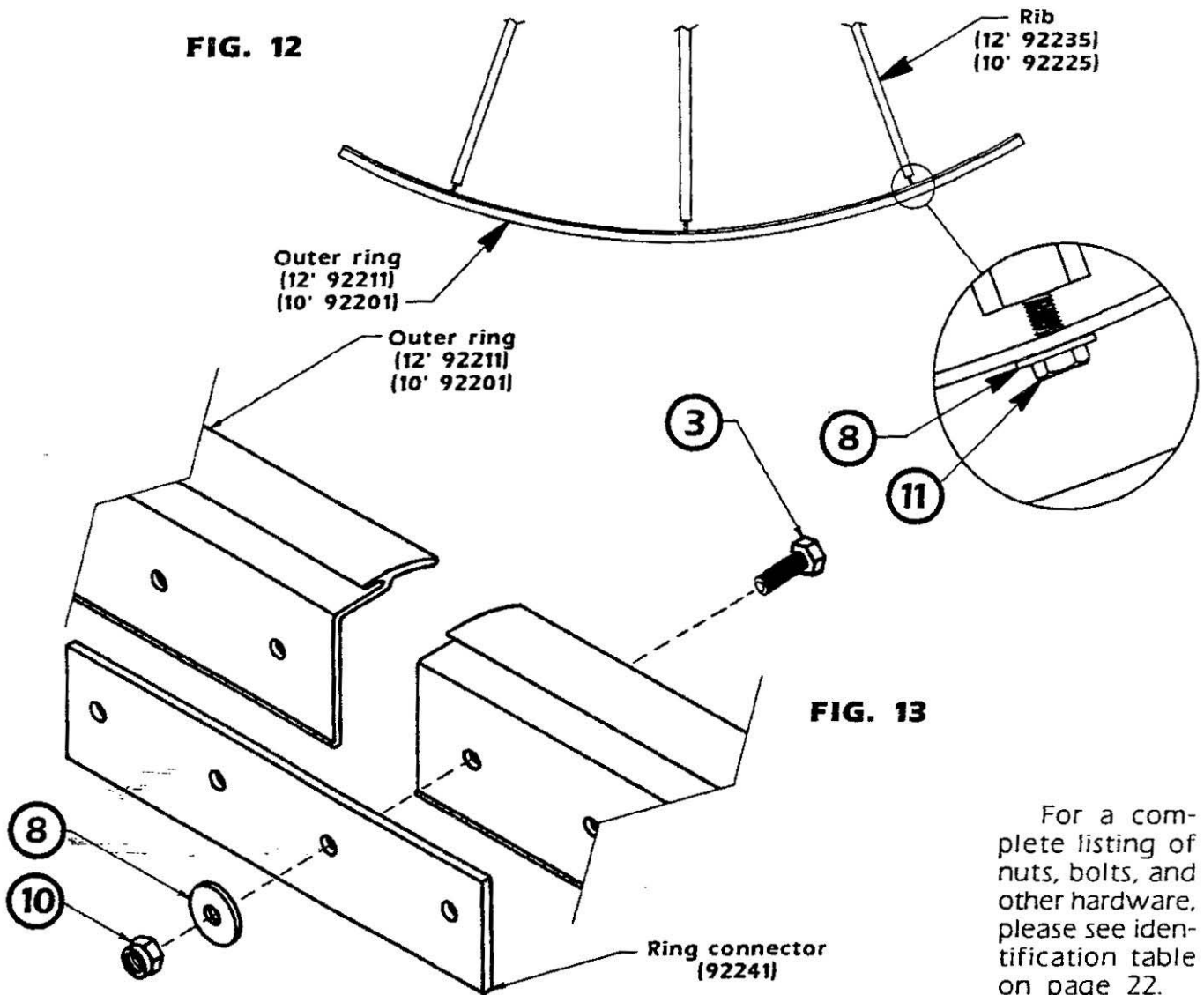


FIG. 13

For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.

## MESH INSTALLATION AND ANTENNA TIGHTENING PROCEDURE

1. The mesh panels used on the Eclipse series are preformed for enhanced KU-band performance. The contour of the mesh panels must be installed correctly for this antenna to perform as such. Viewing the mesh panels at an angle prior to installation will ensure the preformed shape of each panel. (See Fig. 14) Install each panel into the rib grooves with the curved side down (outwardly). The side facing the feed will be marked with a circular sticker.

2. Slide four of the mesh panels into place, gently working each panel down its rib groove and up against the VP front 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 1/4" x 1" BOLTS ON THE OUTER RINGS AT THIS TIME!**

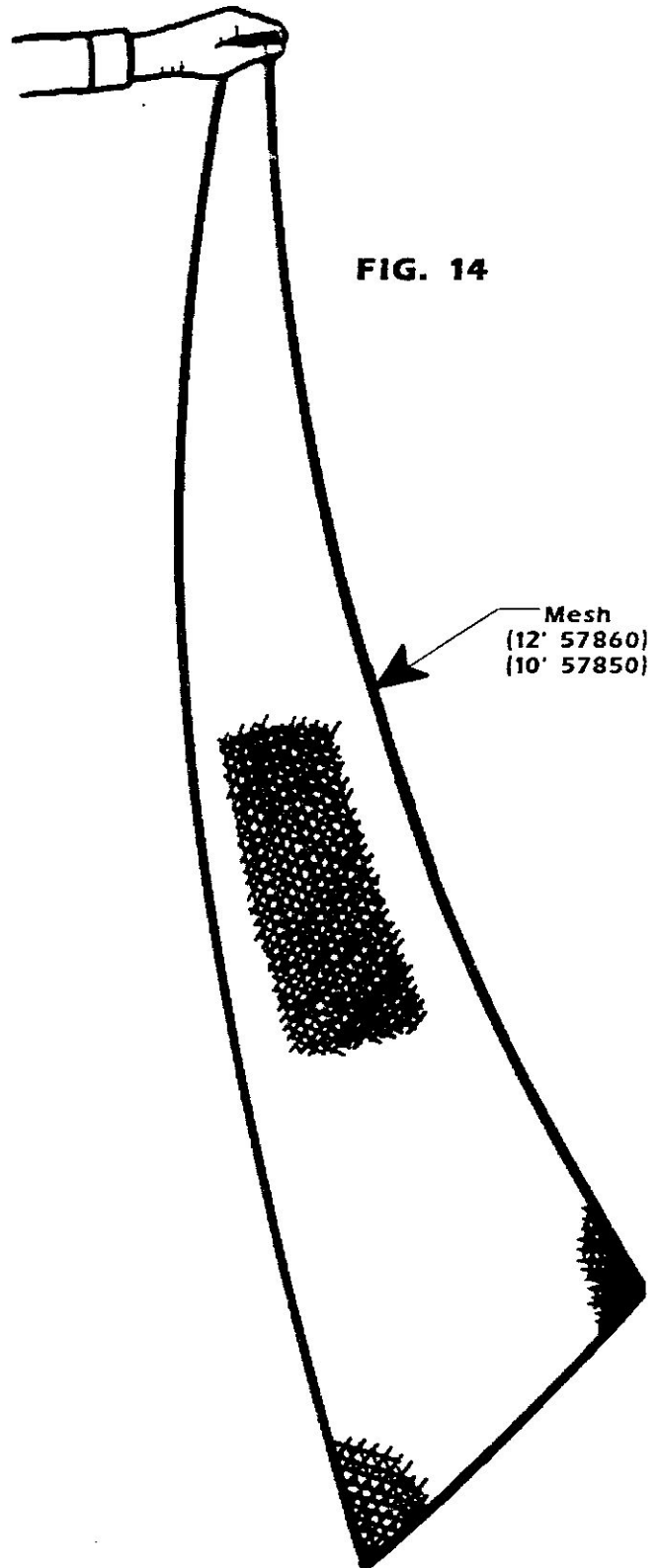
3. Repeat this sequence of installation for the remaining four sections of three mesh panels and one section of two mesh panels. Make sure to just slightly tighten the outer ring and ring connector bolts.

4. After all eighteen mesh panels and six ring connectors have been installed, 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.)

5. Tighten the eighteen 1/4" x 1" bolts attaching the outer rings firmly to the ribs.

6. Firmly tighten all the hub assembly bolts.

**CAUTION:** While tightening, keep an eye on the ribs so as not to cause them to buckle!



## RIB ANCHOR BRACKET INSTALLATION (12')

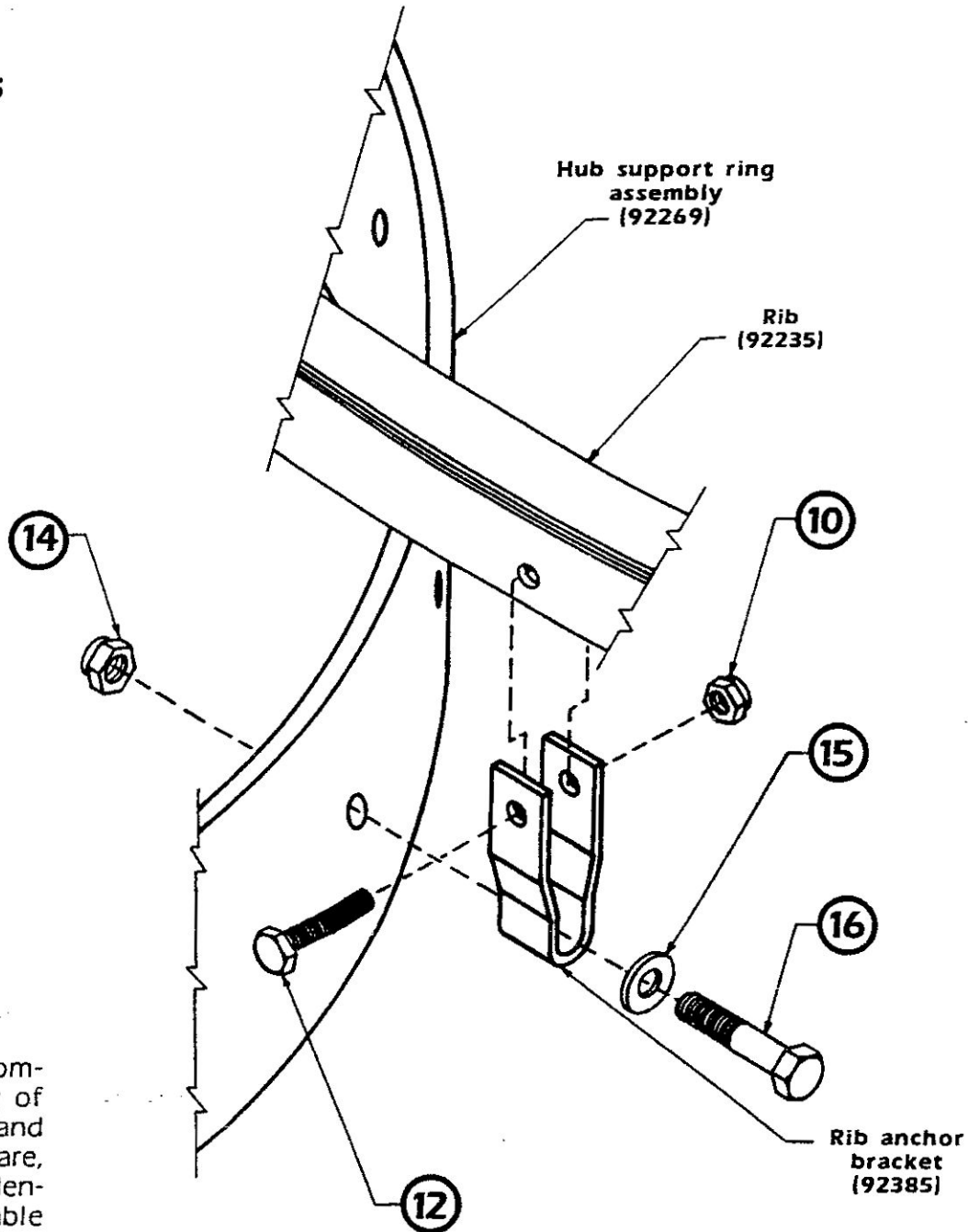
1. Fasten the ribs to the sixteen rib anchor brackets using sixteen  $\frac{1}{4}$ " x  $1\frac{1}{4}$ " bolts and sixteen  $\frac{1}{4}$ " nyloc nuts. (See Fig. 15)

**NOTE:** The two ribs next to the actuator tabs on the hub support ring assembly will not be attached to rib anchor brackets.

2. Attach the sixteen 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. (See Fig. 15)

3. Tighten all rib anchor bracket hardware.

FIG. 15



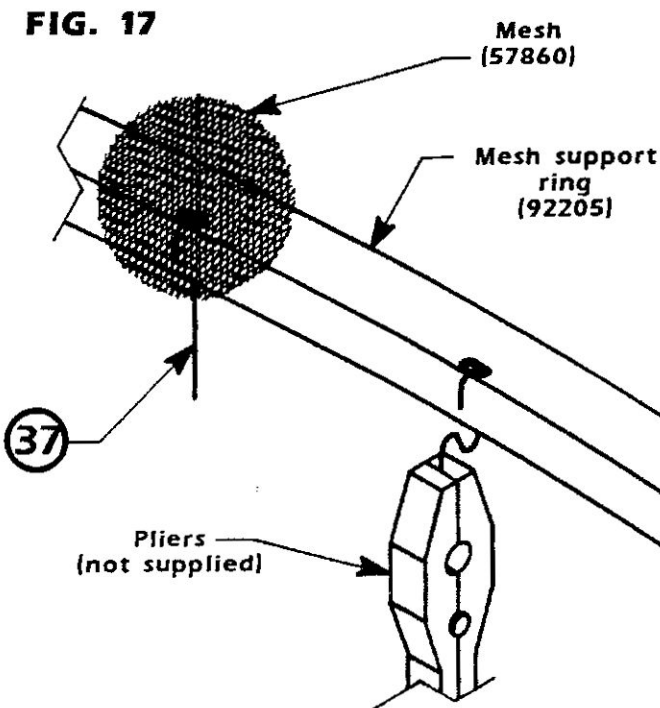
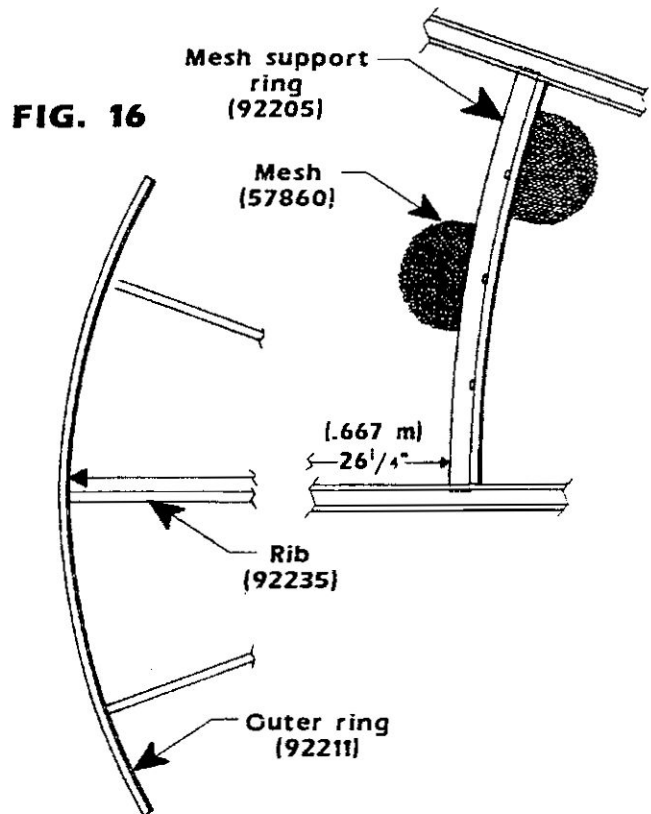
For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.



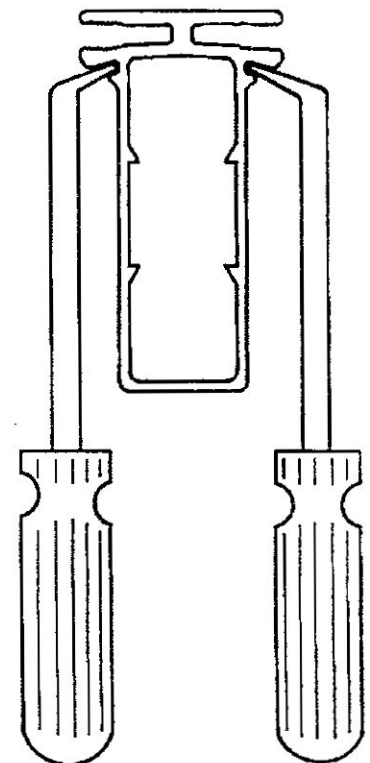
## MESH SUPPORT RING INSTALLATION (12') AND MESH LOCKING

1. Slide ends of the eighteen mesh support rings (under assembled mesh) into rib grooves pushing downward (toward the center). The distance from the outer ring to the outer edge of the mesh support ring is  $26\frac{1}{4}$ " (.667 m). 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. 16)

2. Attach mesh to each mesh support ring with three J-clips by sliding the J-clips through the mesh into mesh support ring slots and bending the bottom of J-clips around the mesh support ring as shown. (See Fig. 17)



**FIG. 18**



3. **(MESH LOCKING IS A MANDATORY PROCEDURE IN EXTREME WEATHER CONDITIONS!)** 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. 18)

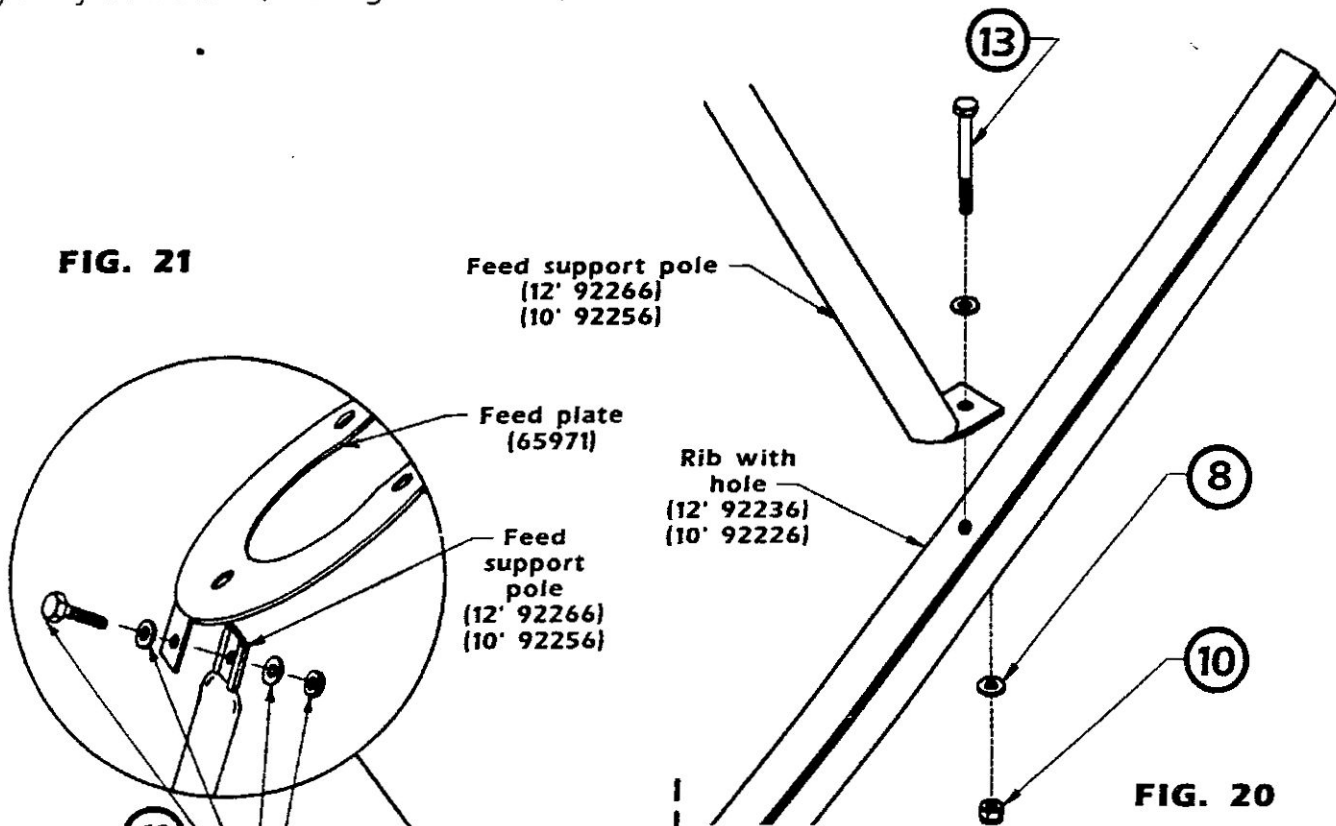
For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.

## FEED SUPPORT POLE AND FEED PLATE INSTALLATION

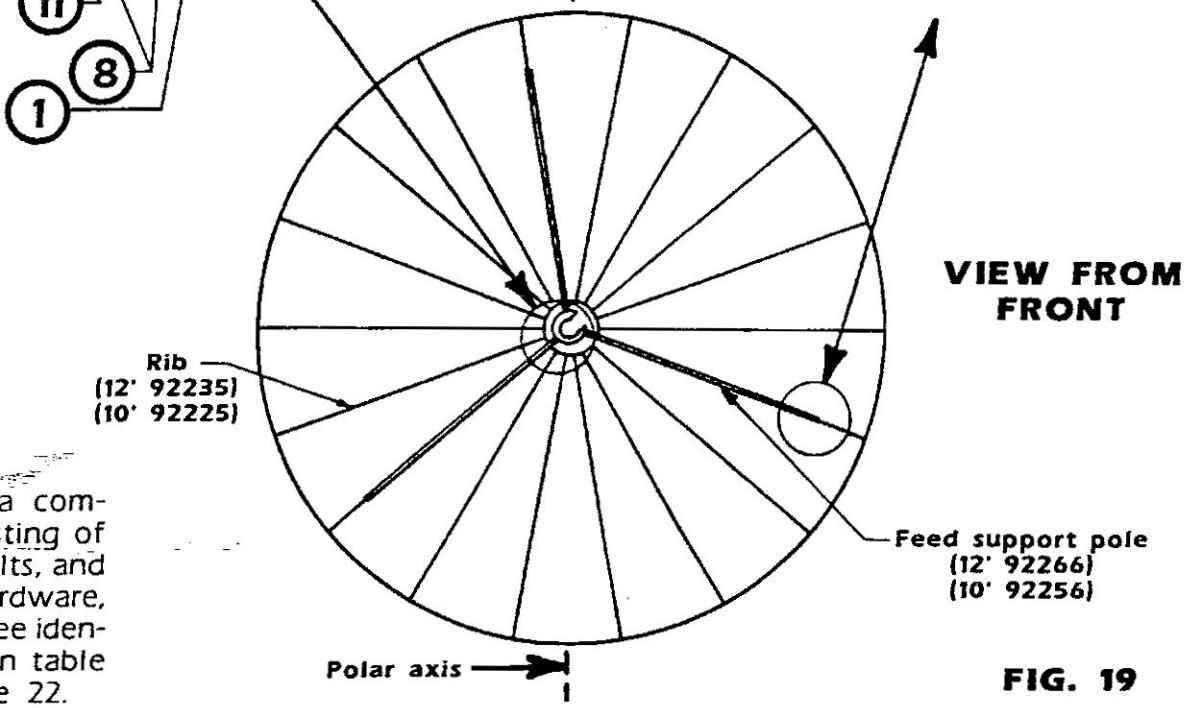
**1.** Attach the three feed support poles provided to the three ribs with hole marked with orange dots using three  $\frac{1}{4}$ " x  $2\frac{1}{2}$ " bolts, six  $\frac{3}{16}$ " USS flat washers and three  $\frac{1}{4}$ " nyloc nuts. (See Fig. 19 and 20)

**2.** Attach the feed plate to the three feed support poles using three  $\frac{1}{4}$ " x 1" bolts, six  $\frac{3}{16}$ " USS flat washers and three  $\frac{1}{4}$ " nuts. (See Fig. 21)

**FIG. 21**



**FIG. 20**



**FIG. 19**

For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.

## FEED AND FEED COVER INSTALLATION

**1.** Attach the feed and feed cover donut to the feed plate using three  $\frac{1}{4}$ " x  $2\frac{1}{2}$ " bolts, three nylon thumb screws (to be threaded into the feed plate), three  $\frac{1}{4}$ " nuts, three  $\frac{1}{4}$ " nyloc nuts, and six  $\frac{1}{4}$ " flat washers. (See Fig. 22)

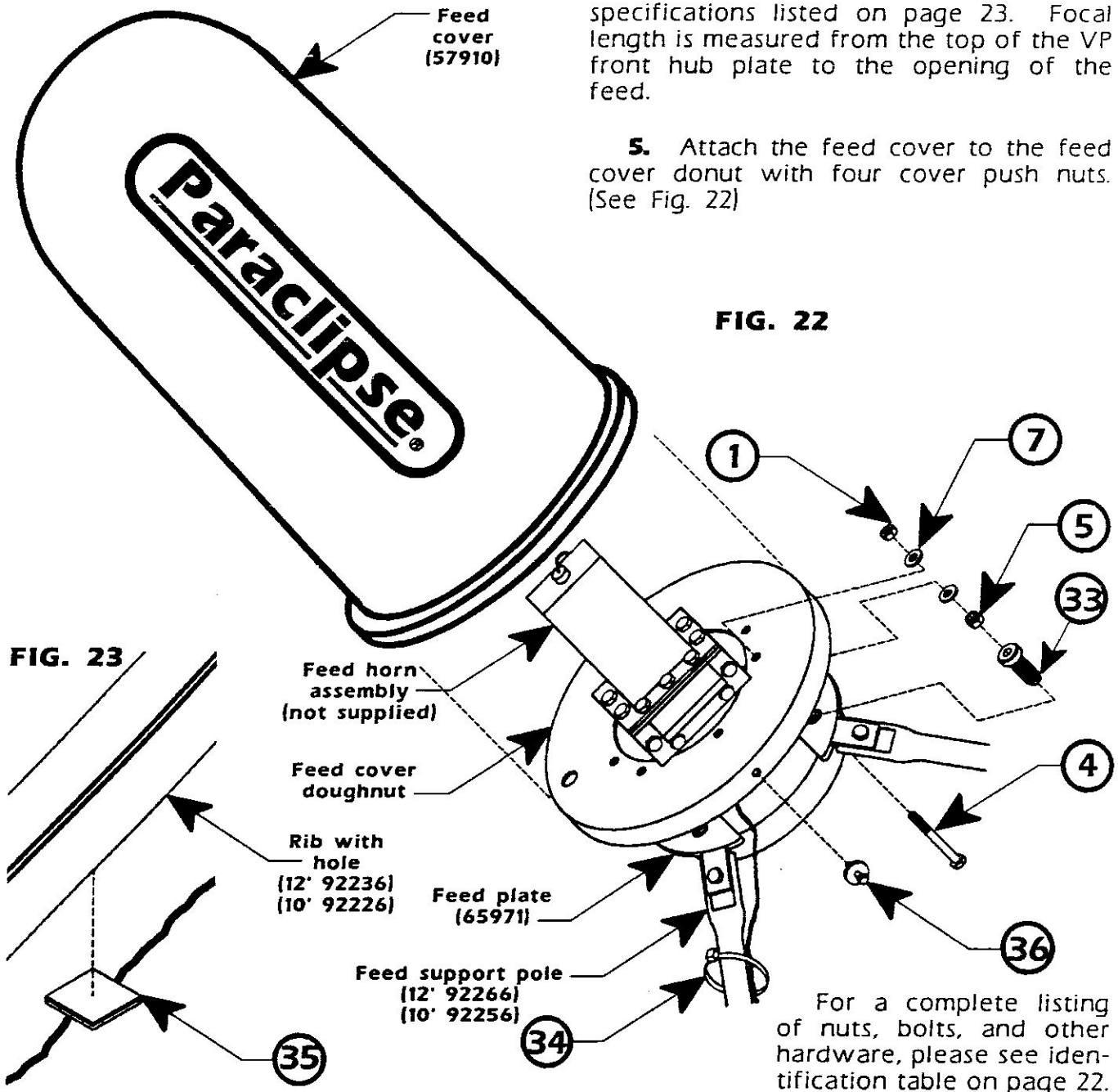
**2.** Attach and secure the feed cables to one of the three feed support poles and the back of a corresponding rib with

the use of seven cable ties and four adhesive cable mount blocks. (See Fig. 22 and 23)

**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 on page 23. Focal length is measured from the top of the VP front hub plate to the opening of the feed.

**5.** Attach the feed cover to the feed cover donut with four cover push nuts. (See Fig. 22)



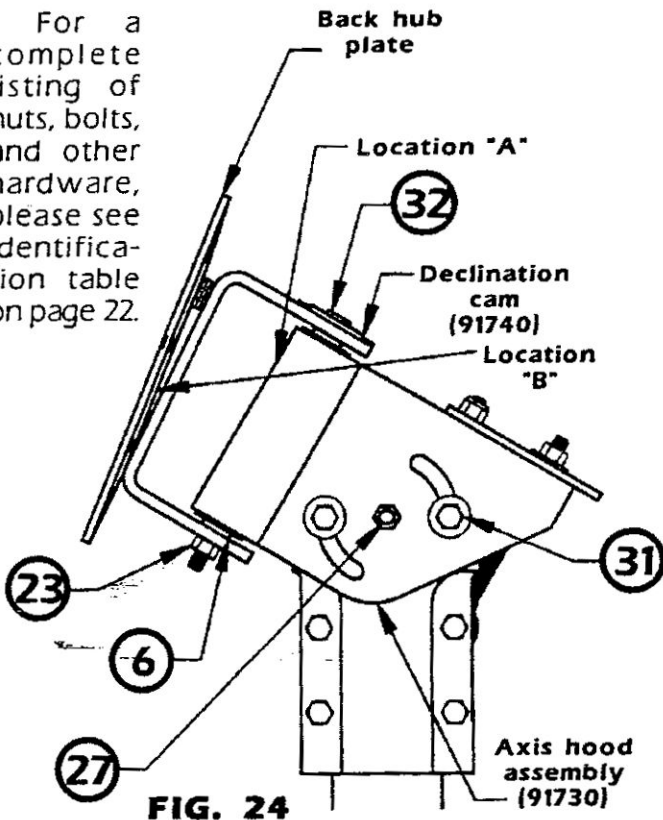
# DECLINATION ADJUSTMENT

1. After determining your installation site latitude, use the Declination and Elevation Chart on this page to recheck your shim selection and to determine the correct declination for your antenna. To adjust your declination, loosen the 1/2" nyloc nut. (See Fig. 24, part #23)

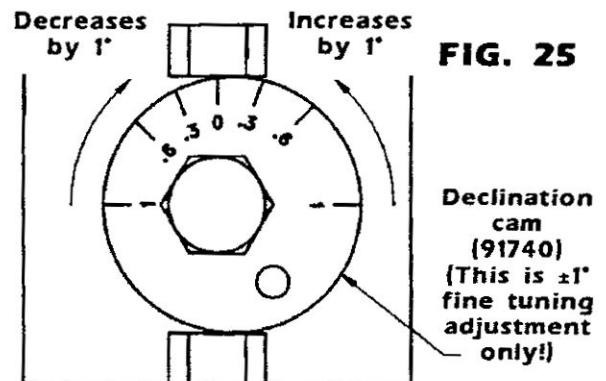
2. Use an inclinometer at locations "A" and "B" to determine your declination. Your declination angle is the difference between these two surfaces. To fine tune your declination adjustment to that indicated on the Declination and Elevation Chart, rotate the 1/2" x 9" bolt connected to the declination cam. Use the numbering on the declination cam as a guide as to how much to turn the 1/2" x 9" bolt. Turning the declination cam counterclockwise will increase your declination. Turning the declination cam clockwise will decrease your declination. (See Fig. 24 and 25)

3. Retighten the 1/2" nyloc nut on the 1/2" x 9" bolt.

For a complete listing of nuts, bolts, and other hardware, please see identification table on page 22.



DECLINATION AND ELEVATION CHART		
SITE LATITUDE	DECLINATION	SHIMS NEEDED
0°	0.00'	
2°	0.30'	
4°	0.61'	
6°	0.91'	
8°	1.21'	
10°	1.51'	
12°	1.81'	
14°	2.11'	
16°	2.40'	
18°	2.69'	
20°	2.98'	
22°	3.26'	
24°	3.54'	
26°	3.81'	
28°	4.08'	
30°	4.34'	
32°	4.60'	
34°	4.85'	
36°	5.09'	
38°	5.33'	
40°	5.56'	
42°	5.79'	
44°	6.00'	
46°	6.21'	
48°	6.41'	
50°	6.61'	
52°	6.79'	
54°	6.97'	
56°	7.14'	
58°	7.30'	
60°	7.45'	
62°	7.59'	
64°	7.71'	
66°	7.82'	
68°	7.94'	
70°	8.05'	



## ELEVATION ADJUSTMENT AND ALIGNMENT PROCEDURE

**1.** Before adjusting the elevation, make sure that both  $\frac{1}{2}$ " x 6" bolts and the  $\frac{1}{2}$ " x 1" carriage bolt are loose enough to allow the mount to move. (See Fig. 24 on previous page.)

**2.** Using an inclinometer at location "A" in Fig. 24 on the previous page, adjust the polar axis angle so that it is equal to the installation site latitude.

**3.** Tighten all hardware.

**4.** It is necessary to search for the most southerly satellite (for antenna location sites in northern hemisphere) or most northerly satellite (for antenna sites in southern hemisphere) 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.

**5.** Systematically search for the satellite by making one-turn-at-a-time adjustments of the elevation bolt. 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.

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

**7.** 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.

**8.** 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.

**9. North/south alignment: NOTE:** If installation is located east of 105° W longitude (for North American locations only), 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 elevation bolt 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.

**10.** 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.

## HARDWARE IDENTIFICATION

### 12' (3.8 M) HARDWARE TABLE

FIG. PART		DESCRIPTION	PIECES		FIG. PART		DESCRIPTION	PIECES	
NO.	NO.		REQ'D		NO.	NO.		REQ'D	
1	52177	1/4" NUT	6		20	56824	3/8" x 3 3/4" CARRIAGE BOLT	2	
3	55178	1/4" x 5/8" BOLT	24		21	56830	3/8" FLATWASHER	13	
4	55186	1/4" x 2 1/2" BOLT-SILVER	3		22	56850	1/2" NUT	3	
5	55190	1/4" NYLOC NUT-SILVER	3		23	56855	1/2" NYLOC NUT	12	
6	55218	FLANGED BUSHING	2		24	56860	1/2" FLATWASHER	2	
7	55270	1/4" FLATWASHER	6		25	56862	1/2" USS FLATWASHER	6	
8	56600	3/16" USS FLATWASHER	54		26	56880	1/2" x 1" BOLT	1	
9	56645	SQUARE U-BOLT	1		27	56881	1/2" x 1" CARRIAGE BOLT	2	
10	56655	1/4" NYLOC NUT-GOLD	45		28	56890	1/2" x 2 1/4" BOLT	1	
11	56670	1/4" x 1" TAP BOLT	21		29	56910	1/2" x 2 3/4" BOLT	1	
12	56680	1/4" x 1 1/4" TAP BOLT	16		30	56912	1/2" x 3 1/4" TAP BOLT	4	
13	56700	1/4" x 2 1/2" BOLT-GOLD	3		31	56917	1/2" x 6" BOLT	2	
14	56755	5/16" NYLOC NUT	16		32	56920	1/2" x 9" BOLT	1	
15	56760	5/16" FLATWASHER	16		33	57530	NYLON THUMB SCREW	3	
16	56785	5/16" x 1 1/2" BOLT	16		34	57560	CABLE TIE WRAP	7	
17	56800	3/8" NYLOC NUT	13		35	57562	CABLE MOUNT BLOCK	4	
18	56810	3/8" x 3" CARRIAGE BOLT	9		36	57567	COVER PUSH NUT	4	
19	56819	3/8" x 3 1/2" CARRIAGE BOLT	2		37	65277	J-CLIP (PACKAGE OF 60)	1	
					38	91388	NYLON HUB SPACER	3	

### 10' (3.0 M) HARDWARE TABLE

FIG. PART		DESCRIPTION	PIECES		FIG. PART		DESCRIPTION	PIECES	
NO.	NO.		REQ'D		NO.	NO.		REQ'D	
1	52177	1/4" NUT	6		21	56830	3/8" FLATWASHER	13	
2	55091	1/2" x 1 1/2" TAP BOLT	2		22	56850	1/2" NUT	3	
3	55178	1/4" x 5/8" BOLT	24		23	56855	1/2" NYLOC NUT	14	
4	55186	1/4" x 2 1/2" BOLT-SILVER	3		24	56860	1/2" FLATWASHER	2	
5	55190	1/4" NYLOC NUT-SILVER	3		25	56862	1/2" USS FLATWASHER	6	
6	55218	FLANGED BUSHING	2		26	56880	1/2" x 1" BOLT	1	
7	55270	1/4" FLATWASHER	6		27	56881	1/2" x 1" CARRIAGE BOLT	2	
8	56600	3/16" USS FLATWASHER	54		28	56890	1/2" x 2 1/4" BOLT	1	
9	56645	SQUARE U-BOLT	1		29	56910	1/2" x 2 3/4" BOLT	1	
10	56655	1/4" NYLOC NUT-GOLD	29		30	56912	1/2" x 3 1/4" TAP BOLT	4	
11	56670	1/4" x 1" TAP BOLT	21		31	56917	1/2" x 6" BOLT	2	
13	56700	1/4" x 2 1/2" BOLT-GOLD	3		32	56920	1/2" x 9" BOLT	1	
17	56800	3/8" NYLOC NUT	13		33	57530	NYLON THUMB SCREW	3	
18	56810	3/8" x 3" CARRIAGE BOLT	9		34	57560	CABLE TIE WRAP	7	
19	56819	3/8" x 3 1/2" CARRIAGE BOLT	2		35	57562	CABLE MOUNT BLOCK	4	
20	56824	3/8" x 3 3/4" CARRIAGE BOLT	2		36	57567	COVER PUSH NUT	4	
					38	91388	NYLON HUB SPACER	3	



## SPECIFICATIONS

<b>ANTENNA</b>	<b>12' (3.8 M)</b>	<b>10' (3.0 M)</b>
<b>C Band Gain</b>	41.9 dB	40.8 dB
<b>KU Band Gain</b>	49.6 dB	48.2 dB
<b>C Band Efficiency</b>	63%	65%
<b>2° Spacing Approved (C &amp; KU)</b>	Yes	Yes
<b>F/D</b>	0.333	0.3
<b>Focal Point</b>	47-7/8" (1.216 m)	35-7/8" (0.911 m)
<b>Wind Survival (Please see warranty policy)</b>	70 mph (113 kph) [100 mph stowed (161 kph)]	70 mph (113 kph) [100 mph stowed (161 kph)]

### NOTES:

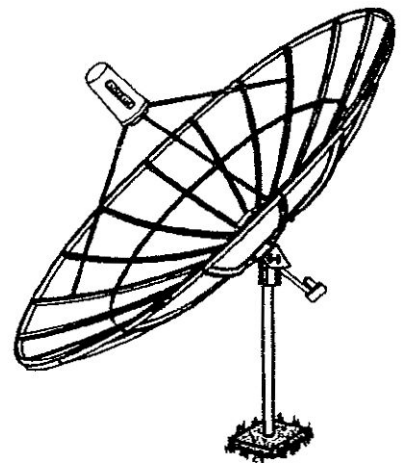
**1.** Specifications of Paraclipse **12' (3.8 m)** and **10' (3.0 m)** Eclipse antennas are determined by engineering computation methods.

**2.** Different feed horn designs call for special mounting and focal requirements. Call for correct applications or follow manufacturer's suggestions.

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