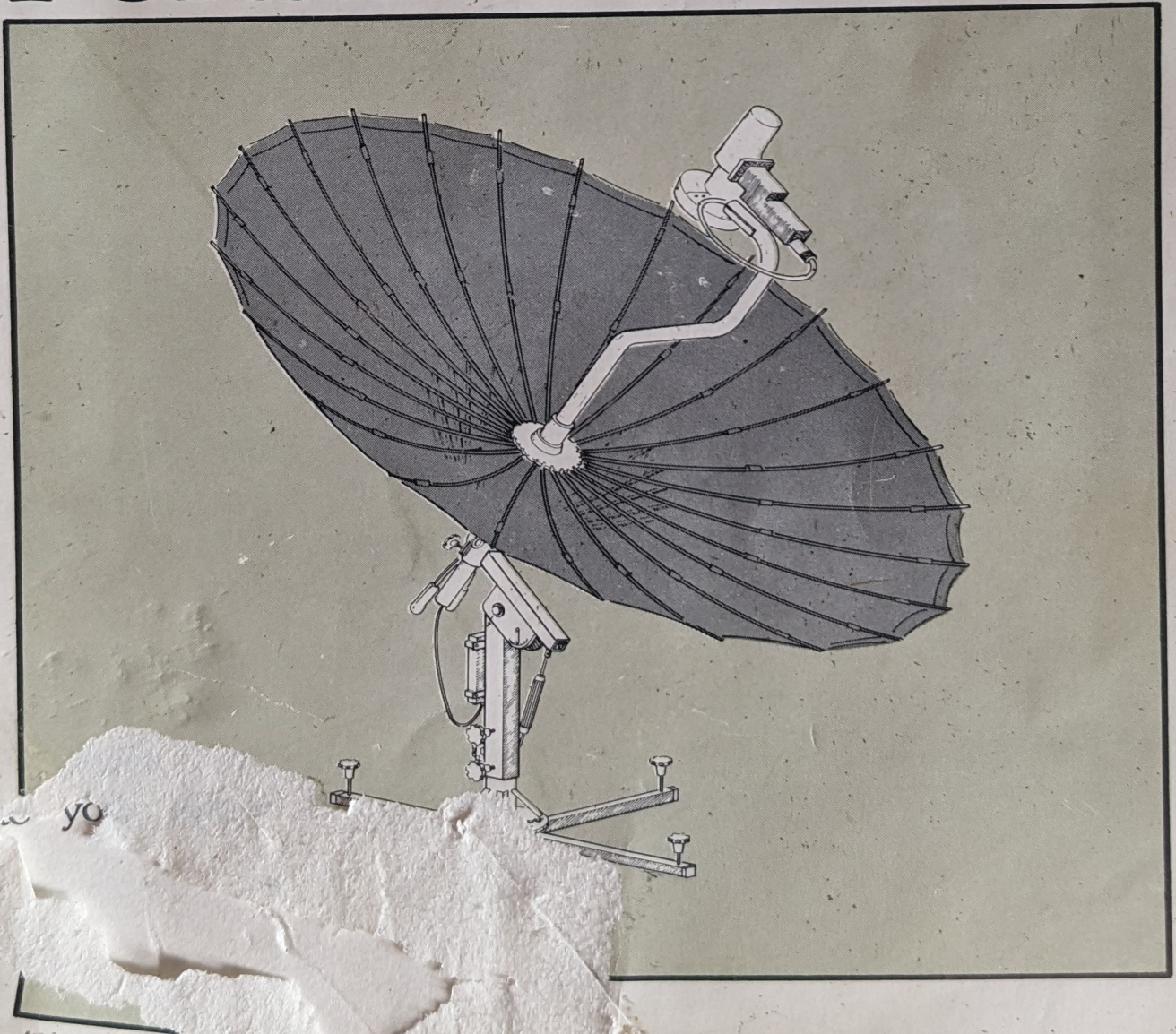


CYBEREX CN-7500

Portable Antenna



User Manual

INTRODUCTION

CONGRATULATION!! You have selected one of the finest home satellite systems available. The **CYBEREX** Portable Antenna has been designed and engineered incorporating the latest, high-performance technology and has been constructed according to exacting standards to ensure easy assembly, optimum performance and long-lasting, trouble-free operation.

The basic antenna package contains a number of preassembled components and all of these components are packed in the one Carrying Bag.

Read carefully through all Installation Manuals and follow each instruction exactly. If you need additional help installing your system, do not hesitate to call our Service Department.

Before beginning installation of your antenna, take a moment to check that you have received all of the parts listed on the attached sheet. If any parts are missing or damaged, return the antenna to your dealer immediately for adjustment or replacement.

TABLE OF CONTENTS

Section	Page
Introduction	
I. Before you begin	2
This section provides important warranty and unpacking information.	
II. Parts list and illustrations.	3
III. Antenna assembly	6
This section describes how to completely assemble the antenna	
IV. Levelling the antenna mount	12
V. Electrical assembly.—Refer to the receiver manual.	
VI. Locating desired satellite	14
This section is a simplified guide for locating the desired satellite.	
Appendix I	Satellite locating charts..... 17
Appendix II	Electrical assembly illustration. 18
Appendix III	Satellite programming guide..... 19
Appendix IV	Trouble shooting guide. 20
Appendix V	Quick check list..... 21

BEFORE YOU BEGIN

Please make certain that you read and understand your CYBEREX warranty, an example of which is reproduced below for your reference. If a warranty certificate is not included in your package, send your name and address, the date and place of purchase, the model and serial numbers (if any) and the type of equipment purchased to:

CYBEREX CORP.
2312 S. MAIN ST. LA, CA. 90007
TEL: (213) 748-9155, 9188
TLX: 3717087 CYBEREX

We will send you a warranty certificate by return mail.

Before you remove your equipment for assembly, inspect the shipping boxes for damage. If any box is torn, punctured or otherwise holed, be especially careful when comparing the contents with the parts list in the followings (page 3) to ensure that small items have not slipped through the openings during shipment. Report any discrepancy to your satellite dealer and to the freight carrier that delivered the equipment.

PARTS LIST AND ILLUSTRATIONS

1. One(1) Antenna Assembly (Fig. 1)
2. Two(2) Hub Support Assemblies (Fig. 2)
3. One(1) Mount Hub (Fig. 3)
4. One(1) Mounting Tube Assembly (Fig. 4)
5. One(1) Elevation Tube with Turn Buckle. (Fig. 5)
6. One(1) Feed Horn Support (Fig. 6)
7. Four(4) Anchor Bolts (Fig. 7)
8. One(1) Carrying Bag
9. Miscellaneous Parts

(#1)	12	1/4"-20 UNC	Thumb Bolts
(#2)	2	1/4"-20 UNC	U-Bolts
(#3)	4	1/4"-20 UNC	Wing Nuts
(#4)	4	1/4"-28 UNF	Bolts
(#5)	20	1/4"	Flat Washers
(#6)	20	1/4"	Lock Washers
(#7)	3	3/8"-16	Knobs
(#8)	2	Downconverter Mounting Brackets	
(#9)	1	Cable Kit. (see Appendix II)	

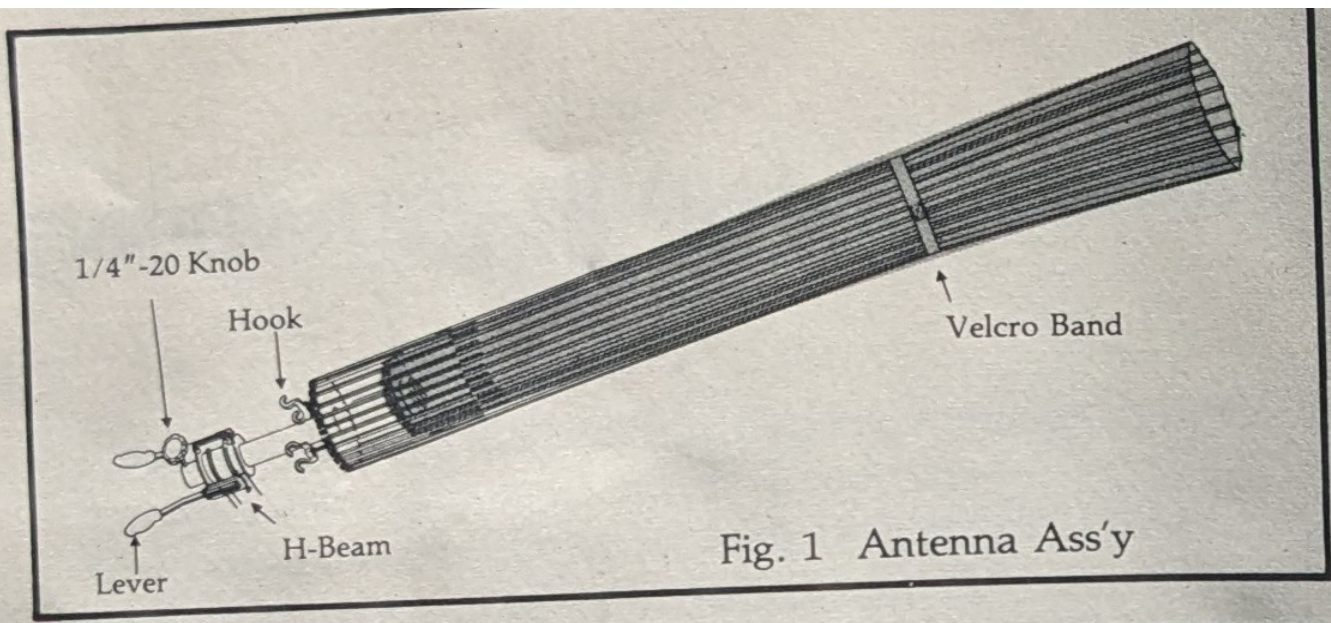


Fig. 1 Antenna Ass'y

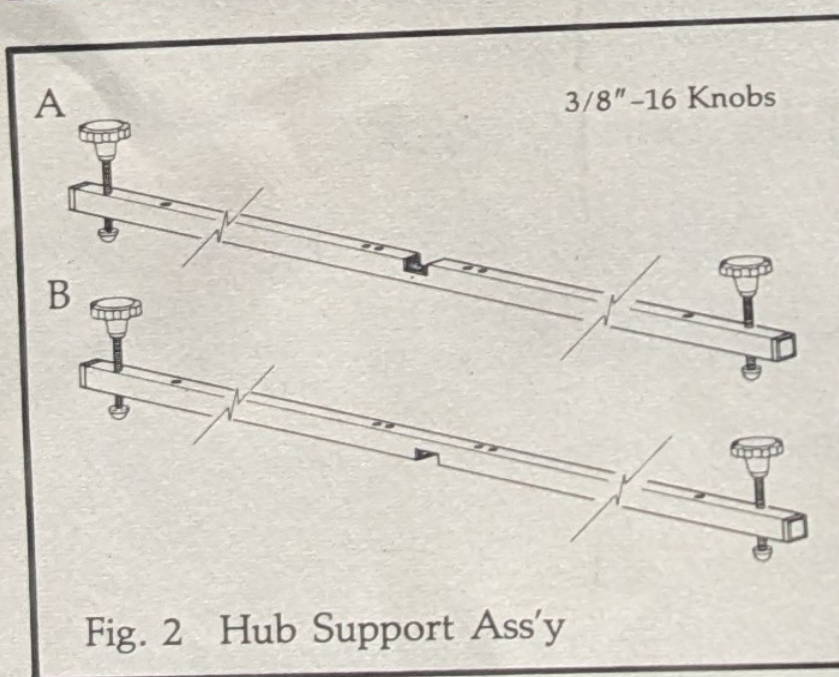


Fig. 2 Hub Support Ass'y

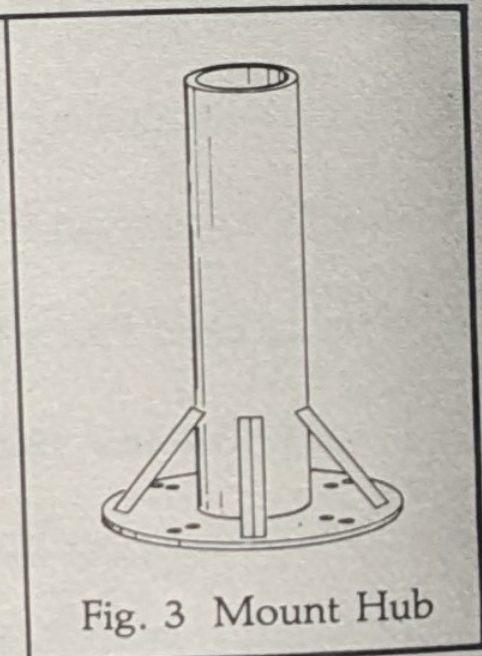


Fig. 3 Mount Hub

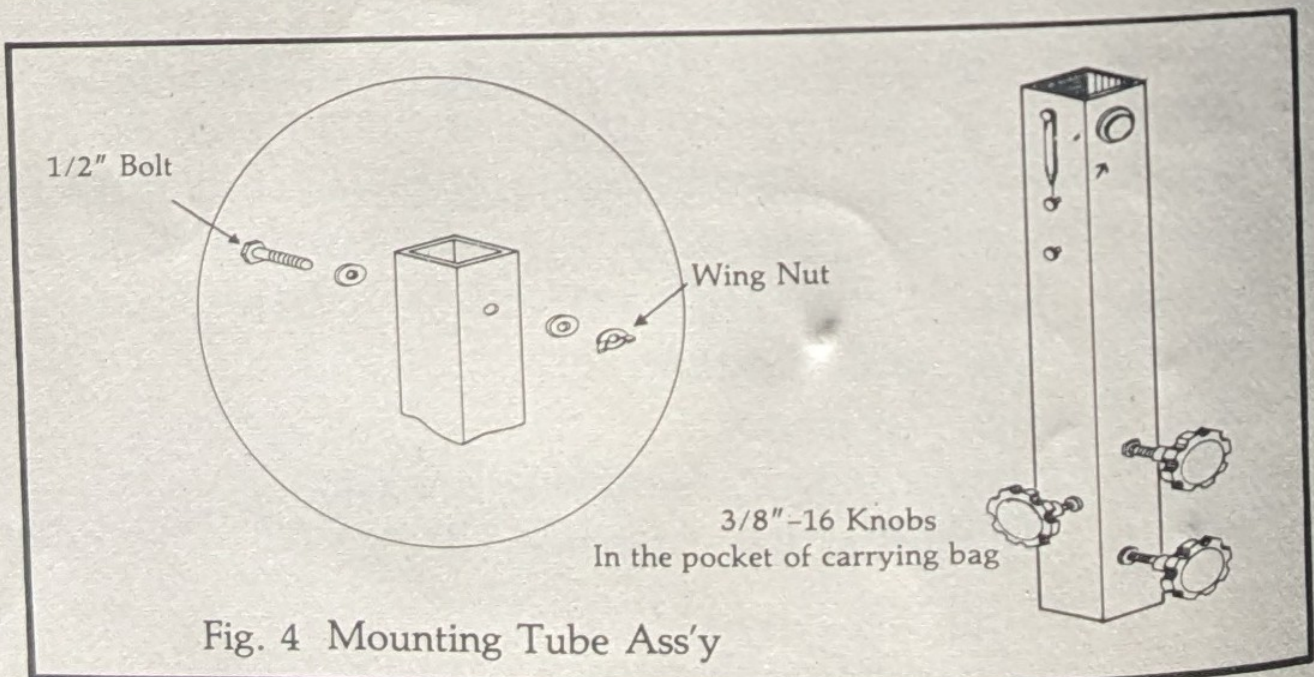


Fig. 4 Mounting Tube Ass'y

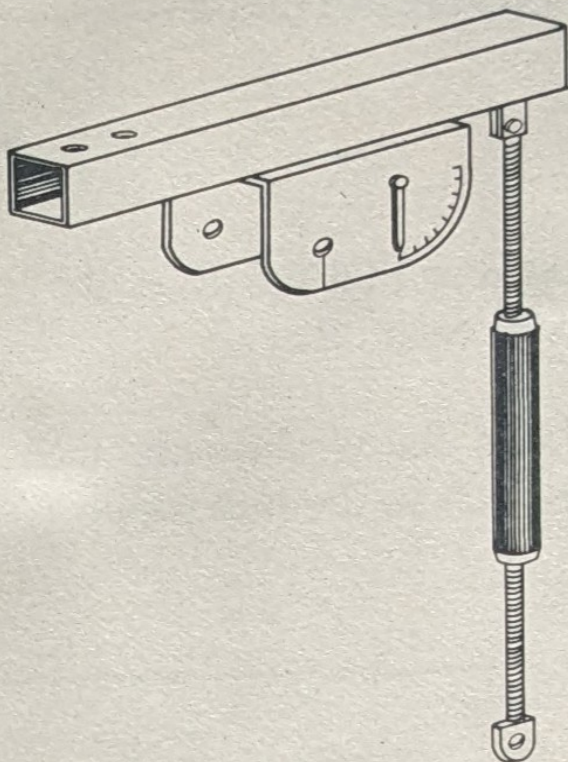


Fig. 5 Elevation Tube
with Turn Buckle



Fig. 7 Anchor Bolt

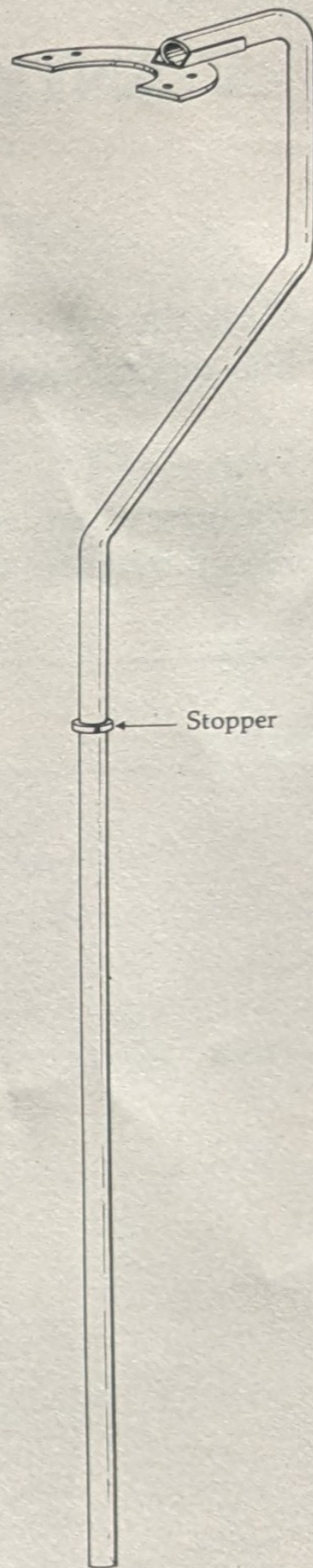
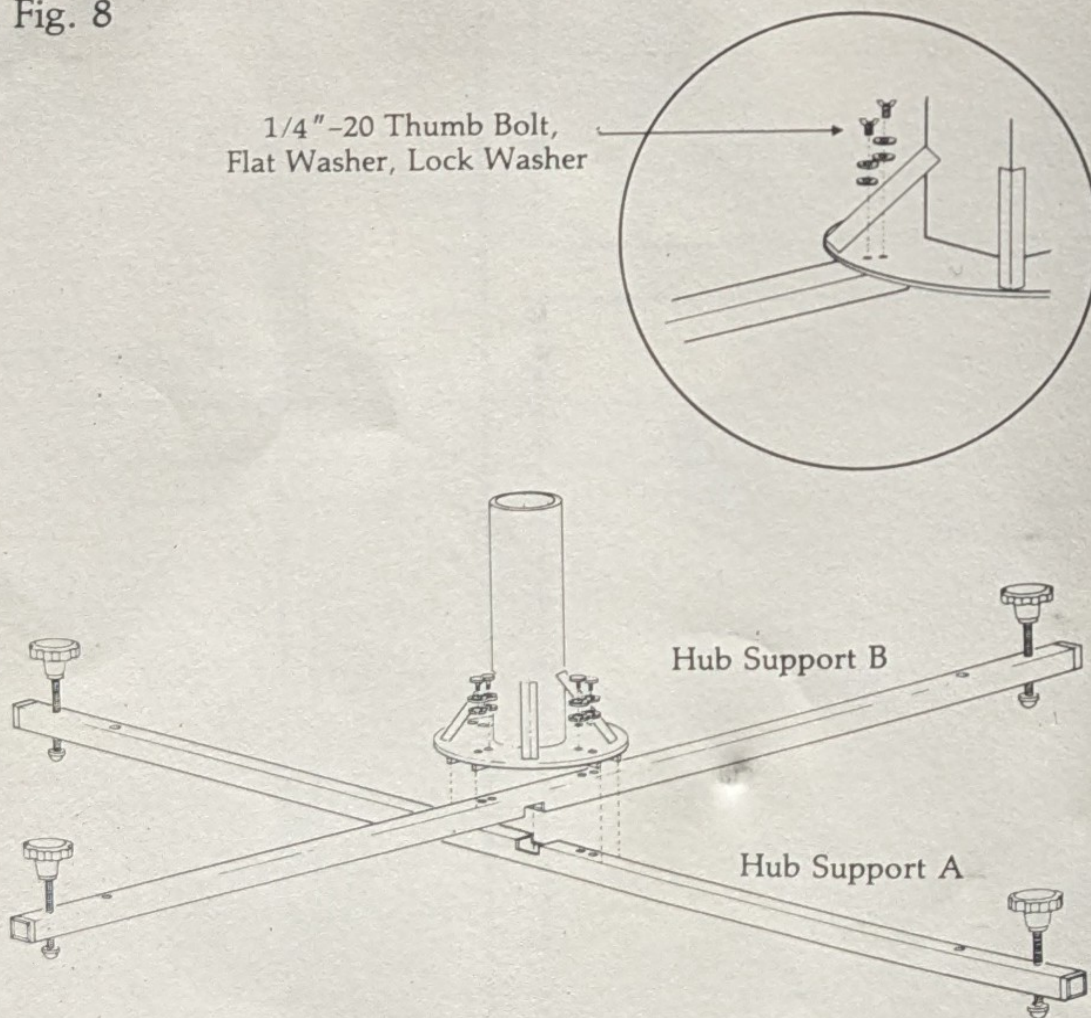


Fig. 6 Feed Horn Support

ANTENNA ASSEMBLY

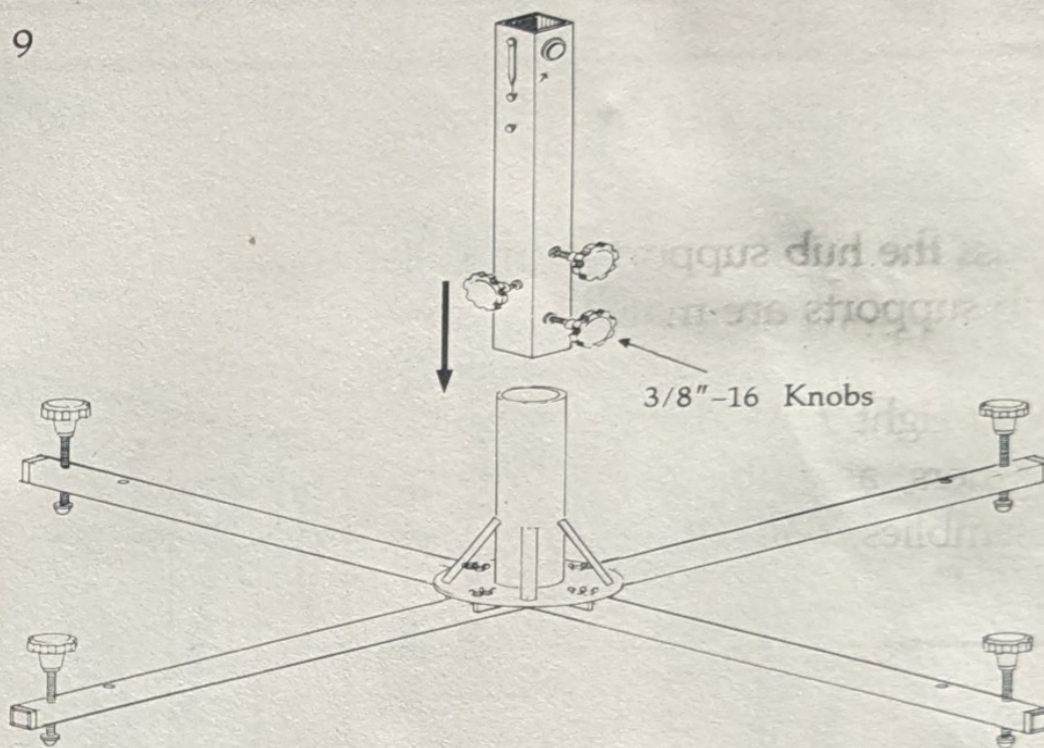
1. Cross the hub support A and B so that the slit of the hub supports are matched with each other.
2. With eight 1/4"-20 thumb bolts, flat washers and lock washers, assemble the mount hub to the hub support assemblies. (Fig. 8)

Fig. 8



3. Insert the mounting tube into mount hub and tighten using the three $3/8''$ -16 knobs (Fig. 9).

Fig. 9



4. Remove the $1/2''$ -13 UNC bolt, flat washer and lock washer from the mounting tube by turning the $1/2''$ wing nut. Bolt the elevation tube to mounting tube using the bolt, wing nut, and washers, and bolt the free end of the turnbuckle to the mounting tube bracket. (Fig. 10).

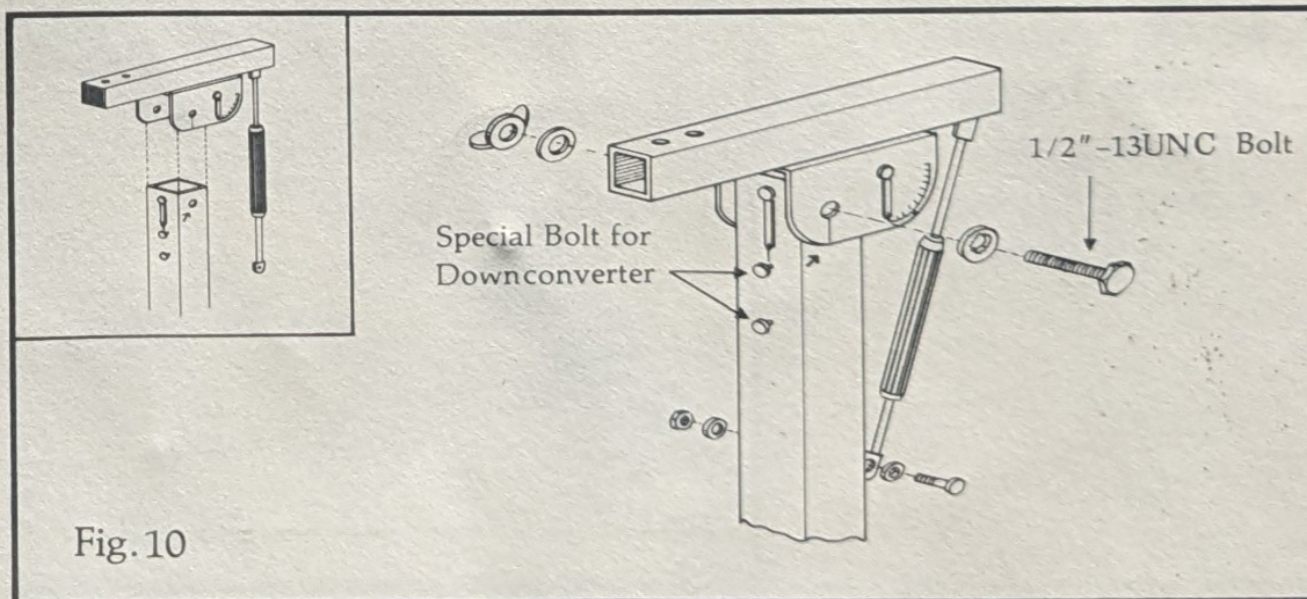
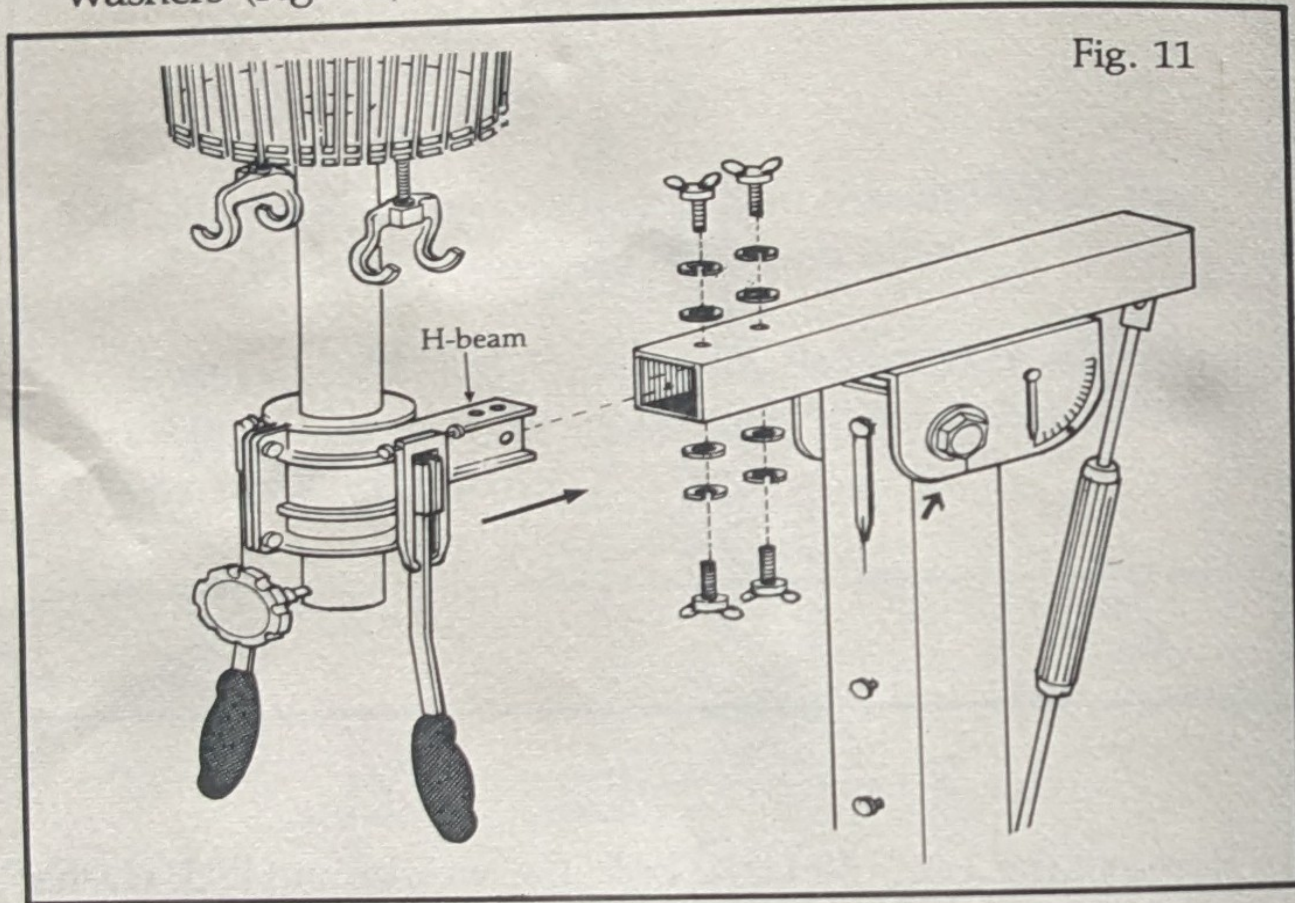
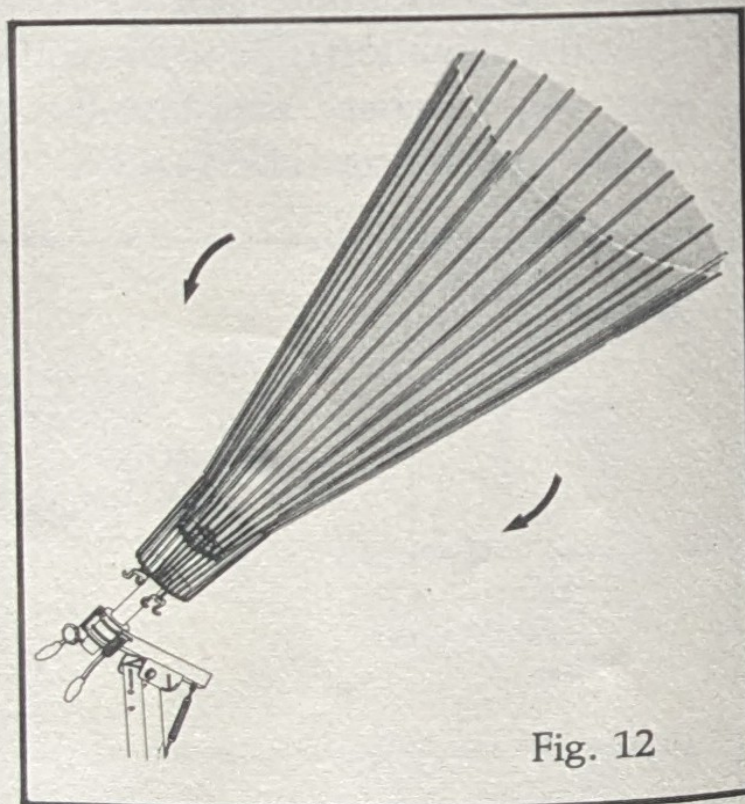


Fig. 10

5. Angle the antenna assembly upwards and insert the H-beam of the antenna assembly into the elevation tube, and tighten with four(4) 1/4"-20 thumb bolts, flat washers and lock washers (Fig. 11).

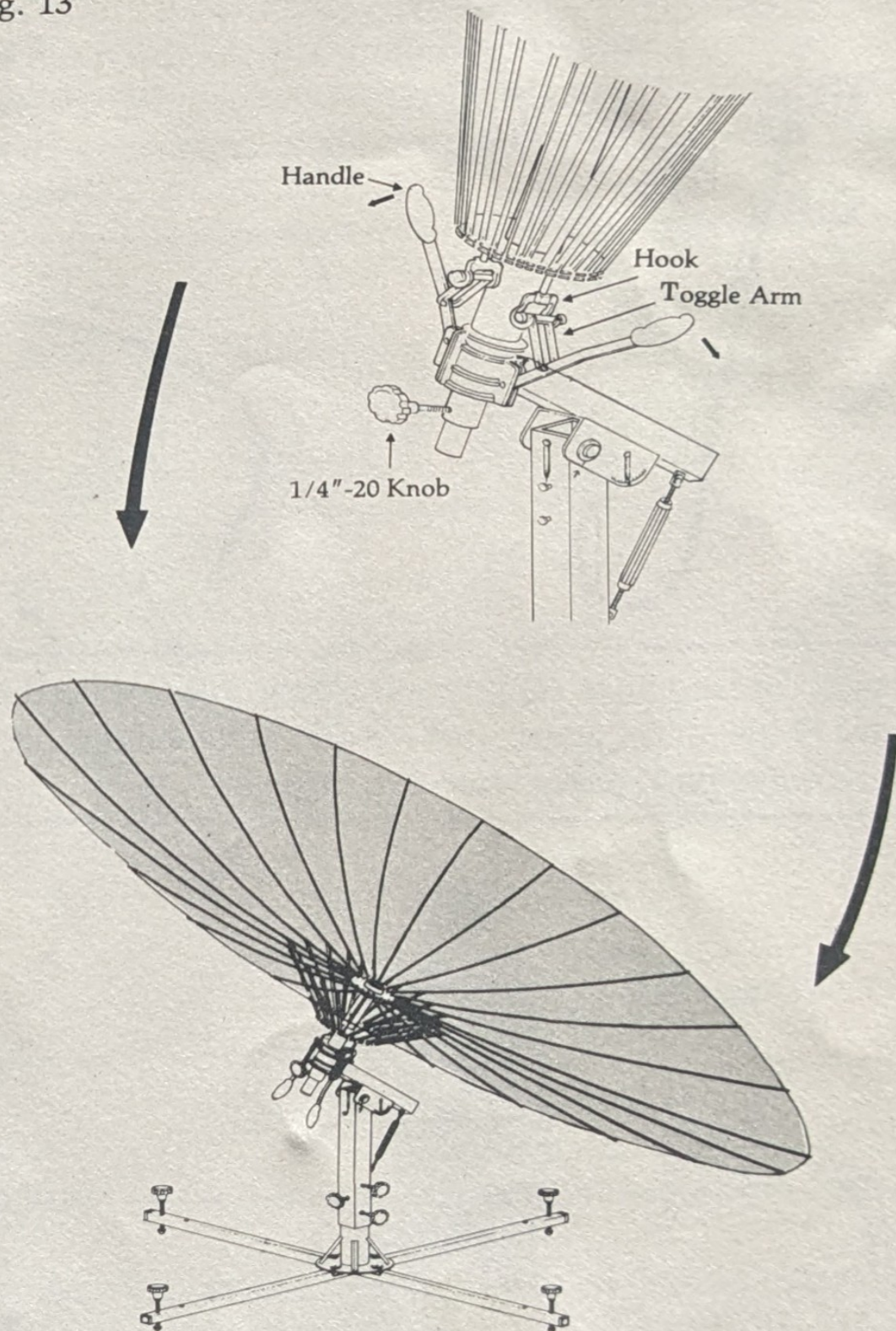


6. Remove the velcro band from the antenna assembly and very gently open the antenna by separating the fiberglass rods and sliding the large hub. (Fig. 12).



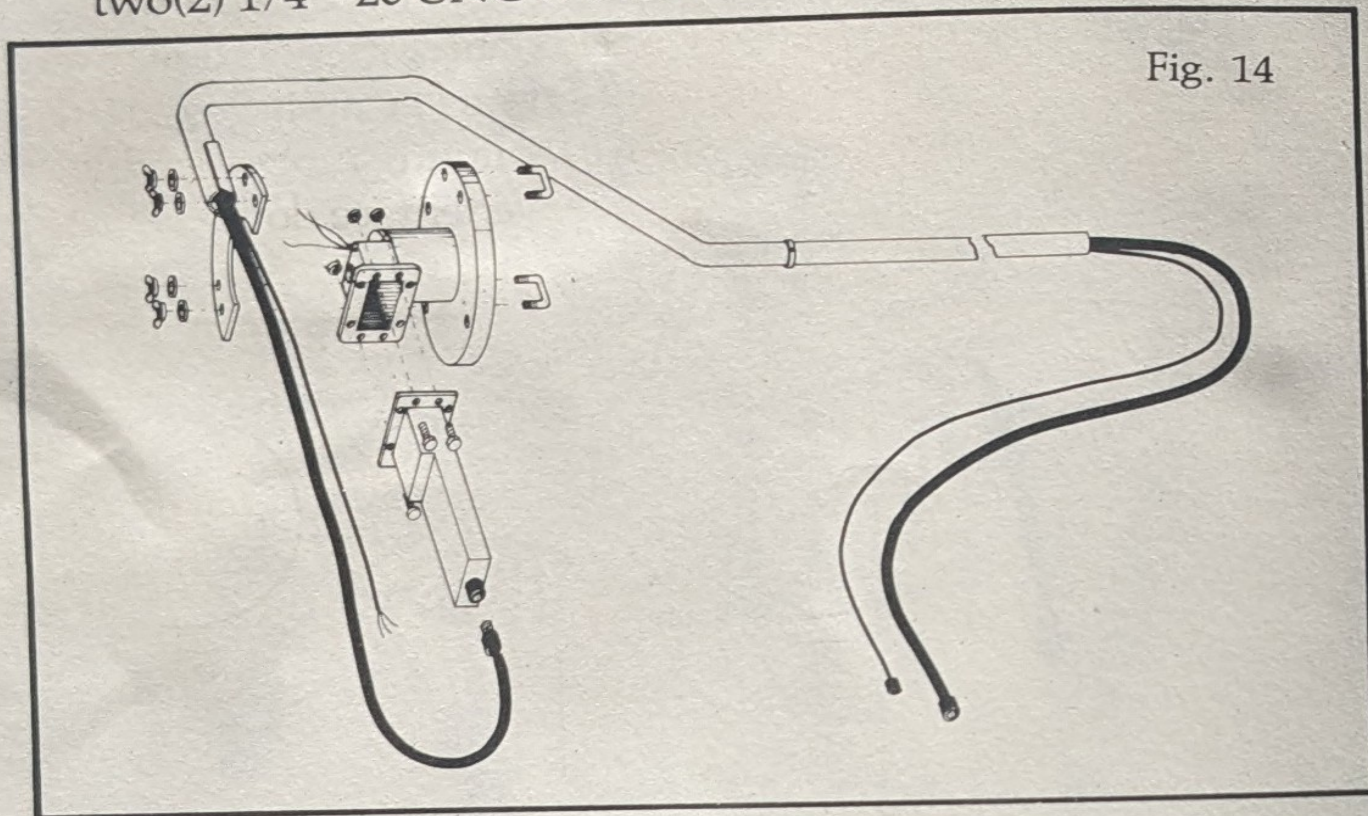
7. Engage the toggle arms in their associated hooks, and pull the handles backward until the antenna is fully opened. (Fig. 13)

Fig. 13



8. Bolt LNA to feed horn frange using square rubber washer and four(4) bolts and nuts. (Fig. 14)
9. Bolt the feed horn to the feed horn support bracket using two(2) 1/4"-20 UNC U-bolts and four(4) wing nuts. (Fig. 14)

Fig. 14



10. Insert the feed horn support bracket (cable first) to the center hole of the antenna and gently work in till the stopper touches the center pipe of the antenna. (Fig. 15)

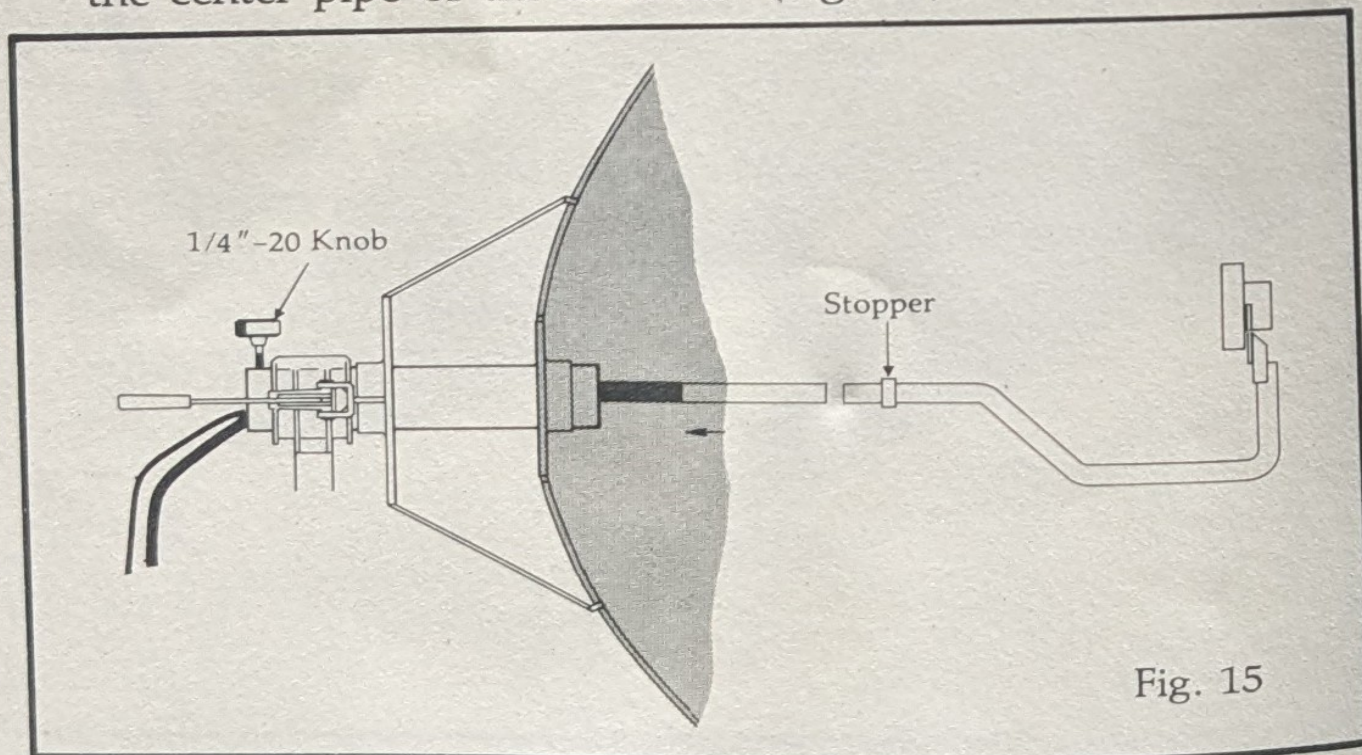
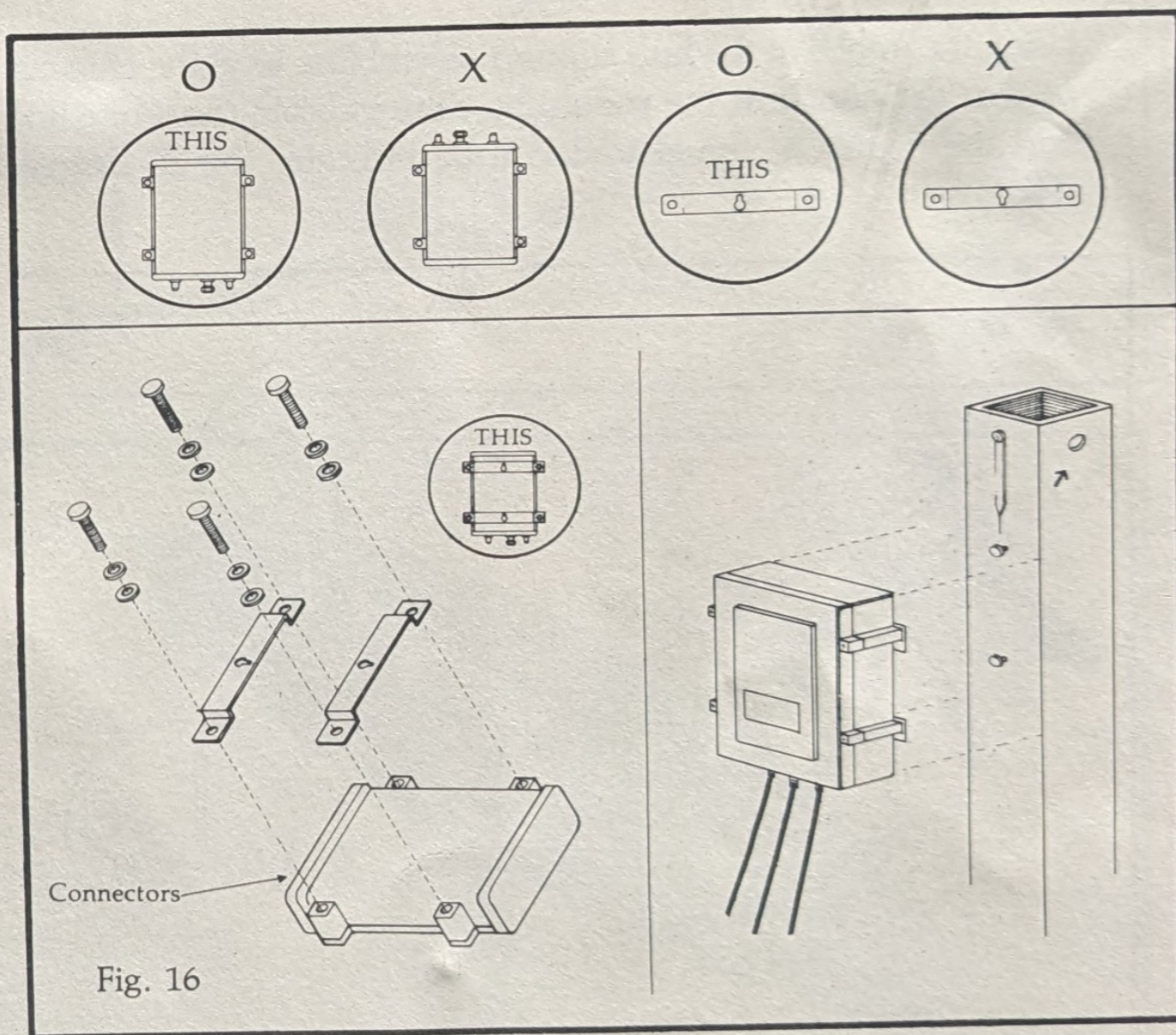


Fig. 15

11. At the rear of the antenna, tighten the feed horn support bracket with 1/4"-20 knobs.
12. Assemble the two mounting brackets to the downconverter. Take care that the downconverter connectors faces downward and the notch on the mounting bracket points upwards.
13. Hang the downconverter on the mounting tube assembly so that the connectors of the downconverter face down (Fig. 16).

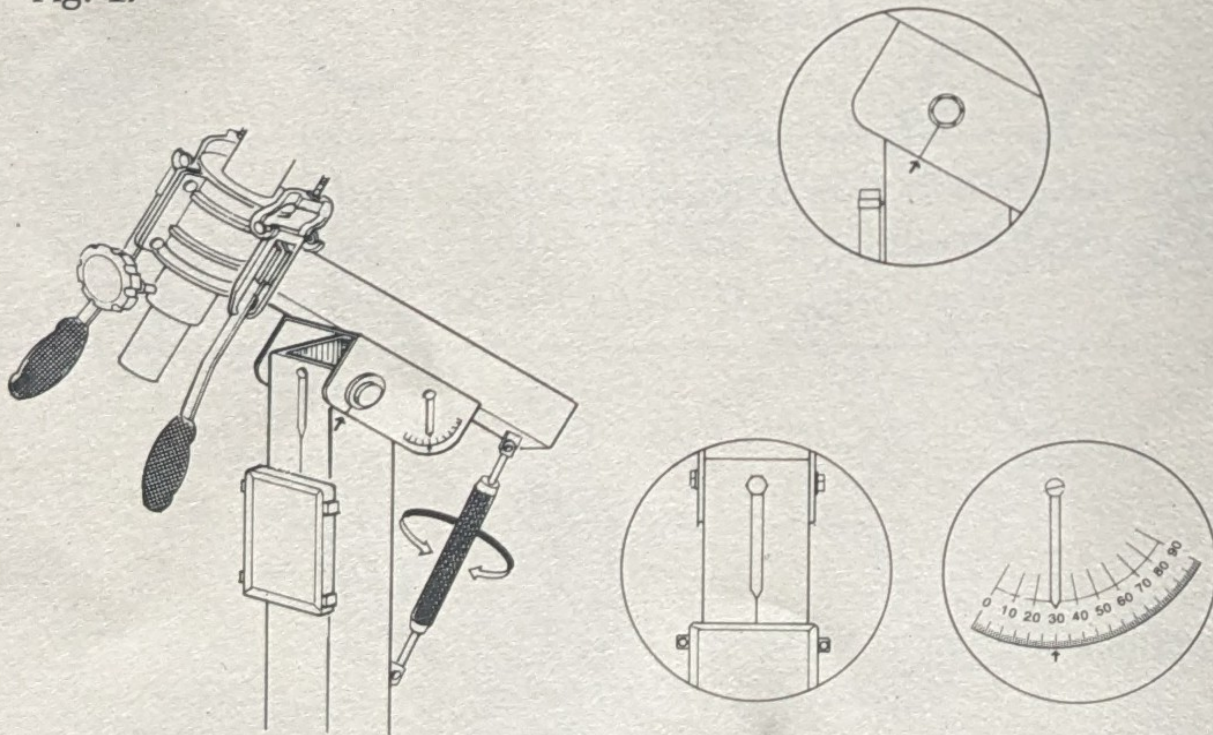


14. Connect the cables as per appendix II and receiver manual. All components should be outside including TV to find the satellite signal.

LEVELLING THE ANTENNA MOUNT

1. Using the turn buckle, adjust the elevation tube so that the arrow mark at the mounting tube ass'y and the white line at the elevation tube are matched. (Fig. 17)
2. Using the knobs at the hub support assemblies, level the antenna so that the needle at the mounting tube indicate the white line and the needle at the elevation tube indicates the 30 degree. (Fig. 17).

Fig. 17



3. When you have the level, Fix the antenna using the anchor bolts or loading sandbags on the hub support assemblies (Fig. 18)

Fig. 18-A

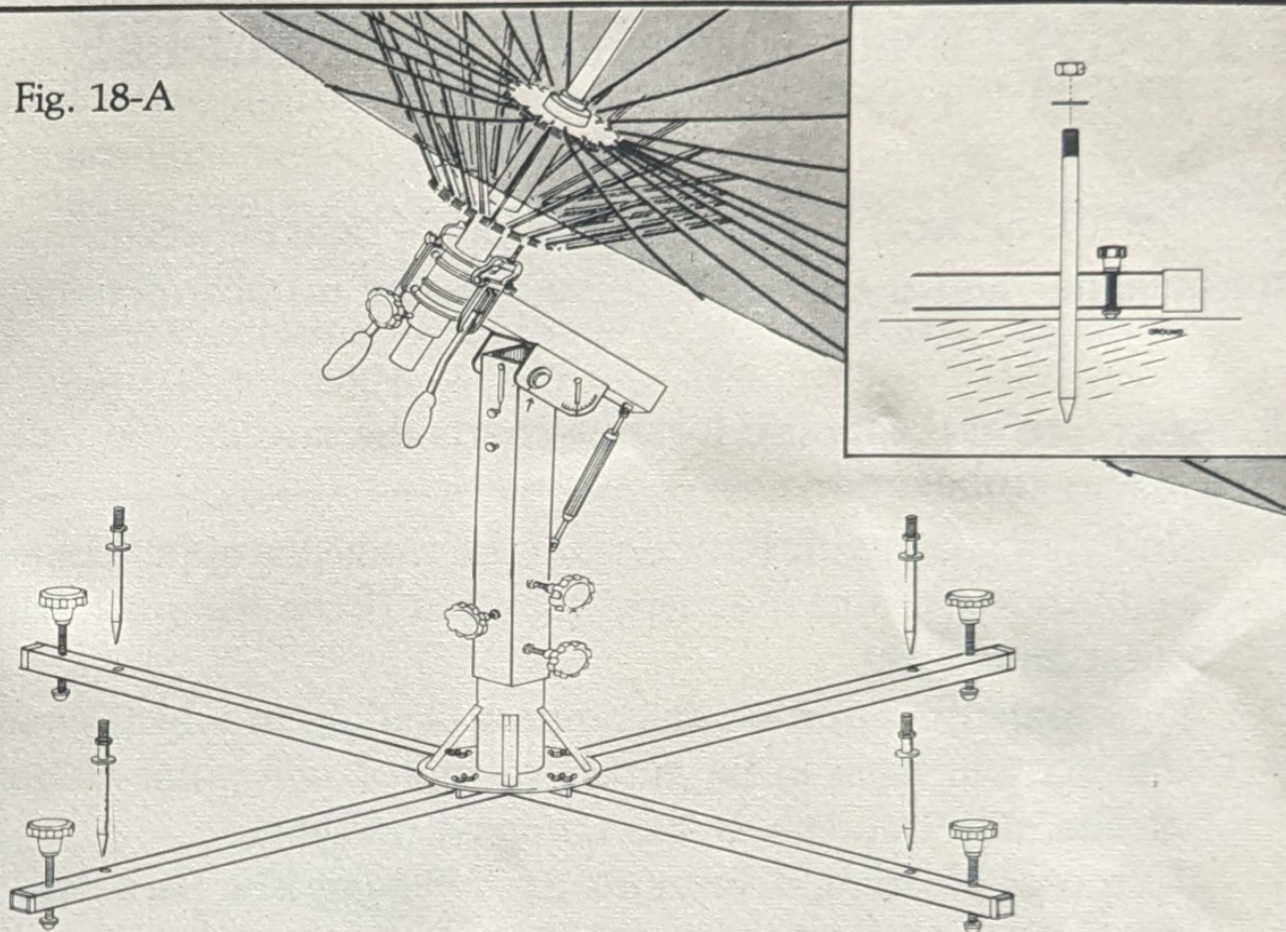
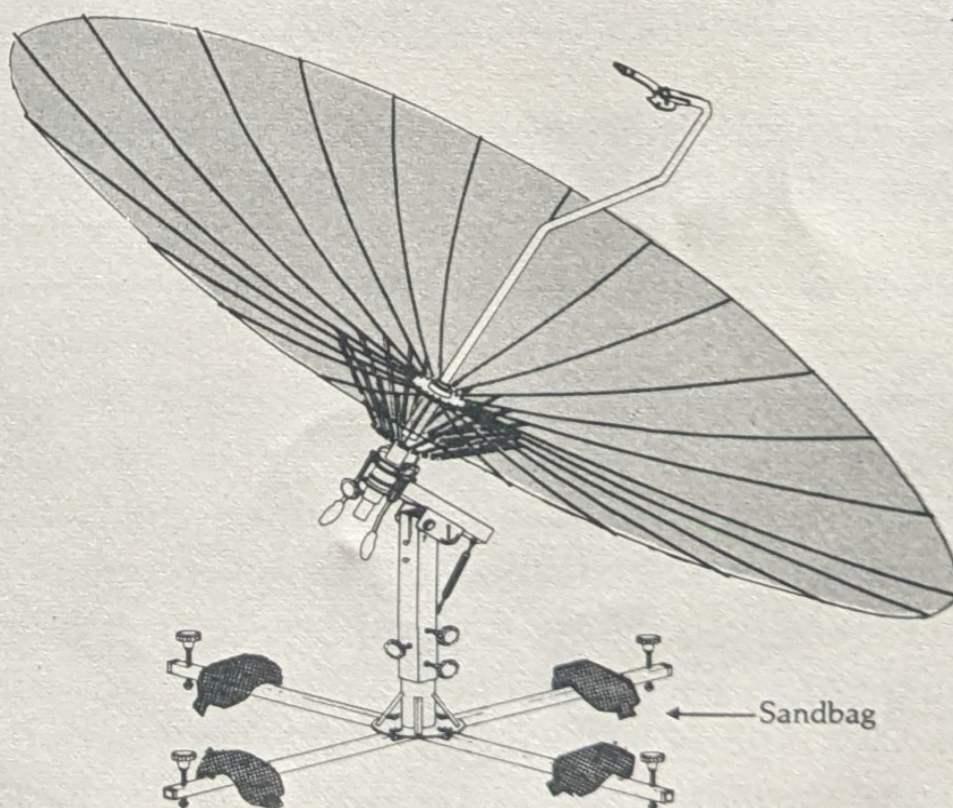


Fig. 18-B



LOCATING DESIRED SATELLITE

■ It is necessary to have a clear line of sight between the antenna and the satellite, there must be no obstructions.

1. Select from the supplied locating charts the satellite you will want to watch.
2. Find your geographic location and determine the approximate azimuth angle and magnetic variation (from the magnetic variation chart).

Determine the approximate compass heading in which your antenna will have to be aimed so that it will point at the satellite, aim the dish at this compass heading.

(Compass Heading = Azimuth Angle + Magnetic Variation)

Example: Lansing, Michigan

According to the chart, the heading of the Galaxy I satellite from the Lansing area is approximately 241 degrees.

$241^{\circ}(\text{Compass heading}) = 239^{\circ}(\text{Azimuth angle}) + 2^{\circ}(\text{Magnetic variation})$

Using a compass, find this direction from the antenna mounting site you have selected (Fig. 19).

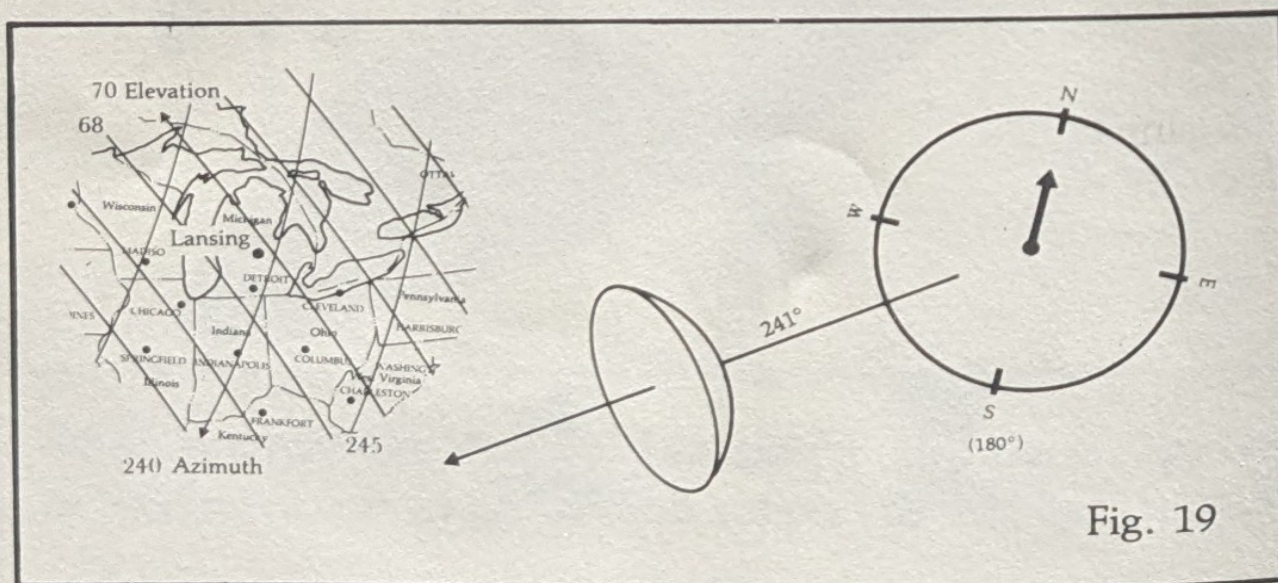


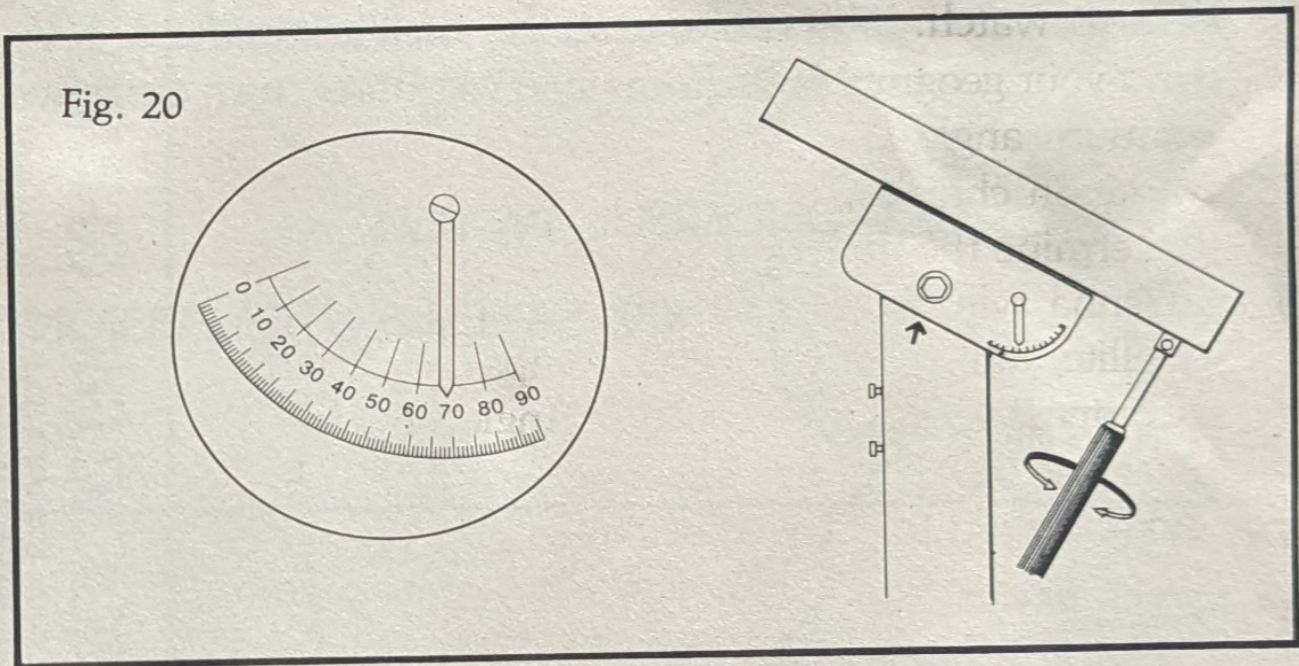
Fig. 19

Sight along this heading to ensure there are no obstructions. If there are obstructions, choose another site or another satellite.

"Note that in choosing a site, it is important that the antenna supporting base be as level as possible."

3. Now rotate the turn buckle to the indicated elevation. for Lansing, Mich. ie, 69° (Fig. 20).

Fig. 20



4. With the antenna now aimed at the correct compass heading and the elevation set at the correct elevation, turn both the television and the satellite receiver on. Be sure TV channel matches the satellite receiver panel switch CH 3 or 4.
5. Using the switch on the rear panel, place the satellite receiver in the scan mode. If your aiming coordinates are correct, you will see a flicker of a picture on the television screen. If you do not, make fine adjustments by rotating the antenna east & west and up & down till you do.
6. Once you do, turn the scan off and adjust the channel tuner on the front panel to receive the best picture. Now tune in the audio. Adjust the trim control to further improve the picture.

7. Noting the signal strength indicated by the level meter on the satellite receiver, adjust the elevation to obtain maximum reading, hence best picture, now move the antenna slowly back & forth (east/west) to again obtain highest meter reading. Now refer to your channel guide and run through the channels to confirm you are indeed on the satellite you have selected.
8. Disconnect the power from both the satellite receiver and television, disconnect cables from the satellite receiver & T V run the cables into your home and reconnect, turn the power on and enjoy.

THE WONDERFUL WORLD

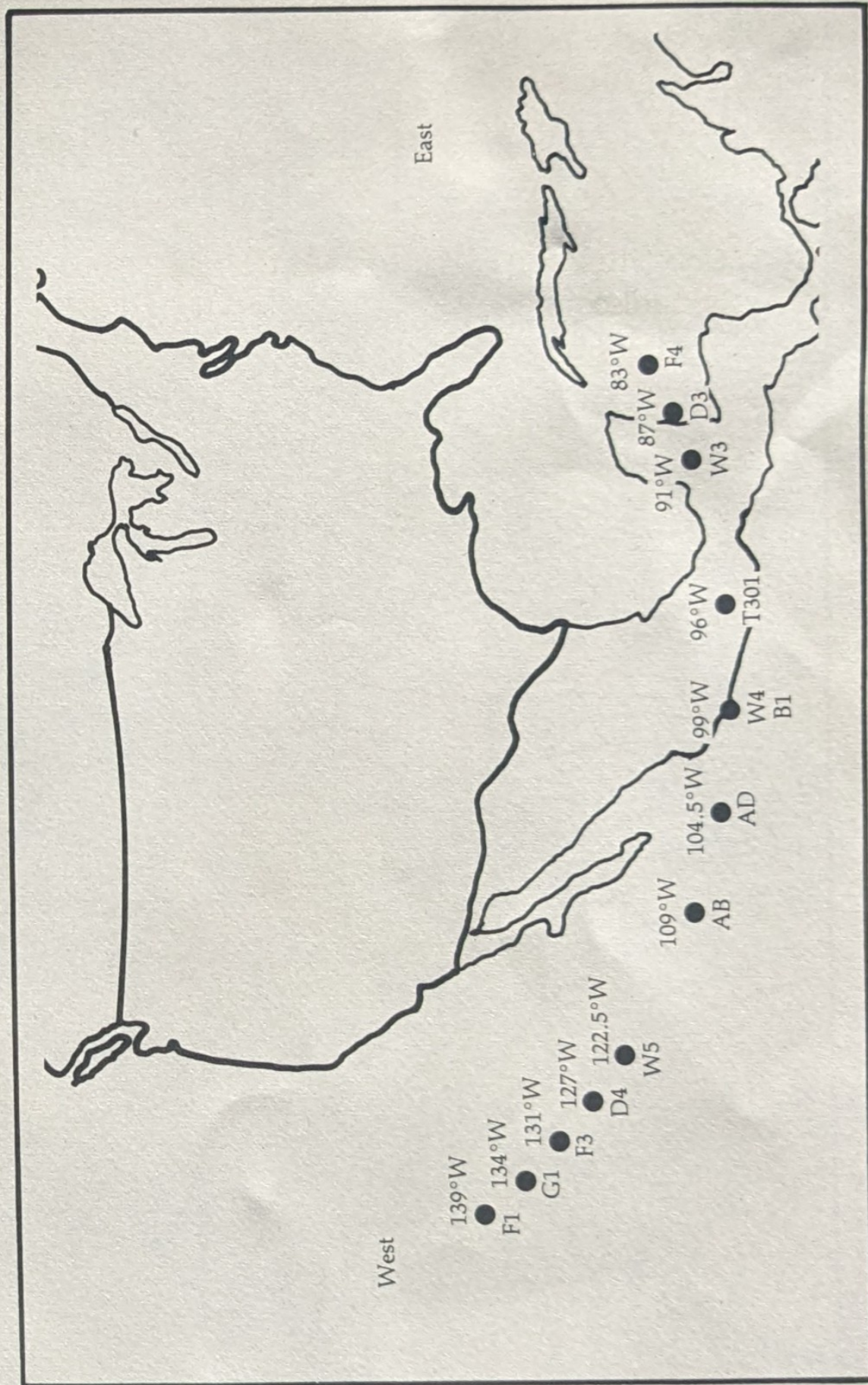
OF SATELLITE TELEVISION.

NOTE:

The focal length of the antenna is pre-adjusted at the factory. But you may adjust the focal length to further improve the picture by sliding the feed horn support up and down slightly.

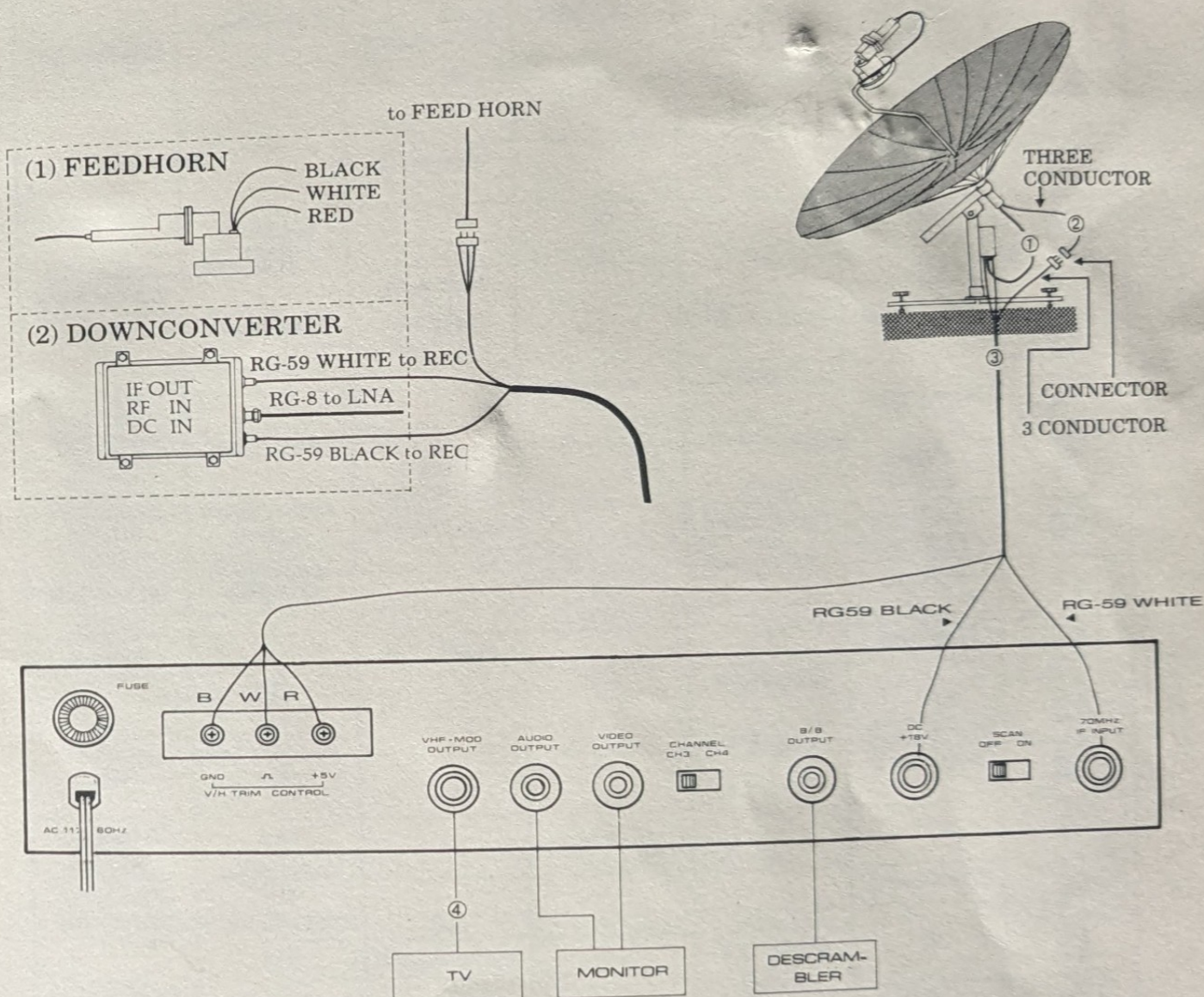
Turn the $\frac{1}{4}$ "-20 knob, adjust the focal length and tighten the feed horn support again with the knob.
(refer to Fig. 15 at page 10)

APPENDIX I SATELLITE LOCATING CHARTS



APPENDIX II

ELECTRICAL ASSEMBLY ILLUSTRATION



*Connecting Cable Kit

Wire No.	Type Cable/Wire	Length	Connector	Remark
1	RG-8	9ft	UG-21N	in the feed horn support bracket
2	3 Cond.	9ft	3 pin	
3	2 RG-59 & 3 Cond	100ft	F-59 & 3pin	
4	RG-59	4ft	F-59	

APPENDIX IV

TROUBLE SHOOTING GUIDE

SYMPTOMS	WHAT TO CHECK
Picture is fuzzy with ghost images over channel you are watching.	Adjust skew control for best picture. If adjusting this control does not affect the picture, check contacts of polarizer cable on rear of receiver and at the feed horn.
Audio and video are working, but only intermittently.	Loose connection in system or moisture in cable connectors.
Receiver lights up. No picture, screen is blank.	Check your connections from receiver to downconverter. Are they reversed? Check cable from LNA to downconverter. Check cable from receiver to TV set.
TVRO receiver is dead. No lights or reception.	Make sure receiver and TV set are plugged in and power turned on. Check electrical socket for power. Check for blown fuse in receiver.
Fuse blows when receiver is turned on.	System is shorting. Disconnect cables, install new fuse and turn-on receiver. If it blows the fuse without cables connected, the short is in receiver itself. If not, the short is in the cable. Check all cable for continuity.
Channels are strong at one end but weaker toward the other.	Possible blown stage in LNA. Change LNA. Could also be interference from Ma Bell (terrestrial microwave interference). Install filter.

Receiving picture faintly or excess fuzziness.	Check dish azimuth and elevation. Adjust cable comp of receiver with insulated tool. Check TV channel. It must correspond with satellite receiver ch 3/or 4.
Horizontal bars passing through the picture.	AC potential difference between electronic components. Use separate ground returns for each components.

APPENDIX V

QUICK CHECK LIST

1. No obstacles in direction dish aimed ☐
2. Antenna fully open ☐
3. Antenna base level ☐
4. Compass heading correct ☐
5. Elevation angle correct ☐
6. Feed horn support in place ☐
7. Feed horn connected to feed horn support bracket ☐
8. Polarizer wires connected to feed horn red, to red
white to white black to black ☐
9. LNA bolted to feed horn ☐
10. Large cable connected to LNA (hand tight) ☐
11. Large cable connected to downconverter ☐
12. Polarizer cable connected to main cable ☐
13. White cable from IF out of D.C to IF input of receiver ☐
14. Black cable from +18V IN of D.C to +18V OUT of
receiver ☐
15. Short coax cable connected from VHF mod out of
receiver to T V set ☐
16. Rear panel of satellite receiver CH 3 & 4 ☐
17. T V set to same channel as rear switch on satellite
receiver ☐
18. Scan switch on ☐
19. Power on ☐
20. Located satellite ☐
21. Scan switch off ☐
22. Tune for best audio + video ☐

SPECIFICATION

Diameter	7.5 Feet
F/D ratio	0.4
Gain	37.2 dB
Half PWR beam width	1.7°
Shipping weight	60 lbs
Shipping size	1.660 x 265 x 260 (mm) 65.4" x 10.4" x 10.2"

