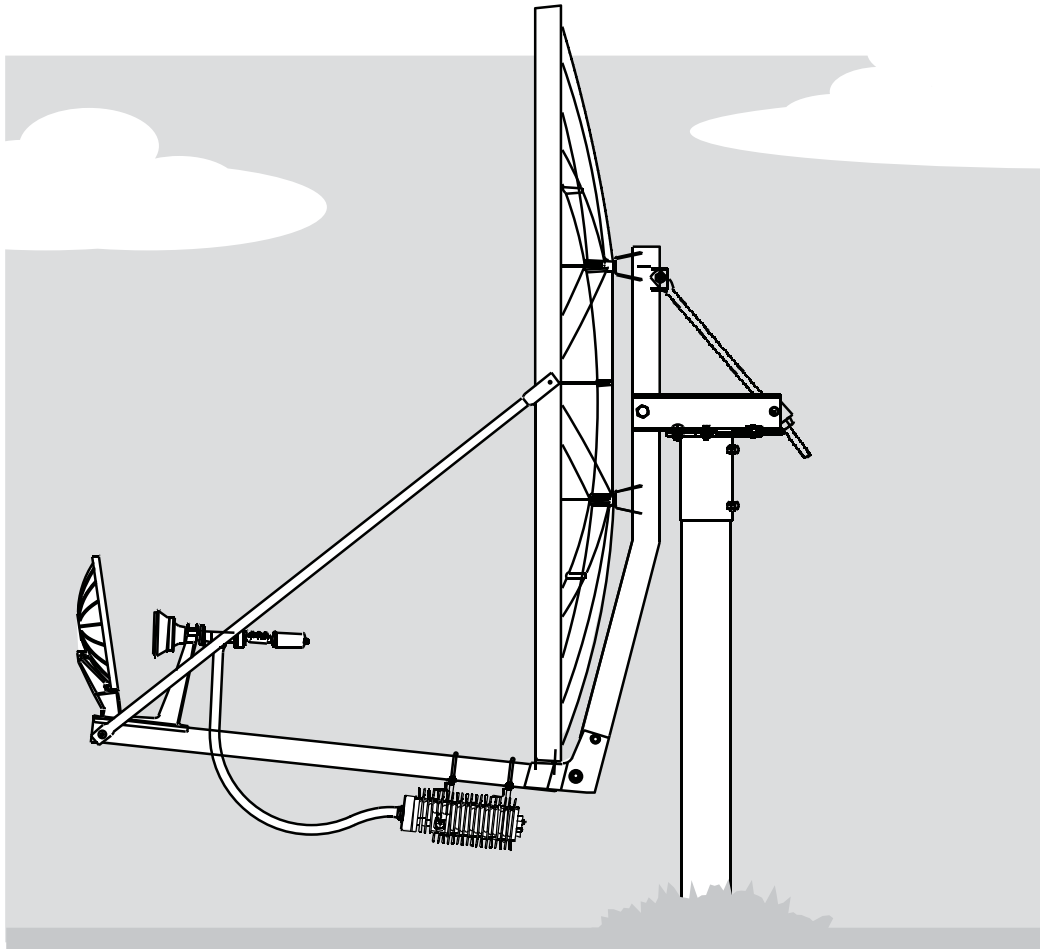


Type 244

2.4 Meter Dual Optics Receive Transmit Antenna System

Supplemental (Use with Manual 8000450-03)



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05/11 8000722-02 REV E EC-01105

MANUAL REVISION HISTORY

| DATE | DESCRIPTION | REVISION |
|-------|-------------|----------|
| 01/07 | 5064782 | Rev A |
| 03/07 | 5065627 | Rev B |
| 04/08 | 5078807 | Rev C |
| 04/08 | 5078836 | Rev D |
| 05/11 | EC-01105 | Rev E |

REQUIRED TOOLS

Additional Assembly Tools Required for Dual Optics

- 1 7/16 in or 11 mm Nut Driver
- 1 7/16 in or 11 mm Socket (For Torque Wrench)

BOLT TORQUE

Exceptions to Bolt Torque Chart

1/4 in Hex Head Bolts - Dual Optics Feed. Torque to 5 N-m (4 ft-lb).



DO NOT DISCARD CONTENTS

The product in this packaging was placed in the market after August 13, 2005. Its components must not be discarded with normal municipal or household waste.

Contact your local waste disposal agency for recovery, recycling, or disposal instructions.

ASSEMBLY INSTRUCTIONS

NOTE: Refer to manual 8000450-03 for main antenna assembly and installation. Use these supplemental instructions for dual optics feed component.

1. Install M6 x 60 mm hex bolt (46) with flat washer (7) into bottom hole in reflector rim and secure with M6 lock washer and M6 hex nut (8 & 6). **(Refer to Figure 1.1)**
2. Assemble feed support tube (10) onto backframe and secure with two M12 x 130 mm hex bolts (12). **IMPORTANT:** M6 x 60 mm hex bolt (46) in bottom of reflector rim, fits into hole on top of support tube lower end. **NOTE :** M12 tooth washer (11) must be assembled on bolts (12), with one under head of bolts and one under hex nuts (4). **(Refer to Figure 1.2)** Leave these bolts loose.
3. Swing reflector down by loosening nuts on elevation screw. When reflector is in a convenient position, (approximately 20°), snug tighten nuts on elevation screw. **(Refer to mount assembly manual)**
4. Install left and right side struts (27) onto reflector **as shown in Figure 1.3**. Attach long formed end of side strut (27) to reflector rim by inserting M6 x 20 mm hex bolt (28) thru inside of rim and secure snug, but free to pivot using M6 lock washer and hex nut (6 & 8). Attach short formed end of side struts (27) to feed support tube using 1/4" x 2.0" hex bolt, lock washer and hex nut (57, 55 & 56).
5. **IMPORTANT :** Without using excessive pressure, lift feed support tube vertically, just enough to relieve all loads off side struts, while another person tightens and torque's M12 hex bolts (*) securing feed support tube to backframe to 35 ft-lb (47 N-m) and M6 hex head bolts(**) securing side struts to reflector to 4 ft-lb (5.4 N-m). **(Refer to Figure 1.4).**

FIGURE - 1.1

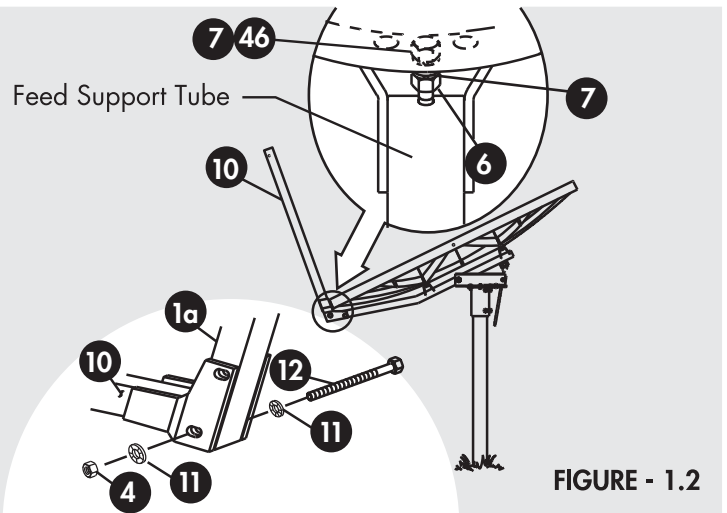
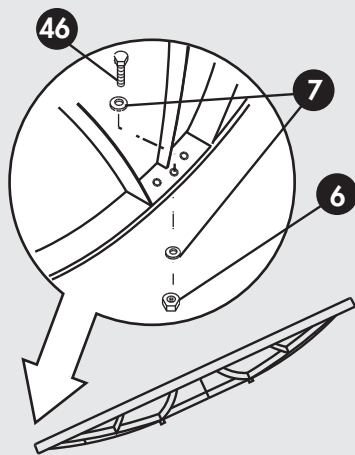
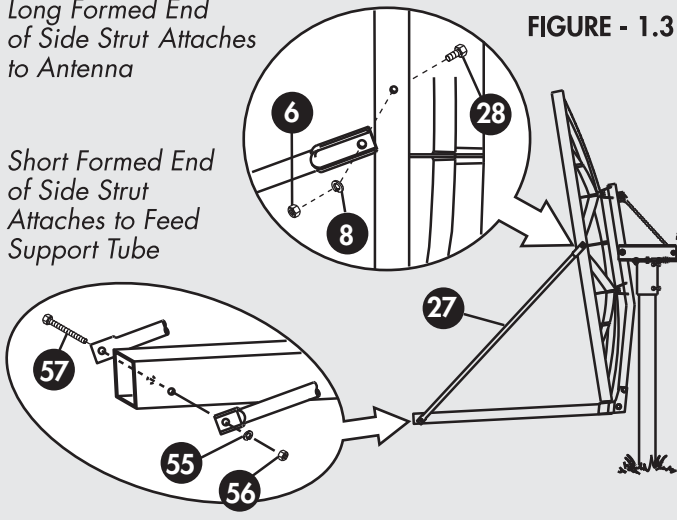


FIGURE - 1.2

Long Formed End
of Side Strut Attaches
to Antenna

Short Formed End
of Side Strut
Attaches to Feed
Support Tube

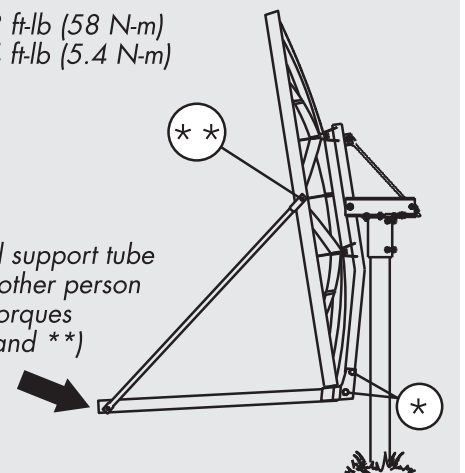
FIGURE - 1.3



*Torque to 43 ft-lb (58 N-m)
**Torque to 4 ft-lb (5.4 N-m)

Lift up on feed support tube
here while another person
tightens and torques
hardware (* and **)

FIGURE - 1.4



ASSEMBLY INSTRUCTIONS

- Secure sub-reflector (49) to mount (47) with 1/4 x 1/2 in hex head screws and lock washers (51 and 55) and attach mount base to feed support tube with 1/4 x 3.5 in hex head bolts, 1/4 lock washers and 1/4 in hex nuts (48, 55 and 56). **Refer to Figure 1.5.** Install feed horn/omt/filter assembly (52) onto mount seat (47) with clamp (53) and secure with 1/4 x 1 in hex head bolts and 1/4 in lock washers (54 & 55).
- Install RF electronics. Follow instructions provided with RF electronics.

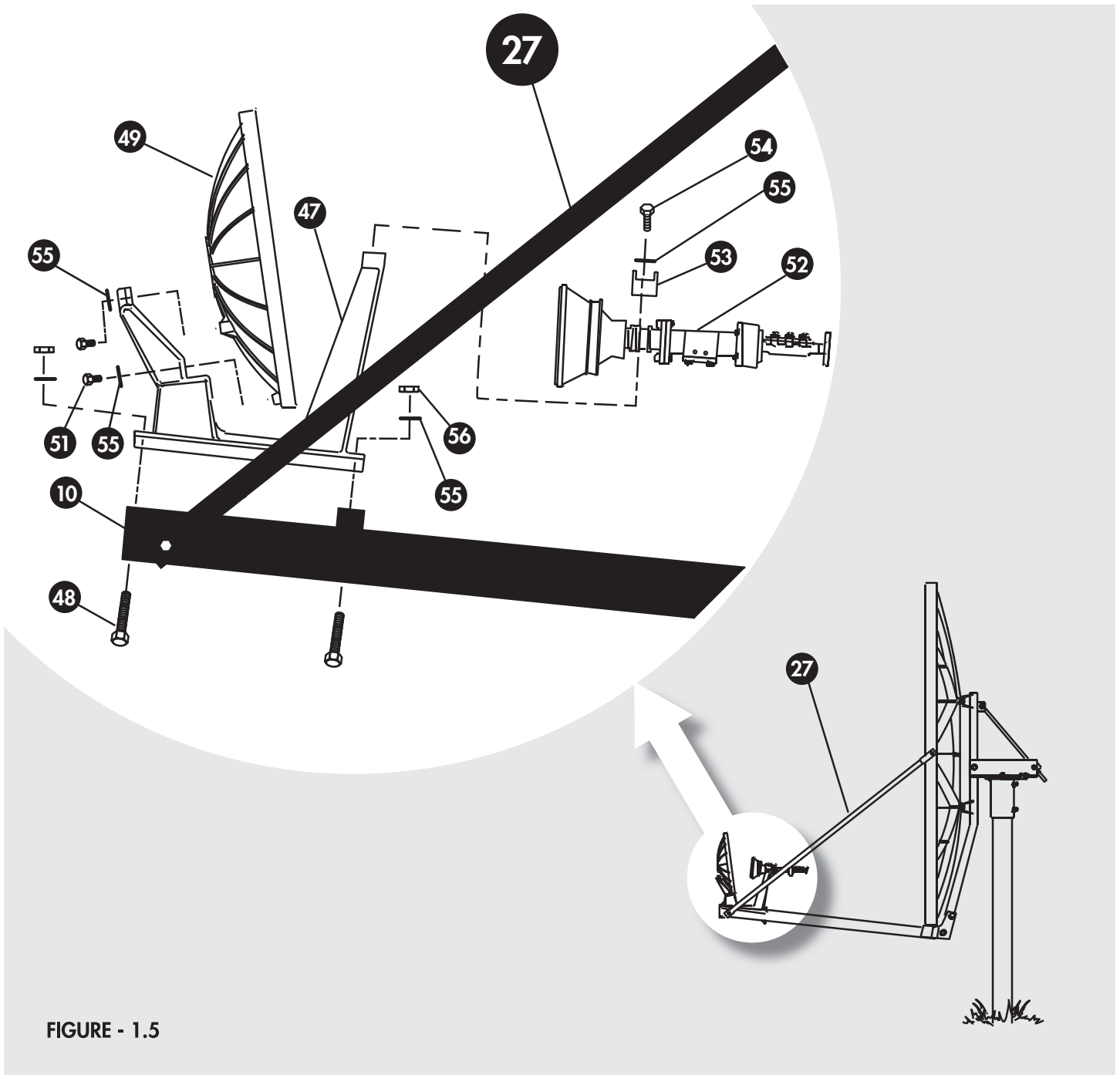
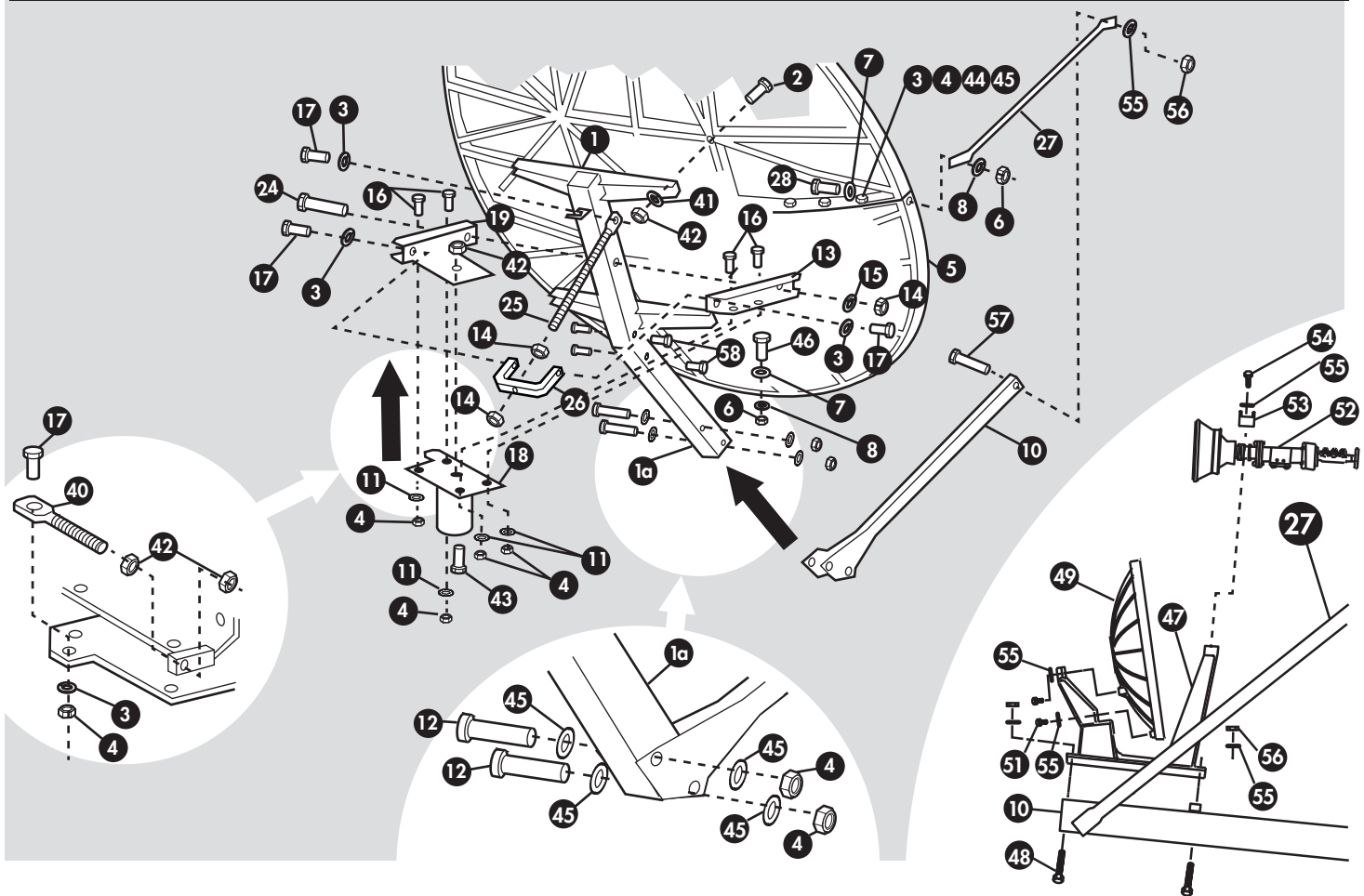


FIGURE - 1.5

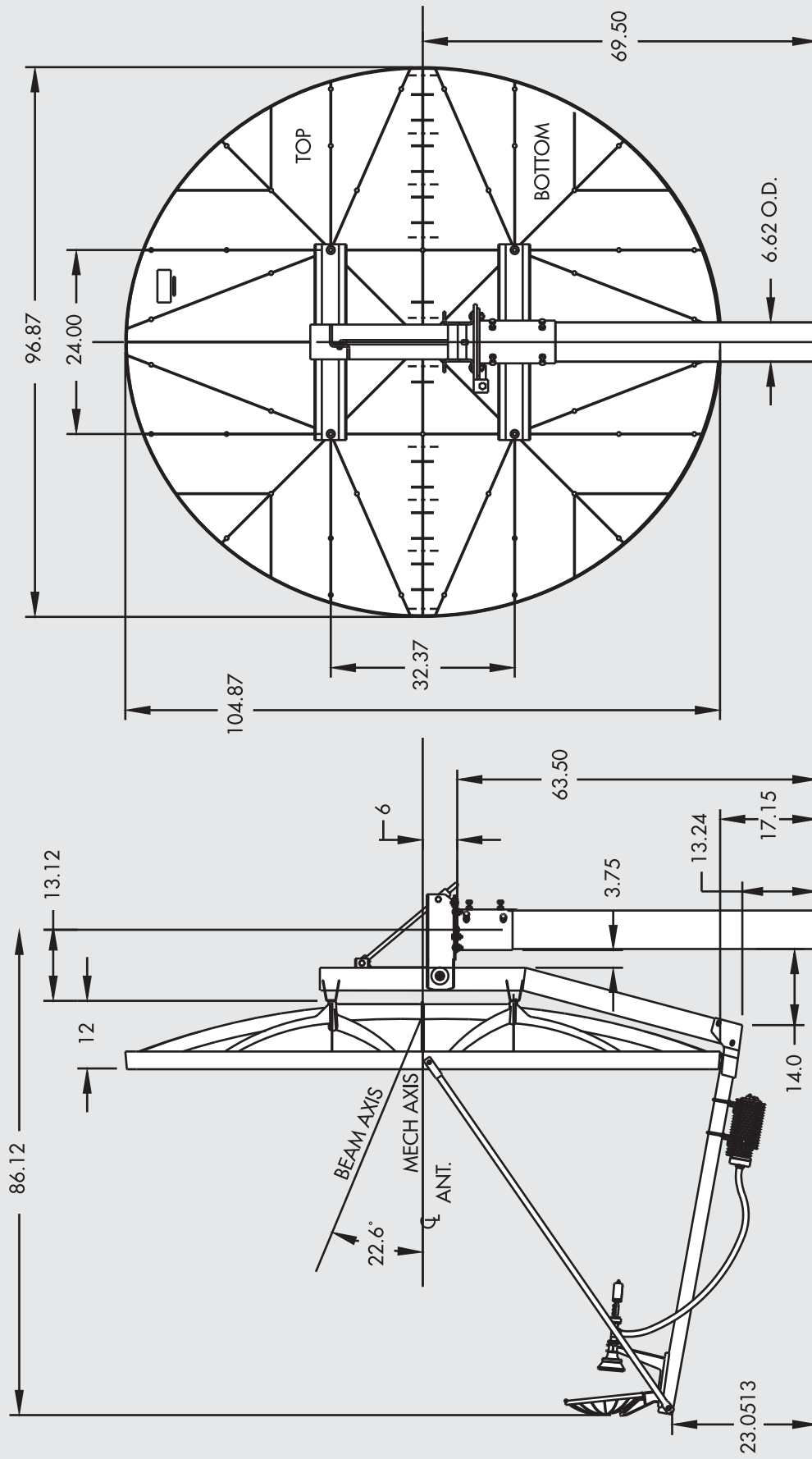
PARTS LIST



| NO. | DESCRIPTION | QTY. | NO. | DESCRIPTION | QTY. |
|-----|--|------|-----|--|------|
| 1 | Galvanized Backframe Tube Weldment | 1 | 25 | M22 Elevation Adjustment Screw | 1 |
| 1a | Backframe Lower Tube Weldment | 1 | 26 | Galvanized Trunnion | 1 |
| 2 | Galvanized M16 x 140 mm Round Head Square Neck Bolt | 4 | 27 | Side Strut | 2 |
| 3 | Galvanized M12 Lock Washer | 20 | 28 | M6 x 20 mm Stainless Steel Hex Bolt | 2 |
| 4 | Galvanized M12 Hex Nut | 19 | 40 | Azimuth Adjustment Screw | 1 |
| 5 | 2.4 Meter SMC Antenna Top Half (Transmit Quality) | 1 | 41 | Galvanized M16 Lock Washer | 4 |
| - | 2.4 Meter SMC Antenna Bottom Half (Transmit Quality) | 1 | 42 | Galvanized M16 Hex Nut | 7 |
| 6 | M6 Stainless Steel Hex Nut | 6 | 43 | Galvanized M16 x 35 mm Round Head Square Neck Bolt | 1 |
| 7 | M6 Stainless Steel Flat Washer | 2 | 44 | Galvanized M12 x 40 mm Hex Bolt | 12 |
| 8 | M6 Stainless Steel Lock Washer | 4 | 45 | M12 Flat Washer | 28 |
| 10 | Dual Optics Feed Support Tube | 1 | 46 | M6 x 60 mm Full Thread Hex Bolt | 1 |
| 11 | M12 External Tooth Lock Washer | 4 | 47 | Sub Reflector Base | 1 |
| 12 | Galvanized M12 x 130 mm Hex Bolt | 2 | 48 | 1/4-20 x 3.5 in Stainless Steel Hex Head Bolt | 2 |
| 13 | Galvanized Right Hand Channel Cap Mount | 1 | 49 | Sub Reflector | 1 |
| 14 | Galvanized M22 Hex Nut | 3 | 50 | | |
| 15 | M22 Lock Washer | 1 | 51 | 1/4-20 x 1/2 in Hex Head Bolt | 4 |
| 16 | Galvanized M12 x 35 mm Round Head Square Neck Bolt | 4 | 52 | Horn/OMT/Filter Assembly | 1 |
| 17 | Galvanized M12 x 30 mm Hex Bolt | 9 | 53 | Top Clamp | 1 |
| 18 | Galvanized Yoke Cap Assembly | 1 | 54 | 1/4-20 x 1 in Stainless Steel Hex Head Bolt | 2 |
| 19 | Galvanized Top Plate Yoke Assembly | 1 | 55 | 1/4" Lock Washer | 9 |
| 24 | M22 x 150 mm Hex Bolt | 1 | 56 | 1/4 " Hex Nut | 4 |
| | | | 57 | 1/4 x 2 in Stainless Steel Hex Head Bolt | 1 |
| | | | 58 | Galvanized M12 x 19 mm Special Hex Bolt | 4 |

APPENDIX A OUTLINE DRAWING

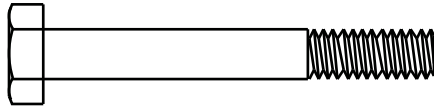
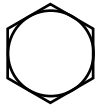
Type 244 Dual Optics 2.4 Meter Antenna System
(All Dimensions in Inches)



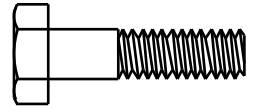
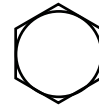
Notes: Antenna and mount are certified to withstand 125 mph winds.
Chart is based on A36 (36,000 psi yield) steel and 1.5 stability 1991 Uniform Building Code Table 23G Exposure B, C or D at 0-15 ft height above ground.

| 6 in Ground Pipe | Exposure | 125 mph | 120 mph | 115 mph | 110 mph | 100 mph |
|--------------------------------------|----------|---------|---------|---------|---------|---------|
| 6.62 O.D. x 6.06 I.D. Schedule 40 | B | 96 in | - | - | - | - |
| | C | 62 in | 67 in | 73 in | 80 in | - |
| | D | - | - | - | 61 in | 73 in |
| 6.62 O.D. x 5.76 I.D. Schedule 80 | C | 89 in | 96 in | - | - | - |
| | D | 67 in | 80 in | - | - | - |

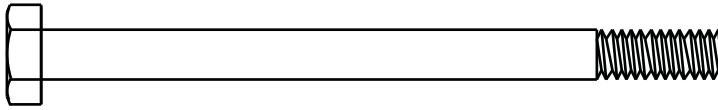
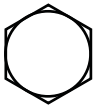
HARDWARE SORTER



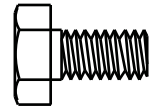
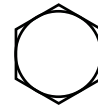
1/4 - 20 UNC x 2 in
Stainless Steel Hex Head Cap Screw
Item 50



1/4 - 20 UNC x 1 in
Stainless Steel Hex Head Cap Screw
Item 54



M6 - 1 x 90 mm
Stainless Steel Hex Head Cap Screw
Item 29



1/4 - 20 UNC x 1/2 in
Stainless Steel Hex Head Cap Screw
Item 51