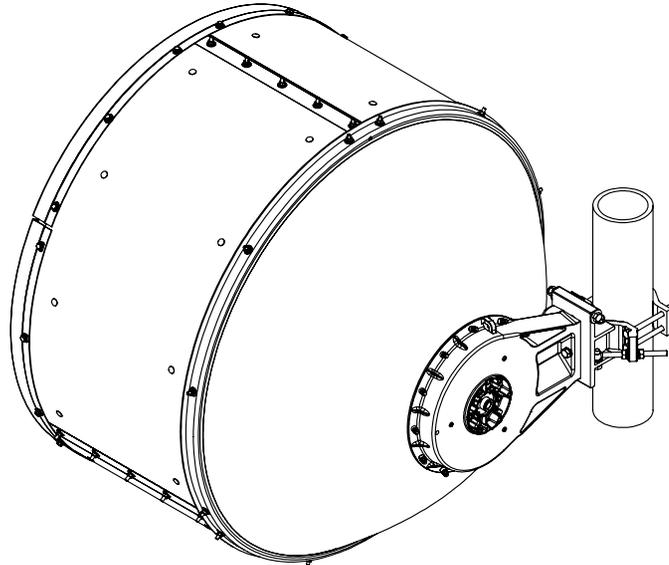


**IMPORTANT!**  
**INSTALLATION**  
**INSTRUCTIONS**  
**READ THIS**  
**MANUAL FULLY**  
**BEFORE UNPACKING**  
**AND ASSEMBLING**  
**THE ANTENNA**



## This document is for the following: SHP(X)3-\*\*\* 0.9m (3ft) ANTENNA



### SAFETY

**ANTENNA INSTALLATION, MAINTENANCE OR REMOVAL MUST BE PERFORMED BY QUALIFIED EXPERIENCED INSTALLER.**

It is essential that all appropriate national and local safety regulations be strictly observed to ensure the safety of personnel and to prevent damage to the equipment. CommScope cannot accept responsibility for accidents resulting from non-compliance with such regulations.

The Antenna is designed to attach to a vertical tower pipe of diameter 90 to 120mm  
The mount provides adjustment ranges of  $\pm 15^\circ$  fine elevation and  $\pm 180^\circ$   
( $\pm 15^\circ$  Fine) azimuth.

**Always read the entire manual before commencing installation.**

### WARNING

**Do not use any installation components (screws, nuts, etc) other than with the equipment or recommended by the supplier**

**CommScope**

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www.commscope.com

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**LIST OF CONTENTS**

<b><u>SECTION</u></b>	<b><u>TITLES</u></b>
<b>1</b>	<b>INTRODUCTION</b>
<b>2</b>	<b>SAFETY INSTRUCTIONS</b> Including Introduction, Standards, Safety Requirements, Safety Symbols, Definitions and Hazards.
<b>3</b>	<b>EQUIPMENT &amp; TOOLS</b> Including Equipment supplied diagram, Equipment quantities and descriptions. Tools required.
<b>4</b>	<b>UNPACKING</b> Including Unpacking of antenna parts.
<b>5</b>	<b>ASSEMBLY OF REFLECTOR TO SHIELD</b> Including how to assemble the reflector to the shield in the correct orientation.
<b>6</b>	<b>FEED ATTACHMENT</b> Including attaching the feed.
<b>7</b>	<b>RADOME ATTACHMENT AND ALIGNMENT</b> Including how to assemble the radome to the shield in the correct orientation.
<b>8</b>	<b>MOUNT ATTACHMENT AND ALIGNMENT</b> Including Basic alignment, Attaching the antenna to the pole, Fitting the mount, Elevation alignment, Azimuth alignment and tightening fasteners instruction.
<b>9</b>	<b>GENERAL INFORMATION</b> Including maintenance and cleaning instructions.

**INTRODUCTION**

This instruction describes how to assemble, install and align a SHP(X)3 antenna.

The antenna can be mounted with the mount offset to the left or to the right. Offset left is described in this bulletin, however the images showing offset right installation are shown at the end of this document.

**SAFETY INSTRUCTIONS****INTRODUCTION**

This section describes the system used for presenting safety information.



Reduce the risk of accidents by studying all the instructions carefully before you start working.

The safety information in the relevant manuals presupposes that any person performing work on CommScope products or systems has the education, training and competence required to perform the task correctly.

**SAFETY REQUIREMENTS**

The safety requirements in the following sections must be followed to avoid personal injury and damage to tangible property.

It is the responsibility of the installer to ensure that local regulations and the safety instructions in this manual are known and followed.

**SERVICE PERSONNEL**

Installation and service must be carried out by authorized personnel having the appropriate technical training and experience necessary to be cognizant of hazards during installation and service, and of measures to minimize any danger to themselves or any other person.

**SAFETY REGULATIONS**

Use local safety regulations where these are mandatory. The safety instructions in this manual shall be used as a supplement to the local regulations.

In case of conflict between the safety instructions in this manual and the local safety regulations, the local safety regulations shall prevail if these are mandatory. If the local regulations are not mandatory the safety instructions in this manual shall prevail.

**INSTALLATION HARDWARE**

Do not use any installation components (for example screws and nuts) other than those enclosed with the equipment or recommended by CommScope.



Use protective wear to avoid skin contact with conductive grease. Keep away from mouth. Wash thoroughly after use with liberal amounts of liquid soap and rinse with water. Do not store open near food or food substances.

Contents: Oil, clay & zinc dust.

**INSTALLATION PROCEDURES & TOOLS**

The installation procedures in this manual must be followed. Make sure that:

- Working instructions are followed.
- Recommended tools are used.
- Adequate safety devices are used.
- The risk of falling and falling objects is known.
- All hardware is tightened to the torques specified  $\pm 5\%$ . The integrity of the antenna depends on all fasteners being tightened correctly.

**ANNUAL INSPECTION**

Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

**SAFETY SYMBOLS & DEFINITIONS**

**HOISTING**



**WARNING!**

Falling objects can cause accidents.

- 
- 
- Use only tested and approved hoisting equipment in accordance with the instructions supplied with the equipment. Appropriately trained personnel must operate the hoisting device.
  - Always hoist the equipment in the specified hoisting points.
  - Never walk under hoisted loads.
  - Follow local regulations for safety clothing and safety equipment for hoisting or moving goods.

**WORKING AT HEIGHTS**



**WARNING!**

Some working areas involve the risk of accidents caused by falling or by falling objects

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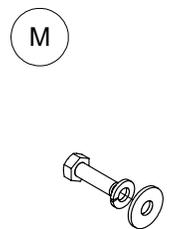
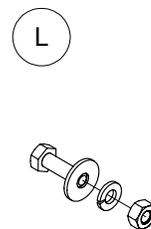
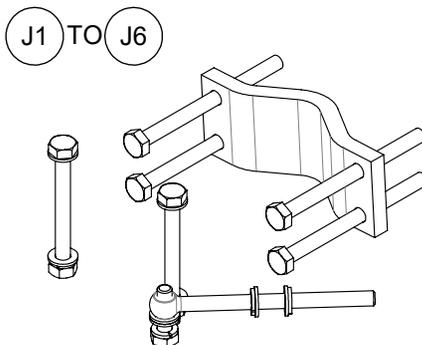
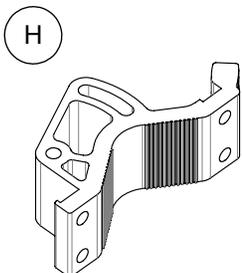
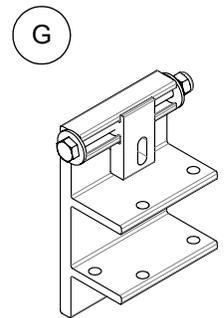
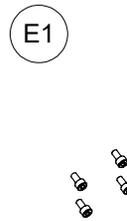
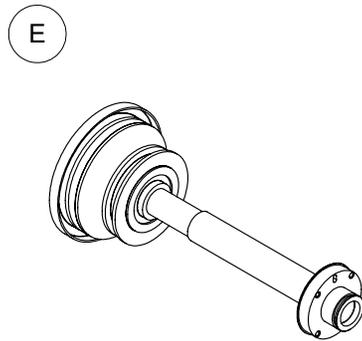
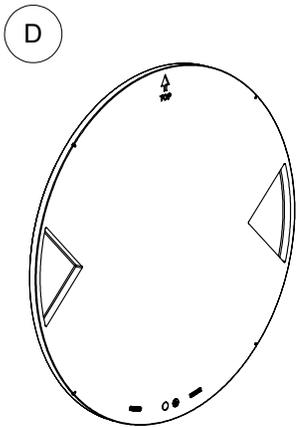
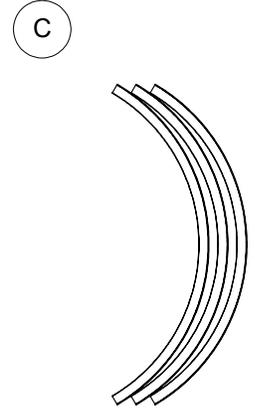
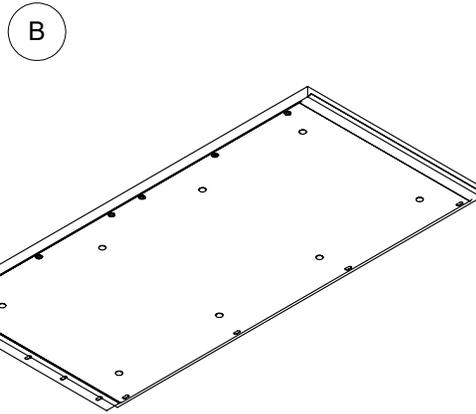
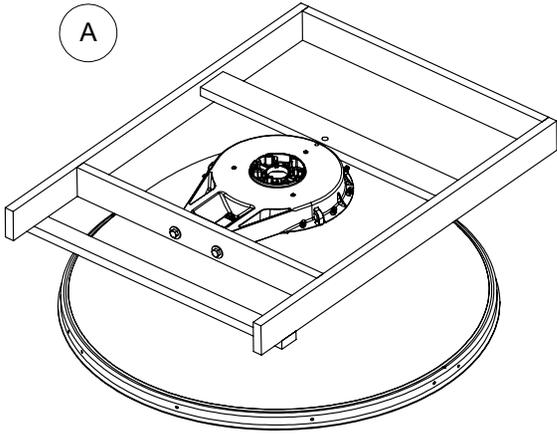
*Table 1 Supplied Equipment and Tools*

<b>Item</b>	<b>Qty</b>	<b>Description</b>	<b>Contained in Kit Part No</b>
<b>A</b>	1	<b>Reflector Assembly</b>	SREF-3-20-WH
<b>B</b>	3	<b>Shield Set</b>	7825439-WH-25
<b>C</b>	1	<b>Radome rim - Kit (Contain 3 rims)</b>	7838004
<b>D</b>	1	<b>Broadband Radome</b>	VRAD-3-14
<b>E</b>	1	<b>Feed</b>	
<b>E1</b>	1	<b>Feed Installation Kit</b>	
	4	M4X8 Screw	
	1	Conductive Grease (Tube) (not shown on page 9)	
	2	Gloves (not shown on page 9)	
<b>G</b>	1	<b>Mount: Elevation Adjustment Assembly</b>	7679156
<b>H</b>	1	<b>Mount: Azimuth Adjustment Clamp</b>	7671897
<b>J</b>		<b>Mount Hardware Kit</b>	7700025
	1	Conductive Grease (Tube)	
	2	Gloves	
<b>J1</b>			7700025
	2	M10 x 100lg Hex Hd Screw, sst, pass	
	4	M10 Flat Washer, stl, sst, pass	
	2	M10 Lock Washer, sst, pass	
	2	M10 Hex Nut, stl, sst, pass	
<b>J2</b>			7700025
	1	M10 x 35lg Hex Hd Screw, stl, galv	
	1	M10 Lock Washer, stl, galv	
	2	M10 Flat Washer, stl, galv	
<b>J3</b>			7700025
	1	M10 x 140lg Eyebolt, stl, galv	
	2	M10 Lock Washer, stl, galv	
	2	M10 Flat washer, stl, galv	
	2	M10 Hex Nut, stl, galv	
<b>J4</b>			7700025
	1	Pipe Clamp, stl, galv	
	4	M10 x 130lg Hex Hd Screw, stl, galv	
	4	M10 Lock Washer, stl, galv	
	4	M10 Hex Nut, stl, galv	
<b>J5</b>			7700025
	2	M10 x 35lg Hex Hd Screw, sst, pass	
	2	M10 Lock Washer, sst, pass	
	2	M10 FlatWasher, sst, pass	
<b>J6</b>			7700025
	1	M10 x 50lg Hex Hd Bolt, sst, pass	
	1	M10 Lock Washer, sst, pass	
	1	M10 FlatWasher, sst, pass	
<b>L</b>		<b>Shield set assembly hardware</b>	7844846
	27	Flat washer, M6, sst, pass	
	27	Wshr, lk, splt, M6, sst, pass	
	27	Hex hd cap screw, M6-1 X 20mm, sst, pass	
	27	Nut, hex, M6, sst, pass	

*Table 2 Supplied Equipment and Tools*

<b>Item</b>	<b>Qty</b>	<b>Description</b>	<b>Contained in Kit Part No</b>
<b>M</b>		<b>Radome Rim Assembly Hardware</b>	7844846
	18	Flat washer, M6, sst, pass	
	18	Wshr, lk, splt, M6, sst, pass	
	18	Hex hd cap screw, M6-1 X 20mm, sst, pass	
<b>N</b>	<b>1</b>	<b>Transition kit / Customer Interface Kit (Not shown)</b>	

# Equipment

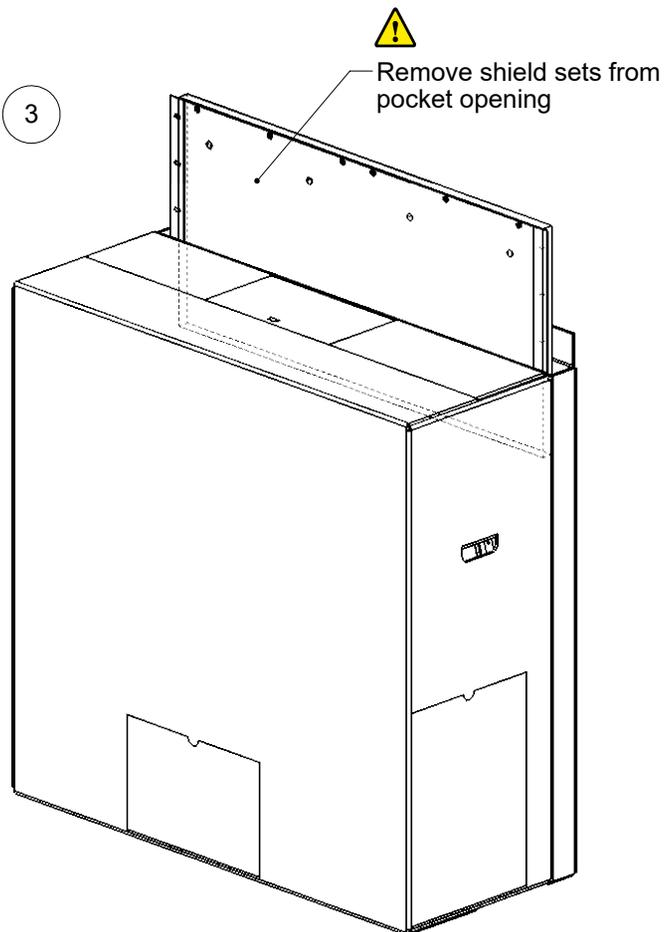
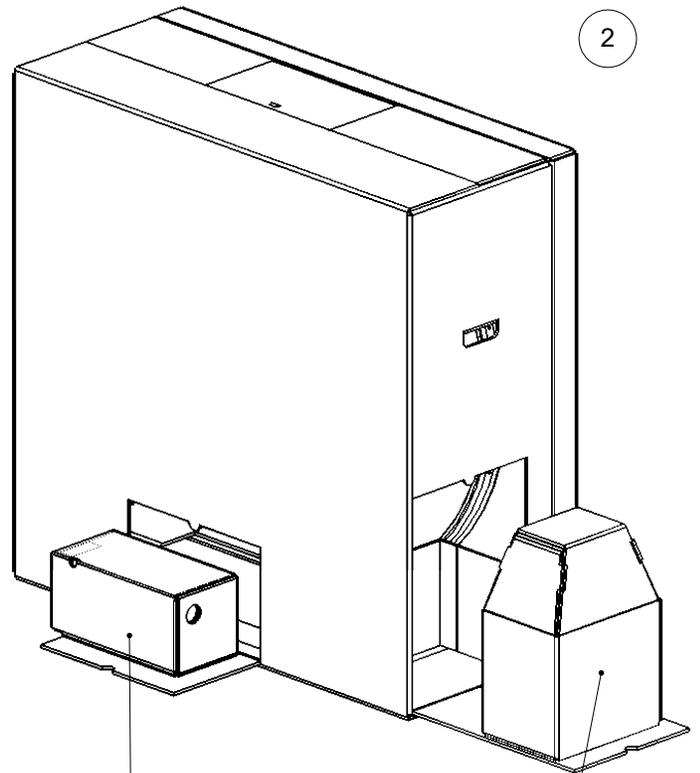
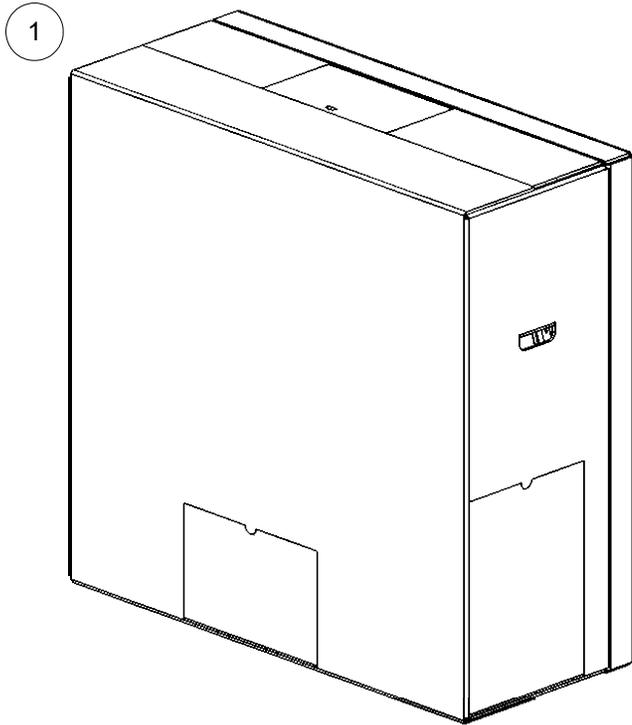


## Tools

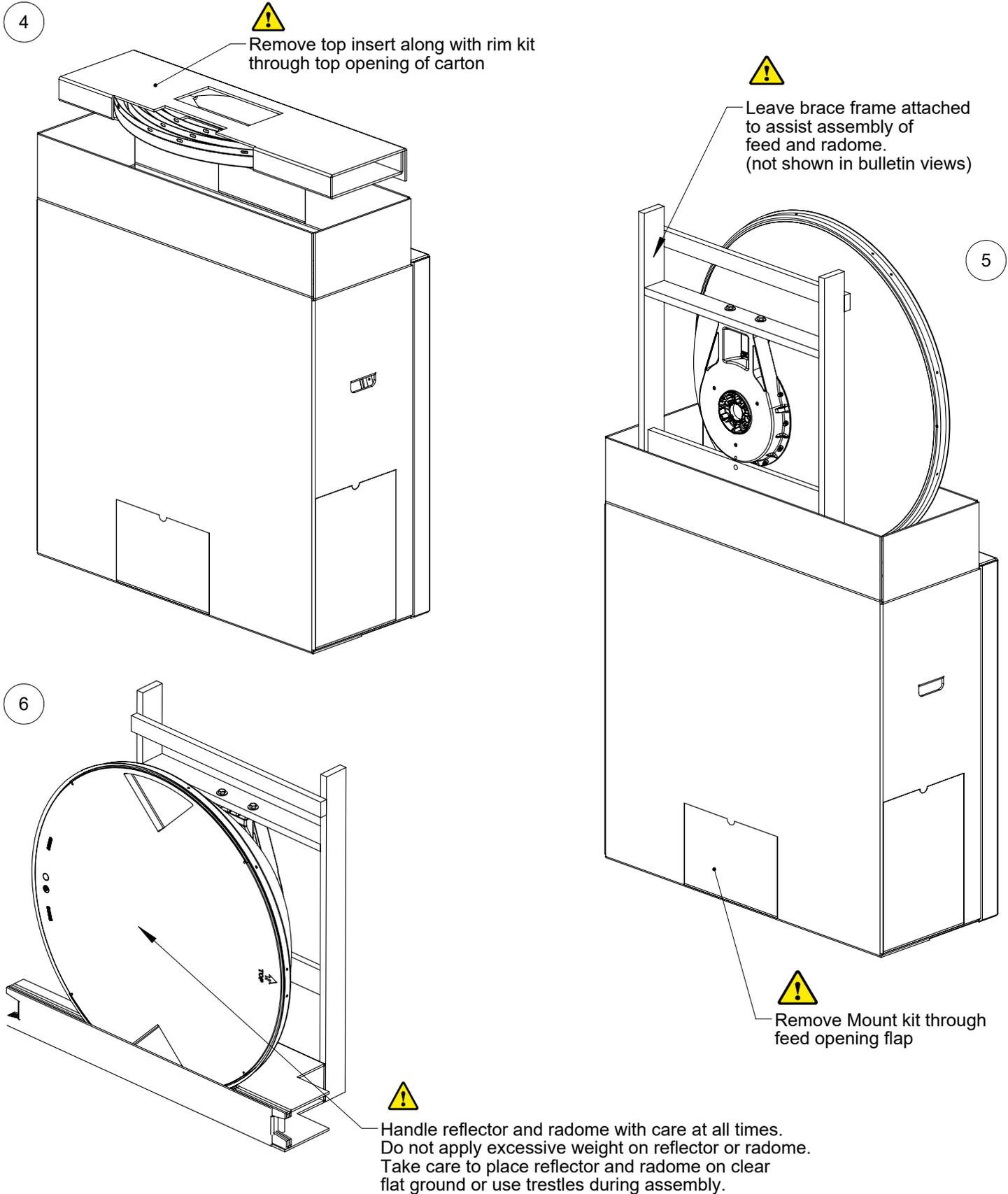
### TOOL REQUIREMENTS

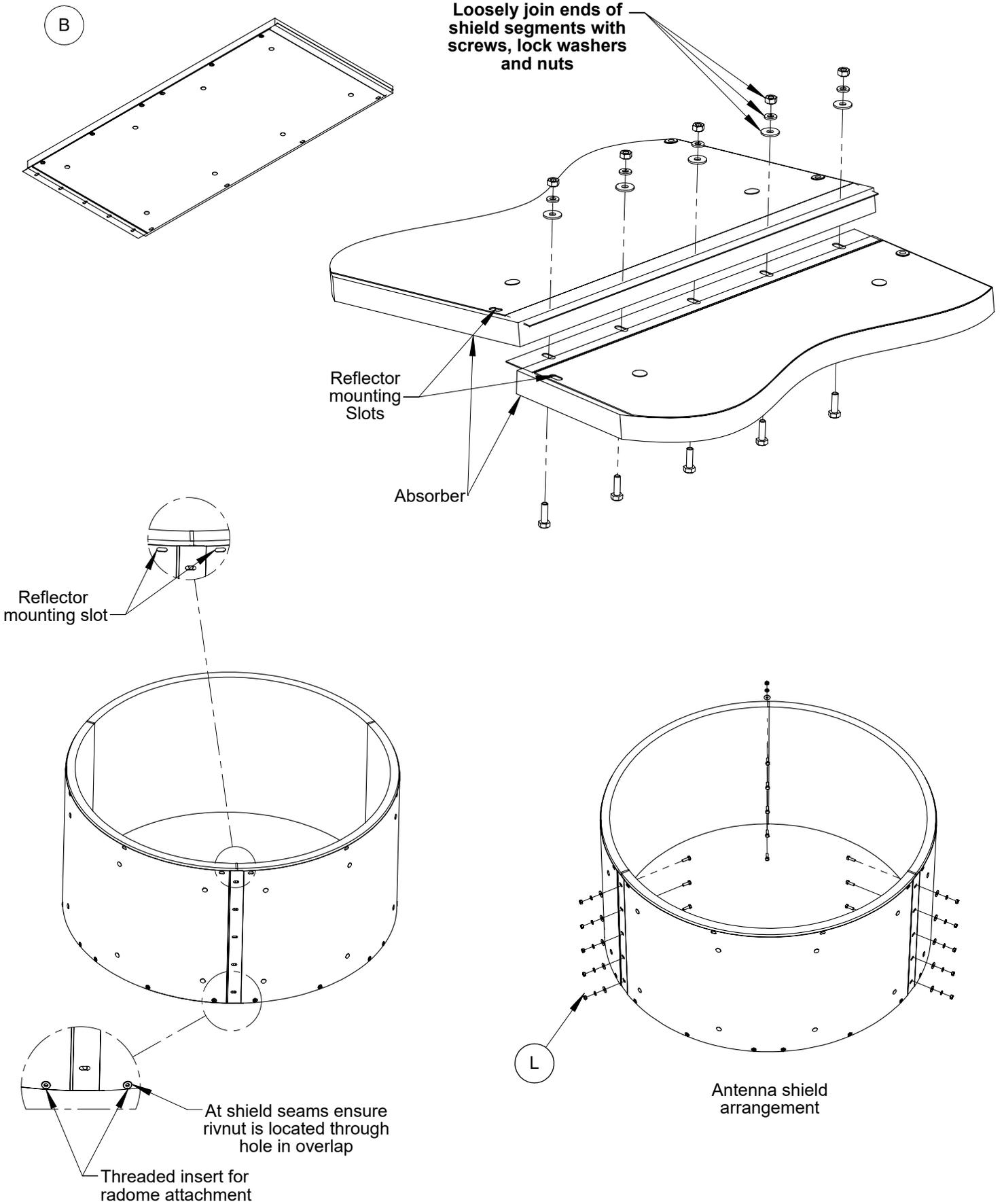
Tools Required	Thread Diameter in mm			
	M4	M6	M8	M10
Ring and Open Spanner (A/F)		10mm		17mm
Torque Wrench				
Sockets (A/F)		10mm		17mm
Allen Key (A/F)	3mm		6mm	8mm

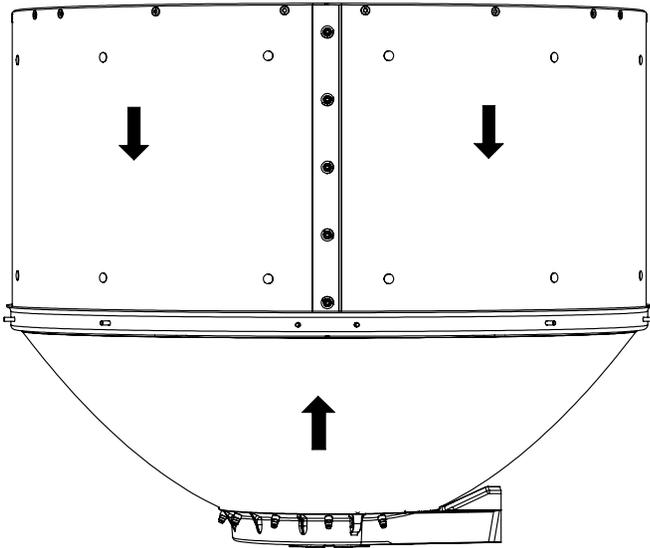
# Unpacking



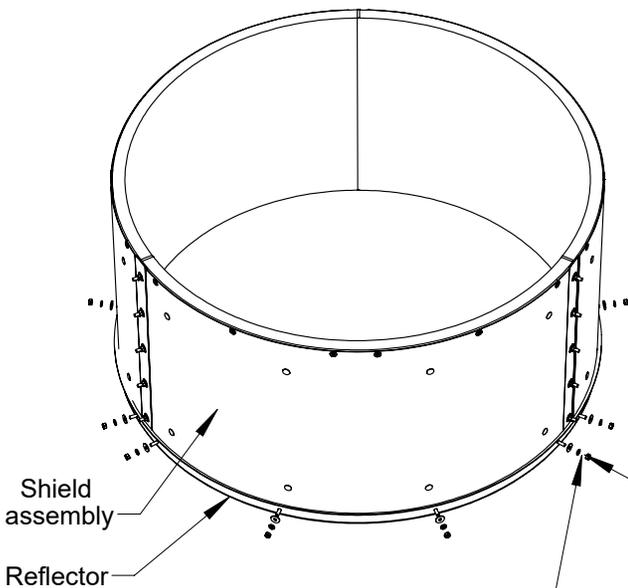
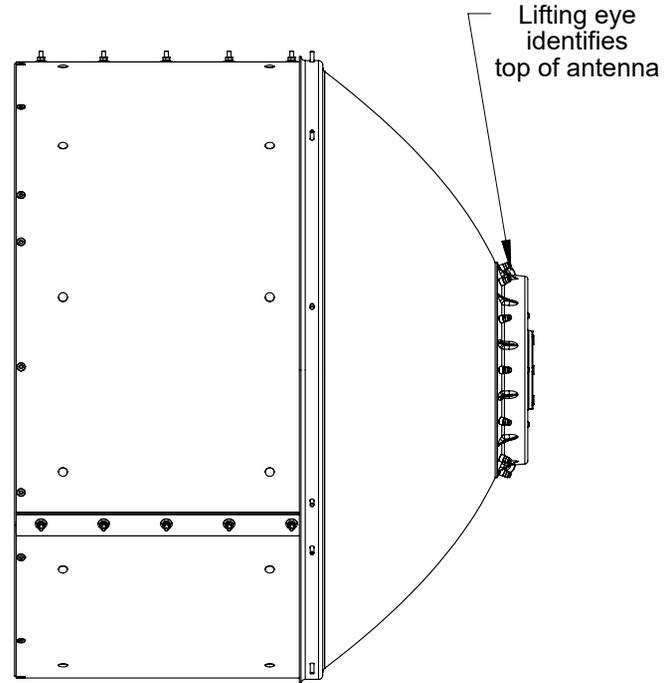
## Unpacking





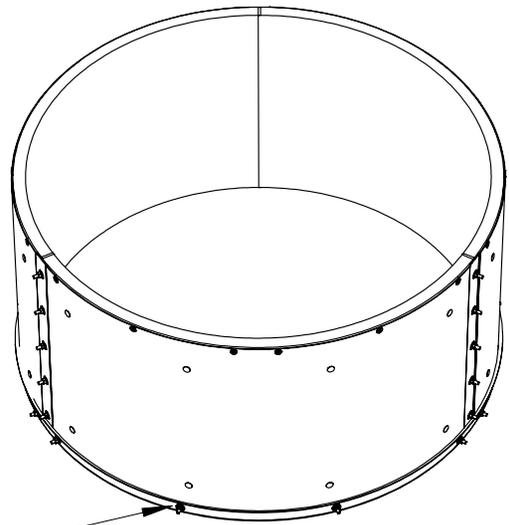


Insert shield set into reflector so that mounting slots align with rim holes in reflector



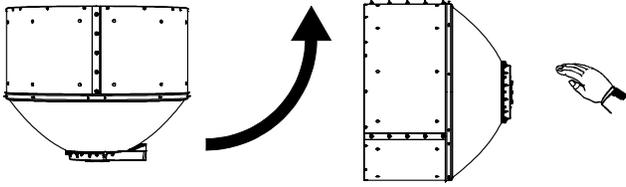
Fit loosely with washers and nut in 12 places as shown.

Adjust the shield slightly to align shield and reflector holes to receive a bolt.



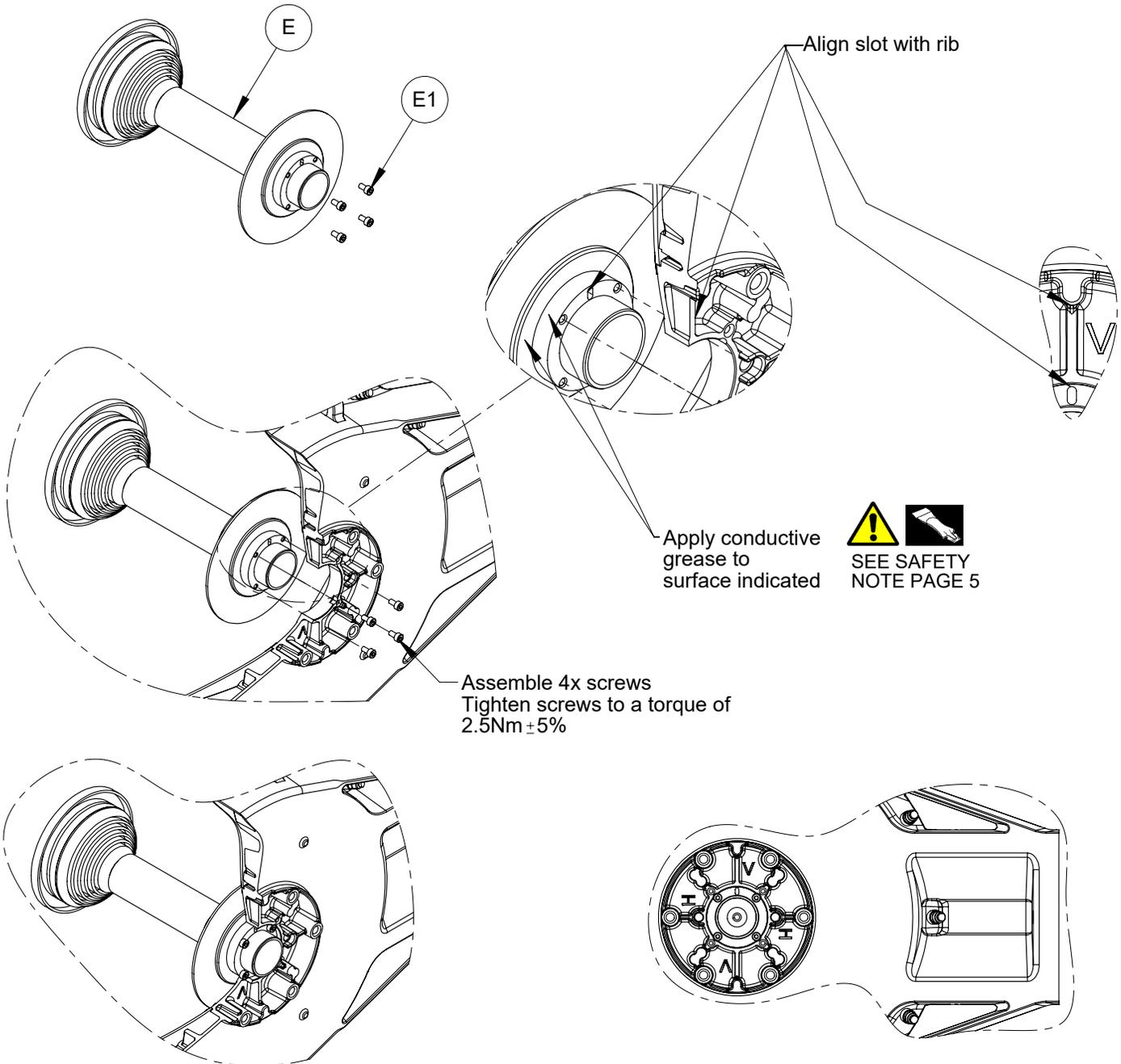
Tighten all 12 bolts to torque  $4.5\text{Nm} \pm 5\%$  start from the center of the shield and continue clockwise  
Tighten all shield segment fastenings

 REFER TO SAFETY NOTE ON PAGE 5



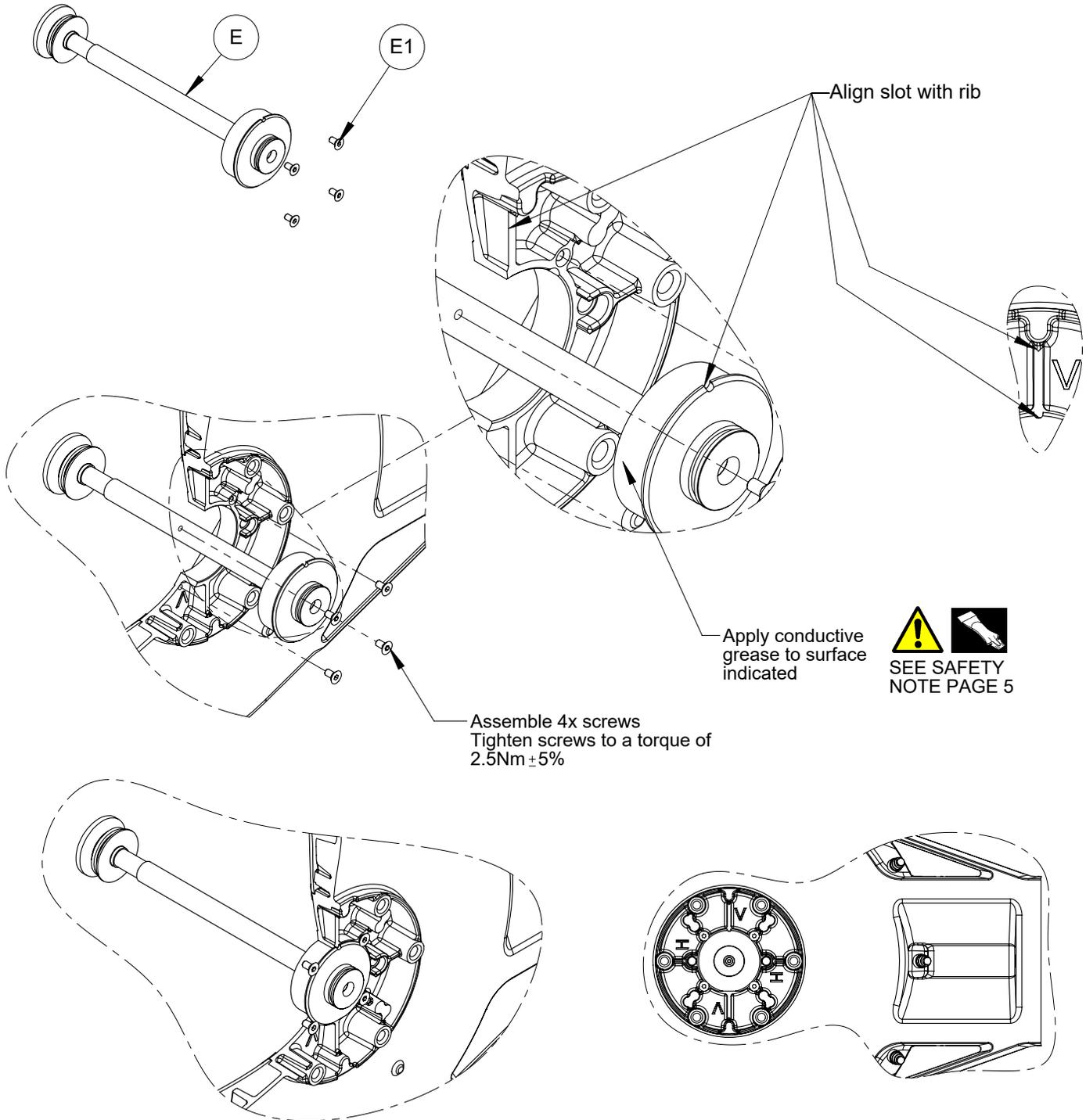
Prior to feed attachment, carefully tilt antenna upright and hold in position.

**6GHz, 11GHz, 13GHz and 15GHz Feed Assembly**



 After assembly, remove excess grease from internal reflector surface

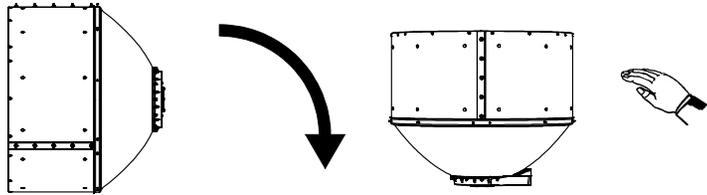
**18GHz, 23GHz and 26GHz Feed Assembly**



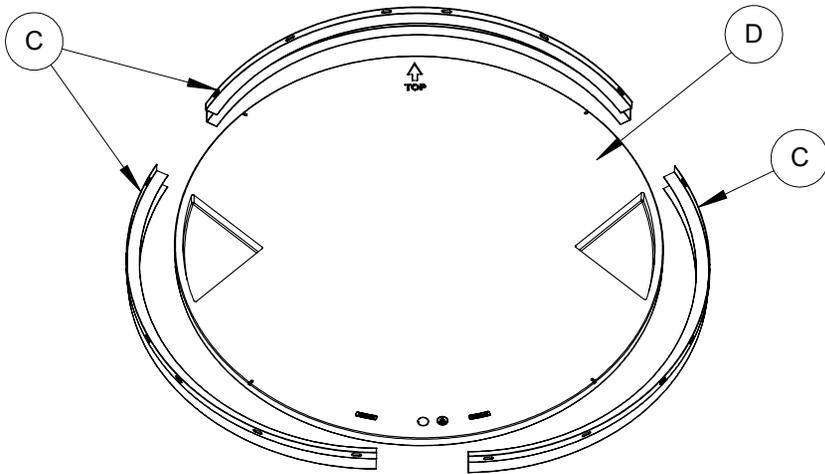
After assembly, remove excess grease from internal reflector surface



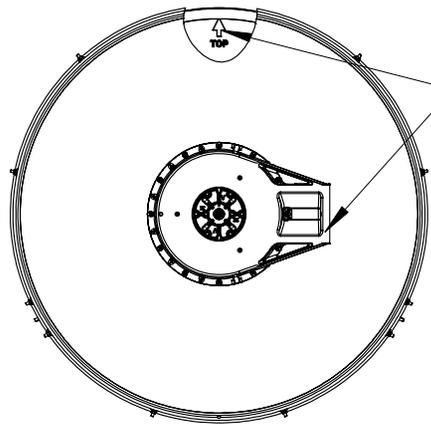
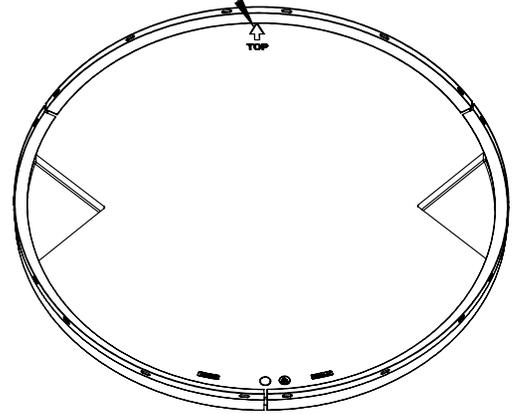
\*For transition, OMT & customer interface information see separate installation instructions\*



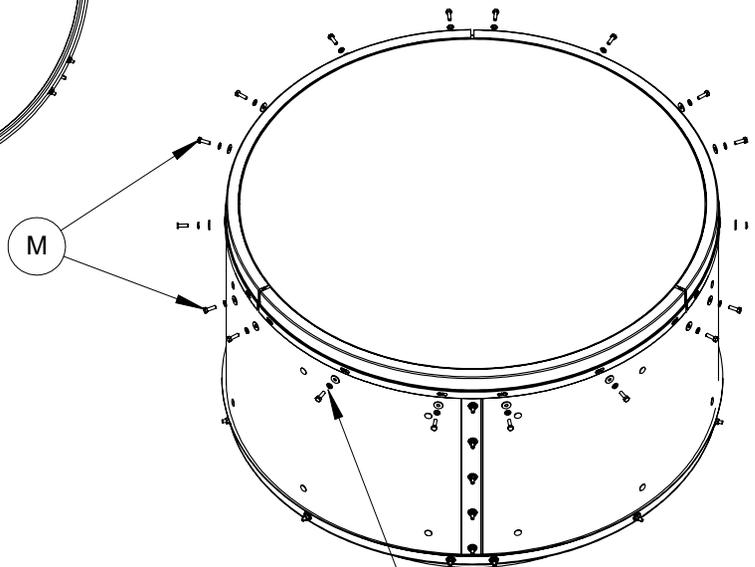
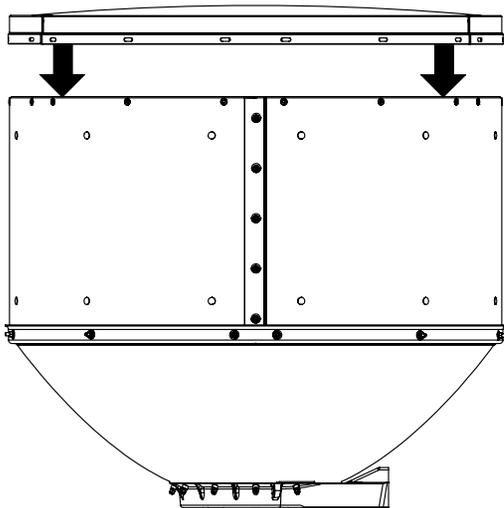
 After feed attachment, carefully tilt antenna flat.



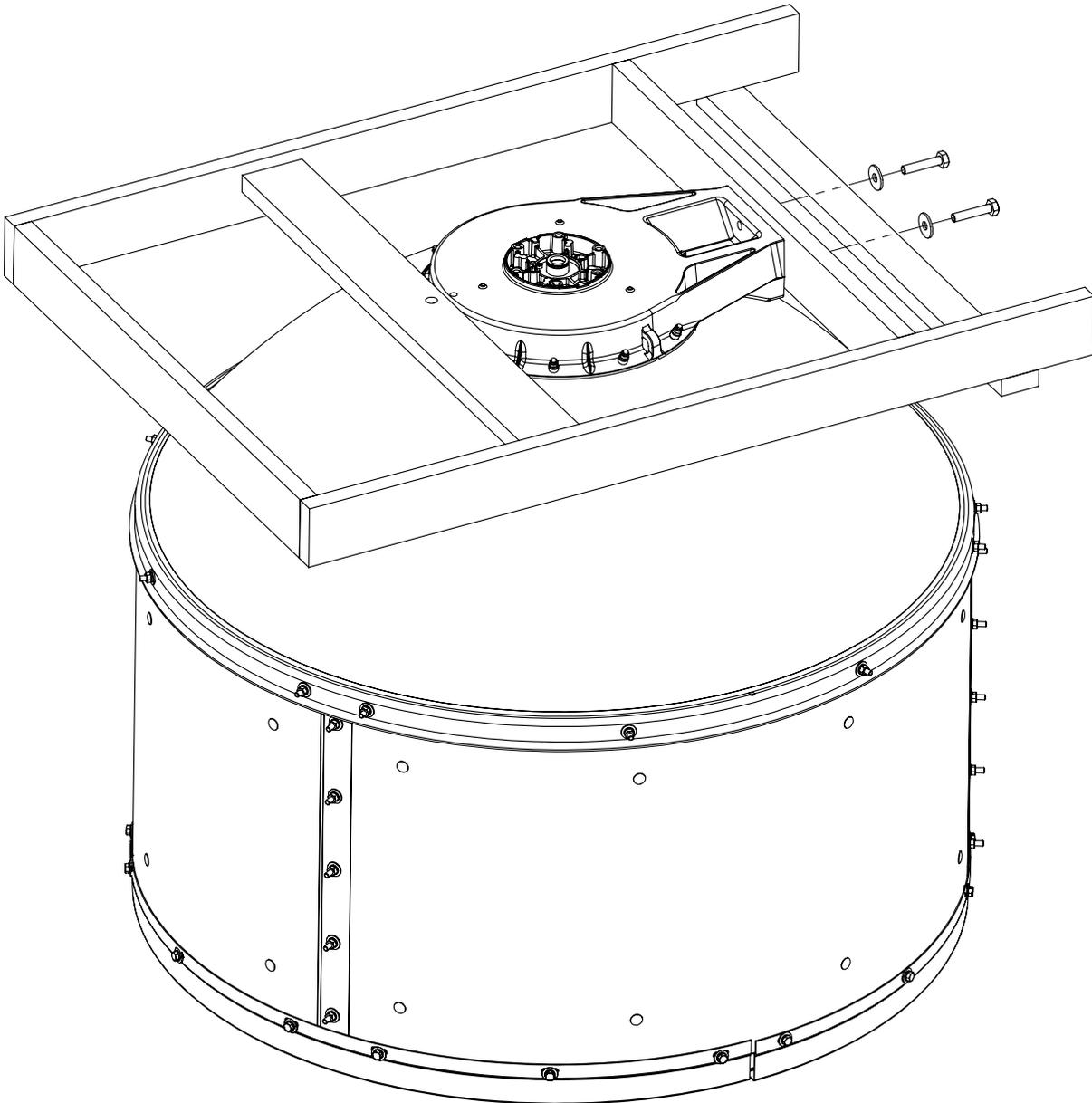
Note position of alignment arrow.



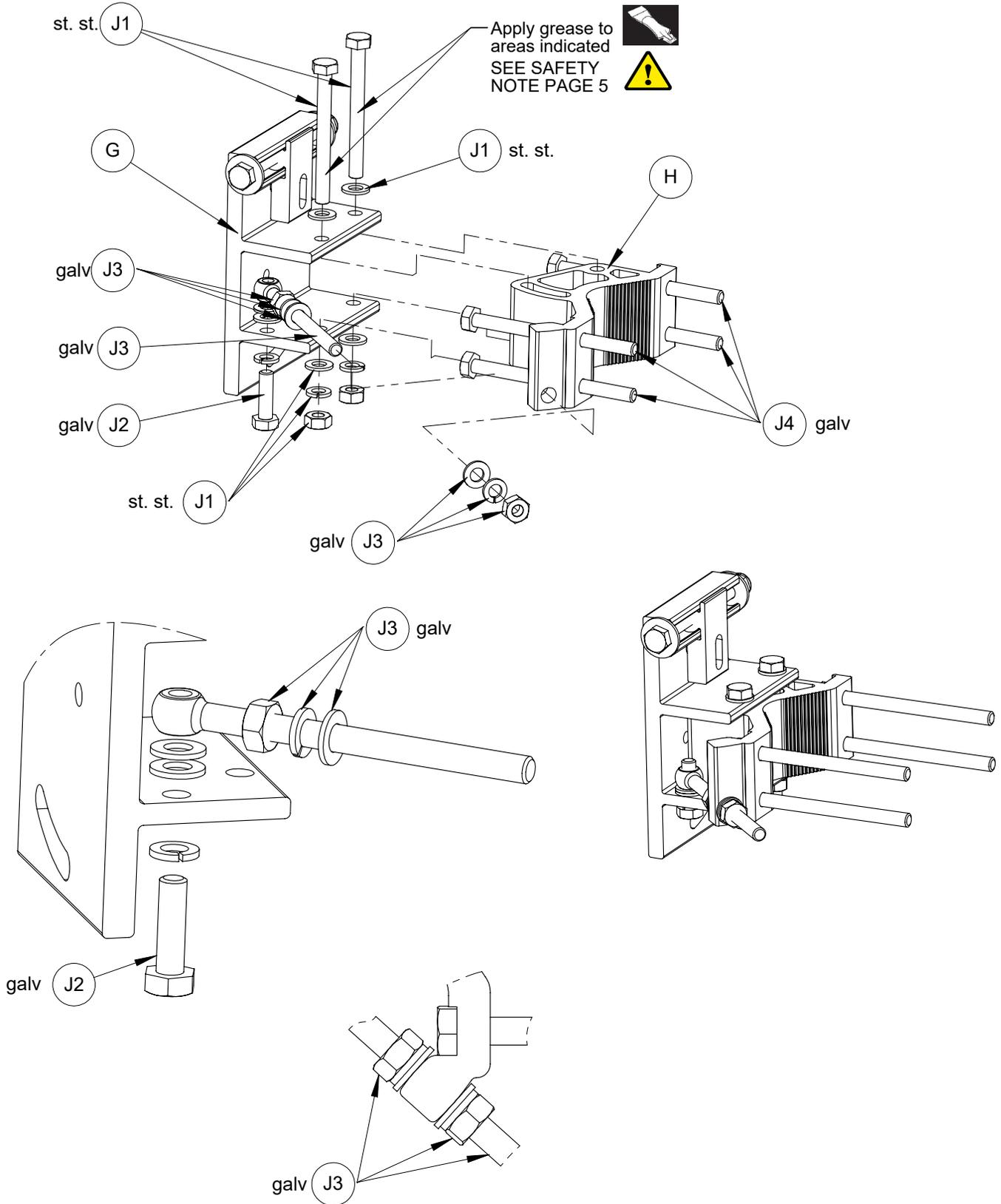
Note: position of radome alignment arrow to reflector

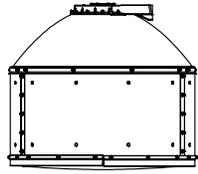
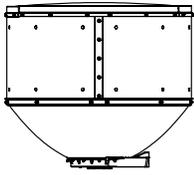


Assemble 18x Bolts, lock washers and Tighten screws to a torque of 5.5Nm  $\pm$  5%



Carefully lay antenna on clear, flat ground.  
Then remove brace and discard fixings.  
Do not apply excessive weight to antenna assembly.





Carefully lay antenna on clear, flat ground.  
Then remove brace and discard fixings.  
Do not apply excessive weight to  
antenna assembly.



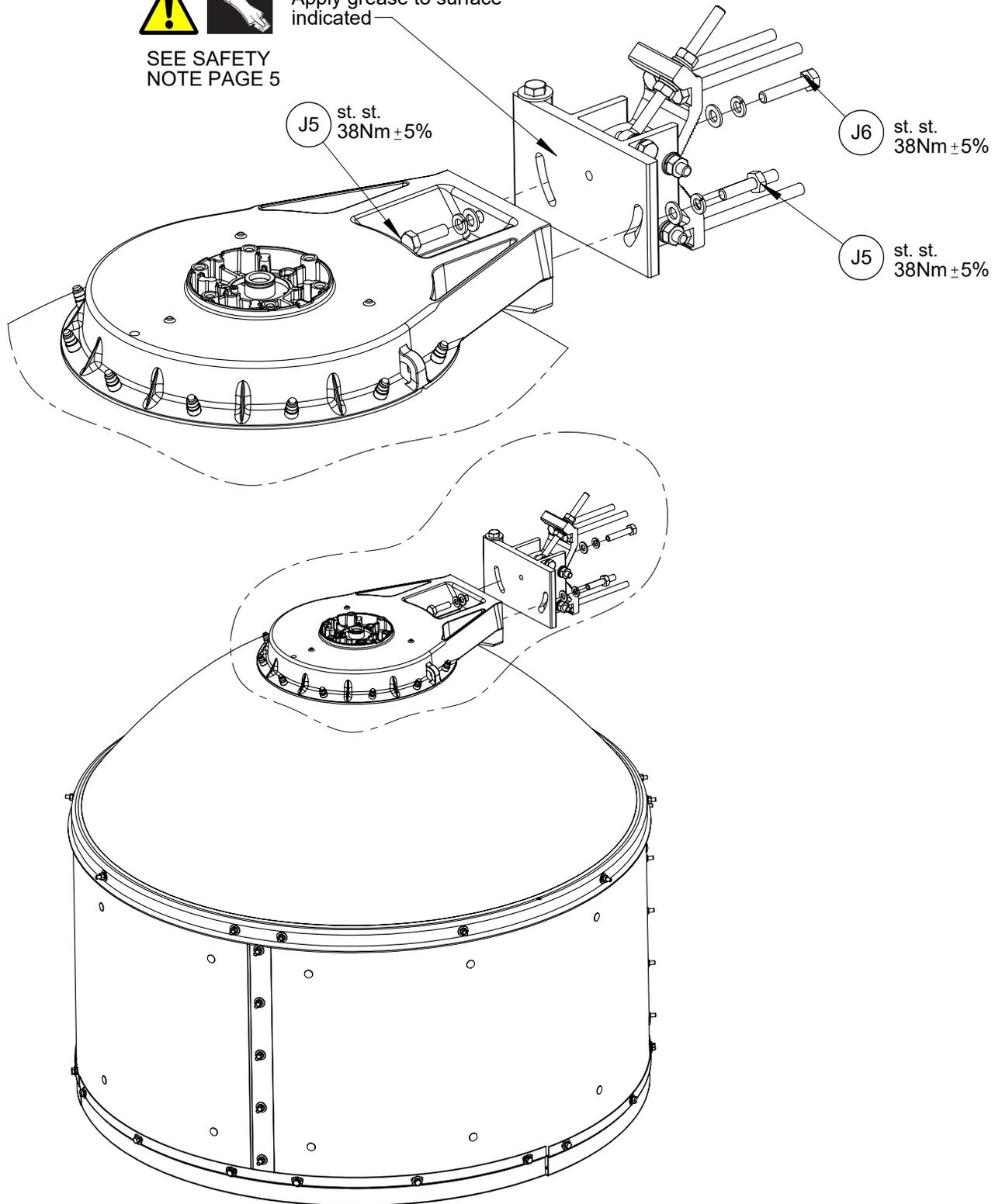
Apply grease to surface  
indicated

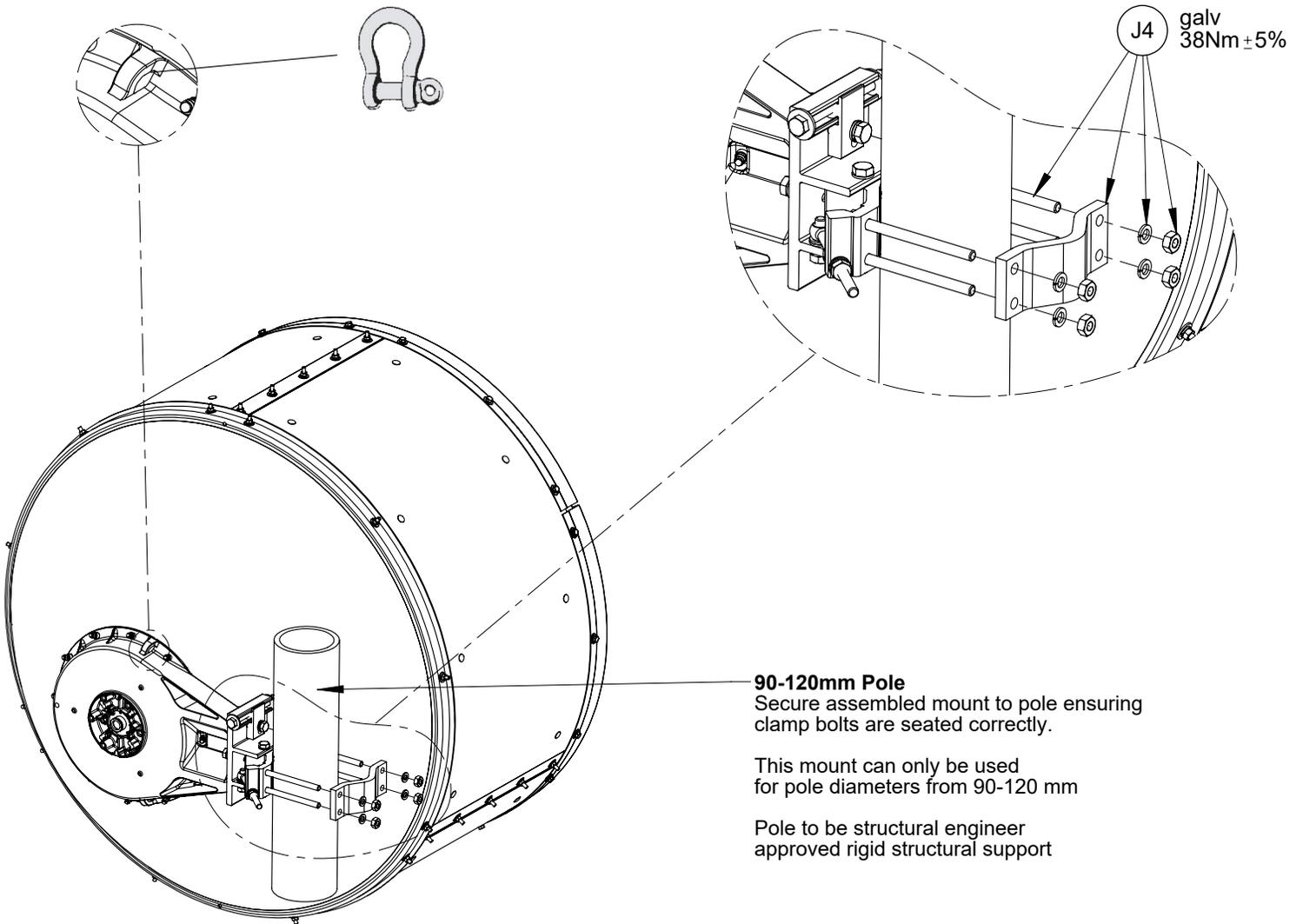
SEE SAFETY  
NOTE PAGE 5

J5 st. st.  
38Nm ±5%

J6 st. st.  
38Nm ±5%

J5 st. st.  
38Nm ±5%





**90-120mm Pole**  
Secure assembled mount to pole ensuring clamp bolts are seated correctly.

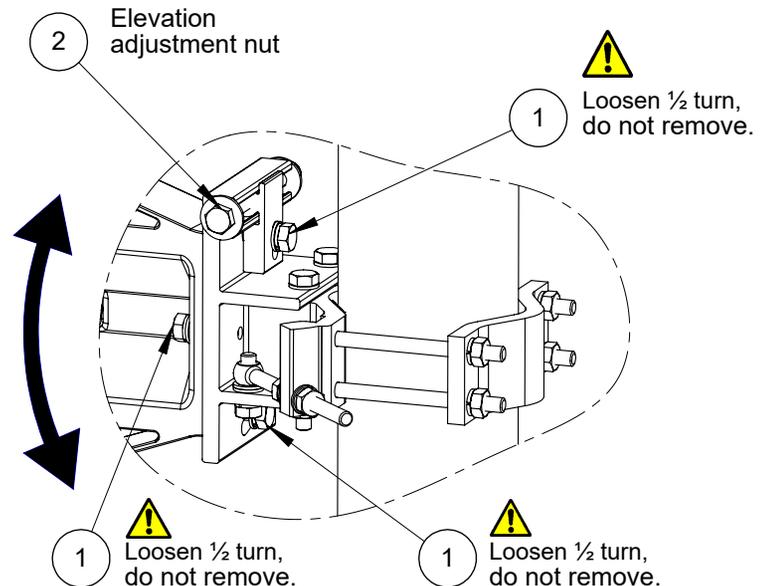
This mount can only be used for pole diameters from 90-120 mm

Pole to be structural engineer approved rigid structural support

 **NEVER WALK UNDER HOISTED LOADS**



**Elevation adjustment**  
Loosen 3 screws (1).  
Adjust elevation by bolt head (2).  
On completion tighten screws (1) to 38Nm ± 5%  
**Adjustment Range ±15°**

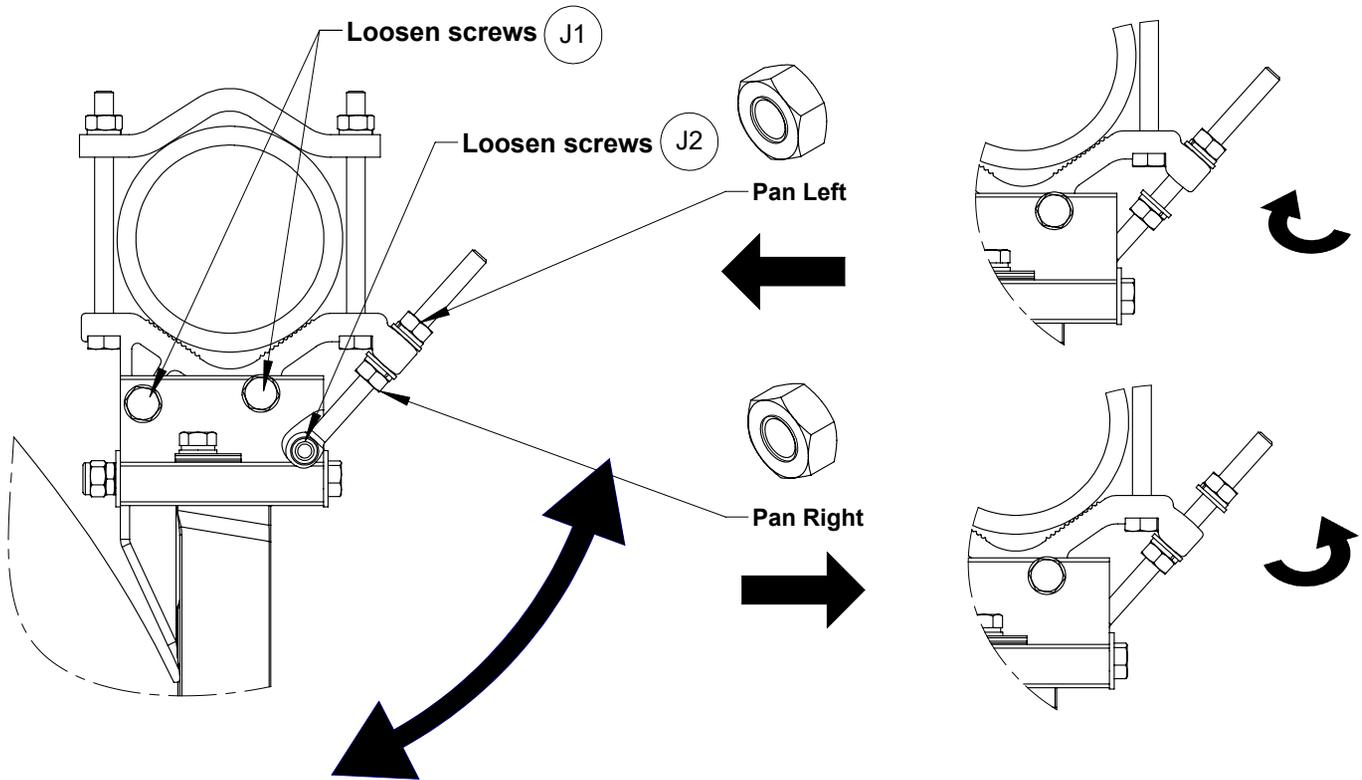


2 Elevation adjustment nut

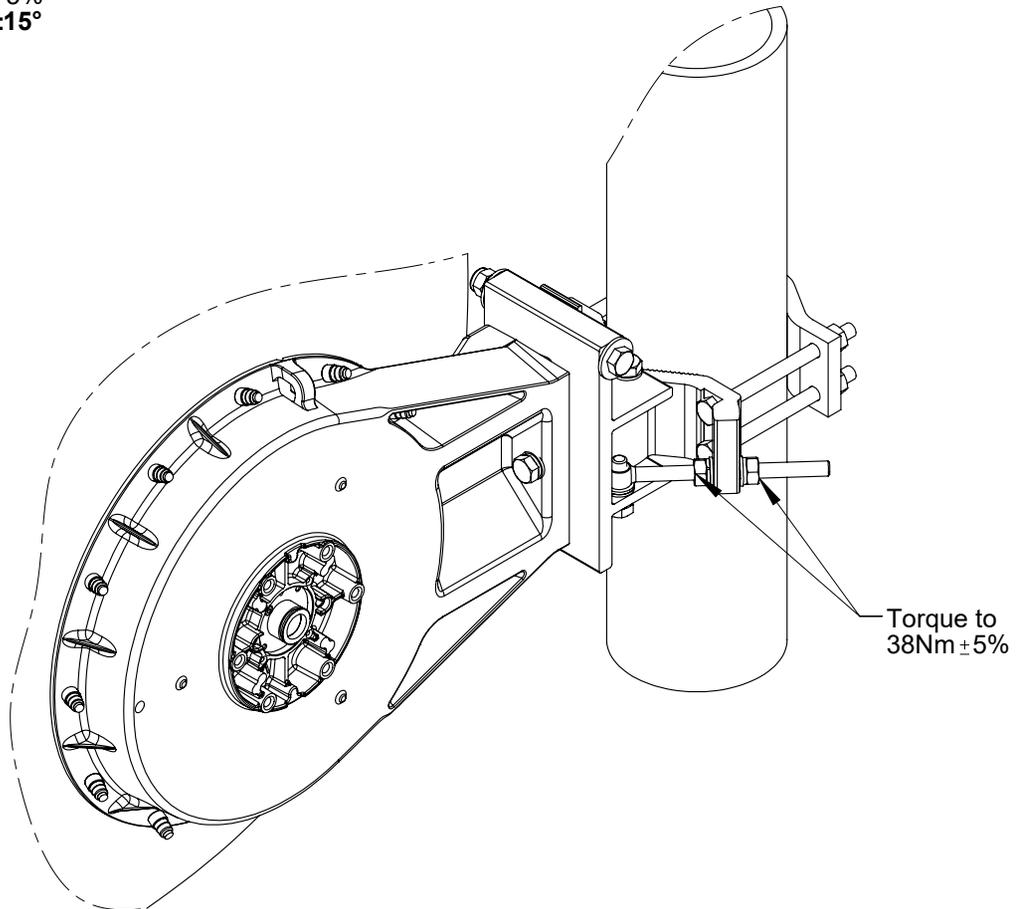
 Loosen ½ turn, do not remove.

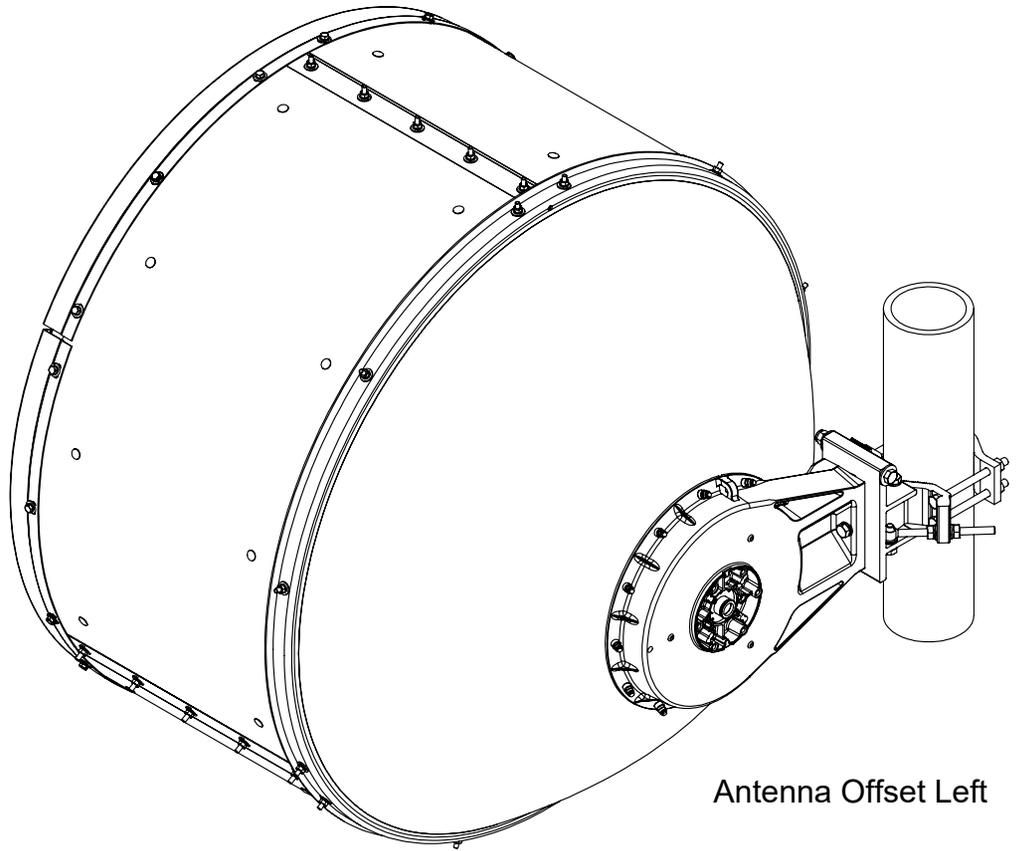
1  Loosen ½ turn, do not remove.

1  Loosen ½ turn, do not remove.

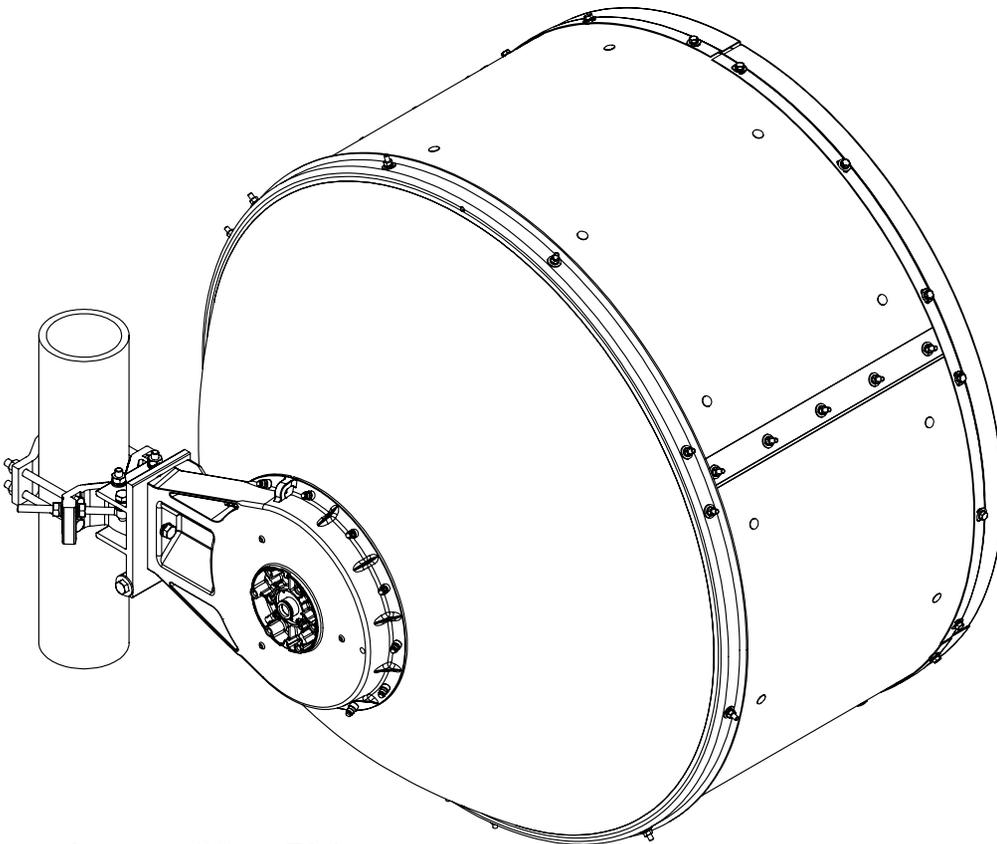


**Azimuth adjustment**  
Adjust eyebolt.  
On completion tighten  
Screws J1 to  $50\text{Nm} \pm 5\%$  and  
Screws J2 to  $38\text{Nm} \pm 5\%$   
**Adjustment Range  $\pm 15^\circ$**





Antenna Offset Left



Antenna Offset Right

## 9 General Information

### 9.1 General maintenance

The antenna is designed such that minimal maintenance is required. Other than strong wind conditions the unit is not subject to abnormal forces and regular inspection and maintenance should ensure trouble free operation.

### 9.2 Cleaning of Antenna

If subsequent cleaning of the antenna is required, water and mild detergent should be used, solvent should not be used.