



7694352 Rev:L

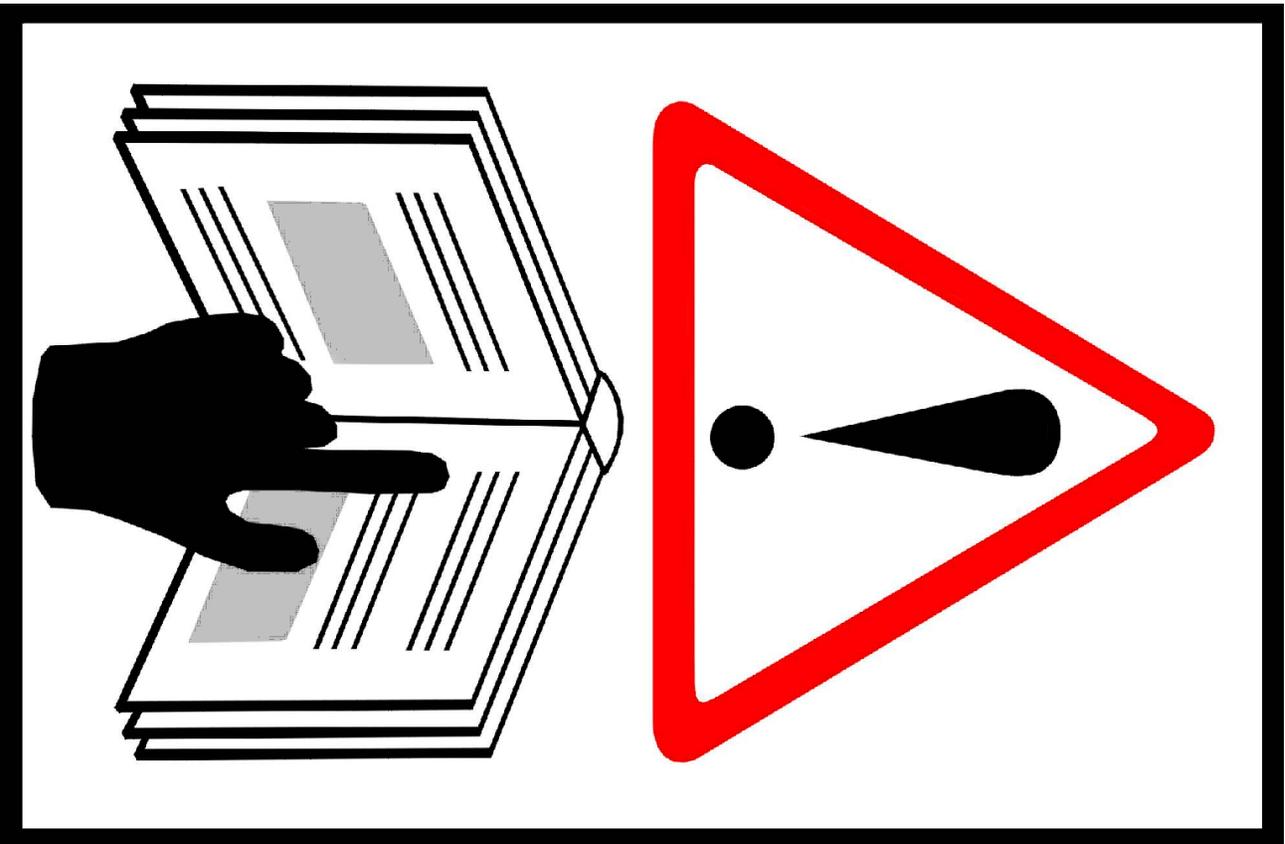
IMPORTANT!

INSTALLATION INSTRUCTIONS

READ THIS MANUAL FULLY BEFORE UNPACKING AND ASSEMBLING THE ANTENNA



Videos provide supplementary information- the instructions contained within this bulletin must always be followed and take precedence over any information contained within the video.



ValuLine™ 4ft Antennas

4ft (1.2m) with Fabric Radome

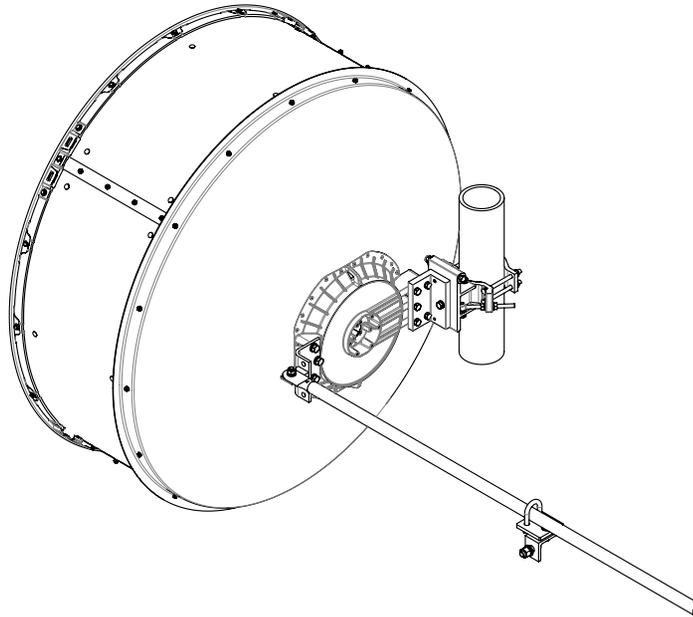


Bulletin 7694352 page 2 of 29

Version 10 Status RE Rev L

Model Version 04 Status RE Rev E

This document is for the following: VHLP(X)4-*** 1.2m 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 115mm
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

Andrew Solutions

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2	SAFETY INSTRUCTIONS Including Introduction, Standards, Safety Requirements, Safety Symbols, Definitions and Hazards.
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4	UNPACKING Including Unpacking of antenna parts.
5	ASSEMBLY OF REFLECTOR TO SHIELD Including how to assemble the reflector to the shield in the correct orientation.
6	FEED ATTACHMENT Including attaching the feed.
7	RADOME ATTACHMENT AND ALIGNMENT Including how to assemble the radome to the shield in the correct orientation.
8	MOUNT ATTACHMENT AND ALIGNMENT Including Basic alignment, Attaching the antenna to the pole, Fitting the mount, Elevation alignment, Azimuth alignment and tightening fasteners instruction.
9	GENERAL INFORMATION Including maintenance and cleaning instructions.

INTRODUCTION

This instruction describes how to assemble a VHLP(X)4 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

Table 1 Supplied Equipment and Tools

Item	Qty	Description	Contained in Kit Part No
A	1	Reflector	
B	1	Shield Set	
C	1	Radome	
D	1	Feed	FRQ. DEPENDENT
D1			VFEEDA-4-FRQ
	4	M4 x 12lg SHCS, sst, pass	
	4	M4 Lock Washer, sst, pass	
	1	Conductive Grease (tube)	
D2		Vertex Plate Installation Kit, 6GHz	7614433-2
	2	Vertex Plate Segment	
	4	M4 x 12LG Flat Hd CSK Screw, sst, pass	
	1	Absorber Ring	
	2	Gloves	
	1	Loctite Nutlock, ½ML Sachet	
D3			7614433-2
	4.0m	Aluminium Tape (6GHz only)	
E	1	Mount: Elevation Adjustment Assembly	7679156
F1	1	Mount: Azimuth Adjustment Clamp	7679155-LPK
F2	1	Mount: Antenna Side Bracket	7679155-LPK
G		Mount Hardware Kit	
	1	Conductive Grease (Tube)	
	2	Gloves	
G1			7679221
	5	M10 x 40lg Hex Hd Screw, sst, pass	
	5	M10 Lock Washer, sst, pass	
G2			7679221
	2	M10 x 100lg Hex Hd Screw, stl, galv	
	4	M10 Flat Washer, stl, galv	
	2	M10 Lock Washer, stl, galv	
	2	M10 Hex Nut, stl, galv	
G3			7679221
	1	M10 x 35lg Hex Hd Screw, stl, galv	
	1	M10 Lock Washer, stl, galv	
	2	M10 Flat Washer, stl, galv	
G4			7679221
	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	
G5			7679221
	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	
G6			7679221
	2	M10 x 35lg Hex Hd Screw, sst, pass	
	2	M10 Lock Washer, sst, pass	
	2	M10 FlatWasher, sst, pass	

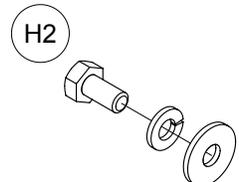
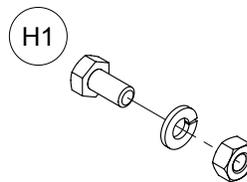
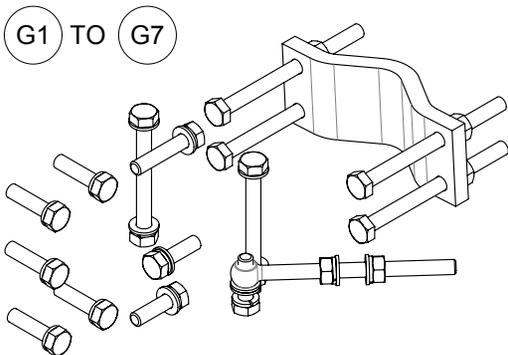
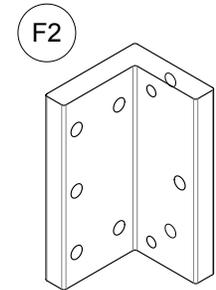
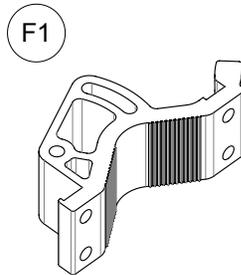
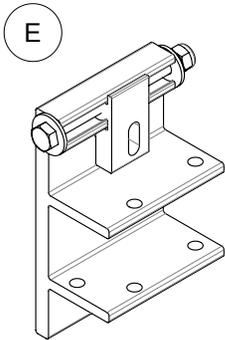
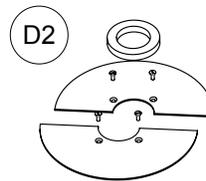
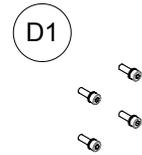
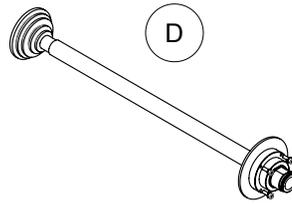
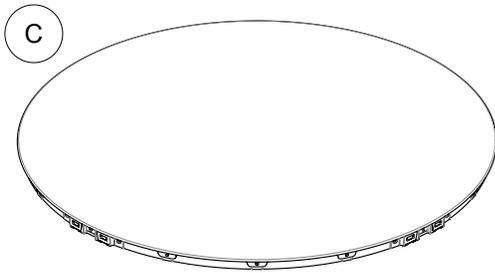
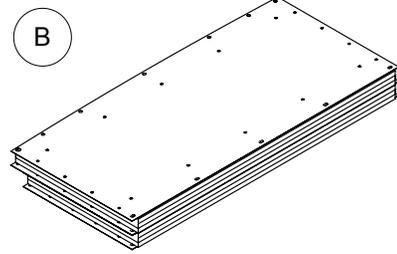
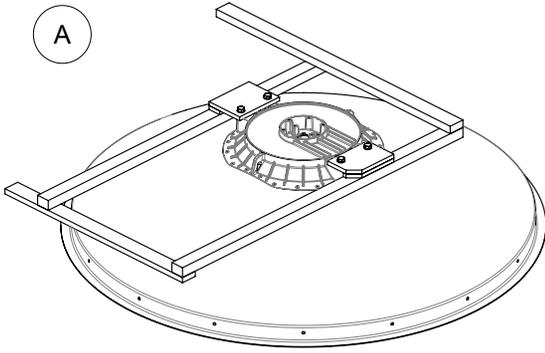
Table 1 Supplied Equipment and Tools

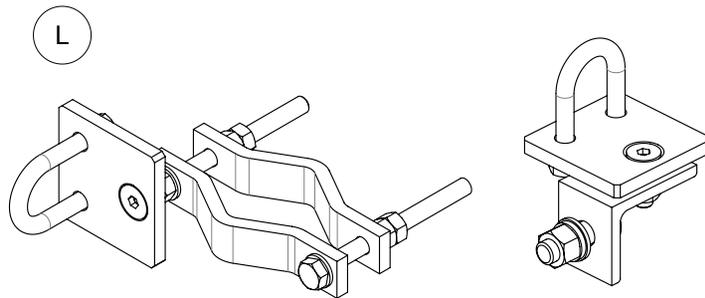
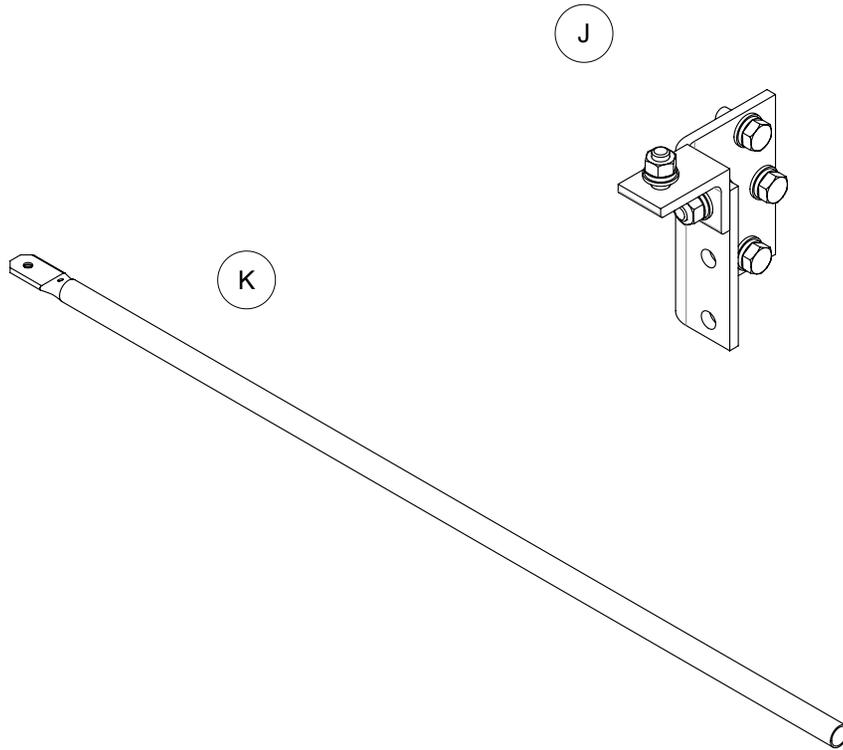
Item	Qty	Description	Contained in Kit Part No
G7			7679221
	1	M10 x 50lg Hex Hd Screw, sst, pass	
	1	M10 Lock washer, sst, pass	
	1	M10 Flat Washer, sst, pass	
H1		Shield Assembly Hardware	7614388-2
	32	M6 x 12lg Hex hd Screw, sst, pass	
	32	M6 Lock Washer, sst, pass	
	32	M6 Hex Nut, sst, pass	
H2		Radome Hardware	7614388-2
	24	M6 X 20LG Hex hd Screw, sst, pass	
	24	M6 Flat Washer, sst, pass	
	24	M6 Lock Washer, sst, pass	
J		Strut Hardware Kit	117790-3
	1	Strut Bracket	
	1	Angle Bracket	
	3	M12 Washer, sst, pass	
	2	M12 Washer, stl, galv	
	3	M12 Lock Washer, sst, pass	
	2	M12 Lock Washer, stl, galv	
	2	M12 Nut, stl, galv	
	2	M12 x 35lg Hex Hd Screw, stl, galv	
	3	M12 x 30lg Hex Hd Screw, sst, pass	
K	1	Strut	P99849
L		Strut Pipe Tower Clamp Hardware Kit	7637689
		(refer to sheets 10 and 26 for installation configurations)	
	2	Clamp Bracket	
	1	Anchor Plate	
	1	M12 x 140 Hex hd Screw, stl, galv	
	1	M12 x160 C'sk Skt hd Screw, stl, galv	
	5	M12 Washer, stl, galv	
	7	M12 Nut, stl, galv	
	1	U-Bolt, M12 c/w Nuts and Washers, stl, galv	
	1	M16 x 50 Hex hd Screw, stl, galv	
	1	M12 x 40 C'sk Skt hd Screw, stl, galv	
	1	M16 Nut, stl, galv	
	1	M12 Lock Washer, stl, galv	
	2	M16 Washer, stl, galv	
	1	M16 Lock Washer, stl, galv	
	1	Angle Bracket	

Tools

TOOL REQUIRMENTS

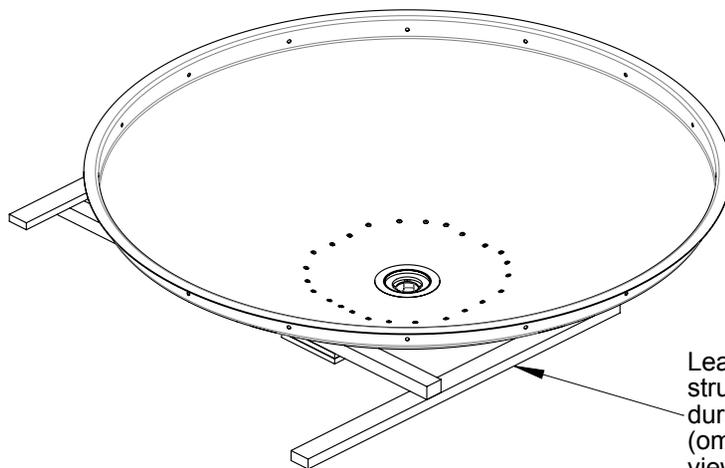
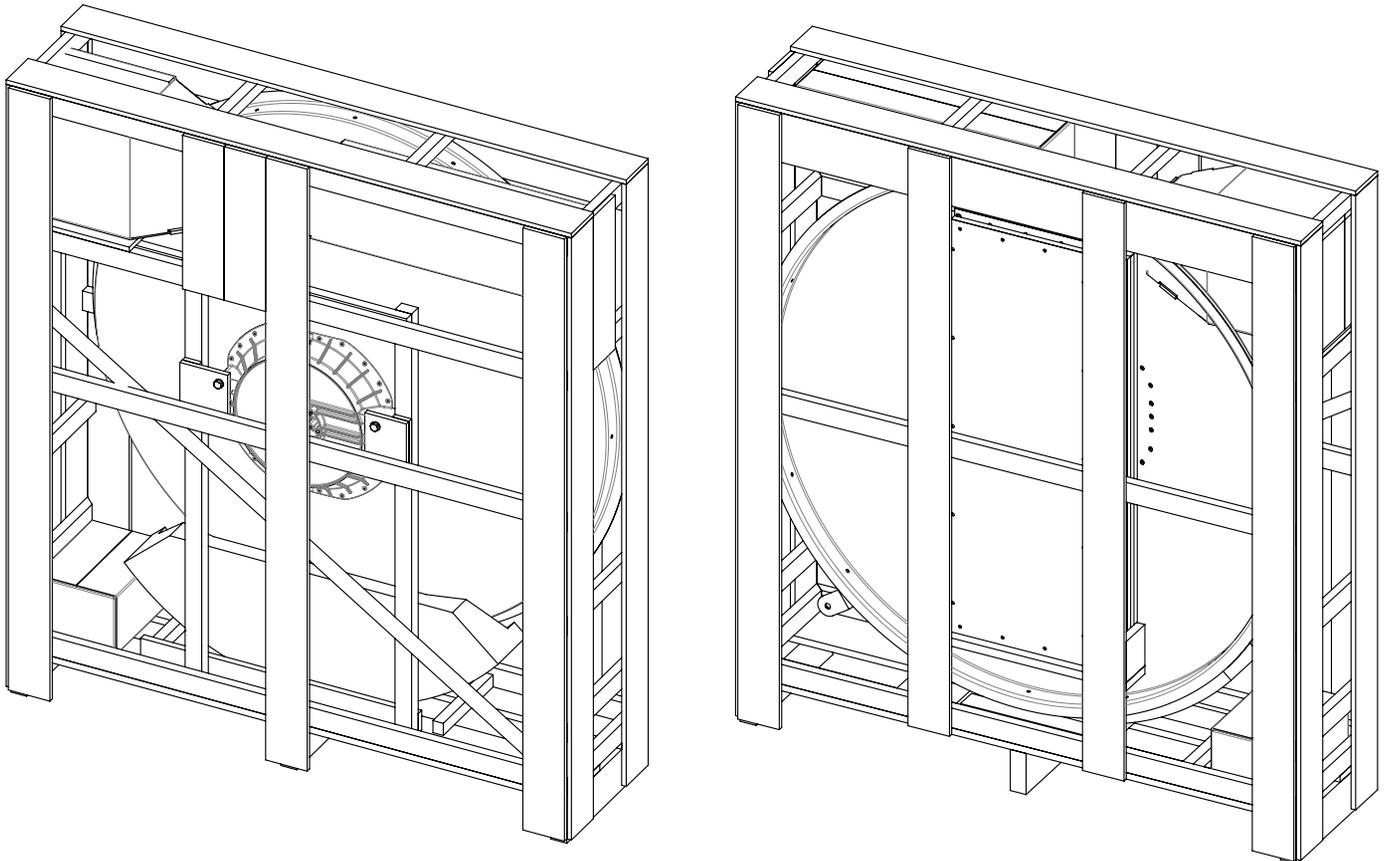
Tools Required	Bolt Diameter in MM			
	M4	M6	M10	M12
Ring and Open spanner (A/F)		10mm	17mm	19mm
Torque Wrench				
Sockets (A/F)		10mm	17mm	19mm
Allen Key (A/F)	3mm		8mm	
Torx Head Screwdriver (T-20)				
Cutting Pliers				
Compass				
General Toolbox				
Cross Slot Screwdriver (No 2)				
Slot Screwdriver				





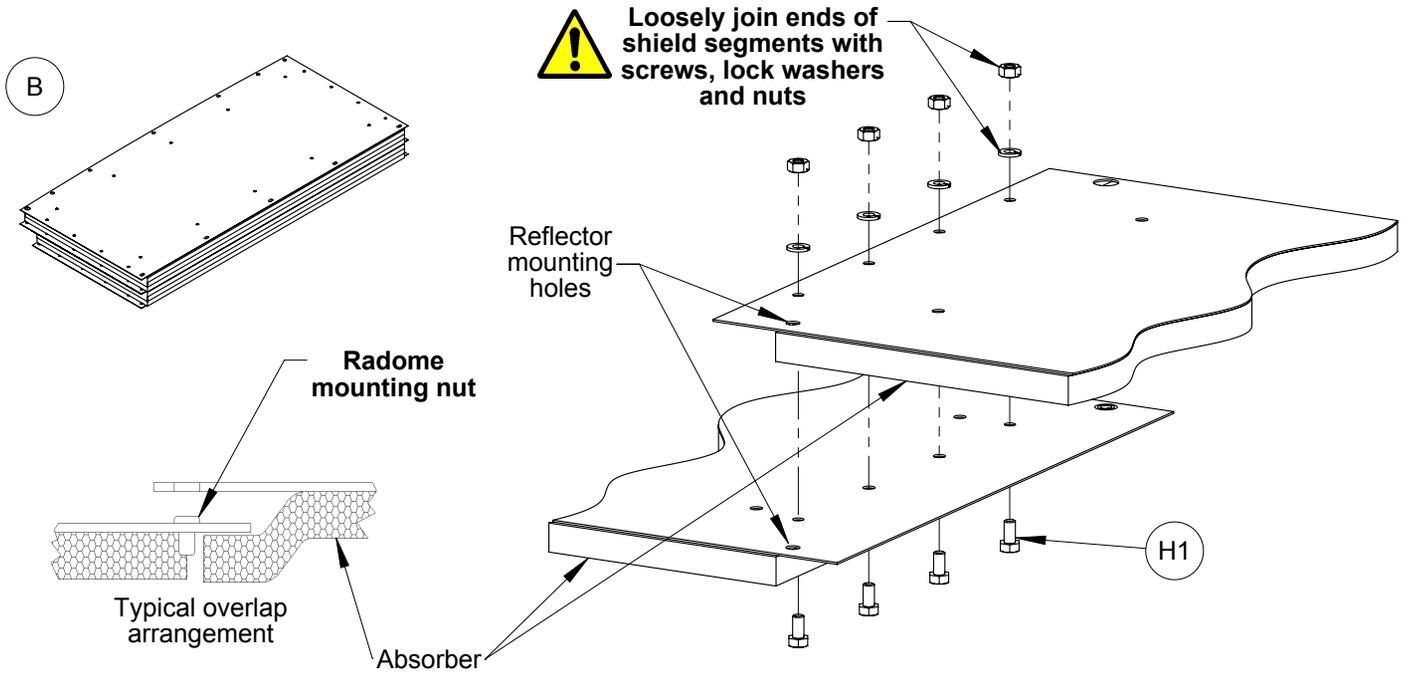
Instructions for opening wire bound crate:

1. Wire tabs to be released
2. The back of the crate will hinge open from the opposite side from the wire tabs
3. The reflector can then be hinged backwards from the bottom edge and removed from the crate
4. **Leave reflector attached to the backing struts until instructed to remove**

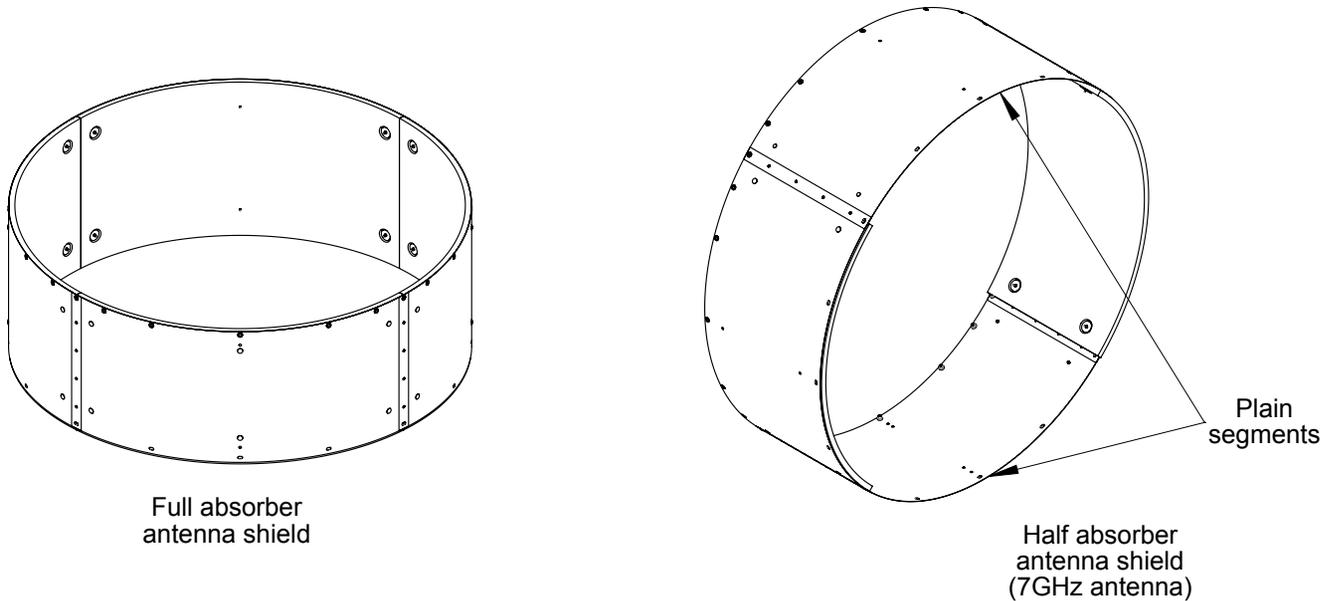
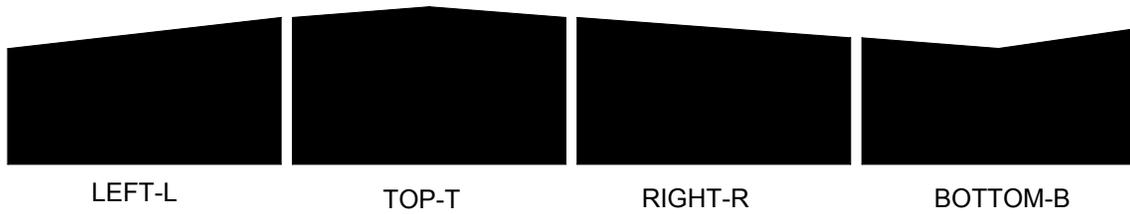


 **Handle reflector
CAREFULLY** at
all times

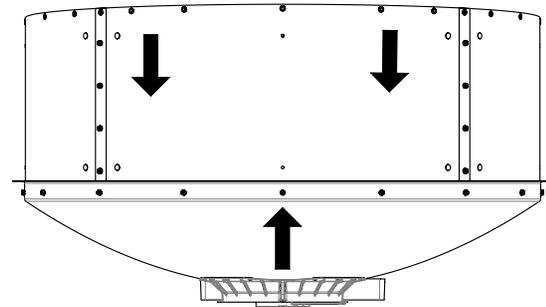
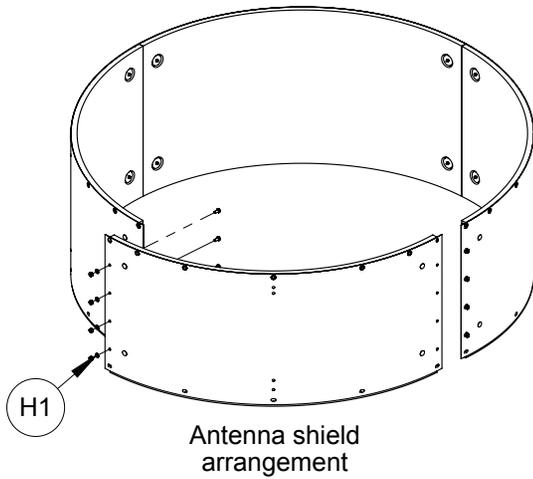
Leave packing
struts in place
during assembly
(omitted on subsequent
views for clarity)



Shield assembly sequence



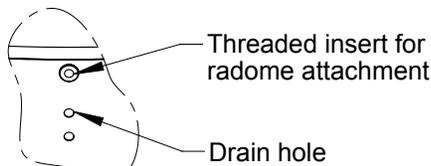
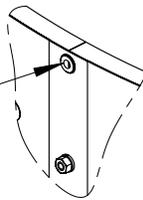
Full absorber antenna
shield version shown



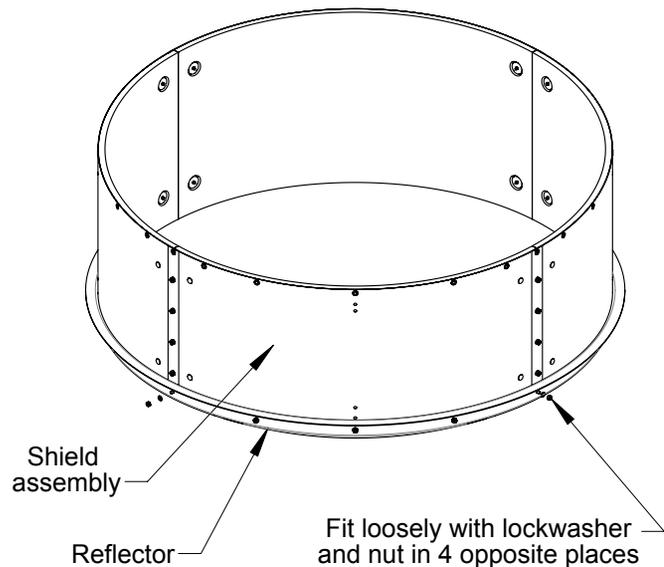
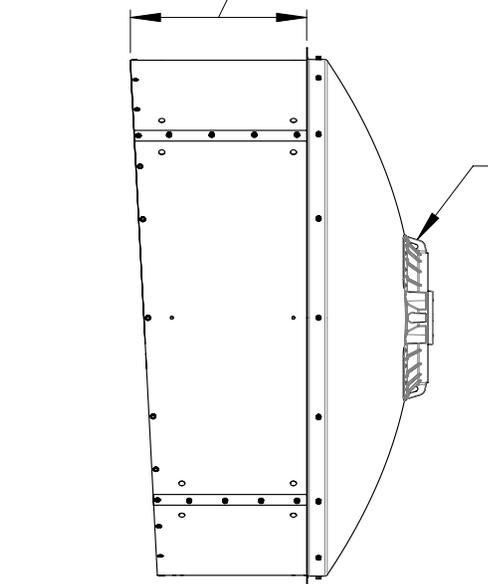
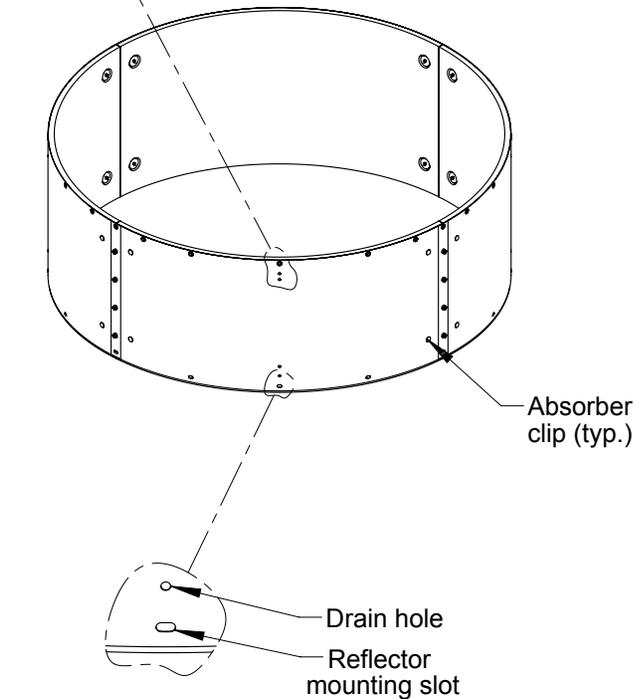
Insert shield in to reflector so that mounting
holes align with rim holes in reflector

Ensure highest side
of shield set is aligned
to top of antenna

At shield seams ensure
rivnut is located through
hole in overlap

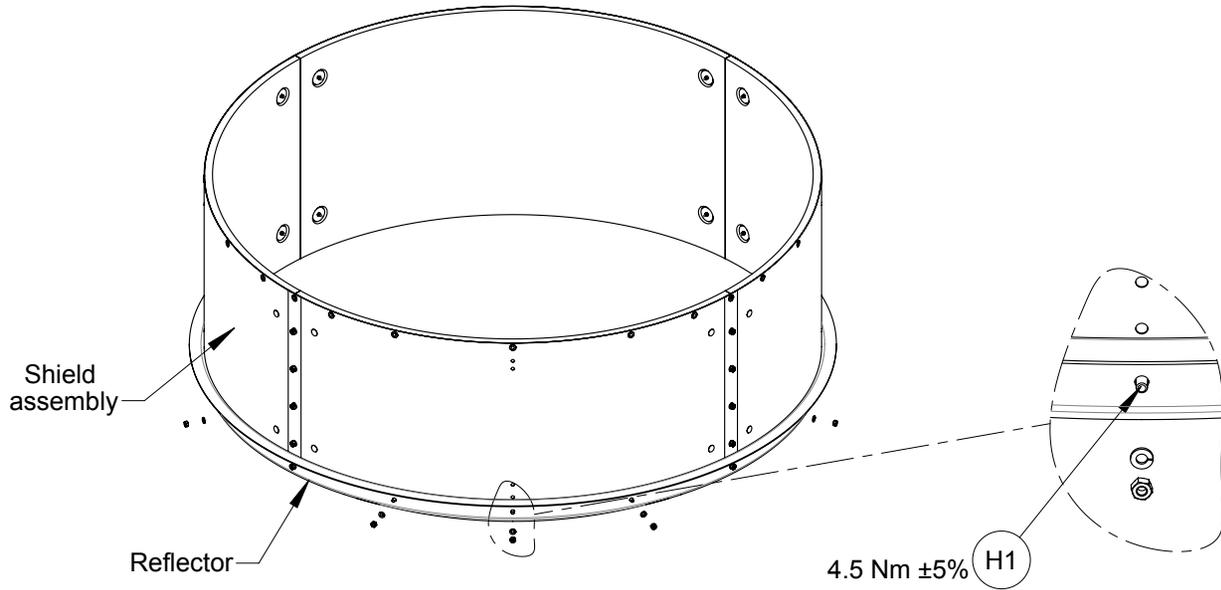


Lifting eye
identifies
top of antenna



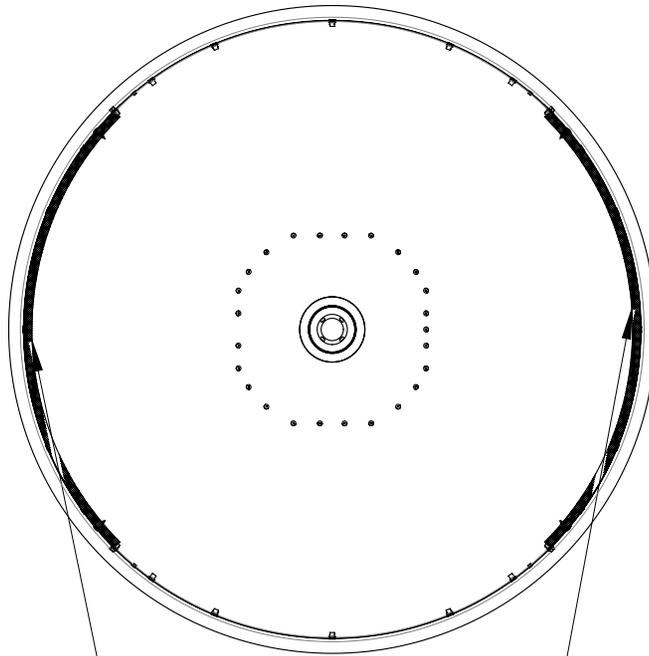
Fit loosely with lockwasher
and nut in 4 opposite places
as shown then tighten.

Pry the shield slightly to align shield and
reflector holes to receive a bolt.
Repeat at 3 opposite positions



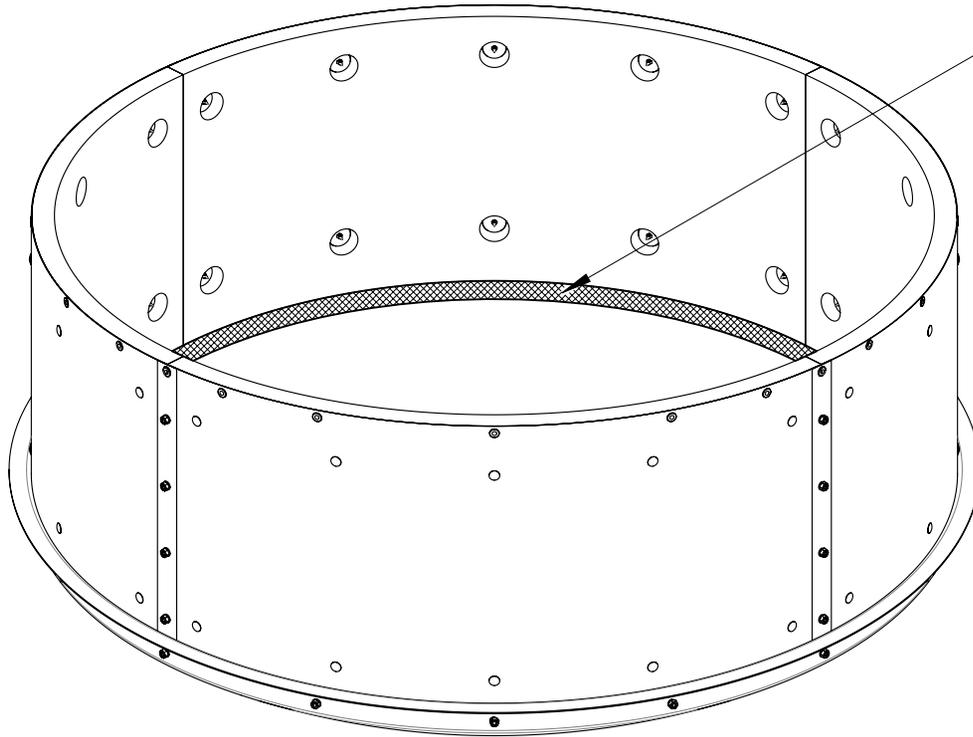
Fit bolts, lock washers, and nuts to remaining holes of reflector and tighten. Tighten all shield segment fastenings

**** 7GHz SHIELD INSTALLATION ONLY ****



On 7GHz installation ensure shield segments with absorber are installed at the 3 o'clock and 9 o'clock positions.

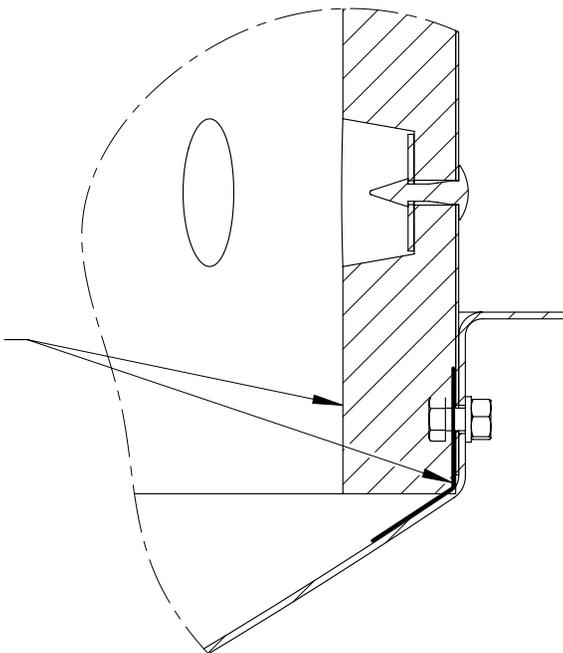
**** 6GHz SHIELD INSTALLATION ONLY ****



6GHz only
Cover joint with
aluminium tape
as shown



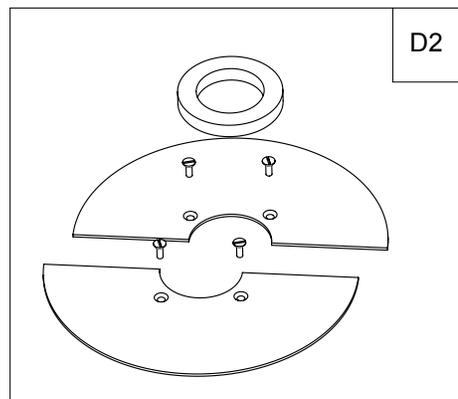
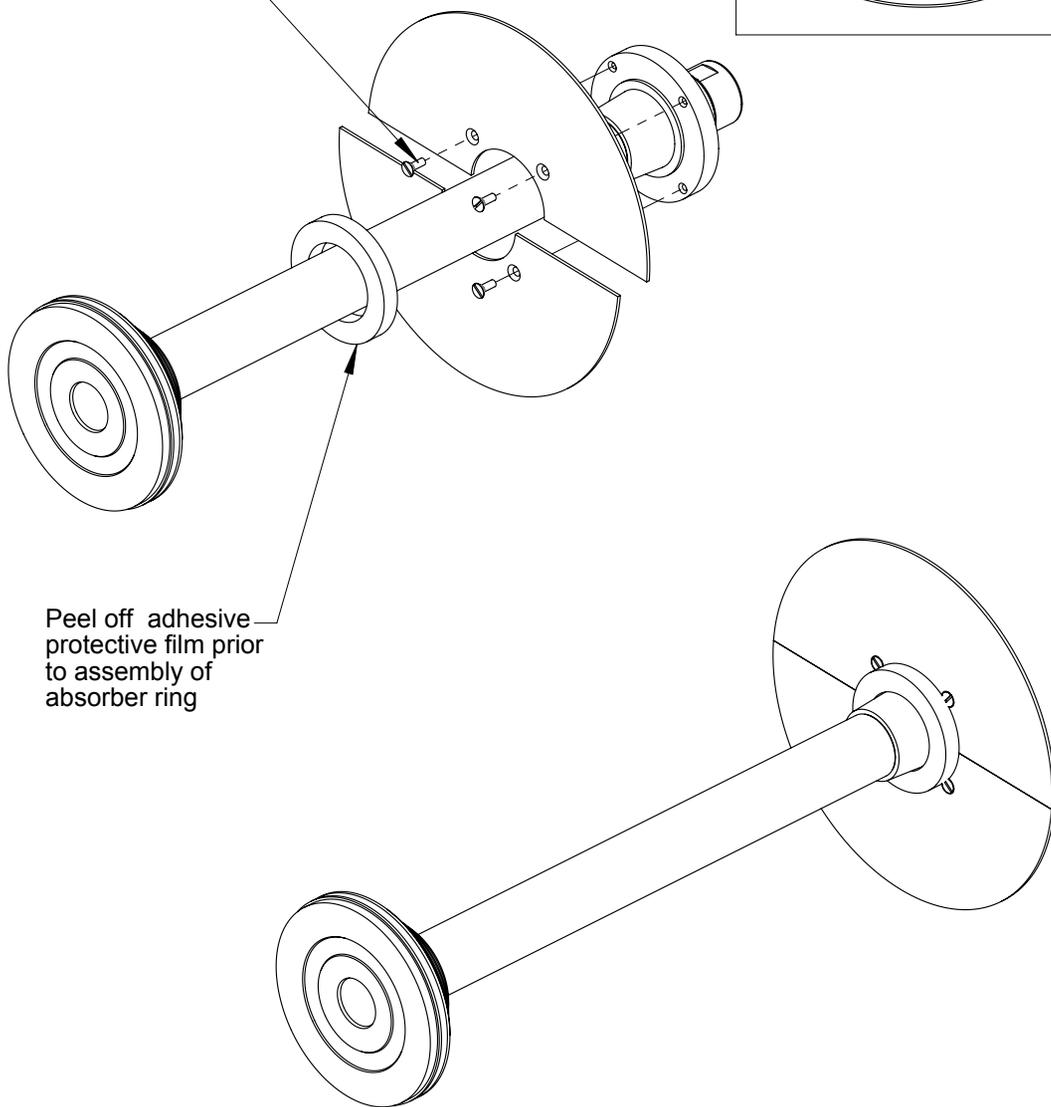
Pull back absorber and
cover joint with aluminium
tape as shown.
Push absorber back after
affixing tape

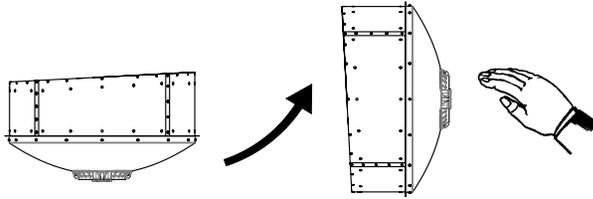


***** 6GHz Only*****
Vertex Plate Assembly

Apply Loctite Nutlock to
threads prior to assembly
Tighten to $2.5\text{Nm} \pm 5\%$

Peel off adhesive
protective film prior
to assembly of
absorber ring



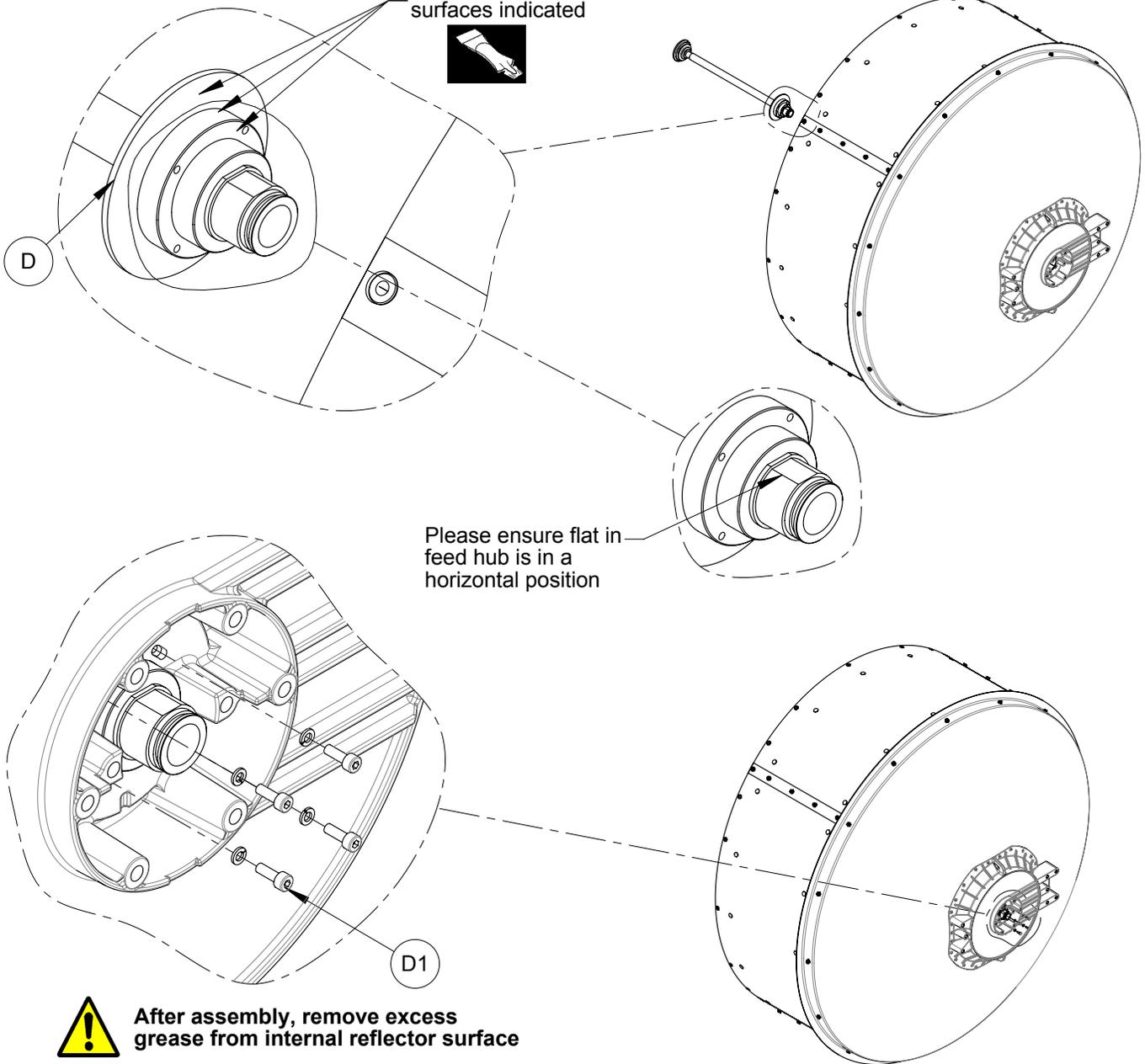


Prior to feed attachment, carefully tilt antenna upright and hold in position.



REFER TO SAFETY NOTE ON PAGE 5

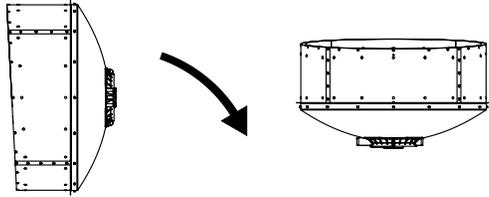
Apply grease to surfaces indicated



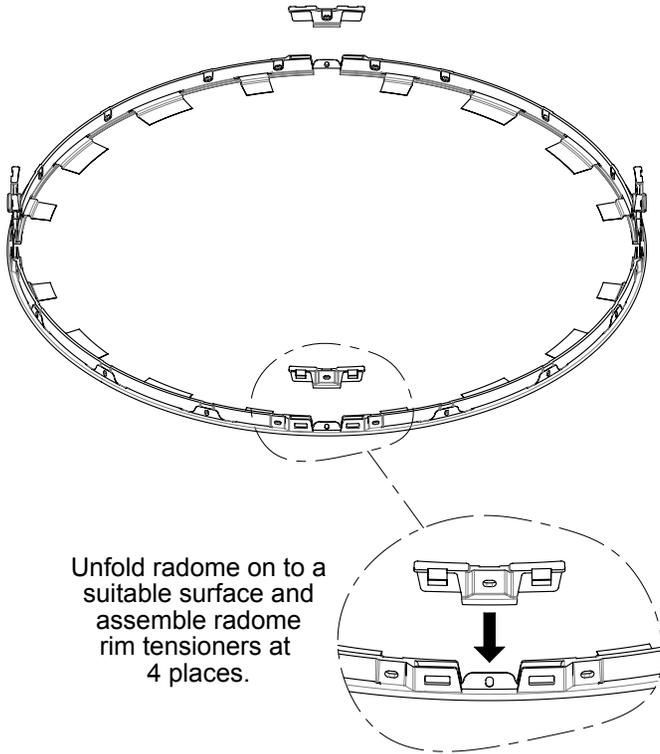
After assembly, remove excess grease from internal reflector surface



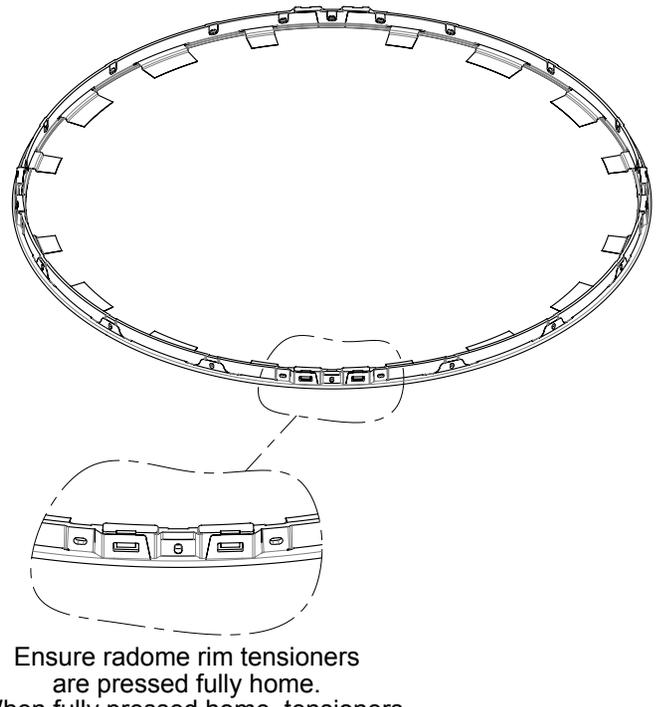
For transition, OMT & customer interface information see separate installation instructions



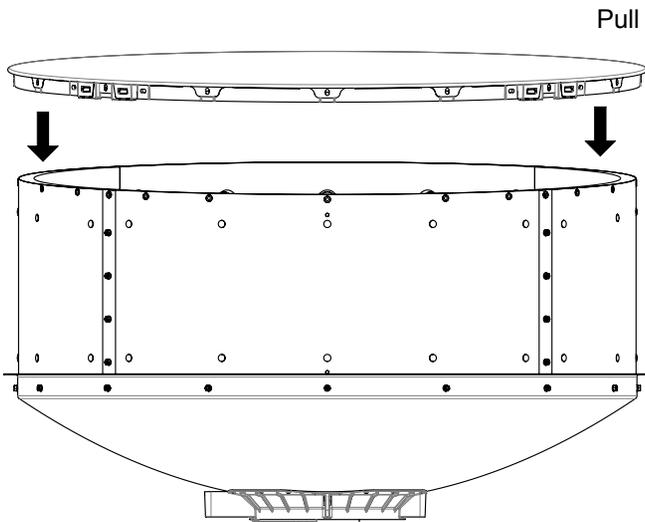
After feed attachment, carefully tilt antenna flat.



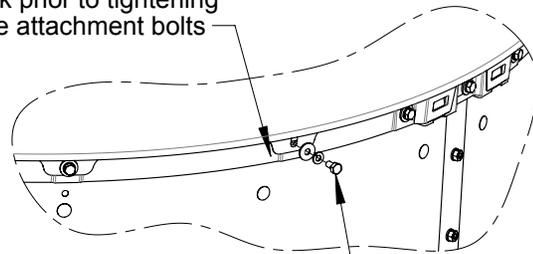
Unfold radome on to a suitable surface and assemble radome rim tensioners at 4 places.



Ensure radome rim tensioners are pressed fully home. (When fully pressed home, tensioners are no longer loose or removable)

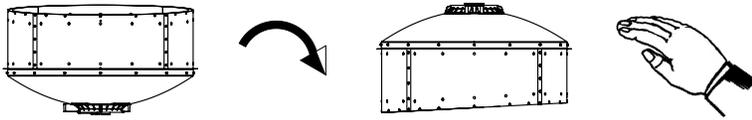


Pull radome tab to take up any excess slack prior to tightening the attachment bolts

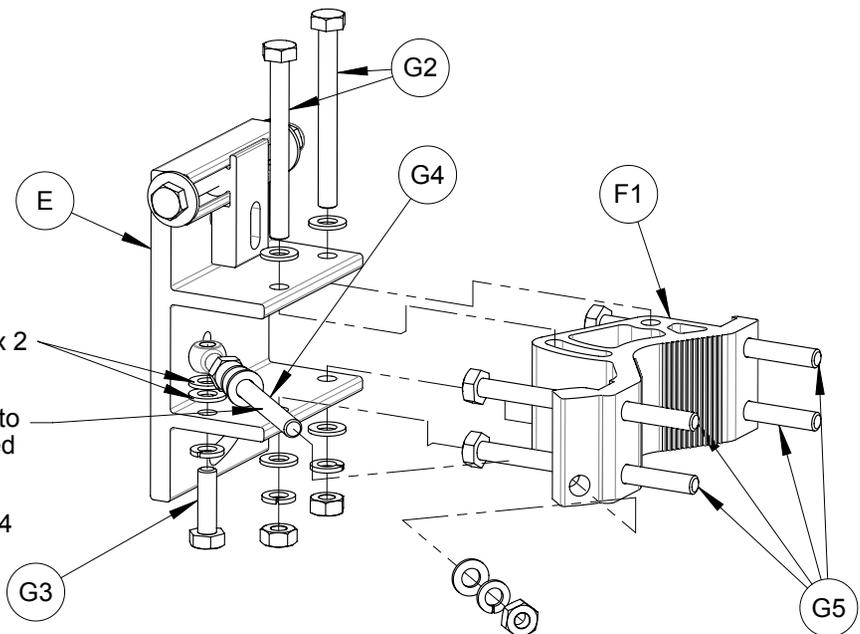
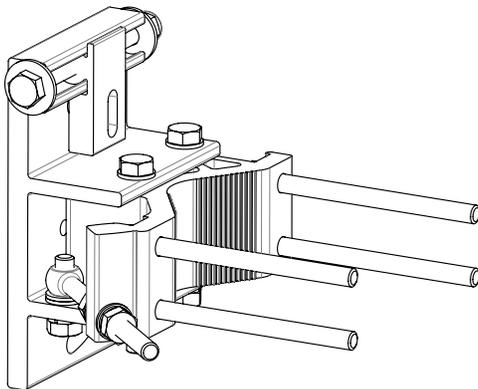
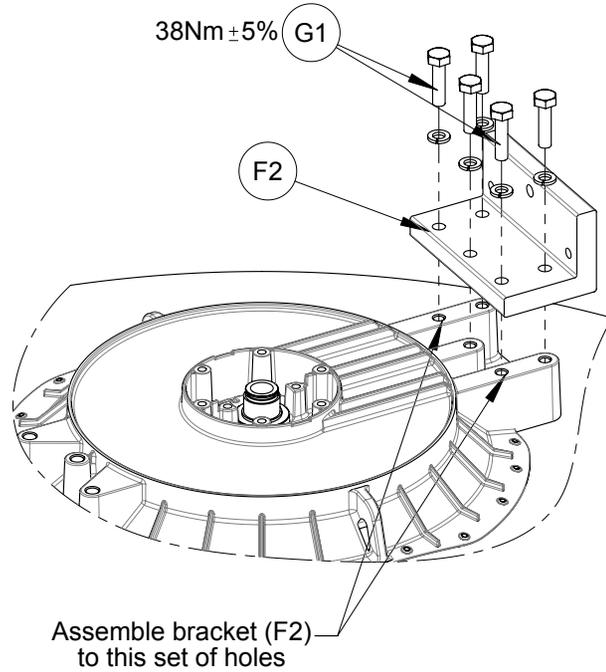
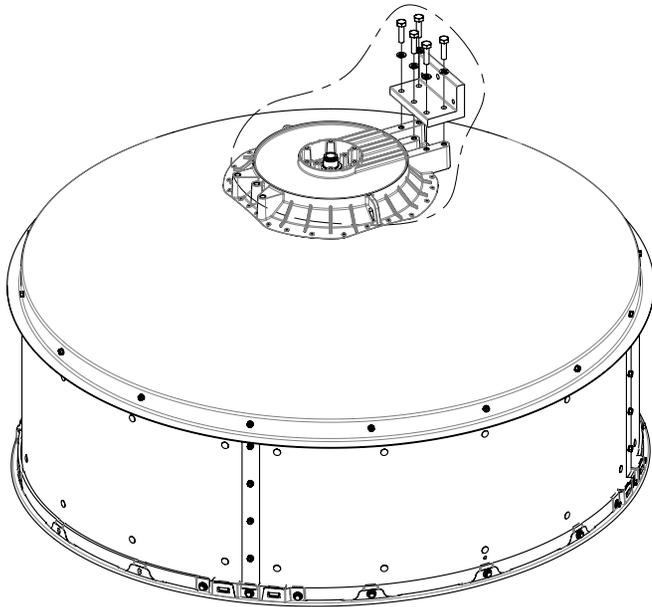


H2 Torque to 5.5Nm \pm 5%

Assemble radome to shield with screws, lock washers, and flat washers



Remove braces and discard fixings.
Carefully lay antenna on clear, flat ground.
Do not apply excessive weight to antenna assembly.

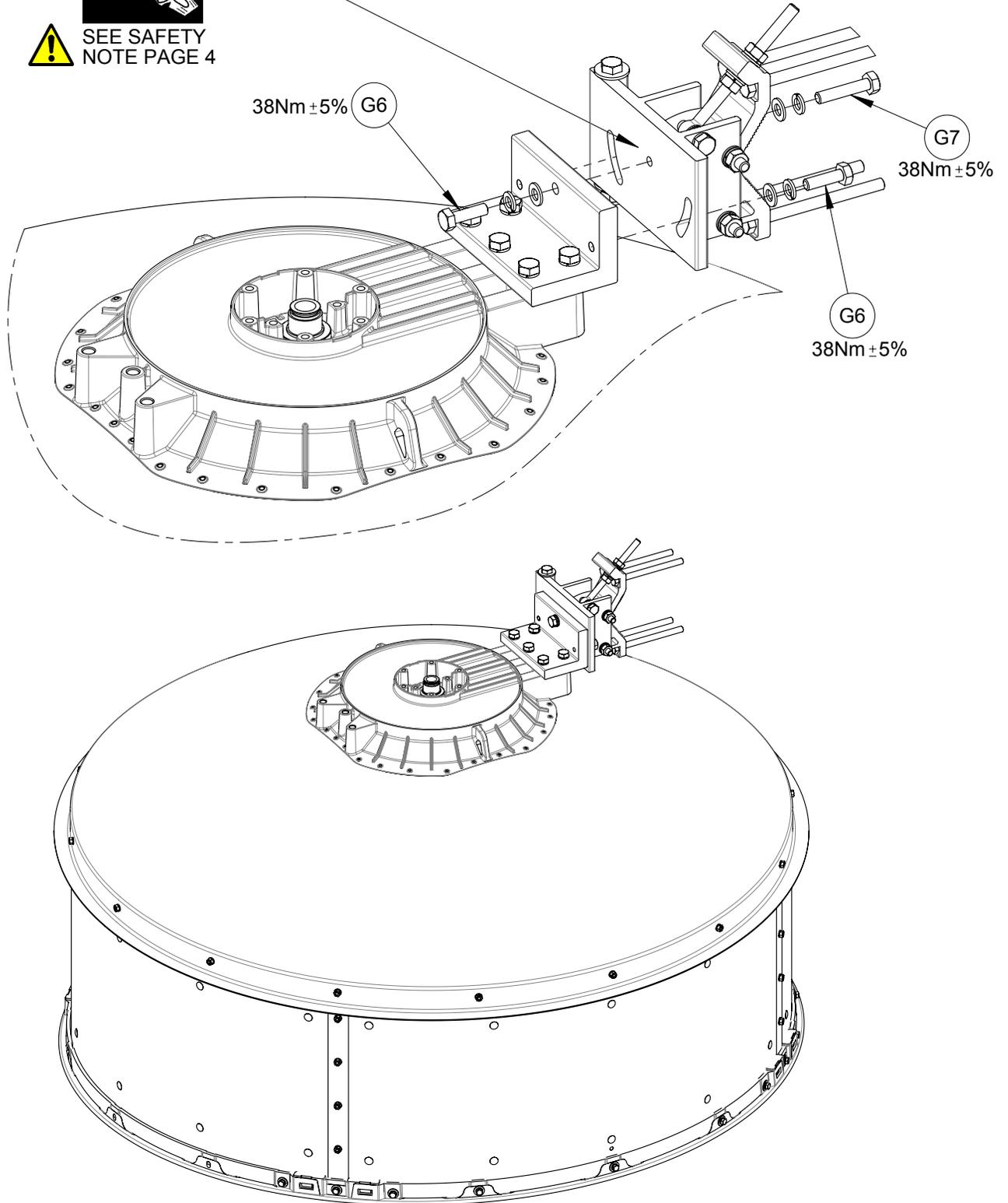


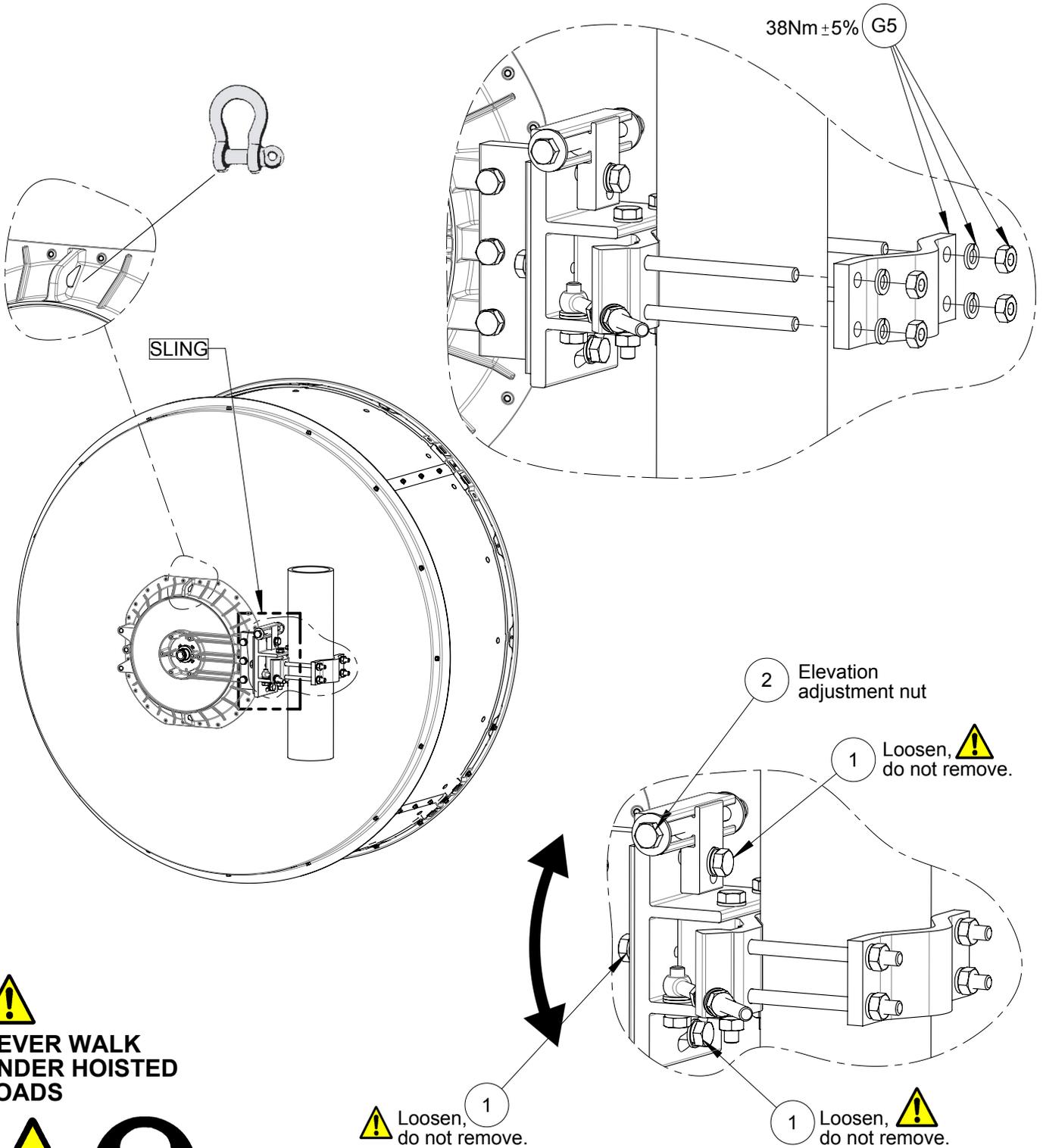


Apply grease to surface indicated



SEE SAFETY
NOTE PAGE 4

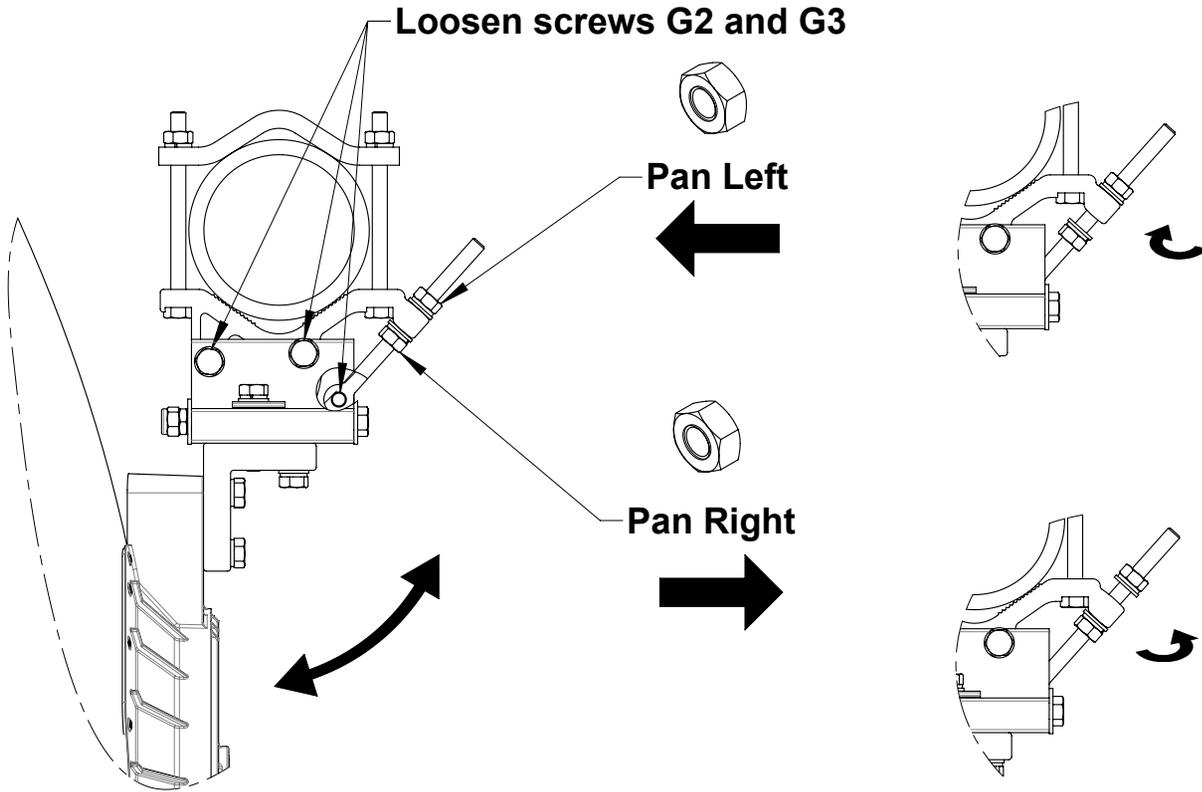




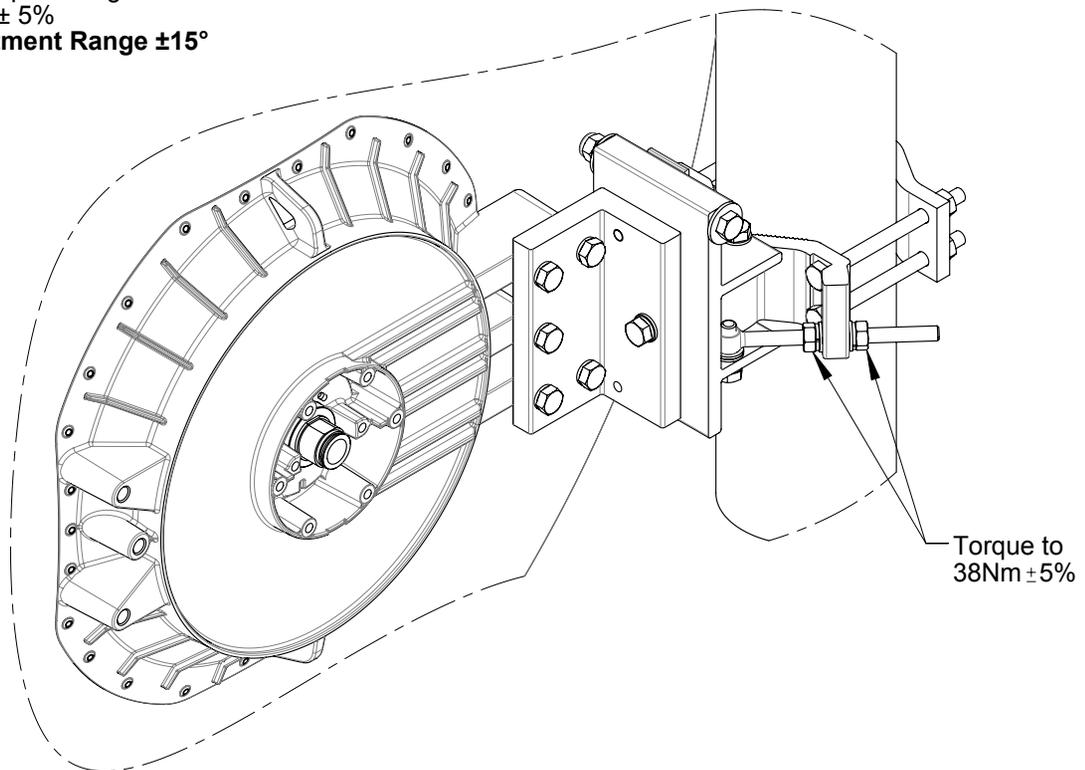
⚠
**NEVER WALK
UNDER HOISTED
LOADS**

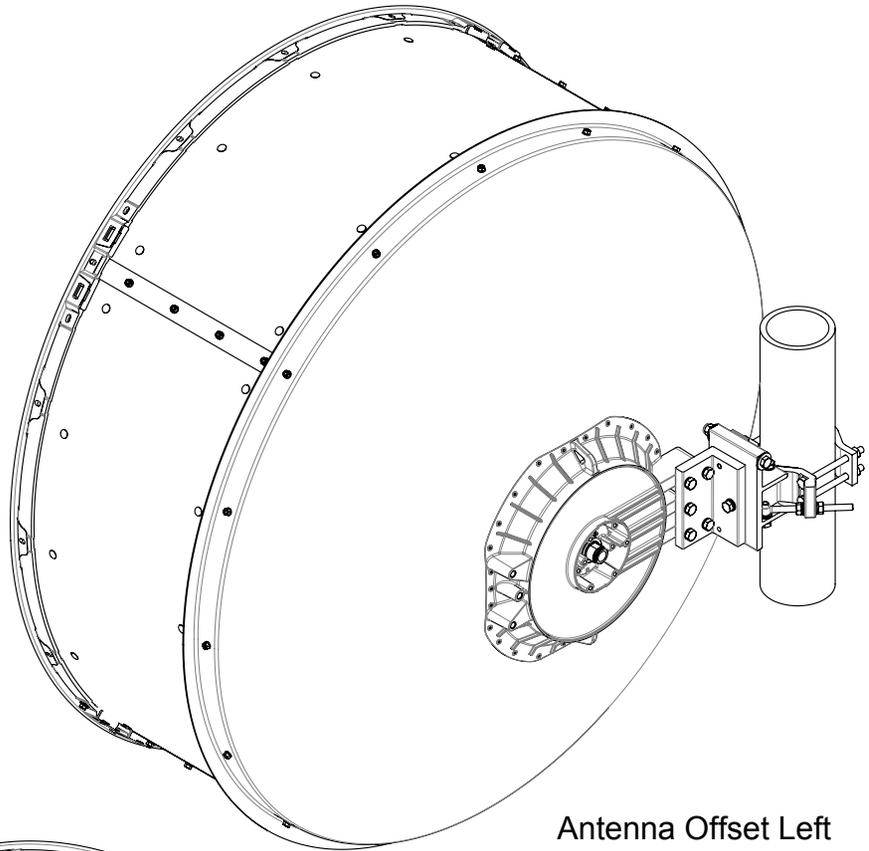


Elevation adjustment
Loosen 3 screws (1).
Adjust elevation by bolt head (2).
On completion tighten screws (1) to
38Nm ± 5%
Adjustment Range ±15°

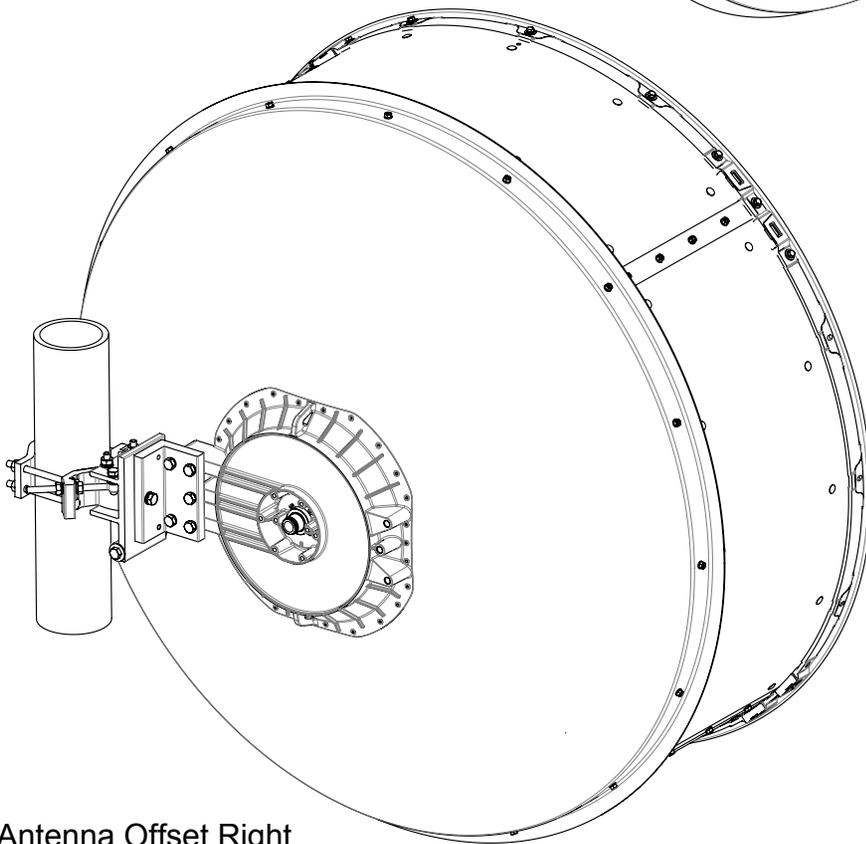


Azimuth adjustment
Adjust eyebolt.
On completion tighten all hardware to
 $38\text{Nm} \pm 5\%$
Adjustment Range $\pm 15^\circ$

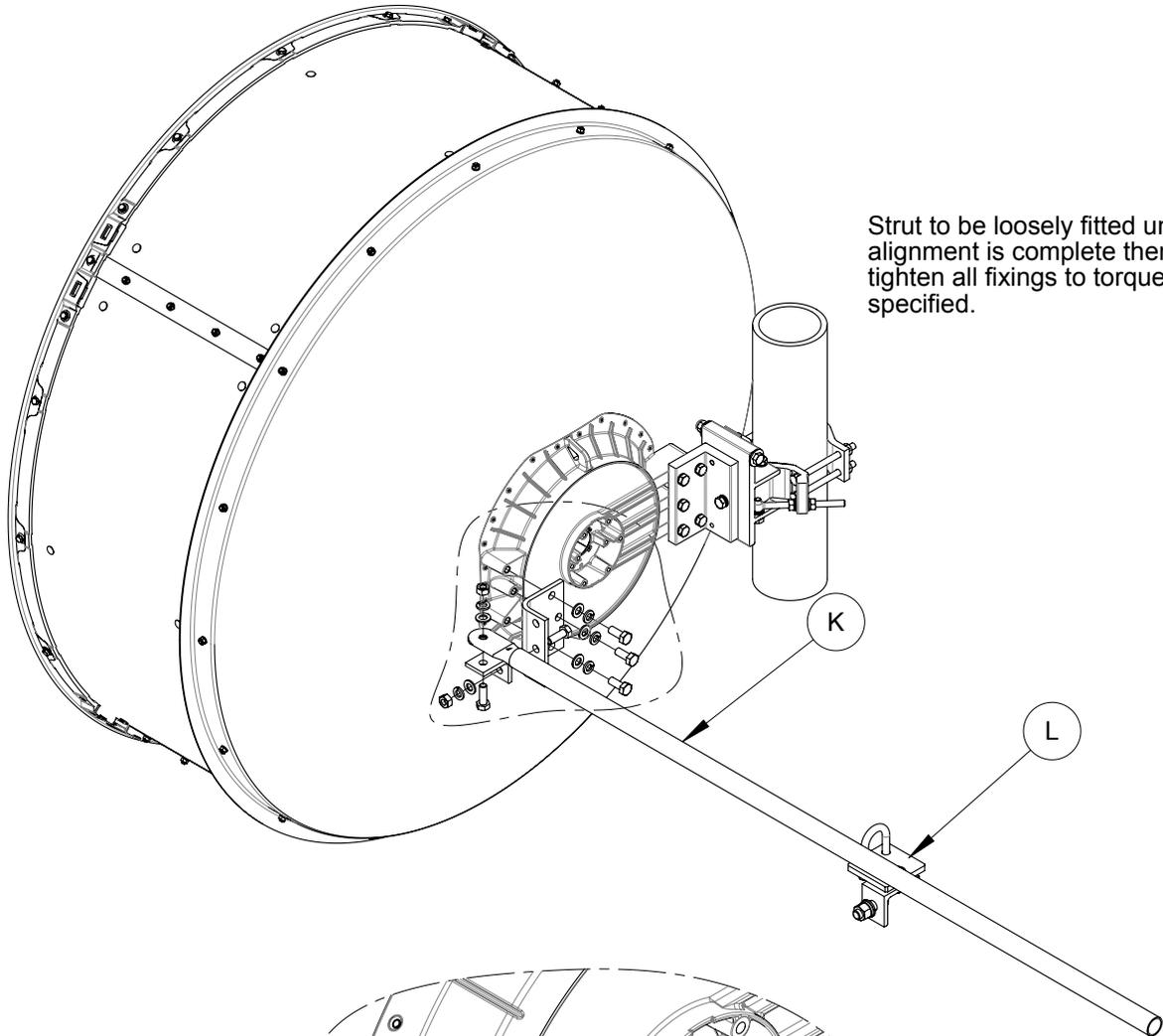




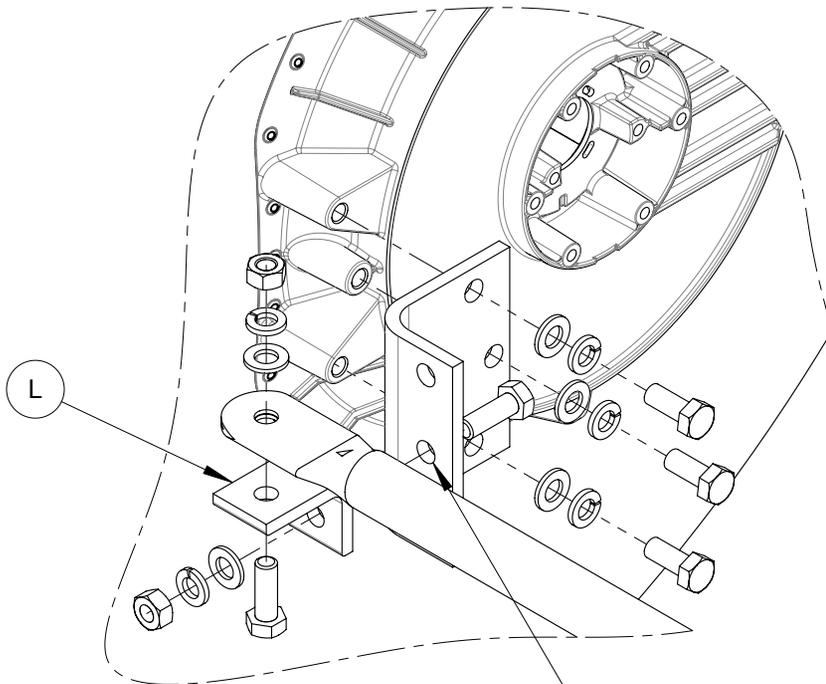
Antenna Offset Left



Antenna Offset Right

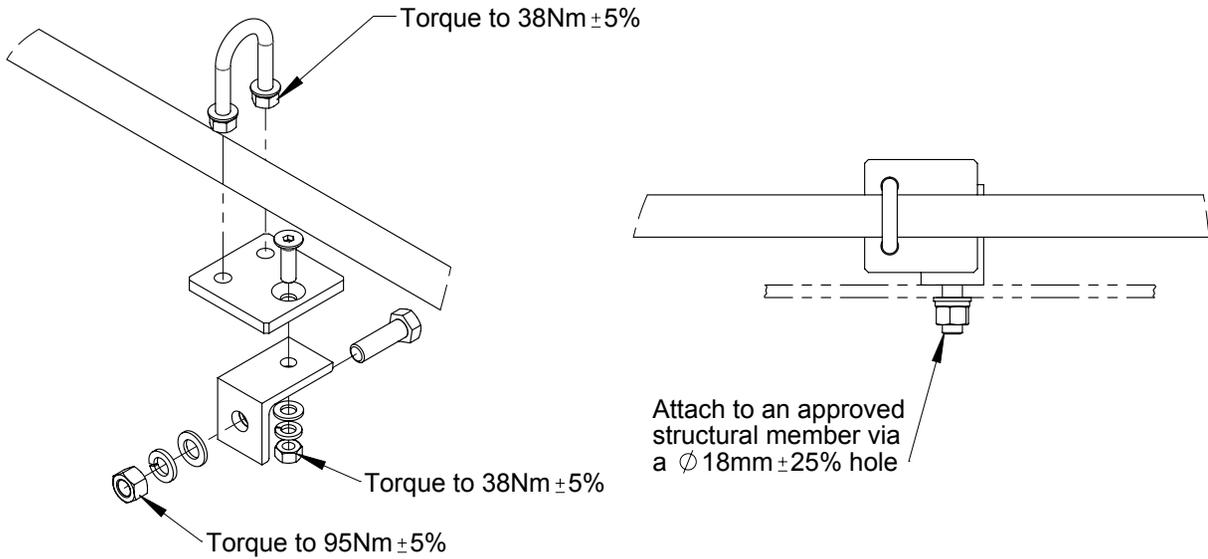


Strut to be loosely fitted until alignment is complete then tighten all fixings to torque specified.



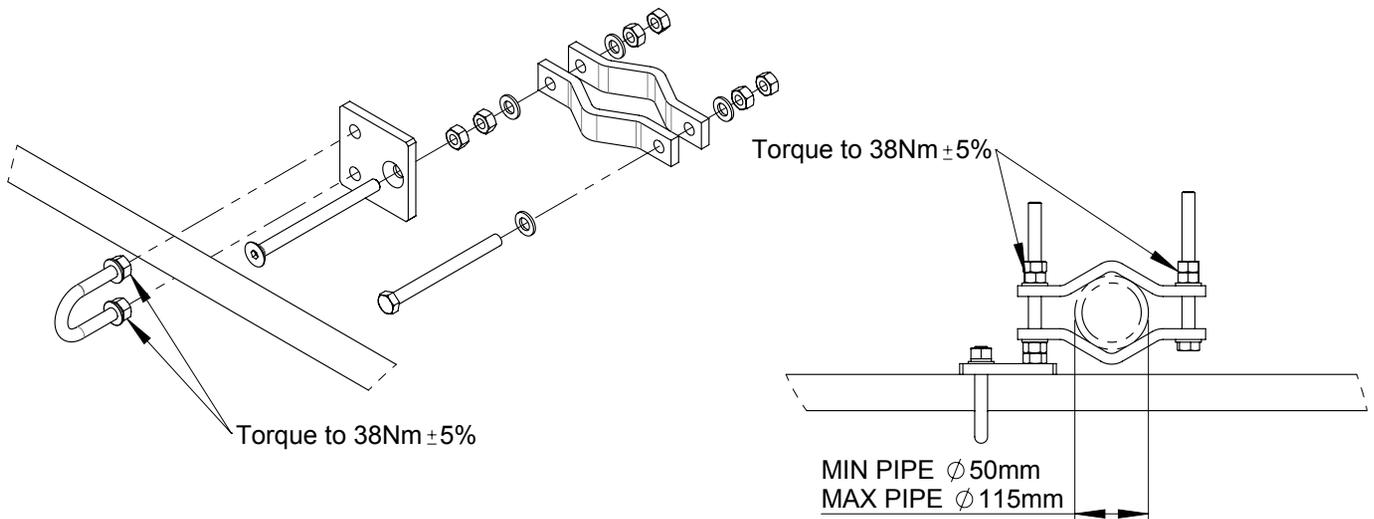
Strut to be attached to center hole.
Tighten all hardware to a
torque of $38\text{Nm} \pm 5\%$

For attachment to non-circular structural members



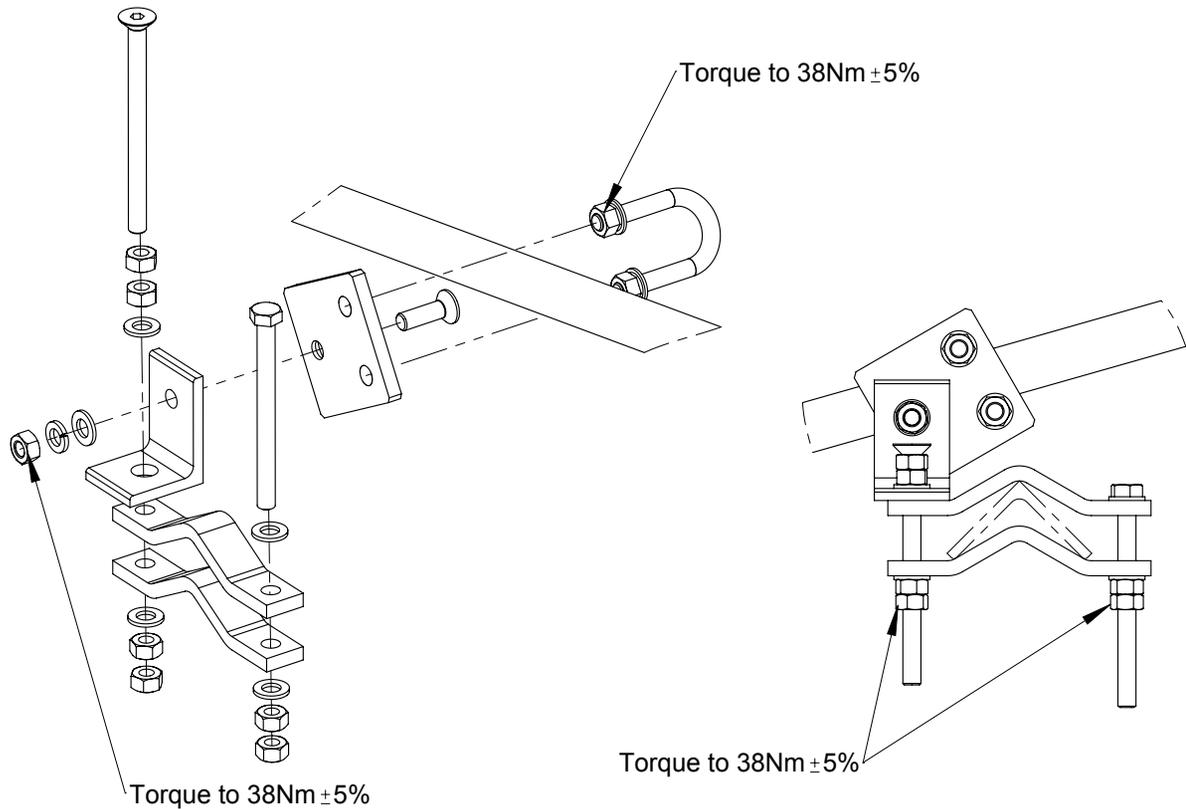
Struts must be attached to a structural member capable of supporting 2704N in line with TIA-222. The maximum allowable relative deflection between the antenna mounting pipe and the strut attachment point must be less than 2mm at the survival wind speed of the antenna.

For attachment to circular structural members only

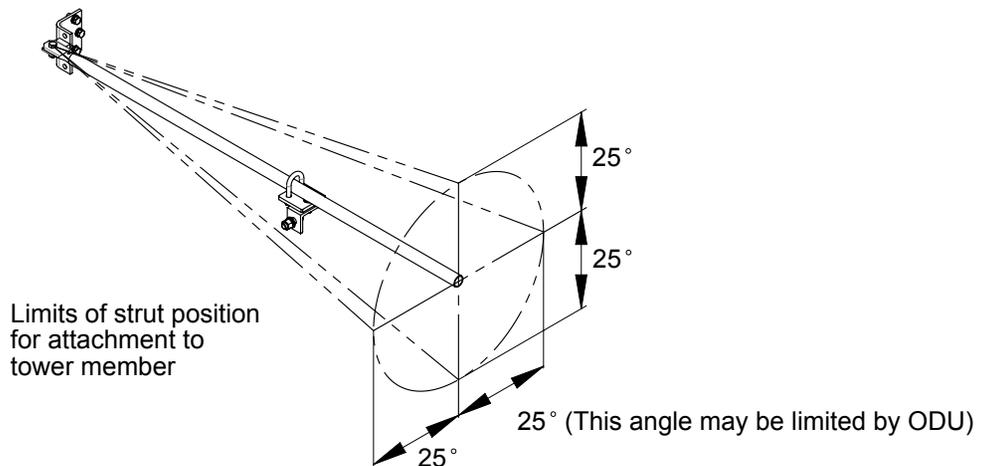


Struts must be attached to a circular structural member capable of supporting 2704N in line with TIA-222. The maximum allowable relative deflection between the antenna mounting pipe and the strut attachment point must be less than 2mm at the survival wind speed of the antenna.

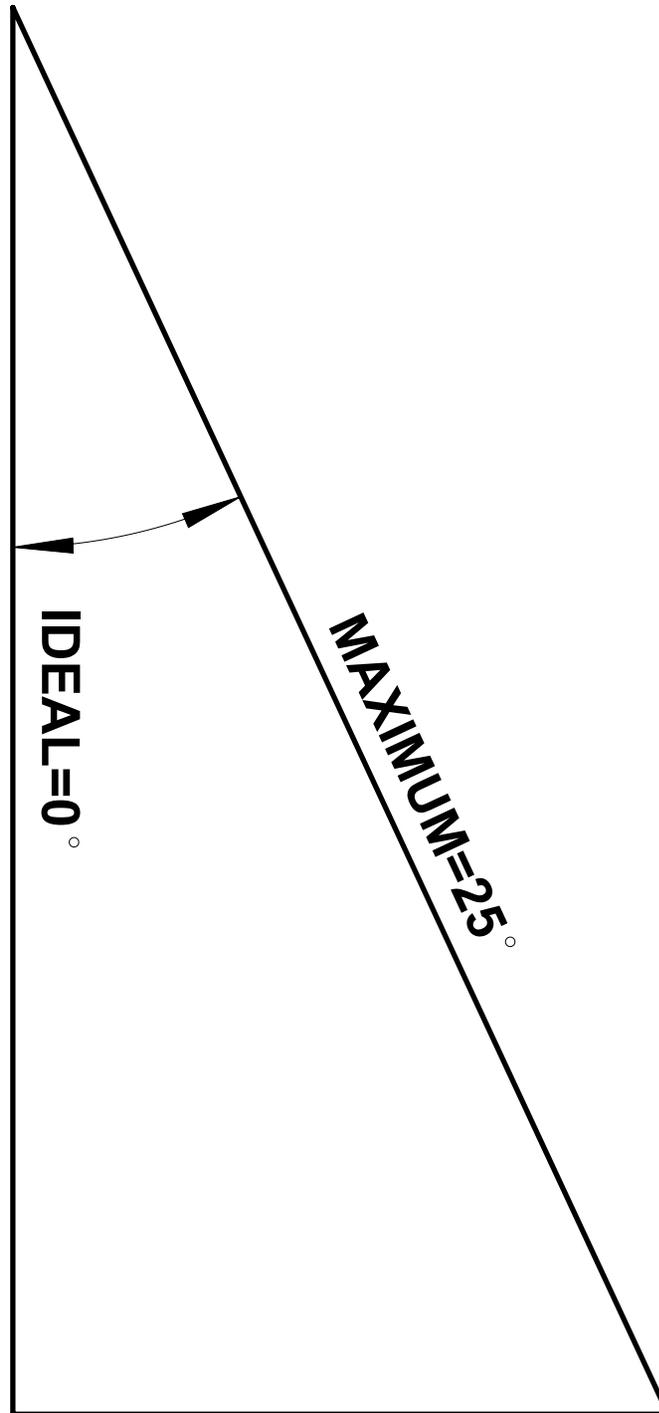
For attachment to angle structural members



Struts must be attached to a structural member capable of supporting 2704N in line with TIA-222. The maximum allowable relative deflection between the antenna mounting pipe and the strut attachment point must be less than 2mm at the survival wind speed of the antenna.



- Image shown is intended as a guide for strut alignment
- Strut must be attached to an appropriate, structural mounting point
- Strut angle must not exceed maximum specified
- Failure to install the strut as instructed may result in mechanical failure of the antenna



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 solvent based solutions must not be used.