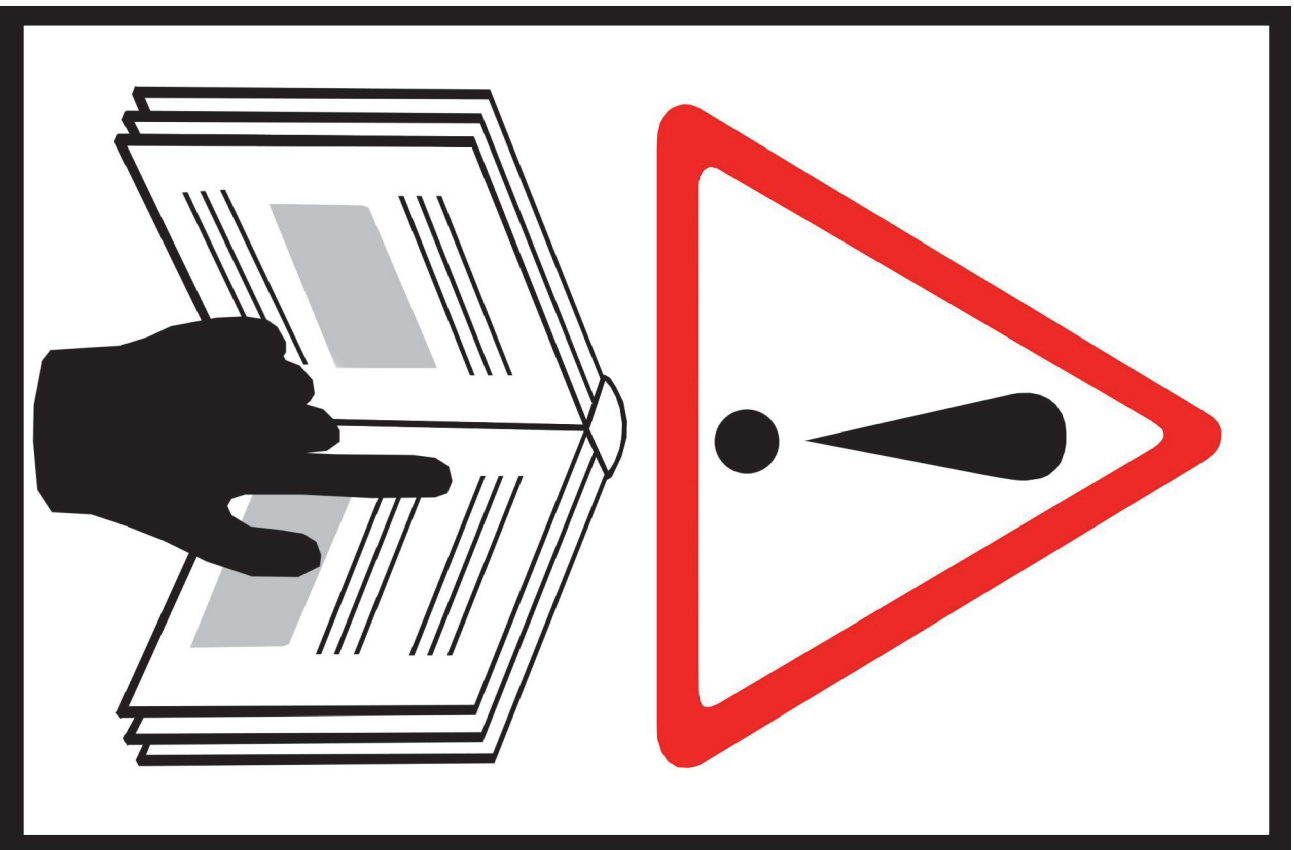


IMPORTANT!

**INSTALLATION
INSTRUCTIONS**

**READ THIS
MANUAL FULLY
BEFORE OPENING
THIS CRATE!**



Installation Instructions

ValuLine™ 4ft Antennas

4ft (1.2m)

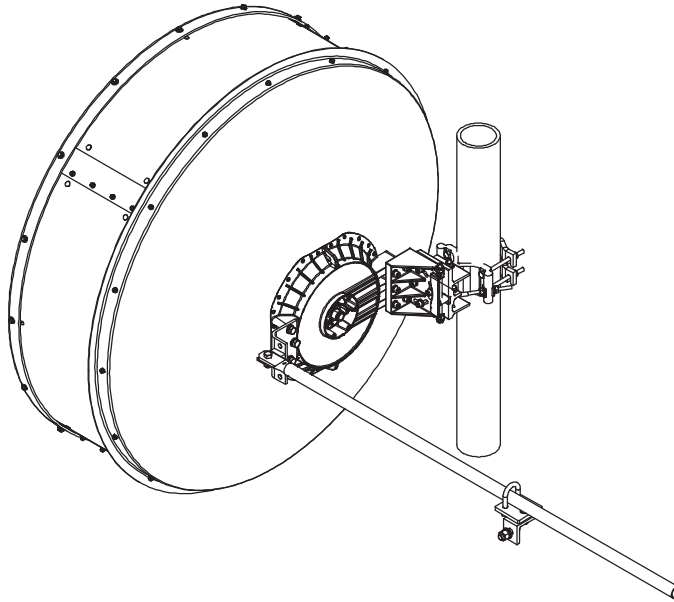


Bulletin 7628916 page 2 of 27

Version 08 StatusRE Rev J

Model Version 01 StatusRE Rev B

**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

Customer Service 24 hours

U.S.A., Canada, Mexico: 1-800-255-1479
or 1-888-235-5732
U.K.: 0800 250055
Other Europe: +44 592 782 612

www.commscope.com/andrew

Visit our Web site at www.commscope.com/andrew or contact your local Andrew Solutions representative for more information.

© 2008 CommScope, Inc. All rights reserved.

Andrew Solutions is a trademark of CommScope. All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to Andrew Solutions products or services.

Notice: Andrew disclaims any liability or responsibility for the results of improper or unsafe installation, inspection, maintenance, or removal practices.

Aviso: Andrews no acepta ninguna obligación ni responsabilidad como resultado de prácticas incorrectas o peligrosas de instalación, inspección, mantenimiento o retiro.

Avis : Andrew decline toute responsabilité pour les conséquences de procédures d'installation, d'inspection, d'entretien ou de retrait incorrectes ou dangereuses.

Hinweis: Andrew lehnt jede Haftung Oder Verantwortung für Schaden ab, die aufgrund unsachgemäßer Installation, Überprüfung, Wartung Oder Demontage auftreten.

Atencao: A Andrew abdica do direito de toda responsabilidade pelos resultados de praticas inadequadas e sem seguranca de instalacao, inspecao, manutengao ou remocao.

Awertenza: Andrew declina eventual! responsabilita denvanti dell'esecuzione di procedure di installazione, ispezione, manutenzione e smontaggio improprie o poco sicure.

注意：Andrew 公司申明對於不恰當或不安全的安裝、檢驗、維修或拆卸操作所導致的後果不負任何義務和責任



LIST OF CONTENTS

<u>SECTION</u>	<u>TITLES</u>
1	INTRODUCTION
2	SAFETY INSTRUCTIONS Including Introduction, Standards, Safety Requirements, Safety Symbols, Definitions and Hazards.
3	EQUIPMENT & TOOLS Including Equipment supplied diagram, Equipment quantities and descriptions. Tools required.
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.

NOTE:  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

Refer to page 9 and 10 for pictorial reference to contents list

Item	Qty	Description
A	1	Reflector
B	4	Shield
C	1	Radome
D	1	Feed
D1		Vertex Plate Installation Kit, 6GHz
	2	Vertex Plate Segment
	4	M4 X 12LG Flat Hd CSK Screw, sst, pass
	1	Absorber Ring
	2	Gloves
	1	Loctite Nutlock, ½ML Sachet
	4.0m	Aluminium Tape (6GHz only)
E1		Mount Extrusion Sub-Assembly
	1	Mount Extrusion
	1	Mount Support Plate
	1	M10 Lock Washer, sst, pass
	2	M10 Flat Washer, sst, pass
	1	M10 Hex Nut, sst, pass
	1	M10 X 130LG Hex hd Screw, sst, pass
E2		Mount Adjustment Assembly
	2	Link Screw
	4	Concave Washer
	2	M10 X 30LG Hex hd Screw, sst, pass
	4	M10 Lock Washer, sst, pass
	6	M10 Flat Washer, sst, pass
	4	M10 Hex Nut, sst, pass
F	1	Mount Casting Sub-Assembly
G1		Pipe Attachment Clamps
	2	Pipe Clamp
	4	M10 X 150LG Hex hd Screw, st, galv
	4	M10 Lock Washer, st, galv
	4	M10 Flat Washer, st, galv
	4	M10 Hex Nut, st, galv
	1	Conductive Grease (Tube)
	2	Gloves
G2		Mount Casting Attachment
	5	M10 X 50LG SHCS Screw, sst, pass
	5	M10 Lock Washer, sst, pass
	5	M10 Flat Washer, sst, pass
G3		Extrusion Attachment Screws
	4	M10 X 40LG SHCS Screw, sst, pass
	4	M10 Lock Washer, sst, pass
	4	M10 Flat Washer, sst, pass
H1		Shield Assembly Hardware
	32	M6 X 12LG Hex hd Screw, sst, pass
	32	M6 Lock Washer, sst, pass
	32	M6 Hex Nut, sst, pass
H2		Radome Hardware
	16	M6 X 20LG Hex hd Screw, sst, pass
	16	M6 Flat Washer, sst, pass
	16	M6 Lock Washer, sst, pass
H3	8	Hole plug

Refer to page 9 and 10 for pictorial reference to contents list

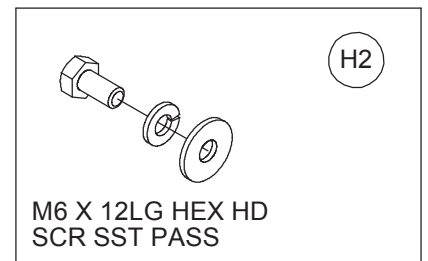
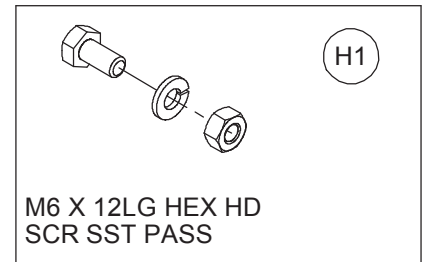
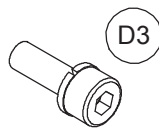
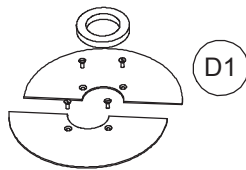
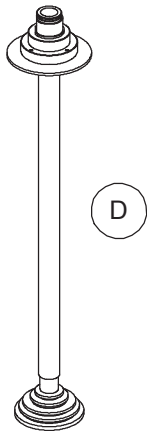
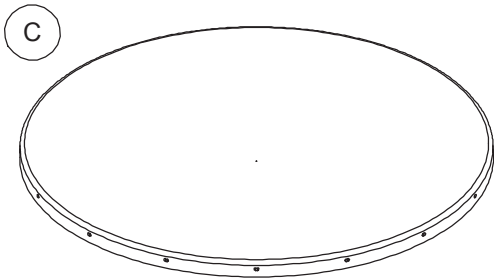
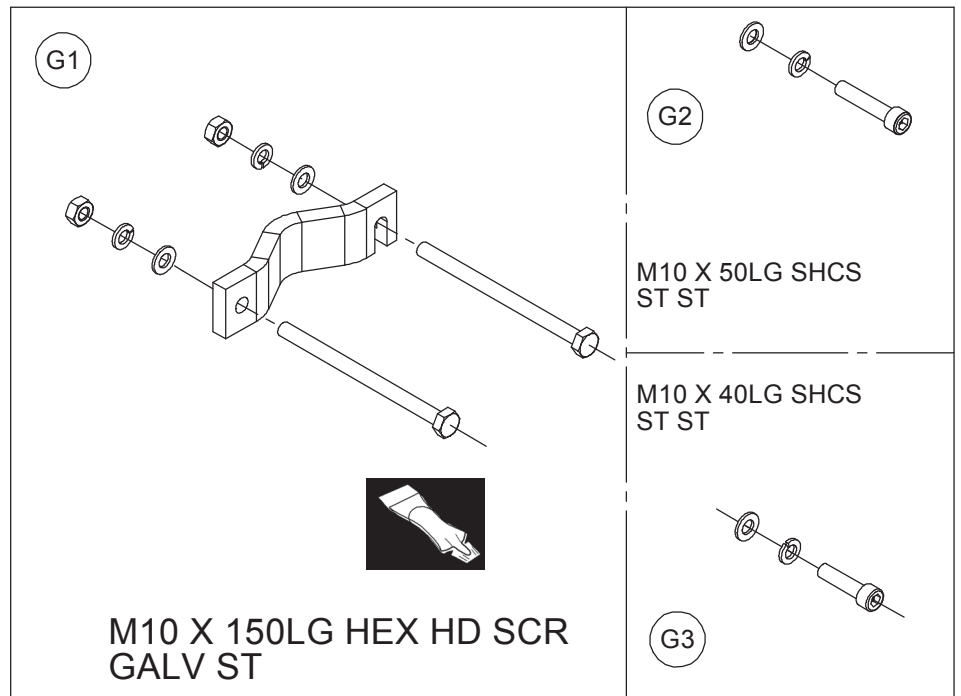
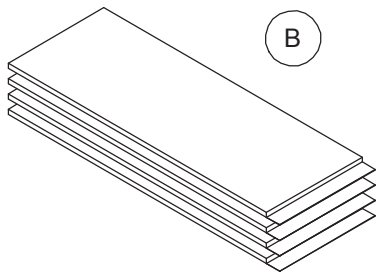
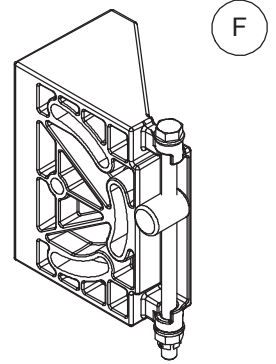
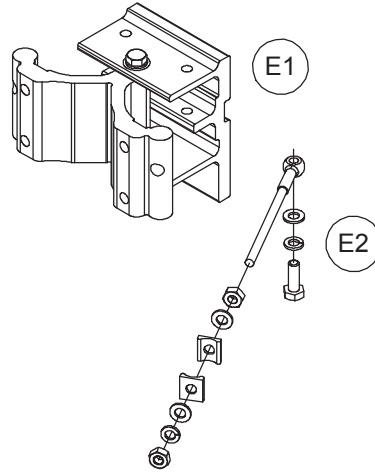
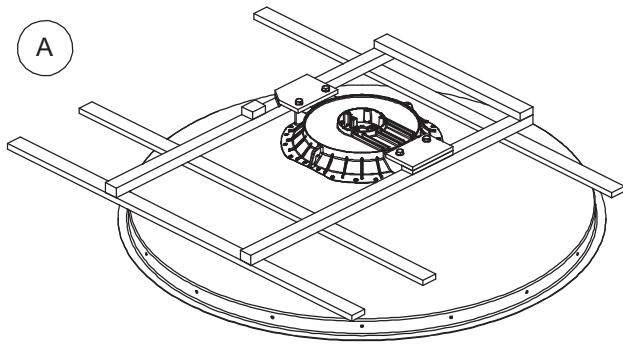
Item	Qty	Description
J		Feed Installation Kit
	4	M4 X 12LG SHCS Screw, sst, pass
	4	M4 Lock Washer, sst, pass
	1	Conductive Grease (Tube)
K	1	Brace Rod
L		Brace Rod Hardware Kit
	1	Strut Bracket
	1	Angle Bracket
	3	M12 Washer, sst, pass
	2	M12 Washer, stl, galv
	3	M12 Lock Washer, sst, pass
	2	M12 Lock Washer, stl, galv
	2	M12 Nut, stl, galv
	2	M12 x 35 Hex hd Screw, stl, galv
	3	M12 x 30 Hex hd Screw, stst, pass
M		Strut Pipe Tower Clamp Hardware Kit
		(refer to sheets 10 and 25 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
	4	M12 Washer, stl, galv
	6	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

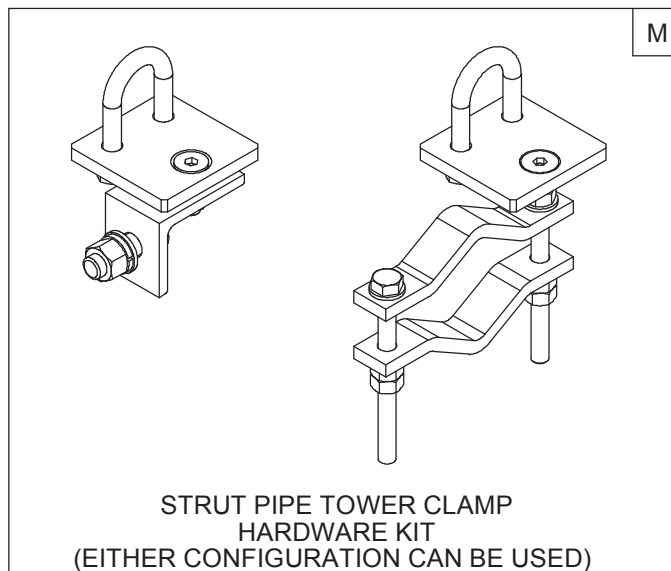
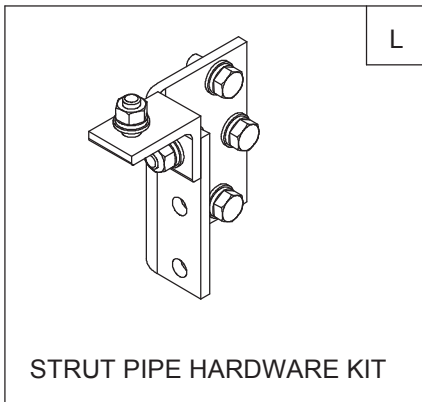
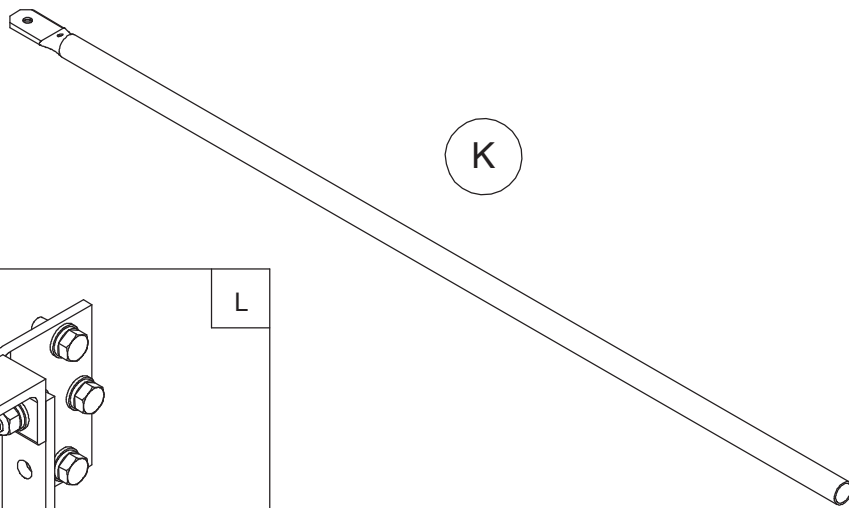
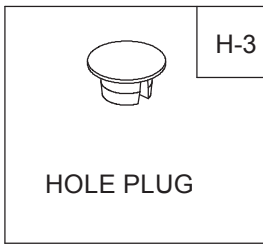
Refer to page 10 and 11 for pictorial reference to contents list

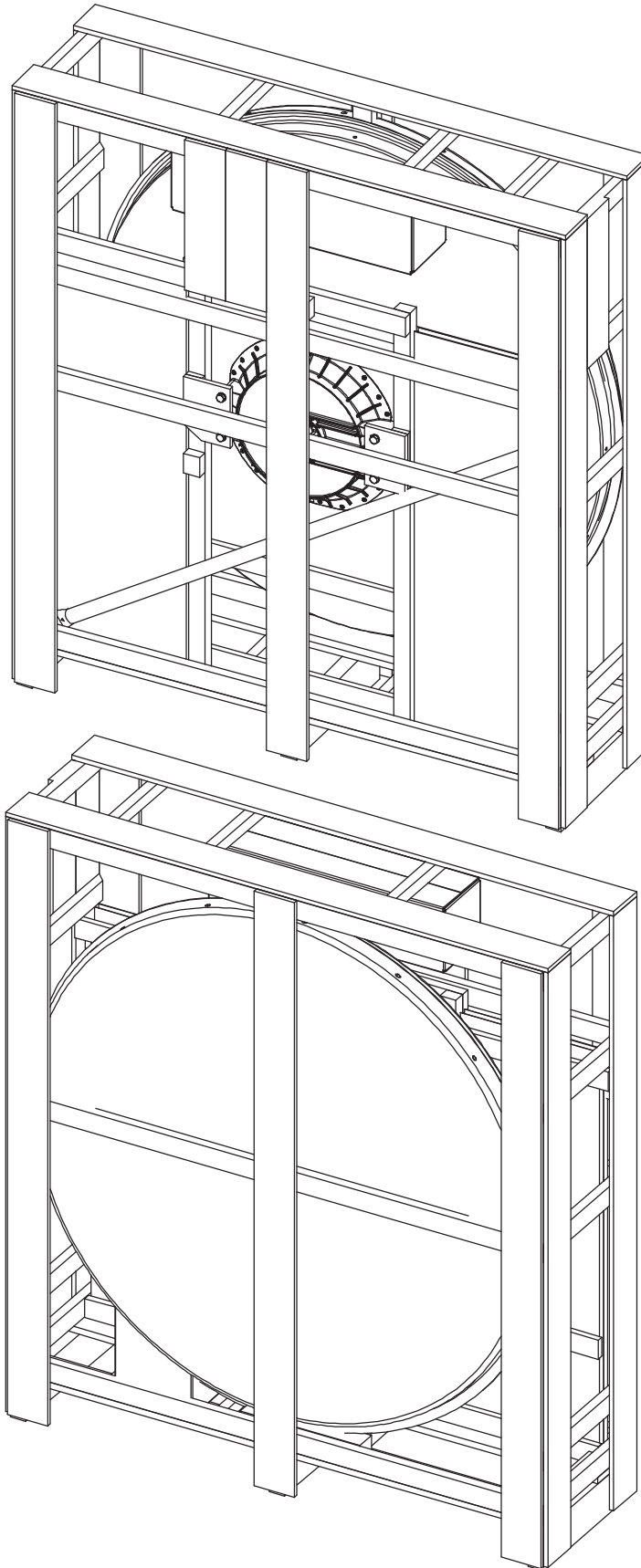
Tools

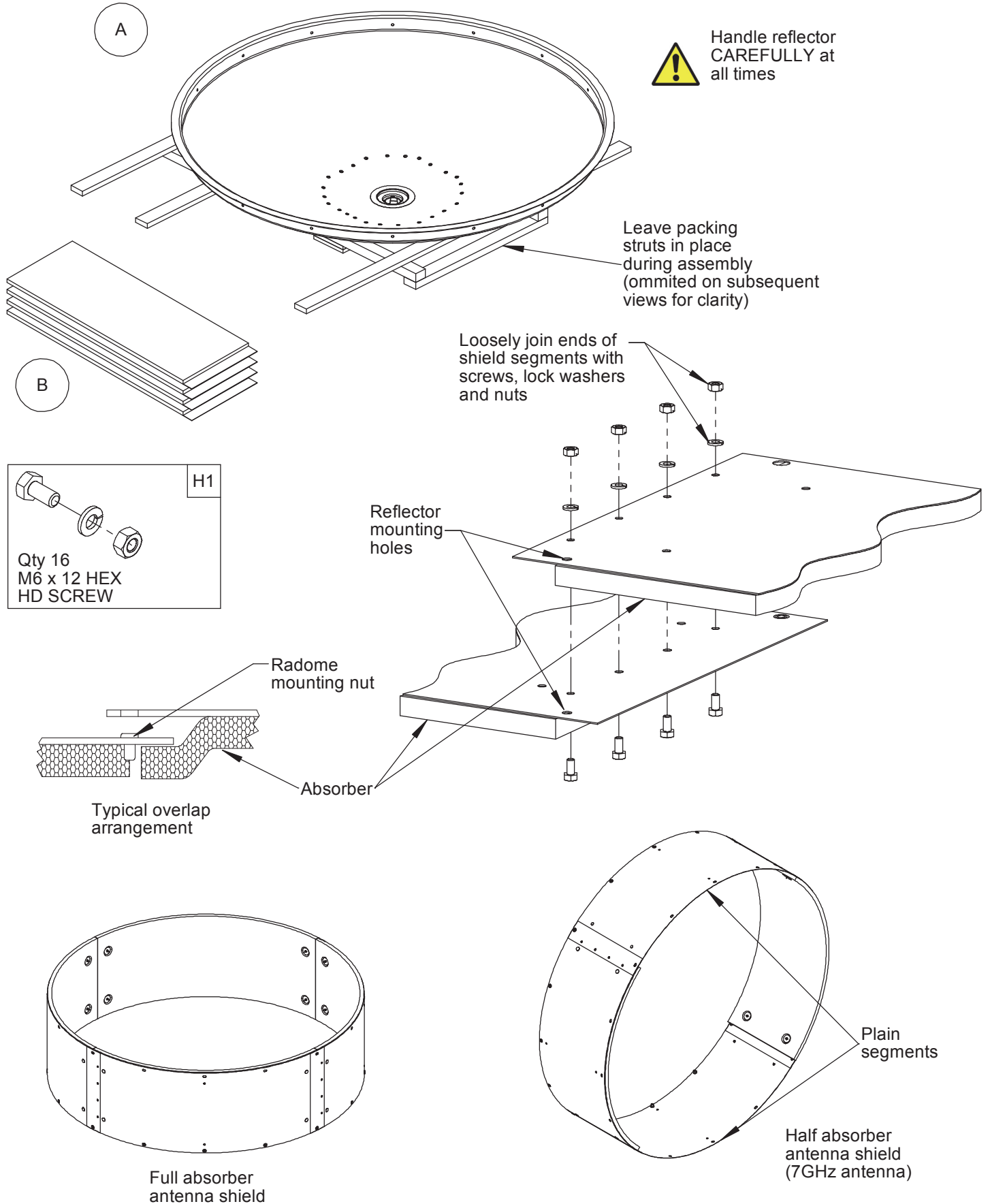
TOOL REQUIREMENTS

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				

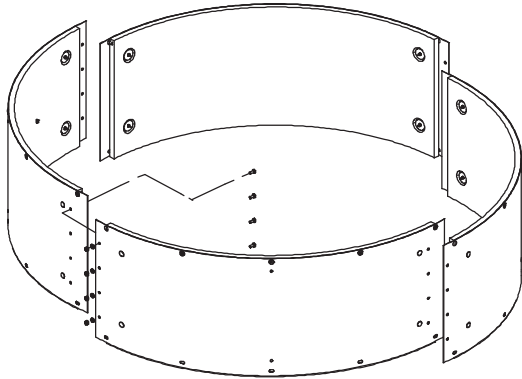




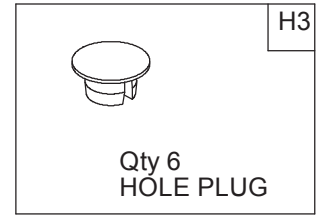
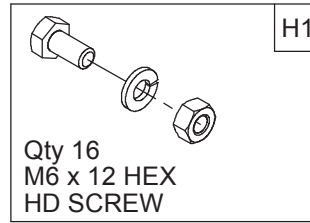




Full absorber antenna
shield version shown



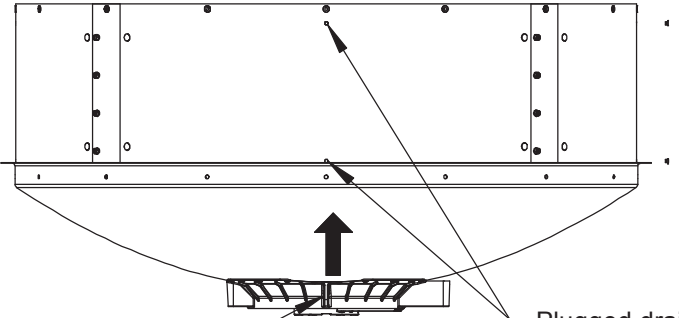
Antenna shield
arrangement



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

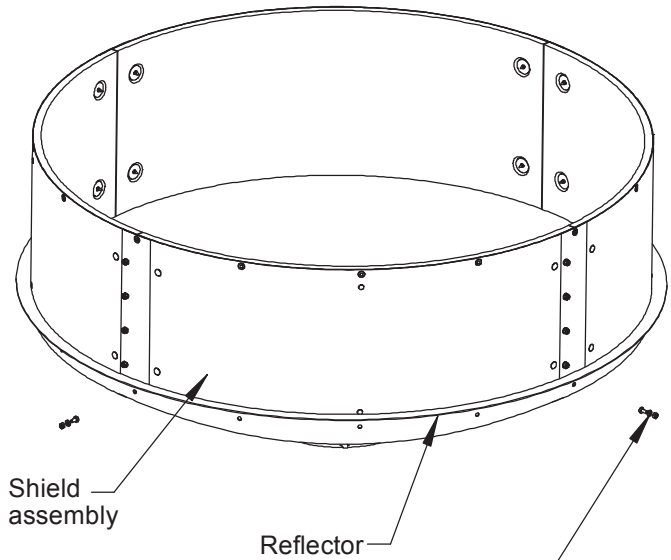
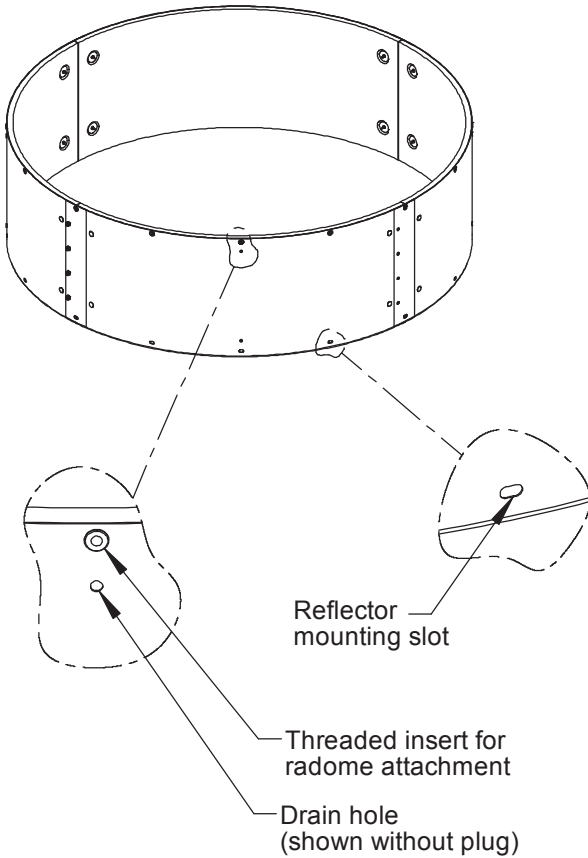


Insert hole plugs in top and side
drain holes,
bottom holes must
remain open



Lifting eye
identifies top
of antenna

Plugged drain
holes, align with
top of antenna

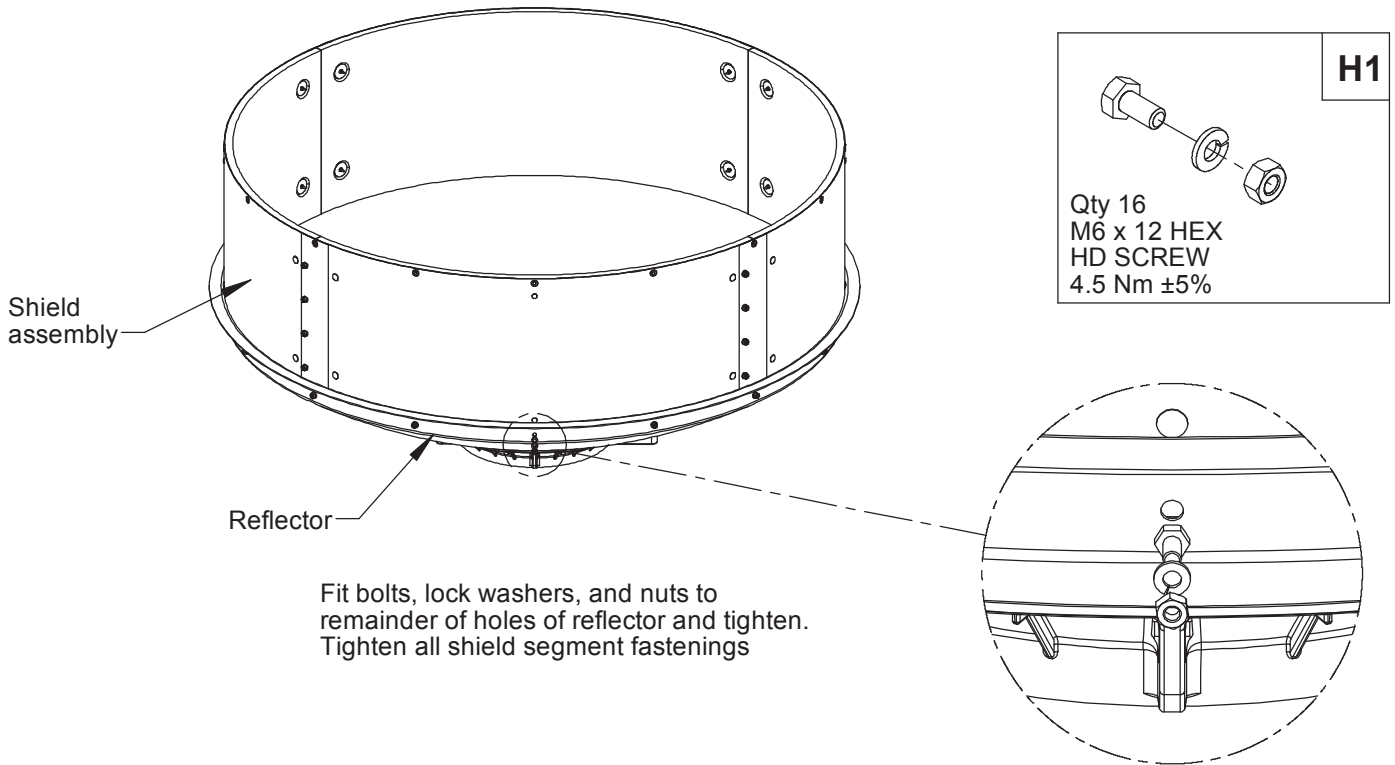


Shield
assembly

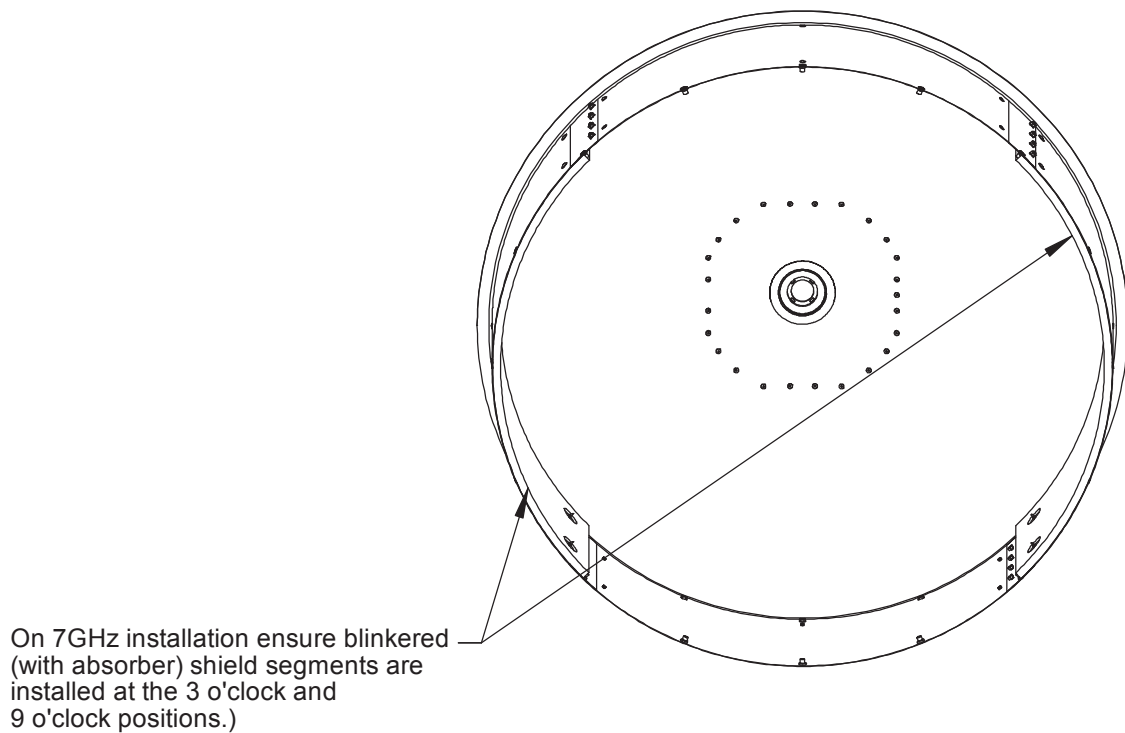
Reflector

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

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



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

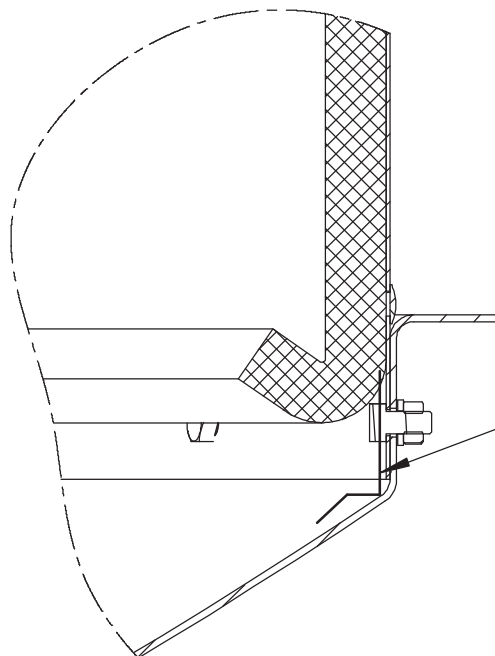
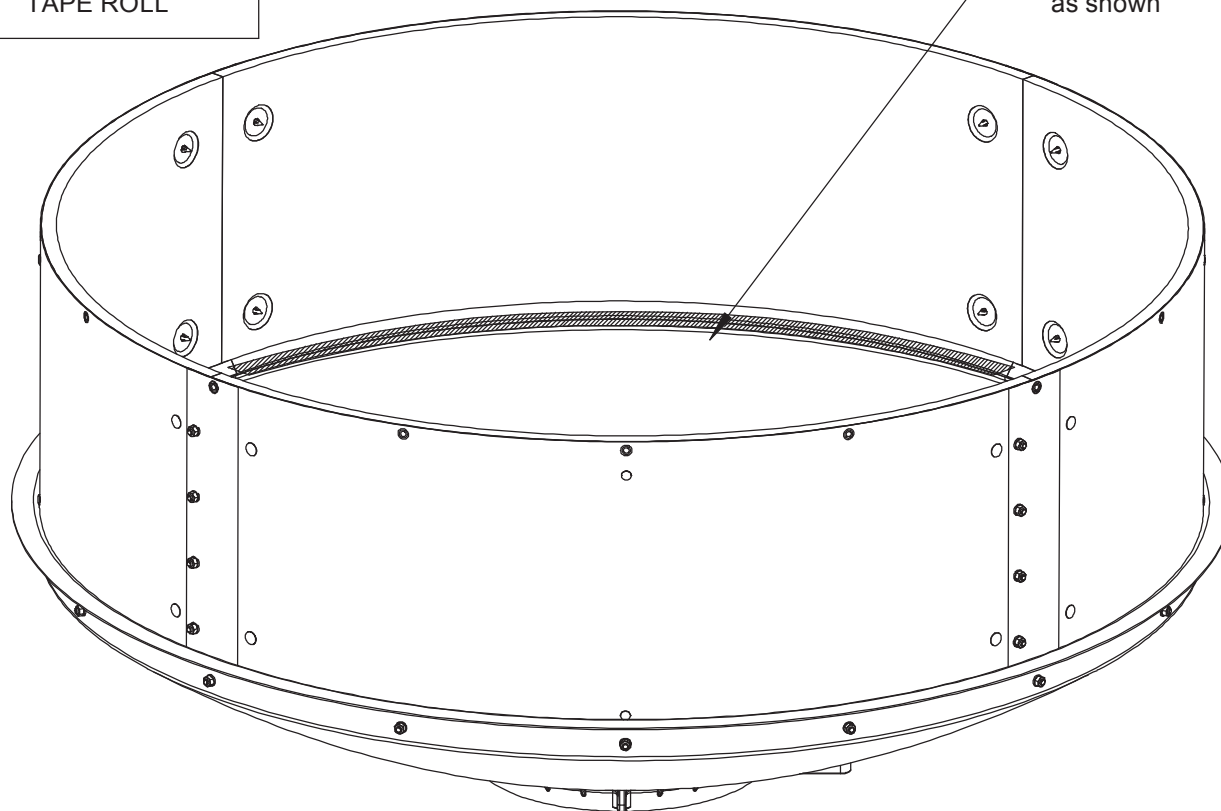




**** 6GHz SHIELD INSTALLATION ONLY ****



6GHz only
Cover joint with
aluminium tape
as shown

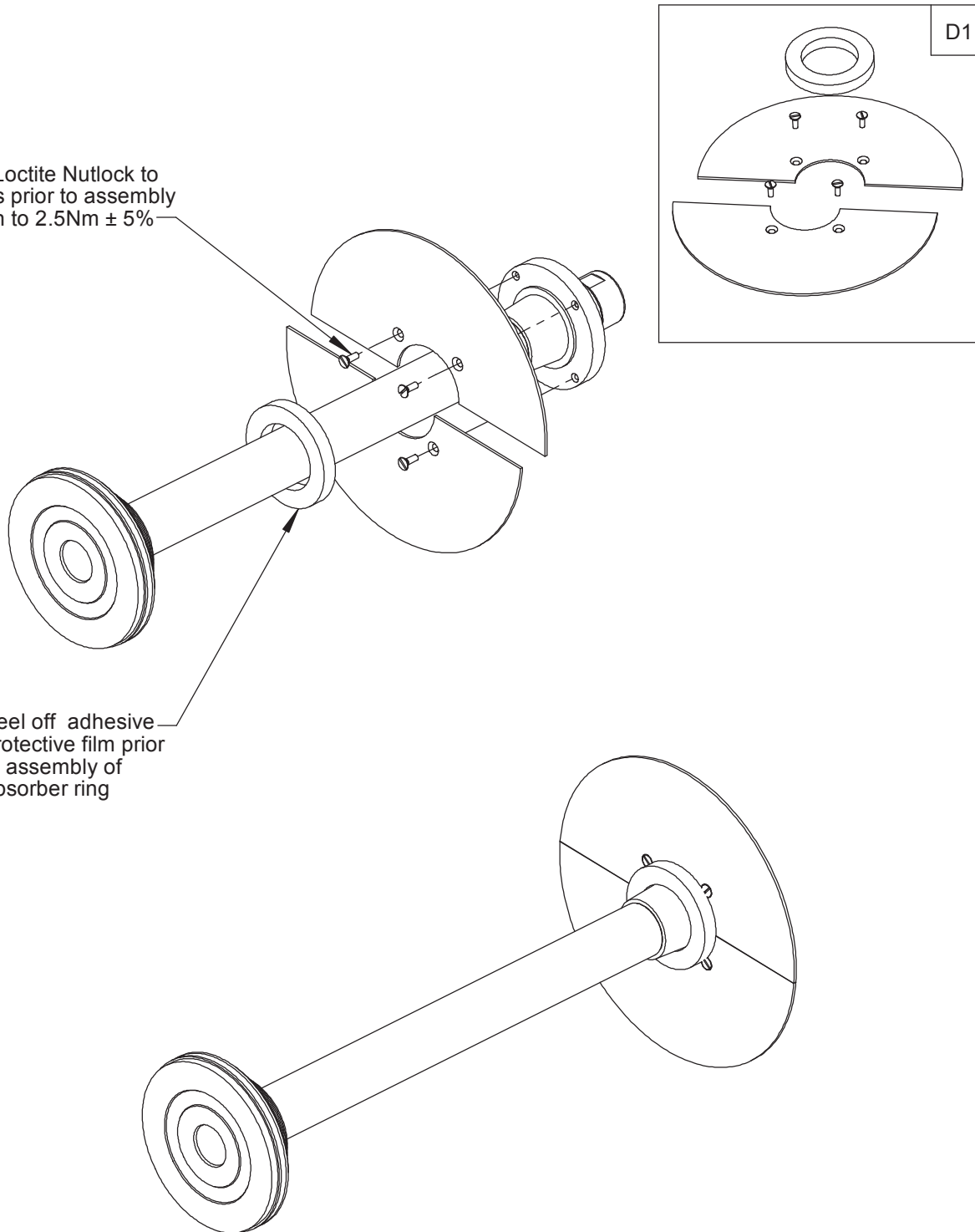


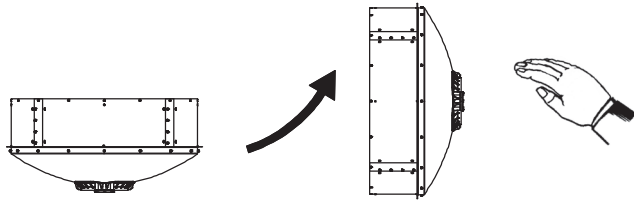
Pull back absorber and
cover joint with aluminium
tape as shown.
Push absorber back after
affixing tape

***** 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



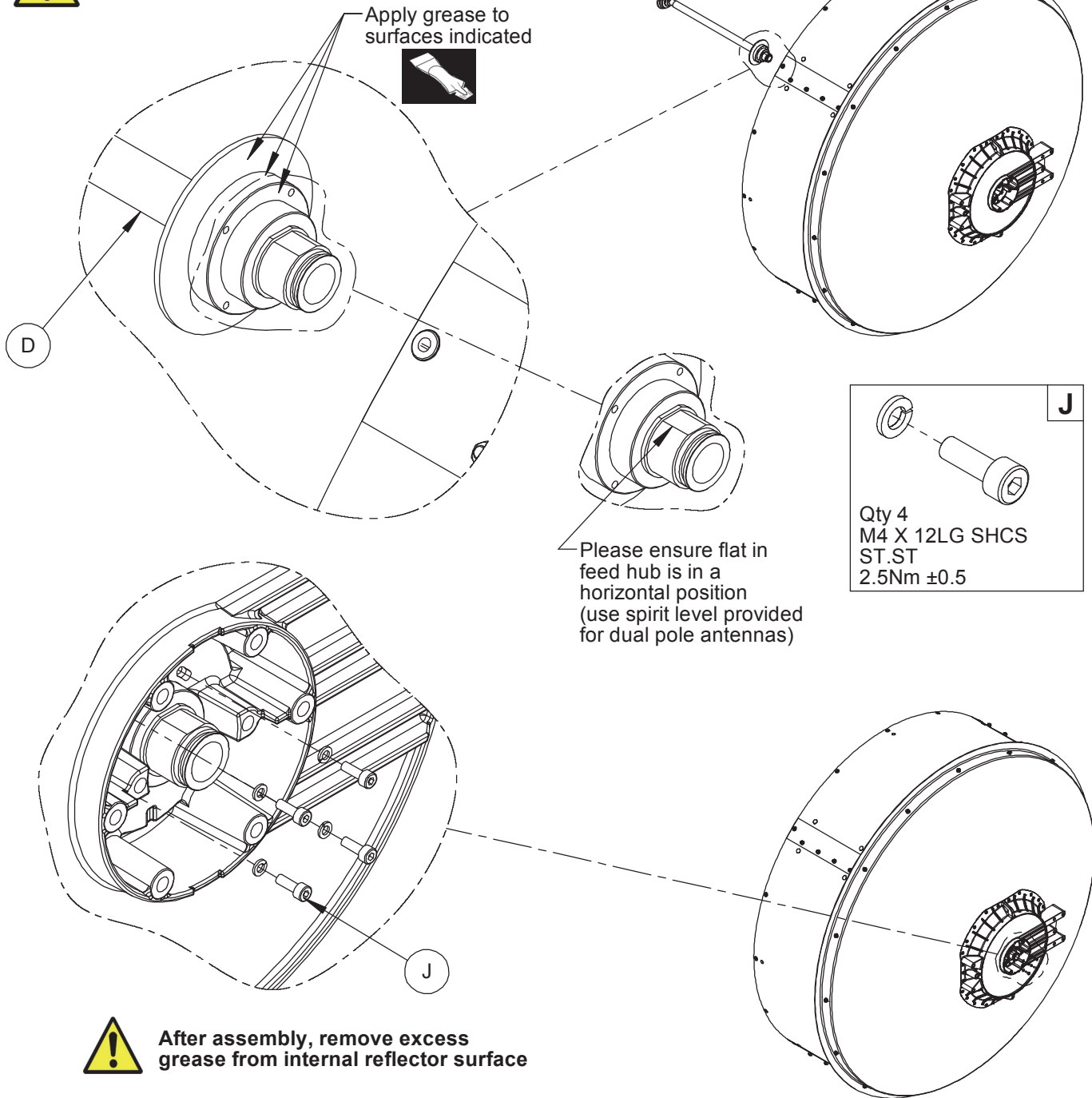


Prior to feed attachment, carefully tilt antenna upright and hold in position.



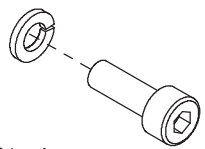
REFER TO SAFETY NOTE ON PAGE 5

Apply grease to surfaces indicated



Please ensure flat in feed hub is in a horizontal position (use spirit level provided for dual pole antennas)

J



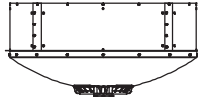
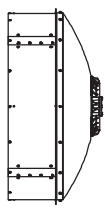
Qty 4
M4 X 12LG SHCS
ST.ST
2.5Nm ±0.5



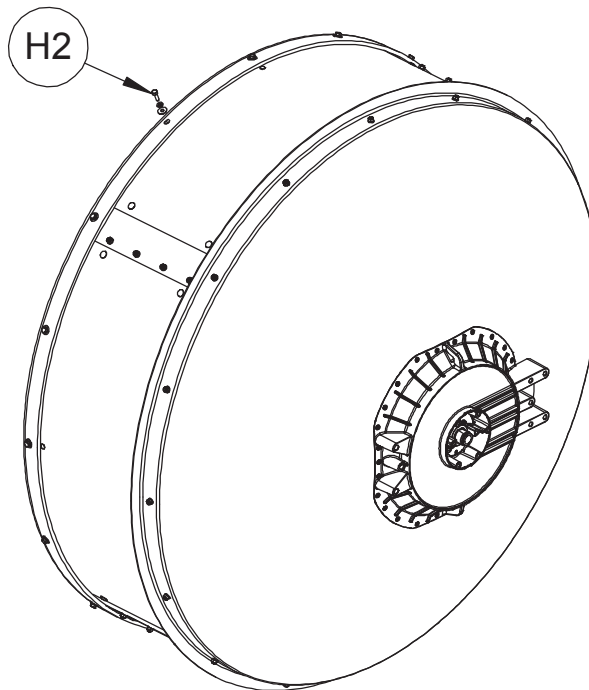
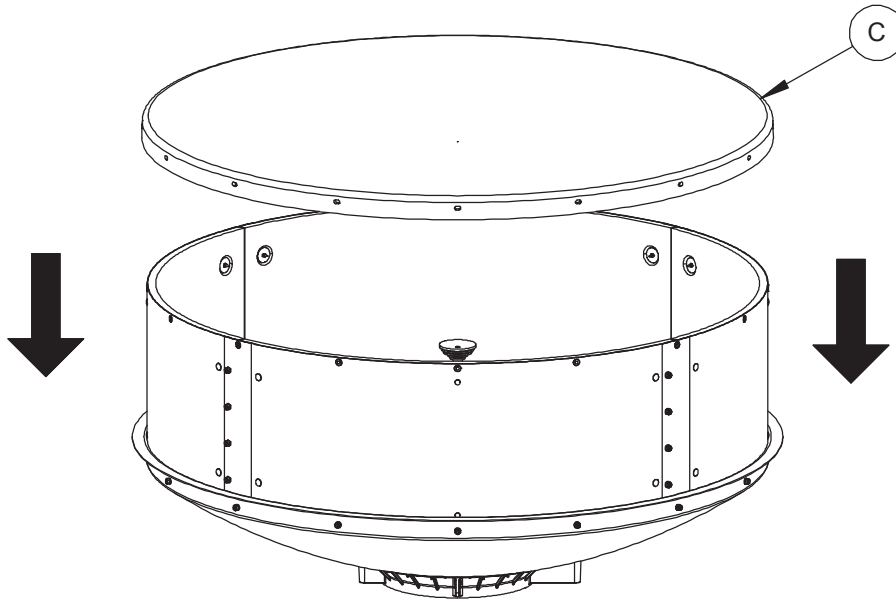
After assembly, remove excess grease from internal reflector surface



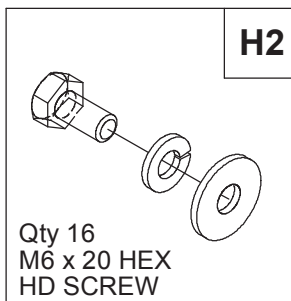
For transition, OMT & customer interface information see separate installation instructions



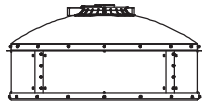
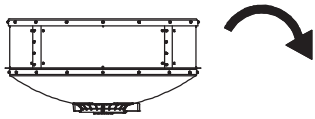
After feed attachment,
carefully tilt antenna flat.



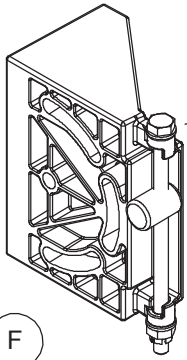
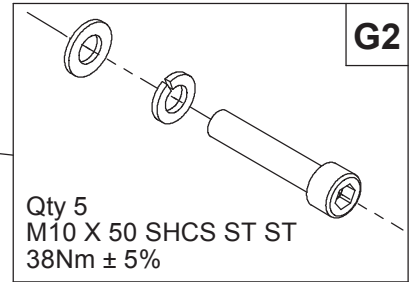
Assemble radome to shield with
bolts, lock washers,
and flat washers



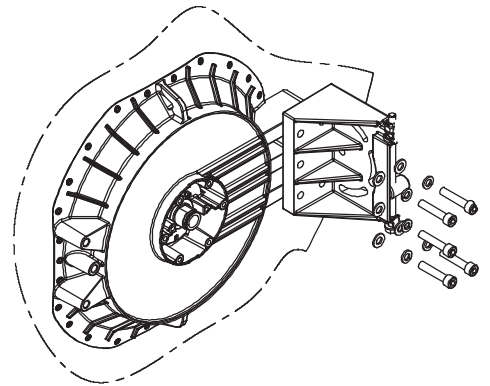
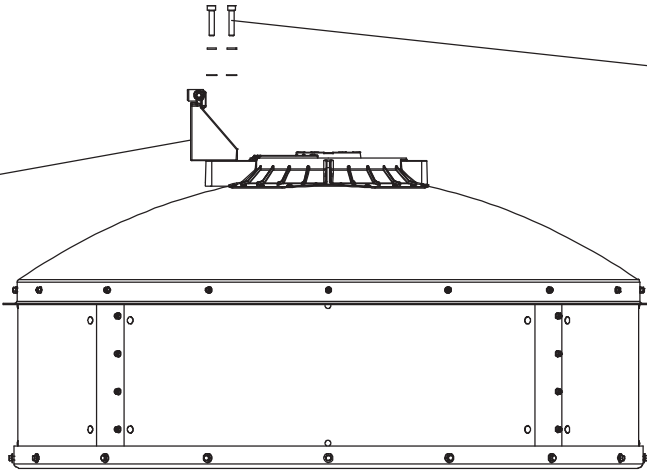
Qty 16
M6 x 20 HEX
HD SCREW



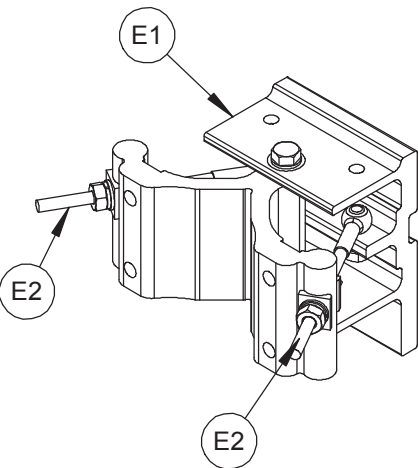
Remove braces and
discard fixings



F



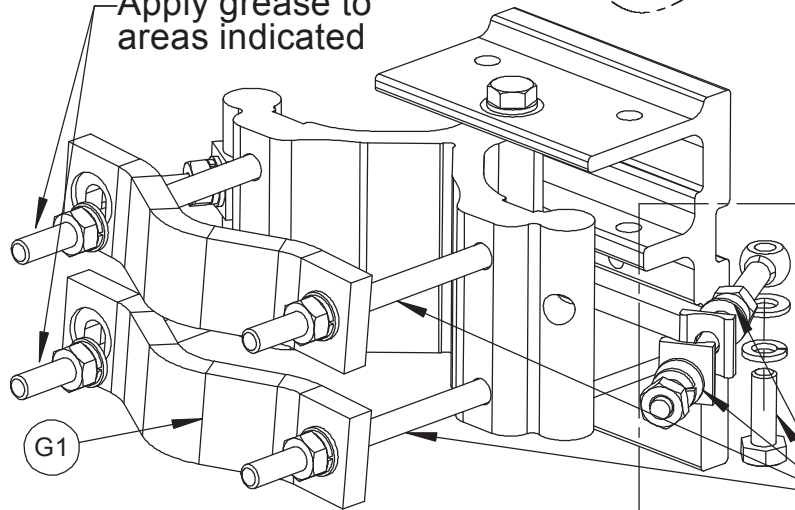
Apply grease to
areas indicated



E1

E2

E2

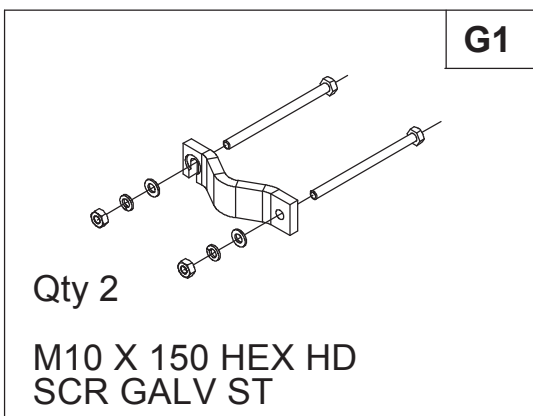


E2

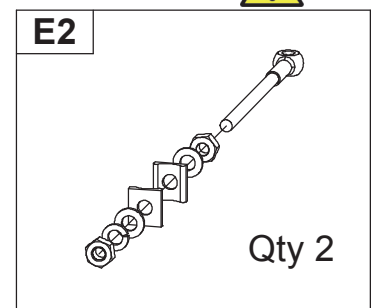
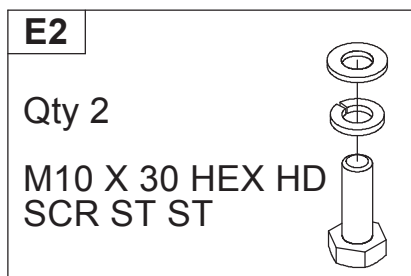
G1

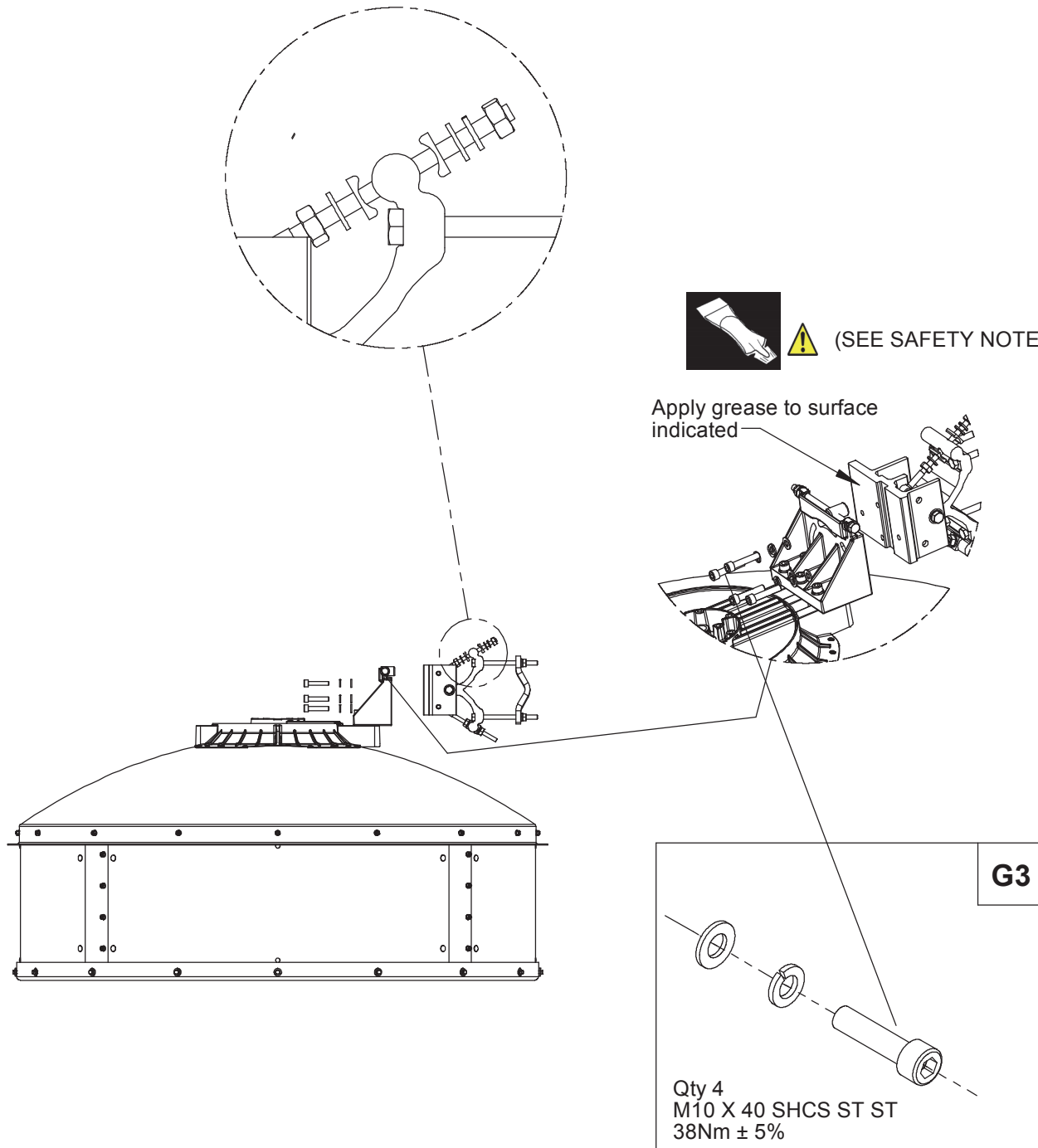


Apply grease to
areas indicated



SEE SAFETY
NOTE Pg5



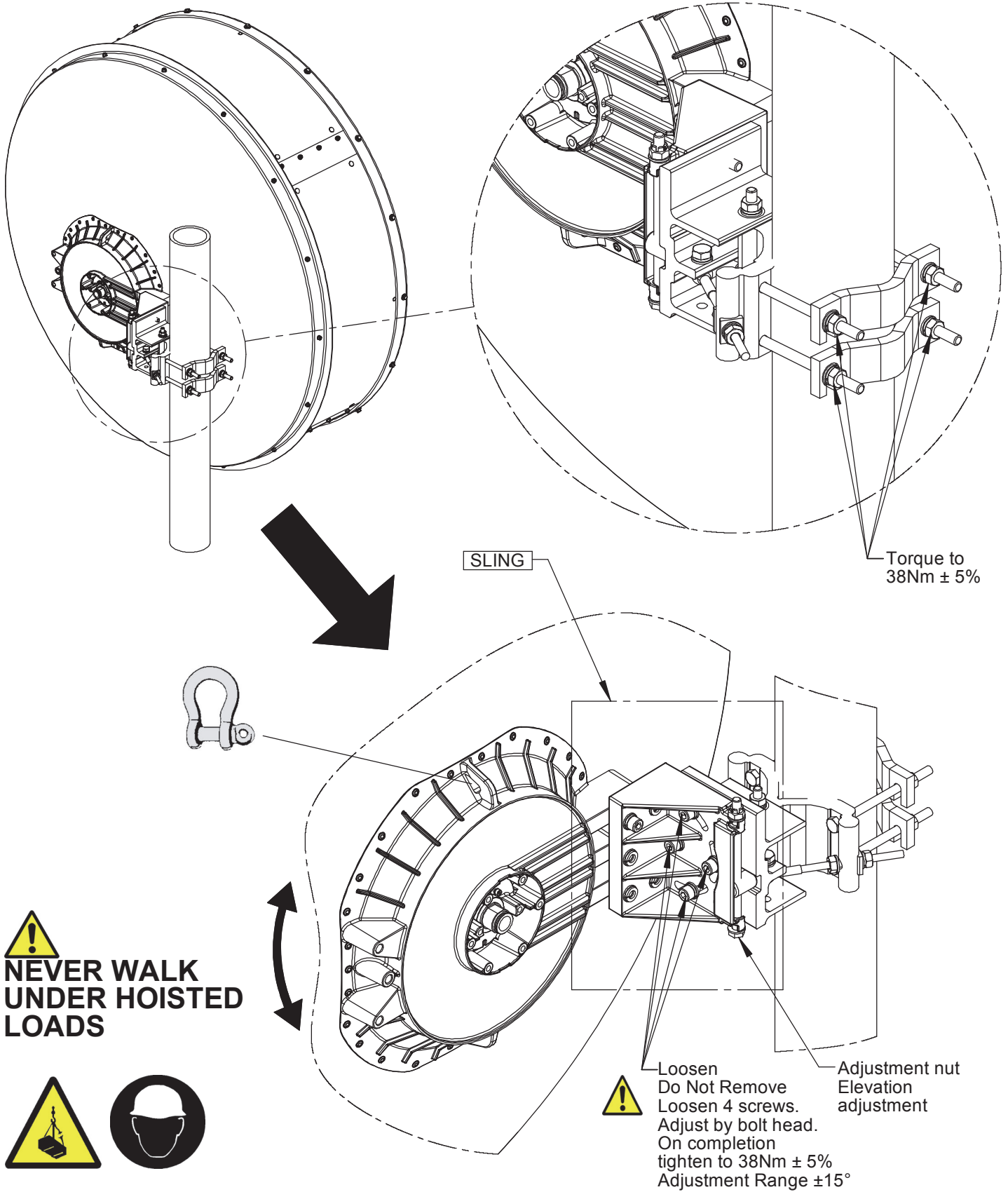


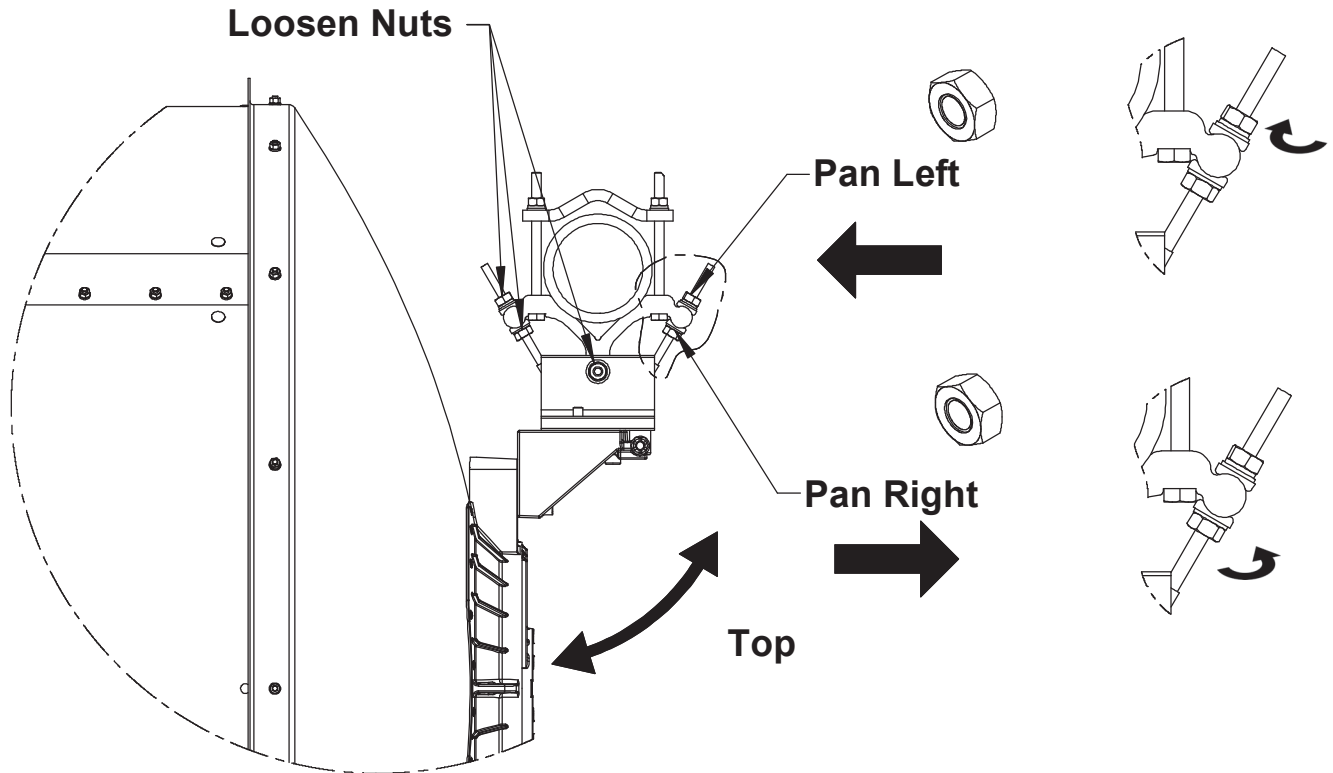
(SEE SAFETY NOTE Pg 5)

Apply grease to surface indicated

G3

Qty 4
M10 X 40 SHCS ST ST
38Nm ± 5%





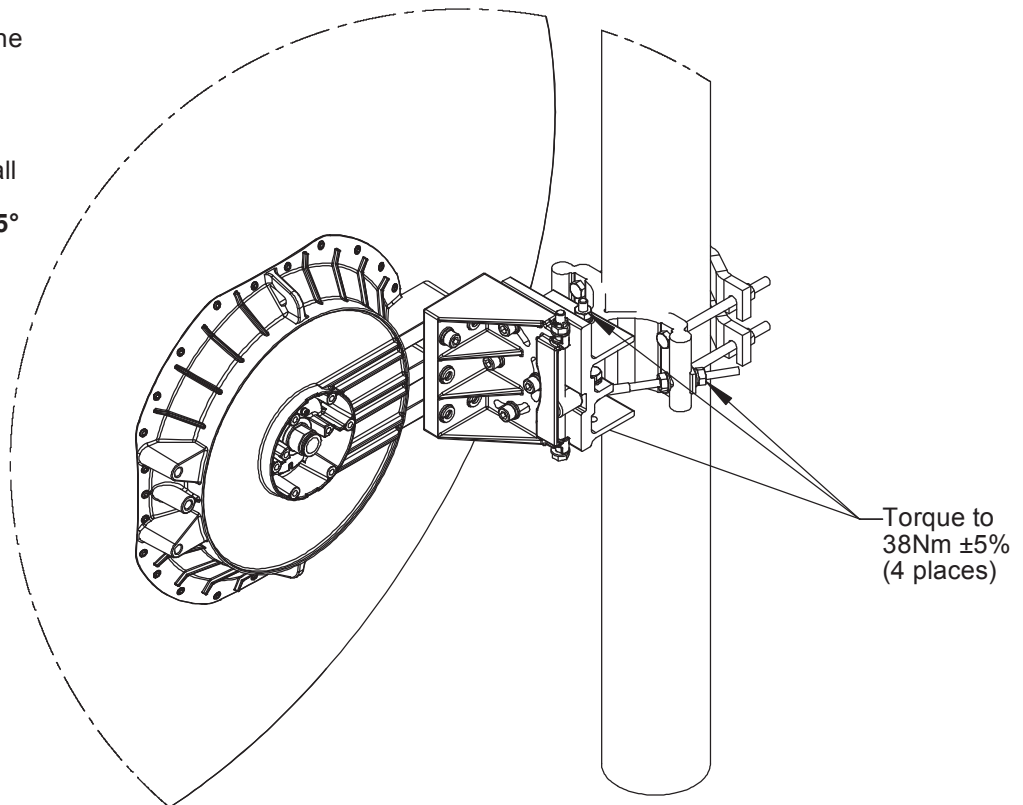
Azimuth adjustment

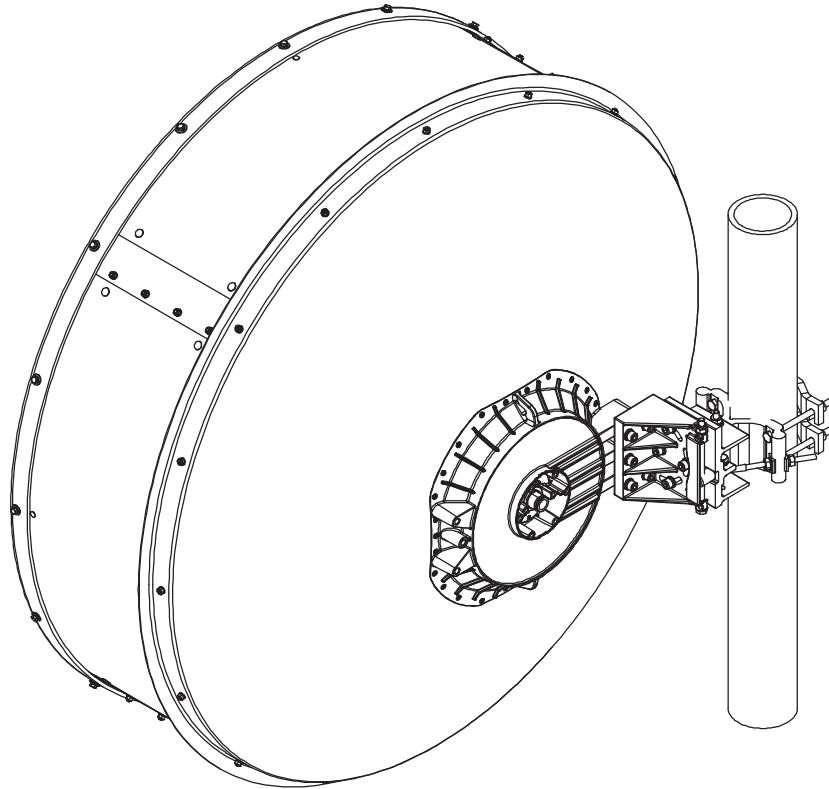
Loosen link screw on one side giving room for adjustment.

Adjust with remaining link screw.

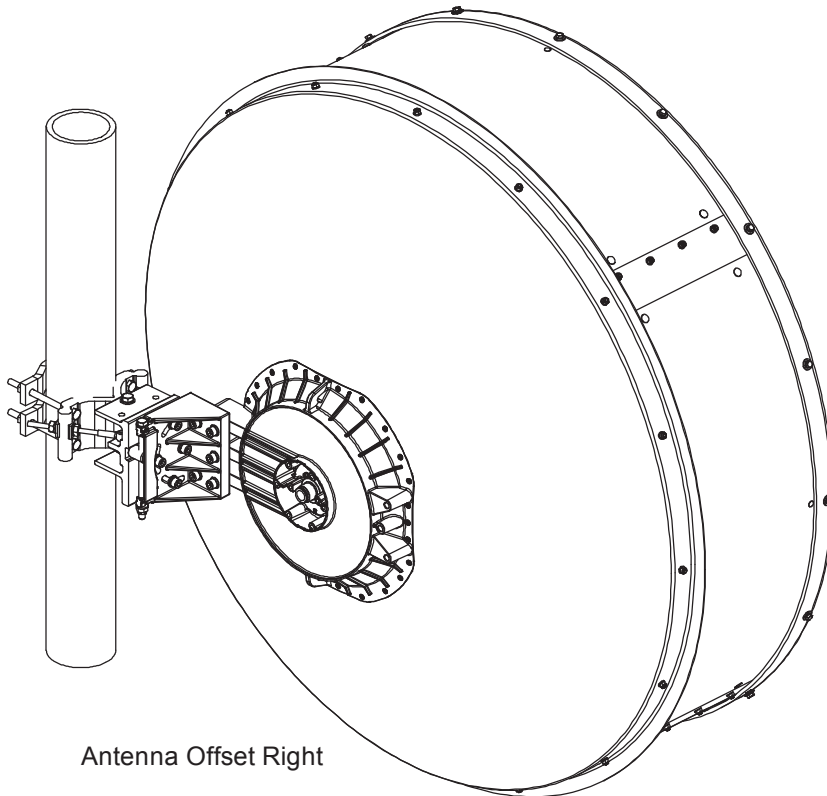
On completion tighten all screws to $38\text{Nm} \pm 5\%$

Adjustment Range $\pm 15^\circ$

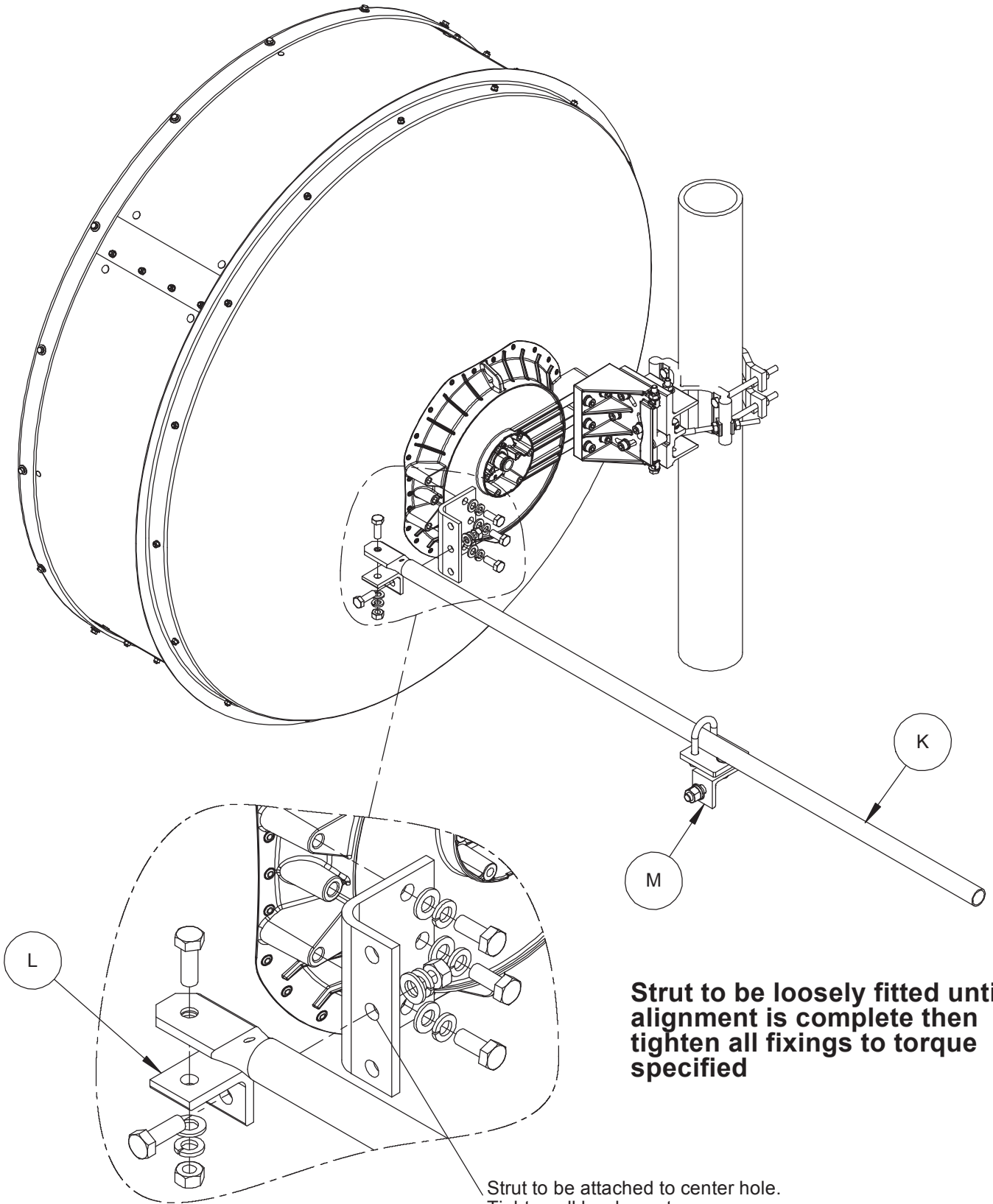




Antenna Offset Left



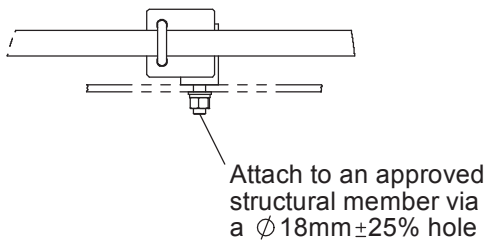
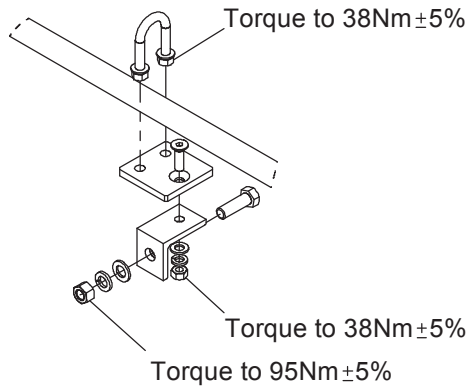
Antenna Offset Right



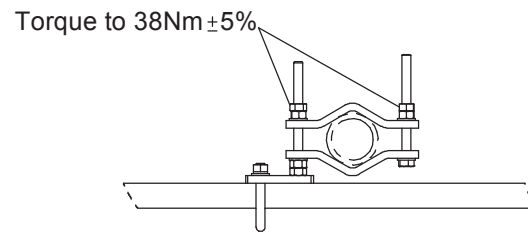
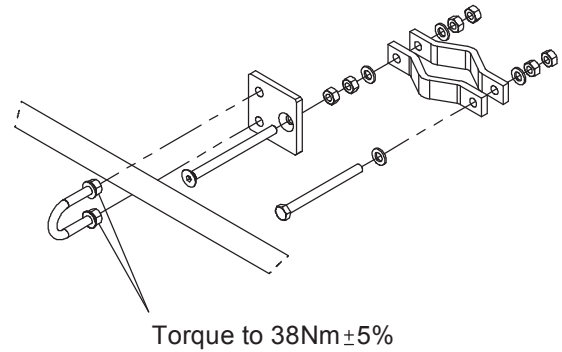
Strut to be loosely fitted until alignment is complete then tighten all fixings to torque specified

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**

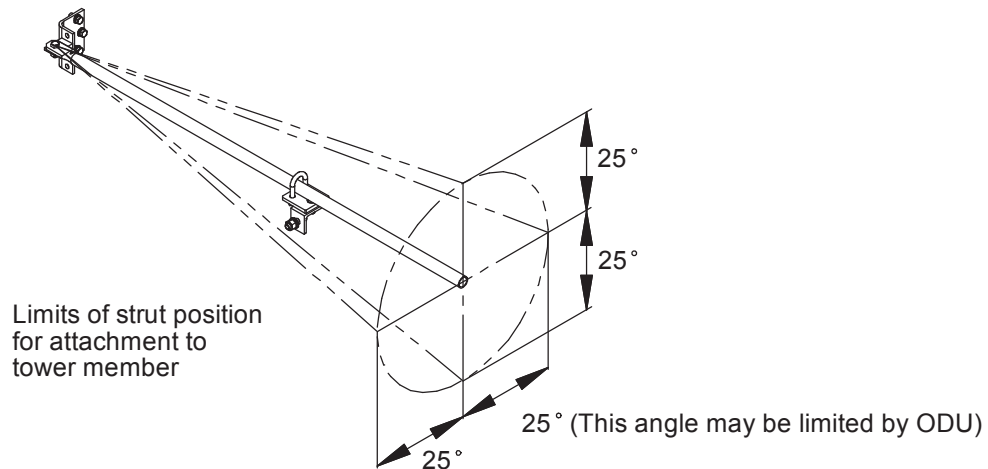


**For attachment to
circular structural
members only**



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.

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.



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.