

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

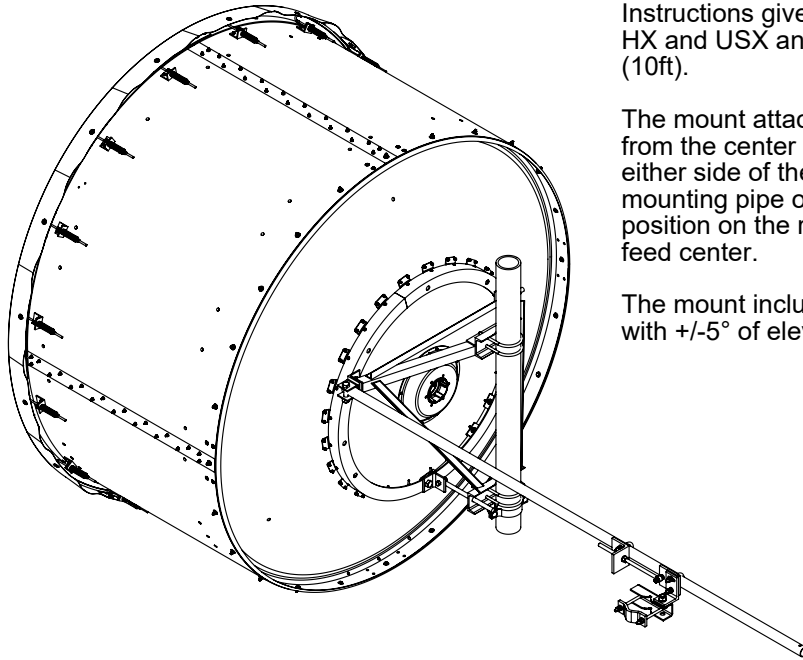
## HX and USX Antennas

Bulletin 7810083 page 2 of 17

Version 05 Status RE Rev F

Model Version 03 Status RE Rev AB

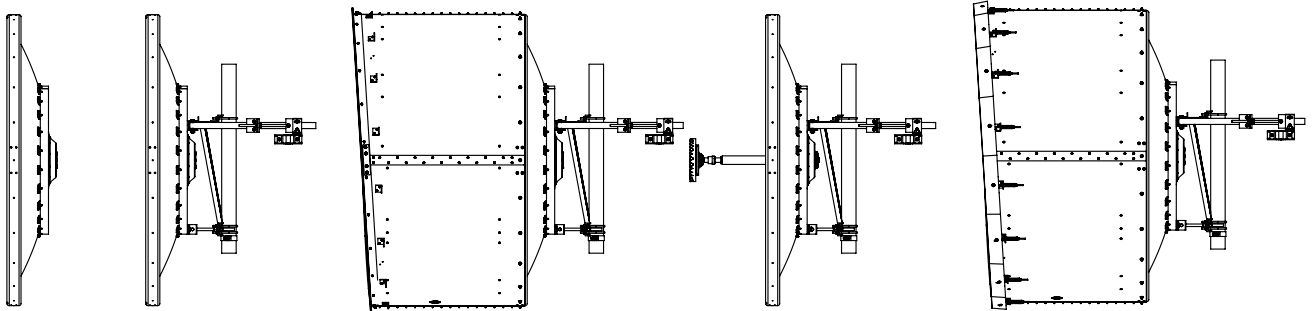
## Vertical Antenna Mount Installation



Instructions given in this bulletin apply to the mount assembly HX and USX antennas with diameters of 2.4 m (8ft) and 3.0 m (10ft).

The mount attaches to the reflector at 3 points and is offset from the center of the reflector. The mount may be offset from either side of the feed center and attaches to the antenna mounting pipe of the tower with 4 U-bolts. Inverting the mount position on the reflector provides the alternate offset from the feed center.

The mount includes 360° coarse azimuth adjustment together with +/-5° of elevation and +/-5° fine azimuth adjustment



Reflector

Mount

Shield

Feed  
Shield omitted for clarity

Radome

## Sequence of Antenna Assembly

**Always read all instruction completely before commencing installation**

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**SAFETY INSTRUCTIONS**

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

The safety information in this document 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 document 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 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 from a suitable location.
- 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

**SAFETY REGULATIONS**

Use local safety regulations where these are mandatory. The safety instructions in this document 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.

**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.

<b>Tools Required</b>	<b>M10</b>	<b>M12</b>	<b>M16</b>	<b>M20</b>
Ring and Open spanner (A/F)	17mm	19mm	24mm	30mm
Torque Wrench				
Sockets (A/F)	17mm	19mm	24mm	30mm
General Toolbox				

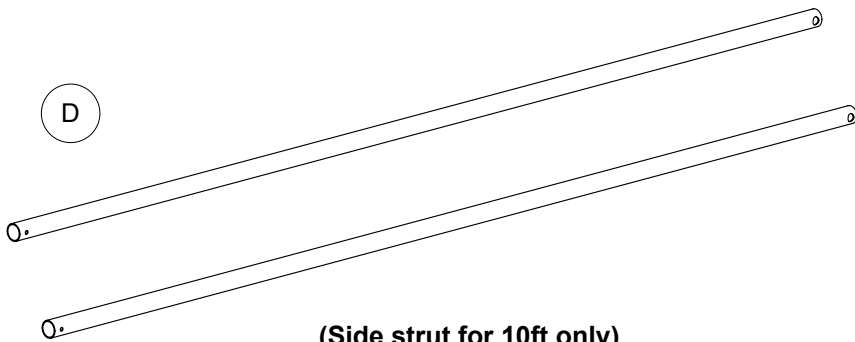
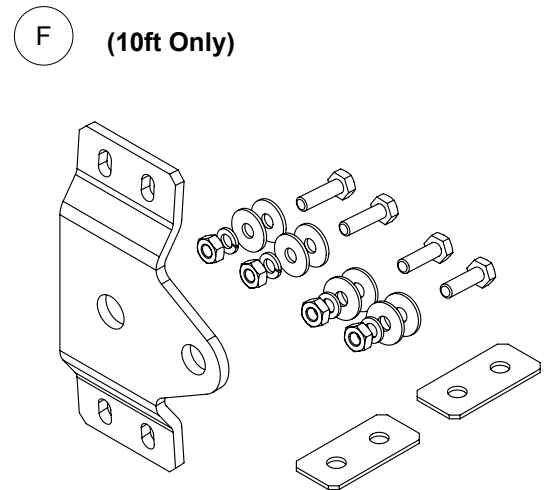
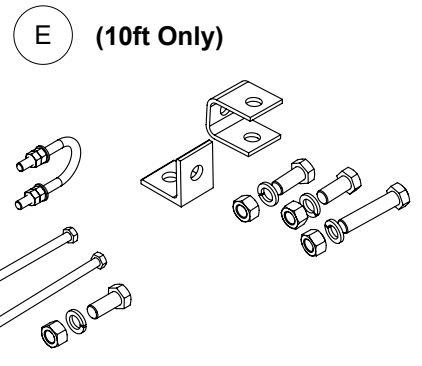
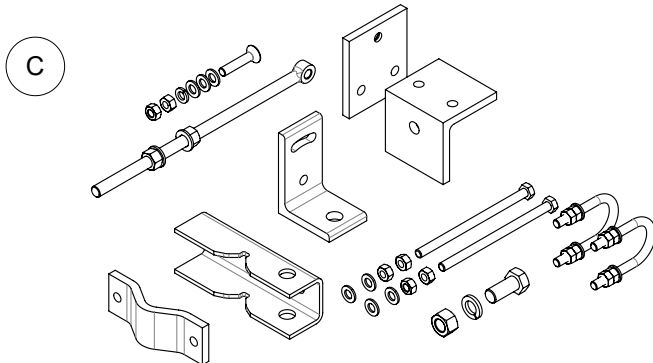
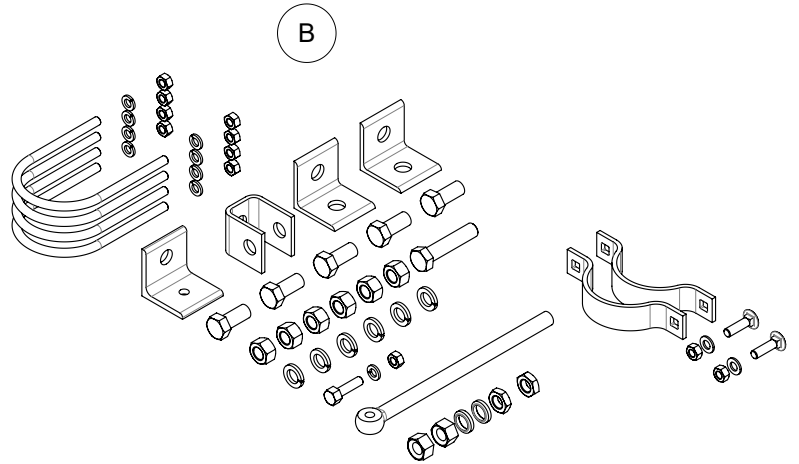
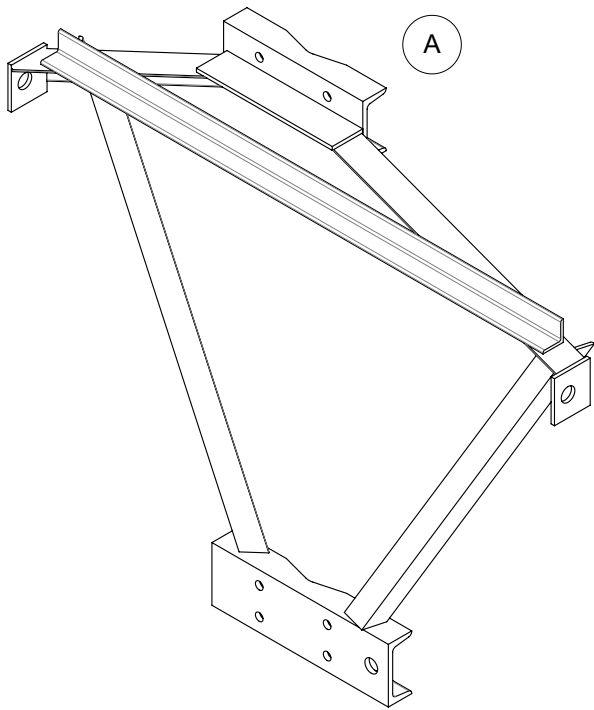
### **Tightening of hardware**

It is recommended that all hardware is tightened to the torques specified in table 3. The integrity of the mount depends on all fasteners being properly tightened.

#### *Fastener Torque Specifications*

<b>Fastener material</b>				
-	M10	M12	M16	M20
<b>Galvanized</b>	38	60	95	185
	(28)	(44.3)	(70)	(136.4)
<b>Brass</b>	-	-	-	95
	-	-	-	(70)

**Components**



**Supplied Components**

Item	Qty	Description
<b>A</b>	1	<b>Mount Frame</b>
<b>B</b>		<b>Mount Hardware Kit</b>
<b>B1</b>	2	Hinge (with holes for M20)
<b>B2</b>	1	Hinge (with holes for M12 and M20)
<b>B3</b>	1	U Bracket
<b>B4</b>	2	Band Clamp
<b>B5</b>	1	M20 Rod End Eye Bolt - St. St.
<b>B6</b>	2	Convex Washer - St. St.
<b>B7</b>	2	Concave Nut - Brass
<b>B8</b>	2	M12 Flat Washer - Stl, Galv
<b>B9</b>	9	M12 Lock Washer - Galv
<b>B10</b>	6	M20 Lock Washer - Galv
<b>B11</b>	11	M12 Nut - Galv
<b>B12</b>	6	M20 Nut - Galv
<b>B13</b>	2	M20 Thin Nut - St. St.
<b>B14</b>	5	M20 x 45 Hex Hd Screw -Galv
<b>B15</b>	1	M12 x 45 Hex Hd Bolt - Galv
<b>B16</b>	1	M20 x 90 Hex HD Bolt - Galv
<b>B17</b>	2	M12 x 45 Carriage Bolt - Galv
<b>B18</b>	4	M12 U-Bolt - Galv
<b>C</b>		<b>Azimuth Adjuster Kit</b>
<b>C1</b>	1	Azimuth Adjuster Bracket
<b>C2</b>	1	Swivel Plate
<b>C3</b>	1	Swivel Plate Bracket
<b>C4</b>	1	Pipe Clamp Bracket
<b>C5</b>	1	Pipe Clamp
<b>C6</b>	1	M16 Adjuster Eye Bolt
<b>C7</b>	2	M12 U-Bolt - Galv
<b>C8</b>	1	M12 x 60 Csk Skt Hd Screw - Galv
<b>C9</b>	2	M12 x 200 Hex Hd Screw - Galv
<b>C10</b>	6	M12 Nut - Galv
<b>C11</b>	7	M12 Flat Washer - Galv
<b>C12</b>	1	M12 Lock Washer - Galv
<b>C13</b>	1	M20 x 45 Hex Hd Screw - Galv
<b>C14</b>	1	M20 Lock Washer - Galv
<b>C15</b>	1	M20 Nut - Galv
<b>D</b>	1	<b>Strut Pipe</b>
	2	<b>Strut Pipe (for 10ft only)</b>



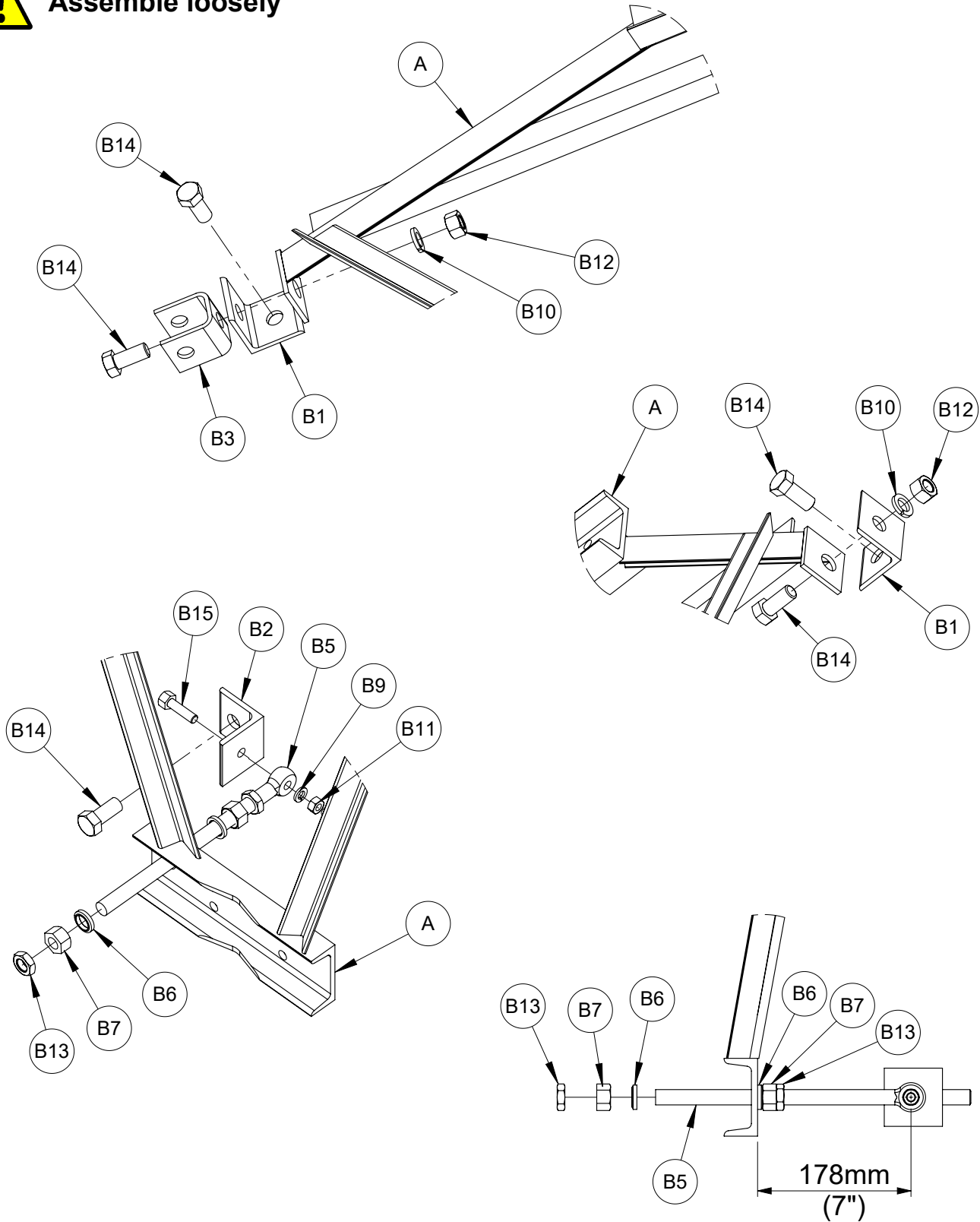
**Supplied Components**

<b>Item</b>	<b>Qty</b>	<b>Description</b>
<b>E</b>		<b>Side Strut Tower Clamp Kit (for 10ft only)</b>
<b>E1</b>	1	Swivel Plate Bracket
<b>E2</b>	1	Pipe Clamp Bracket
<b>E3</b>	1	Pipe Clamp
<b>E4</b>	1	M12 U-Bolt - Galv
<b>E5</b>	2	M12 x 200 Hex Hd Screw - Galv
<b>E6</b>	4	M12 Nut - Galv
<b>E7</b>	4	M12 Flat Washer - Galv
<b>E8</b>	3	M20 x 45 Hex Hd Screw - Galv
<b>E9</b>	4	M20 Lock Washer - Galv
<b>E10</b>	4	M20 Nut - Galv
<b>E11</b>	1	U Bracket
<b>E12</b>	1	M20 x 90 x 46 Hex Hd Bolt - Galv
<b>E13</b>	1	Strut Angle Bracket
<b>F</b>		<b>Side Strut Anchor Bracket Kit (for 10ft only)</b>
<b>F1</b>	1	Side Strut Bracket
<b>F2</b>	4	M10 x 35 Hex Hd Screw - Galv
<b>F3</b>	8	M10 Large Washer - Galv
<b>F4</b>	2	Washer, Bar
<b>F5</b>	4	M10 Lock Washer - Galv
<b>F6</b>	4	M10 Nut - Galv

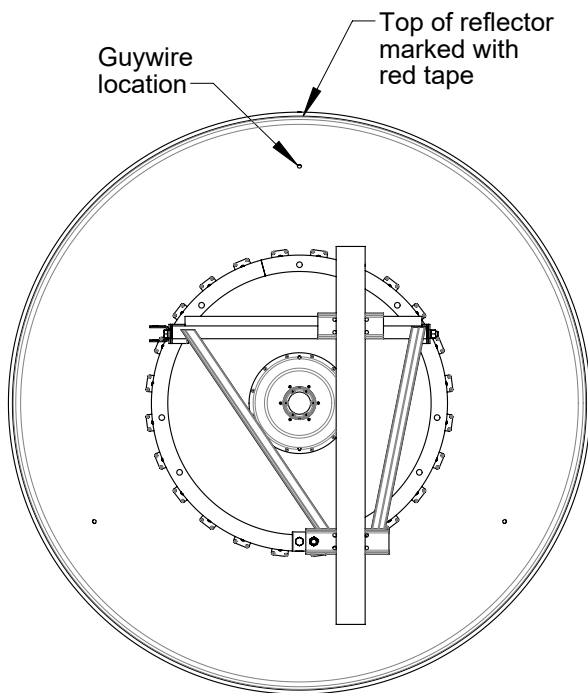
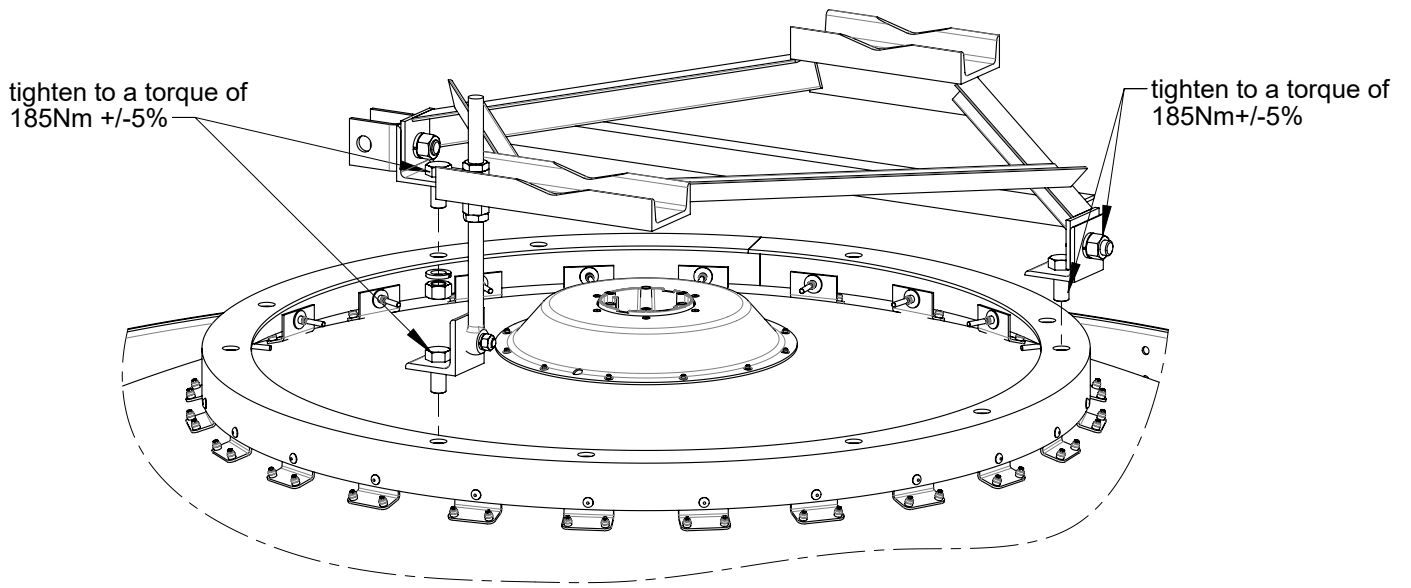
**Mount assembly**



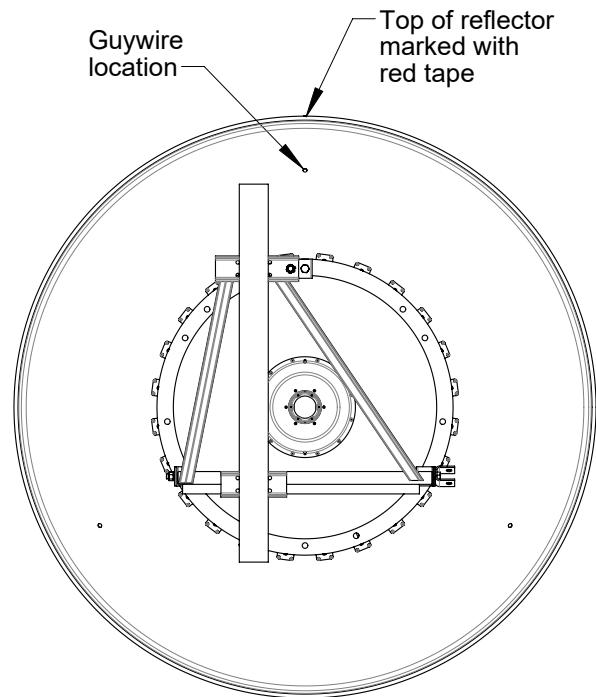
**Assemble loosely**



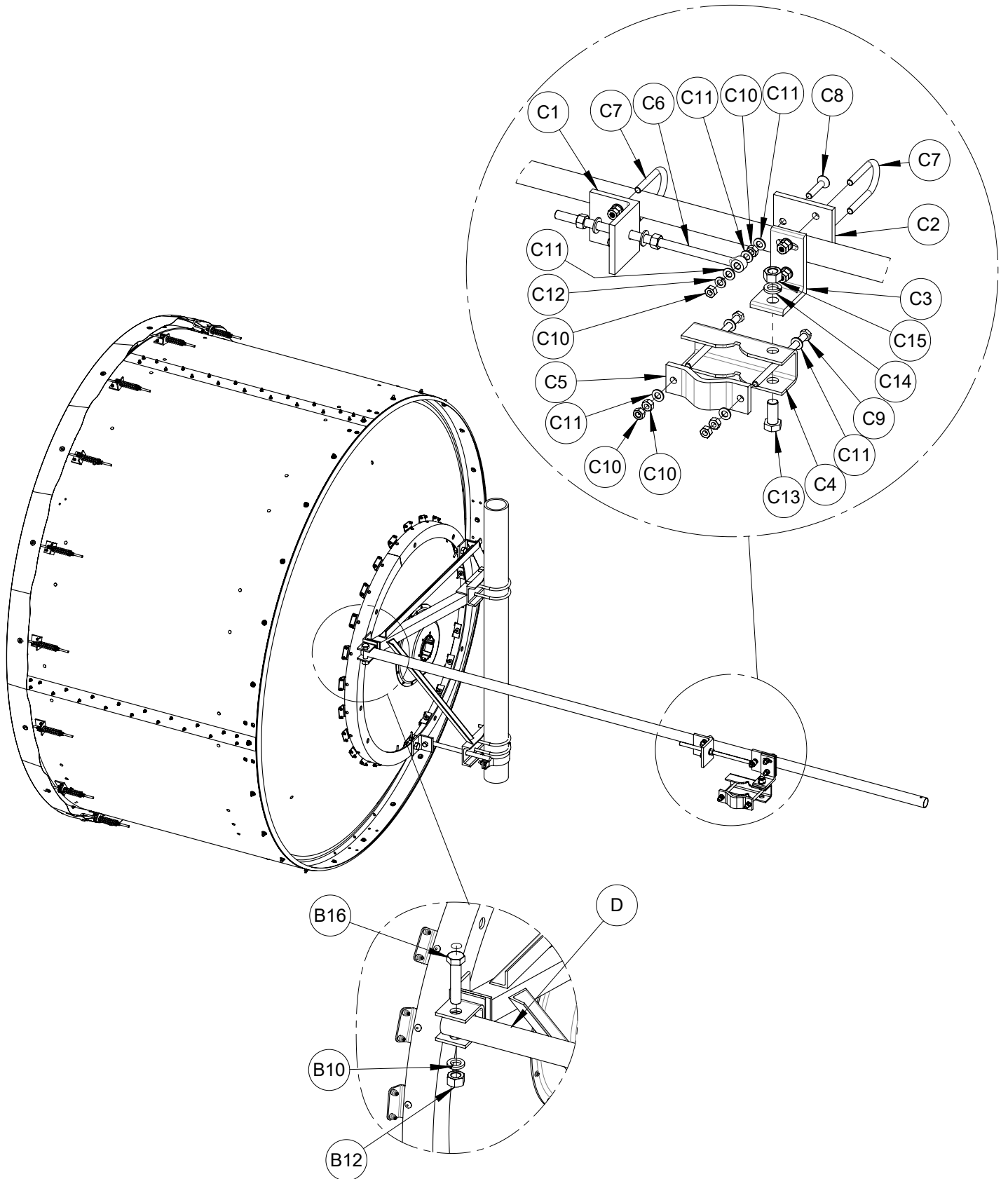
**Mount attachment to reflector**

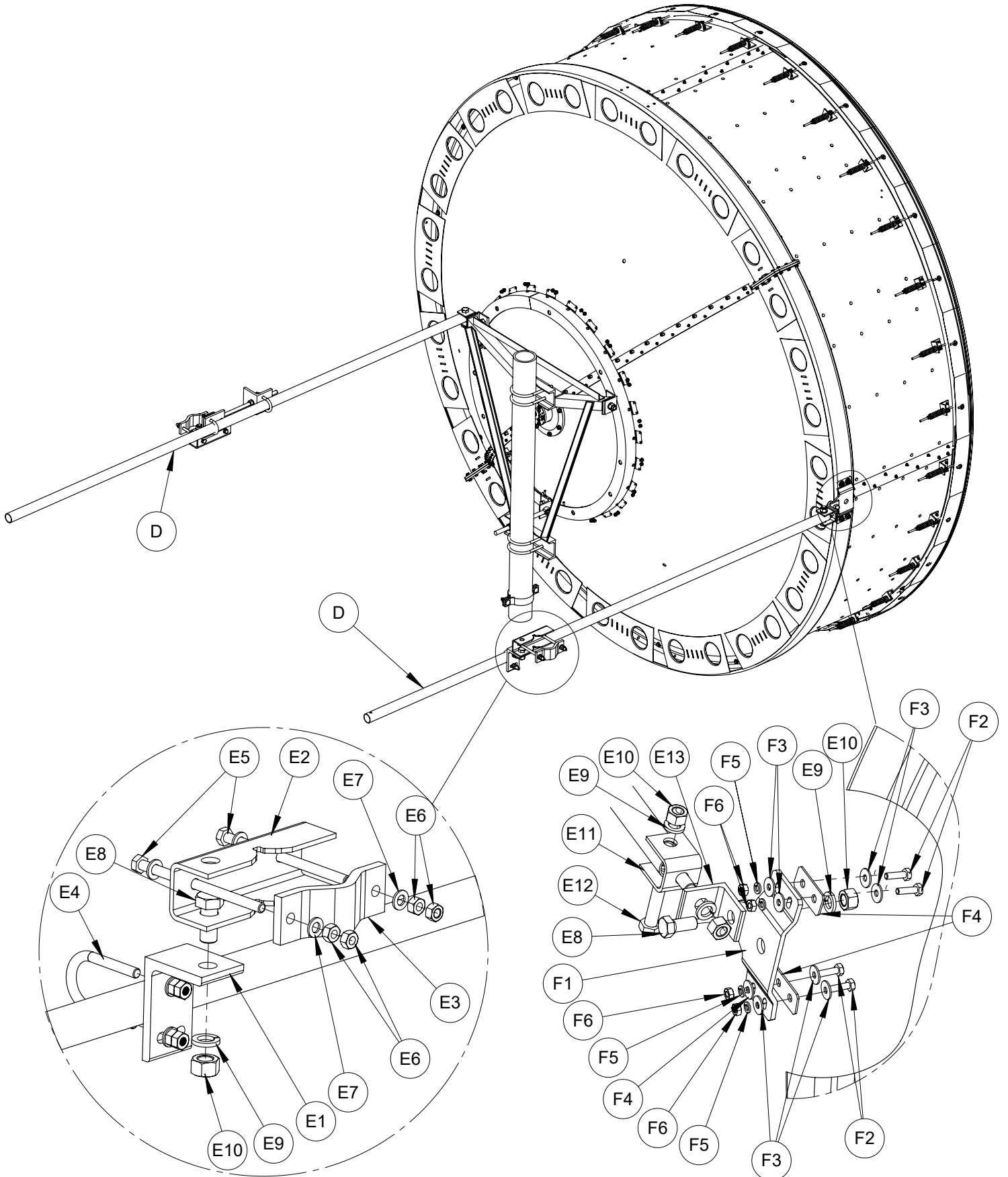


Offset Left - Standard



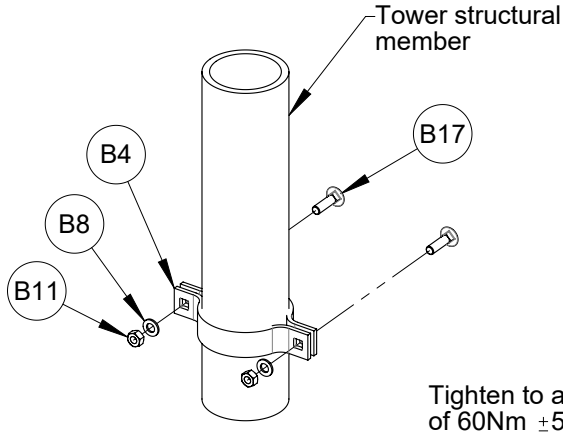
Offset Right - Inverted





**Installation Instruction on this page for 10ft only**

**Attachment to tower**



Tighten to a torque of 60Nm  $\pm$ 5%

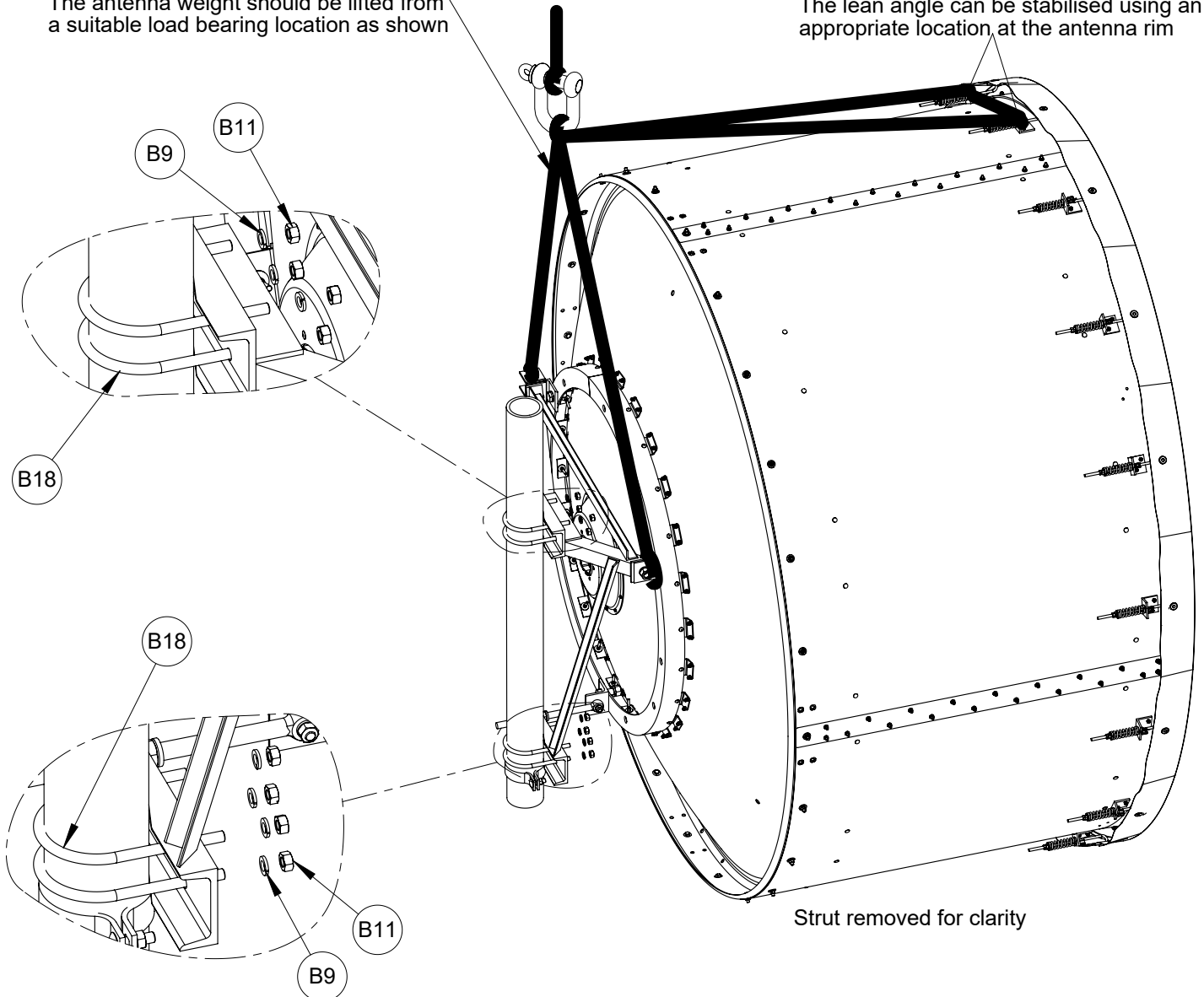


**NEVER WALK UNDER  
HOISTED LOADS**

**SUGGESTED HOISTING**

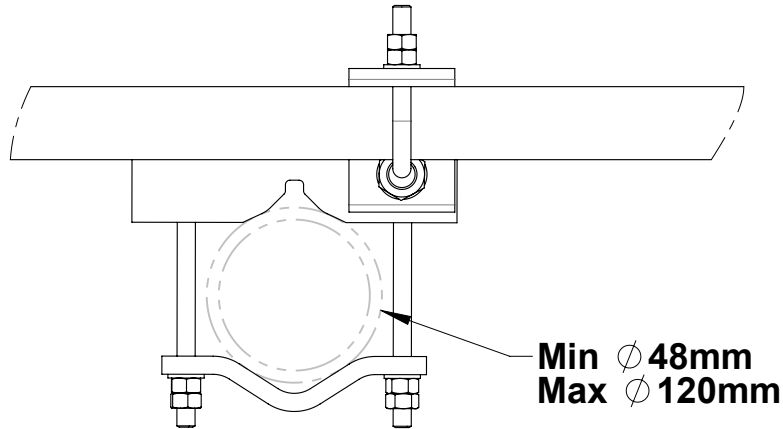
The antenna weight should be lifted from a suitable load bearing location as shown

The lean angle can be stabilised using an appropriate location at the antenna rim

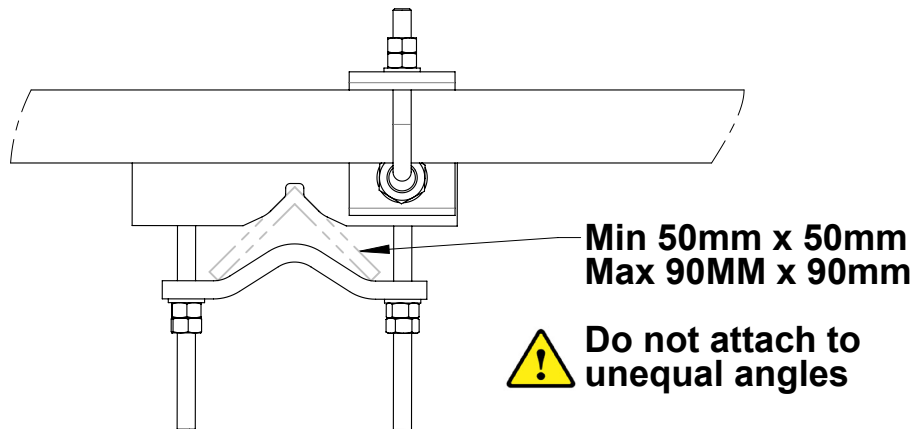


**Assemble Loosely**

**Attachment to circular structural members**



**Attachment to non-circular structural members**



**Clamp must be attached to a circular or non-circular structural member capable of supporting 11263N in accordance with TIA-222**

**The maximum allowable relative deflection between the antenna mounting pipe and the strut attachment must be less than 2mm at survival wind speed of the antenna.**

**Azimuth Adjustment**

Tighten to 60Nm  $\pm$ 5%  
on completion of  
alignment

Azimuth adjustment.  
Tighten to 90Nm  $\pm$ 5%  
on completion of  
alignment

Tighten to 60Nm  $\pm$ 5%  
on completion of  
alignment

Tighten to 185Nm  $\pm$ 5%  
on completion of  
alignment

Tighten to 60Nm  $\pm$ 5%  
on completion of  
alignment

Tighten to 185Nm  $\pm$ 5%  
on completion of  
alignment  
(5 - places)

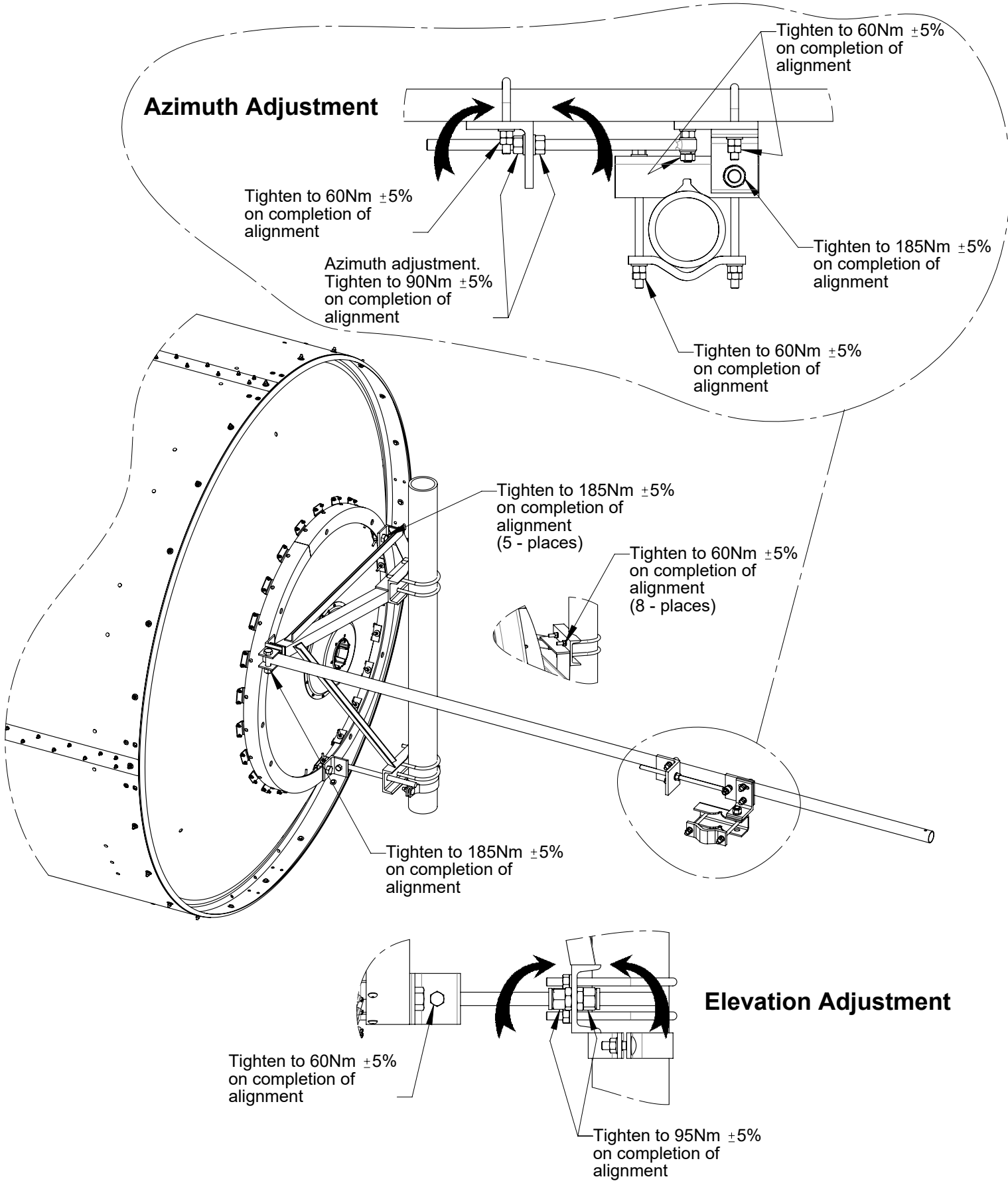
Tighten to 60Nm  $\pm$ 5%  
on completion of  
alignment  
(8 - places)

Tighten to 185Nm  $\pm$ 5%  
on completion of  
alignment

**Elevation Adjustment**

Tighten to 60Nm  $\pm$ 5%  
on completion of  
alignment

Tighten to 95Nm  $\pm$ 5%  
on completion of  
alignment





**Limits of strut position for  
attachment to tower member**

