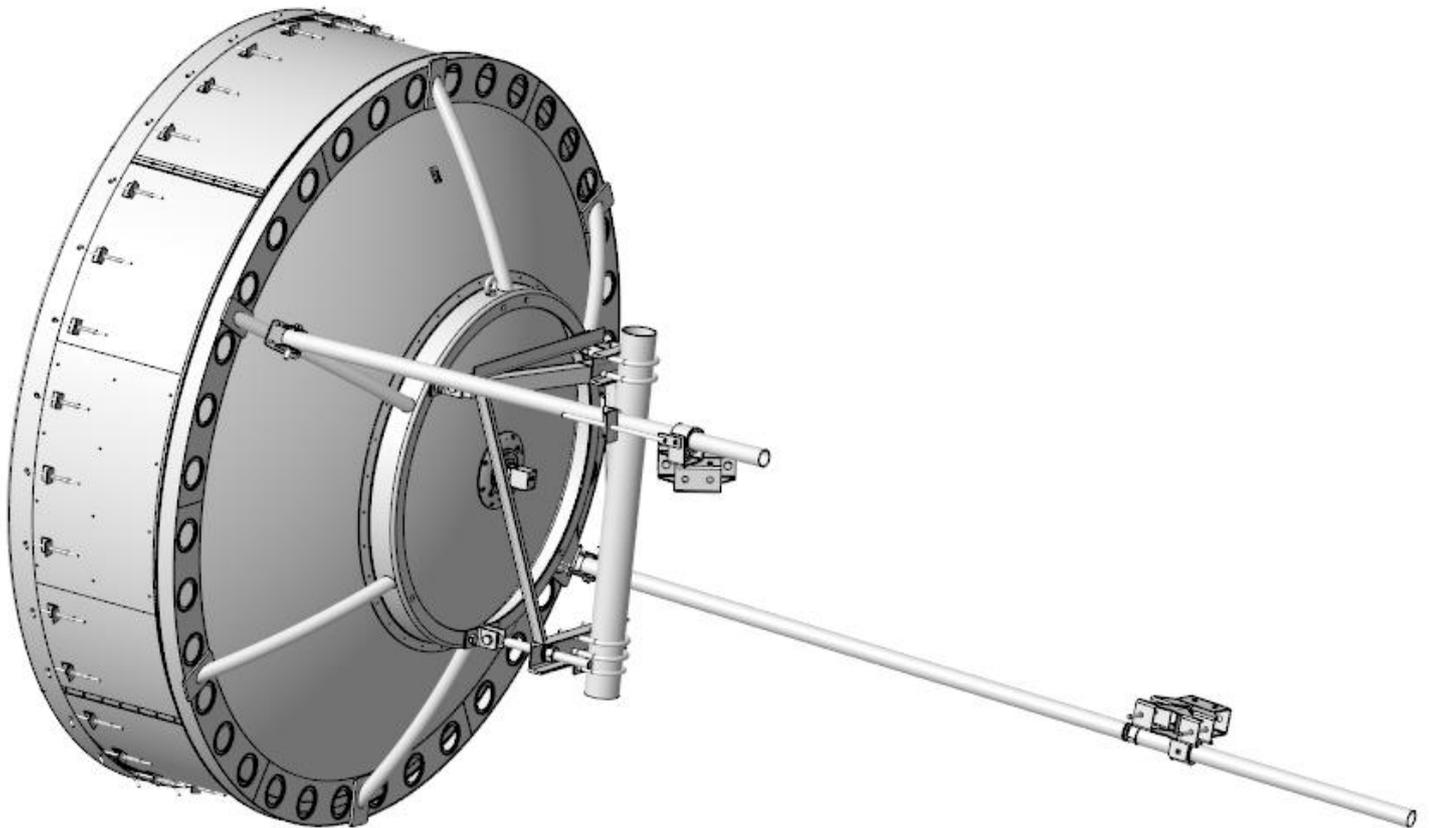


Installation Instructions

For 8 foot / 2.4m Diameter Ultra High Performance Dual Polarized Antenna with Waveguide Flange Interface

Model ADxxG-8-S2-D-xx

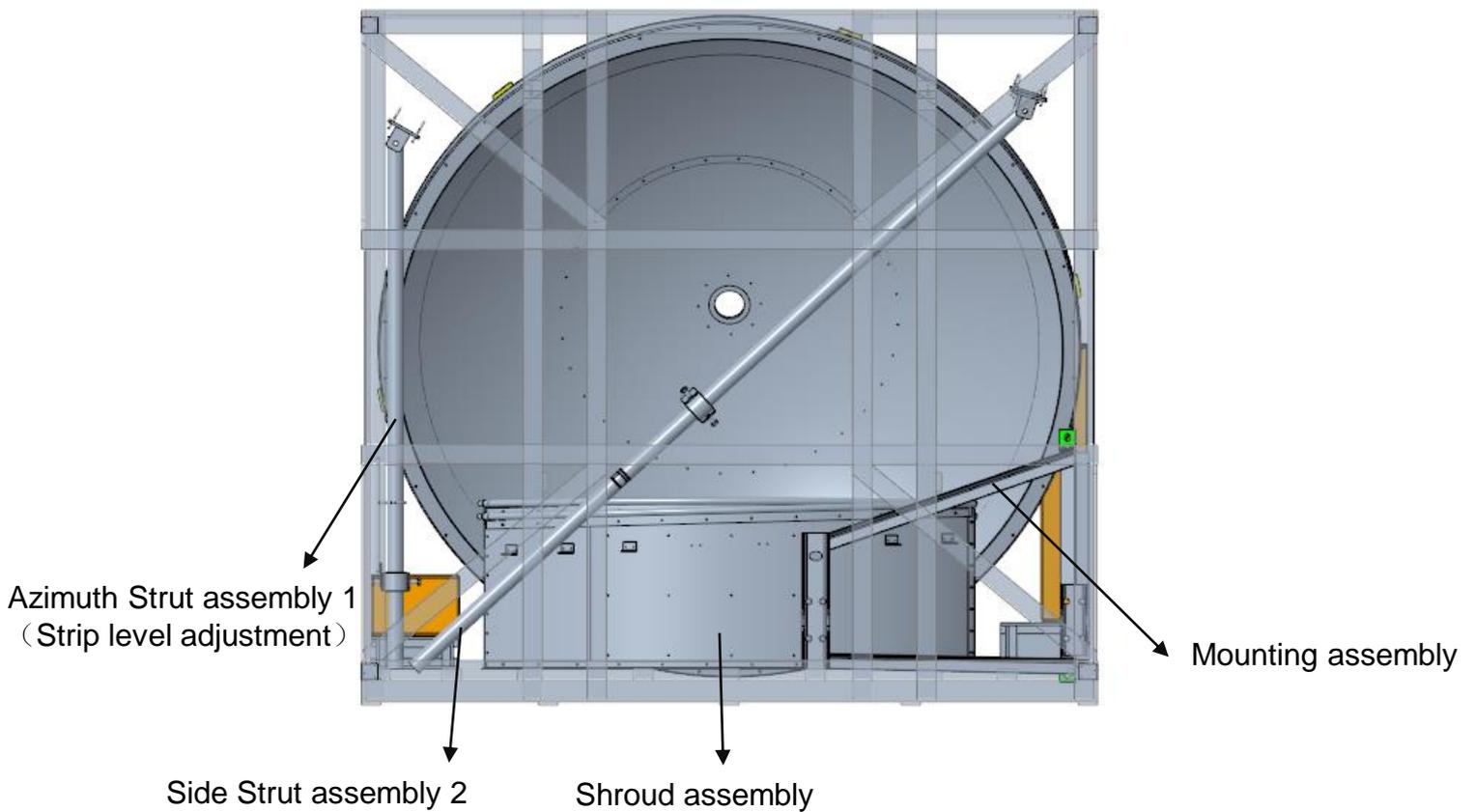
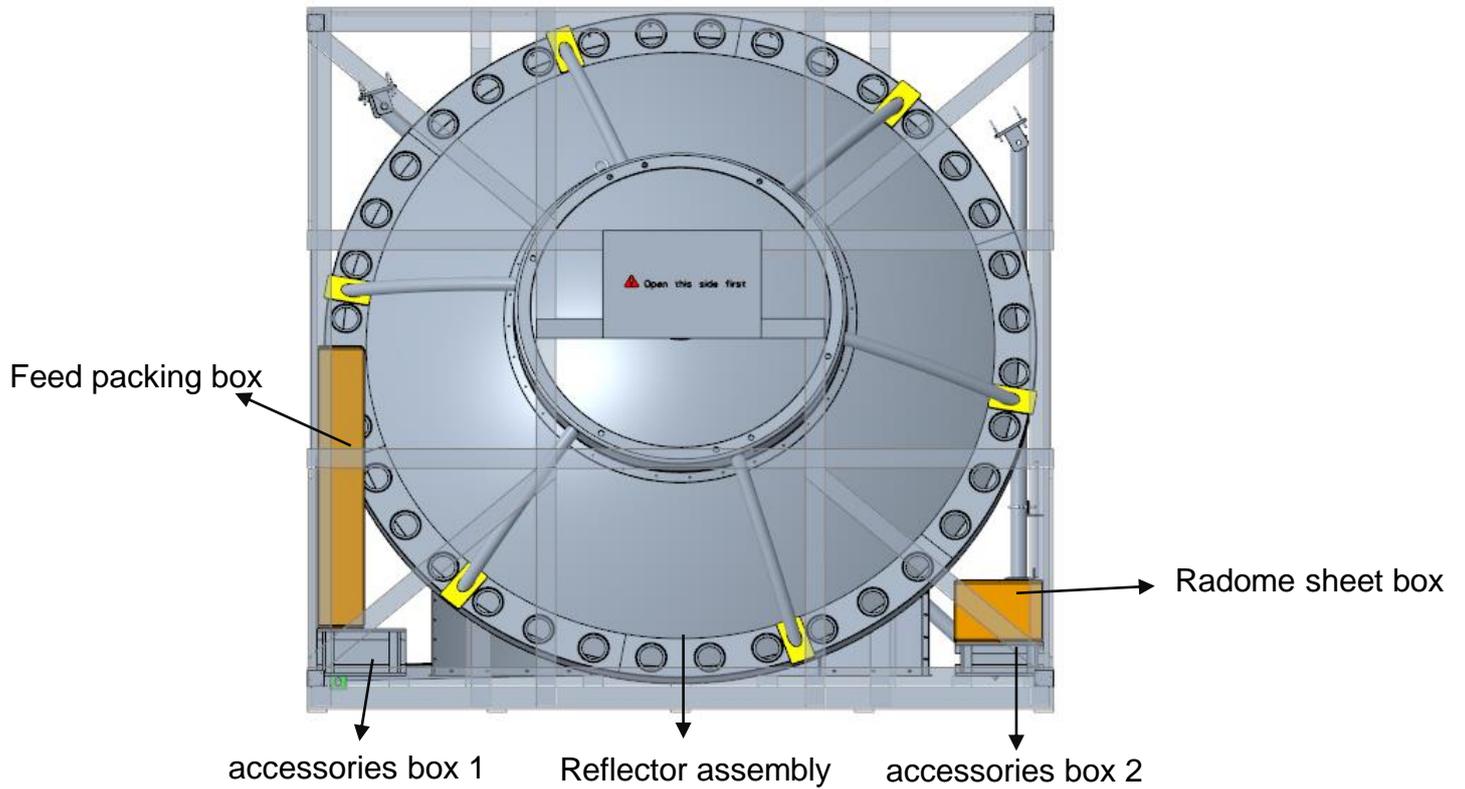


This manual is provided for the installation of 8 ft /2.4m diameter microwave antenna. Please refer to this manual before antenna installation.

- Qualified professionals are required for antenna installation and instructions must be strictly followed.
- Qualified professionals are required for annual inspection and maintenance during the operation process, so as to keep its optimal performance.
- One set of antenna consists of reflector assembly, feed system and mounting kit ,etc. Diameter of the mounting pole provided by the user shall be Ø114mm.

Components in the packing case

2.4m,C3,Dual Polarization Separate



1. Preparing for the Installation

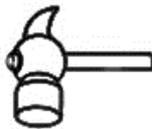
A Self-provide Antenna Mounted Pole and Fixed Position of Strut Rod

The Antenna is designed to attach to a vertical (less than 5° perpendicularity) tower pipe of diameter 114mm. The mount provides adjustment ranges of $\pm 5^\circ$ fine elevation and $\pm 180^\circ$ ($\pm 5^\circ$ Fine) azimuth.

B Required Installation Tools

No.	Name	Picture	Model	Quantity
1	Open-end wrench		S= 10 (for M6)	2pcs
2	Open-end wrench		S=13(for M8)	2pcs
3	Open-end wrench		S=16 (for M10)	2pcs
4	Open-end wrench		S=18 (for M12)	2pcs
5	Open-end wrench		S=24 (for M16)	2pcs
6	Open-end wrench		S=30 (for M20)	2pcs
7	Open-end wrench		S=46 (for M30)	2pcs
8	Torque wrench		5-700Nm	1pcs
9	Allen Key		S=3 (for M4)	1pcs

C Required Withdrawal Tools

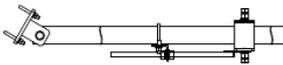
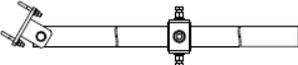
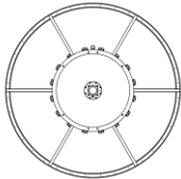
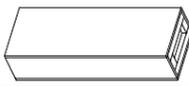
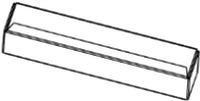
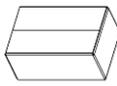
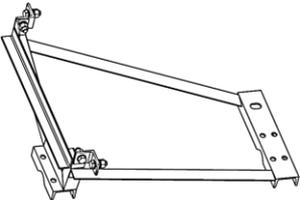
No.	Name	Picture	Model	Quantity
1	Crowbar		----	1pcs
2	Diagonal Pliers		----	1pcs
3	Hammer		----	1pcs

D Fastener Torque Specification

Fastener material	Torque values in Nm (lb-ft)								
	Fastener size								
	M4	M6	M8	M10	M12	M14	M16	M20	M30
Stainless steel	2.2 (1.6)	7.7 (5.7)	19 (13.8)	39 (28.9)	65 (48)	125 (92)	161 (119)	219 (162)	/
Galvanized steel	1.2 (0.9)	4.5 (3.3)	11 (8.1)	22 (16.2)	38 (28)	73 (54)	95 (70)	185 (137)	620 (457.6)

All hardware is tightened to the torques specified $\pm 5\%$. The integrity of the antenna depends on all fasteners being tightened correctly.

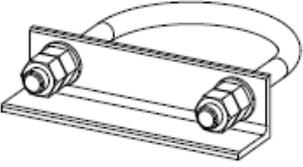
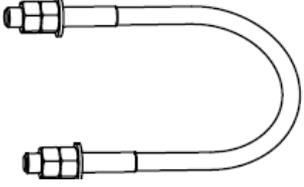
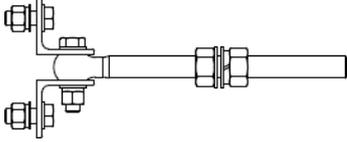
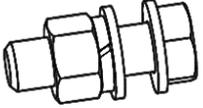
2.Packing List

No.	Name	Picture	Type	Qty
1	Shroud assembly		----	4
2	Azimuth Strut assembly 1 (Strip level adjustment)		----	1
3	Side Strut assembly 2		----	Regular shipment: 1pcs Irregular delivery: 1+2pcs
4	Reflector assembly		----	1
5	accessories box 1		----	1
6	accessories box 2		----	1
7	Feed packing box		----	1
8	Radome sheet box		----	1
9	Mounting assembly		----	1
10	Installation Manual		----	1

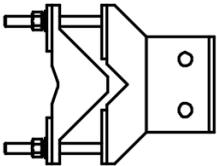
NOTE

This manual takes conventional shipment as an example, and the installation method of Side Strut assembly 2 is optional for unconventional shipment, Please refer to section 11.

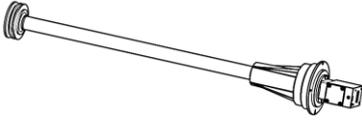
Packing list of accessories box 1

No.	Name	Picture	Type	Qty
1	Anti-slip hinge assembly		----	1
2	U-bolt assembly		----	4
3	Eye bolt assembly		----	1
4	J-bolt assembly		----	32
5	Screw (including the flat and spring washers)		M6x20	28+2
6	Screw (including the flat and spring washers)		M8x30	36+2
7	Screw (including the flat washer and nut)		M20*55	1

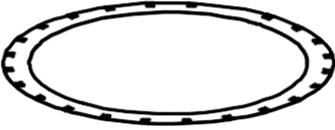
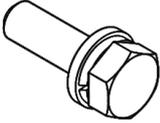
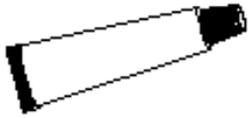
Packing list of accessories box 2

No.	Name	Picture	Type	Qty
1	Side Strut assembly		----	2

Packing list of Feed packing box

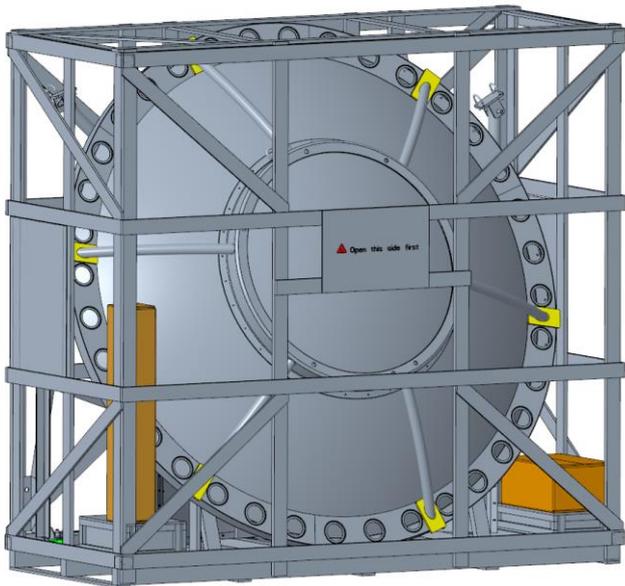
No.	Name	Picture	Type	Qty
1	Feed assembly		----	1

Packing list of Radome sheet box

No.	Name	Picture	Type	Qty
1	Radome sheet		----	1
2	Measuring gauge		----	2
3	Screw (including the flat and spring washers)		M6*20	4+1
4	Allen key (Apply to M4)		S=3mm	1
5	Silicone lubricant		----	1
6	Finger cot (used to apply Silicone)		----	2

3. Unpacking instructions

A Appearance of Antenna packing box

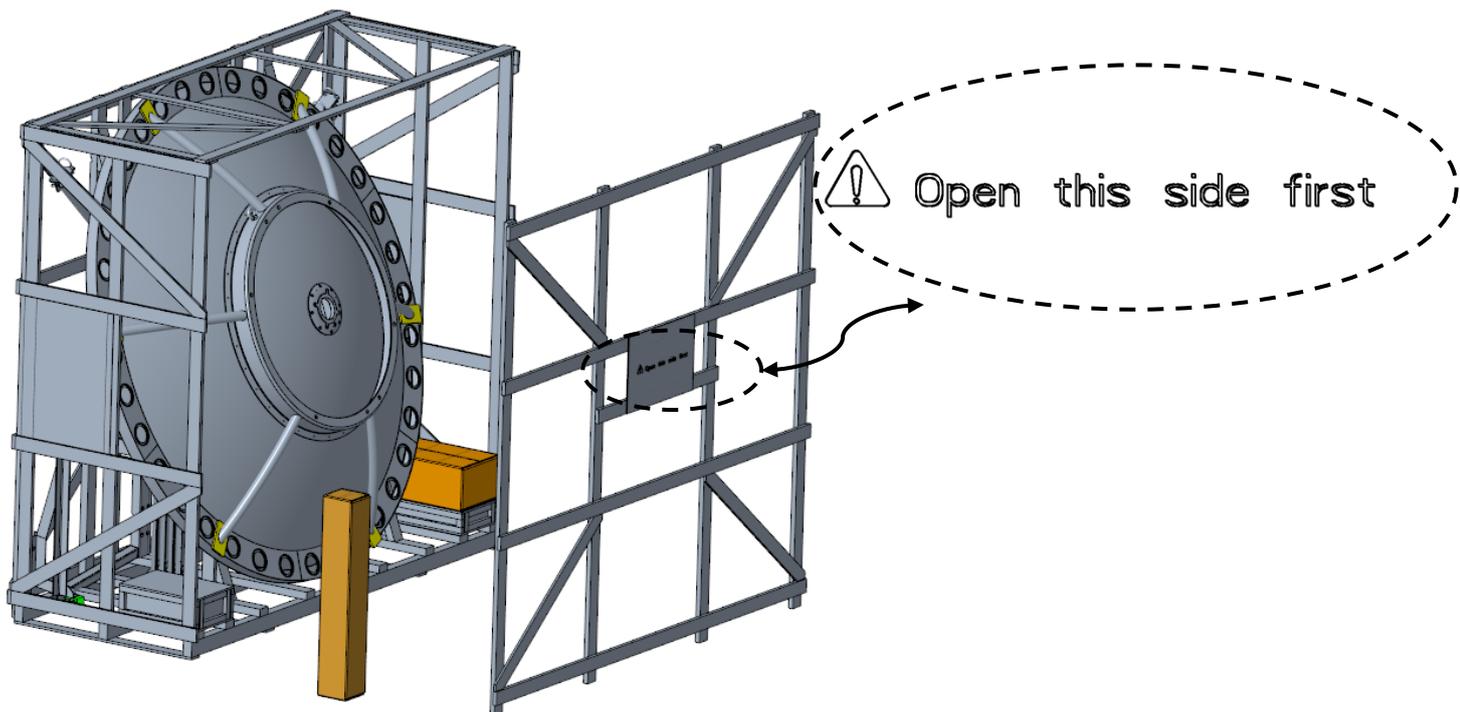


B Unpacking step

⚠ CAUTION

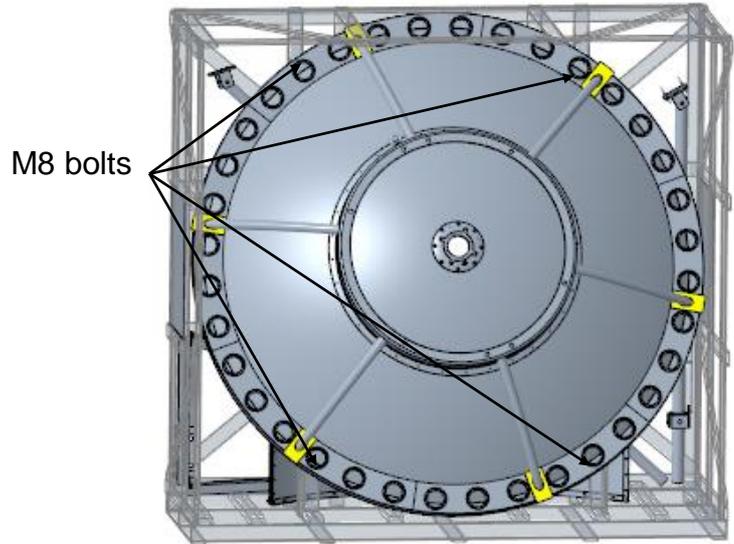
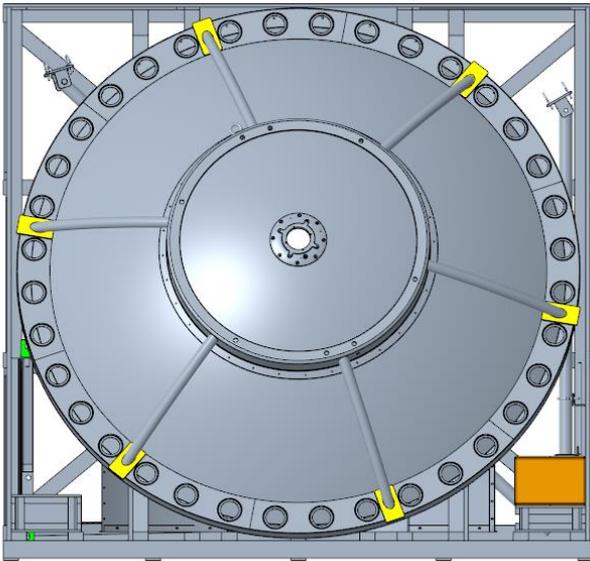
1. The unpacking process needs to be careful to avoid damage to the body.
2. Avoid damage to components inside the package when using crowbar.

Step 1: Cut the cable tie, take out Feed packing box, Then use the crowbar to open the box (the surface with the logo).



Step 2: Cut the cable tie, take out accessories box 1、 accessories box 2、 Radome sheet box

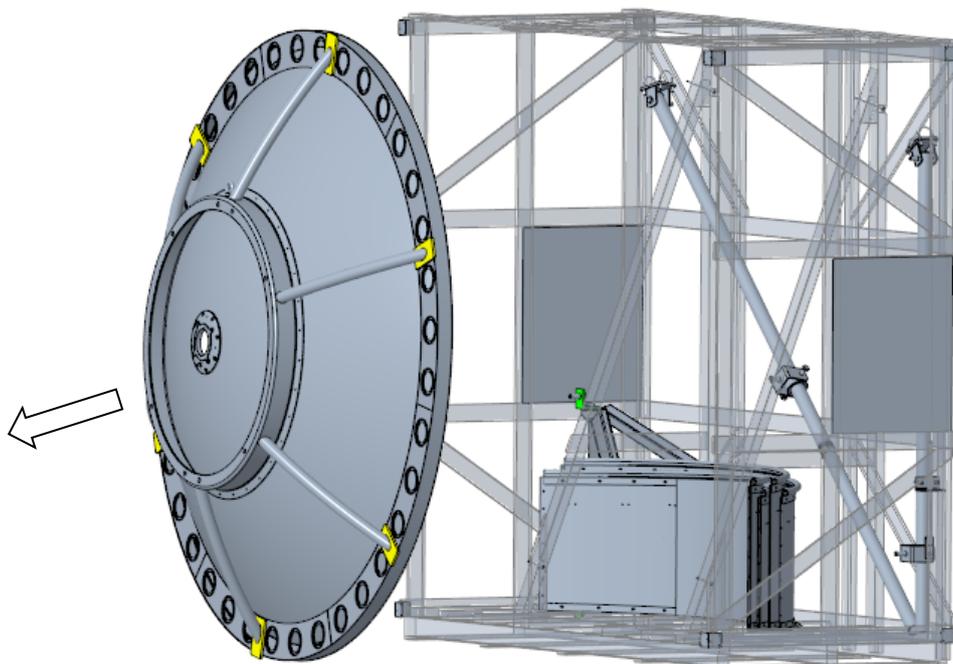
Step 3: Loosen the fixed reflector assembly screws from tripod the box.



NOTE

When loosening those bolts, the reflective surface assembly must be lifted from below to avoid damage due to its falling.

Step 4: Remove the reflector assembly. Then use the crowbar to open the box tripod , Cut the cable tie, take out the Shroud assembly, Azimuth Strut assembly 1, Side Strut assembly 2, Mounting assembly, Complete the unpacking

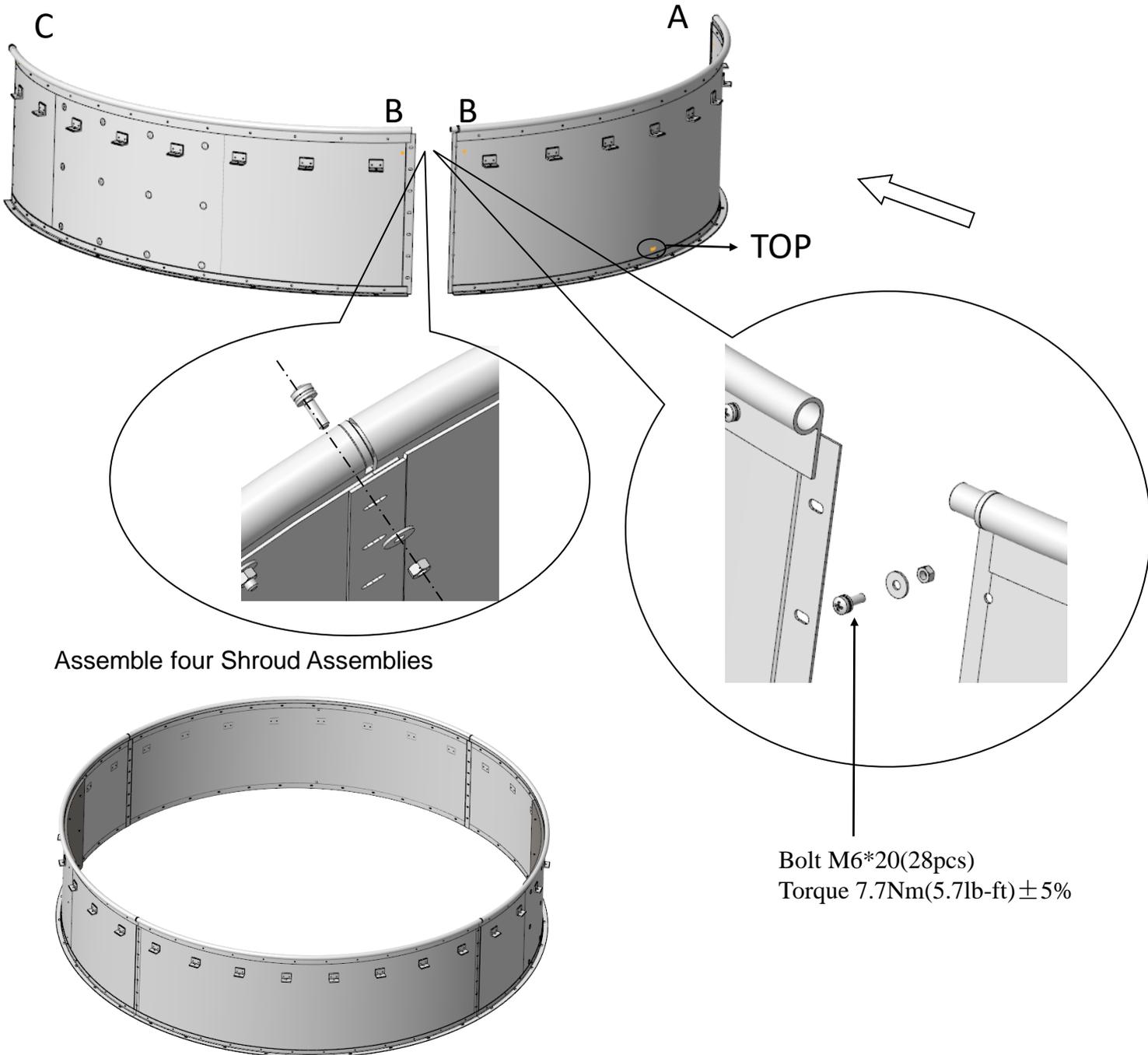


4. Assembly of Reflector and Shroud Assembly

Erection sequence : Connect four Shroud Assemblies together in order AA-BB-CC-DD first, align at the "TOP" marks on the Shroud and Reflector, and then assemble it on the Reflector with M8*30 Bolt assemblies;

A Assemble two Shroud Assemblies

Align at the same letter mark on two pieces of shrouds. Assemble them with bolts M6*20, big flat washers $\varnothing 6$, spring washers $\varnothing 6$.

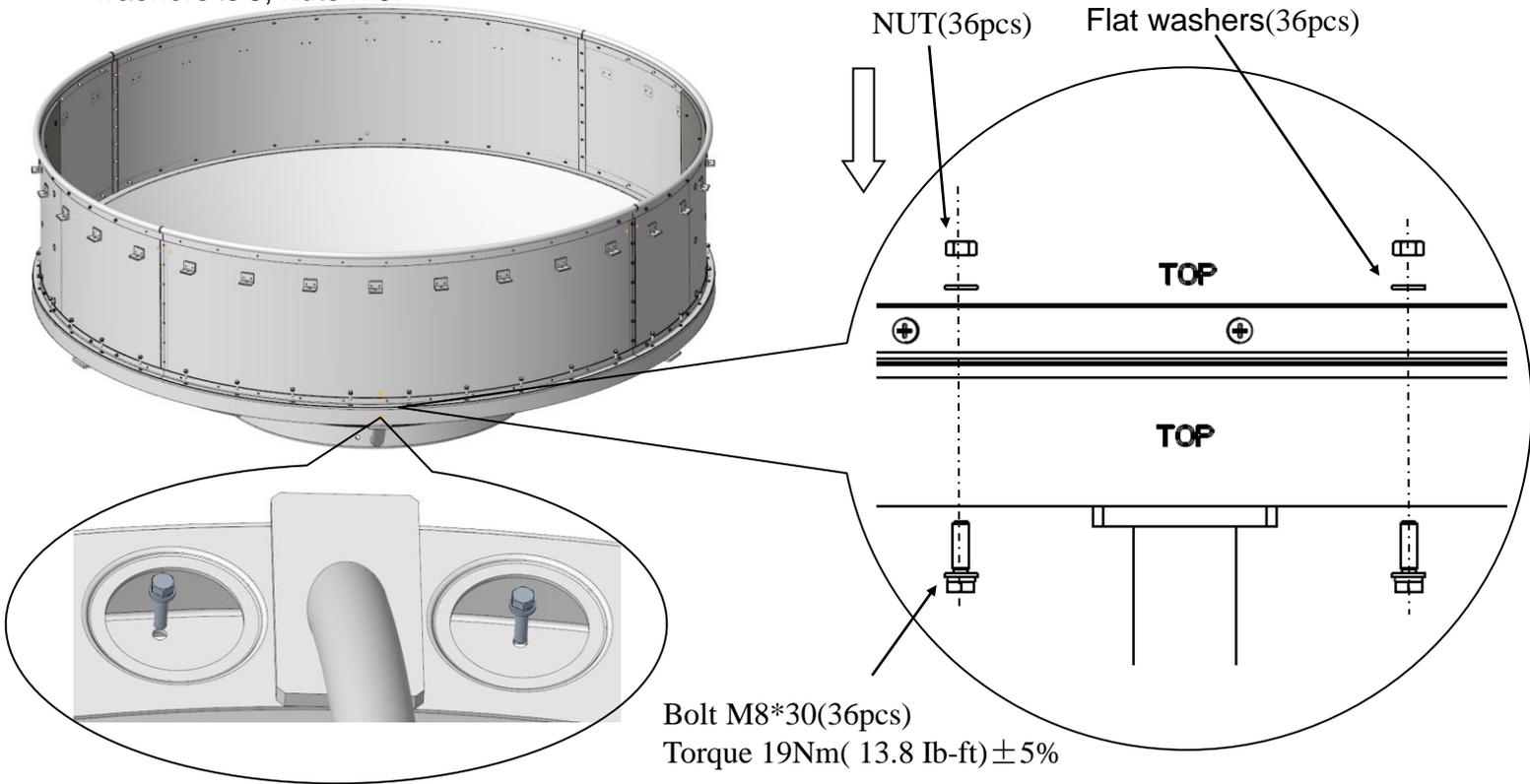


NOTE

The screws at the stitching of the 4 pieces of Shroud Assemblies can be pre-installed, and cannot be completely fastened.

B Assemble the connected Shroud Assemblies on the Reflector

Assemble all Shroud Assemblies on the Reflector with bolts M8*30, big flat washers $\varnothing 8$, spring washers $\varnothing 8$, nuts M8.

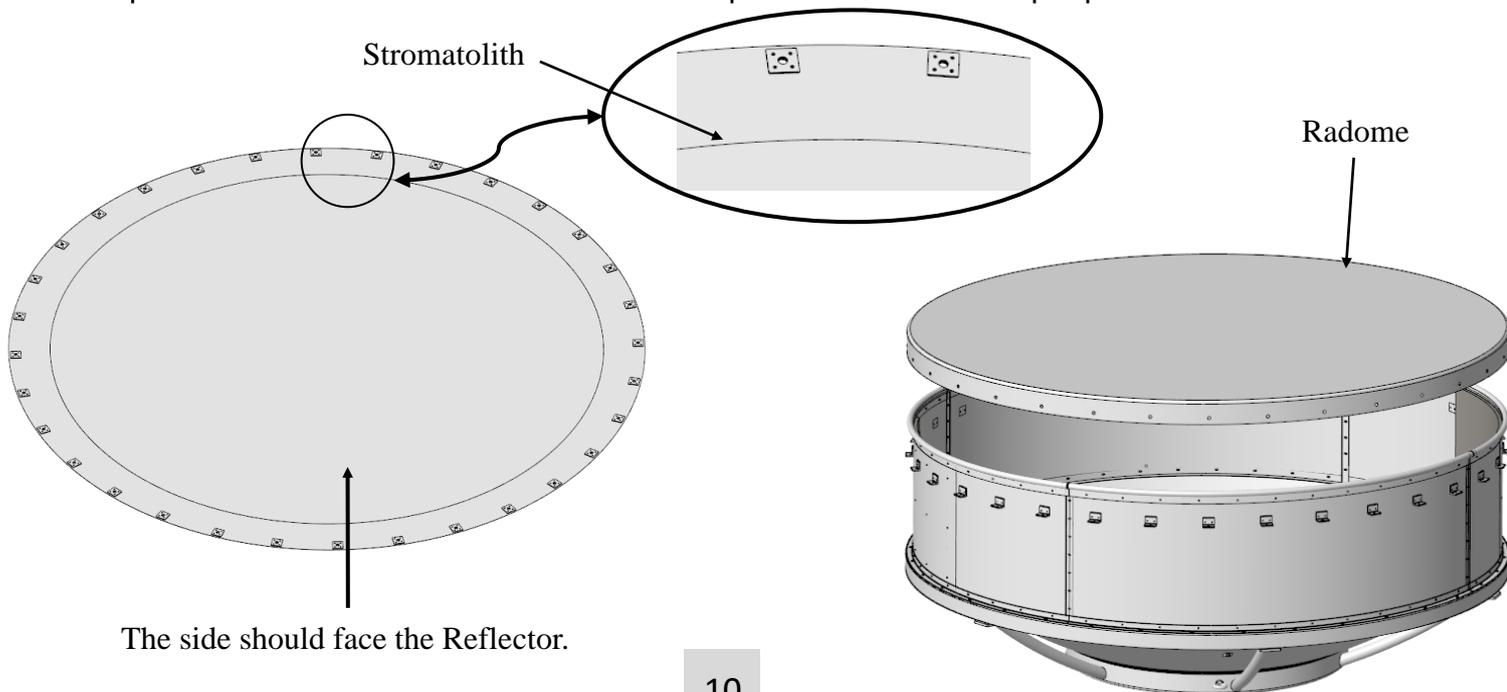


NOTE

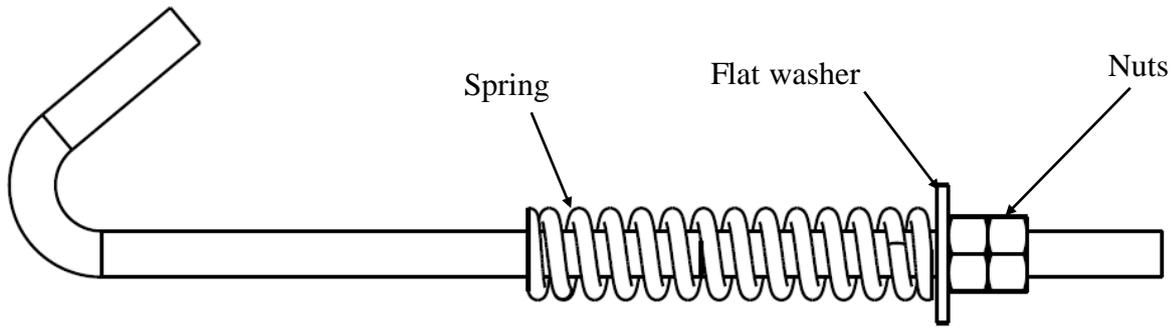
1. Please align at the "TOP" on Shroud with the "TOP" on the Reflector . Please don't break the thread and painting of the Eye bolt screw during installation
2. All screws are pre-installed, Fasten all bolts and screw nuts

5. Install Radome and J-bolt Assembly

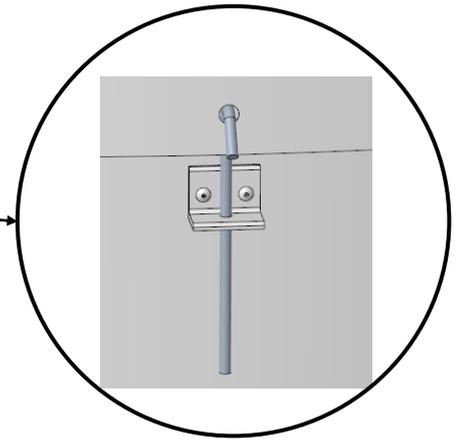
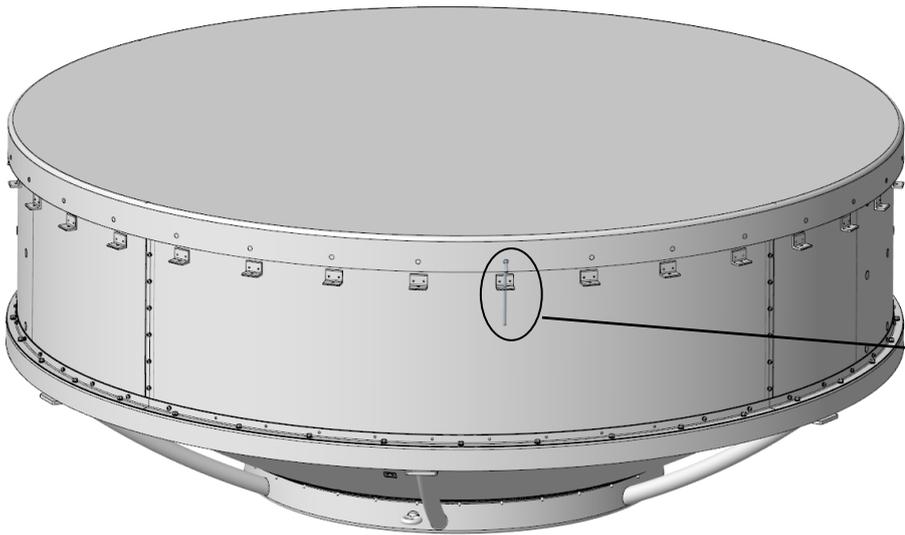
Step1: Put radome onto the antenna. This step needs more than 2 people to install.



Step 2: Take 2 nuts, a flat washer, and a spring down from the Fixing Radome Hook Assembly.

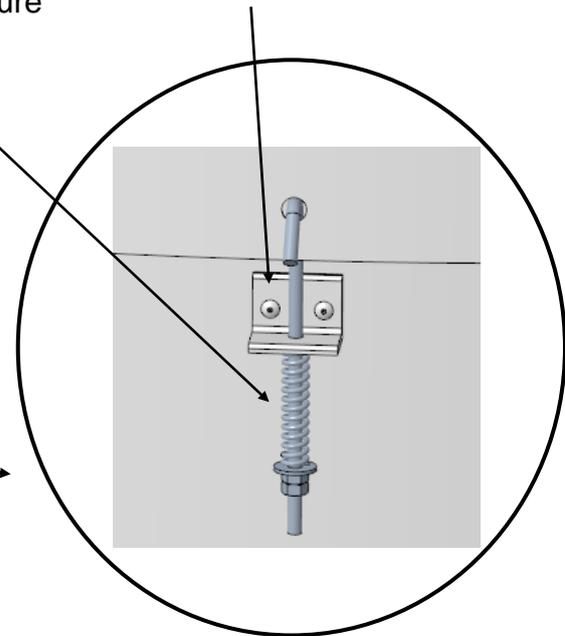
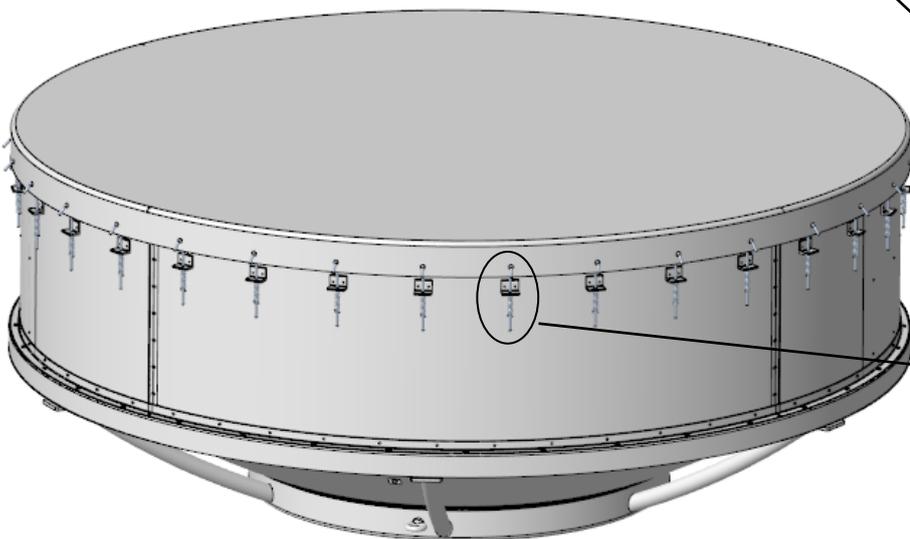


Step3: Install J-bolt(32pcs) assembly onto the radome

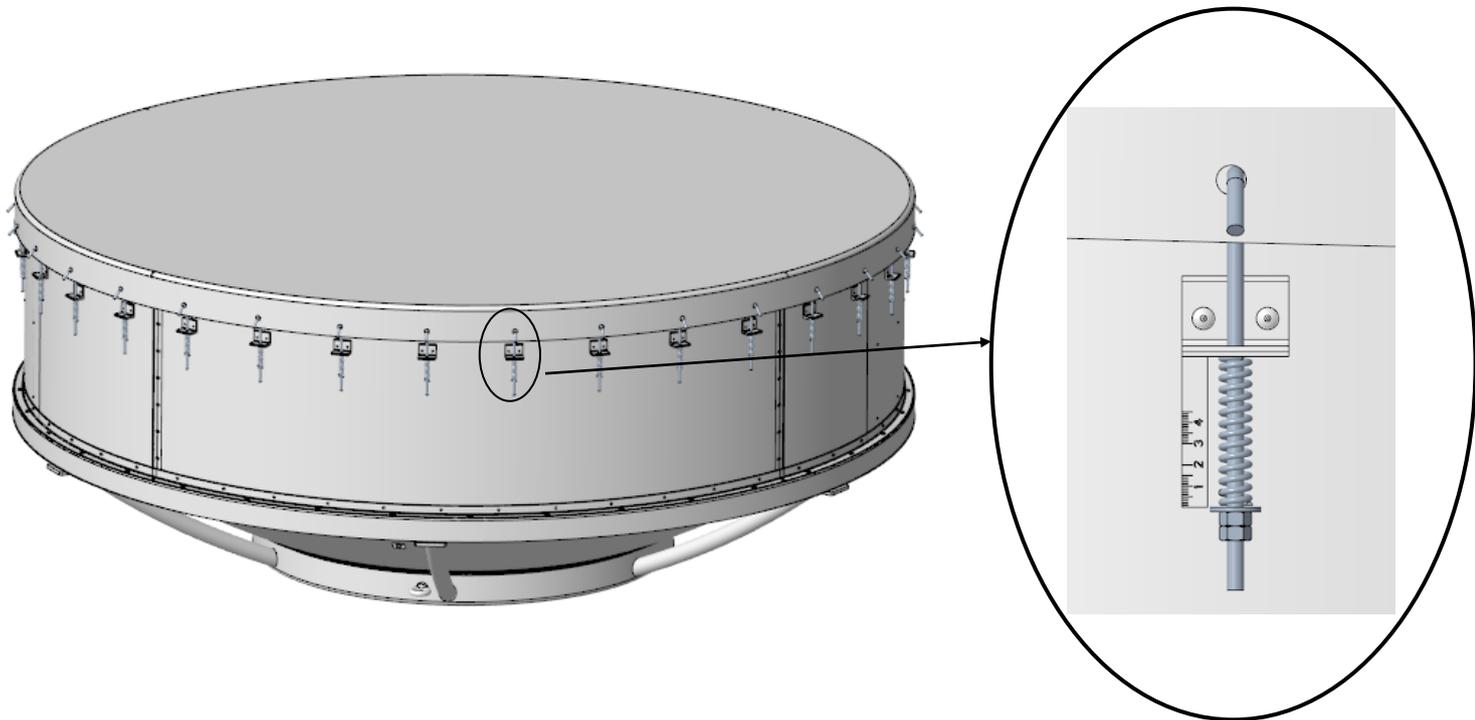


Install a spring, a flat washer, and two nuts as the picture shows

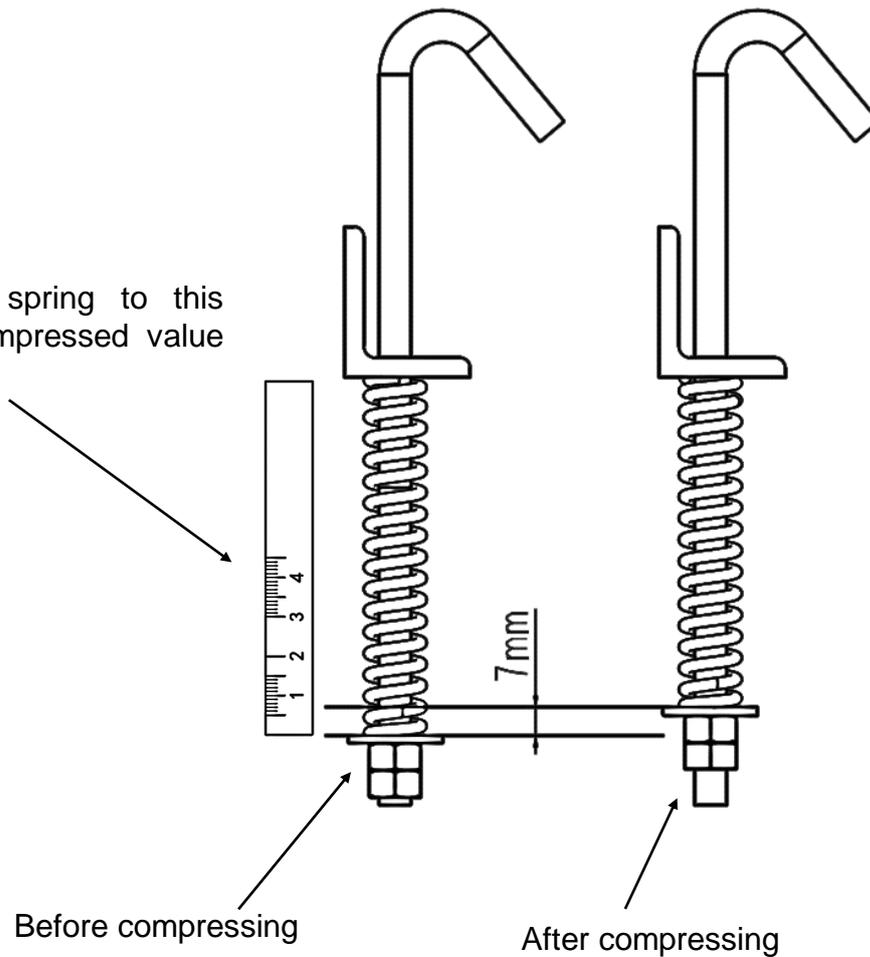
Plate fixing Hook



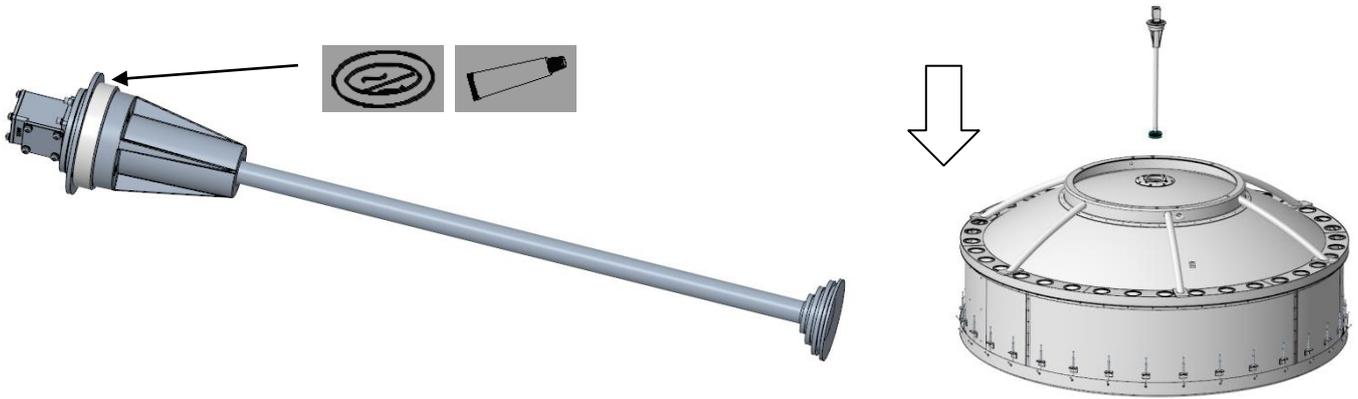
Step 4: After making sure the radome and fixing radome hook assembly are even distributed, fasten spring nuts to compress the spring at twice. Use ruler to measure the compressed value.



Compress the spring to this value. Total compressed value is 7mm.

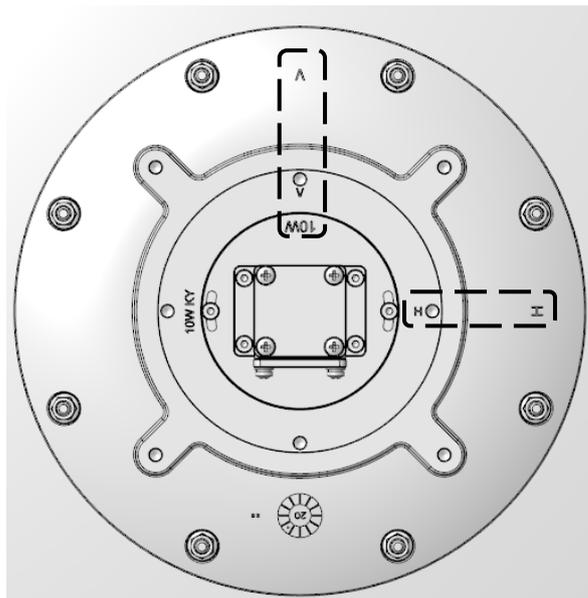


6. Installing feed assembly

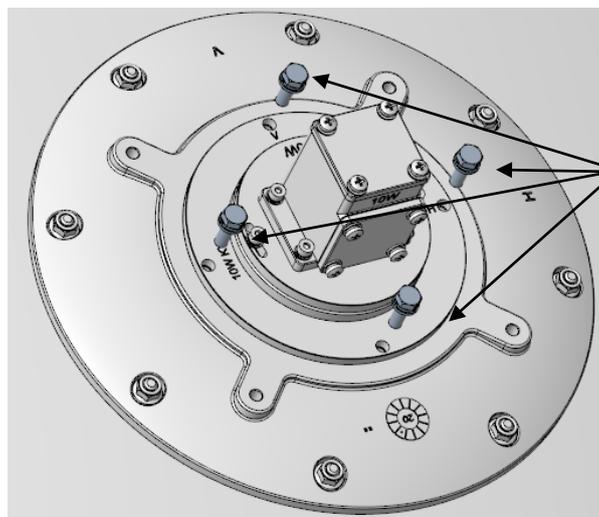


NOTE

Preventing the feed striking other parts when the feed is inserted into the reflector assembly.



Ensure that the corresponding mark (H or V) on the feed is aligned with the corresponding mark on the reflector assembly.



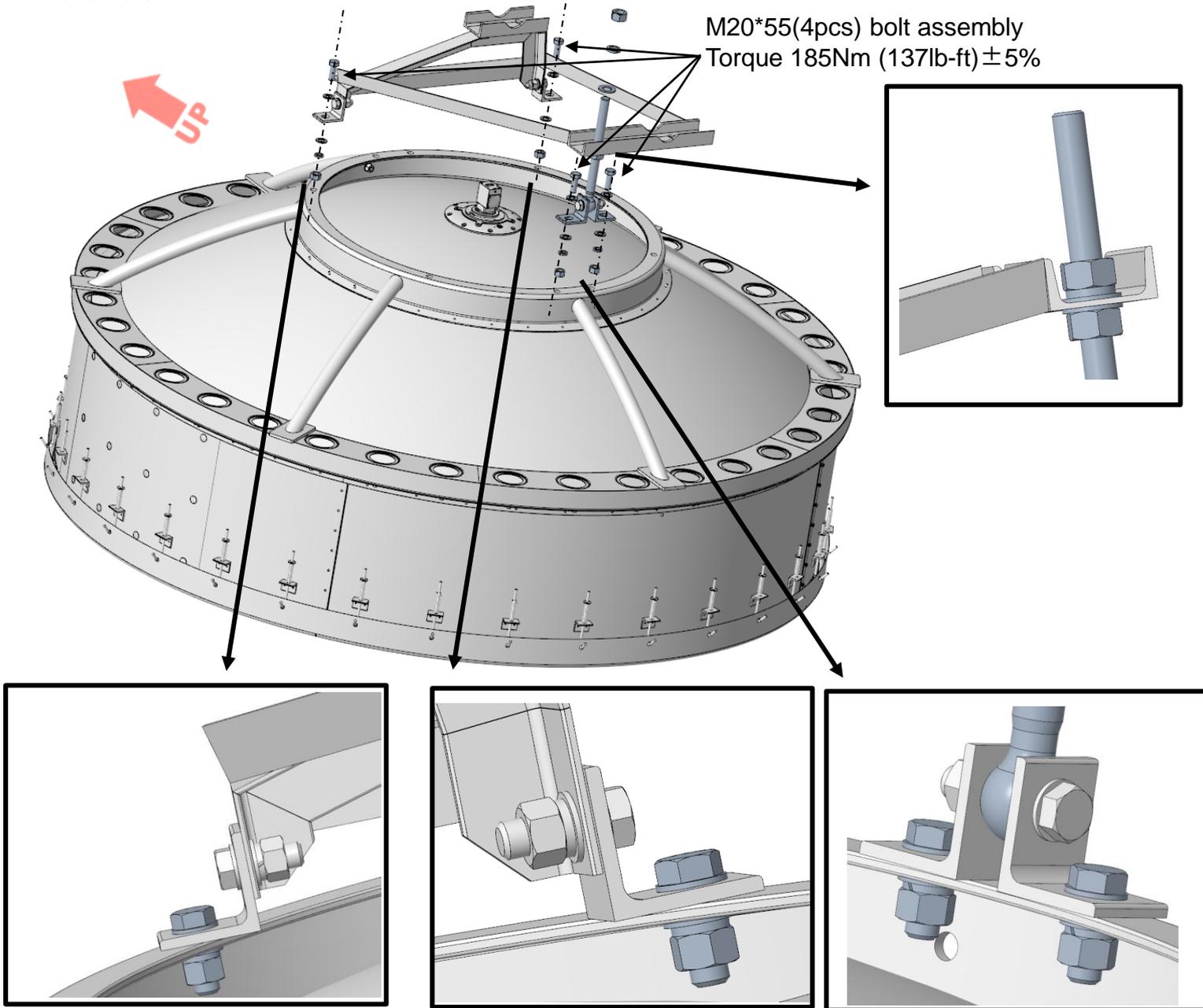
M6×20 (4pcs)
Torque 7.7Nm(5.7lb-ft)±5%

NOTE

The polarization indication of the flange needs to correspond to the indication on the reflector.

7. Fixing Mounting assembly to Reflector

Assemble Eye bolt assembly and Mounting assembly together with M30 flat washers, spring washers and nuts to compose a new assembly, then assemble the new assembly and the Reflector with 4 sets M20*55 Bolt assemblies which include flat washers, spring washers and nuts



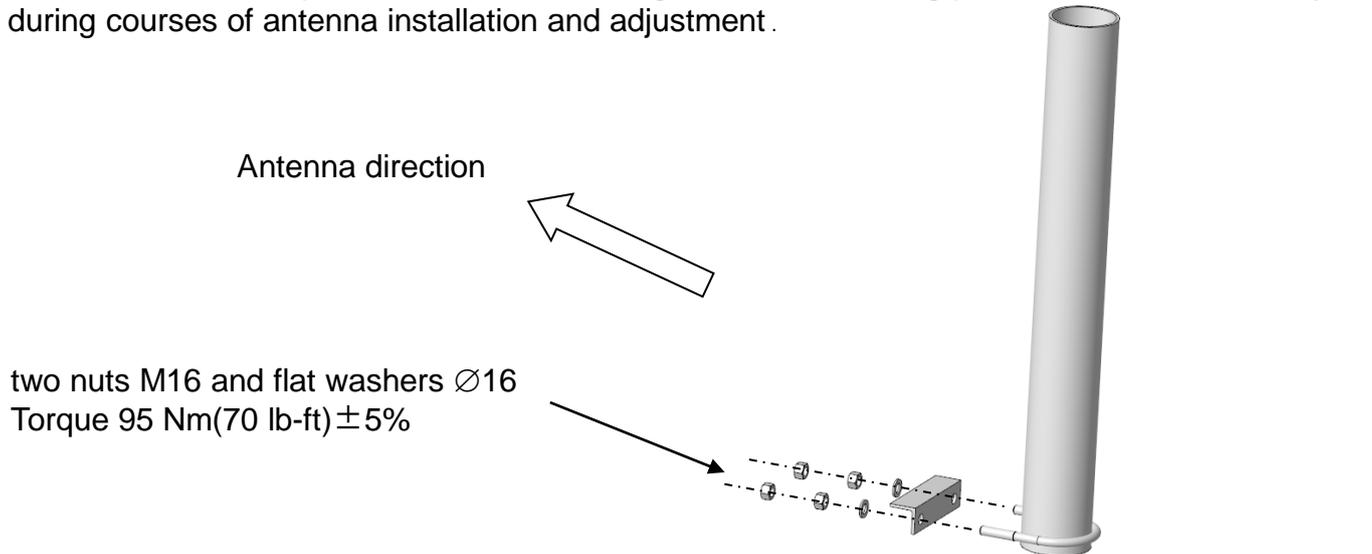
NOTE

1. The direction of “TOP” and “UP” mark on the Reflector and Mounting assembly.
2. shows back view of the antenna with the Mounting assembly installed at the left of the mounting pole. If the Mounting assembly need to be installed at the right of the mounting pole, please rotate the Mounting assembly 180° before installation.

8. Antenna Installation

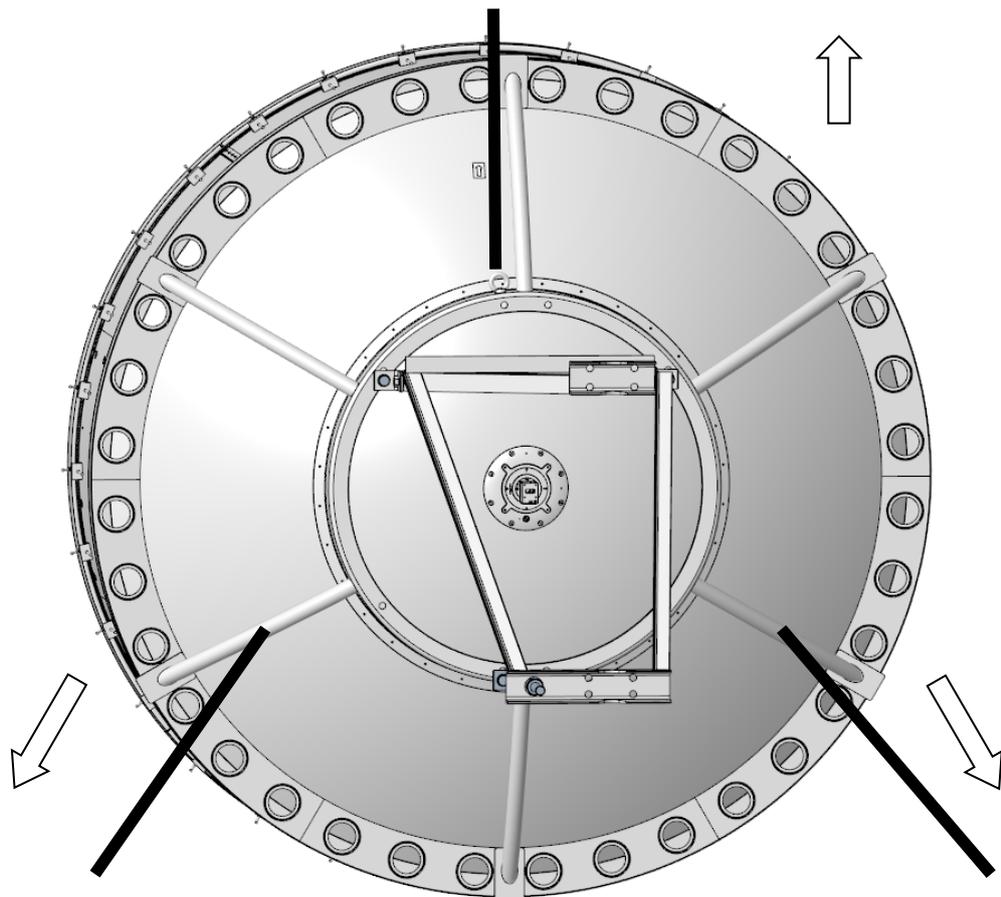
A Installation of Anti-slip Angle Iron

The diameter of mounting pole for antenna installation should be $\Phi 114\text{mm}$. Before commencing antenna installation, please fix the Anti-fall Angle Iron on mounting pole to ensure the security during courses of antenna installation and adjustment.



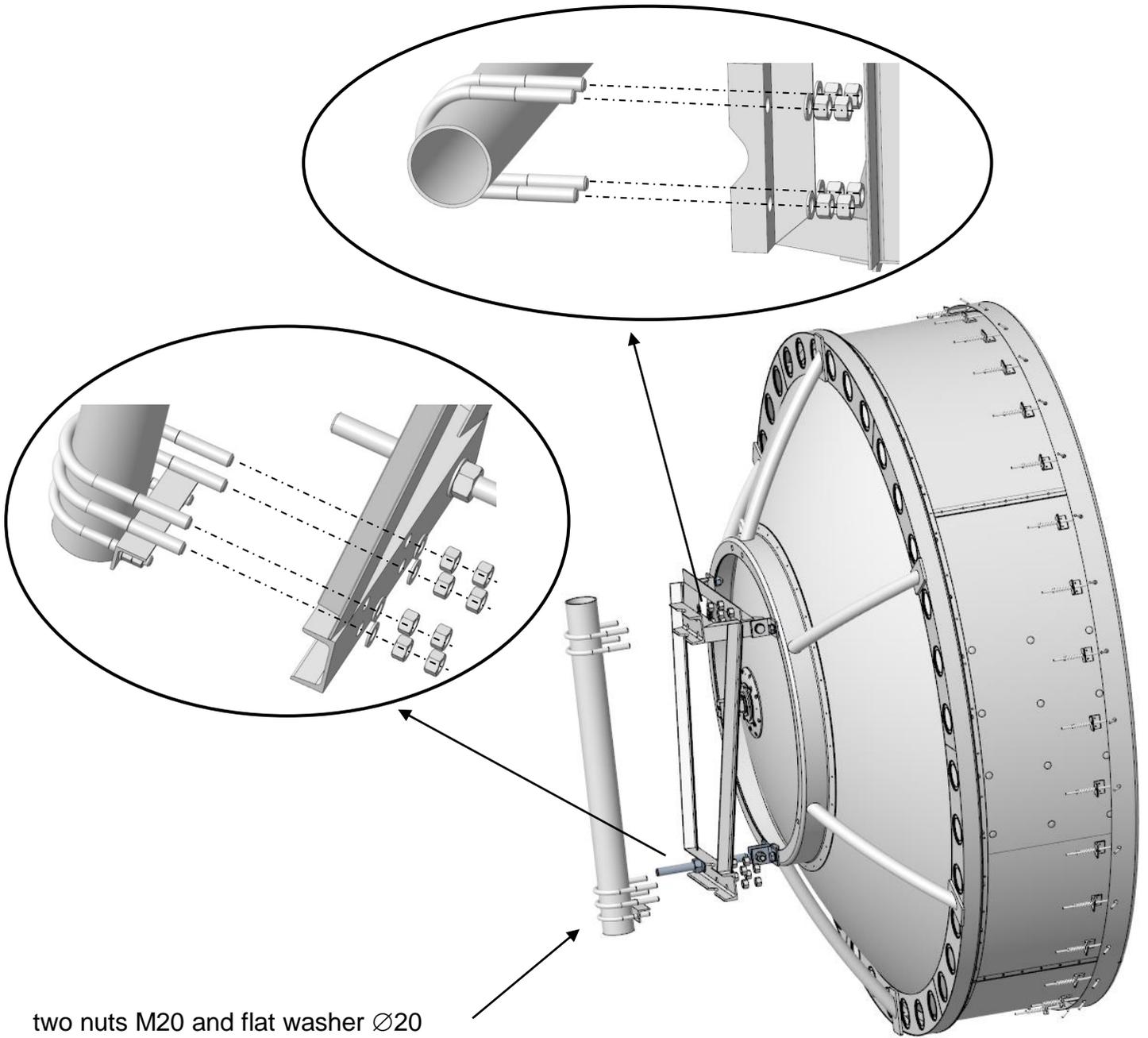
B Antenna Hoisting

Hoist antenna with rope through the liftinglug, the two sides of antenna can be tracked by ropes in order to prevent damage caused to antenna and Radome sheet.



C U-bolt Installation

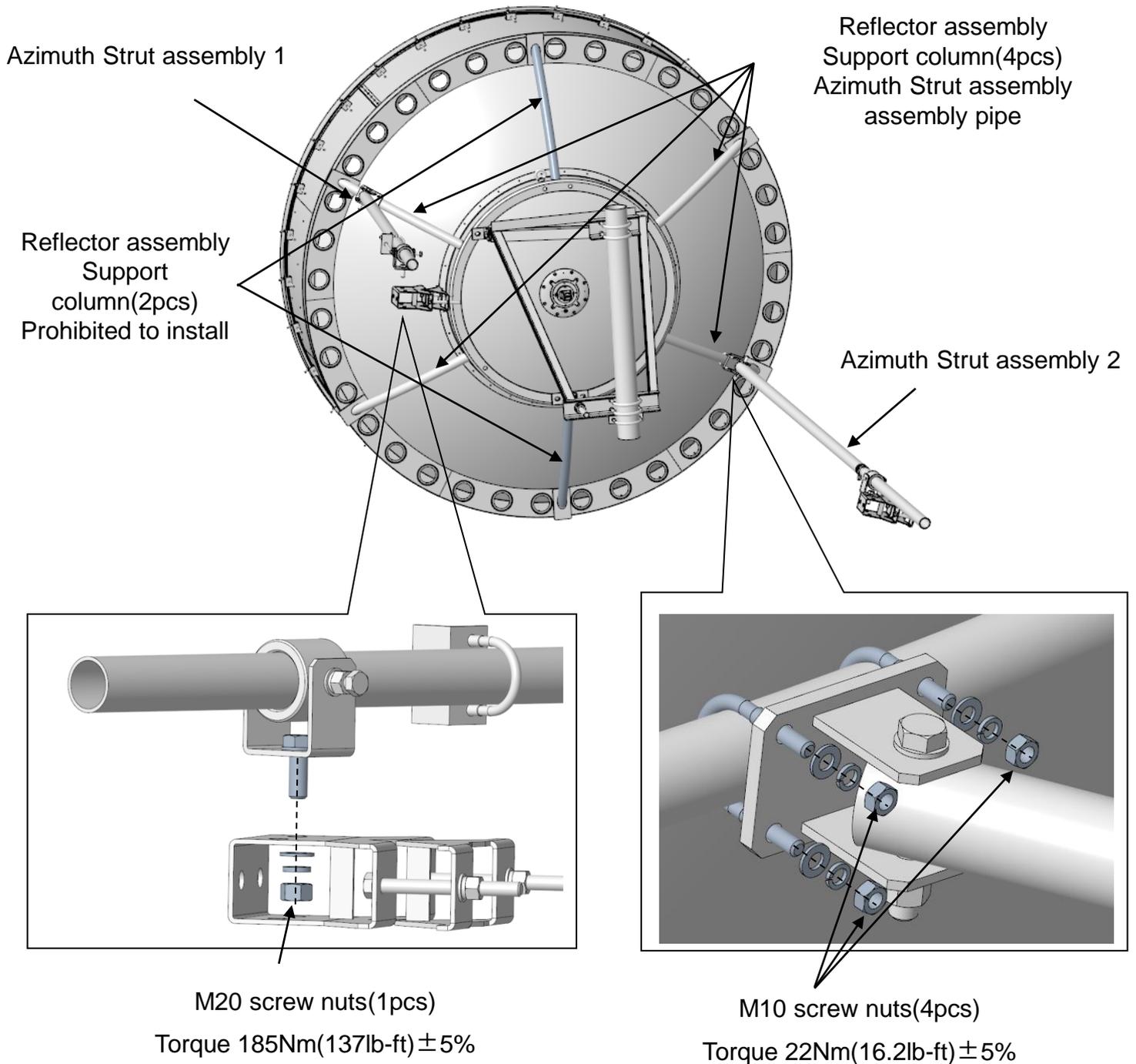
Lift the antenna up to the Anti-slip hinge assembly fixed on the mounting pole. Install the antenna to the mounting pole with 4 U-bolts, 16 nuts M20, 8 Flat washers $\varnothing 20$. Don't fasten all the nuts.



two nuts M20 and flat washer $\varnothing 20$
Torque 185 Nm(137lb-ft) $\pm 5\%$

D Azimuth Strut assembly Installation

One end of the Azimuth Strut assembly should be installed at the opposite side of the antenna as close as possible to the antenna rim. Attach the other end to the Angle Iron on the tower with the bolt M20*55. If a suitable installation hole is unavailable, user can install Azimuth Strut assembly to the Angle Iron or pole on the tower by using Side strut assembly. The positions of Azimuth Strut assembly 1 and Azimuth Strut assembly 2 can be exchanged depending on the site condition. The Azimuth Strut can be lowered or raised 25° in horizontal and vertical direction



NOTE

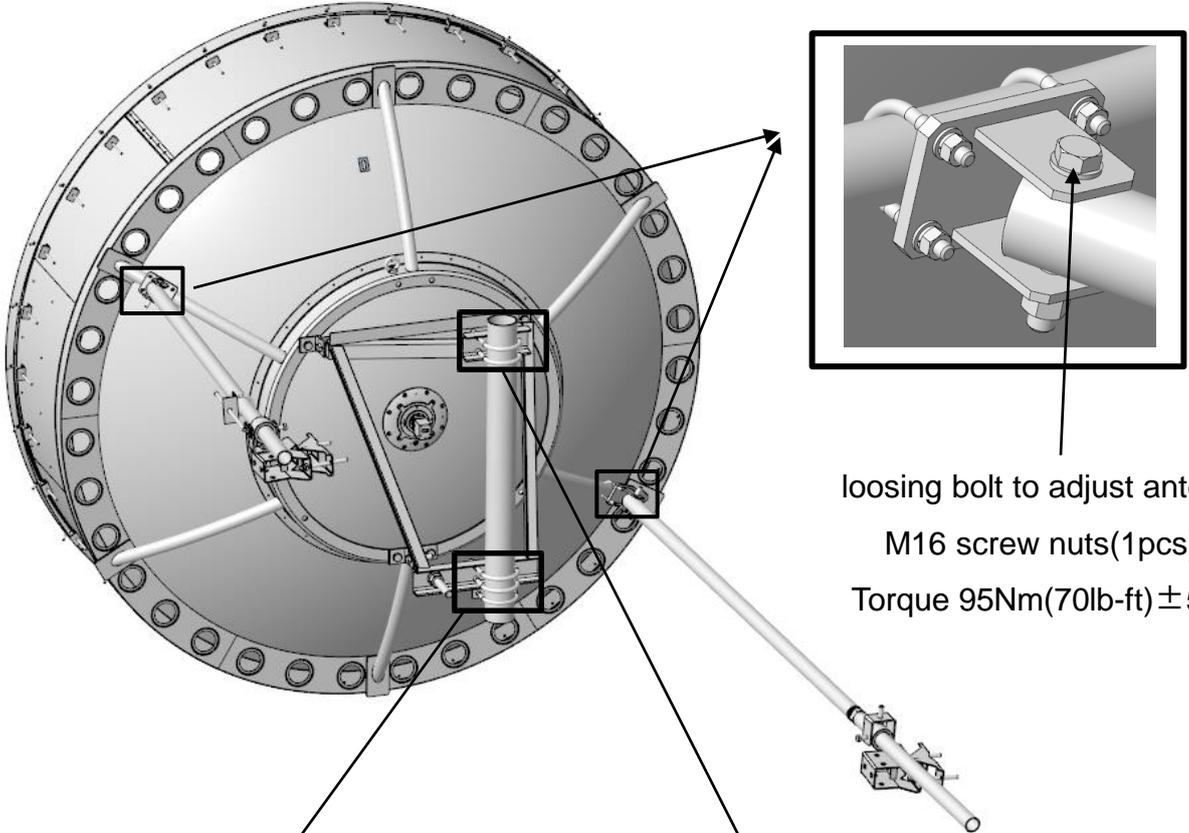
Azimuth Strut assembly 1 and Azimuth Strut assembly 2 is mounted on the support pipe, and must be mounted diagonally.

9. Antenna Adjustment

A Azimuth Adjustment

1. Coarse azimuth Adjustment

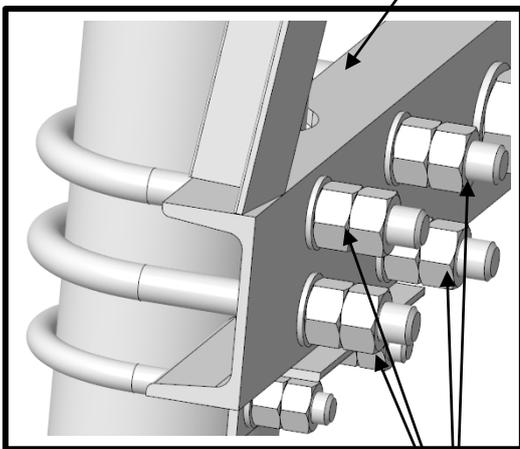
The antenna can be turned 360° around the mounting pole before install the side strut assembly to the tower. Loosen carefully the nuts on U-bolts of the Mounting assembly. For coarse adjustment, push antenna gently to the best coarse direction.



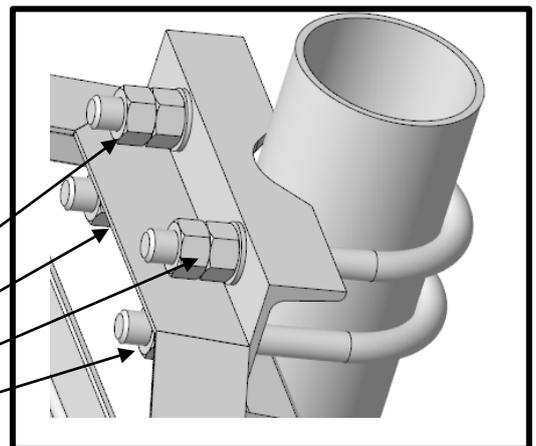
loosing bolt to adjust antenna

M16 screw nuts(1pcs)

Torque 95Nm(70lb-ft) ± 5%



loosing nuts to
adjust antenna



2. Figure 1 shows the horizontal and vertical installation methods for pole. Diameter range of pole is $\Phi 51\text{mm} \sim \Phi 120\text{mm}$. Figure 2 shows two methods for Angle Iron. Specification range of Angle Iron is $40 \times 40\text{mm} \sim 125 \times 125\text{mm}$. Customer can choose a method according to the installation site.

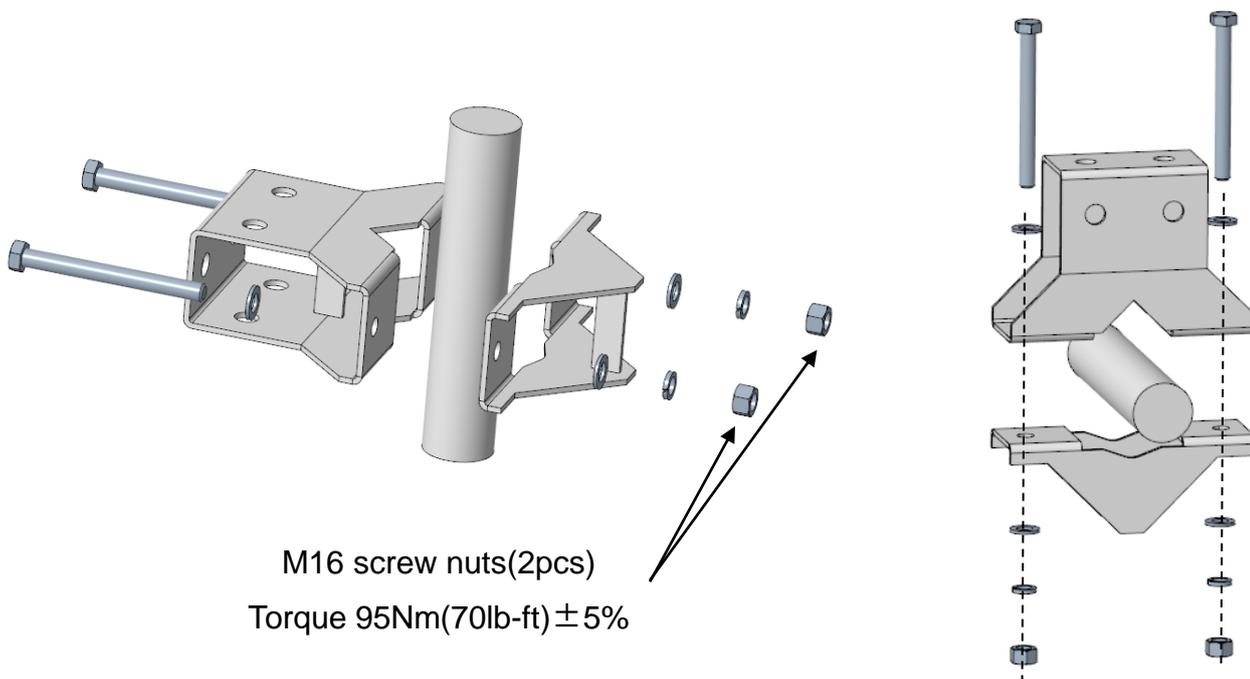
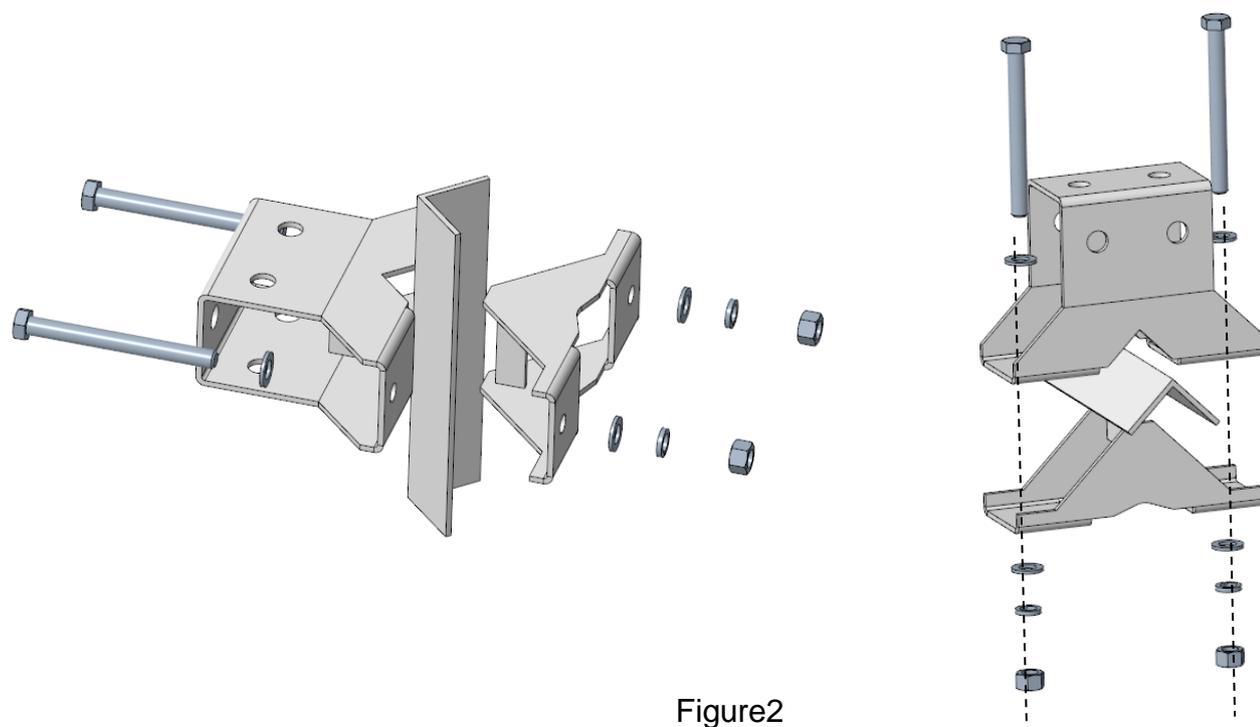
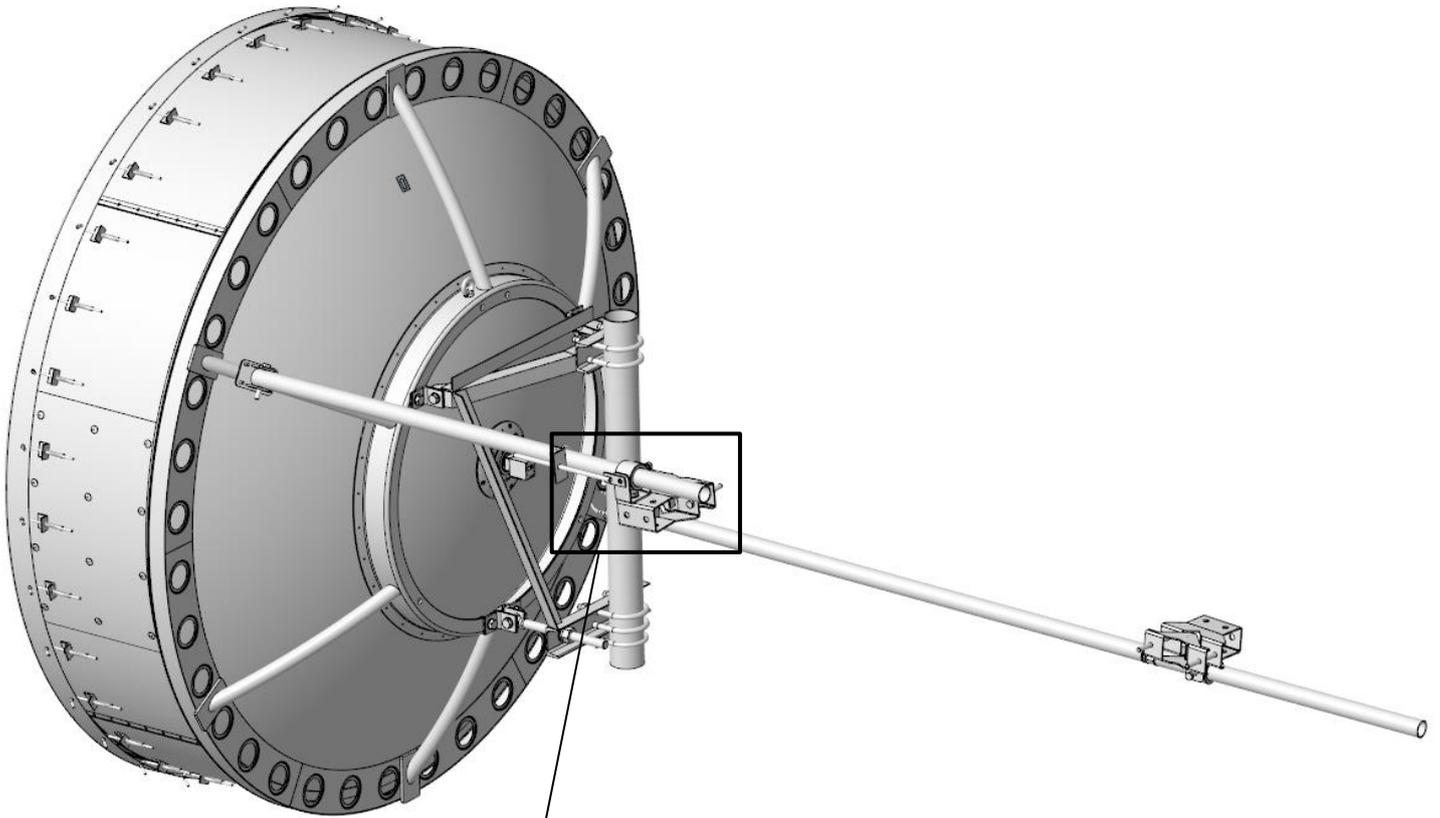


Figure1



3. Fine azimuth Adjustment

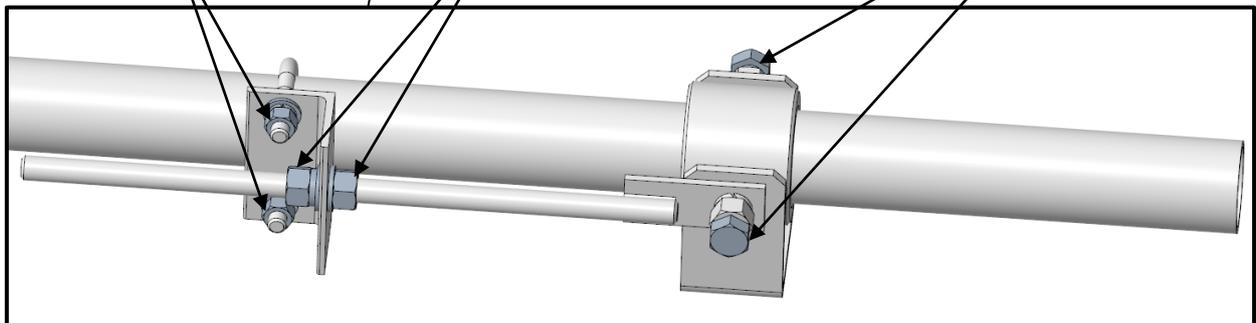
First, fasten the nuts on the small U-bolt, and then loosen carefully the rest nuts on azimuth strut assembly 1. Use the fine adjusting structure to adjust the antenna. The range of fine adjustment is $\pm 5^\circ$. Finally, lock all nuts and bolts after completing the adjustments



① fasten the nuts on the small U-bolt
M12 screw nuts(2pcs)
Torque 38Nm(28lb-ft) $\pm 5\%$

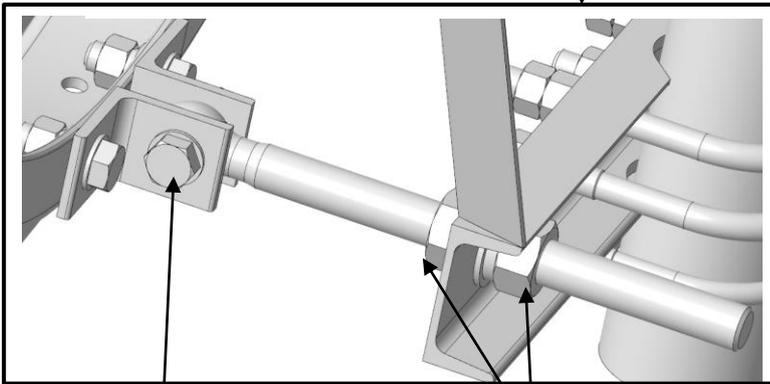
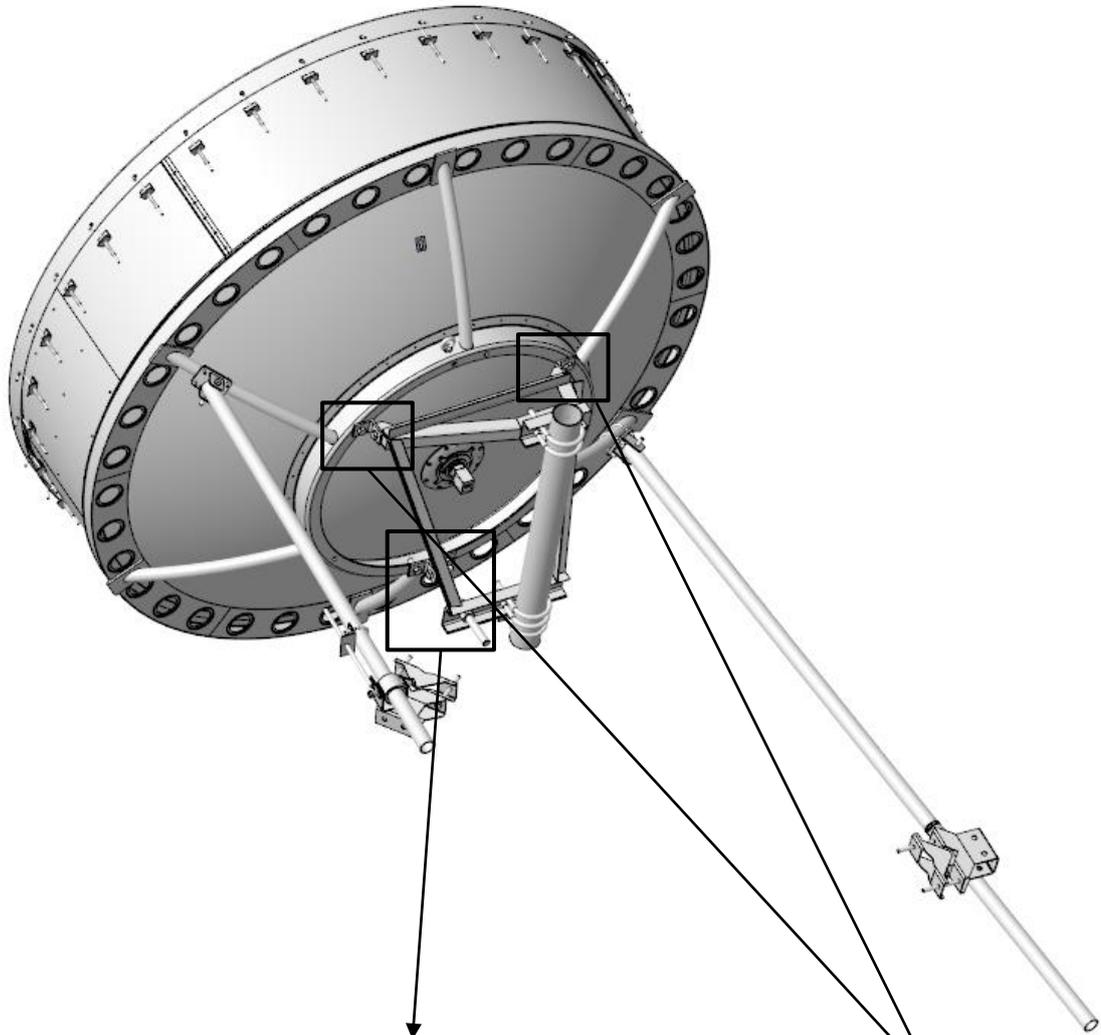
③ fine adjust by adjusting these two nuts
M16 screw nuts(2pcs)
Torque 95Nm(70lb-ft) $\pm 5\%$

② loosen the nuts
M16 screw nuts(2pcs)
Torque 95Nm(70lb-ft) $\pm 5\%$



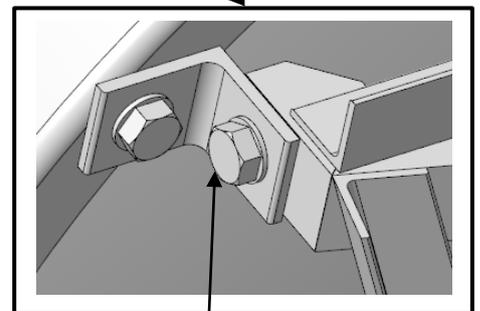
B Elevation Adjustment

Loosen the two connecting angle irons on mounting assembly, and then carefully turn the two nuts on eye bolt with a wrench to tilt the antenna forwards or backwards. The range of fine adjustment is $\pm 5^\circ$. Finally, lock all nuts after completing the adjustments.



loosen the bolt
M20 screw nuts(1pcs)
Torque 185Nm(137lb-ft) $\pm 5\%$

Turn the two nuts to adjust
the elevation
M30 screw nuts(2pcs)
Torque 620Nm(457.6lb-ft) $\pm 5\%$

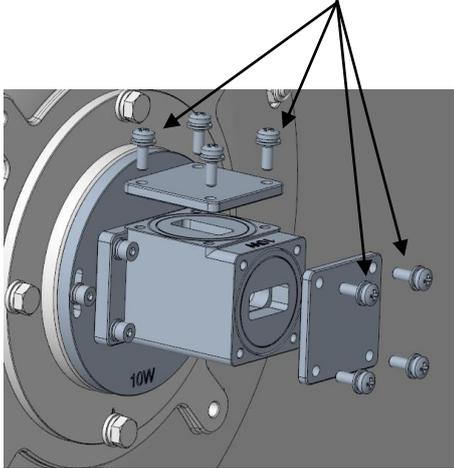


loosen the bolt
M20 screw nuts(2pcs)
Torque 185Nm(137lb-ft) $\pm 5\%$

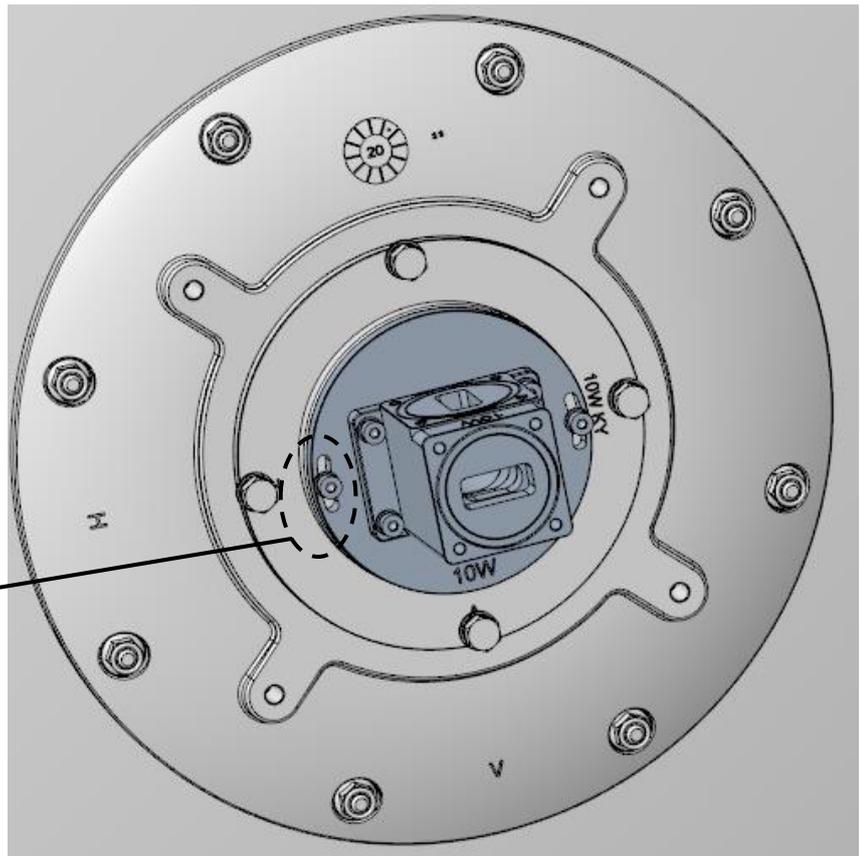
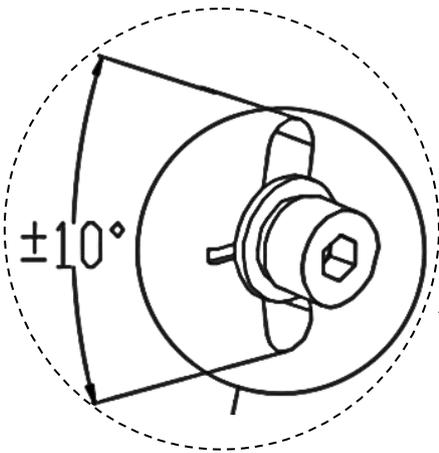
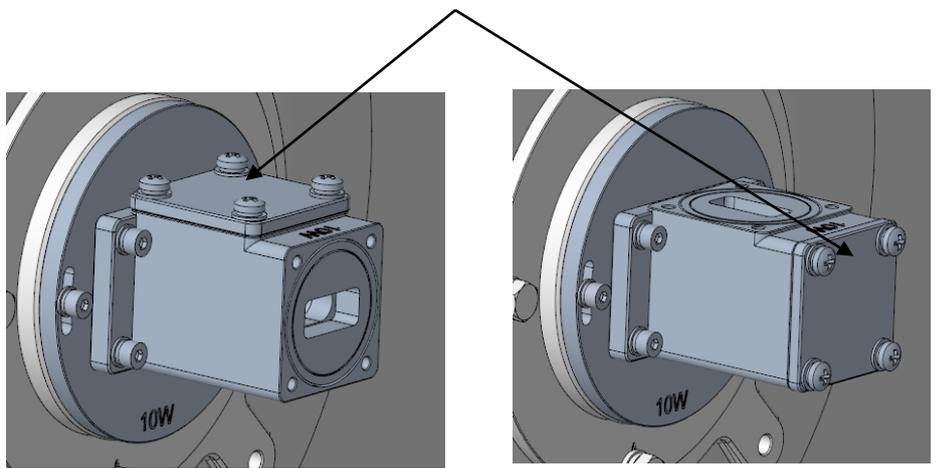
10. Adjusting the Dual Polarization Separate OMT

Remove the OMT sealing cap. Unscrew the two installation bolts on the OMT in one round, rotate the OMT, perform fine adjustment within the $\pm 10^\circ$ angle and then tighten the screws. (Torque $2.2\text{Nm}(1.6\text{lb-ft}) \pm 5\%$).

Remove the screws and take off the sealing cap



If one port on OMT doesn't need , the sealing cap of this port do not need to take off .

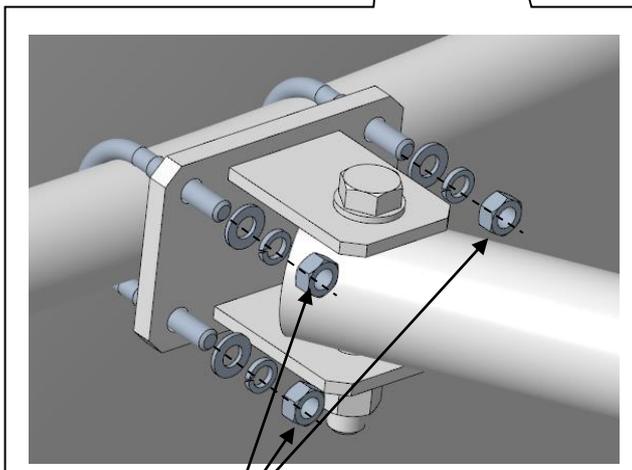
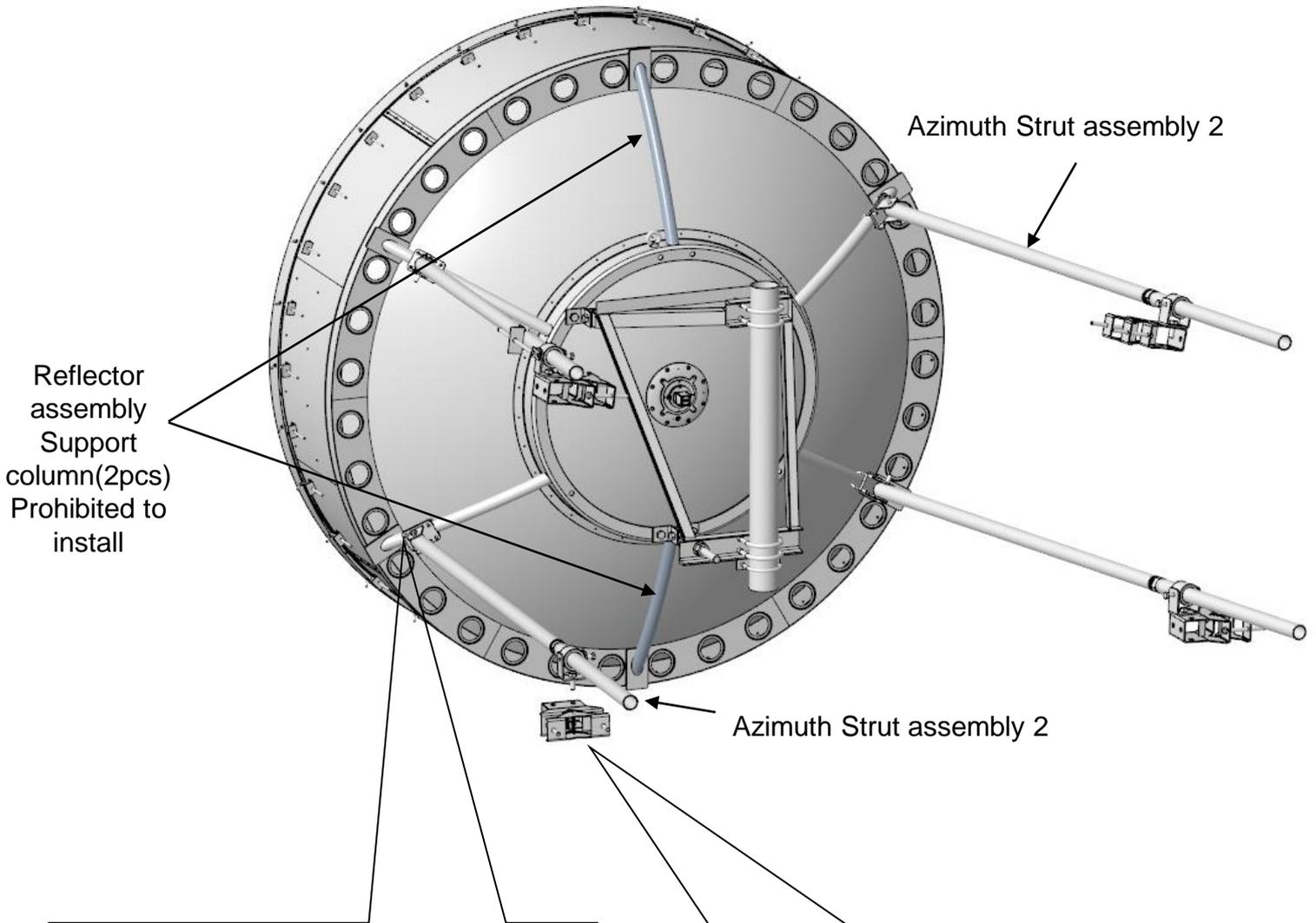


NOTE

Polarization Separate OMT has rectangular flanges and square flanges. Take the 10W Polarization Separate OMT square flange outlet as an example.

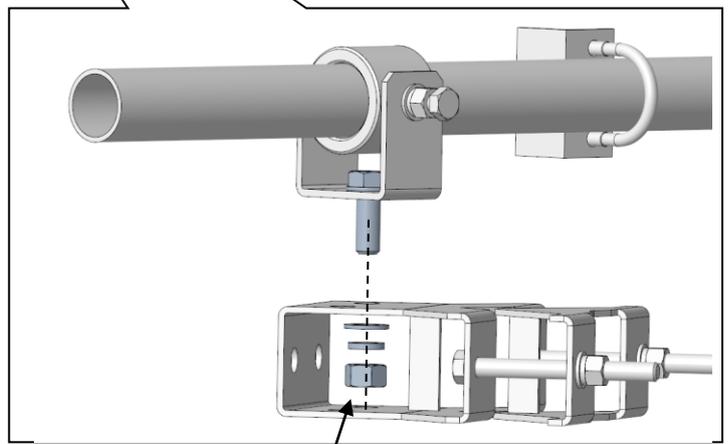
11. Optional Side Strut assembly 2 Installation (For unconventional shipment only)

Since the installation of the standard two Azimuth Strut assembly is completed, The two optional Azimuth Strut assembly 2 are installed on the remaining two reinforcing rods on the reflecting surface in the same installation method as the standard Azimuth Strut assembly.



M10 screw nuts(4pcs)

Torque 22Nm(16.2lb-ft) ± 5%



M20 screw nuts(1pcs)

Torque 185Nm(137lb-ft) ± 5%

12. Final Inspection

In order to ensure every tightening part is in the right condition, please check all of them after the whole installation procedure, and anti-corrosion treatment is suggested (such as daubing grease on parts).