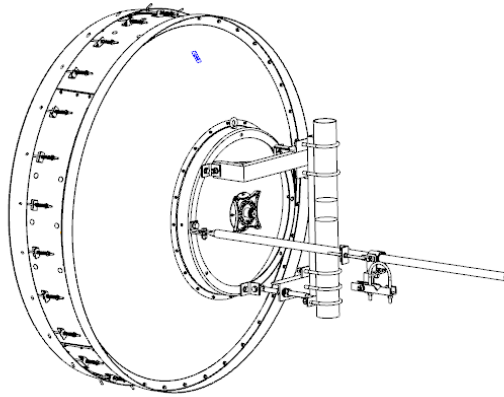


Installation Instructions

For 6 foot / 1.8m Diameter Ultra-High Performance Antenna

Model ADxxG-6-S2



- This manual is provided for the installation of 1.8m Ultra high performance 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. Diameter of the mounting pole provided by the user shall be $\varnothing 114\text{mm}$.



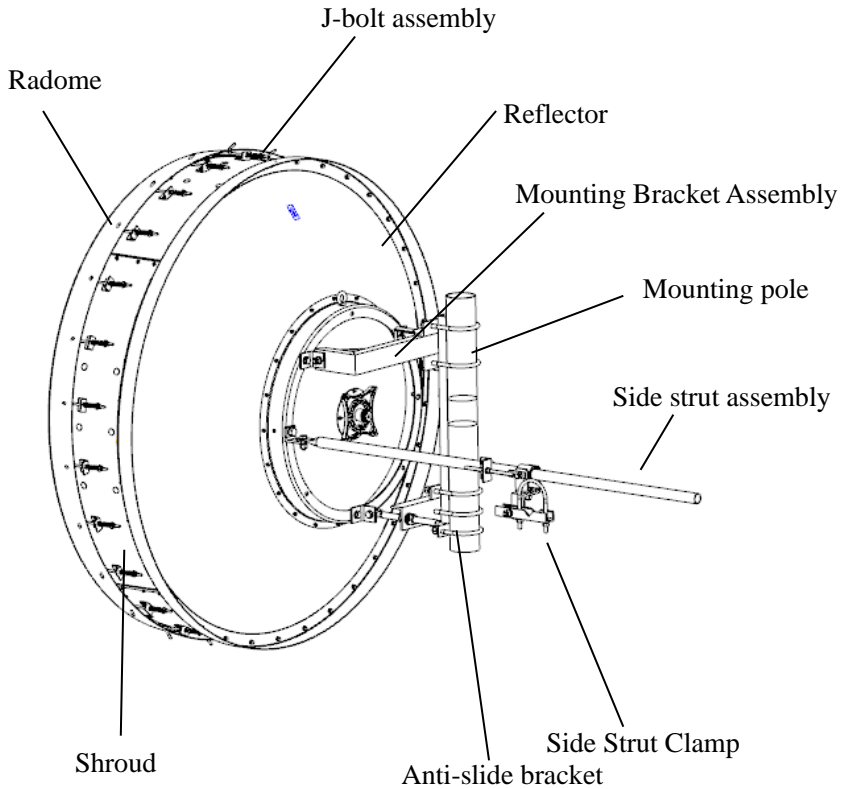
Warning: This manual is only provided to professional personnel for antenna installation, maintenance and removal. To ensure the performance of the antenna, components between different antennas are not to be used interchangeably!

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1 Overview and Unpacking


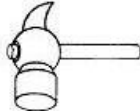


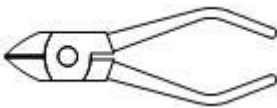

1.1 Outline of 1.8m Microwave Antenna



1.2 Tools Required

Please make sure that you have the tools listed in Table 1 before proceeding.

Table 1: List of installation tools

Item	Name	Specification	Quantity
1	Crowbar 		1pcs
2	Hammer 		1pcs
3	Spanner 	S=8 (M5) S=10 (M6) S=16 (M10) S=18 (M12) S=24 (M16) S=36 (M24)	2pcs for each kind
4	Phillips screwdriver 		1pcs
5	Diagonal Pliers 		1pcs
6	Torque Spanner 		1pcs

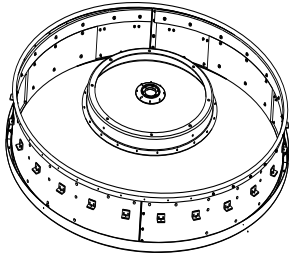
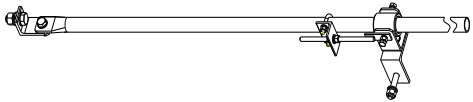
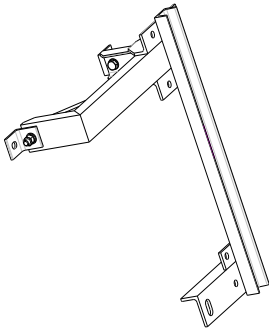
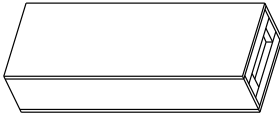
1. 3 Torque Table – Do not exceed these torque values.

Diameter of nuts	M8	M10	M12	M16	M24
Value (N.m)	12	22	38	93	313

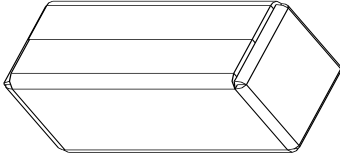
1. 4 Main Packing List

Please check all the parts in the package box according to Table 2 below.

Table 2: Packing List Main

<p>1. Reflector assembly with shroud</p> 	<p>2.Side strut assembly (1 set)</p> 
<p>3. Mounting Bracket Assembly (1 set)</p> 	<p>4. Accessories Box (1 pcs)</p> 

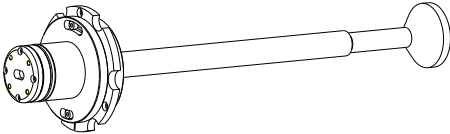
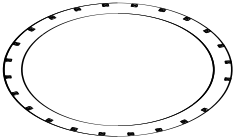
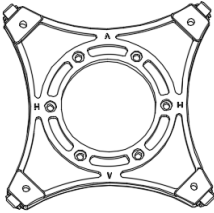

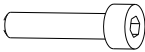
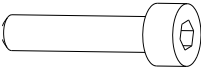


5. Feed Box (1 pcs)



1.5 Packing List for Feed Box

Please check all the parts in the Feed Box according to Table 3 below:

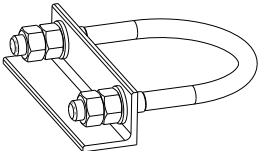
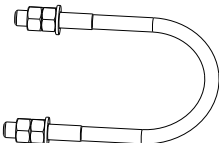
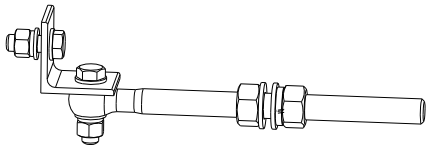
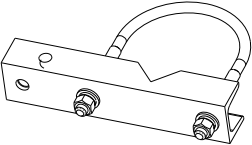
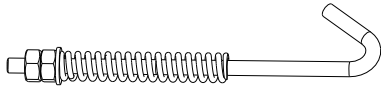
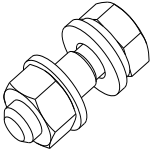
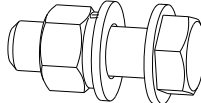
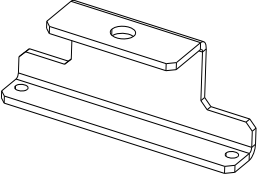
Table 3: Packing List of Feed Box

1. Feed assembly (1 set) 	2.Radome (1 pcs) 
3. Mechanical Flange (1 pcs) 	4. Measuring gauge (2 pcs) 
6. M4*10 Allen screw (3pcs) 	7. M6*25 Allen screw (6 pcs) 
8.Lubricant(1 pcs) 	9. Finger-cot (1 pcs) 
A Bag of documents: 10. Installation Manual (1 Copy)	11. Logo Label (1 pcs)

1. 6 Packing List of Accessories Box

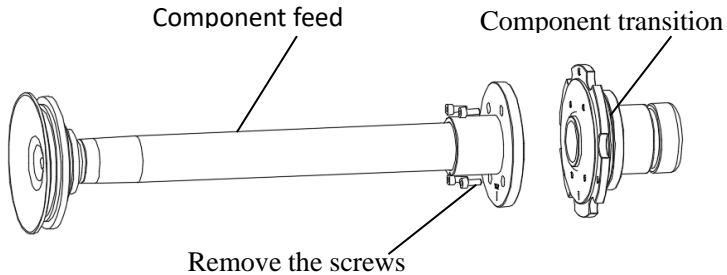
Please check all the parts in Accessories Box according to Table 4 below:

Table 4: Packing List of Accessories Box

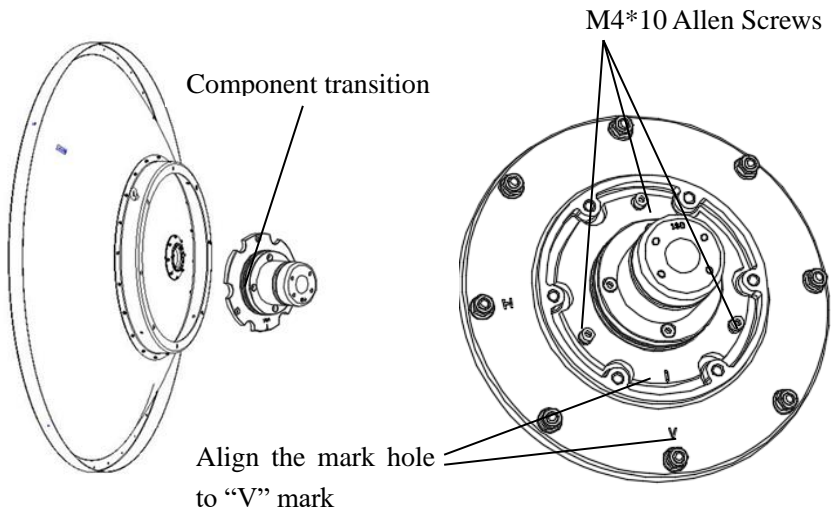
<p>1. Anti-slide bracket (1 set)</p> 	<p>2.U-bolt assembly (4 sets)</p> 
<p>3.Eye bolt assembly (1 set)</p> 	<p>4. Side strut clamp (1 set)</p> 
<p>5. J-bolt assembly (24 sets)</p> 	<p>6. Bolt M8*25Assembly (36 sets for use, 1 sets for spare)</p> 
<p>7. Bolt M16*45 Assembly (2 sets)</p> 	<p>8.Side Strut connecting plate (1 pcs)</p> 

2 Antenna installation

2.1 6GHz-8GHz Feed assembly and installation

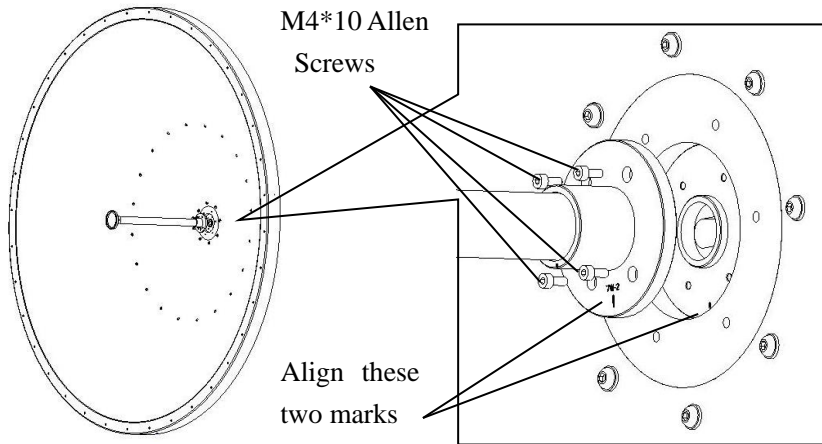


Step 1: Install component transition to the reflector from the back side



1st Fig. Installing Component transition

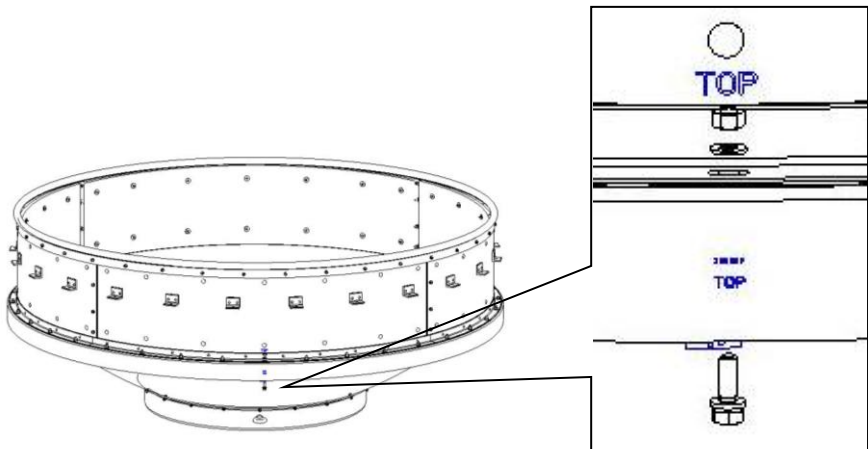
Step 2: Install component feeder to the reflector from the front side



2nd Fig. Installing Component feeder

2.2 Shroud to Antenna Assembly

Align the “TOP” on Shroud with the “TOP” on the Reflector, assemble all Shroud Assemblies on the Reflector with bolts M8*25, big flat washers Ø8, flat washers Ø8, spring washers Ø8, nuts M8 see figure3.



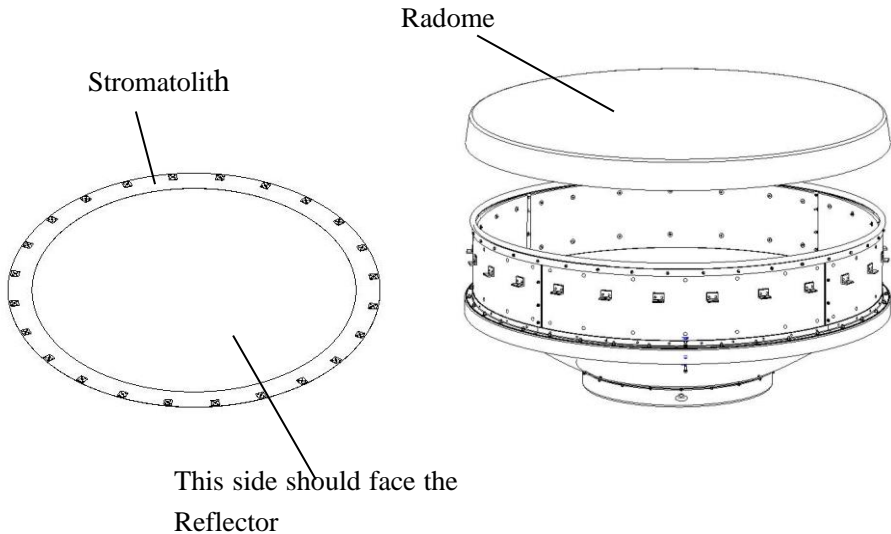
3rd Fig. Installation of Antenna Shroud assemblies

2.3 Radome and J-bolt assembly Installation

Step 1: Put Radome onto the antenna as figure 4 shows. This step requires more than 2 people to complete.

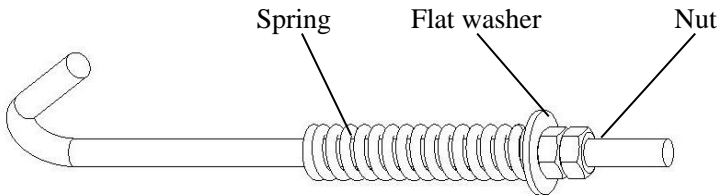


Please make sure the stromatolith of Radome faces the Reflector and reflector surface is clean before Radome installation.



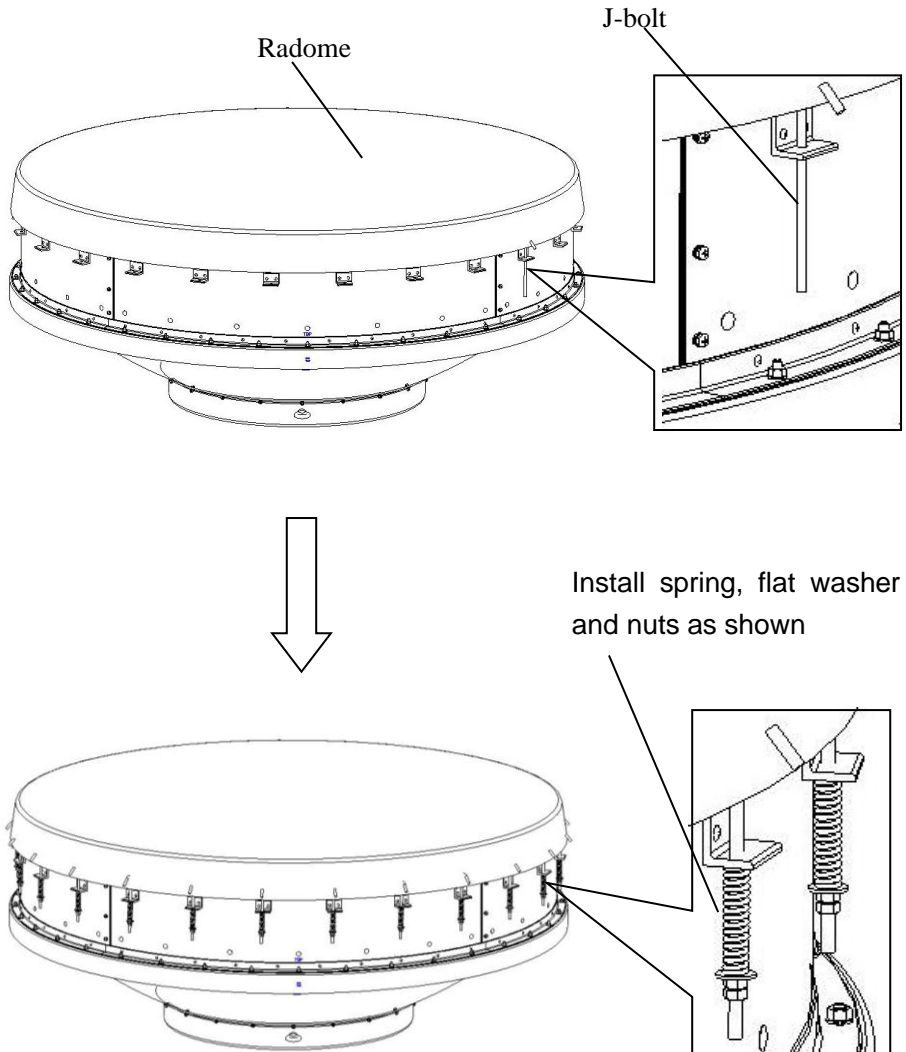
4th Fig. Covering Radome

Step 2: Remove two nuts M8, flat washers $\varnothing 8$ and spring from J-bolt Assembly.



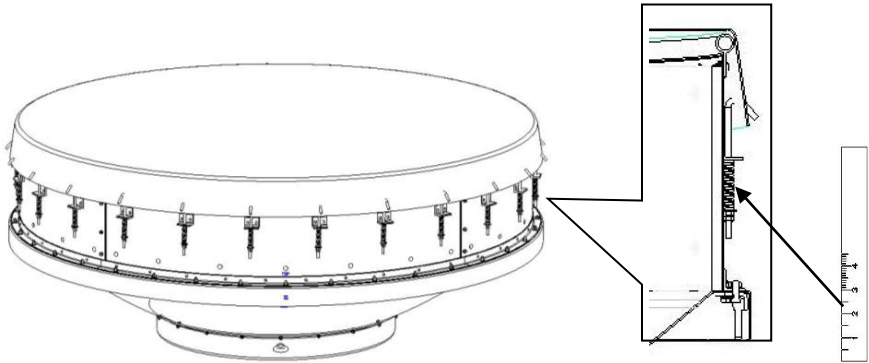
5th Fig. J-bolt Assembly

Step 3: Install J-bolt Assembly onto the Radome and shrouds as figure 6shows.

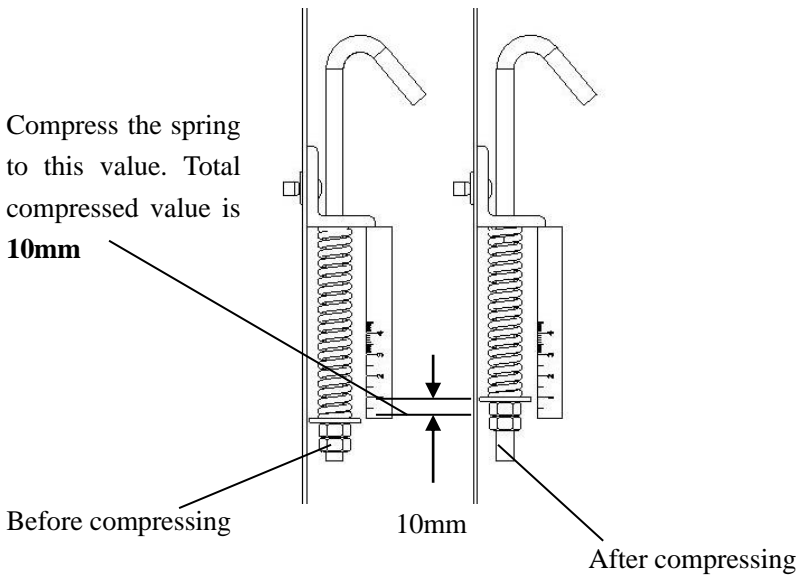


6th Fig. J-bolt assembly installation

Step 4: After making sure the Radome and J-bolt assemblies are evenly distributed, fasten nuts to compress the spring. Use Measuring gauge to measure the compressed value as figure 7 shows.



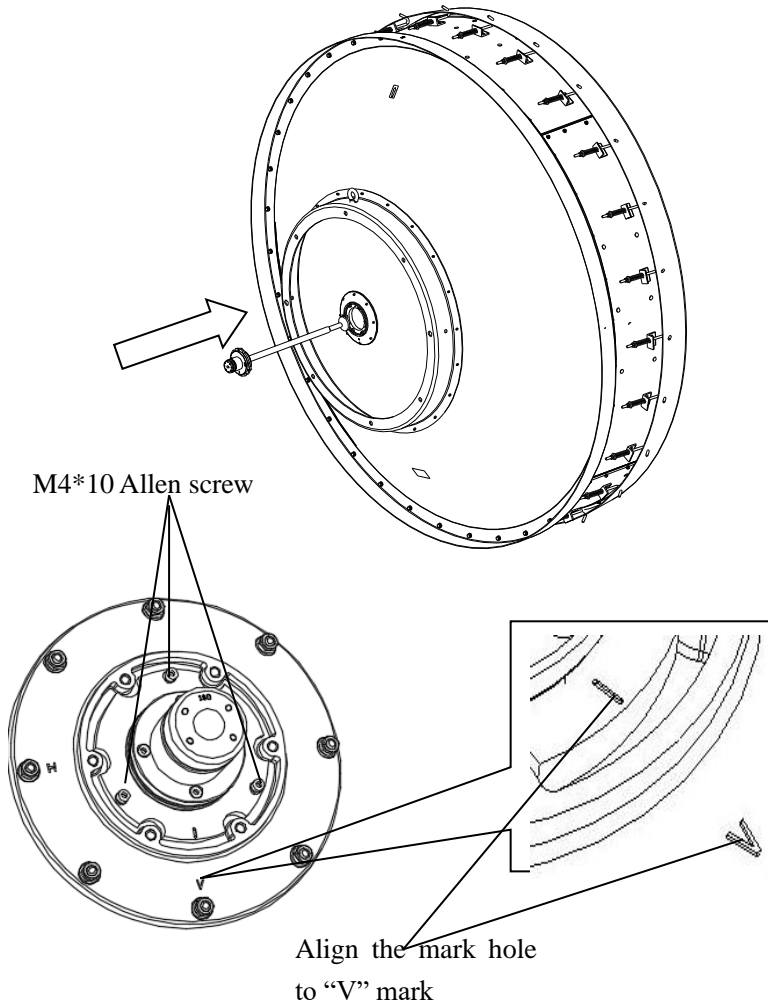
Compress the spring to this value. Total compressed value is **10mm**



7th Fig. Spring Compressing

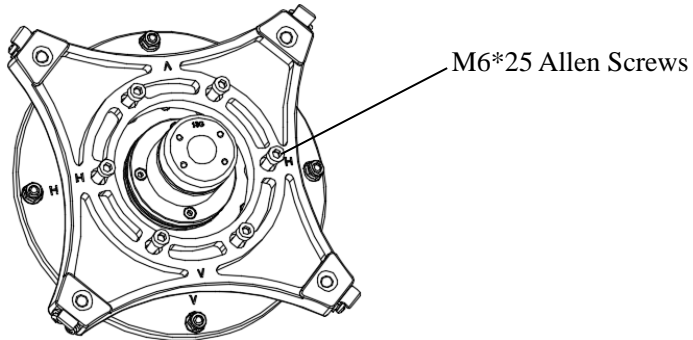
2. 4 Installing 10GHz-23GHz Feed assembly

2. 4. 1 Insert the Feed assembly into the Reflector from back carefully and fix it with M4*10 Allen screw as shown in figure 8.



8th Fig. Feed assembly installation

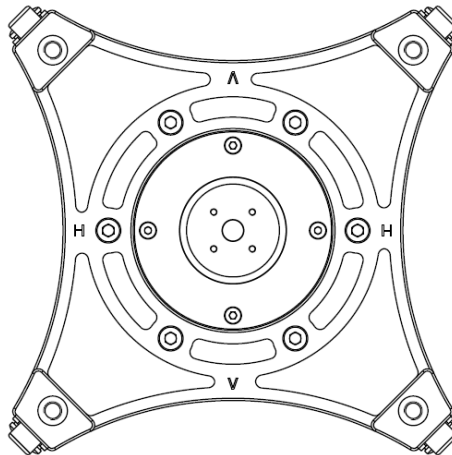
2.5 Installing Mechanical Flange



9th Fig. Installing Mechanical Flange

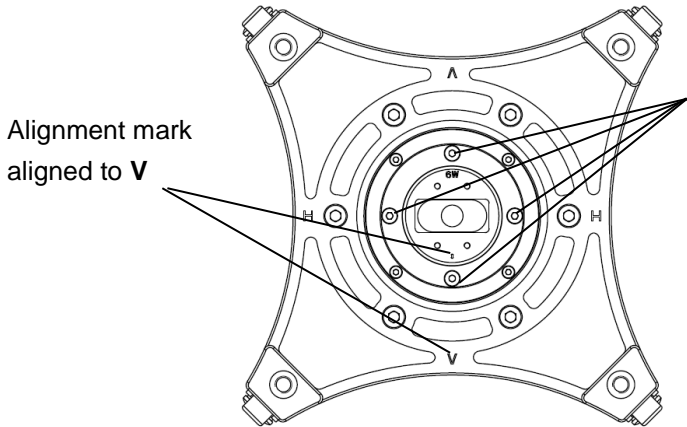
2.6 Adjust Antenna Polarization

For antennas with a circular waveguide opening, there is no need to change the antenna polarization



For antennas with a rectangular waveguide opening using Horizontal polarization, the antenna polarization must be changed prior to installation. Confirm the required polarization before mounting and adjust as necessary.

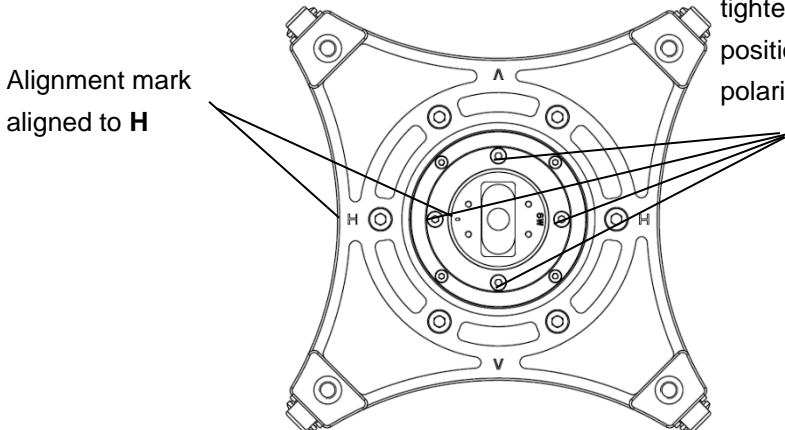
The detail is shown in Figure 10-11 below.



10th Fig. **Vertical Polarization (Default)**

For H pol, remove 4 screws, rotate transition and reinstall screws as shown in Fig 3b. For V pol no change needed.

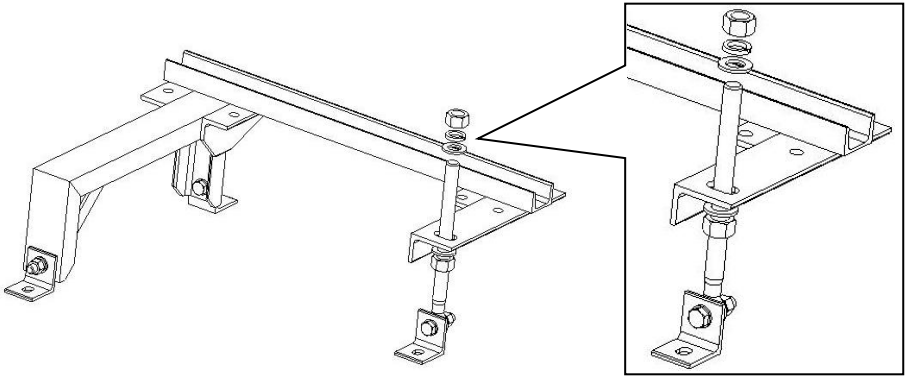
After reinstallation tighten screws in these positions for H polarization.



11th Fig. **Horizontal Polarization**

2. 7 Installing Mounting bracket assembly

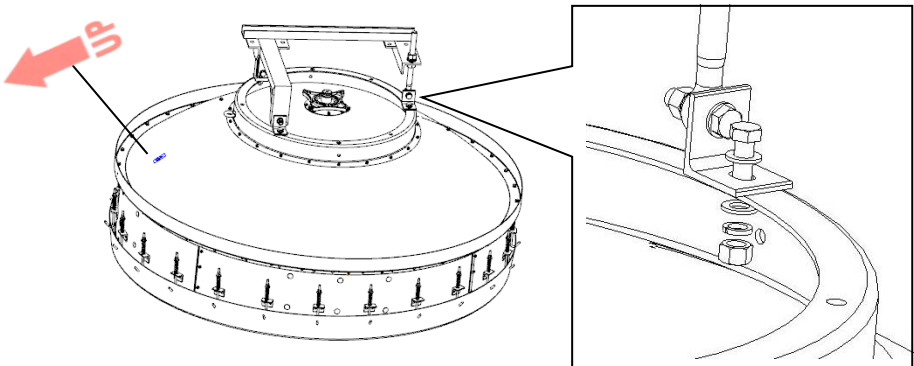
Assemble Eye bolt assembly to mounting bracket assembly, so as to compose a new assembly as shown in figure 10.



12th Fig. Eye bolt assembly installation

2.8 Fixing Mounting bracket assembly to Reflector

Assemble the Mounting bracket assembly to Reflector as shown in figure 11.

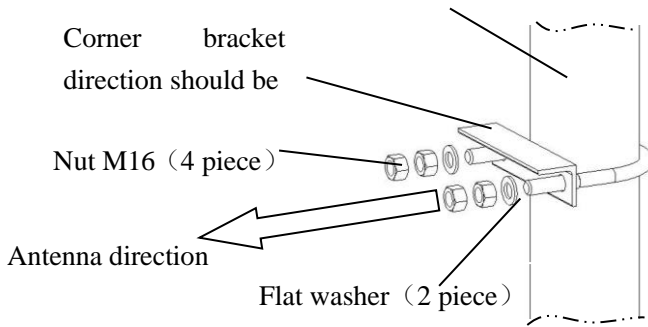


13th Fig. Mounting bracket assembly installation

2.9 Install Anti-slide bracket

First roughly decide the direction of the antenna. The Anti-slide bracket direction should be towards the antenna direction as figure 12 shows. Adjust the corner bracket onto the proper height of the mounting pole and fasten it with U-bolt, 4 nuts M16, and 2 flat washers like figure 11 shows.

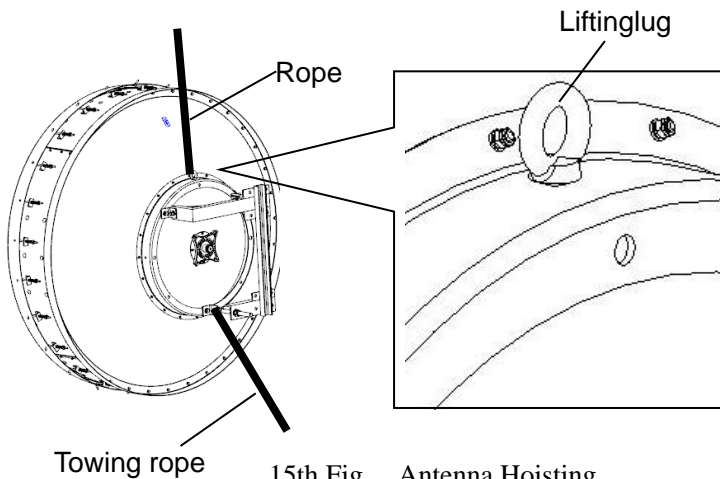
Fasten all the nuts.



14th Fig. Install Anti-slide bracket

2. 10 Antenna Hoisting

Lift the antenna to a tower with a rope through the lifting lug. In order to avoid the antenna rotation, you need to tow the antenna with another rope like figure 13 shows.

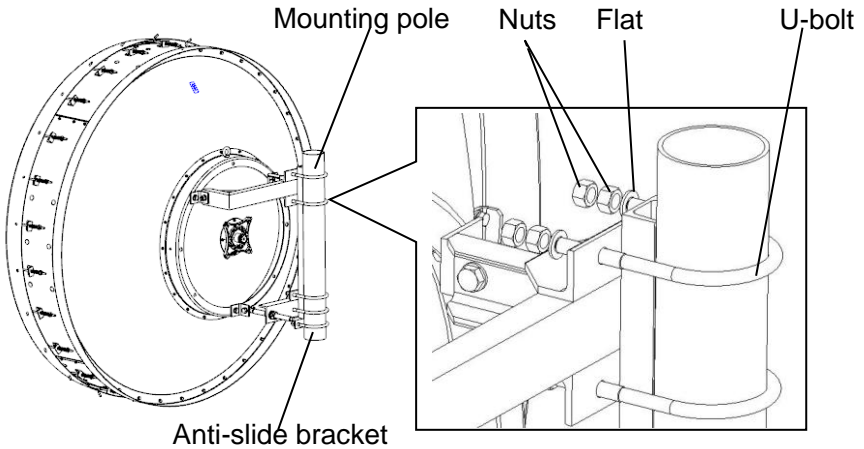


15th Fig. Antenna Hoisting

2. 11 Install the antenna to the mounting pole

Lift the antenna on the Anti-slide corner bracket of the mounting pole. Install the antenna to the mounting pole with 4 U-bolts, 16 nuts M16, 8 Flat washers. Mounting assembly must be clung to the Anti-slide corner bracket. Moreover, the

Anti-slide corner bracket direction must be the same as the antenna direction like figure 14 shows. Don't fasten all the nuts now.



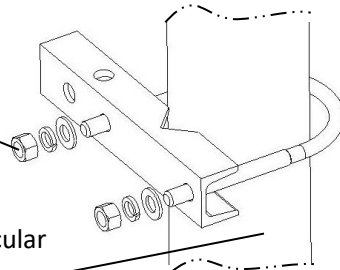
16th Fig. Install the antenna to the mounting pole

2. 12 Install Side Strut Clamp

Install side strut clamp to the proper position of the tower like figure 15 shows. Fasten every nut.

Nut, Flat washer, split washer (2 sets)

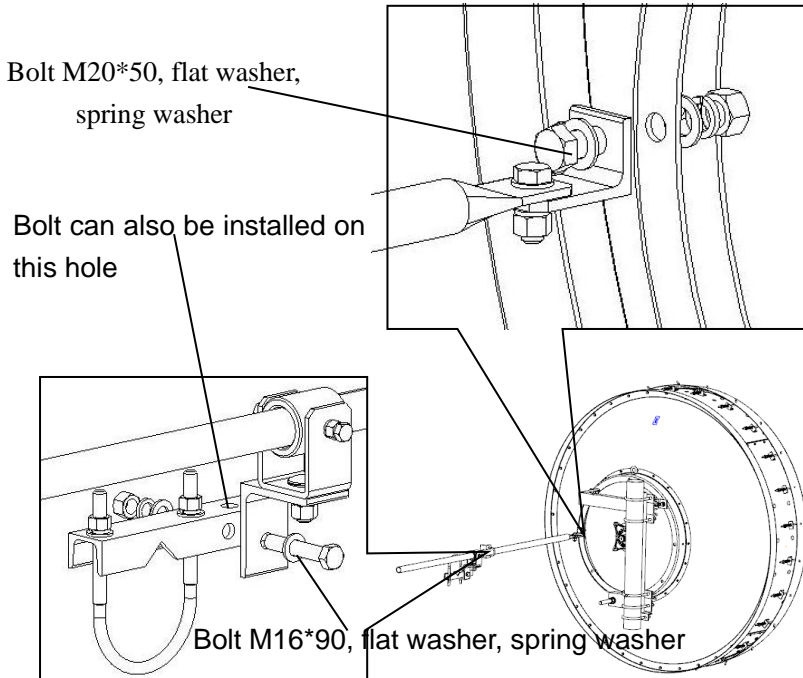
Clamps must be attached to a circular Structural member (Dia 51-114mm)



17th Fig. Install side strut clamp

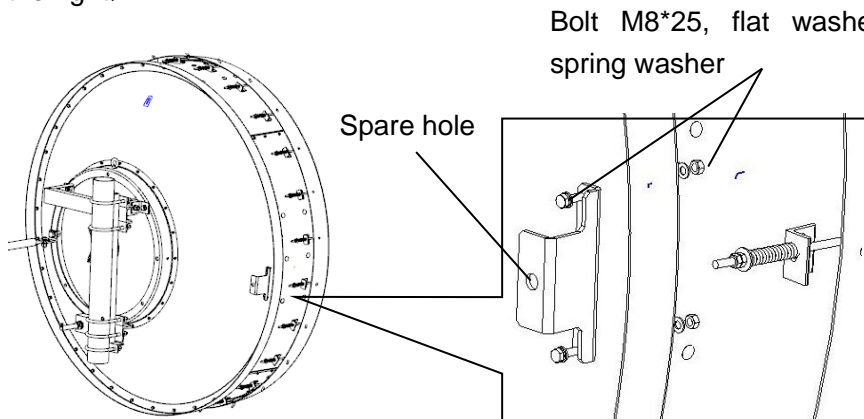
2. 13 Install Side Strut Assembly

Install Side Strut Assembly on the mounting pole and side strut clamp like figure 16 shows. Don't fasten all the bolts and nuts.



18th Fig. Install side strut assembly

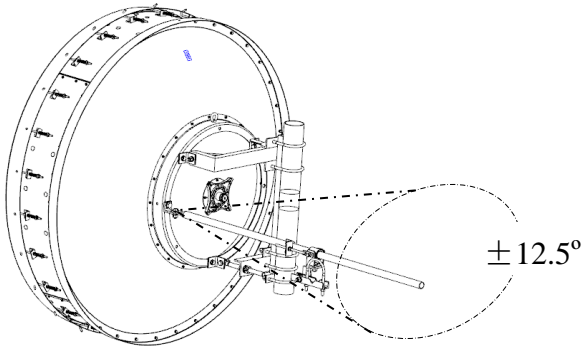
As Figure 17 shows, the Side Strut Assembly can also be installed the spare hole on the antenna, the specific installation method. There are two spare hole for your choice (one is on the left of the antenna, and the other is on the right)



19th Fig. Install side strut assembly



Attention: Installing the side strut, the angle is limited to 25° in horizontal and vertical direction. If the angle is over the limit, please change the position of the side strut clamp on the tower.



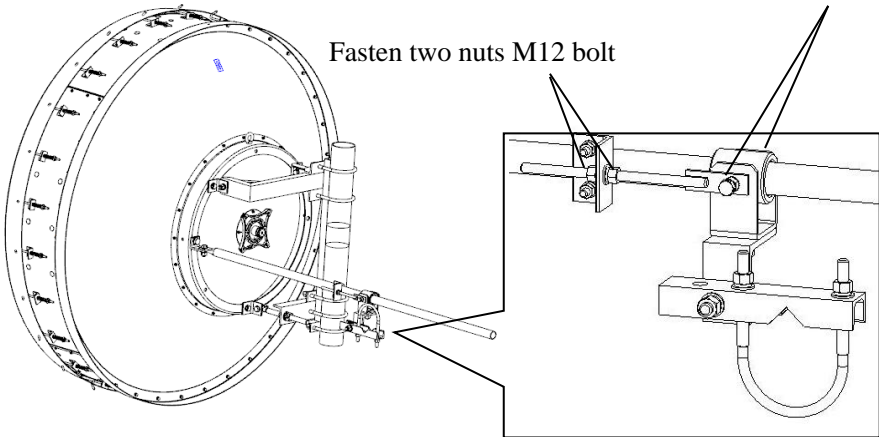
20th Fig. Angle limit of the side strut assembly

Antenna adjustment

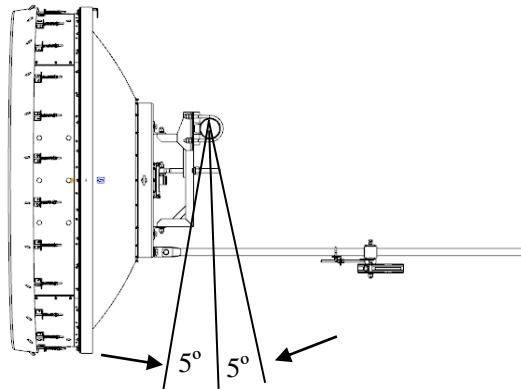
2. 14 Azimuth adjustment

Adjust the side strut to get the best position for the antenna. Fasten two nuts M10, and then turn another two nuts M12 to adjust antenna azimuth. The antenna azimuth range is $\pm 5^\circ$. Please get more details in figures 19-20.

Turn two nuts M12 to adjust antenna azimuth.



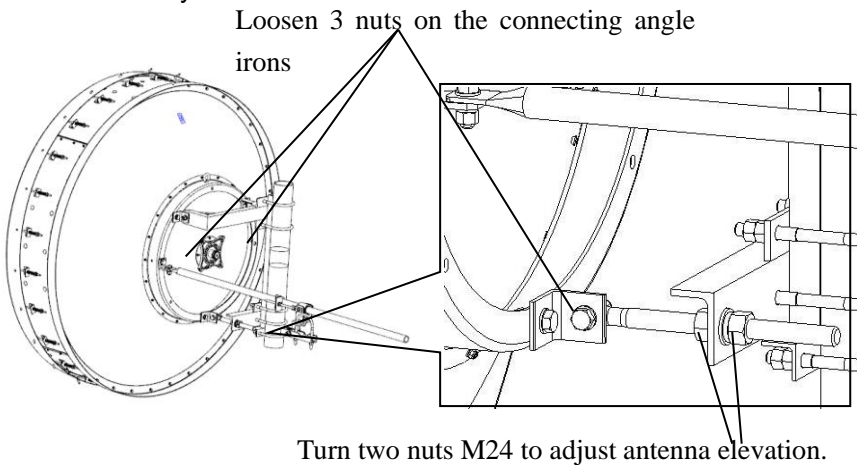
21st Fig. Azimuth adjustment (back view)



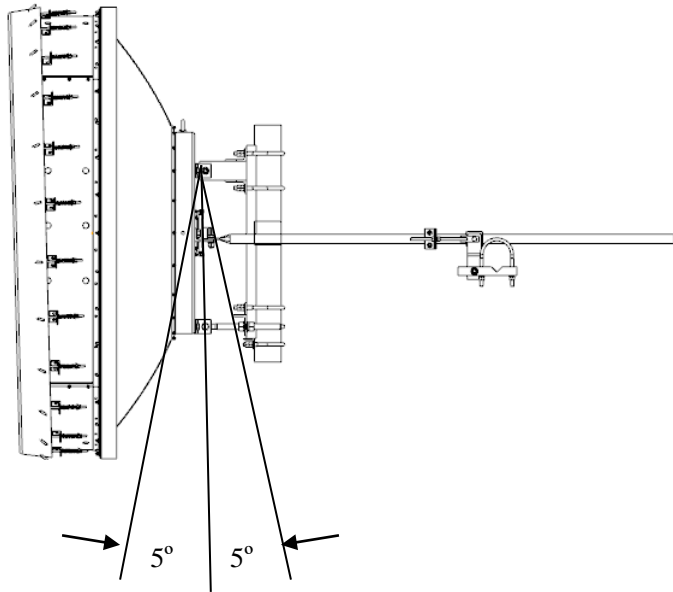
22nd Fig. Azimuth adjustment (top view)

2. 15 Elevation adjustment

Loosen the connecting angle irons on mounting assembly first. Slacken Nuts M24 to adjust antenna elevation as Figures 21-22 show. The elevation range is $\pm 5^\circ$. Adjust azimuth and elevation repeatedly until antenna is aligned. Fasten mounting assembly, U-bolts, bolts of corner bracket assembly, eye bolt assembly and all the other bolts and nuts of the side strut assembly.

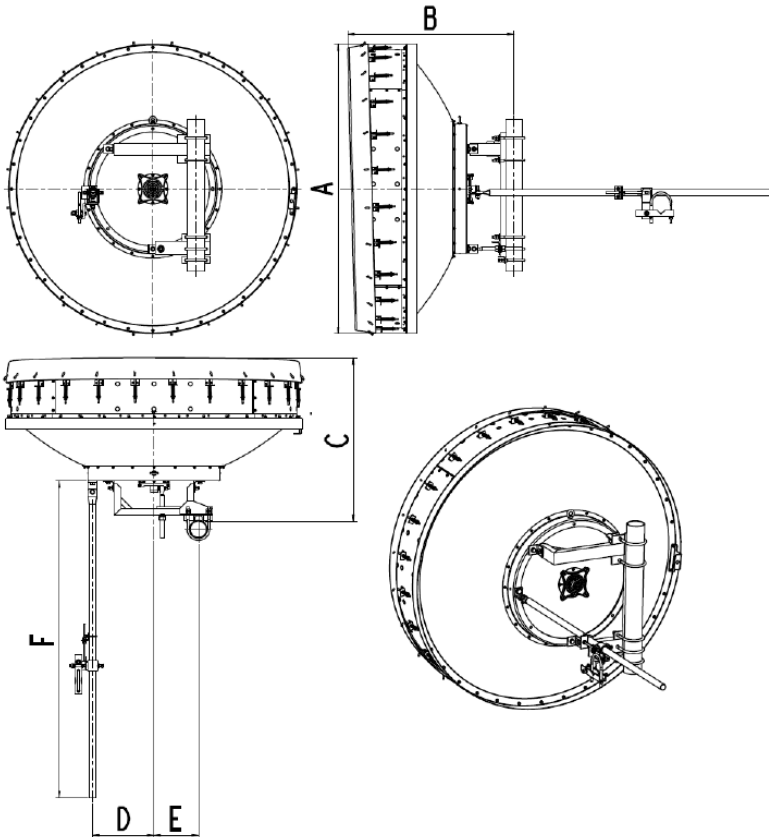


23rd Fig. Elevation adjustment (back view)



24th Fig. Elevation adjustment (side view)

3.0 Mechanical Dimensions



Dimensions (in/mm)	
A	75/1905
B	43.3/1100
C	41.3/1050
D	15.6/395
E	11.2/285
F	79.9/2030