P040-0039 Revision E, April 2025

Mounting Kits for Tri-sector Antennas

TS-MNT Series: Mounting systems for cylindrical pipe installation (89-168 mm pipe diameter) for tri-sector antennas.

This document explains how to install tri-sector antennas using a TS-MNT Series.

Table of Contents

This document has 11 pages

List of Figures

List of Tables

1. Installation Preparations

All fasteners must be tightened to the defined torque value after onsite, see mounting kit installation diagrams on following pages for correct torque recommendations.

1.1. Installation tools list

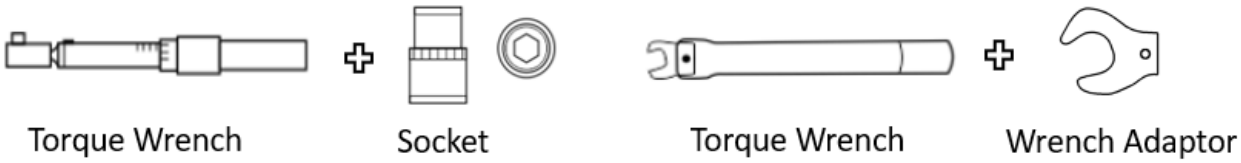


Figure 1 Installation tools list.

Table 1 Installation tools list

Tool	Size	Torque Range
Torque wrench	NA	Max ⩾ 58Nm
Socket or Wrench Adaptor	13mm	25Nm
Socket or Wrench Adaptor	17mm	40Nm
Wrench Adaptor	19mm	35Nm, 58Nm

1.2. Installation parts list

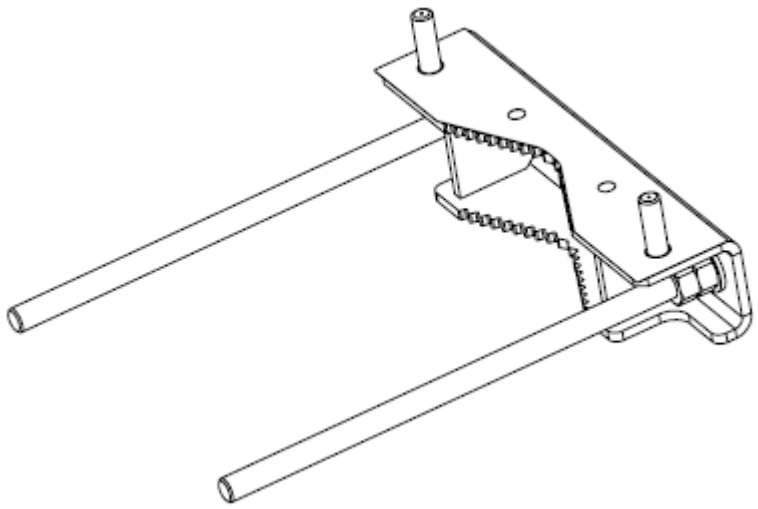
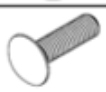


Figure 2 Pre-assembled parts.

Table 2 Part list

Item	Description	Image	Quantity	U/M
1	MOUNTING BRACKET		2	EA
2	POLE CLAMP,W/ GASKET		2	EA
3	POLE CLAMP ASSY		2	EA
4	TOP ADAPTER BRACKET,W/ GASKET		3	EA
5	BOTTOM ADAPTER BRACKET,W/ GASKET		3	EA
6	NUT,HEX,M10,STL,GALV		52	EA
7	WSHR,FLAT,M10,10.5x24x3,STL,GALV		26	EA
8	BOLT,CARRIAGE,M10X35,STL,GALV		6	EA
9	WSHR,FLT,M12,13X24X2.5,STL,GALV		4	EA
10	NUT,HEX,M12,STL,GALV		8	EA
11	WSHR,FLT,M8,8.4X16X2.5,STL,GALV		24	EA
12	NUT,HEX,M8,STL,GALV		48	EA
13	WSHR,FLAT,M10,10.5X20X0.8,SST,PASS		24	EA

2. Install Tri-sector antennas

Step 1: Open one package of TS-MNT Series, take out the mounting kit parts as listed in Table 2.

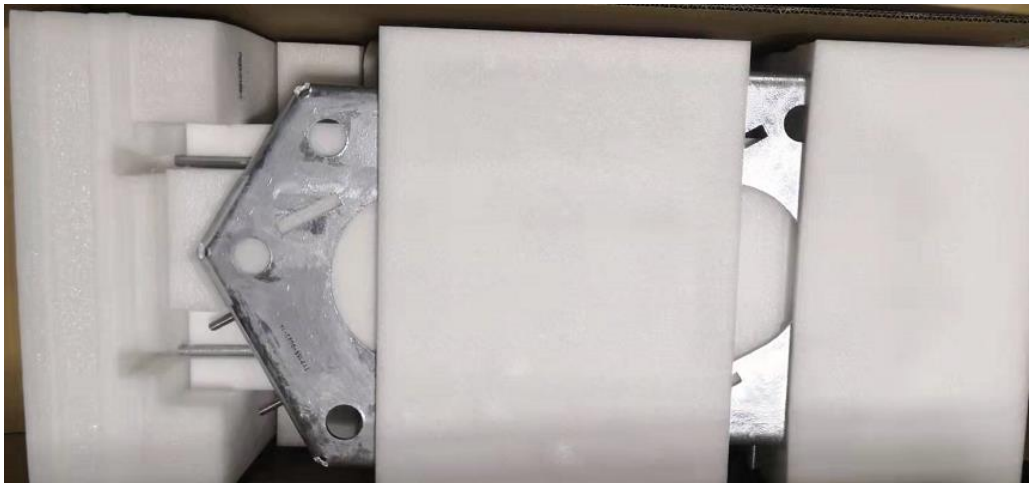


Figure 3 Open package of mounting kit TS-MNT Series.

Step 2: Open three packages of Antennas, take out the three antennas.

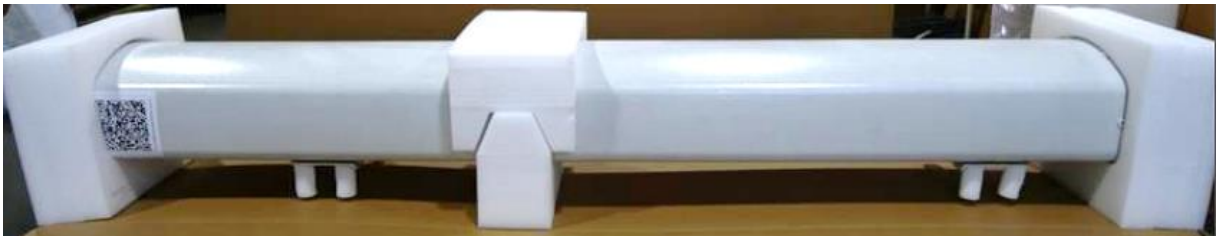


Figure 4 Open package of Antennas.

Step 3: It is recommended to put antenna on the cushion to protect antenna during assembly of adapter bracket. Use the top and bottom cushion in antenna package. For compact assembly of antenna, it is recommended to assemble adapter bracket item 4 & item 5 as listed in Table 2 on the external bracket of antenna such that the holes mentioned in table 3 are used and tighten M8 nuts with 25Nm. Then repeat for the two other antenna modules.

Note: Do not carry the antenna with adapter bracket as shown below with caution label.

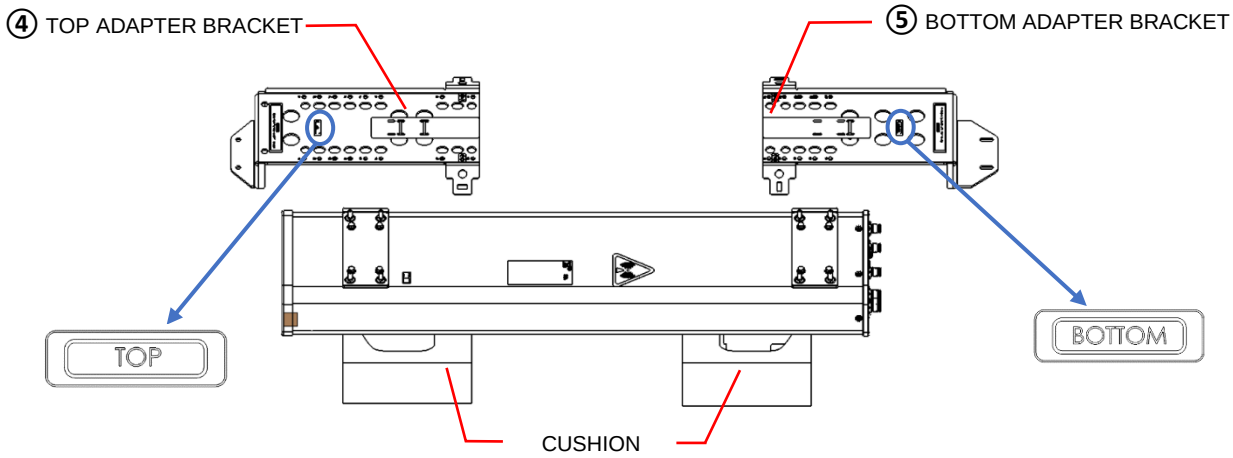


Figure 5 Put antenna on the cushion.

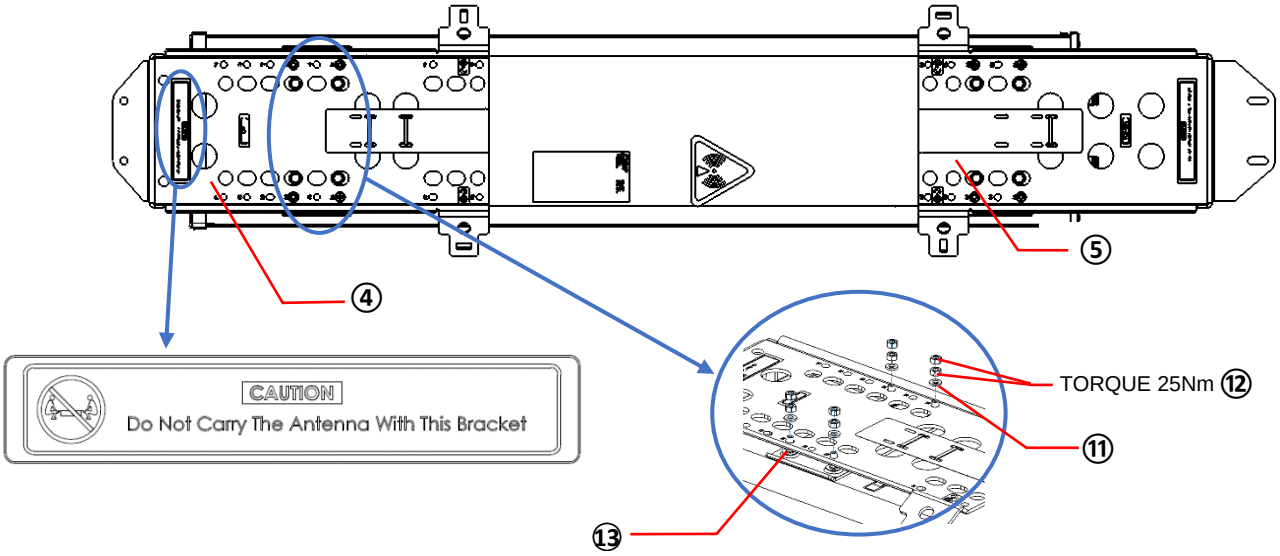


Figure 6 Assemble adapter plates on antenna.

Table 3 Adapter Plate holes to be used for assembly.

ANTENNA NAME	BRACKET TYPE	HOLE TO USE FOR ASSEMBLY
FVV-65A-R3-V1	TOP BRACKET (ITEM 4)	T4 & T6
	BOTTOM BRACKET (ITEM 5)	B3 & B5
KVVSS-65A-R3-V1	TOP BRACKET (ITEM 4)	T1 & T3
	BOTTOM BRACKET (ITEM 5)	B3 & B5
NHHSS-65B-R2BT4-V1	TOP BRACKET (ITEM 4)	T7 & T8
	BOTTOM BRACKET (ITEM 5)	B1 & B3
FVV-65B-R3-V1	TOP BRACKET (ITEM 4)	T7 & T8
	BOTTOM BRACKET (ITEM 5)	B1 & B3
KVV-65A-R2-V1	TOP BRACKET (ITEM 4)	T1 & T3
	BOTTOM BRACKET (ITEM 5)	B3 & B5

Step 4: Assemble the clamps item 2 & item 3 as listed in Table 2 on pole, position the clamps by the arrow on gasket so that the antenna can be oriented as desired, then pre-tighten M12 nuts.

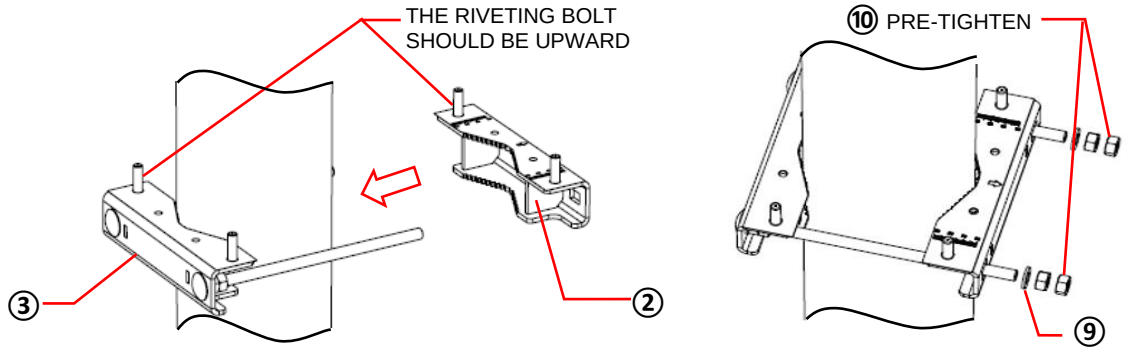


Figure 7 Pre-assemble top clamps on pole.

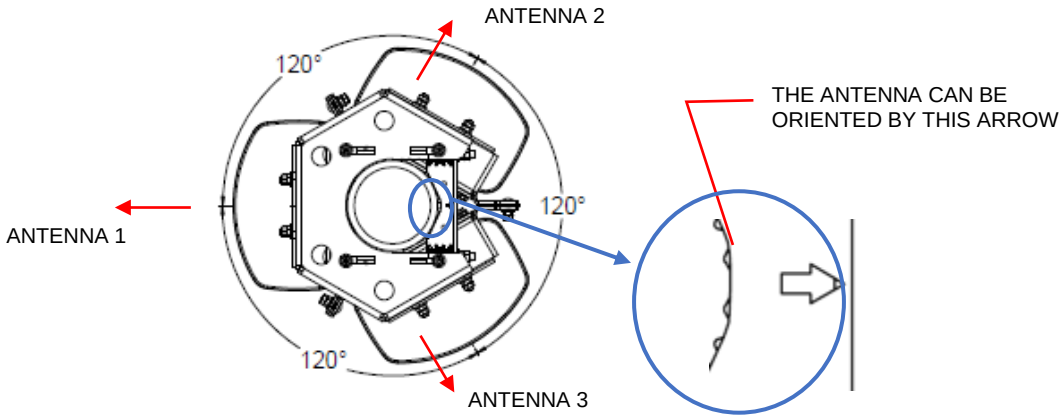


Figure 8 Position the clamps.

Step 5: Make sure the deviation of Gap 1 and Gap 2 no more than 5mm, make sure the surface 1 and surface 2 are horizontal coplanar by level gauge, then tighten M12 nuts with 58 Nm for first nut and 35Nm for second nut.

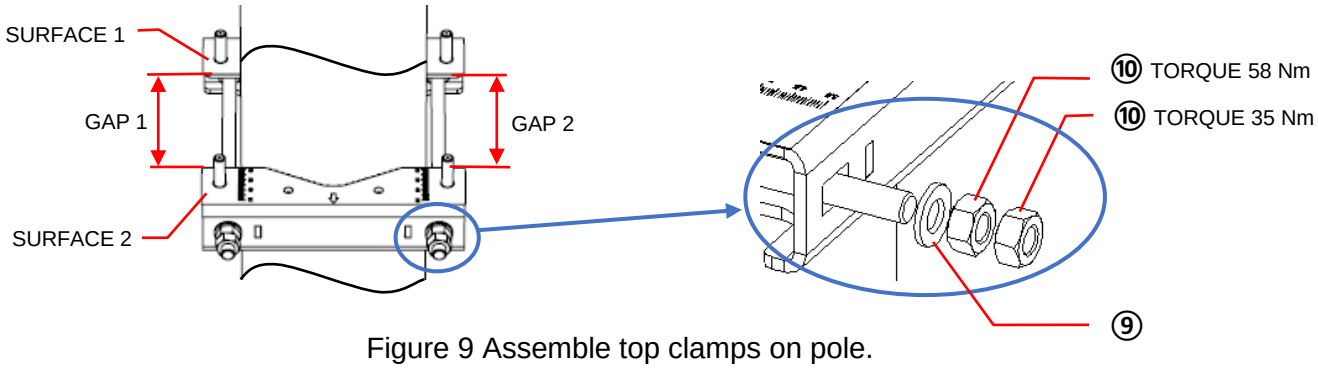


Figure 9 Assemble top clamps on pole.

Step 6: First, determine the site pole diameter, then assemble mounting bracket item 1 as listed in Table 2 on assembled clamps and adjust mounting bracket to align the mark with correct ruler size on both left and right side, then tighten M10 nuts with 40Nm.

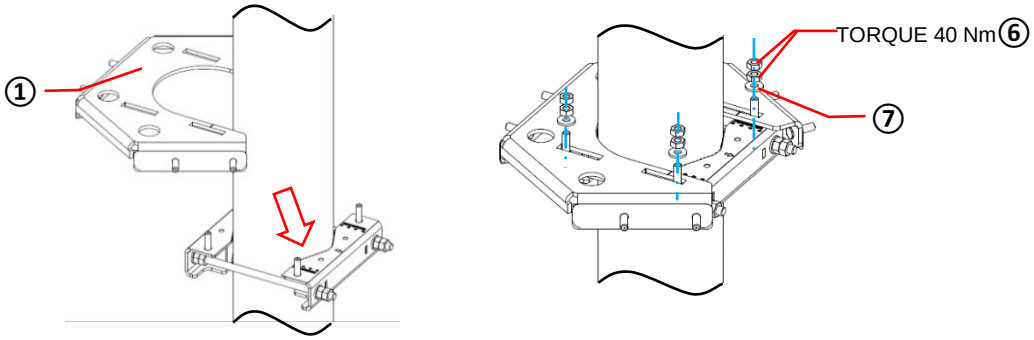


Figure 10 Assemble mounting bracket on clamps.

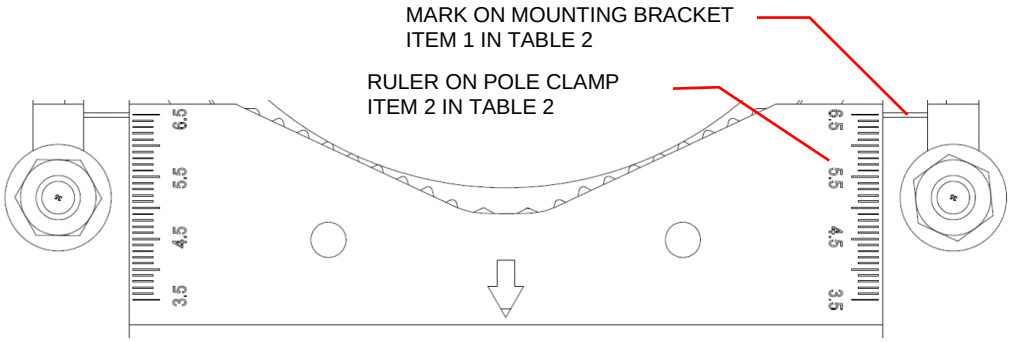


Figure 11 Position mounting bracket.

Step 7: Refer to Table 4, measure the dimension D±5mm from top mounting bracket to position the bottom mounting bracket, then assemble bottom mounting kit by repeating the above installation steps 4~6. Note that the bottom mounting bracket fixed nut should be pre-tighten with no less than 10Nm for adjusting antenna Azimuth easily in the following installation steps.

Table 4 Antenna List

Antenna model	D/mm
FVV-65A Series	1803
KVVSS-65A Series	1585
NHHSS-65B Series	2165
FVV-65B Series	2185
KVV-65A Series	1585

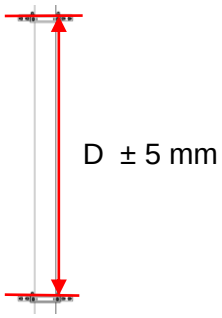


Figure 12 Assemble bottom mounting bracket.

Step 8: Tie the hoisting rope through adapter plate hole and lift one antenna with hoisting equipment.

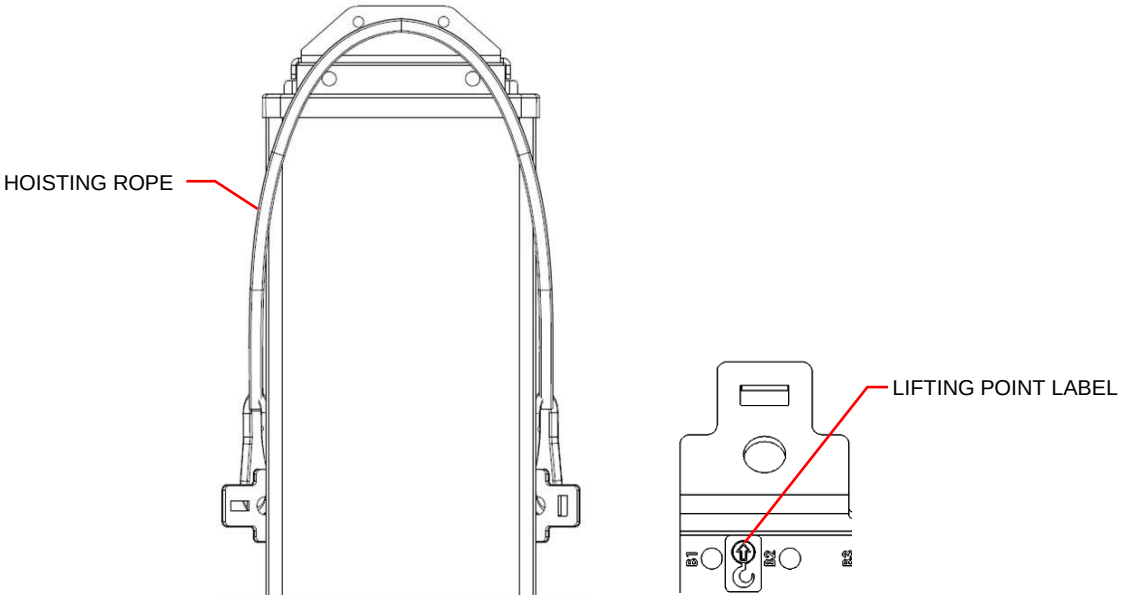


Figure 13 Hoisting the antenna.

Step 9: Hang the antenna on top mounting bracket and pre-tighten the M10 nuts, then push the antenna on bottom mounting bracket and pre-tighten the M10 nuts.

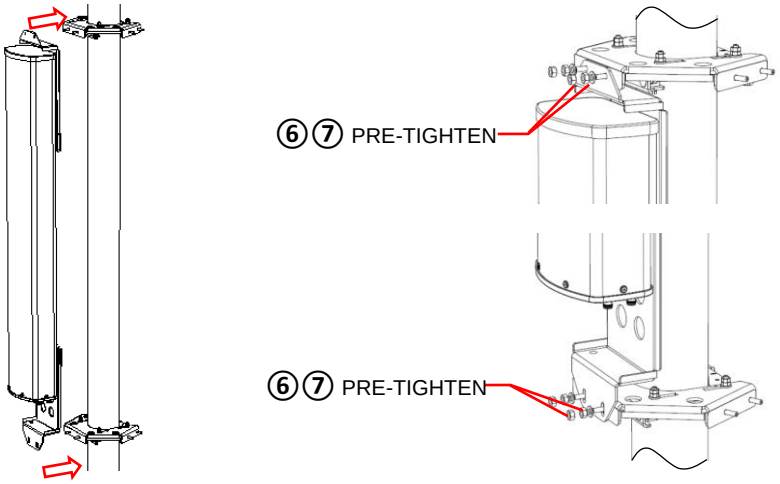


Figure 14 Hang the antenna.

Step 10: Adjust the bottom mounting bracket to ensure the antenna Azimuth as desired, then tighten M10 nuts with 40 Nm and tighten M12 nuts with 58 Nm for first nut and 35 Nm for second nut.

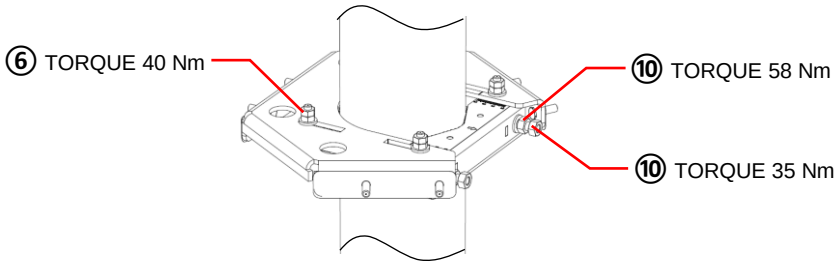


Figure 15 Adjust bottom mounting bracket.

Step 11: Assemble another two antennas one by one same as above installation steps 8 & 9.

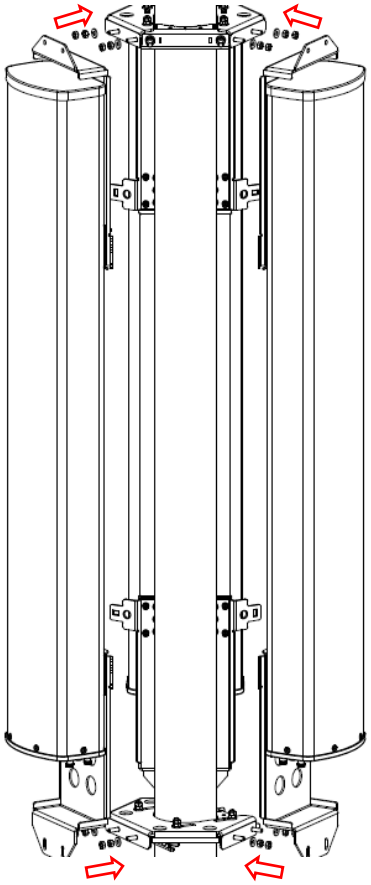


Figure 16 Hang another 2 antennas.

Step 12: Align the tabs on adjacent adapter plate and tighten M10 bolts/washers/nuts with 40Nm, then tighten M10 nuts on top and bottom mounting bracket with 40Nm. It is recommended to tighten the nuts at both ends first, then tighten the middle nuts.

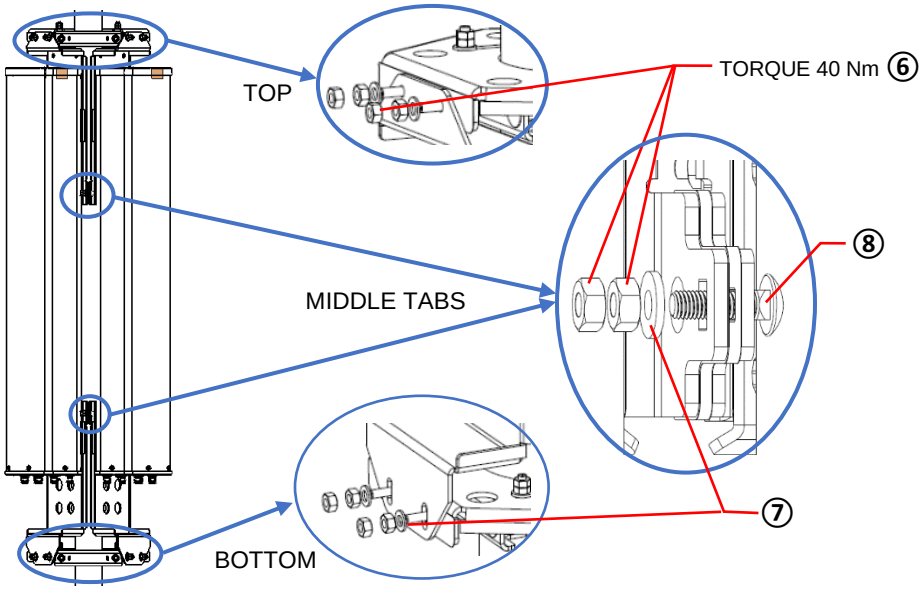


Figure 17 Tighten all fasteners