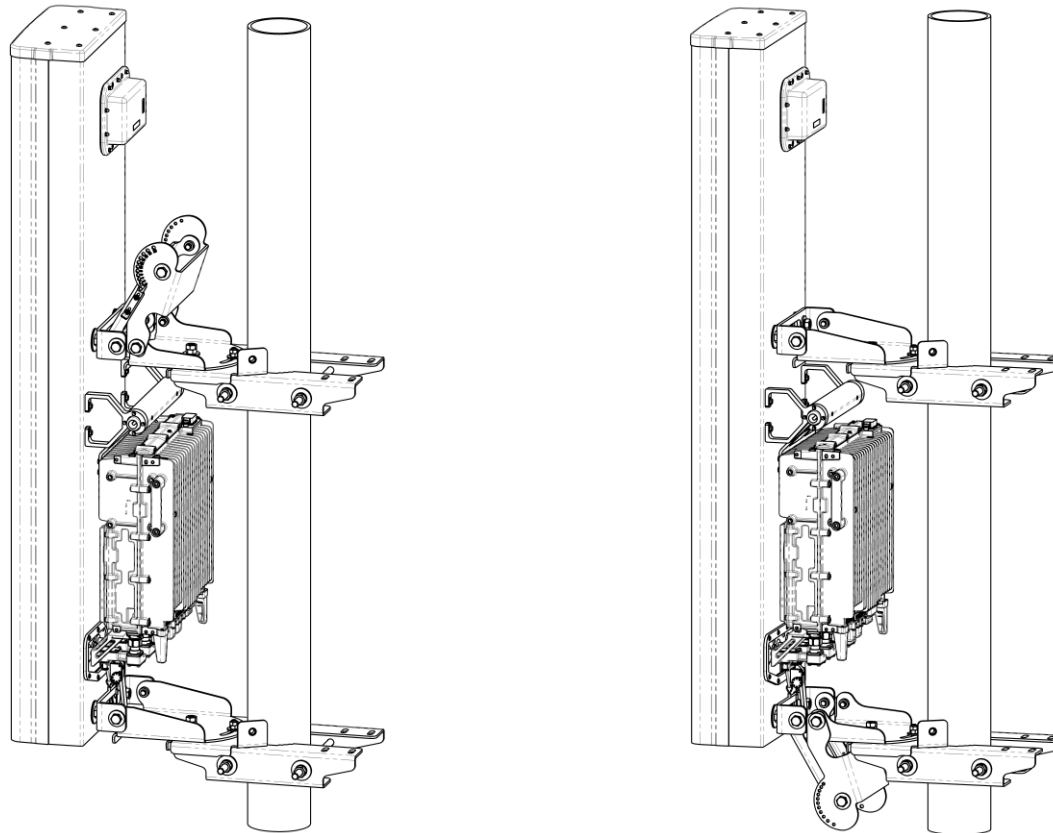


Swiveling MDT Mounting Kit Installation Guide (MBK-19)



DISCLAIMER:

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. You must refer to the appropriate local safety codes and ensure proper electrical and electromagnetic compatibility before proceeding with the installation. All local codes shall take precedence over information in this document. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. The maximum static load for a single antenna attachment position is 77.5 kg. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.

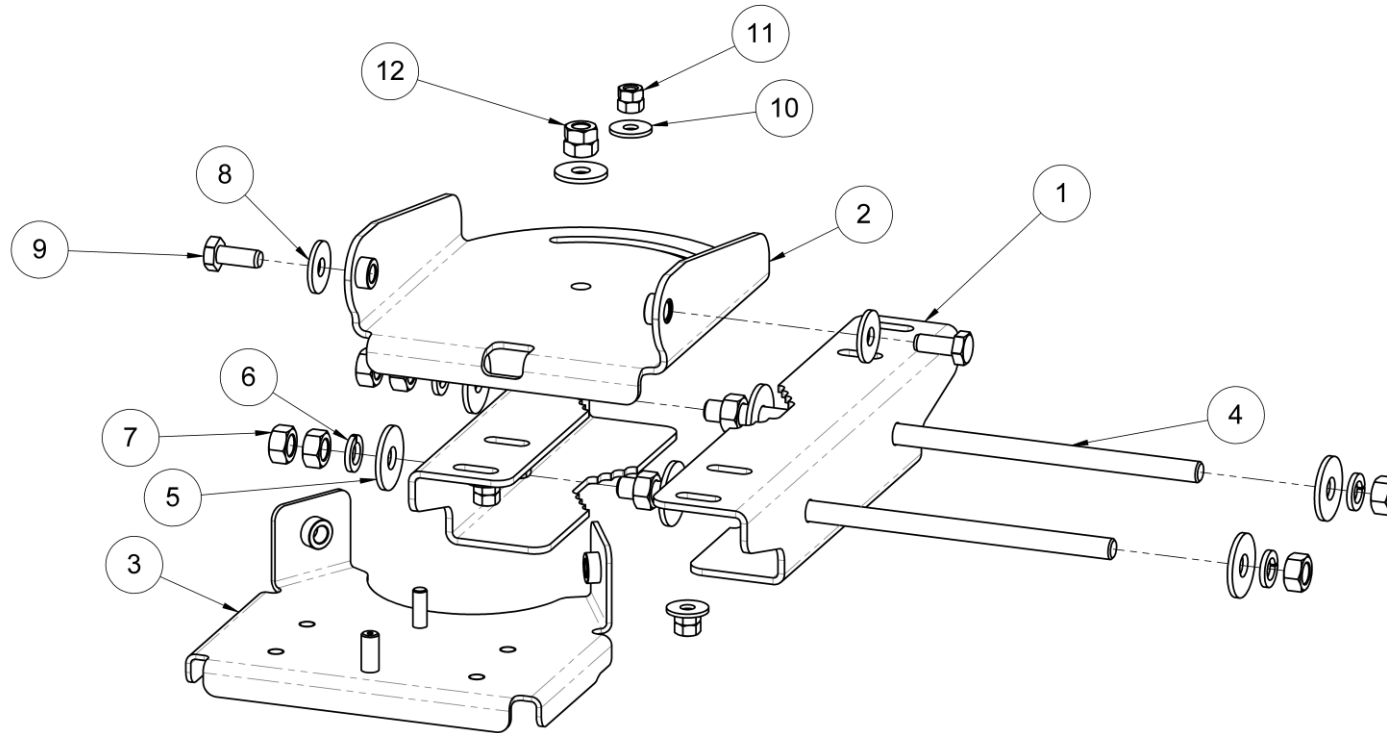


Fig. 1: Swiveling MDT Fixed Bracket BOM

ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	2	MAST BRACKET, CLAMP, MBK-19/20/21	7	8	NUT, HEX, M12X1.75, DIN 934, ISO 4032, SS A4-70, 19MM HEX
2	1	MAST BRACKET, SINGLE HINGE, FIXED, MBK-19	8	3	WASHER, FLAT, M10, 30 OD, MIN 2.3 THK, DIN 9021, SS A2-70
3	1	BRACKET, SWIVEL JOINT, FLANGED, MBK-19	9	2	SCREW, HEX, CAP, M10X1.5, 25L, DIN 933, ISO 4017, SS A4-70, 17MM HEX
4	2	THREADED ROD, M12X1.75, 300L, DIN 976, SS A2-70	10	5	WASHER, FL, M8, ISO 7093, A2 SS, OVERSIZE
5	6	WASHER, FLAT, M12, 37 OD, MIN 2.3 THK, DIN 9021, SS A2-70	11	10	NUT, HEX, M8-1.25, SS, DIN 934, 13MM HEX
6	4	WASHER, SPLIT LOCK, M12, DIN 127B, STEEL, SS A2-70	12	2	NUT, HEX, M10X1.5, DIN 934, 18-8, SS, 17MM HEX

Step Task

- 1 The Mounting Kit is intended for antennas with a pitch of 700mm between hinge brackets. It will provide mechanical tilt capability of 0°-20°, and azimuth swiveling of ±30°. The Fixed Bracket only provides swiveling, while the Adjustable Bracket provides tilt and swiveling. The Brackets will arrive assembled for the Downtilt Setup, but the hardware will not be torqued.

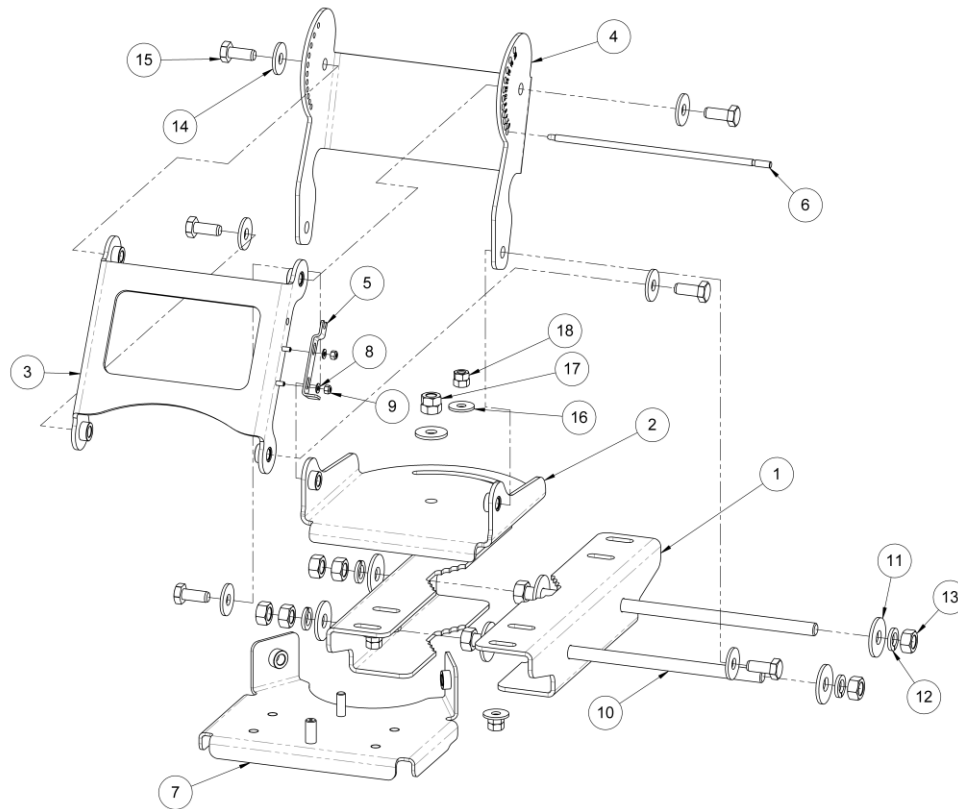


Fig. 2: Swiveling MDT Adjustable Bracket BOM

ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	2	MAST BRACKET, CLAMP, MBK-19/20/21	10	2	THREADED ROD, M12X1.75, 300L, DIN 976, 7MM HEX
2	1	MAST BRACKET, SINGLE HINGE, ADJUSTABLE, MBK-19	11	6	WASHER, FLAT, M12, 37 OD, MIN 2.3 THK, DIN 9021, SS A2-70
3	1	MAST BRACKET, ADJUSTABLE, FRONT, MBK-19	12	4	WASHER, SPLIT LOCK, M12, DIN 127B, SS A2-70
4	1	MAST BRACKET, ADJUSTABLE, REAR, MBK-19	13	8	NUT, HEX, M12X1.75, DIN 934, ISO 4032, SS A4-70, 19MM HEX
5	1	LATCH, DOWNTILT BOLT, MBK-19	14	7	WASHER, FLAT, M10, 30 OD, MIN 2.3 THK, DIN 9021, SS A2-70
6	1	BOLT, DOWNTILT BRACKET, MBK-19	15	6	SCREW, HEX, CAP, M10X1.5, 25L, DIN 933, ISO 4017, SS A4-70, 17MM HEX
7	1	BRACKET, SWIVE, JOINT, FLANGED, MBK-19	16	5	WASHER, FL, M8, ISO 7093, A2 SS, OVERSIZE
8	2	WASHER, M4, 4.3ID, 9 OD,.0.8 THK, SS, DIN 125, ISO 7089	17	2	NUT, HEX, M10X1.5, DIN 934, 18-8 SS, 17MM HEX
9	2	NUT, HEX, M4-0.7, NYL LK, SS, DIN 985, SS A2-70	18	10	NUT, HEX, M8-1.25, SS, DINNUT, HEX, M8-1.25, SS, DIN 934, 13MM HEX

Fig. 3: Fixed Bracket Mounting on Mast

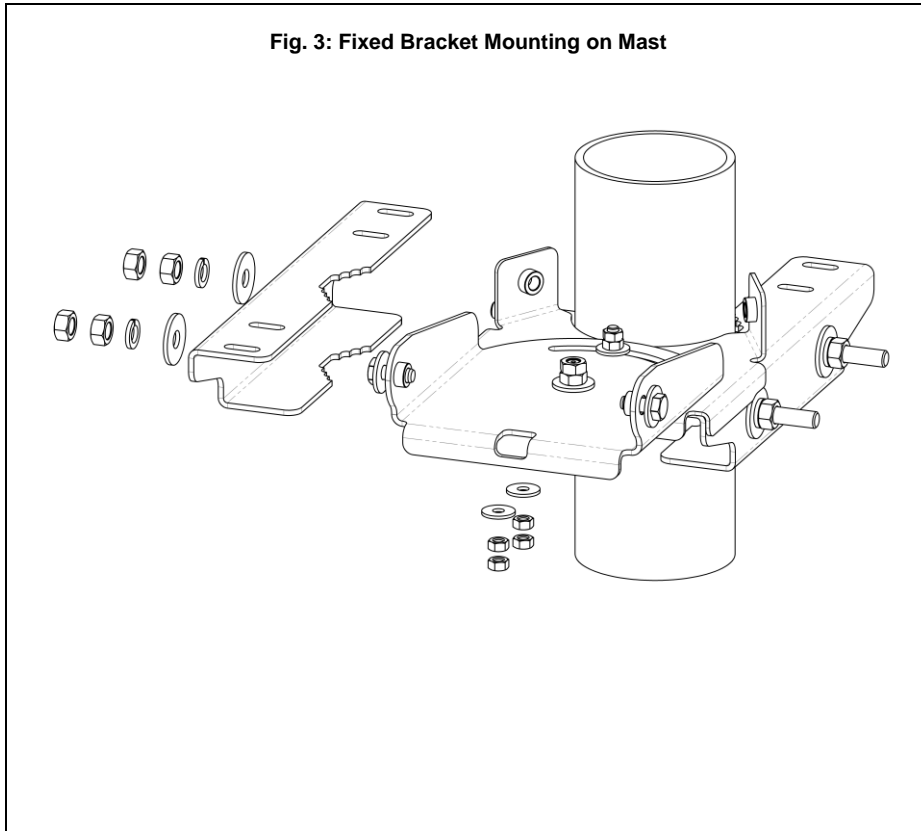
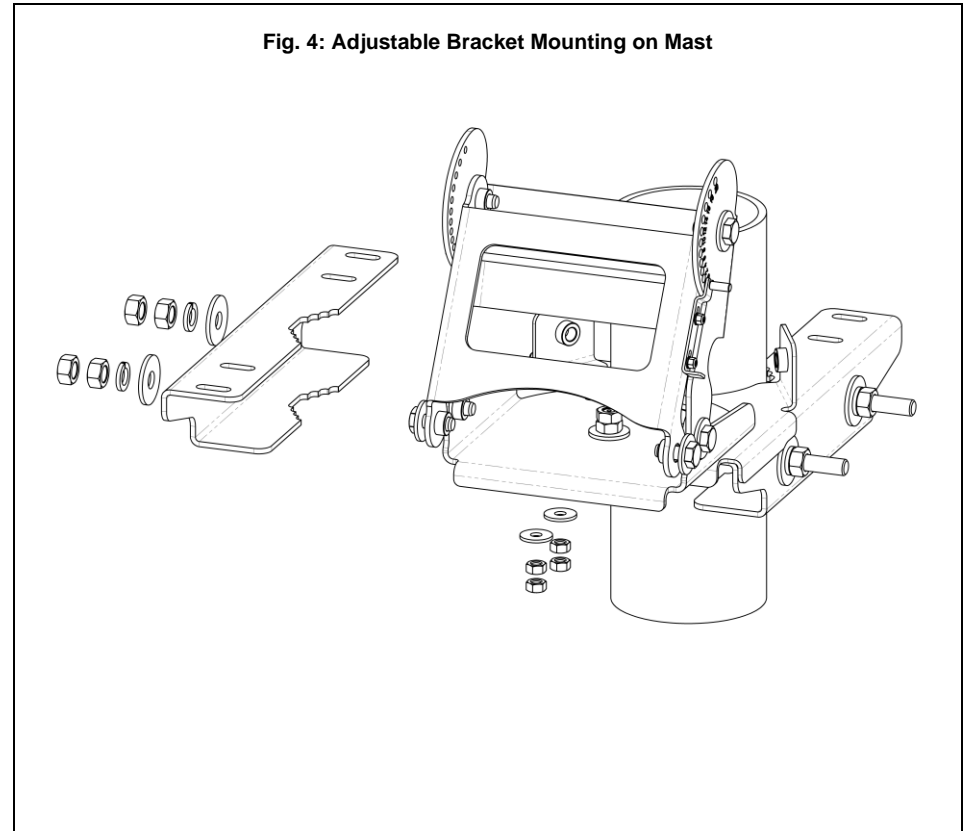


Fig. 4: Adjustable Bracket Mounting on Mast



Step Task

- 2 Attach the Fixed Bracket by separating one Clamp Bracket from the assembly, by removing some of the associated hardware (see Fig. 3). Place the Bracket on the mast at the correct height in the orientation shown, and also pointing in the desired direction as shown in Fig. 3. Reinstall the Clamp Bracket and the associated hardware. Adjust the M12 threaded rods to balance the protrusion on either side and tighten the M12 nuts to a torque of 54 ± 2.5 N-M (40 ± 2 ft-lbs.). Then tighten all eight M8 nuts (on the underside) to a torque of 9.5 ± 0.5 N-M (7.0 ± 0.5 ft-lb.)

Step Task

- 3 Attach the Adjustable Bracket by separating one Clamp Bracket from the assembly, by removing some of the associated hardware (see Fig. 4). Place the Bracket on the mast in the orientation shown in Fig. 5, at a distance of 700mm from the Fixed Bracket (depends on tilt direction) and also pointing in the same direction as shown in Fig. 6. Reinstall the Clamp Bracket and associated hardware. Adjust the M12 threaded rods to balance the protrusion on either side and tighten the M12 nuts to a torque of 54 ± 2.5 N-M (40 ± 2 ft-lbs.). Then tighten all eight M8 nuts (on the underside) to a torque of 9.5 ± 0.5 N-M (7.0 ± 0.5 ft-lb.)

Fig. 5: Spacing Between Fixed and Adjustable Brackets – Downtilt Setup

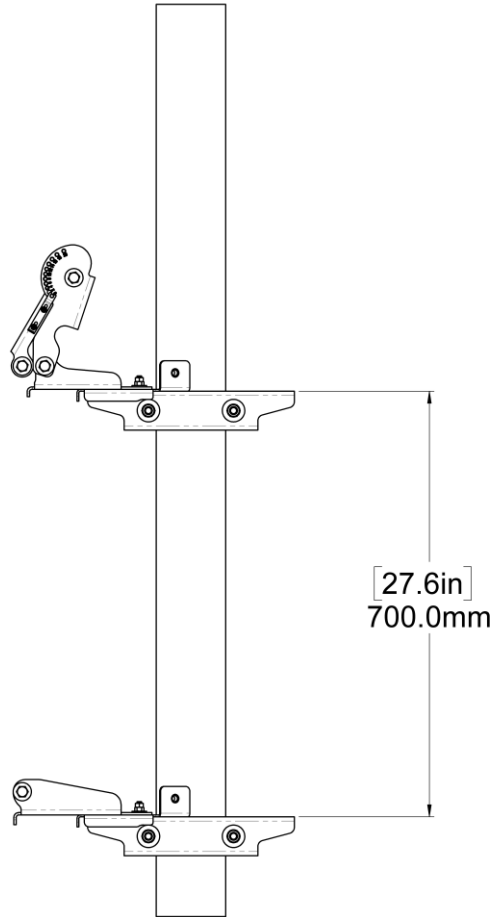


Fig. 6: Orientation of Fixed and Adjustable Brackets – Downtilt Setup

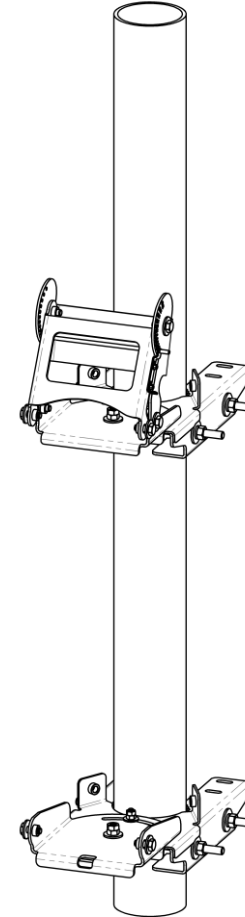


Fig.7: Installation of Antenna on Fixed and Adjustable Brackets – Downtilt Setup (ISO View)

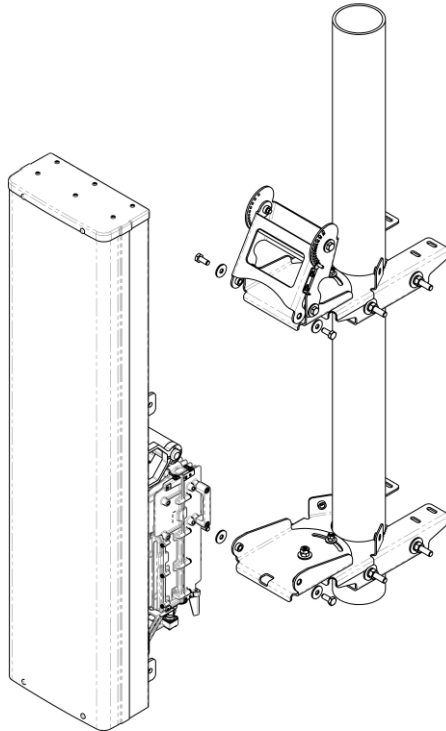
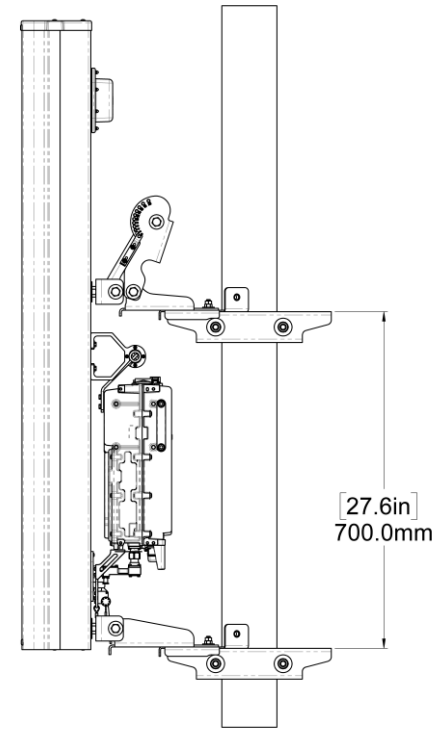


Fig.8: Installation of Antenna on Fixed and Adjustable Brackets – Downtilt Setup (Side View)



Step	Task
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|---|--|
| 4 | Install the antenna/radio assembly on to both the Fixed Bracket using 2 pcs. each of the M10 hardware, and the Adjustable Bracket using 2 pcs. each of the M10 hardware as shown in Fig. 7. Torque M10 hardware to 25±1.5 N-M (18.5±1.5 ft-lbs.). If further alignment is required loosen the M12 hardware holding the mast brackets in place and adjust the alignment of the antenna/radio assembly in the direction specified by the site engineer. The orientation of the Antenna is normal to the sector unless specifically required otherwise. |
|---|--|

Step	Task
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- | | |
|---|--|
| 5 | Once properly aligned torque M12 clamp hardware to 54±2.5 N-M (40±2 ft-lbs.). |
| 6 | Completed installation with 0° MDT (Mechanical Tilt) should appear as shown in Fig. 8. |

Fig.9: How to Assemble Adjustable Bracket for Upright Orientation

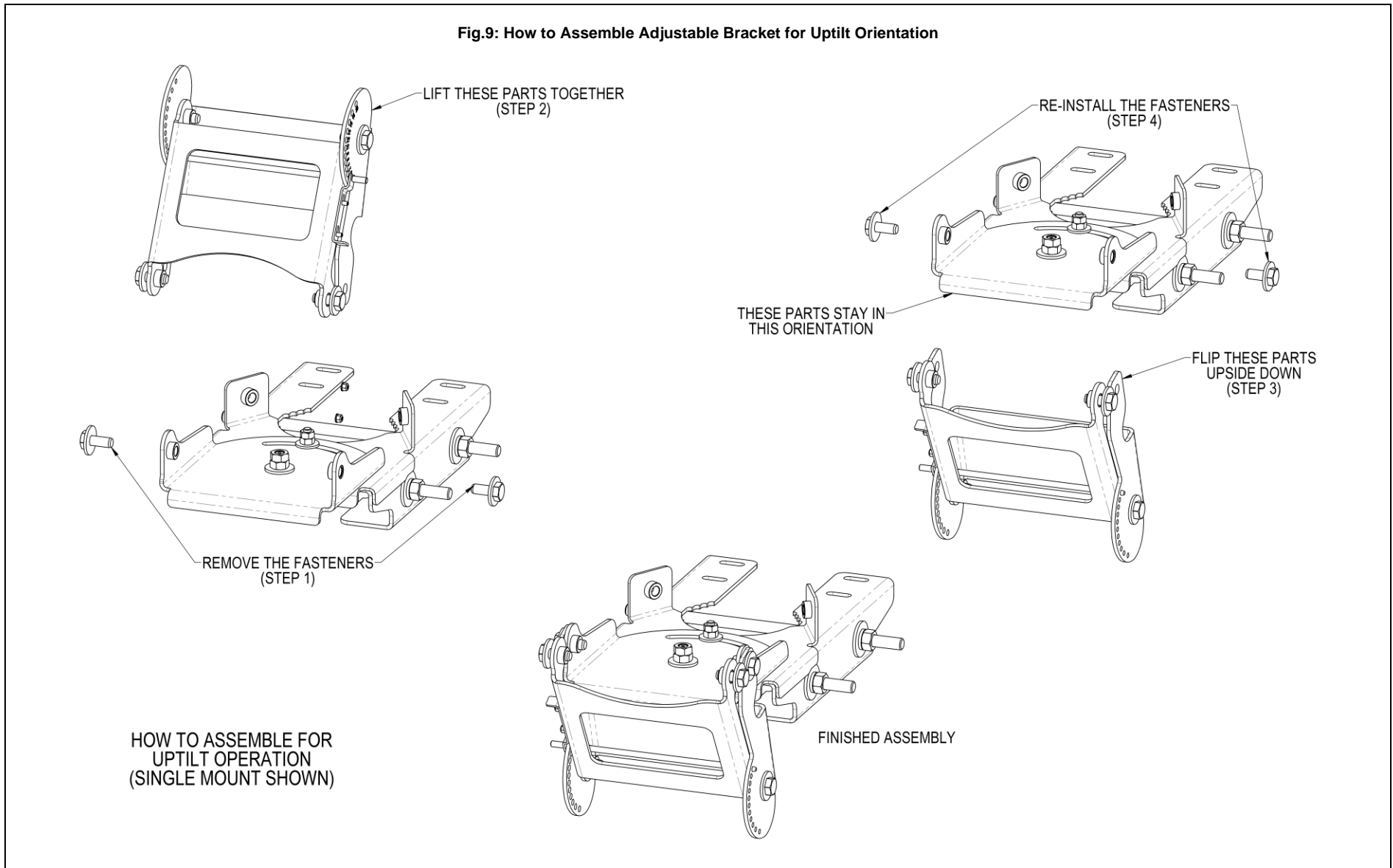


Fig. 10: Spacing Between Fixed and Adjustable Brackets – Uptilt Setup

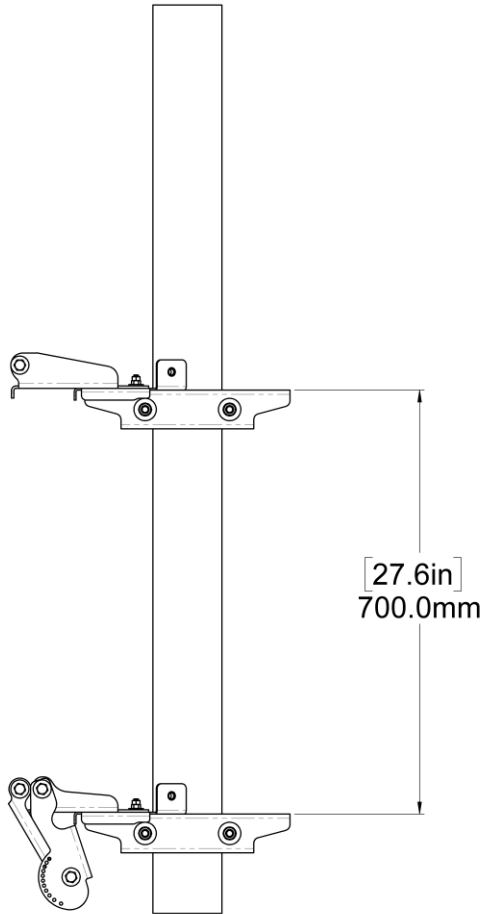


Fig. 11: Orientation of Fixed and Adjustable Brackets – Uptilt Setup

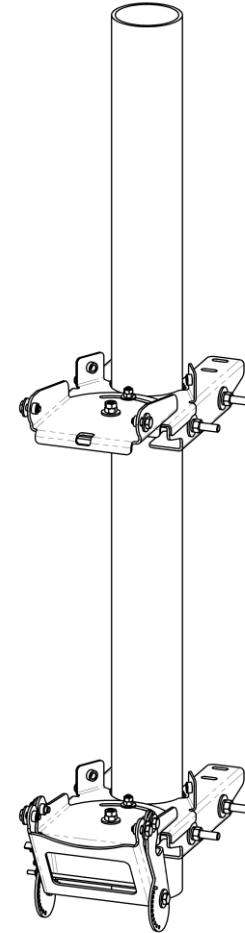


Fig.12: Installation of Antenna on Fixed and Adjustable Brackets – Uptilt Setup (ISO View)

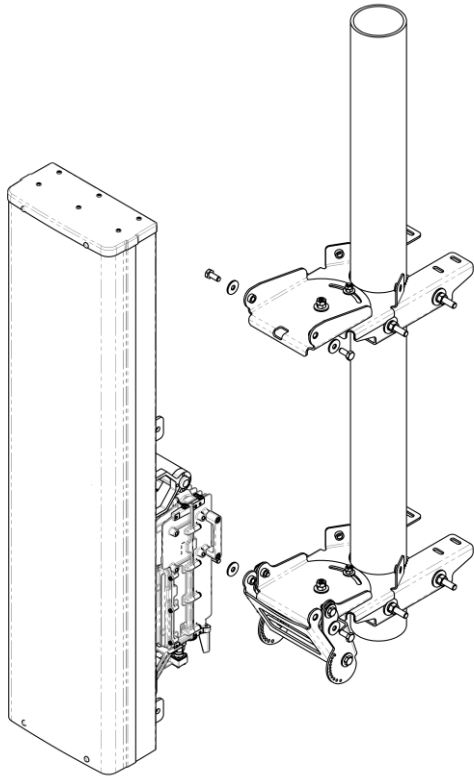
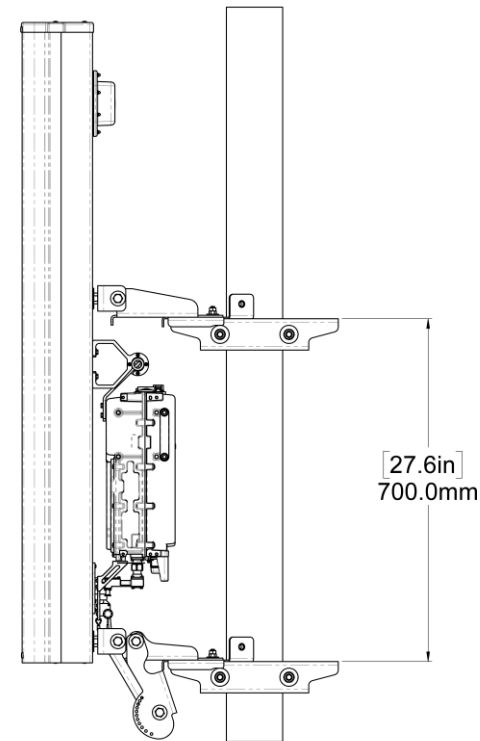


Fig.13: Installation of Antenna on Fixed and Adjustable Brackets – Uptilt Setup (Side View)



Step	Task
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- | | |
|---|--|
| 4 | Install the antenna/radio assembly on to both the Fixed Bracket using 2 pcs. each of the M10 hardware, and the Adjustable Bracket using 2 pcs. each of the M10 hardware as shown in Fig. 12. Torque M10 hardware to 25 ± 1.5 N-M (18.5 ± 1.5 ft-lbs.). If further alignment is required loosen the M12 hardware holding the mast brackets in place and adjust the alignment of the antenna/radio assembly in the direction specified by the site engineer. The orientation of the Antenna is normal to the sector unless specifically required otherwise. |
|---|--|

Step	Task
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- | | |
|---|--|
| 5 | Once properly aligned torque M12 clamp hardware to 54 ± 2.5 N-M (40 ± 2 ft-lbs.). |
| 6 | Completed installation with 0° MDT (Mechanical Tilt) should appear as shown in Fig. 13. |

Fig. 14: Begin Antenna/Radio MDT Adjustment

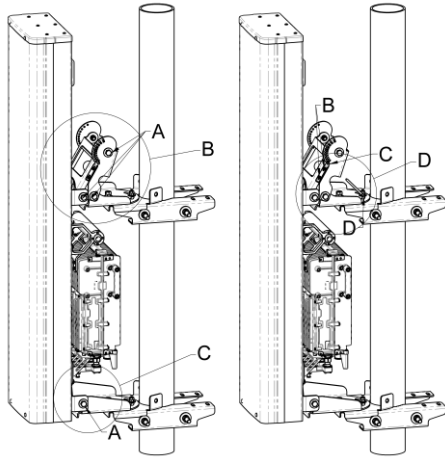


Fig. 15: Finalize Antenna/Radio MDT Adjustment (Example Set to 8° MDT)

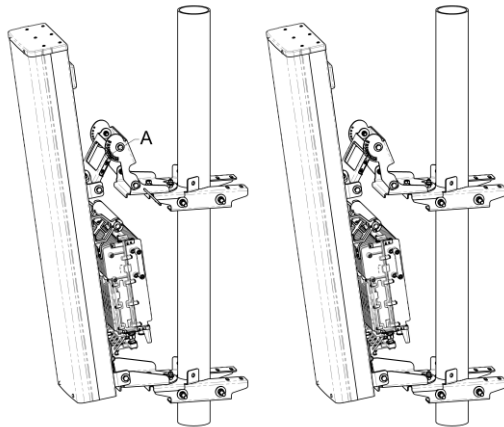
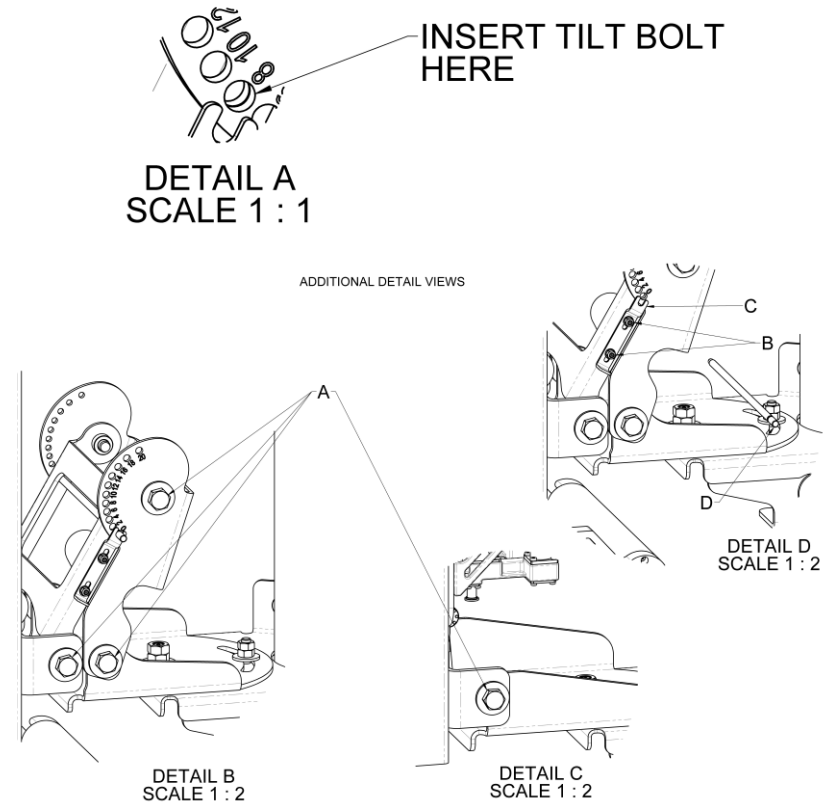


Fig. 16: MDT Adjustment Details A, B, C and D



Step	Task
7	At the 0° MDT (Mechanical Tilt) position, loosen all fasteners labeled 'A', on both sides of the brackets (Fig. 14).

Step	Task
8	Loosen two nuts labeled 'B', slide back the latch 'C', support the antenna and remove the tilt bolt 'D' (Fig. 14).
9	Allow the antenna to move such that the hole designated '8' (8° MDT) lines up with the mating hole immediately behind (Fig. 16).
10	Insert the tilt bolt all the way, slide the latch up to engage with the tilt bolt (Fig. 16), and tighten the two nuts to a torque of 2.5 ± 0.2 N-M (2.0 ± 0.2 ft-lbs.). Then tighten the fasteners loosened in step 7 to a torque of 25.0 ± 1.5 N-M (18.5 ± 1.5 ft-lbs.).

Fig. 17: Begin Antenna/Radio Swivel Adjustment

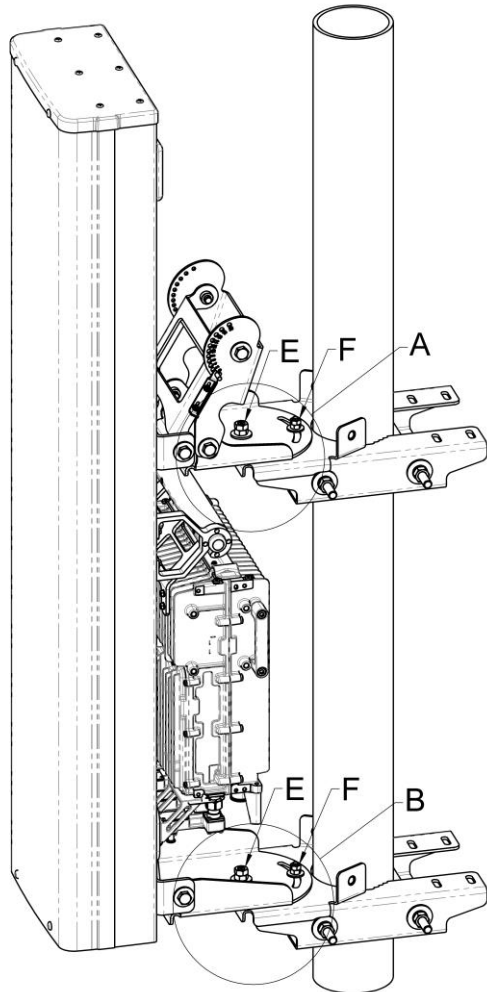
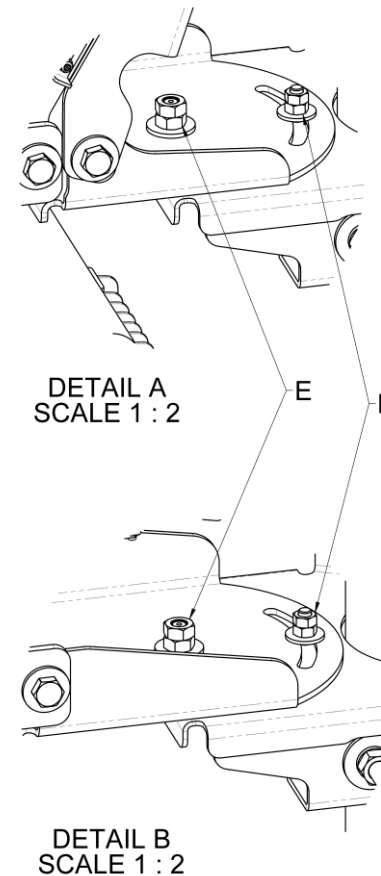


Fig. 18: Swivel Adjustment (Detail A and Detail B)



Step Task

- 11 To adjust the azimuth direction, loosen the four M10 nuts labeled “E,” and the four M8 nuts labeled “F.” Simply rotate the antenna to the desired direction and tighten the four M8 nuts to a torque of 9.5 ± 0.5 N-M (7.0 ± 0.5 ft-lbs.). Then tighten the four M10 nuts to a torque of 25.0 ± 1.5 N-M (18.5 ± 1.5 ft-lbs.). This can be done at any MDT setting.