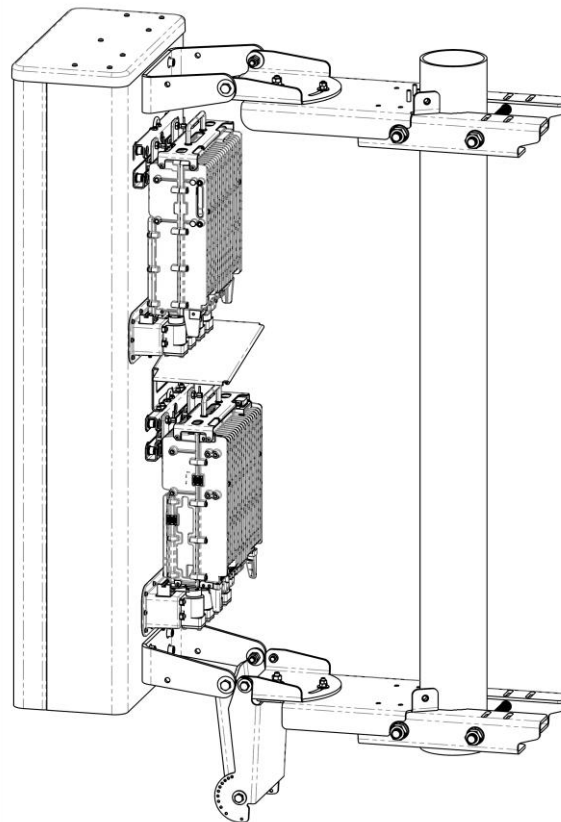
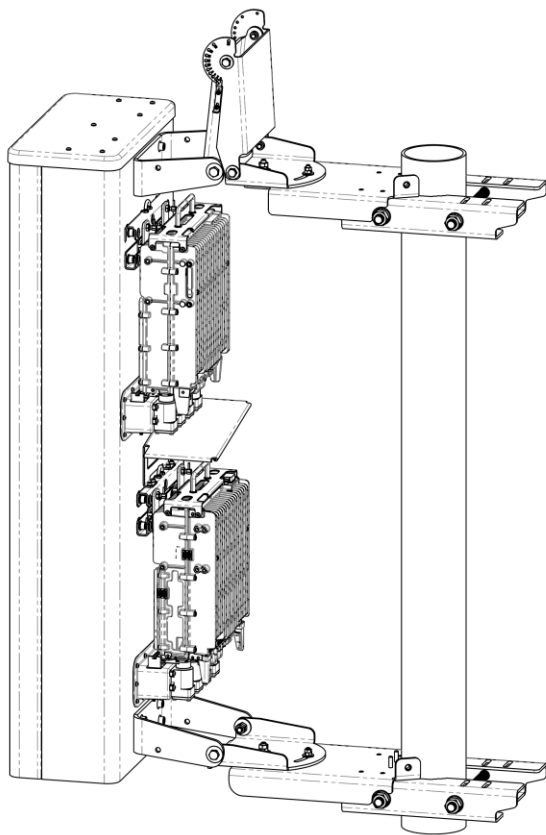


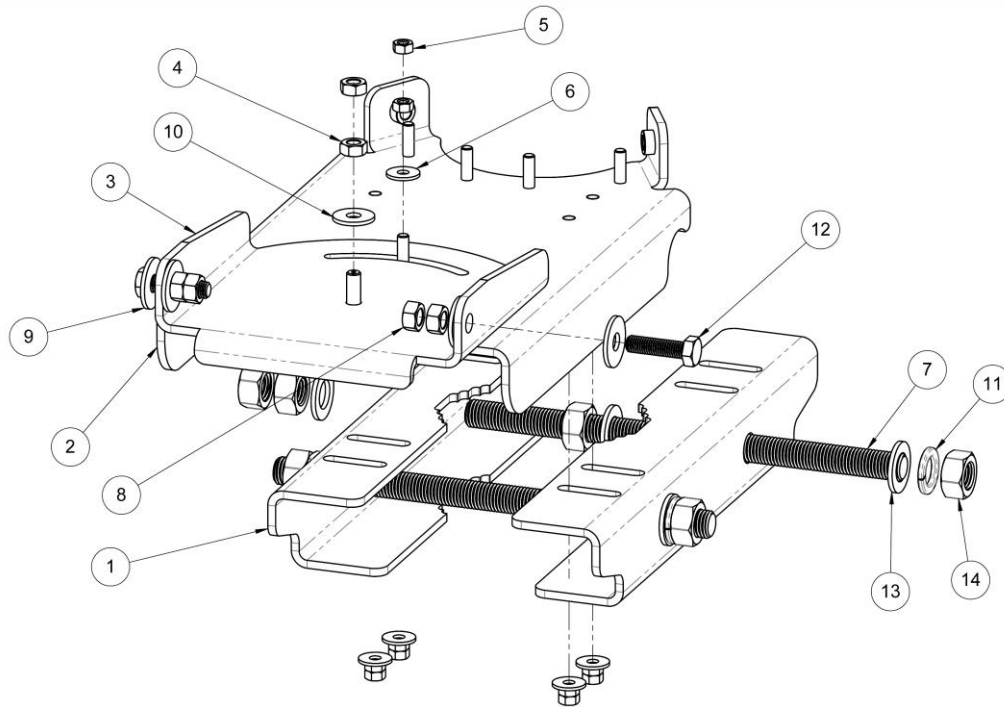
## Mounting Kit Installation Guide (MBK-48)



### 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. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.

# Mounting Kit Installation Guide (MBK-48)



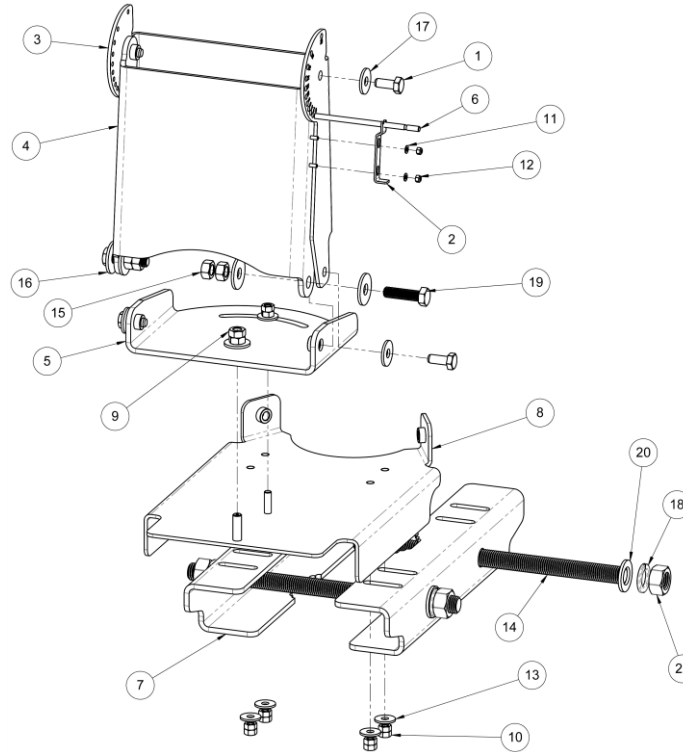
**Fig. 1: Single Swiveling Mechanical Tilt (MT) Fixed Bracket BOM**

ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	2	MAST CLAMP, MBK-49	8	4	NUT, HEX, M12X1.75, DIN 934, SS A4-70, 19MM HEX
2	1	SWIVEL BRACKET, FIXED, 1 SECTOR, MBK-49	9	4	WASHER, FLAT, M12, 37 OD, MIN 2.3 THK, DIN 9021, SS A2-70
3	1	SWIVEL PLATE, FIXED BRACKET, MBK-49	10	1	WASHER, FLAT, M10, 30 OD, MIN 2.3 THK, DIN 9021, SS A2-70
4	2	NUT, HEX, M10X1.5, DIN 934, 18-8 SS, 17MM HEX	11	2	WASHER, SPLIT LOCK, M20, A2-70, DIN 127B/ISO 7090
5	10	NUT, HEX, M8-1.25, SS, DIN 934, 13MM HEX	12	2	SCREW, HEX, CAP, M12X1.75, 45L, DIN 933, ISO 4017, 18-8 SS
6	5	WASHER, FL, M8, ISO 7093, A2 SS, OVERSIZE	13	6	WASHER, FLAT, M20, 37 OD, MIN 3.3 THK, DIN 9021/ISO 7093, A270
7	2	THREADED ROD, M20X2.5 X 332L, A2-70, DIN 976/ISO 7412	14	8	NUT, HEX, M20X2.5, A4-70, DIN 934/ISO 4032

## Step Task

- 1 The Single Sector Mounting Kit is intended for antennas with a pitch of 1300 mm between hinge brackets. It will provide mechanical tilt capability of 0°-20°, and azimuth swiveling of ±30°. The Fixed Bracket (Fig. 1) only provides swiveling, while the Adjustable Bracket (Fig. 2) provides tilt and swiveling. The Brackets will arrive assembled for the Downtilt Setup, but the hardware will not be torqued. Apply an anti-seize lubricant conforming to MIL-A-907E to the M20 threaded rods before tightening.

# Mounting Kit Installation Guide (MBK-48)

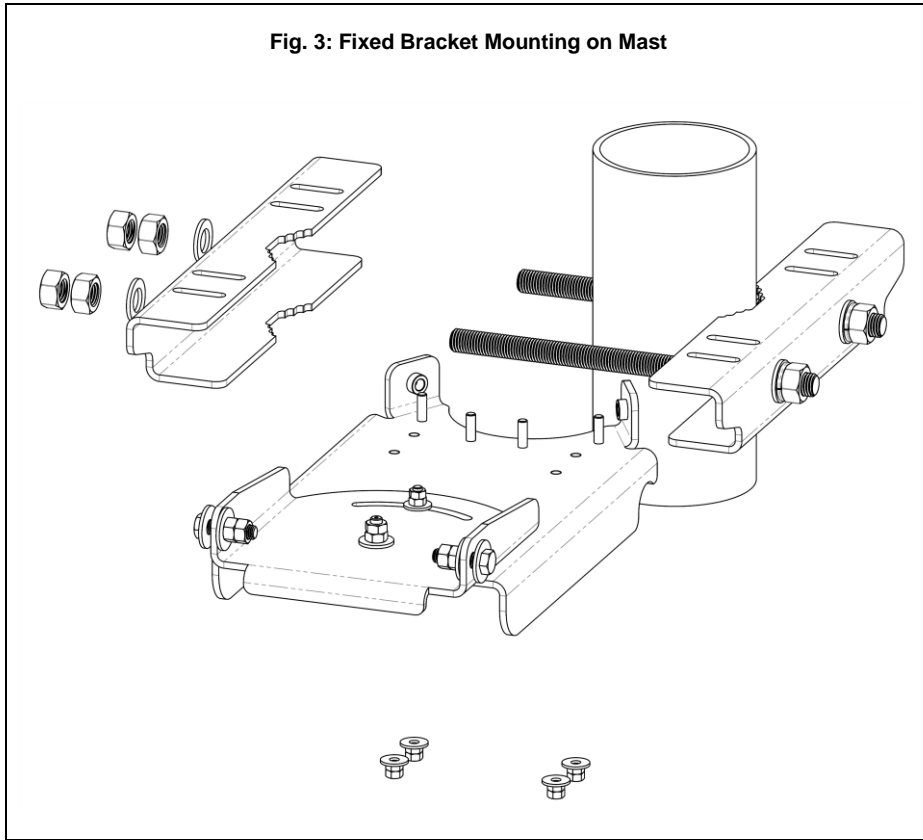


**Fig. 2: Single Swiveling Mechanical Tilt (MT) Adjustable Bracket BOM**

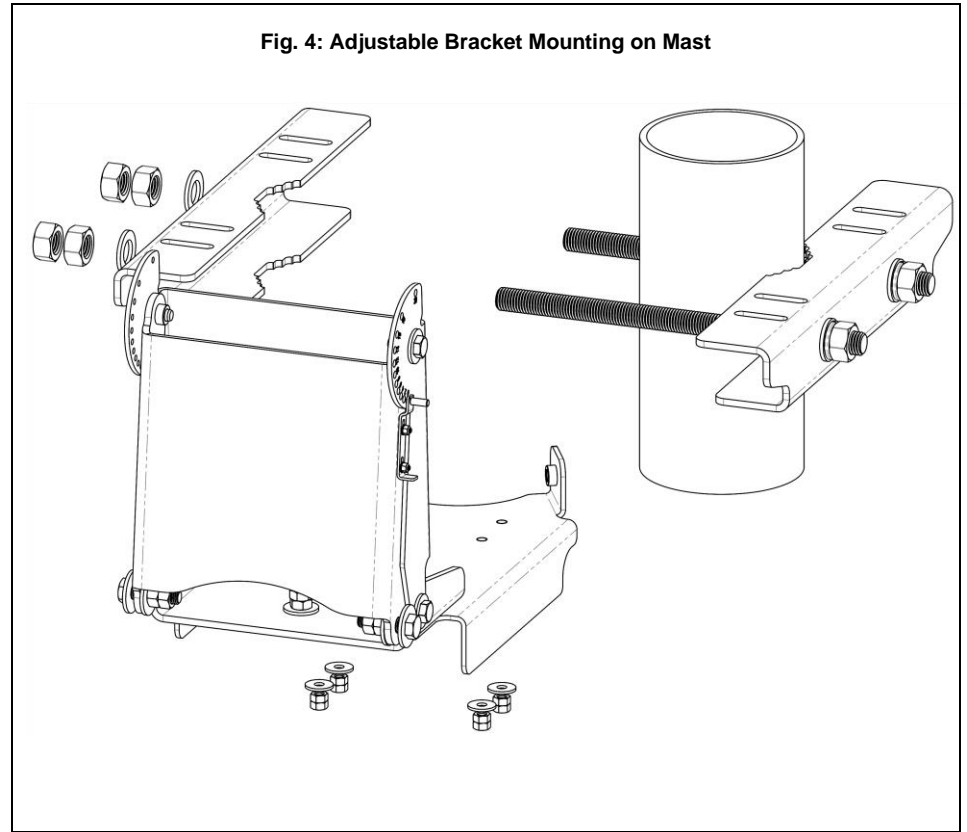
ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	4	SCREW, HEX, CAP, M10X1.5, 25L, ISO 4017, SS A4-70, NYLON PATCH	12	2	NUT, HEX, M4-0.7, NYL LK, SS
2	1	LATCH, DOWNTILT BOLT, MBK-19	13	5	WASHER, FL, M8, ISO 7093, A2 SS, OVERSIZE
3	1	TILT BRACKET, ADJUSTABLE, REAR, MBK-38	14	2	THREADED ROD, M20X2.5 X 332L, A2-70, DIN 976/ISO 7412
4	1	TILT BRACKET, ADJUSTABLE, FRONT, MBK-38	15	4	NUT, HEX, M12X1.75, DIN 934, SS A4-70, 19MM HEX
5	1	SWIVEL PLATE, ADJUSTABLE BRACKET, MBK-49	16	4	WASHER, FLAT, M12, 37 OD, MIN 2.3 THK, DIN 9021, SS A2-70
6	1	BOLT, DOWNTILT BRACKET, MBK-38	17	5	WASHER, FLAT, M10, 30 OD, MIN 2.3 THK, DIN 9021, SS A2-70
7	2	MAST CLAMP, MBK-49	18	2	WASHER, SPLIT LOCK, M20, A2-70, DIN 127B/ISO 7090
8	1	SWIVEL BRACKET, TILTING, 1 SECTOR, MBK-49	19	2	SCREW, HEX, CAP, M12X1.75, 45L, DIN 933, ISO 4017, 18-8 SS
9	2	NUT, HEX, M10X1.5, DIN 934, 18-8 SS, 17MM HEX	20	6	SWASHER, FLAT, M20, 37 OD, MIN 3.3 THK, DIN 9021/ISO 7093, A270
10	10	NUT, HEX, M8-1.25, SS, DIN 934, 13MM HEX	21	8	NUT, HEX, M20X2.5, A4-70, DIN 934/ISO 4032
11	2	WASHER, M4, 4.3ID, 9OD, 0.8TH, SS, DIN 125, ISO 7089			

# Mounting Kit Installation Guide (MBK-48)

**Fig. 3: Fixed Bracket Mounting on Mast**

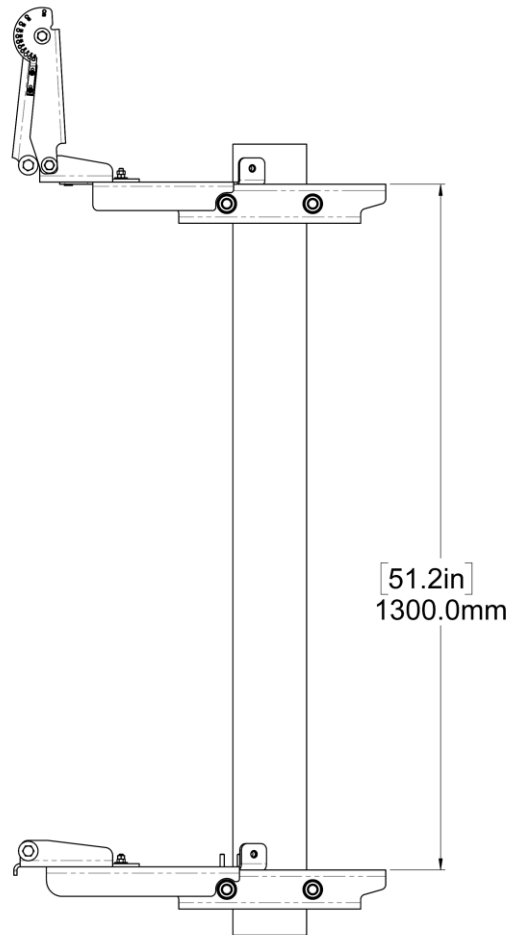


**Fig. 4: Adjustable Bracket Mounting on Mast**

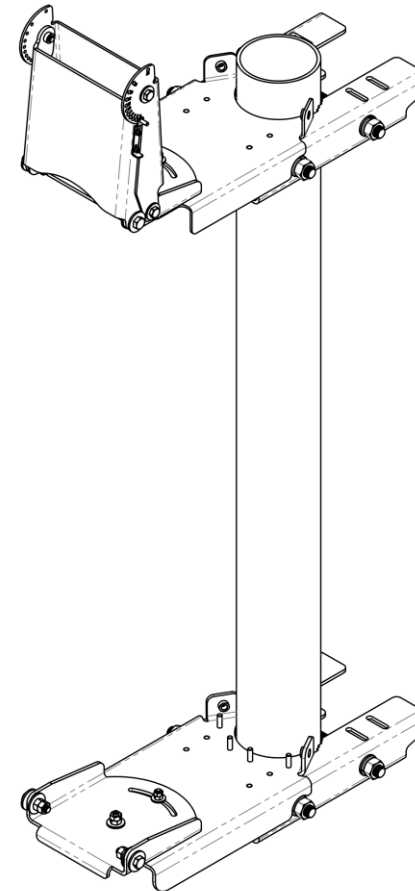


Step	Task
2	Apply an anti-seize lubricant conforming to MIL-A-907E to the M20 threaded rods before tightening. Attach the Fixed Bracket by separating one Mast Clamp from the assembly, by removing some of the associated hardware as shown in Fig. 3. Place the Bracket on the mast at the correct height in the orientation shown, and also pointing in the desired direction as shown in Fig. 5. Reinstall the Mast Clamp and the associated hardware. Adjust the M20 threaded rods to balance the protrusion on either side and tighten the M20 nuts to a torque of $150 \pm 5.0$ N-M ( $111 \pm 3.5$ ft-lbs.). Then tighten all eight M8 nuts (on the underside) to a torque of $9.5 \pm 0.5$ N-M ( $7.0 \pm 0.5$ ft-lb.)
3	Apply an anti-seize lubricant conforming to MIL-A-907E to the M20 threaded rods before tightening. Attach the Adjustable Bracket by separating one Mast Clamp from the assembly, by removing some of the associated hardware as shown in Fig. 4. Place the Bracket on the mast in the orientation shown in Fig. 5, at a distance of 1300 mm from the Fixed Bracket and also pointing in the same direction as shown in Fig. 6. Reinstall the Mast Clamp and associated hardware. Adjust the M20 threaded rods to balance the protrusion of threads on either side and tighten the M20 nuts to a torque of $150 \pm 5.0$ N-M ( $11 \pm 3.5$ ft-lbs.). Then tighten all eight M8 nuts (on the underside) to a torque of $9.5 \pm 0.5$ N-M ( $7.0 \pm 0.5$ ft-lb.)

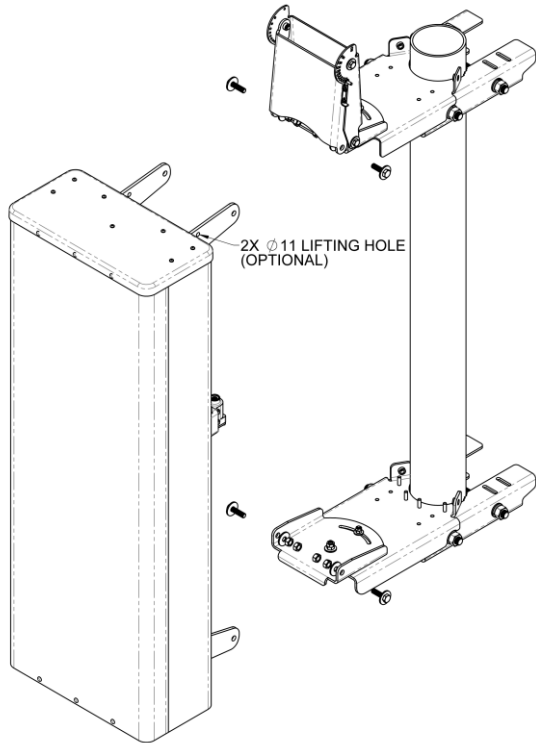
**Fig. 5: Spacing Between Fixed and Adjustable Brackets – Downtilt Setup**



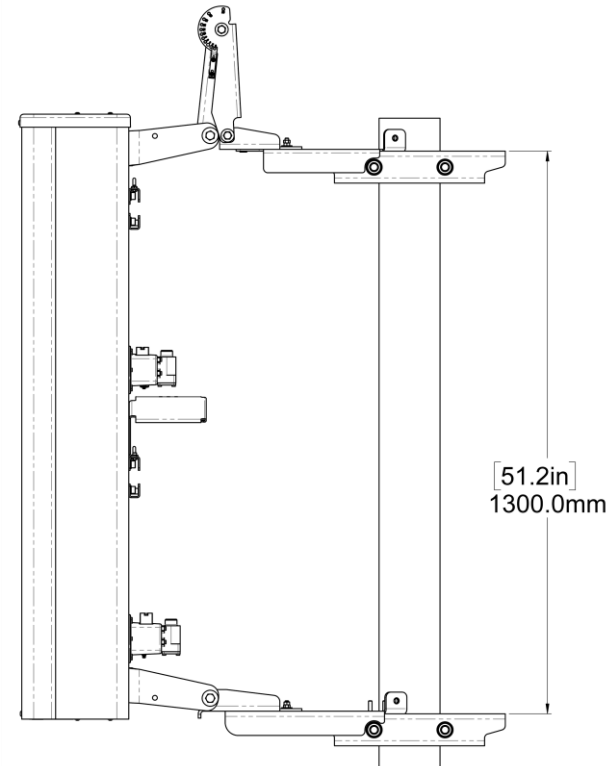
**Fig. 6: Orientation of Fixed and Adjustable Brackets – Downtilt Setup**



**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
4	Install the antenna on to both Brackets using the M12 hardware provided for each Bracket as shown in Fig. 7. Torque M12 hardware to 54±2.5 N-M (40±2 ft-lbs.). If further alignment is required, loosen the M20 hardware while supporting the mast brackets in place and adjust the alignment of the antenna in the direction specified by the site engineer. The orientation of the Antenna is normal to the sector unless specifically required otherwise.
5	Once properly aligned torque M20 clamp hardware to 150±5.0 N-M (111±3.5 ft-lbs.). Then tighten all M10 bolts and nuts to a torque of 25.0±1.5 N-M (18.5±1.5 ft-lbs.), and tighten the M8 nuts to a torque of 9.5±0.5 N-M (18.5±1.5 ft-lbs.).
6	Completed installation with 0° Mechanical Tilt should appear as shown in Fig. 8.
7	Radios can now be installed following separate Radio installation guides.

# Mounting Kit Installation Guide (MBK-48)

**Fig.9: How to Assemble Adjustable Bracket for Uptilt Orientation**

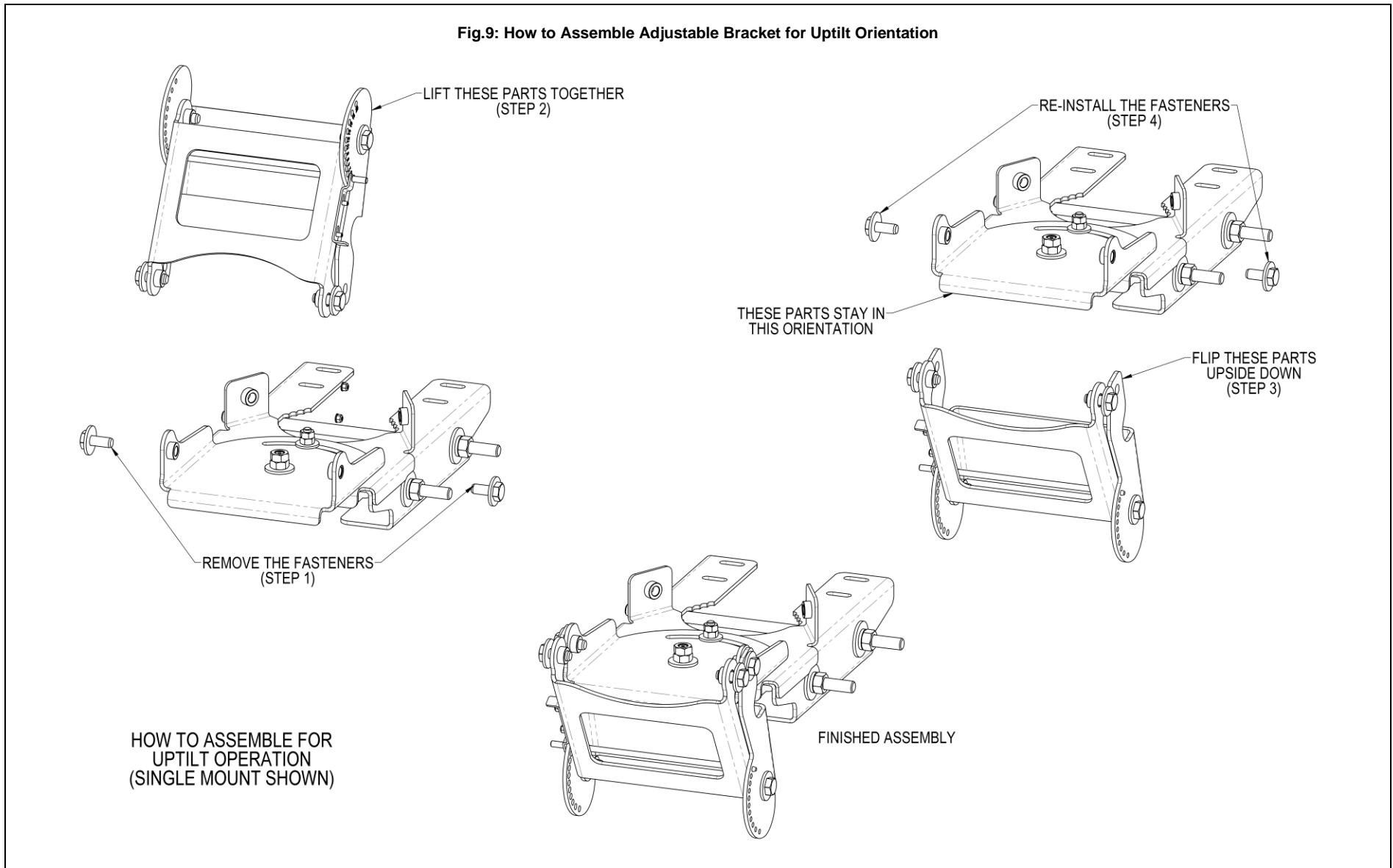


Fig. 10: Spacing Between Fixed and Adjustable Brackets – Uptilt Setup

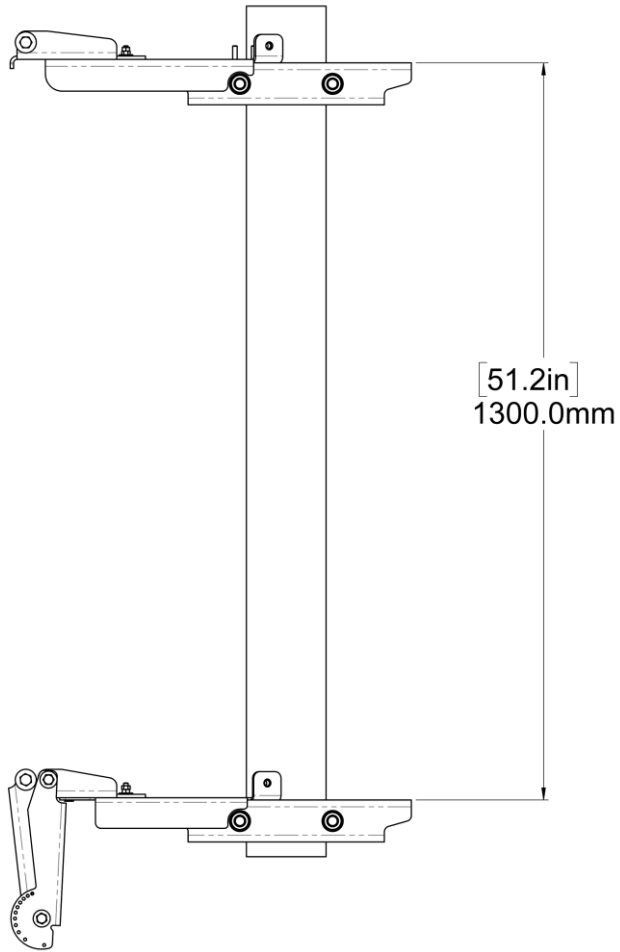
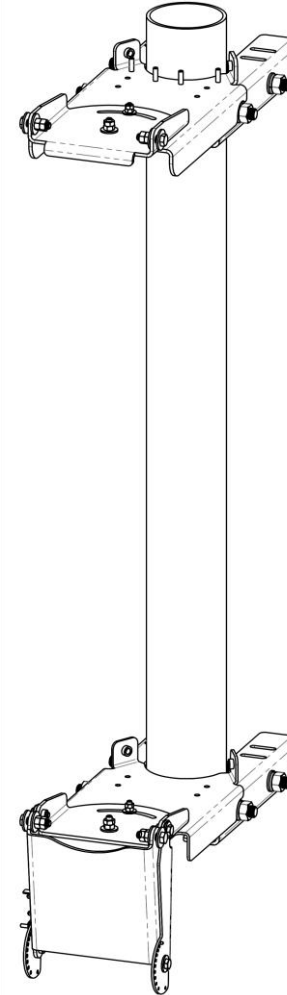


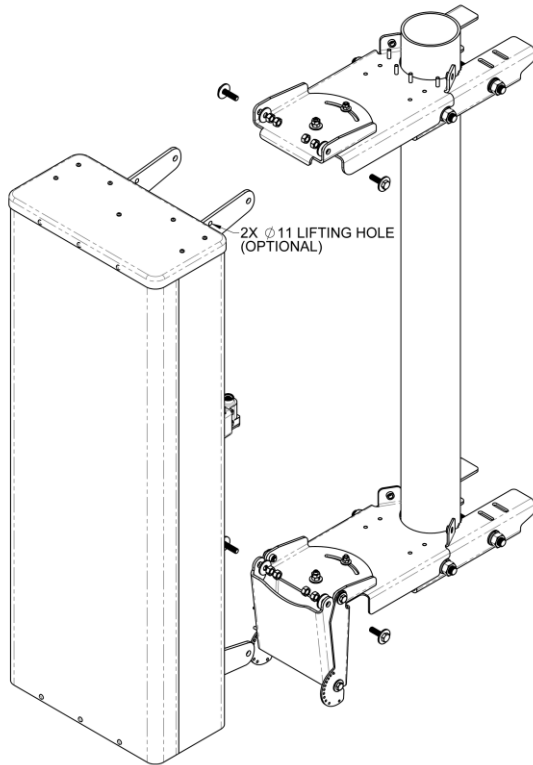
Fig. 11: Orientation of Fixed and Adjustable Brackets – Uptilt Setup



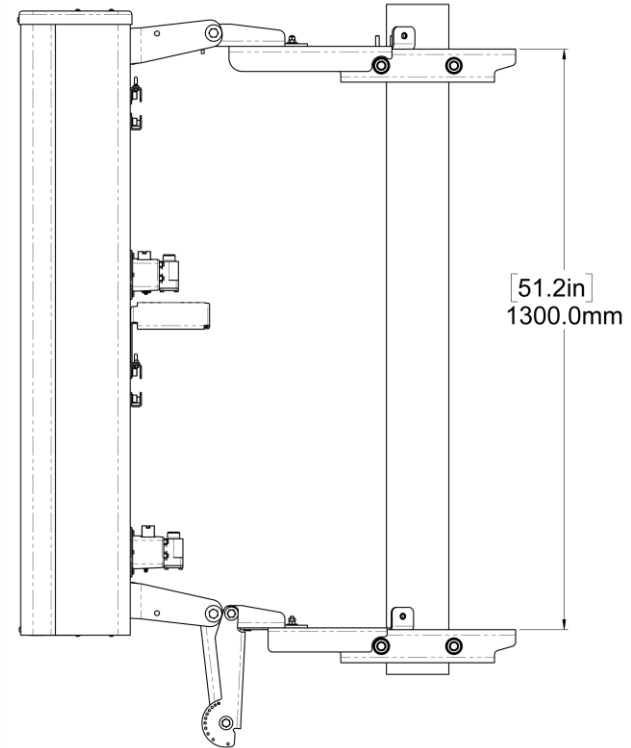


# Mounting Kit Installation Guide (MBK-48)

**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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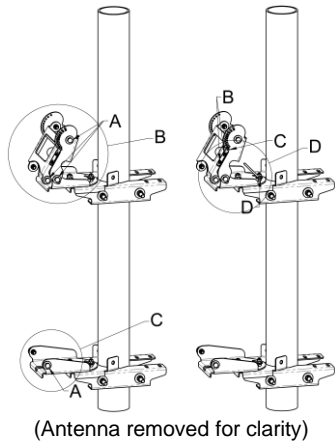
- |   |   |
|---|---|
| 4 | Install the antenna on to both Brackets using the M12 hardware provided for each Bracket as shown in Fig. 12. Torque M12 hardware to $54 \pm 2.5$ N-M ( $40 \pm 2$ ft-lbs.). If further alignment is required loosen the M20 hardware while supporting the mast brackets in place and adjust the alignment of the antenna 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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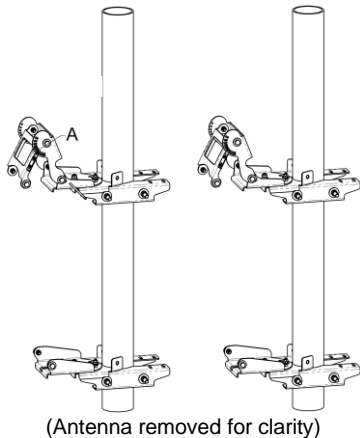
- |   |   |
|---|---|
| 5 | Once properly aligned torque M20 clamp hardware to $150 \pm 5.0$ N-M ( $111 \pm 3.5$ ft-lbs.). Then tighten all M10 bolts and nuts to a torque of $25.0 \pm 1.5$ N-M ( $18.5 \pm 1.5$ ft-lbs.), and tighten the M8 nuts to a torque of $9.5 \pm 0.5$ N-M ( $18.5 \pm 1.5$ ft-lbs.). |
| 6 | Completed installation with $0^\circ$ Mechanical Tilt should appear as shown in Fig. 13.  |
| 7 | Radios can now be installed following separate Radio installation guides.   |

# Mounting Kit Installation Guide (MBK-48)

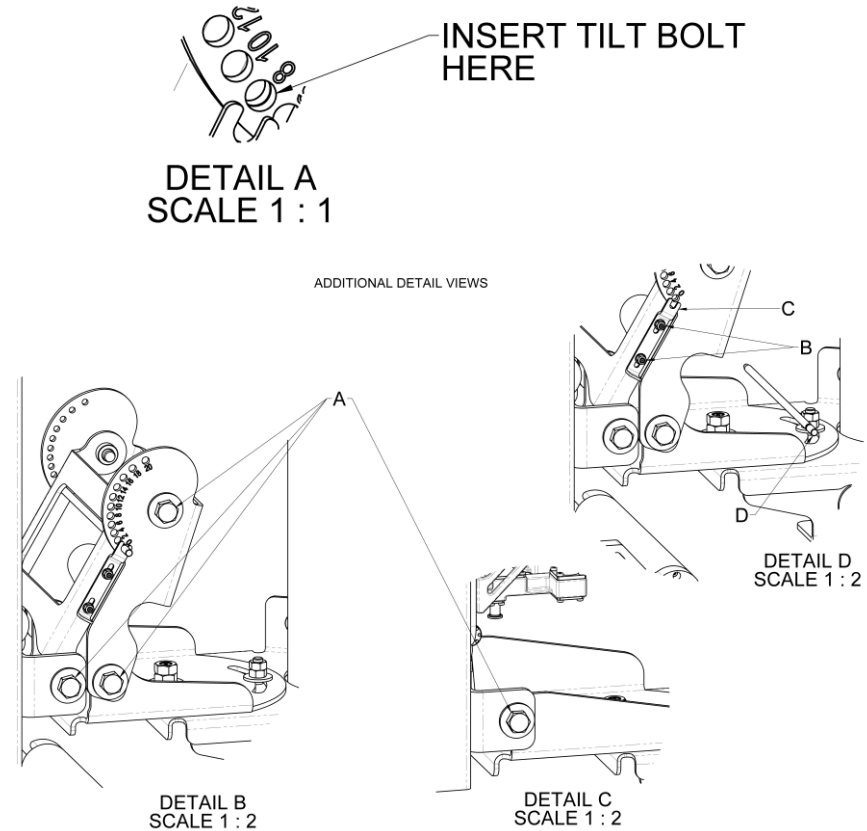
**Fig. 14: Begin Antenna Tilt Adjustment**



**Fig. 15: Finalize Antenna Tilt Adjustment (Example Set to 8° MDT)**



**Fig. 16: Antenna Tilt Adjustment Details A, B, C and D**



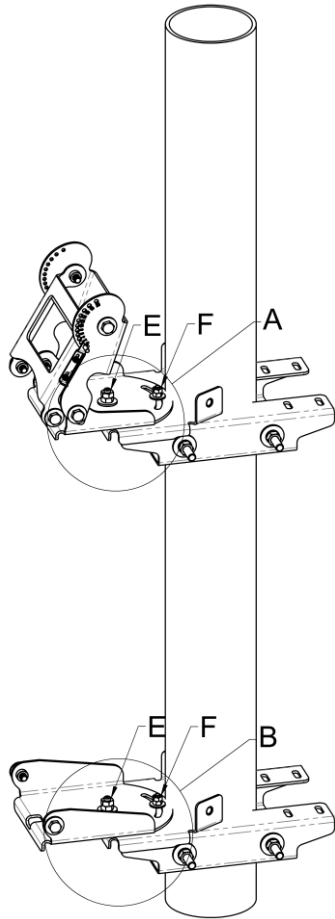
**Step Task**

- 8 **CAUTION!** Properly support and control the antenna before making any adjustments. At the 0° Mechanical Tilt position, loosen all fasteners 'A', on both sides of the brackets (Fig. 14).

**Step Task**

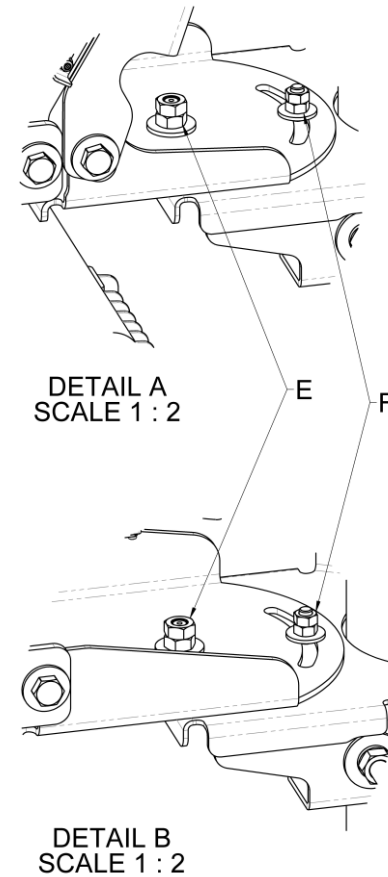
- 9 Loosen two nuts 'B', slide back the latch 'C', support the antenna and remove the tilt bolt 'D' (Fig. 14/16).
- 10 Allow the antenna to move such that the hole designated '8' (8° Mechanical Tilt) lines up with the mating hole immediately behind (Fig. 16).
- 11 Insert the downtilt bolt all the way, slide the latch up to engage with the tilt bolt (Fig. 16), and tighten the two nuts to a torque of  $2.5 \pm 0.2$  Nm ( $2.0 \pm 0.2$  ft-lbs.). Then tighten the fasteners loosened in step 8 to their proper torque values.

Fig. 17: Begin Antenna Swivel Adjustment



(Antenna removed for clarity)

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



**Step Task**

- 12 To adjust the azimuth direction, loosen the four M10 nuts 'E', and the four M8 nuts 'F'. Simply rotate the antenna to the desired direction and tighten the four M8 nuts to a torque of  $9.5 \pm 0.5$  N-M ( $7.0 \pm 0.5$  ft-lbs.). Then tighten the four M10 nuts to a torque of  $25.0 \pm 1.5$  N-M ( $18.5 \pm 1.5$  ft-lbs.). This can be done at any tilt setting.