COMMSCOPE®

Instruction Sheet

D701-0006 Revision D, October 2016

Multi-Beam Panel Antenna 5UPX0805F

General

This instruction sheet contains all necessary information required to assist in the correct installation of CommScope Multi-Beam Panel Antennas.

The following symbols can be found next to text outlining important information.

Please follow the procedure marked with this symbol precisely.
Non-compliance may lead to damage of the product.

Handy tips when installing product.

Unpacking

Make sure that the antenna and the accessory items listed below are provided and have not been damaged during transport.

- Antenna
- Mounting kit
- Installation Instructions (This document)

Mounting Kits	Type	QTY
Fixed Downtilt	F-042-GL-E	2
Mechanical Downtilt	T-041-GL-E	2

DO NOT STACK
UNPACKED ANTENNAS

DO NOT PLACE POINT
LOADS ON ANTENNA
RADOME

Do not install near power lines. Power lines, telephone lines, and guy wires look the same. Assume any wire or line can electrocute you.

Do not install on a wet or windy day or when lightning or thunder is in the area. Do not use metal ladder.

Wear shoes with rubber soles and heels. Wear protective clothing including a long-sleeved shirt and rubber gloves.

Installation Instructions

- Ensure a torque spanner is used when tightening fasteners, see the mounting kit diagrams on the following pages for the correct torque recommendations.
- Ensure antenna is installed with the connectors and drainage holes at the bottom.

Installation Instructions - Fixed Downtilt Mounting Kit (F-042-GL-E)

Assemble both mounting brackets to the antenna as per Figures 1, 2 & 3 of this document.

Attach the mounting kit assembly to the antenna, before trying to clamp the brackets to the pole.

The clamp brackets can clamp pipe diameters between 75 mm (3") & 115 mm (4.5").

For typical installations the minimum recommended pipe diameter is 85 mm (3.3").

Figure 1. Correctly Assembled Mounting Brackets for Fixed Downtilt Antenna

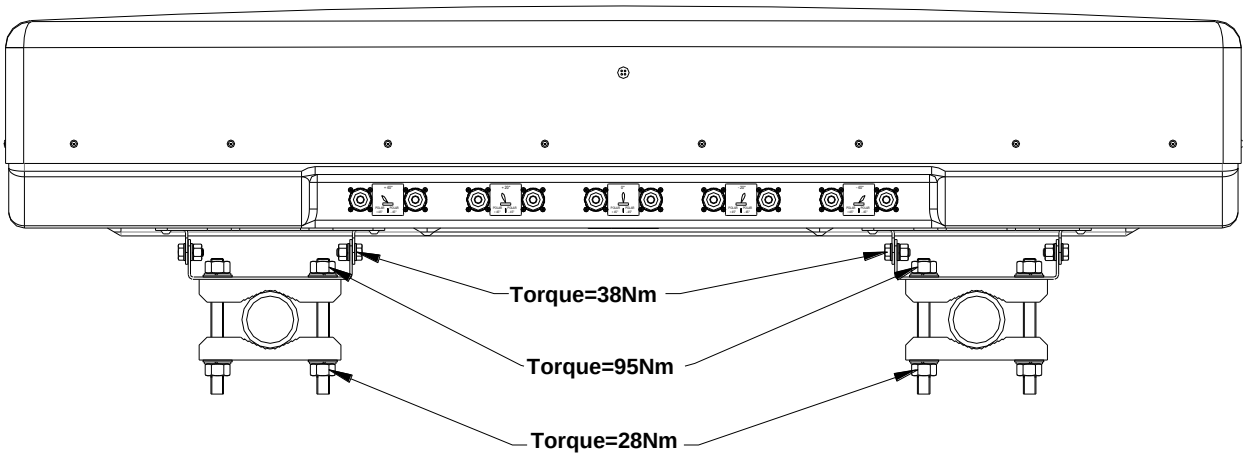


Figure 2. Fixed Downtilt Mounting Bracket Assembled to Antenna & pole

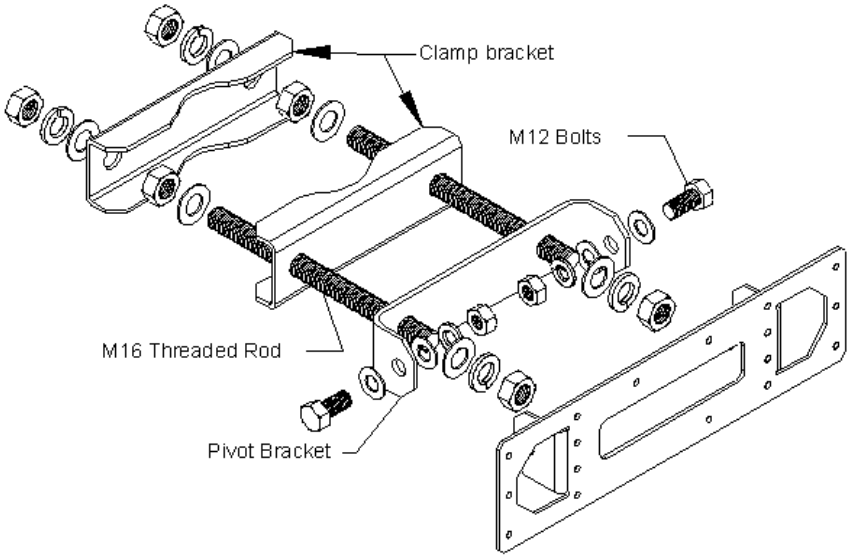


Figure 3. Fixed Downtilt Mounting Bracket Exploded Assembly

Installation Instructions - Mechanically Adjustable Downtilt Mounting Kit (T-041-GL-E) , Bracket Spacing 976 mm (38.4")

Assemble both mounting brackets as per Figures 3 and 4 of this document.

1. Attach the lower and upper mounting bracket assemblies to the antenna, before clamping the brackets to the pole. Mechanical downtilt angles of 0° to 12° in 2° increments can be obtained with the correct setting of the tilt arm bracket. For 0° mechanical downtilt the tilt arm may be stowed as show in Figure 5.
2. 2°-12° mechanical downtilt in 2° steps can be achieved by aligning the corresponding hole in the tilt arm to the pivot bracket which mates against the mounting pole, as shown in Figure 5 or Figure 6. The first hole is for 2° mechanical downtilt, with each consecutive hole resulting in an increased inclination of 2°.
3. When the tilt arm is used in the upper antenna bracket as shown in Figures 5, the mechanical tilt can be set to 0 ° or to any angle from 2 ° to 12 ° in 2 ° steps. The electrical beams emerge from the front of the antenna with a 6 ° electrical downtilt so 6 ° needs to be added to the mechanical tilt to find the actual pointing of the beams.
4. When the tilt arm is used in the lower mounting bracket as shown in Figure 6, the mechanical uptilt can be set to 0 ° or to any angle from 2 ° to 12 ° in 2 ° steps. The electrical beams emerge from the front of the antenna with a 6 ° electrical downtilt so the mechanical uptilt needs to be subtracted from the 6 ° electrical downtilt to find the actual downtilt of the beams.

The clamp brackets can clamp pipe diameters between 75 mm (3") & 115 mm (4.5").

For typical installations the minimum recommended pipe diameter is 85 mm (3.3").

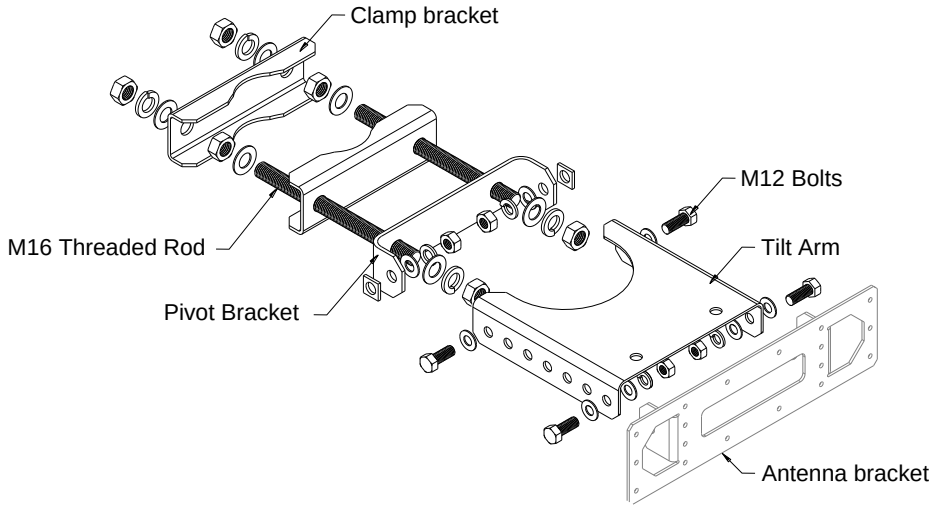
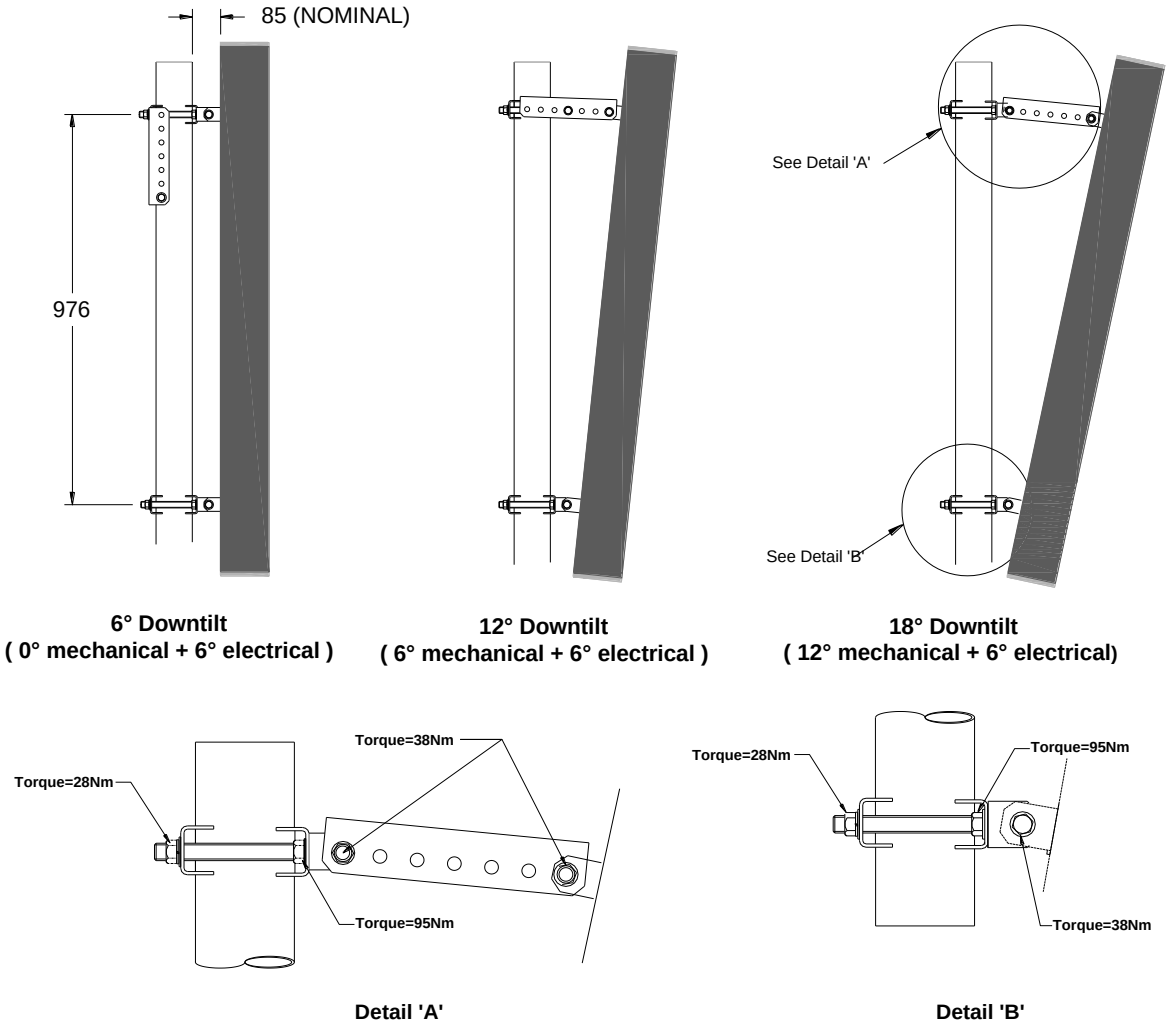


Figure 4. With Tilt Arm Mounting Bracket Exploded Assembly



6° Downtilt
(0° mechanical + 6° electrical)

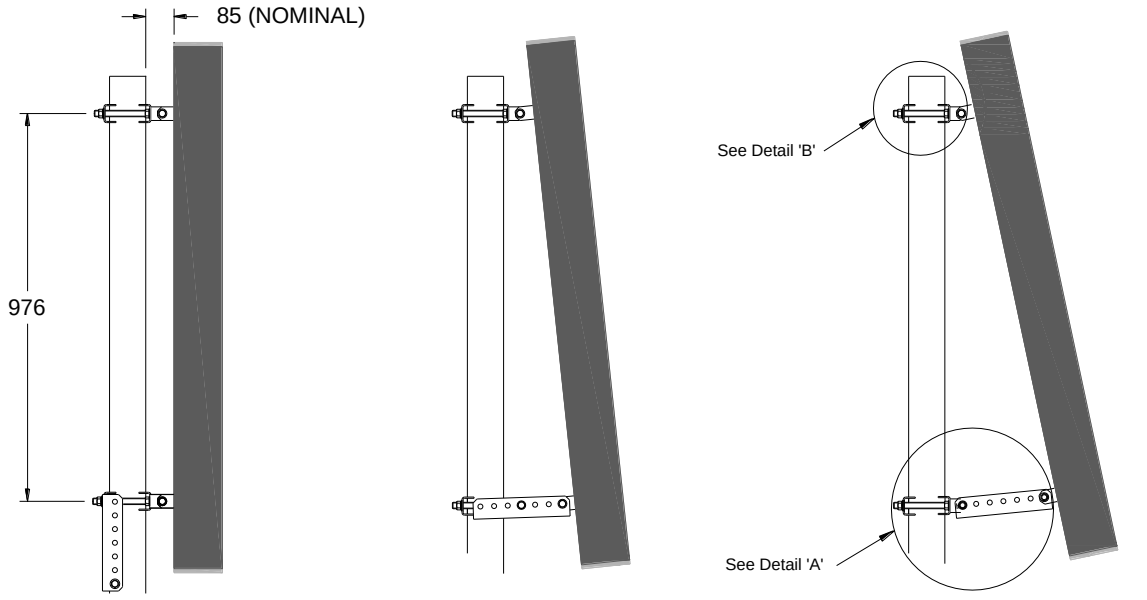
12° Downtilt
(6° mechanical + 6° electrical)

18° Downtilt
(12° mechanical + 6° electrical)

Detail 'A'

Detail 'B'

Figure 5. Setting mechanical downtilt



6° Downtilt
(-0° mechanical + 6° electrical)

0° Downtilt
(-6° mechanical + 6° electrical)

-6° Downtilt
(-12° mechanical + 6° electrical)

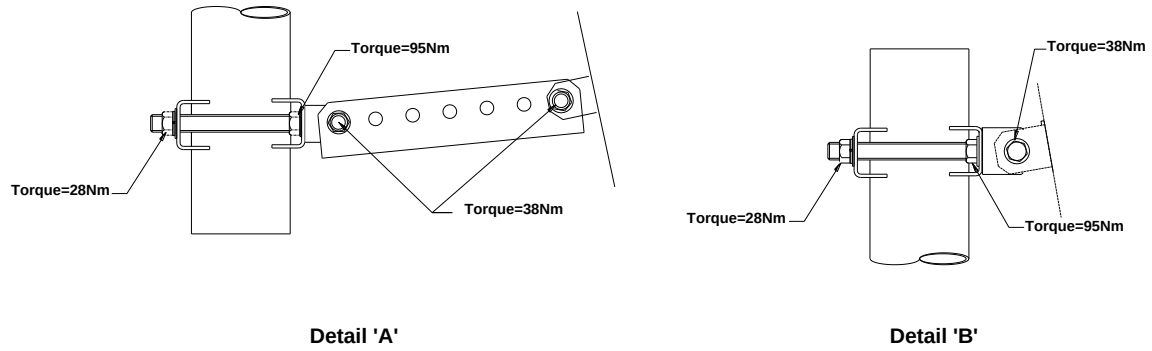


Figure 6. Setting mechanical uptilt

Labelling of Antenna Beams

This antenna radiates 5 beams. As mentioned in connection with tilting of the antenna, the beams point downwards relative to the front face of the antenna at an angle of 6 °. In the horizontal plane, the beams are at azimuth angles of -40 °(i.e. 40 °to the left of boresight when looking at the antenna from the rear), -20 °, 0 °, +20 °, +40 °(i.e. 40 °to the right of boresight when looking at the antenna from the rear). There are 10 connectors to the antenna, one for each beam of the antenna at a polarization of +45 °and one for each beam at a polarization of -45 °.
The pairs of connectors for each beam direction are shown in Figure 7.

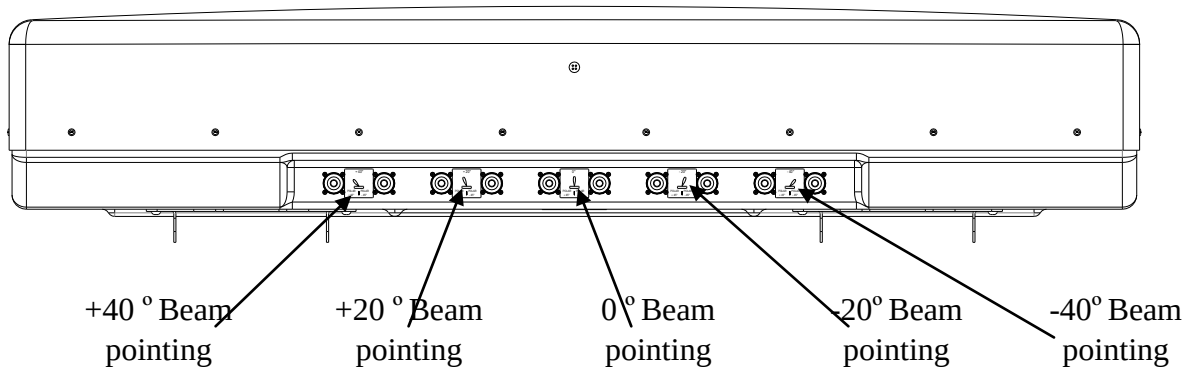


Figure 7. Arrangement of connectors on the base of the antenna.

Operation of Antennas

RF Cable Connection

The 7-16 female connectors fitted to the antenna are designed to fit jumper cables with a standard 7-16 RF male connector. After ensuring both mating connectors are dry push the male connector in and tighten the connector coupling to 23 – 28 Nm (17 -21 ft.lb).
If needed or as required by local procedures a weatherproofing kit may then be fitted to the connection.
If the RF connectors are tightened beyond the recommend torque the RF connection to the antenna may be damaged.

Revision	Changes	Date
A	First Release	2011-06-28
B	More clearly Define the Recommended Installation Requirements and Warnings. Changed drawing template to COMMSCOPE.	2013-07-25
C	Changed drawing template to latest.	2016-08-16
D	Replace “Argus” with “CommScope”.	2016-10-31