

P040-0041 Revision D, January 2024

GENERAL INFORMATION

The DIA 580mm Tri-sector antenna (Figure 1) is a compact, tri-sector antenna family. Since mounting locations and surfaces will vary, CommScope does not provide the mounting bolts or associated hardware required to properly install this antenna. It is the responsibility of qualified personnel to determine the best method for securely anchoring the base plate of the antenna to the mounting surface.

After removing the antenna from its shipping container carefully inspect it to ensure there is no shipping damage.

ATTENTION: Antenna contains DC grounding on the feed networks. The eye fastener is intended for lifting the antenna but is not part of a lightning protection circuit (it's not a lightning rod). So a separated lightning rod or similar device is needed to protect the antenna from lightning strike.

The eye fastener is designed to only lift the antenna itself, do not lift antenna along with other devices or accessories.

INSTALLATION INSTRUCTIONS

1. Refer to Figures 2, 3 and 4 for mounting and boresite alignment. It is recommended that the mounting holes be marked and made ready in the mounting surface prior to installing the antenna.

When opening the package, ensure the lifting eye fastener is correctly installed, e.g. not loose or damaged. The antenna can be repositioned from horizontal to vertical by hoisting it from the top eye fastener. The bottom part of antenna should be still in package among this process.

When the antenna is to be hoisted into position, ensure the antenna is securely held (tie a rope to Base Plate to control antenna) during hoisting to avoid rotation on the lifting eye fastener. Hoisting of antenna should be performed by qualified personnel with hoisting work certification. Do not remove the eye fastener if no special needs.

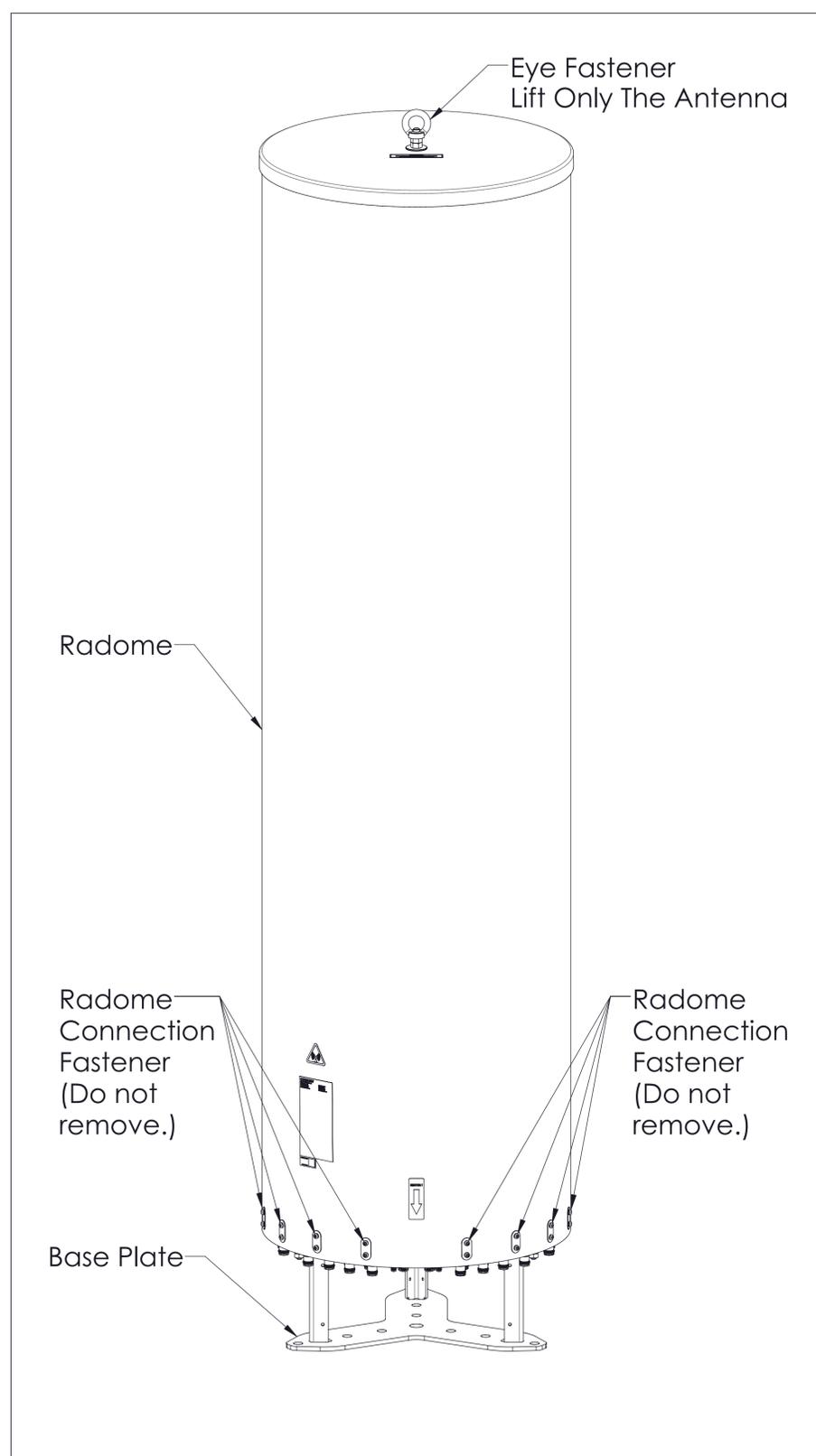


Figure 1. DIA580mm Tri-sector antenna

Note:

1. **A and B Mounting Interfaces are standard and mandatory, they must be secured with proper fasteners, otherwise will degrade antenna integrity.**
2. **C Mounting Interface is optional and supplementary.**
3. **D Mounting Interface is for center alignment convenience.**
4. **Fastener strength grade no less than 8.8, use dual nuts for relaxation prevention and required torque for M16 fastener is 140N.m.**

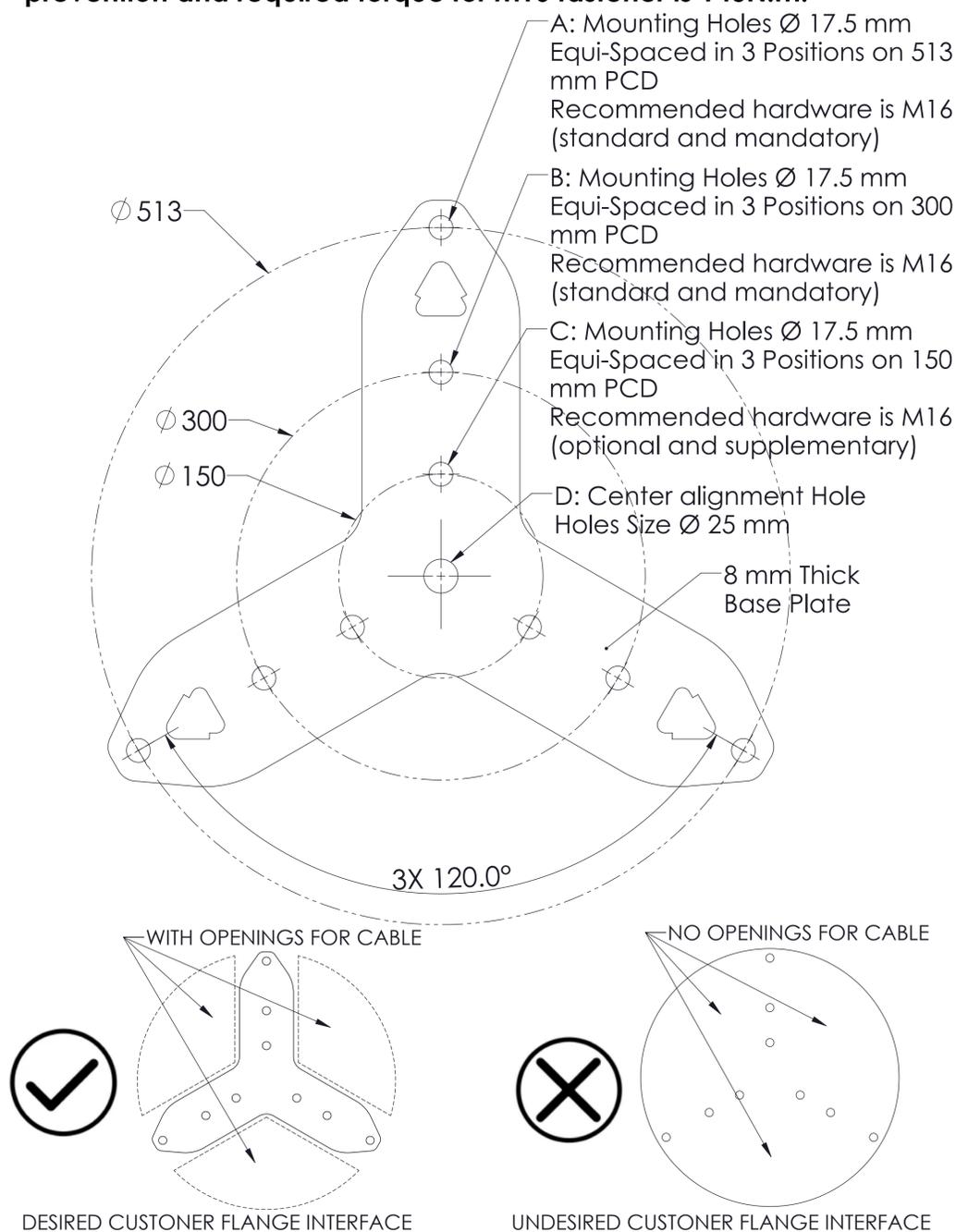


Figure 2. Mounting Interfaces on Base Plate Viewed From Bottom Side of Antenna

The boresite of each antenna sector is shown by the boresite indicator (featured in Figure 4). The direction of each antenna must be considered prior to mounting to ensure desired performance.

2. Remote Electrical Tilt Connection.

The AISG connectors in the antenna are designed to accept any AISG compliant assembly. After ensuring the connectors are dry, push in the mating connector. Tighten the AISG mating connectors by hand only. Do not apply any more rotational force to the AISG mating connectors than needed to properly mate the seal and do not exceed 1.1 Nm. Using excessive torque may damage the AISG connectors in the antenna. If needed or required by local procedures apply mastic (or similar waterproofing) to the mating connectors (Figure 3).

Don't remove female AISG connector cap if it is not used.

3. Attach the RF cables to the antenna input connectors per jumper cable installation instruction. Connectors can be 4.3/10.0 or MLOC on this type antenna, torque to 5-8 Nm for 4.3/10.0 type, refer to 7841814 for MLOC jumper installation. (Figure 4).

Route RF cable along metal rails, etc. as much as possible, to enhance noise and lightning immunity. The antenna base provides openings that can be used to route cable through the base when mounting on a monopole (Figure 2). Also, customer prepared mounting flange must provide these openings and certain cable extend length for cable routing, especially for MLOC jumper cables (Refer to 7841814 for details). If cannot achieve these extend length, every cable on MLOC cluster cable set need to be pre-routed one by one per FSJ1P-50A instruction and actual installation scenario before installing to connector. (Figure 4)

Don't remove connector caps for these ports not used



Figure 3. Connector Interface (One Example) Base Plate Not Shown

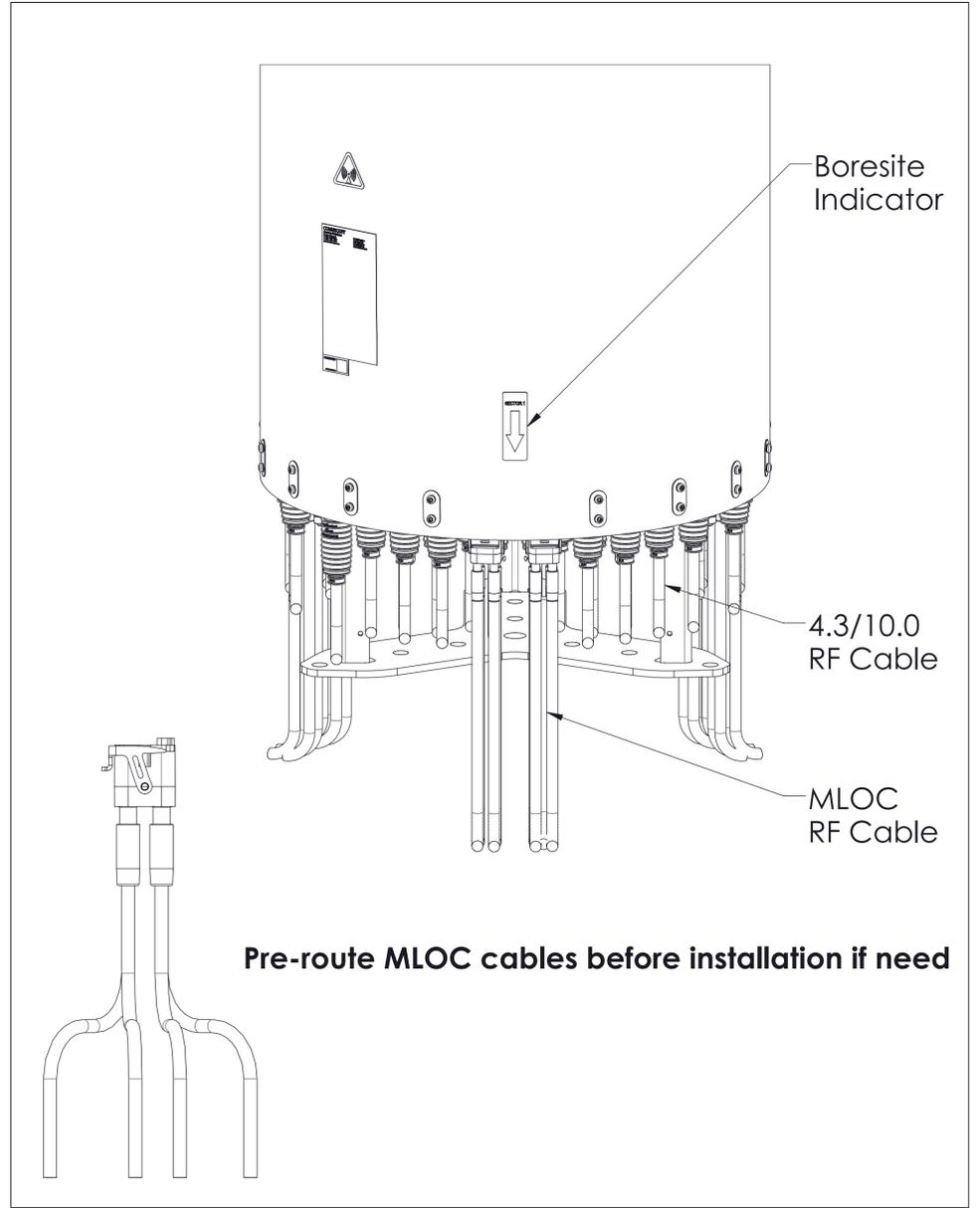


Figure 4. Routing Cables

SAFETY NOTICE

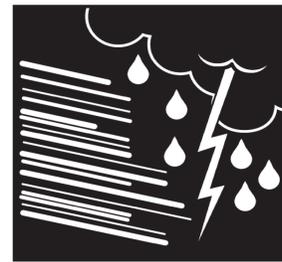
The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. CommScope installation instructions are written for such installation personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

CommScope disclaims any liability or responsibility for the results of improper or unsafe installation practices.

It is recommended that transmit power be turned off when the field installation is performed. Follow all applicable safety precautions as shown on this page.



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.