

# Installation Instructions

## Mounting Kit For SmartBeam<sup>®</sup> Antennas SBM-U3D3 Pipe/Tilt Mount

*Andrew Institute offers installation training.*

### GENERAL INFORMATION

- SBM-U3D3 pipe/downtilt mounting kit is designed for use with SmartBeam<sup>®</sup> antennas.
- Tilt angle range is from 0° vertical to three downtilt and upright positions.
- Fits round members 3" to 4.5" (75 to 115 mm) OD or angle members up to 2-1/2" (63.5 mm) on a side.

### PRE-INSTALLATION INSTRUCTIONS

- Examine antenna and hardware to ensure that all parts are enclosed and that there is no physical damage. See Figure 1 for a description of parts included.
- Check to ensure that the antenna feed connector mates with the jumper cable.
- Verify that the frequency range shown on the label on the back of the antenna matches the frequency range of the station equipment.
- Position the antenna with its "up" arrow label pointing upward before installation. This orientation allows the drain holes to be on the bottom of the antenna.

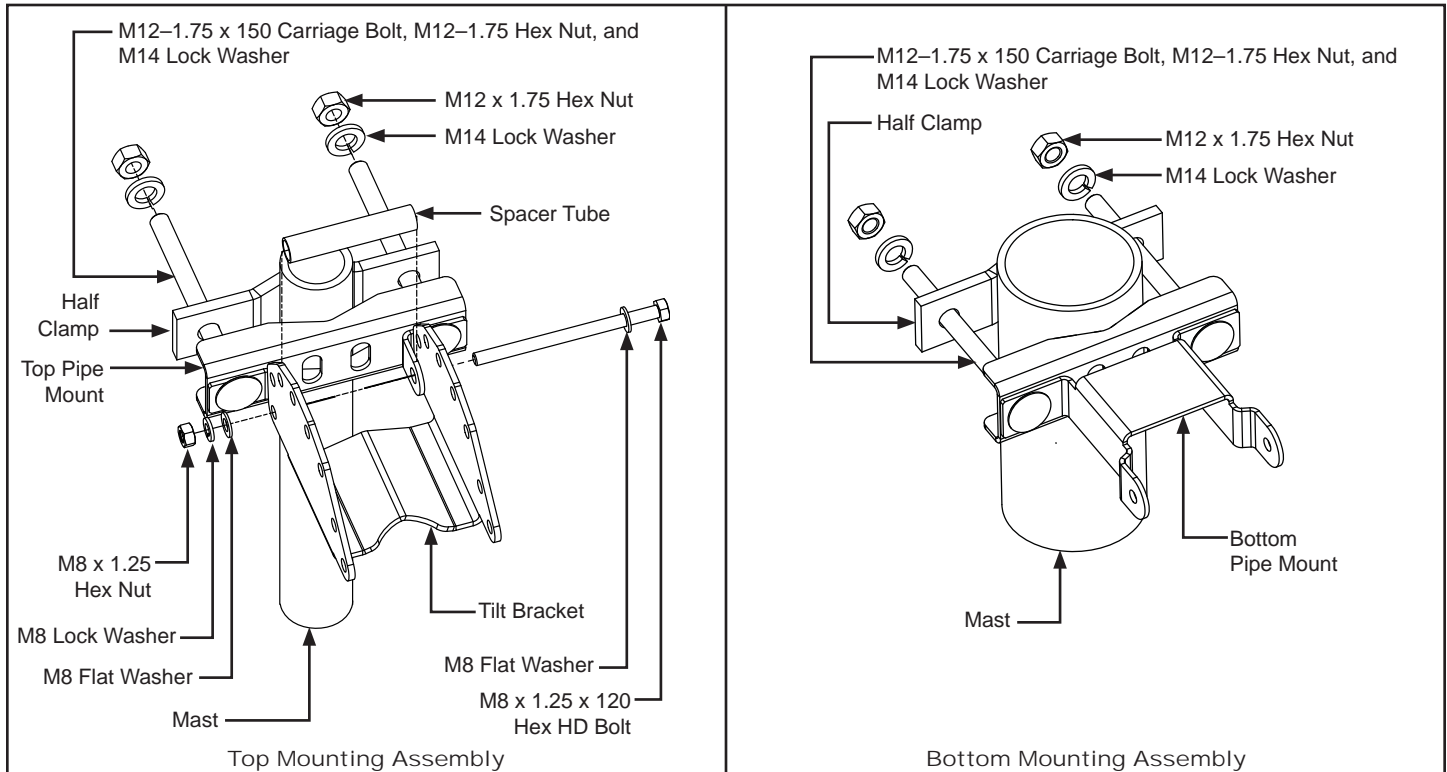


Figure 1. Verify all Hardware Parts are Included in Shipment.

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### NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. Andrew 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.

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



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.

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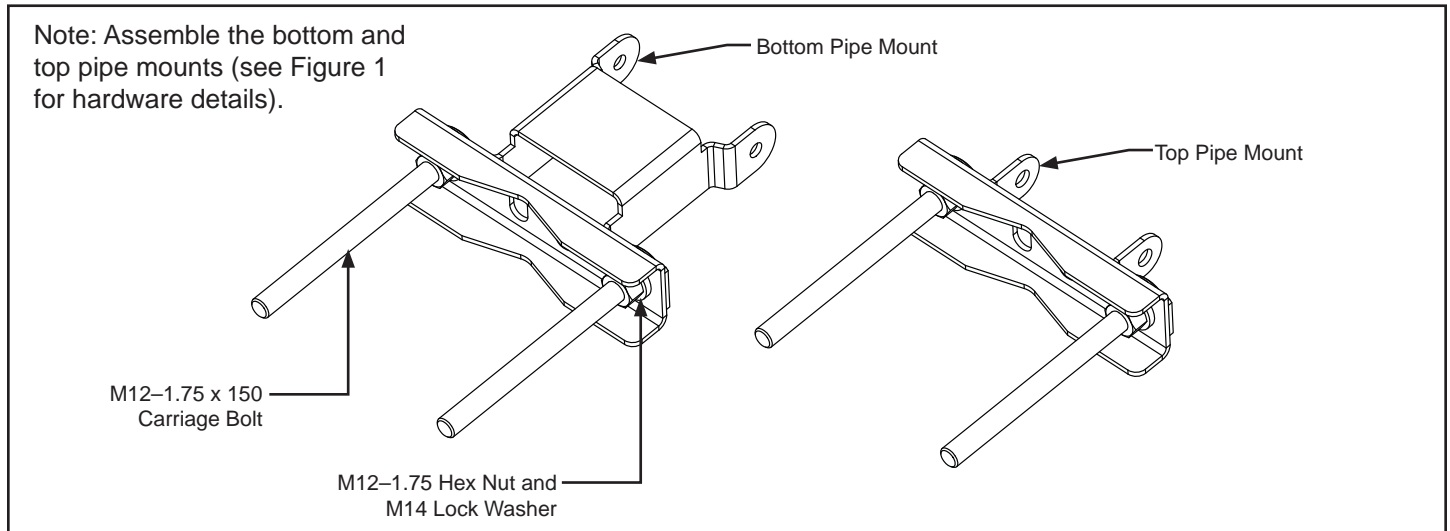


Figure 2. Assembling Pipe Mounts.

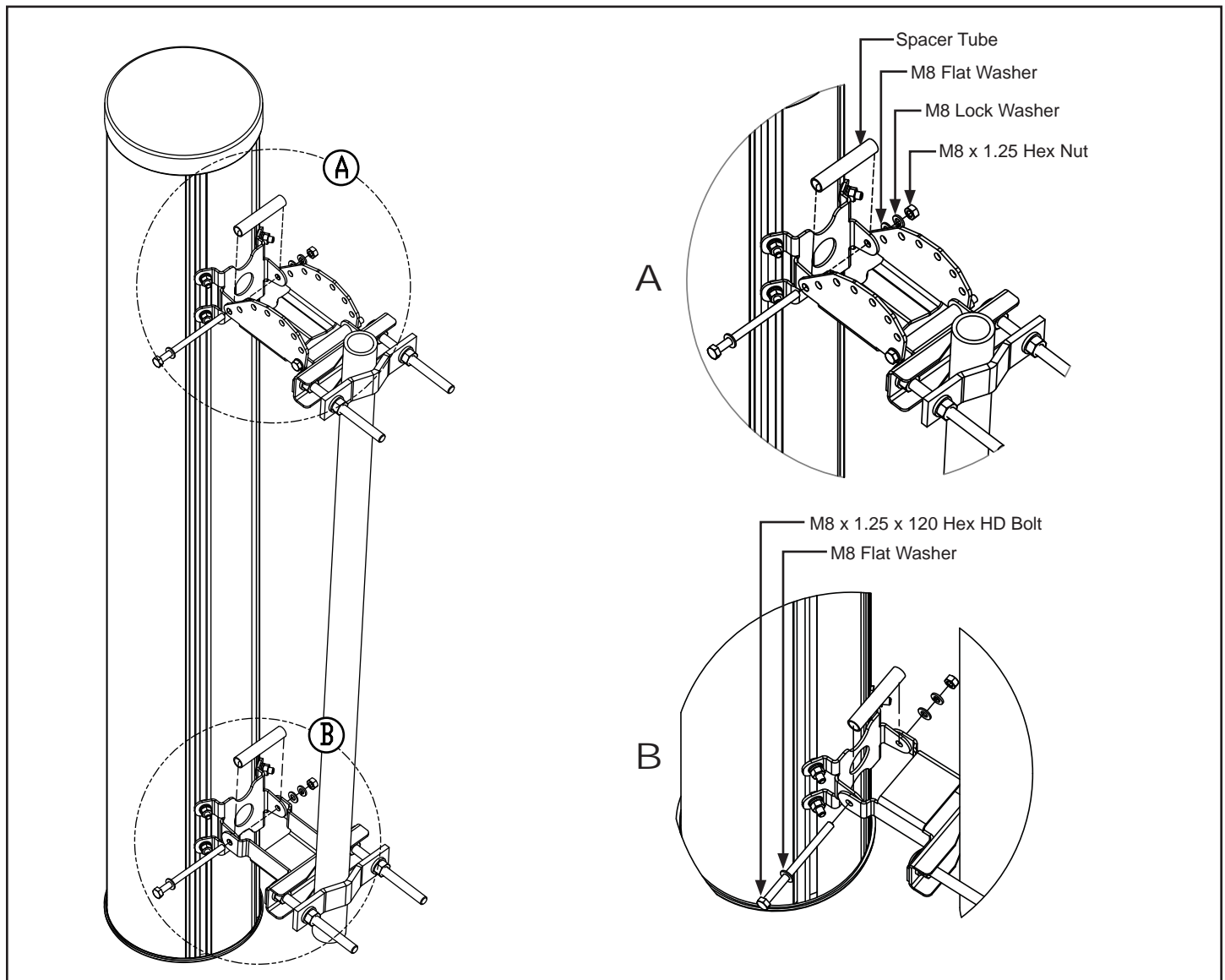


Figure 3. Attaching Pipe Mounts to SmartBeam® Antenna.

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**HOISTING ANTENNA UP A TOWER**

- Pre-assemble as much of the mounting hardware as possible before lifting the antenna up to the top of the tower.
- Attach a rope to the top mounting bracket on the back of the antenna. Keep the antenna vertical when hoisting the antenna. For safety, an additional rope can be attached to the bottom antenna mounting bracket and used as a guide by someone else on the ground.
- Bring the antenna into position on the tower and secure it to the tower using the hardware provided (See Figure 1 for hardware details).

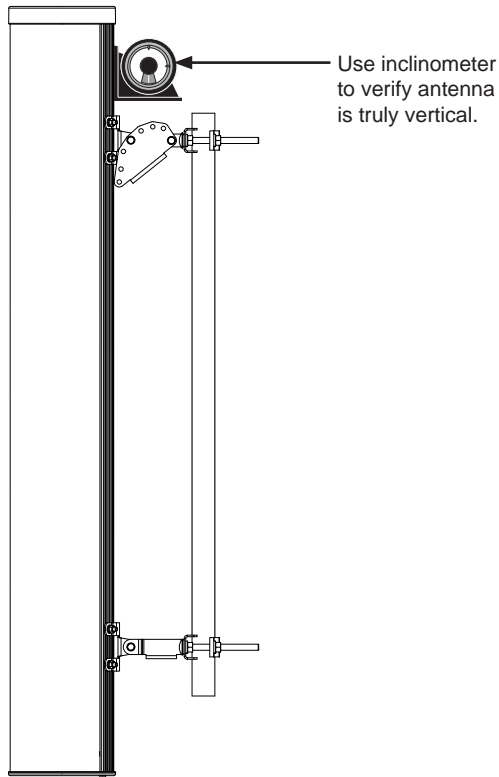


Figure 4. Attaching the SmartBeam® Antenna to the Pipe.

Change the position of the M8 Bolt shown at 0° in the center hole to the desired uptilt or downtilt angle.

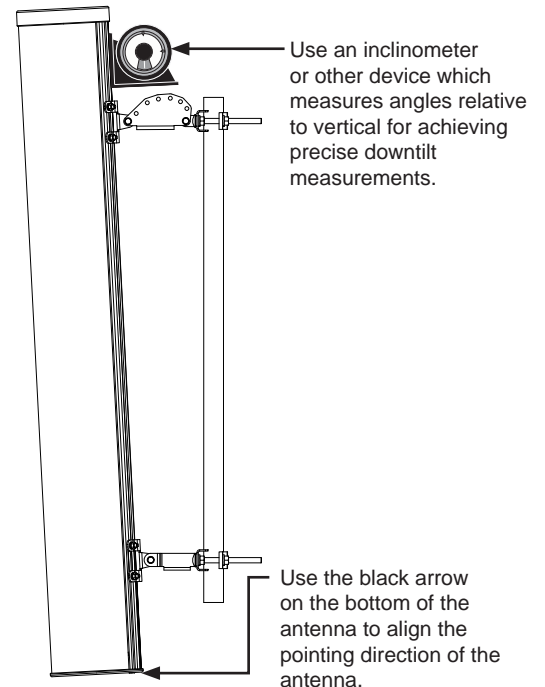
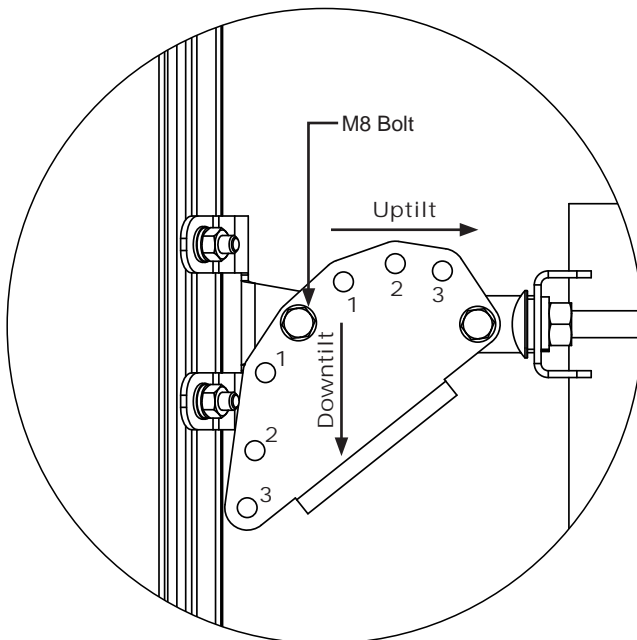


Figure 5. Adjusting the Mechanical Adjustment Tilt and Boresight Alignment.

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**POST INSTALLATION INSTRUCTIONS**

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- Connect the station transmission line (not supplied) to the antenna. Make the connection snug, but do not apply heavy force with pliers.
- Torque 7-16 DIN connectors:
  - 25–30 N·m
  - (220–265 lbf-in)
- Carefully weatherproof all RF connections, covering all cracks and the outer jacket of the transmission line. Failure to waterproof the connection could result in improper operation of the antenna.
- Secure the transmission line and RET cable to the tower in the best position to avoid physical damage to the cable.
- After the antenna, RET cable, and transmission line have been installed, a careful visual check should be made to ensure that:
  - All mechanical connections have been made and the antenna is mounted with sufficient physical clearance.
  - The “up” arrow is pointing upward and the drain holes in the end cap are oriented downward.
  - Make sure antenna is pointing in desired direction.
  - All RF connections have been carefully wrapped to prevent moisture problems.
  - The antenna is in the desired mechanical tilt position.