NRG INSTRUCTIONS

60m & 50m XHD Antenna Boom
For use with the NRG 60m and 50m XHD Towers

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INTRODUCTION
The Antenna Boom was designed to facilitate the placement of a single anemometer at the hub height of a wind turbine. The boom mounts to the inside of a specially-fitted tower tube that replaces the two standard top tubes on the NRG Systems 60m XHD tower.

The Antenna Boom cannot be added as an additional tube to the complete 60m or 50m XHD towers.

WARNING AND NOTICES
The Antenna Boom mounts to the top of a NRG Systems 60m XHD and 50m XHD tower. When constructing a 60 (50) m tower, consult the manual.

The Antenna Boom was only designed for the large footprint layout of the 60m and 50m XHD towers.

TOOLS REQUIRED
- 9/16” Combination wrench
- 9/16” Deep socket & ratchet
- 1/8” Hex key or 1/8” hex key socket
- 3mm Hex key
ASSEMBLY & INSTALLATION

Inside the Kit
Ensure that all hardware listed below is present.

- Tower tube containing collapsed antenna boom & mounting blocks
- Boom adapter/connector
- Anemometer mount
- 3/8-16 x 6.5” bolt & matching nut.
- Set screws (4)
- Bolt-5/8”, 11X1.5, Hex-Serrated, Zinc (3)
- Nut, Heavy Hex, A563 (3)
- Nut, Pal, Steel, Galvanized .625 inch-11 (3)
- Washer, Galvanized .625 inch I.D. (3)

Bolting the Tower Tube
The Antenna Boom is shipped with (3) each 5/8” bolt, washer, nut, and pal nut. This hardware is used for bolting the antenna tube onto the tower tube.

50m & 60m XHD Towers
Bolting the tower tube is optional on the 50m & 60m XHD towers. Pre-drilling 11/16” holes in the tower tube connecting to the antenna boom will be required if choosing to bolt the tubes together.

Super 60m & 80m Towers
Bolting the tower tube is required for the Super 60m & 80m towers. The holes are pre-drilled in the tubes, so additional drilling is not required.
Assembly Procedure

If you decide to bolt the Antenna Boom to the tube, see Tower Tube Bolting Procedure at the end of this procedure.

1. 9/16” Deep socket and ratchet or drill with 9/16” socket

   Orient the tower tube such that the outer V-blocks are facing upwards.

   Loosen the 4 nuts (2 per bracket) connected to the U-bolts holding the antenna boom.

   Only loosen far enough to enable the antenna boom to slide out of the tube. Loosening too far will cause the internal V-block and antenna boom to become detached from the tower tube. Reassembly will be required.
9/16” Deep socket & ratchet or drill with 9/16” socket

9/16” Combination wrench

Slide the antenna boom out of the tube to the point where the pre-drilled 1/2” hole is lined up with the holes running through the 2 V-blocks.

Insert the 6.5” 18-8 SS bolt down through the 3 holes (upper block, lower block, & antenna boom).

Thread the Nyloc 18-8 SS nut onto the bolt and tighten using the 9/16” combination wrench and 9/16” socket.

Re-tighten (4) nuts in the upper (2) V-blocks to secure antenna boom.
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1/8” Hex Key
3mm Hex key

Insert anemometer cable connector into the slot cut into the side of the antenna boom and feed to the end.

Continue feeding the cable connector into the Thies stem adaptor (short stubby end first).

Once cable connector is all the way through the stem, connect the (2) stems together and tighten the (4) set screws using 1/8” hex key.

Double check that the (4) set screws on the Thies adaptor stem are still tight from shipping using the 3mm hex key.
3mm Hex Key

Unpack your Thies anemometer and connect to the Thies cable, taking care to line up the pins and key correctly.

Mount the anemometer onto the top of the Antenna Boom using a 3mm hex key to tighten the (2) set screws.

Note: Extra time should be taken to make sure the anemometer is mounted level and secure.

Confirm on the logger channel that the anemometer is reading correctly.
Tower Tube Bolting Procedure

1. **Permanent marker**
   - Fully seat the antenna boom tube onto the top tube of the tower.
   - Mark the locations for the holes onto the top tube using a permanent marker.
   - Remove antenna boom tube from the top tube.

2. **11/16” drill bit**
   - Drill (3) 11/16” holes in the marked locations.
   - Loosely install bolts, washers and nuts as shown in the pictures.

3. **1-1/16” Socket Torque Wrench**
   - Re-attach antenna boom tube and fully seat using a block and sledge hammer.
   - Tighten nuts using a 1-1/16” socket and torque to 150 ft-lbs.
   - Proceed to the rest of the installation of the Antenna Boom, beginning on page 5.
PARTS NOT PRE-INSTALLED

Bolt, .375, 6.5 inch, 18-8 SS

Thies stem & adaptor

(3) ea | 5/8” bolts, washers, nuts, and pal nuts.
ANTENNA BOOM DIMENSIONS: 60M XHD TOWER
ANTENNA BOOM PARTS DIAGRAM