



## TallTower Antenna Boom

### 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 50m/60m XHD, Super 60m & 80m TallTowers.

The Antenna Boom **cannot** be added as an additional tube to complete towers.

### Warning & Notices



*The Antenna Boom mounts to the top of NRG Systems 50m/60m XHD, Super 60m & 80m TallTowers. When constructing the tower, consult the manual for that tower.*



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

### Tools

#### Boom Assembly



#### Bolting Tower Tubes (Super 60 & 80m towers only)





## TallTower Antenna Boom

### Parts/BOM (Thies Kit #12801, S1/Windsensor Kit #15971)

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 tubes is not required for the 50/60m XHD towers. The hardware is not used when omitting this step.

If bolting the tower tubes together is desired, 11/16" holes must first be drilled in the tower tube connecting to the antenna boom will be required. This is not covered in these instructions and the required tools are not listed.

#### ***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.



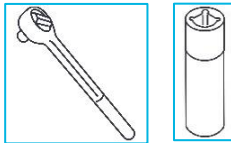
## TallTower Antenna Boom

## Assembly Procedure

Begin by mounting the special Antenna Boom tube to the top of the tower in place of the top two standard tower tubes. For the Super 60 & 80m towers, see [Tower Tube Bolting Procedure](#) in the following section.

- 1 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.





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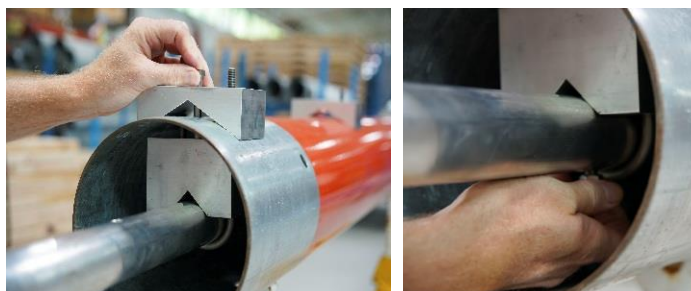
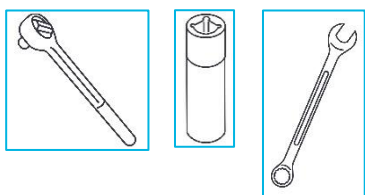
2

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.

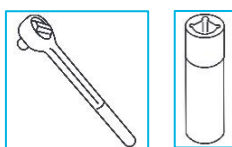


Insert the 6.5" 18-8 SS bolt down through the 3 holes (upper block, lower block, & antenna boom).

Thread the Nyloc 18-8 SS nut onto the bolt and tighten using the wrench, socket, & ratchet.



Re-tighten (4) nuts in the upper (2) V-blocks to secure antenna boom.





TallTower Antenna Boom

**3a** *Steps 3a & 4a are for the Thies FCA Kit #12801. For S1 & WIndSensor P2546, skip to steps 3b & 4b.*

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 with a hex key.



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





## TallTower Antenna Boom

- 4a** 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. Secure using a 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.

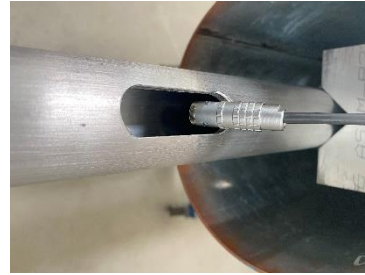




## TallTower Antenna Boom

- 3b** *Steps 3b & 4b are for the S1 & WindSensor P2546 Kit #15971. For Thies FCA Kit #12801, see steps 3a & 4a above.*

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

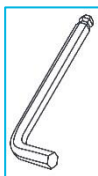


Continue feeding the cable connector into the S1/WindSensor stem adaptor (wider end first).



Connect “e” clip to boom extension, then slide into adaptor until flush (shown against the adapter in right image).

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



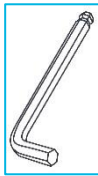


## TallTower Antenna Boom

- 4b** Unpack your S1 or WindSensor anemometer and connect to the cable threaded through the boom, taking care to line up the pins and key correctly.



Mount the anemometer onto the top of the Antenna Boom using a 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.





TallTower Antenna Boom

**Tower Tube Bolting Procedure**

- 1** Remove or omit the top two tubes of the tower.

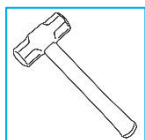
Loosely install bolts, washers and nuts as shown in the pictures.



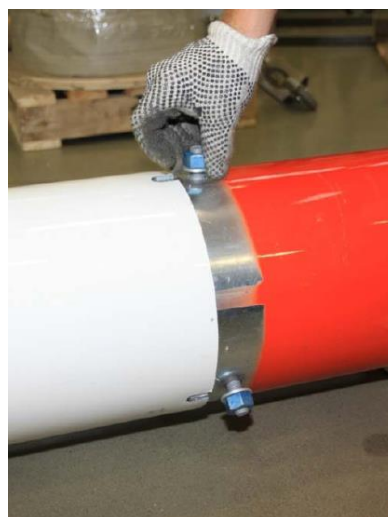
Place the Antenna Boom tube at the end of the tower.



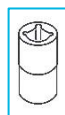
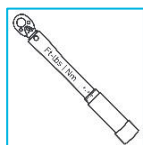
- 2** Attach antenna boom tube and fully seat using the same method as any other tower tube.



Hand-tighten the tower tube bolts.



- 3** Tighten nuts to **150 ft-lbs.**





**Parts not Pre-Installed**

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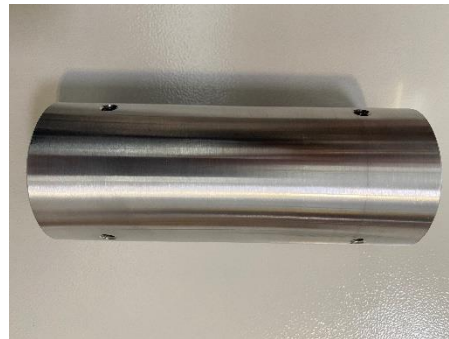
Bolt, .375, 6.5 inch, 18-8 SS



Thies stem & adaptor



NRG S1 & WindSensor  
adaptor



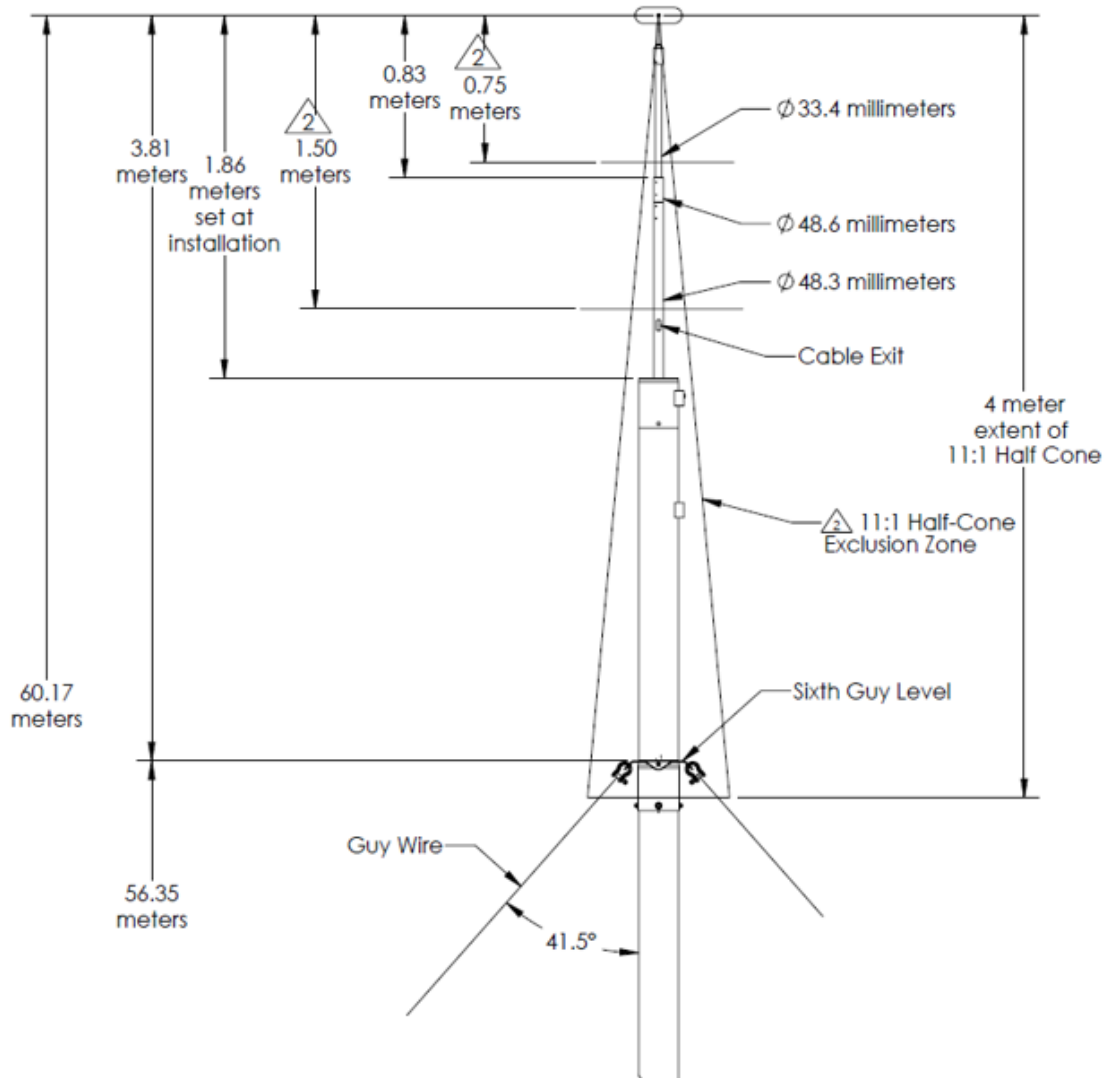
(3) ea | 5/8" bolts, washers,  
nuts, and pal nuts.





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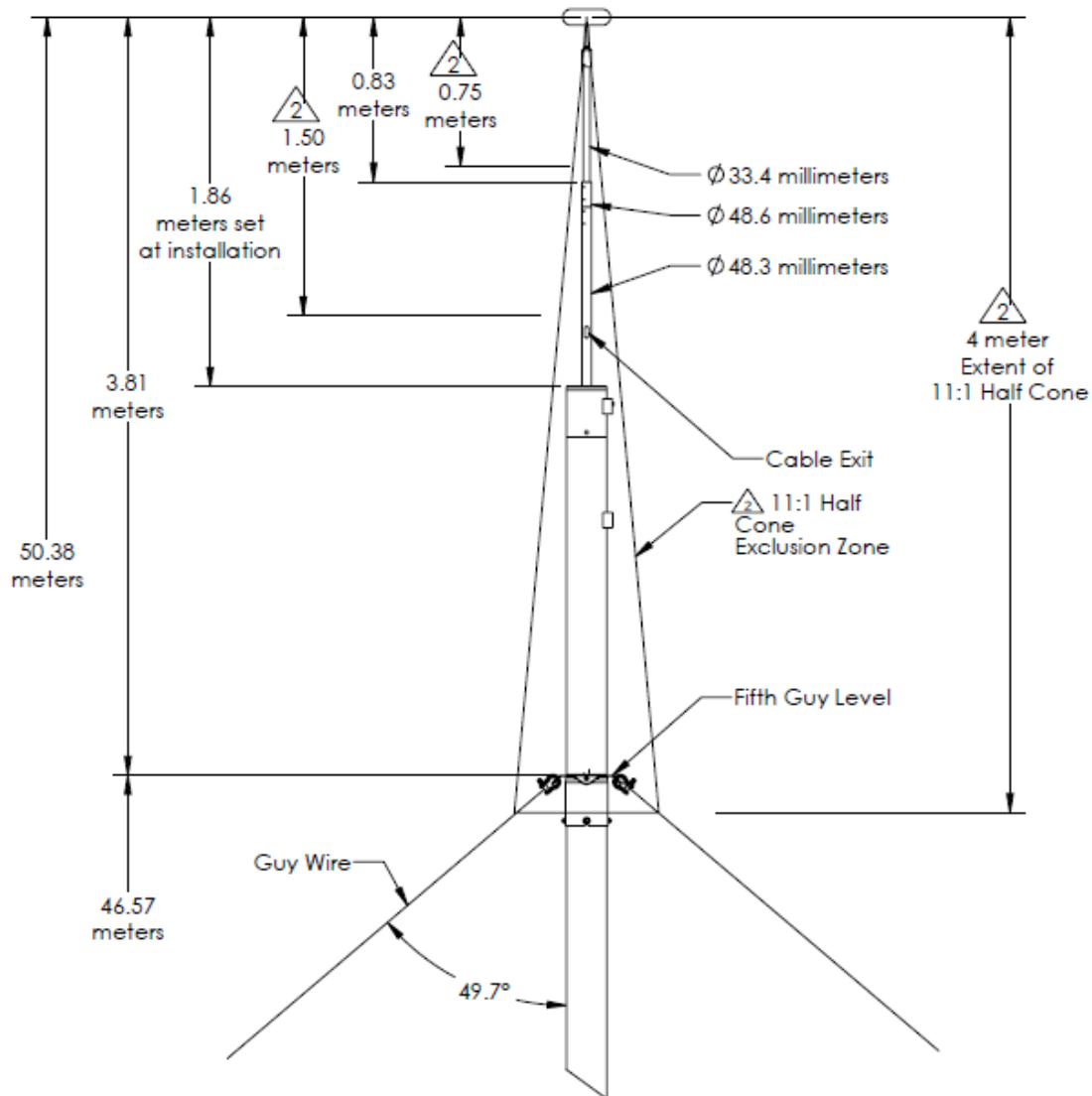
Antenna Boom Dimensions: 60m XHD tower





TallTower Antenna Boom

Antenna Boom Dimensions: 50m XHD tower





Antenna Boom Parts Diagram

