



2.4 m Side Mount Boom for Tube Towers

NRG Booms #4116/#4213, #10079/#10116, #10080, #14025/#14026

INTRODUCTION

Side mount booms are used to mount anemometers and wind direction vanes to NRG TallTowers 8" or 10" in diameter. Made of galvanized steel, the 2.4 m (95 inches) boom resists corrosion and holds sensors away from the tower to avoid tower shadowing effects. The 2.4 m boom provides horizontal offset of 2.54 m (100 inches) centerline-to-centerline on a 10" diameter tower (10D), and 2.5 m (99 inches) centerline-to-centerline on an 8" diameter tower (12.38D).

Booms #4116, #4213, #10079, #10116 | 1/2" Diameter Mounting Stem

The 1/2 inch mounting stem is for NRG Class 1, #40C, 200P, & 200M sensors.

The overall height is 18.7 inches (47.50cm). Height of cup centerline is 20 inches (50.8 cm) above the 3/4 inch boom cross section.

Boom #10080 | WindSensor Extension

This boom includes an extension piece to mount a WindSensor P2546 anemometer to the 95" boom.

Using the WindSensor extension, the mounting stem is 11.4 inches (28.96 cm) high. Height of the cup centerline is 20 inches (50.8 cm) above the boom cross section.

Booms #14025, #14026 | 1" Diameter Mounting Stem

The 1 inch mounting stem is for the NRG S1 anemometer.

The overall height is 14.23 inches (47.50cm). Height of cup centerline is 21 inches (53.3 cm) above the 1 inch boom cross section.



INSTRUCTIONS

Unpacking the Box

Box of 2 Booms Contents

- 2 Mounting brackets
- 6 Hose clamps
- 2 Triangular leg assemblies (Part A)
- 2 Boom extensions with 90° bend (Part B)
- 4 Screws for mounting Part A to Part B (2 screws per boom)

Box of 1 Boom Contents

- 1 Mounting brackets
- 3 Hose clamps
- (1) Triangular leg assembly (Part A)
- 1 Boom extension with 90° bend (Part B)
- 2 Screws for mounting Part A to Part B



Figure 1 | Box containing 2 booms



Assembly

- 1 Place mounting bracket on ground or solid surface to install the 2 triangular 5/8"-diameter boom sections. Line up the 90 degree bend with the large rectangular hole in the mounting bracket (Figure 2).

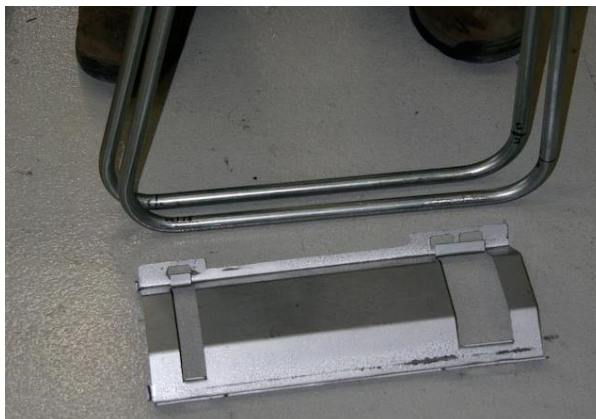


Figure 2

- 2 The tube will slide into the metal bracket with a firm downward push (Figure 3).

Push the 5/8" tube to the bottom of the mounting bracket so that the tube hits the metal tab (Figure 4).



Figure 3



Figure 4



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- 3 Feed the free end of a hose clamp in the following manner:
 - Through one small side hole in the metal bracket
 - Over the boom tubing
 - Across the slot in the bracket
 - Over the other boom tubing on the other side
 - Out the small hole on the bracket opposite if the initial side

Repeat this with the other hose clamps on the other side of the bracket. Two hose clamps will be used in the larger set of holes.

- 4 **5/16" Nut driver**
or
Cordless drill/Impact driver with 5/16" bit

Attach the partially assembled boom to the tower. The side with 2 hose clamps is oriented toward the top of the tower.

Tighten the top and bottom clamps first, then tighten the middle clamp (Figure 5).

Hose clamps should be tightened to 90 in-lbs (10.2 N-m).

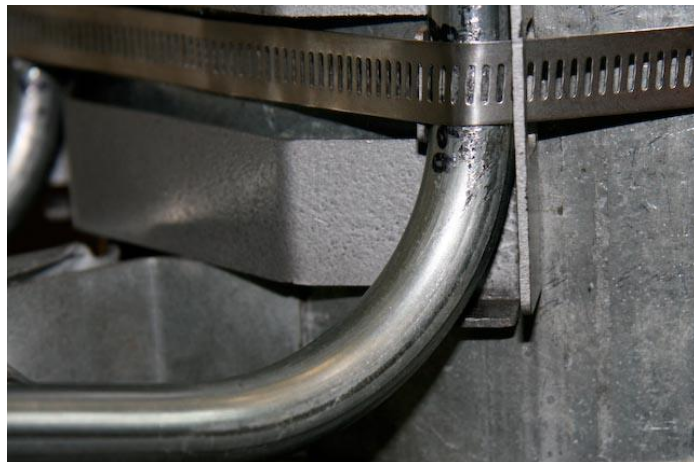


Figure 5



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**5 5/16" Nut driver
or
Cordless drill/Impact driver with
5/16" bit**

Locate the 5-holed sleeve on the end of Part A.

The two holes for the #10-32 self-tapping screws on the boom sleeve should be oriented toward the top of the tower (Figure 6).

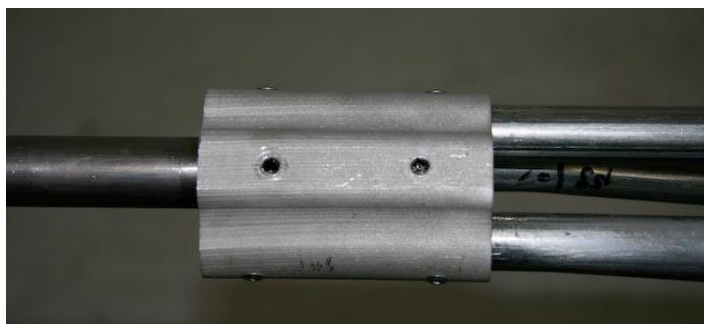


Figure 6

Insert Part B into the 5-holed sleeve and align with the stem shaft pointing straight up. Line up the holes in the straight pipe of Part B to the holes in the sleeve.

Carefully install the 2" self-tapping screws into the holes in the sleeve (Figure 7).

Tighten with the nutdriver or bit.

Do not overtighten and strip the holes in the sleeve.



Figure 7



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Completion

The boom is now completely assembled and installed onto the tubular tower. Check that it is aligned properly and mounted securely. It is now ready to have a sensor mounted to it.



Figure 8 | Completed 2.4m boom. Note the 1.93m boom below it for reference.