

## Measuring for your Pole Solution

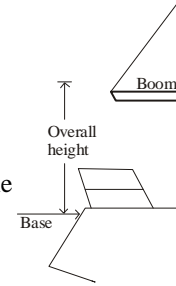
Before you begin measuring for the mounting location on your vessel, we suggest that you have all the ‘obstacles’ you normally carry on your boat in place. In other words, the bimini in its’ open position, the outboard on its’ mount, the grill on the rail, etcetera.

### For a Radar pole:

**Step 1:** Determine the height of the bottom of the radar antenna above the point at which the base of the pole will attach to the transom or deck.

Hints – this height is regulated by the following:

- The height of a person’s head when standing on deck in close proximity to the radar (to avoid fried brain!).
- The height of the boom (to avoid a big black line across the screen). This is typically 90” – 105” above deck.



**Step 2:** Measure down 37”. This is the exposed length the top section of the pole (the 2-1/2” diameter tube).

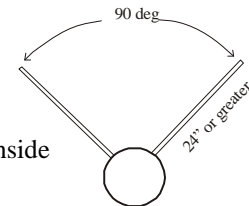
**Step 3:** The remaining distance down to the base is the length of the lower tube (the 3” diameter tube).

**Step 4:** Select the closest lower section length from the detail specification page (opposite).

**Step 5:** Now that you know the length of the lower tube; hold a stick, broom handle, boat hook, or similar, in the place where the pole will mount. Mark the height of the lower tube. This represents the point at which the support struts will attach.

**Step 6:** Measure the approximate length of the support struts from this mark to the deck, transom, or toe rail that the struts will be attached to. We generally advise people to consider two things when selecting the strut positions:

- The struts should radiate at close to 90 degrees from each other if possible. Usually this ends up more like 110 degrees. This much is still acceptable, but try not to open the angle up too much as it will affect the stability of the whole unit.
- As a rule, the struts should extend out about 24” from the pole, but remember, more is merrier. The struts usually stay outside the lifelines just to keep the deck free, but there are no strict criteria. Sometimes it pays to have the aft strut (the one going across the boat) inside the stern rail. This allows room for the outboard to sit on the rail.



Helpful Hint: Tie two lines at the marked point of the lower tube (simulating the struts). This will assist you in confirming clearance and base attachment locations.

**Step 7:** Refer to the detail specification page again, and select suitable strut lengths from the list offered there. Note: select a tube length that will be shortened to the correct size. Our unique struts system requires no drilling – just unscrew the top end of the strut and remove it, cut the tube to length, and reinstall the top end. The long threaded stud screws down into the lower end of the tube where it is retained inside a vinyl tube which stops it rattling. Strong, secure, and simple!

**Step 8:** Fill out the order form and fax it to Kato Marine or call or email us. We accept Visa, MasterCard, or Discover. Be sure to specify the radar make and type so that we give you the correct top mounting plate (i.e. “Ray Marine 2 kilowatt”).

More on back page ....

### **Example:**

Ray Marine 4 kilowatt

Bottom of the radome is 90" above the desired base location (in this case, mounted on deck).

### **Therefore:**

Desired height of 90" less 37" for the 2-1/2" tube length = 53"

Now, the closest lower tube length available is the 56" length. We don't want to go shorter than 90" or we will fry our brain cells, so we select the 56" lower tube.

It appears the struts with a 53" – 74" range would be the right size for this setup. This is based on the top of the 3" tube being 56" above the deck.

### **So we would provide:**

A 56" lower section

A 37" (exposed) upper section

A Ray Marine 4 kilowatt top plate

Two struts adjustable from 53" to 74" with bases

A deck pole base and backing plate

### **For a Wind Generator pole:**

This is generally the same as the radar pole – the difference being that the wind generator pole has a third section of tube, or more specifically, pipe. In this case the pipe is sized to the type of wind generator and uses Delrin sleeves inside the 2-1/2" tube. The length of pipe is usually determined by the diameter of the wind generator blades and we try to have the bottom of the blades 2" – 3" above the delrin sleeve.

So **Step 2** looks like this:

Determine how high the bottom of the blades should be above the base. Subtract 1" (the Kiss generator uses about 24" from the bottom of the blades to the top of the pole); this gives us the top of the middle 2-1/2" section of tube. This tube is always 37" long (exposed tube).

Now go to **Step 3** on the front page.

### **Example:**

Kiss Wind generator (not mounted on deck, but on the transom)

Bottom of the blades approximately 92" approximately over the deck

Base to be 7" down the transom

### **Therefore:**

The bottom of the blades will be at 99" above the base (92" + 7" vertically down the transom)

Less 1" to the top of the 2-1/2" tube = 98"

Less 37" for the 2-1/2" tube length = 61"

Now, the closest lower tube length available is either the 56" length or the 62" length. We don't want to go shorter as the 99" to the blades was our minimum, so we select the 62" lower tube.

It appears the struts with a 53" – 74" range would be the right size for this setup. This is based on the top of the 3" tube being 55" above the deck (62" – 7" vertically down the transom) – see step 6 on front page.

### **So we would provide:**

A 62" lower section

A 37" (exposed) middle section

A 25" (exposed) upper pipe to fit the wind generator

Two struts adjustable from 53" to 74" with bases

A transom pole base and backing plate