

West Coast Weather Vanes

Cupola Installation Method - With Cross Brace

Requires internal cupola access *Note: Installation is easier with two people*

This is the principal mounting method for most cupola applications. The majority of cupolas have a cross brace as a structural support onto which the spire (vertical installation rod) can be mounted using a cupola flange.



Cupola Flange

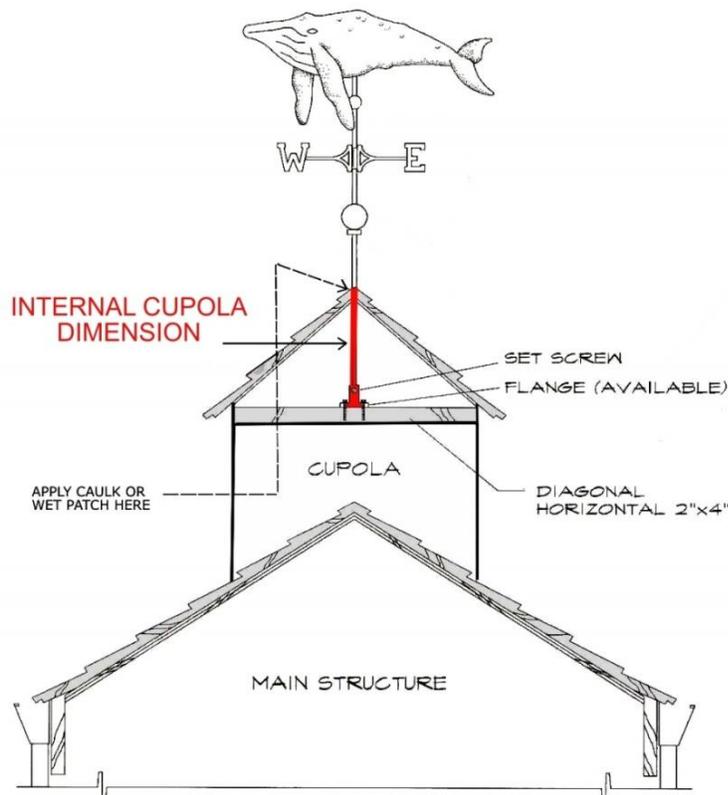
The ideal time to install the rod is when the cupola is being installed. If the weathervane is going onto an existing cupola, you can usually do one of the following:

- unscrew the roof
- unscrew one of the louvers
- come up through the attic for access inside the cupola

If you are in construction now, we can send out the installation hardware as soon as the order has been placed. It can then be installed prior to the roof being sealed off. The sculpture piece itself will follow when completed to slide down over the already installed weathervane hardware.

Cross-Section View of Cupola

CUPOLA INSTALLATION DRAWING



IMPORTANT: In order to send you the correct length spire (vertical installation rod), we need to know the internal distance from the cross brace *inside* the cupola to the peak of the cupola to assure the correct amount of spire sticks out the top of the cupola to receive the vane sculpture and its components. *Please see red section of rod in Cross-Section View of Cupola above.*

Tools and supplies recommended for installing your weather vane:

- Drill with a long shanked bit the same diameter as the vane’s spire (vertical installation rod)
- Level
- Medium sized Phillips screwdriver
- Heavy grease (a small tub is included in the price and is sent out with the finished sculpture piece)
- Roof Caulk
- Compass

Instructions for installing your weathervane using the Cupola Installation Method:

1. Using your level to determine verticality, drill the appropriate sized hole through the peak of the cupola. The hole size will be determined by measuring the largest diameter of the rod we send you for your weather vane.
2. The vertical rod lowers down *inside* the cupola until it meets the cross brace (See Cross Section View drawing of Cupola - above). **THIS ROD MUST BE PLUMB IN ORDER FOR THE WEATHER VANE SCULPTURE PIECE TO TURN FREELY IN THE WIND (See Figure #2 below). NEVER TUG OR PULL ON SPIRE (vertical installation rod).**

(Note: the rod itself does not turn, only the sculpture piece.)

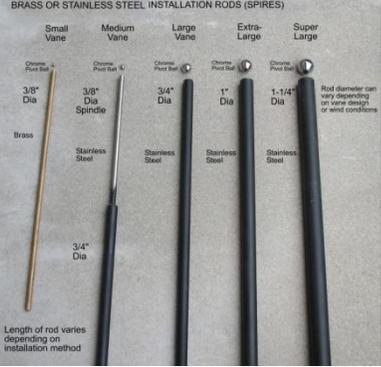
 <p style="text-align: center;">*Different Diameter Weathervane Spires (Vertical Installation Rods)</p>	<p>Spires (vertical installation rods):</p> <p>West Coast Weather Vanes offers different diameter installation rods. The diameter selected depends on the following:</p> <ul style="list-style-type: none"> ● the weathervane’s size, ● the sculpture piece design ● the potential for high winds. <p>Relatively heavy sculpture pieces (3-D weather vanes, for example) may require a larger diameter installation rod than their swell bodied or silhouette style counterparts.</p> <p>Finally, if the weather vane is to be installed in a high wind location, a mountain top or directly along the coast, we can upgrade the weather vane to a bigger diameter rod to help compensate for occasional increased wind load.</p>
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Figure 1: Installed rod sticking up out of cupola



Figure 2: Using level to make sure rod is plumb

3. The cupola flange is screwed to the top of the cross brace and receives the base of the vertical rod.
4. Tighten the setscrew in the cupola flange to secure the rod firmly in place.
5. Caulk around secured spire (vertical installation rod) to seal the hole.
6. Assemble ring, globes and directionals on spire (vertical installation rod)
7. Coat the section of the spire (vertical installation rod) that will be covered by the vane sculpture piece with grease (Use small tub of grease included with weathervane).



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Figure 3: Assembling Harness



Overhead view of interlocking directionals

- Slide brass ring on spire. Allow it to slide to bottom of rod. *Do not tighten yet.*
- Slide on large globe. Allow it to gently slide to the bottom of the rod. *Do not tighten yet.*
- Slide on interlocked brass directionals and lower carefully to bottom of rod and rest gently on top of globe without denting. *Do not tighten yet.* (See photos below for assembly)



- If rod diameter does *not* reduce at the top, slide second brass ring to bottom of rod. *Do not tighten yet.* (Note: If rod does narrow at the top, disregard this step.)
- Gently slide on smaller copper globe. Note: If installed rod is narrower at the top, your small copper globe will have larger and smaller diameter holes drilled into it. Position globe so large holed end slides on first. The small hole will come to rest where the rod flares out.

Note: Some weathervane designs come with the smaller copper globe attached to the sculpture piece. If this is the case with yours, skip last two steps mentioned above.

8. Optional Security Device Installation --- see separate Security Device Instructions
(skip this step if your vane does *not* have a security device)

Note: The security device is physically attached to the weathervane sculpture piece and must be added at the time the weathervane is being constructed. It cannot be added after the weathervane has shipped.

9. Insert ONE steel ball into the mounting tube at the base of the weather vane sculpture piece.
(skip this step if your vane does have a security device)



Figure 3: Assembling Harness

(The remaining steel balls are spares in case you drop the first one during the installation.)

Holding your finger over the base of the sculpture piece tube containing the steel ball carefully transfer the vane over the top of spire (vertical installation rod). Then gently slide sculpture down.

Note: If your stainless steel rod reduces from 3/4" (1.9 cm) to 3/8" (.95 cm) on the top 10" (25 cm) of your rod, check to see that the vane clears the beveled reducer section of the spire. If not, add a second ball bearing and check again.

9. Now slide harness components detailed in #5 above into place and tighten with a screwdriver. See image below for suggested proportions. Use your compass to orient the brass directional letter N to true north. (Depending on how accurate you want your Directionals to be, please see our Magnetic Declination webpage for details on how to precisely orient the directional letters.)



Correct Harness Assembly and Placement
Directionals are interlocked



Incorrect Harness Assembly and Placement
Directionals are **not** interlocked

If lightning is an issue in your area, you can get a referral by contacting:

Lightning Protection Institute
203 N. 36th Street - Unit A
P.O. Box 6336
St. Joseph, MO 64506
Phone: 800.488.6864 or 816.233.0140
Email: LPIMain@stjoelive.com