

# Masthead Sensor Installation Guide

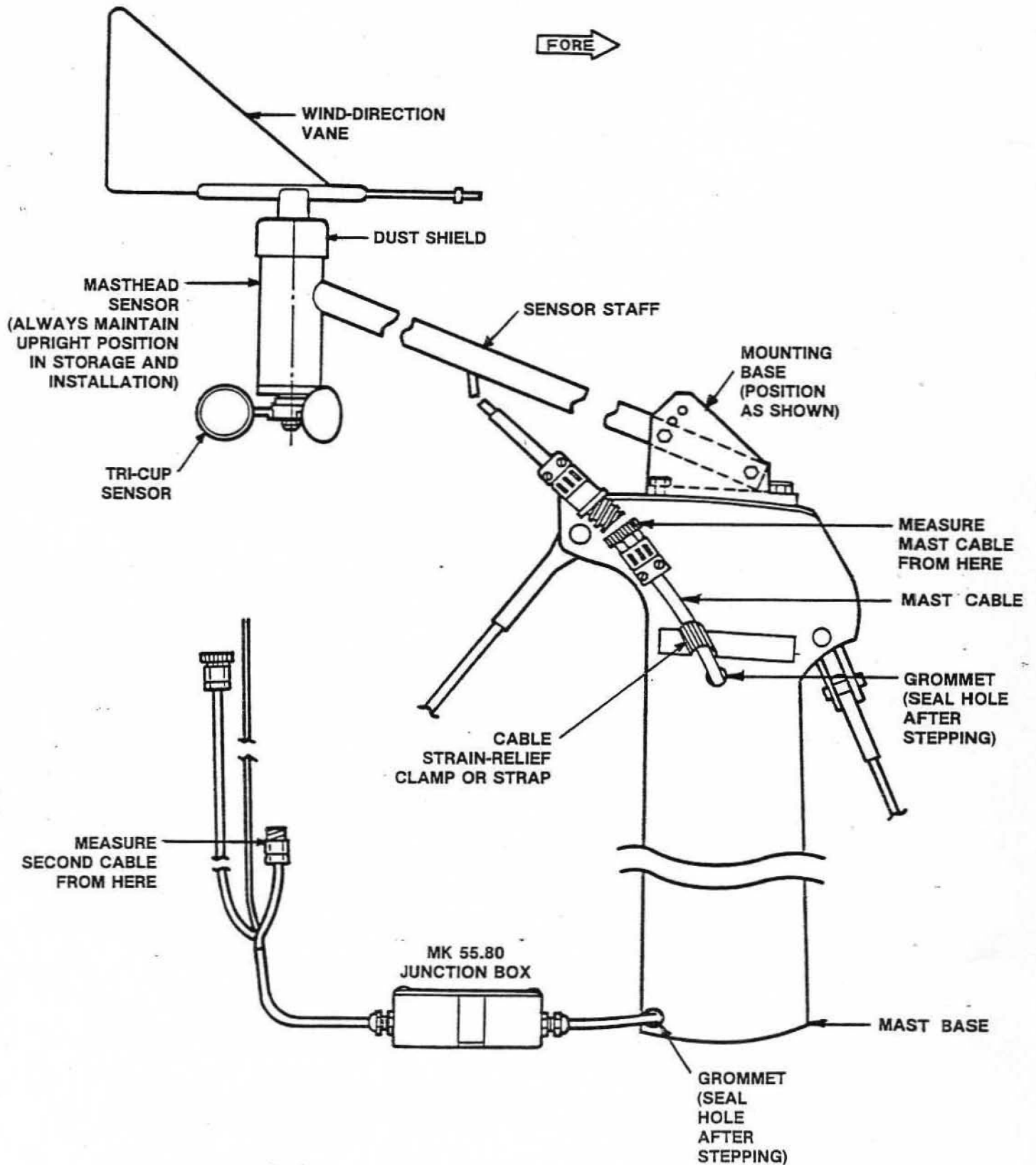


Figure 2. Installation of masthead sensor.

## 2.3 Masthead Sensor Installation Continued

### 2.3.2 INSTALLATION BEFORE STEPPING

Using the sensor's mounting base as a template, with the taller end of the base toward the stern, drill two 0.20-inch diameter holes in the end of the mast. Tap these holes with the  $\frac{1}{4}$ -20 tap. Mount the base with the taller end aft and secure loosely with the bolts and lock-washers provided.

It is not recommended that the staff, vane, and tri-cup sensor be mounted before stepping in order to avoid damage to these components.

1. If the MK 55.80 Mast-Base Junction Box is used, the mast cable must be cut into two custom lengths. These lengths can best be determined by first positioning and mounting the Junction Box in a relatively dry area near the mast step. The box is secured by its two mounting ears using  $\frac{1}{4}$ -inch hardware. Mounting ear centers can be measured at 5.600 inches or use the box's base as a template.
2. Measure the length from the top edge of the sensor's mounting base to the mast base and from the mast step to the terminal strip inside the junction box. Then add 6 inches for cable stripping. Cut the mast cable to this total length as measured from the single-connector end of the cable. This is the first cable required.
3. To make the second cable required, measure the length from the rear of the indicator's case to the terminal strip inside the junction box. Then add 6 inches for cable stripping. Cut the remaining piece of mast cable (from step 3) to this total length as measured from the dual-connector (plus ground wire) end of the cable.

NOTE: DO NOT CUT THE MAST CABLE AT THE MASTHEAD OR INSIDE THE MAST ITSELF.

## 2.3 Masthead Sensor Installation Continued

### 2.3.2 Installation Before Stepping Continued

4. Drill two 3/8-inch holes in the mast, one near the top and the other recommended near the mast base, to accommodate the mast cable. Insert a grommet in each hole; this grommet must accommodate a 3/8-inch hole and the thickness of the mast wall.
5. Run the mast cable with the single connector down the inside of the mast, starting at the masthead with the cut end, through the grommets. The connector-end must remain at the masthead. On a mast with internal halyards, protect the mast cable by first inserting a PVC (polyvinylchloride) tube down the length of the mast. Secure the tube away from the halyards. Then run the mast cable inside the tube.
6. Mount a cable strain-relief clamp or strap to the mast immediately above the grommeted cable entrance hole near the masthead. This clamp is to be placed around the mast cable to hold it secure. Once the mast is stepped, this clamp will virtually eliminate strain on the upper connectors.

### 2.3.3 INSTALLATION AFTER STEPPING AND RIGGING

Storage or shipment of the masthead sensor on its side or upside down may allow oil seepage from the vane's hydraulic damping assembly. This oil seepage is normal and will not affect operation of the sensor if it is cleaned off just prior to mounting. Pay special attention to cleaning the area between the staff and dust shield.

## 2.3 Masthead Sensor Installation Continued

### 2.3.3 Installation After Stepping and Rigging Continued

1. Before going up the mast and installing the sensor:
  - A. The wind vane's dust shield must be aligned. Turn the dust shield (see Figure 3A) until the FWD 0° notch matches the white alignment mark on the sensor's upper body.
  - B. Hold the dust shield in place. Then, if the staff will be installed pointing aft as recommended, mount the vane on top of the dust shield pointing over the staff (see Figure 3B). If the staff will point to the bow, the vane must point to the bow.
  - C. Remove the 10-32 lock-nut and washer from the bottom windspeed-end of the sensor's body. Install the tri-cup by fitting it over the remaining nut. The recessed area of the tri-cup must face upward. Replace the 10-32 lock-nut and washer and firmly tighten.
2. Take the completed masthead sensor assembly up the mast, place the staff in the mounting base, insert the mounting bolts, and proceed to adjust the staff angle until the sensor's body is perpendicular to the water. Three staff adjustment positions are provided on the sensor's mounting base. If more adjustment is required, use a shim under the mounting base.
3. With the mounting-base bolts loose, align the staff with the backstay so the sensor assembly is parallel with the fore-aft axis. Firmly tighten all mounting-base bolts.
4. Connect the masthead sensor cable connector to the mast cable connector. Dress the cable and tighten the cable strain-relief clamp or strap.

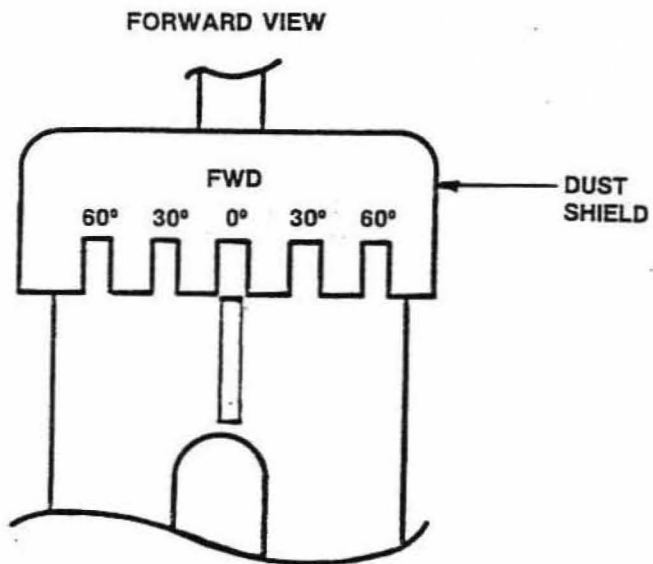


Figure 3A. Alignment of wind vane dust shield.

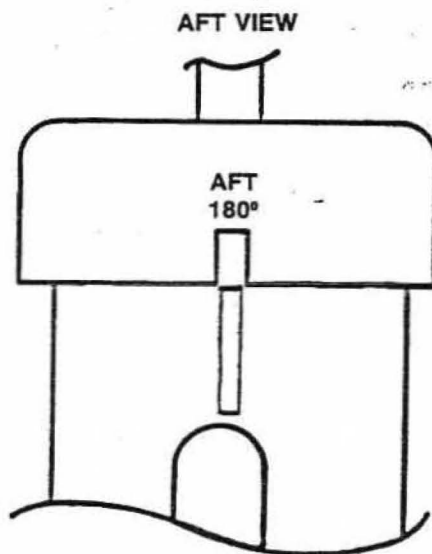


Figure 3B. Alignment of wind vane dust shield.

## 2.3 Masthead Sensor Installation Continued

### 2.3.3 Installation After Stepping and Rigging Continued

5. Seal all holes, including the grommated cable hole, with silicone sealant.
6. At the mast base, gently pull any loose cabling through the grommated hole. Seal the hole with silicone sealant.
7. Disassemble the top of the junction box and loosen both waterproof cable feedthroughs (see Figure 4). Feed the cut end of the mast cable all the way through the nearest feedthrough. Firmly tighten the feedthrough.
8. Strip the outer jacket of the mast cable back about 3 to 4 inches. Then strip each individual wire back about  $\frac{1}{2}$ -inch. Connect each wire to its nearest respective color-coded terminal (i.e., black wire to BLACK terminal, etc.). The shield of the mast cable is connected to the nearest SHIELD terminal.
9. Feed the cut end of the cable length with two connectors through the remaining junction box feedthrough. Firmly tighten the feedthrough.
10. Strip the outer jacket of this second cable back about 3 to 4 inches. Then strip each individual wire back about  $\frac{1}{2}$ -inch. Connect each wire to its remaining respective color-coded terminal (i.e., black wire to BLACK terminal, etc.). The shield of this second cable is connected to the remaining SHIELD terminal.
11. Reassemble the top of the junction box.

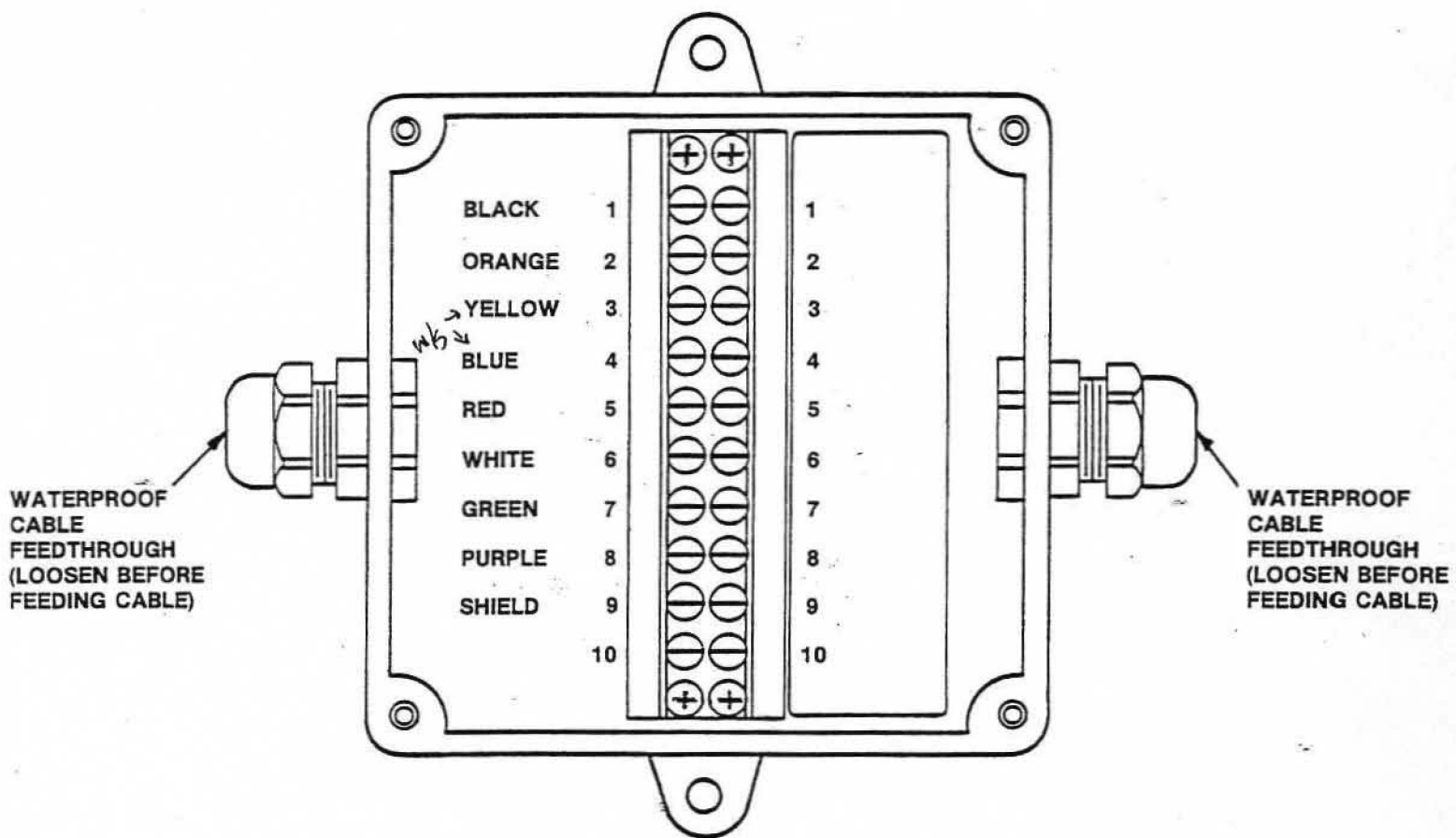


Figure 4: Junction box cable connections (top removed).