

Mounting the Speed Sensor:

Please read carefully:

The sensor is to be mounted so that it is parallel to the water flow at the boat's transom with the small "lip" of the adjustable paddle wheel support hooked against the transom's bottom. The sensor is adjustable for transoms with 0 to 16 degrees aft rake. (Refer to figure 1a, 1b and 1c).

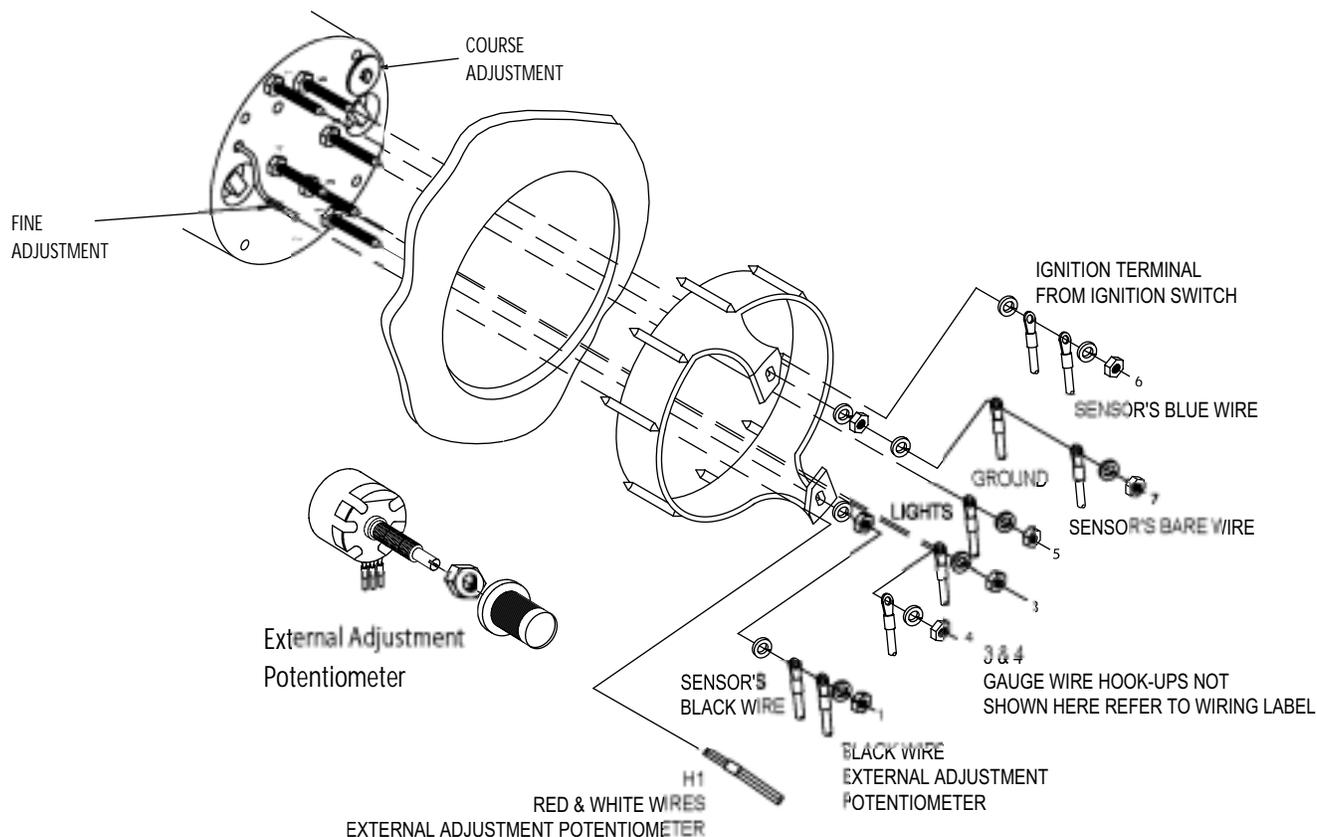
It is important that the sensor be mounted on the "up-wash" side of the prop. This is the Port side for a clockwise rotation and Starboard side for a counterclockwise rotation as viewed from aft. Ideally the sensor should be located 2 to 4 inches outside the swing of the prop and away from any , hull steps or bottom features that may disturb the smooth flow of water to the paddlewheel.

If the sensor is not properly mounted as described above inaccurate readings may result.

1. Place one of the two hex nuts supplied into each slot inside the top of the adjustable paddle wheel support. (Refer to figure 2). Insert each of the two machine screws supplied through the curved slots on the sides of the paddle wheel support housing and thread them into the nuts. Do not tighten at this time.
2. Place the sensor against the transom in the desired location and tilt the paddle wheel support in the housing

until the bottom of the paddle wheel support is parallel to the bottom of the boat with it's small "lip" hooked against the transom's bottom. (Refer to figure 1c). Tighten the two machine screws. Holding the sensor in the desired location, trace the outline of the mounting holes onto the transom. **NOTE: It may be necessary in some applications to tilt the paddlewheel support deeper than parallel to increase high-speed sensitivity.**

3. Drill two 5/32" holes about 3/4" deep in the center of the hole traces. Apply sealant to the threads of the two screws supplied and secure the sensor to the transom. Do not over tighten the screws. You are now ready to lead the sensor wire to the instrument.
4. Drill a 3/16" hole above the waterline and feed the sensor cable into the boat.
5. Break the web out of the larger (left) wire slot in the escutcheon plate. Apply sealant to the rear of the escutcheon plate, the area around the cable on both sides of the transom and to the threads of two of the screws supplied and secure the escutcheon plate to cover the cable entry into the transom. Do not over tighten the screws.
6. Lead the cable to the dash and secure. **Caution: do not lead the sensor cable adjacent to any ignition wiring as electronic noise may adversely affect the instrument.** You are now ready to connect the wiring to the instrument.



Installing and wiring the speedometer

CAUTION: Disconnect the battery during installation. Tighten nuts on the backclamp only slightly more than you can tighten with your fingers. Six **inch-pounds** of torque is sufficient. Over tightening may result in damage to the instrument and may void your warranty.

1. Be certain to use stranded, insulated wire not less than 18AWG that is approved for marine use. It is recommended that insulated wire terminals, preferably ring type, be used on all connections to the speedometer.
2. Cut a 4-3/8" dia hole in the dash and mount the speedometer with the backclamp supplied.
3. Connect a wire to the speedometer stud marked "7". Connect opposite end to the boat's electrical ground, generally available in several locations at or near the instrument panel. Connect the sensor's bare wire and secure both with a nut and lockwasher.
4. Connect a wire to the speedometer stud marked "6". Connect the opposite end to a 12VDC circuit that is activated by the ignition switch. Connect the sensor's blue wire and secure both with a nut and lockwasher.
5. Connect the sensor's black wire to the speedometer stud marked "1" and secure with a nut and lockwasher.
6. Connect a wire to the speedometer stud marked "5". Connect the opposite end to the "+" side of the boat's instrument lighting circuit. No separate ground is required for lighting. Reconnect the battery.
7. When the ignition is turned "ON" the pointer should go to zero and move when the paddle wheel is spun.

Installing the external adjustment pot to the speedometer:

1. Connect the black wire to the stud marked "7".
2. Connect the red and white wires to the "H1".

Calibration: For best results calibration should be performed in calm water with no current or tidal flow present. You will need to time your boat's run over a known distance (such as a measured mile) to calculate MPH, or compare your speed to a GPS, Loran, or Radar gun. **High speed runs should be done on plane, at cruise speed, at a constant RPM, and several times to obtain an accurate average speed to which the speedometer will be adjusted.** Runs should also be done in opposite directions and averaged to compensate for any water currents. After you are satisfied you are maintaining a known constant speed through your runs, proceed as follows.

Coarse adjustments may be necessary due to variations in hull shape and mounting limitations. The coarse adjustment is made by turning the six-position selector switch at the rear of the case. Start with the switch in position 3 or 4. Increase the setting if the speedometer reads high or decrease the setting if the speedometer reads low.

Fine adjustments are then made using the external adjustment knob. Start with the knob in the approximate center position. Turn the knob counter clockwise to lower readings and clockwise to increase readings.

NOTE: A.) To change light bulb, twist socket assembly one-eighth turn counterclockwise until it pops out. Bulb pulls straight out of assembly. It is a GE No. 194 instrument lamp.