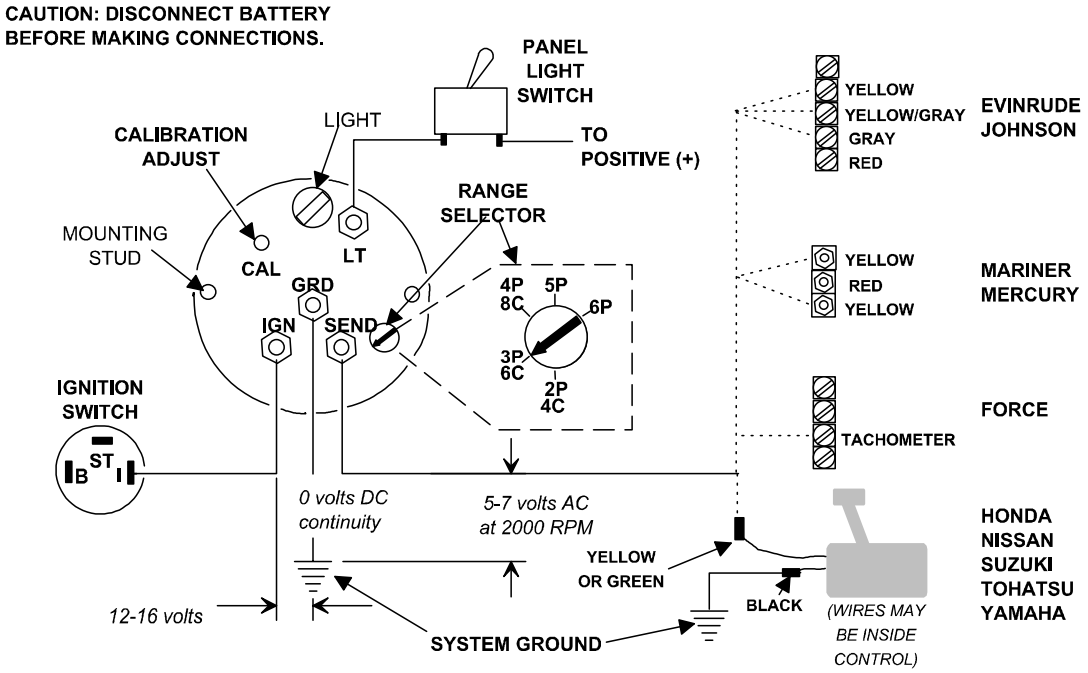
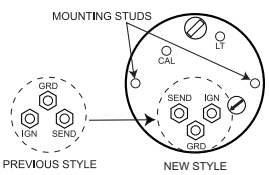
# Tachometer (Outboard Engines — 4 Through 12 Pole Alternators)

1. Outboard engine must have alternator (stator) with 4 to 12 magnetic poles. This is how the tachometer gets its signal. The tachometer will not operate on engines with magneto or lighting coil ignition systems.
2. Check all wire connections to see that they're tight and not corroded. ***NOTE:*** Some older style tachometers operate with only Ground and Sender connections. Teleflex tachs must have 12 VDC (from the ignition switch, "ON" when engine is running) to the "IGN" stud.
3. When tachometer is first turned on, pointer ***must*** go to zero ±50 RPM. If not, check connections (if OK, tachometer is probably faulty).
4. ***Voltages with engine running should be:***
   ***IGN to GND Terminal: 12 VDC minimum.***
   ***SEND to GND: 5 VAC minimum at idle.***
   If you don't get the sender-to-ground voltages shown, voltage rectifier (converts AC to DC voltage) may be weakening. Have it checked.
5. Sender wire must be connected (possibly through control) to either of two wires from alternator going to the rectifier (usually yellow or yellow/gray on U.S.-built engines).
6. Arrow on rotary selector switch must be pointed directly at a setting or the tachometer pointer will go to full scale when engine is started.
7. Evinrude/Johnson "Specials" (48, 88, 112 HP, etc.): If the pointer falls back to "Zero" when operating at about 4,000 rpm or higher, you may have to add a 2,000 ohm, 1/2 watt (or larger) resistor, connected from the "SEND" to "GND" terminal.
8. Tachometer will not operate on older Force engines with 20-pole alternator. Consult engine dealer for number of poles in your engine.
9. Dual stations: the sender will drive two tachometers. Simply connect "IGN" to "IGN", "GND" to "GND", etc. ***NOTE:*** mixing brands/types (such as 2-wire/3-wire, see paragraph 2 above) may cause problems.




*The back of your tach may look like either one of these. Please use the schematic appropriate to the appearance of your tachometer.*