

Q: How can I determine if my sending unit or gauge is causing a faulty reading in the cockpit?

A: Inspect all the connections to the gauge. This includes the connections at both ends of the sensing wire (between the sensor and the cockpit gauge), as well as the positive terminal on the gauge to be sure the gauge is receiving 12 volts.

Be sure to check for a good connection from the grounding terminal on the gauge to "engine" ground. I used to believe that the grounding terminal was only for the light in the gauge, but I learned rather recently that Stewart Warner gauges need to be grounded for the gauge itself to work.

If your wiring bundle disappears (like under the cabin sole) on the way to the cockpit and cannot be inspected, we recommend running a single cheap temporary wire directly from the sending unit to the gauge for a quick check of the circuit.

After insuring that all connections are sound, and the gauge is still not responding in any way, you can remove the wire from the sensor and touch it to the head (essentially grounding it). With the sensing wire grounded to the head, a gauge will usually move to one side of the gauge or the other. If the gauge still shows no movement, the gauge or the sending unit is probably defective.

You can make a simple functional check of the sending unit by checking the ohms (resistance) between the terminal of the sending unit and ground when the engine is cold, and then look for a change in the resistance as the engine warms. While each company uses a somewhat different recipe in terms of resistance versus particular readings on the gauge; in most cases, if the resistance in a sending unit is varying with temperature, it's probably working OK. Sending units tend to either work reliably, or not at all.

If, after insuring that the sending unit is at least functional, and that all circuits to the gauge are proper, the gauge still shows no reaction, or an obviously improper reading, it's probably time to replace the gauge.

When replacing a gauge, it's usually necessary to replace the sending unit as well as the gauge, since all manufactures use different specifications in terms of resistance versus gauge reading. You can try replacing the gauge with one by the same manufacturer in hopes that the sending unit will be compatible, but if the gauge and sending unit are quite old, the sending unit might still not be compatible with the new gauge.