



service information

ADVISORY
 BULLETIN

No. 2001-02

Circulate to: Sales Manager Accounting Service Manager Technician Parts Manager

Reference Voltage Circuit Optimax

Models Affected

MERCURY/MARINER
2001 MODEL YEAR
135 Thru 225 HP Optimax
S/N 0T178500 and Up

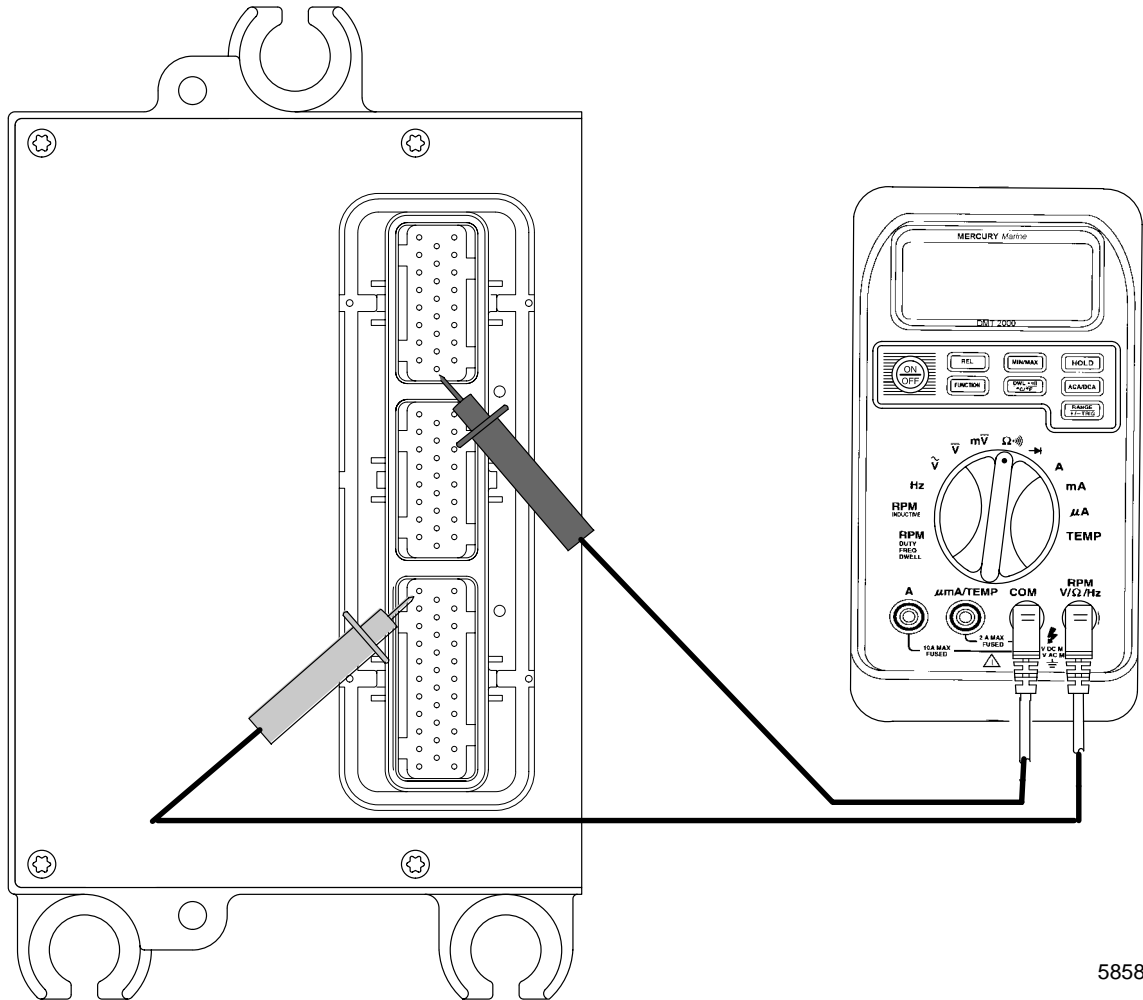
Some sensors used on Optimax engines and sensors used for SmartCraft gauges use a 5 volt reference voltage. The 5 volt source is on the PURPLE/YELLOW wire, and the BLACK/ORANGE wire is used for sensor ground.

If a boat is incorrectly wired to allow a 12 volt battery source to be connected to the PURPLE/YELLOW or BLACK/ORANGE wire/s, excessive current flow through the reference voltage circuit in the Electronic Control Module (ECM) could occur. This excessive current flow, could damage the ECM reference voltage circuit. **Example:** If an analog fuel gauge is wired to a fuel tank level sender that also had the SmartCraft sensor harness connected, you would now have a 12 volt source, connected to the 5 volt reference ground circuit.

Failure of this circuit typically results in a very high idle speed 2000 to 4500 RPM. Another indication of circuit damage is abnormal readings on the Digital Diagnostic Terminal (DDT). **Example:** 32° F [0° C] on temp sensors, high voltage reading on the Throttle Position Sensor (TPS), and warning horn on engine start up.

Correction

To confirm failure make an ohms check between the two ECM pins shown below. The reading should normally be less than 1 ohm. High resistance or an open circuit indicates a damaged ECM. Before replacing the ECM, the wiring error must be corrected, or the replacement ECM may also be damaged.



58580