MID AMERICA MOTORWORKS

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Suggested Installation Instructions for:
601-086, Coolant Temperature Sensor Test Tool (Aligator Clips)

INTRODUCTION:

The Coolant Temperature Sensor (CTS) is a thermistor (a resistor that changes value based on temperature) immersed in the engine coolant stream. The Coolant Temperature Sensor furnishes data to the computer's input section. It measures engine temperature and signals the ECM (computer) to adjust fuel mixture. The ECM applies 5 volts to the sensor. When the engine coolant is cold, the CTS resistance is high; therefore the ECM will see high voltage. As the engine coolant warms, the CTS resistance becomes less, and the voltage drops. A failure in the CTS circuit should set either a Code 14 (high temperature) or Code 15 (low temperature).

INSTALLATION AND TEST PROCEDURES:

(1.) With ignition key "OFF", disconnect ECM connector from Coolant Temperature Sensor. Refer to GM shop manual for sensor location.

(2.) Plug in the CTS Test Tool into the Coolant Temperature Sensor. CAUTION: Carefully move test jumper from side to side to align pins into place. DO NOT force test jumper into connection, as damage to pins or sensor may result.

(3.) Plug the two male terminals from the CTS Test Tool into the ECM connector.

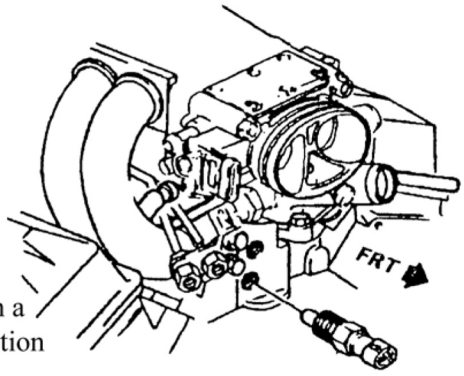
(4.) Use a digital voltmeter (10 megaohm impedance required) to measure voltage or resistance between terminals "A" (black wire) and "B" (red wire). Depending on the type of reading (voltage or resistance) you desire, the engine may or may not be running. The ignition key must be in the "ON" position.

(5.) Voltage and resistance readings may vary depending on make and model. Refer to GM shop manual for proper voltage and resistance values.

(6.) Turn the ignition key "OFF" and remove the CTS Test Tool. Re-connect ECM connector to Coolant Temperature Sensor.

Diagnostic Aid

Temperature	vs. Resistance Value
210F	185 OHMS
160F	485 OHMS
100F	1,800 OHMS
70F	3,400 OHMS
40F	7,500 OHMS
20F	13,500 OHMS
F	25,000 OHMS
-40F	100,700 OHMS



CTS Location on a Tuned Port Injection Engine

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