



Application: 1984-1993 Corvette

Part Includes

1 - Component

Idle Air Control Test Tool



Tools Needed



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INTRODUCTION:

The IAC (Idle Air Control) looks much like an oversized fuel injector. The ECM controls engine idle speed with the IAC valve. To increase the engine speed, the ECM retracts the IAC valve pintle away from its seat, allowing more air to bypass the throttle bore. To decrease idle speed, it extends the IAC valve pintle toward the seat, reducing bypass air flow.

Current is controlled by pulsing dc current through the IAC motor. The ECM (Computer) pulses current on and off at a fixed frequency but varies the ratio of "off-time" to "on-time" (duty cycle). The more time the current is pulsed on, the higher the average current flow. The IAC responds to the average current, moving a distance proportional to the amount of current. More current equals higher idle speed. Current control types can be monitored by measuring the duty cycle of the signal the ECM sends to the IAC motor, by measuring the average dc voltage, or by measuring the average current.

The IAC-1 is used to measure IAC motor coil resistance. NEVER ATTACH VOLTAGE TO THE IAC MOTOR. Refer to the GM Shop Manual.

INSTALLATION AND TEST PROCEDURES:

STEP 1.

With ignition "OFF", disconnect ECM connector from Idle Air Control (IAC) motor. Refer to the GM Shop Manual for IAC location.

STEP 2.

Plug in the IAC Test Tool. CAUTION: Carefully move test jumper from side to side to align pins into place. DO NOT force test jumper into connection. Damage to pins or sensor may result.

STEP 3.

Using a digital voltmeter (10 megaohm impedance required), Mid America Item 601-072 measures the resistance between terminals "A" (red wire) and "B" (black wire). Then measure the resistance between terminals "C" (green wire) and "D" (yellow wire). Both IAC motor coils should read infinite. If they do, the AC is functioning properly. If not, the IAC is defective.



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Description (cont.)

STEP 4.

Now measure the resistance between terminals "B" (black wire) and "C" (green wire). Then measure the resistance between terminals "A" (red wire) and "D" (yellow wire). Both IAC motor coils should read infinite. If they do, the IAC is functioning properly. If not, the IAC is defective.

STEP 5.

Remove the IAC Test Tool and re-connect the ECM connector to the Idle Air Control.