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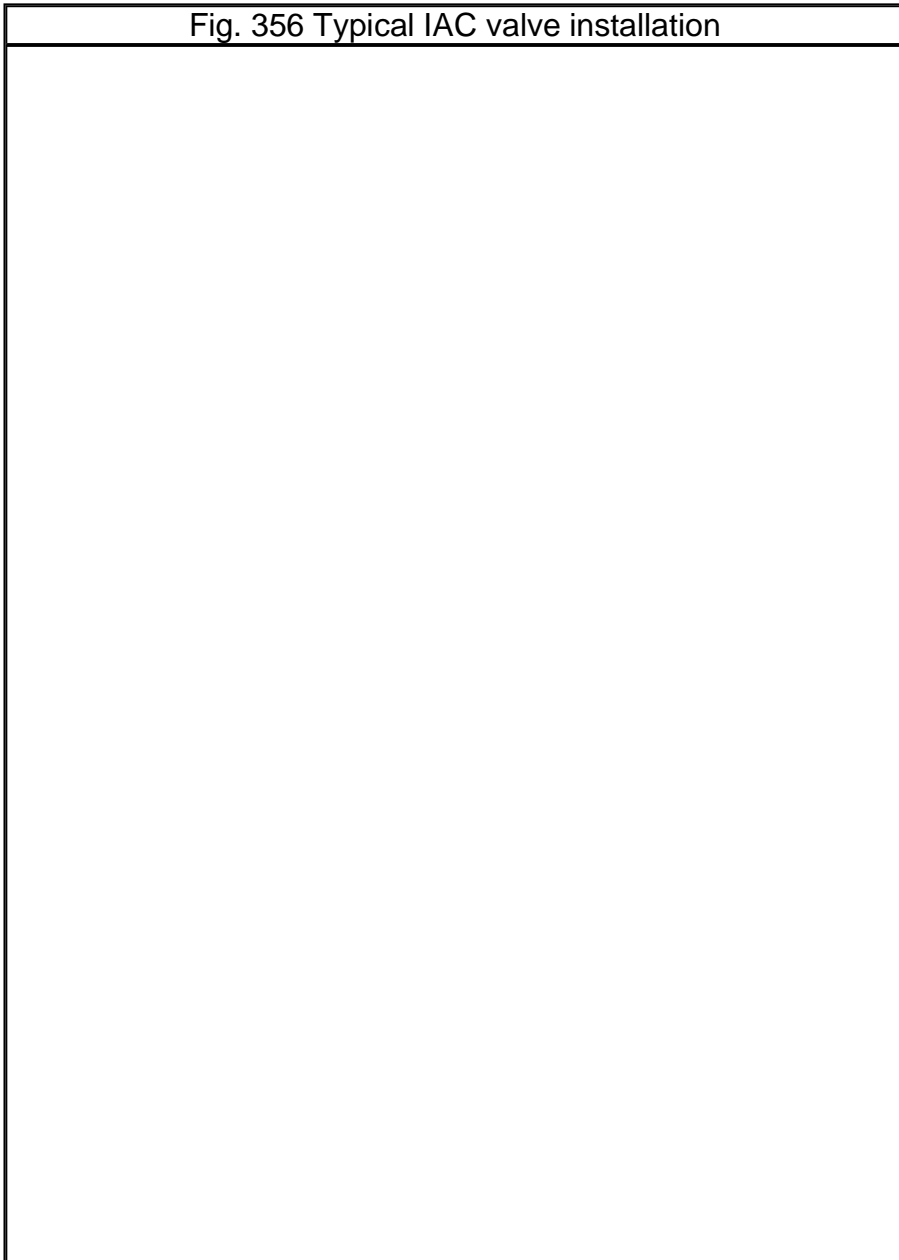
SHOWCASE HONDA

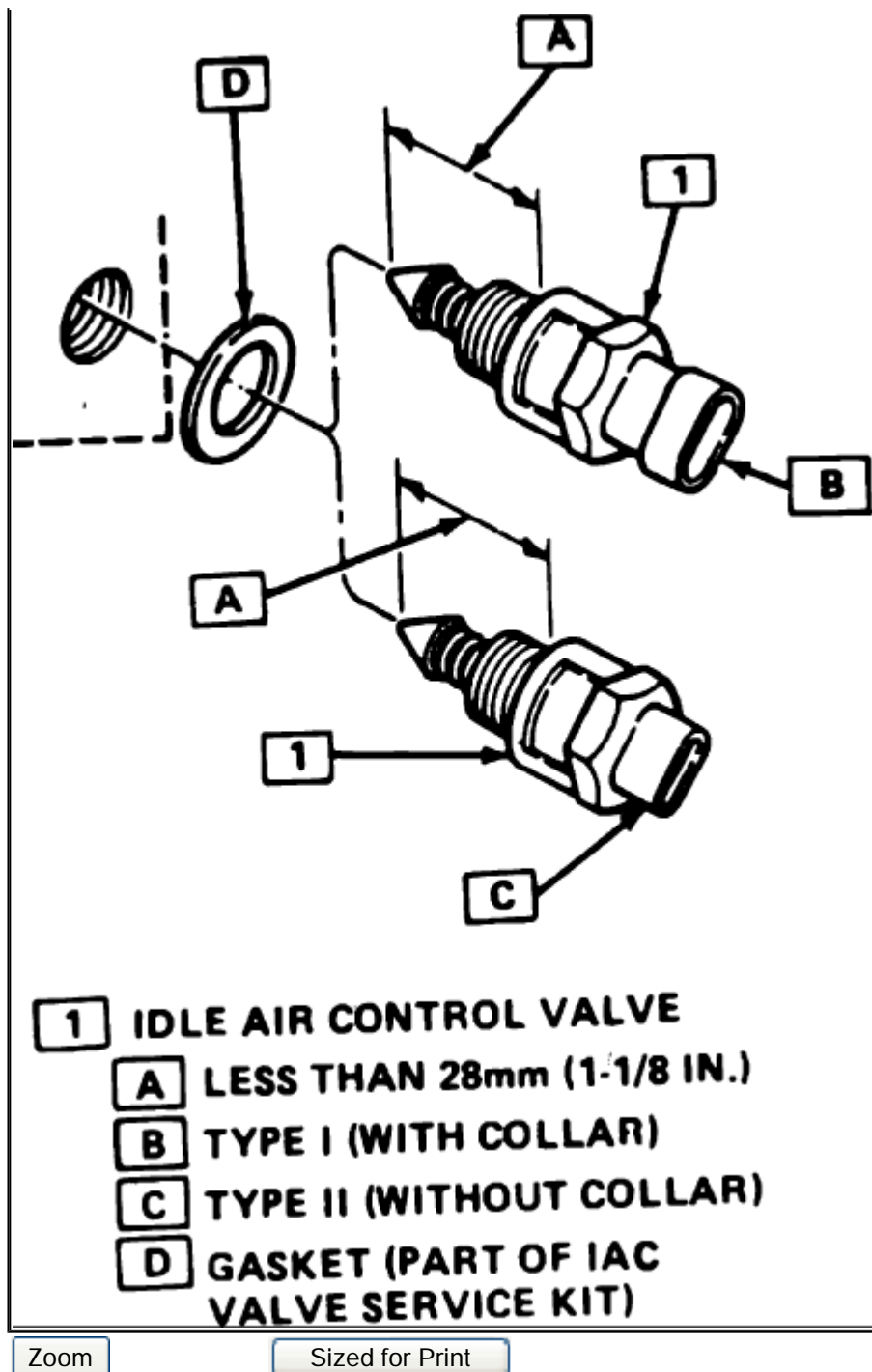
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Conversion Calculator

**1985 Chevrolet Corvette V8-350 5.7L**[Vehicle Level](#) → [Powertrain Management](#) → [Computers and Control Systems](#) → [Idle Speed/Throttle Actuator - Electronic](#) → [Service and Repair](#) ←**Service and Repair**[Notes](#)**Removal**

1. Disconnect IAC valve electrical connector.
2. Remove IAC valve attaching screws, if equipped then the valve using a suitable 1-1/4 inch wrench and discard gasket.

**Fig. 356 Typical IAC valve installation**



### Installation

Prior to installation, identify IAC valve as being either Type 1 or Type 2, **Fig. 356**. If dimension "A" is greater than 1-1/8 inch, reduce as follows:

On Type 1, exert a firm pressure on conical valve to retract it.

On Type 2, while turning valve in clockwise rotation, compress retaining spring from conical valve. Return spring to original position with straight part of spring end aligned with flat surface of valve.

1. Install IAC valve in [throttle body](#) using new gasket. Torque IAC valve to 13 ft. lbs.

2. Connect IAC valve electrical connector.
3. Start engine and allow to reach operating temperature.
4. On 4-110 (1.8L) and 4-122 (2.0L) Turbo engines, IAC valve will reset [idle speed](#) when vehicle is driven at 30 MPH. On V6-181 (3.0L) and V6-231 (3.8L) engines, [ECM](#) will reset idle speed when ignition is turned On, then Off. On V6-173 (2.8L) and V8 engines, the ECM will reset the valve when the engine is started, then the ignition is switched off.

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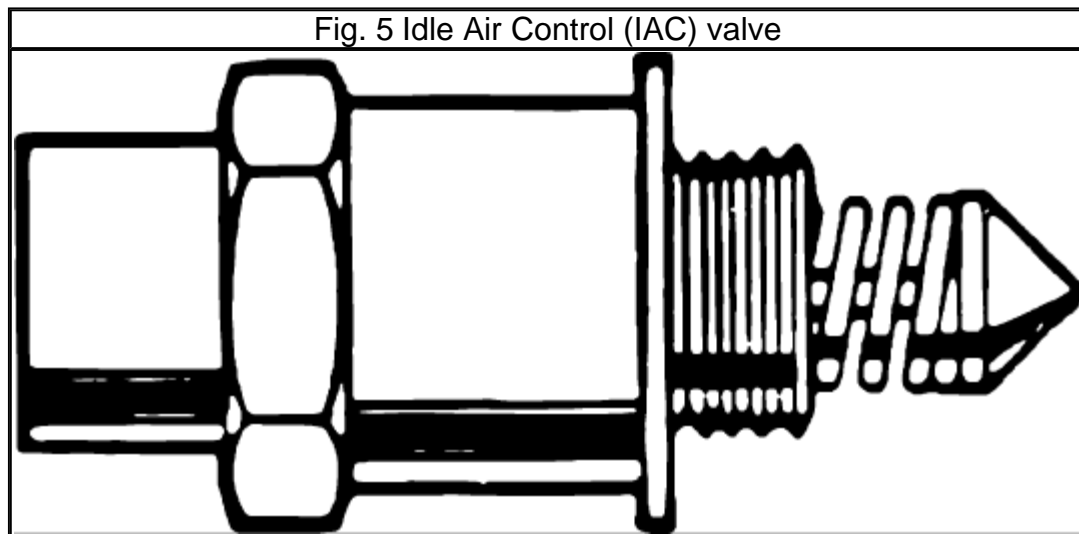
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1985 Chevrolet Corvette V8-350 5.7L

Vehicle Level → Powertrain Management → Computers and Control Systems → Idle Speed/Throttle Actuator - Electronic → Description and Operation ←

Description and Operation

Notes



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The Idle Air Control (IAC) Valve is located in the [throttle body unit](#) and is used to control engine [idle speed](#). The valve operates by allowing air to bypass the throttle valve in the throttle body unit. If engine RPM is too low, the [ECM](#) will move the IAC conical valve in to allow more air to bypass the throttle valve. If engine RPM is too high, the ECM will move the IAC conical valve out to allow less air to bypass the throttle valve, **Fig. 5. If IAC connector is removed with the engine running, the idle set RPM may be lost. To reset idle set RPM, turn ignition On, then Off.**



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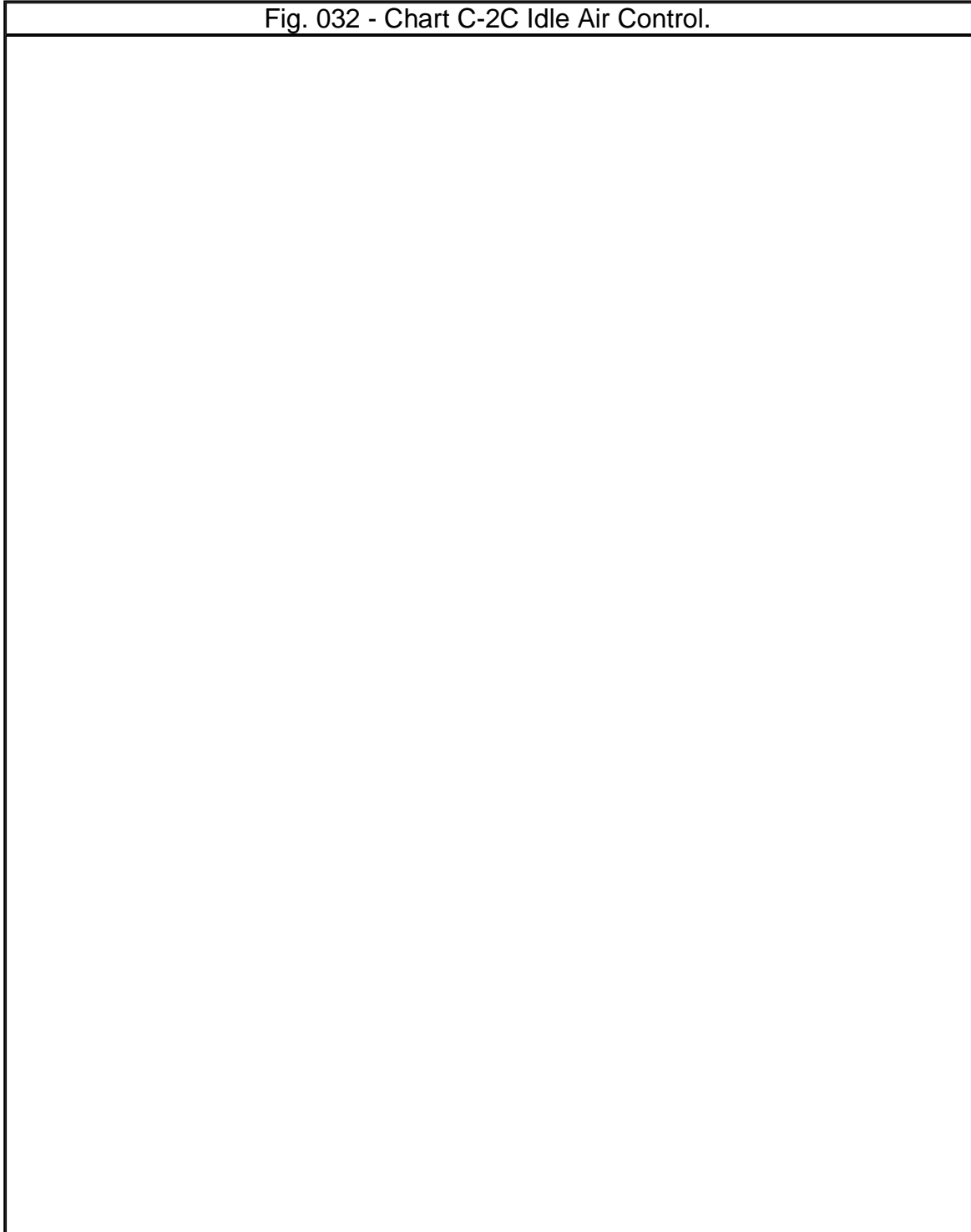
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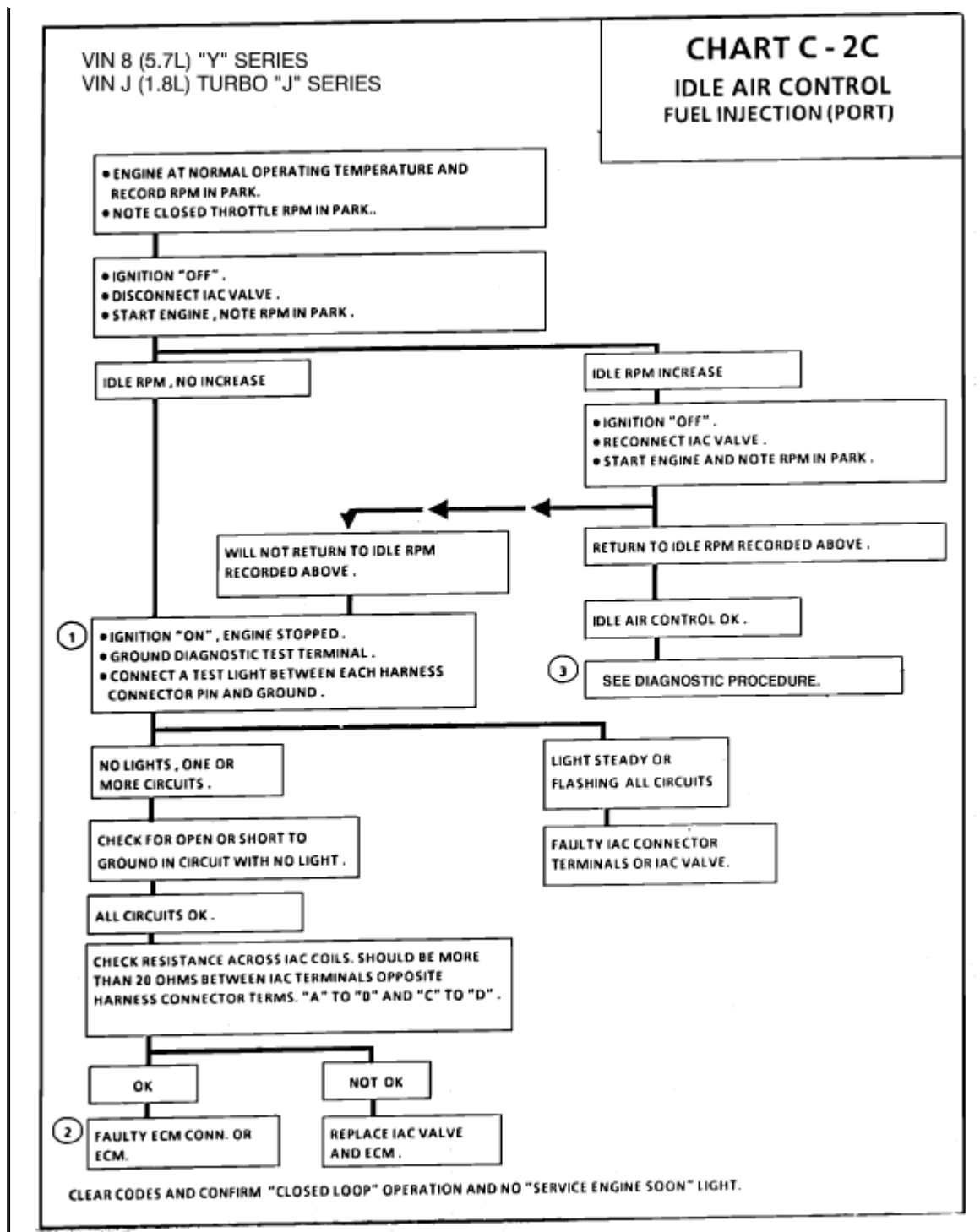
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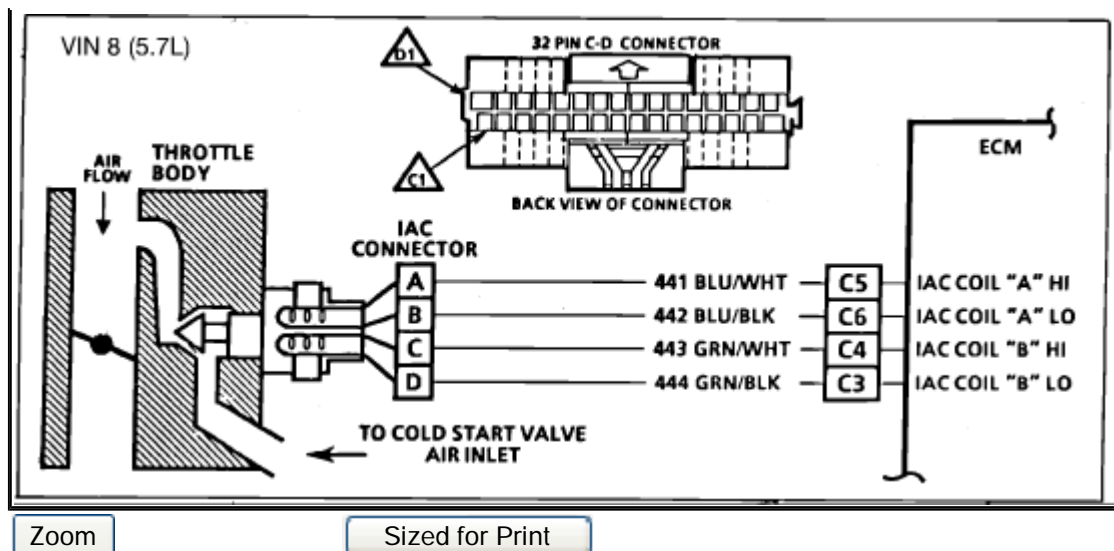
**Testing and Inspection**

[Notes](#)

Fig. 032 - Chart C-2C Idle Air Control.







### CHART C-2C, IDLE AIR CONTROL

The [ECM](#) will control engine [idle speed](#) by moving the IAC valve to control air flow around the throttle plate. It does this by sending voltage pulses to the proper motor winding for each IAC motor. This will cause the motor shaft and valve to move "IN" or "OUT" of the motor a given distance for each pulse received. ECM pulses are referred to as "counts".

- To increase [idle speed](#) - [ECM](#) will send enough counts to retract the IAC valve and allow more air to flow through the idle air passage and bypass the throttle plate until idle speed reaches the proper RPM. This will increase the ECM counts.
- To decrease [idle speed](#) - [ECM](#) will send enough counts to extend the IAC valve and reduce air flow through the idle passage around the throttle plate. This will reduce the ECM counts.

Each time the engine is started and then the ignition is turned off the [ECM](#) will reset the IAC valve. This is done by sending enough counts to seat the valve. The fully seated valve is the ECM reference Zero. A given number of counts are then issued to open the valve, and normal ECM control of IAC will begin from this point. The number of counts are then added by the ECM to increase [idle speed](#), and subtracted to decrease. This is how the ECM knows what the motor position is for a given idle speed.

The [ECM](#) uses the following information to control [idle speed](#).

- Battery voltage
- Coolant Temperature
- Mass Air Flow ([MAF](#))
- [Throttle Position Sensor](#)
- Engine Speed
- A/C clutch signal

Don't apply battery voltage across the IAC motor terminals. It will permanently damage the IAC motor windings.

1. Be sure to disconnect the IAC valve prior to this test. The test light will confirm the [ECM](#) signals by a steady or flashing light, all circuits.
2. Before replacing an [ECM](#), be sure to check the resistance at the IAC motor windings. Failure to do so may result in a repeat ECM failure.
3. **Diagnostic Aids**

Engine [idle speed](#) can be adversely affected by the following:

- a. [Park/Neutral Switch](#) - If [ECM](#) thinks the car is always in neutral, then idle will not be controlled to the specified RPM when in drive range.
- b. Leaking injector(s) will cause fuel imbalance and poor idle quality due to excess fuel. See Chart A-7.
- c. Vacuum leaks can cause higher than normal idle.
- d. When the throttle shaft or [throttle position sensor](#) is binding or sticking in an open throttle position, the [ECM](#) does not know if the vehicle has stopped and does not control idle.
- e. In addition to electrical control of [EGR](#), be sure to examine the [EGR valve](#) for proper seating.
- f. Faulty battery cables can result in voltage variations. The [ECM](#) will try to compensate, which results in erratic [idle speeds](#).
- g. The [ECM](#) will compensate for A/C compressor clutch loads. Loss of this signal would be most apparent in neutral.
- h. Contaminated fuel can adversely affect idle.