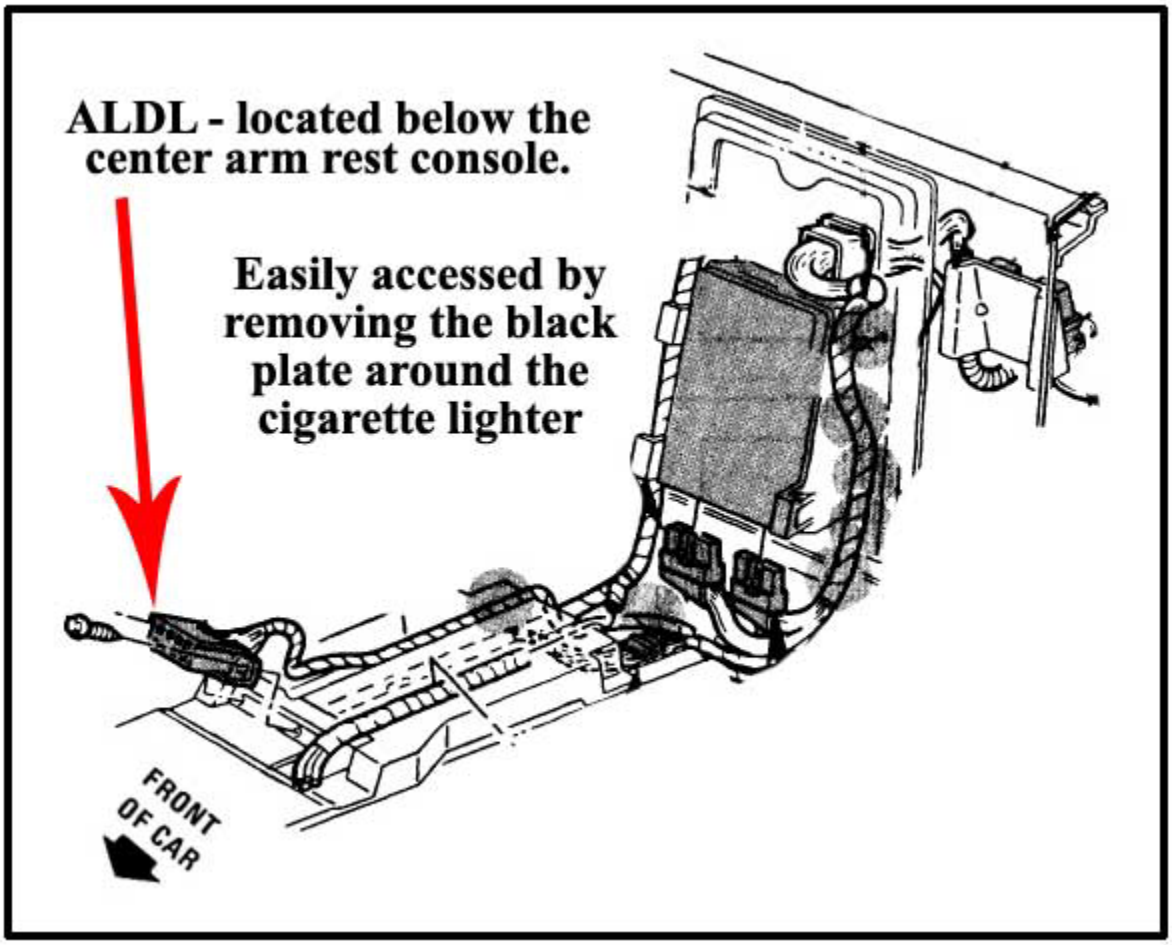
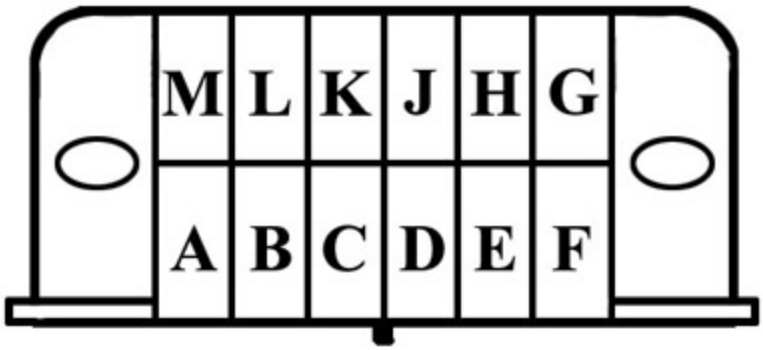
Testing Codes & Understanding the ALDL Connector



Terminal Identification
A = Ground
B = Code Test
D = Check Engine Light
F = Automatic TCC
G = Fuel Pump Test

These terminals are used to test for engine trouble codes, fuel pump operations, engine light functionality and automatic TCC operation

(Figure 1 - ALDL Connector)



Testing for Engine Trouble Codes
With the ignition "off", insert a jumper wire between the A & B terminals. Turn the ignition to the "run" position but do not start the car. The check engine light will start a sequence of blinks.
For example: 1 flash, pause, 2 flashes
This sequence would denote code 12 which should be present every time you test for codes. Any stored trouble codes will follow code 12.

View the ECM Trouble Codes link in the Tech section for a full list of codes and their possible causes.

Trouble codes	Circuit or system	Probable cause
Code 15 (1 flash, pause, 5 flashes)	Coolant sensor circuit	See Code 14, then check the wiring connections at the ECM.
Code 21 (2 flashes, pause, 1 flash)	Throttle position sensor	Check for a sticking or misadjusted TPS plunger.
Code 22 (2 flashes, pause, 2 flashes)	Throttle position sensor	Check the TPS adjustment (Chapter 4). Check the ECM connector. Replace the TPS (Chapter 4).*
Code 23 (V6 only) (2 flashes, pause, 3 flashes)	Manifold air temperature	Check the MAT sensor, wiring and connectors for an open sensor circuit. Replace the MAT sensor.*
Code 24 (2 flashes, pause, 4 flashes)	Vehicle speed sensor	A fault in this circuit should be indicated only when the vehicle is in motion. Disregard if it is set when the drive wheels are not turning. Check the connections at the ECM. Check the TPS setting.
Code 25 (V6 only) (2 flashes, pause, 5 flashes)	Manifold air temperature	Check the voltage signal from the MAT sensor to the ECM. It should be above 4 volts.
Code 32 (V6 only) (3 flashes, pause, 2 flashes)	EGR system	The EGR solenoid should not be energized and vacuum should not pass to the EGR valve. The diagnostic switch should close at about 2 inches of vacuum. With vacuum applied, the switch should close. Replace the EGR valve.*
Code 33 (3 flashes, pause, 3 flashes)	MAP sensor	Check the vacuum hoses from the MAP sensor. Check the electrical connections at the ECM. Replace the MAP sensor.*
Code 34 (3 flashes, pause, 4 flashes)	MAP sensor	Code 34 will set when the signal voltage from the MAP sensor is too low. Instead the ECM will substitute a fixed MAP value and use the TPS to control fuel delivery. Replace MAP sensor.
Code 35 (3 flashes, pause, 5 flashes)	Idle Air Control	Code 35 will set when the closed throttle speed is 50 rpm above or below the correct idle speed for 30 seconds. Replace the IAC.*
Code 42 (4 flashes, pause, 2 flashes)	Electronic Spark timing	If the vehicle will not start and run, check the wire leading to ECM terminal 12. **Note:** *A malfunctioning HEI module can cause this trouble code*. Check the EST wire (terminal 19 at the ECM) leading to the HEI module (E terminal). Check all distributor wires. Check the wire leading from EST terminal A to ECM terminal 12 and the wire from EST terminal A to ECM terminal 3. Replace the HEI module.*
Code 44 (4 flashes, pause, 4 flashes)	Lean exhaust	Check the ECM wiring connections, particularly terminals 15 and 8. Check for vacuum leakage at the TBI base gasket, vacuum hoses or the intake manifold gasket. Replace the oxygen sensor.*
Code 45 (4 flashes, pause, 5 flashes)	Rich exhaust	Check the evaporative charcoal canister and its components for the presence of fuel. Replace the oxygen sensor.*
Code 51 (5 flashes, pause, 1 flash)	PROM	Make sure that the PROM is properly installed in the ECM. Replace the PROM.*
Code 52 (V6 only) (5 flashes, pause, 2 flashes)	Fuel CALPAK	Check the CALPAK PROM to insure proper installation. Replace the PROM.*
Code 53 (V6 only) (5 flashes, pause, 3 flashes)	System over-voltage	Code 53 will set if the voltage at ECM terminal B2 is greaterthan 17.1 volts for 2 seconds. Check the charging system.
Code 55 (5 flashes, pause, 5 flashes)	ECM	Be sure that the ECM ground connections are tight. If they are, replace the ECM.*

Test the Automatic TCC Circuit

Terminal F is used to test the TCC circuit in the automatic transmission.

Fuel Pump Test

Terminal G is used to test the operation of the fuel pump without removing the tank or unplugging the relay.
Apply 12 volts directly to terminal G and the fuel pump should run. This makes it easier to see if a pump is functional and provides the correct amount of fuel pressure. This can also be helpful when trying to drain old fuel. You can disconnect the fuel feed line, run it into a suitable container and activate the pump in order to completely drain the tank & lines.