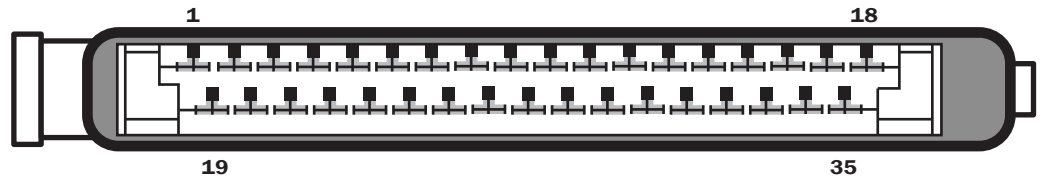




Diagnose Follow-up Procedures

* DME Harness Pin Assignment*

* This 35 Pin Assignment sheet will help you identify the correct pin location and signals necessary for the right function of your DME.



| PIN | SIGNAL | COMPONENT / FUNCTION | SIGNAL |
|-----|--------|-----------------------------------------|-------------------------------------------------------------|
| 1 | output | Ignition Coil | Primary signal, ignition coil |
| 2 | input | Idle switch | Ground while throttle closed |
| 3 | input | Full Throttle switch | Ground while throttle fully open |
| 4 | input | Starter terminal 50 | Battery voltage (+) during cranking |
| 5 | | Ground | Shielding for reference sensor |
| 6 | input | Volume Air flow sensor | Intake Air Temperature (IAT) sensor signal |
| 7 | input | Volume Air flow sensor | Air flow sensor Potentiometer |
| 8 | input | Crankshaft speed (rpm) sensor | Crankshaft speed sensor (-) |
| 9 | output | Volume Air flow sensor | Reference signal (5 volts) to Volume Air flow sensor |
| 10 | | Bridge to ground (California cars only) | DME ground to intake manifold runner |
| 11 | | Tachometer/up-shift indicator | Terminal 1up-shift indicator light |
| 12 | | Test connector A | Terminal A in test connector |
| 13 | output | Cylinder head temperature sensor | Reference signal (5 volts) to cylinder head temperature |
| 14 | output | Injection time signal | Ground pulse with engine running (Injectors 1,2 and 3) |
| 15 | output | Injection time signal | Ground pulse with engine running (Injectors 4,5 and 6) |
| 16 | | Ground | DME ground to intake manifold runner |
| 17 | | Ground | DME ground to intake manifold runner |
| 18 | input | DME main/fuel pump relay terminal 87 | Battery voltage (+) from main/fuel pump relay to ECM |
| 19 | | Ground | DME ground connection on # 1 intake manifold runner |
| 20 | output | DME relay terminal 85b | Ground signal to terminal 85b of main/fuel pump relay |
| 21 | output | Tachometer/up-shift indicator | Up-shift indicator light (term 2), where applicable |
| 22 | output | Volume Air flow sensor (terminal 1) | Variable voltage signal (0-5 volts) when vane door moves |
| 23 | | Oxygen sensor wire shield | Shielded ground for oxygen sensor and speed sensor |
| 24 | input | Oxygen sensor | Variable voltage signal with engine running (0-1 volt) |
| 25 | output | Reference sensor | Reference sensor (-) |
| 26 | input | Reference sensor | Reference sensor (+), voltage signal (variable) with engine |
| 27 | input | Crankshaft speed (rpm) sensor | Crankshaft speed sensor (+), voltage variable with engine |
| 28 | input | High altitude switch | Ground signal from altitude switch when switch is closed |
| 29 | input | Air conditioner on/off | A/C temperature switch |
| 30 | | Vacant | Open |
| 31 | | Vacant | Open |
| 32 | | Vacant | Open |
| 33 | output | Idle speed control valve | Idle speed control valve(open signal) |
| 34 | output | Idle speed control valve | Idle speed control valve(Closed signal) |
| 35 | input | Main/fuel pump relay terminal 87 | Battery voltage (+) from terminal 87 main/fuel pump relay |



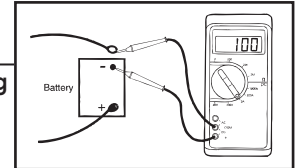
Diagnose Follow-up Procedures

DME Harness Electrical Tests

* It is the sole responsibility of the user to perform these tests. Please inform yourself on how to operate your testing equipment before attempting any diagnostics. Not following these guidelines will result in damages to your sensors, harness or DME on your car.

TOOLS NEEDED

•Digital Multimeter: capable of measuring VDC - OHM - Diode Continuity



| COMPONENT OR CIRCUIT | TEST TERMINALS | TEST CONDITIONS | CORRECT TEST VALUE |
|---------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage supply to ECM | 18 and Ground 35 and Ground | Ignition ON | Battery Voltage (approximately 12 volts) |
| Main Grounds | 5 and Ground 10 and Ground 16 and Ground 17 and Ground 19 and Ground | Ignition OFF | Continuity |
| Fuel pump relay control | 20 and Ground | Ignition ON | Fuel pump runs (audibly) when terminal 20 is touched to ground |
| Ignition coil | 1 and Ground | Key in Start Position | Pulse voltage signal |
| Starter input (terminal 50) | 4 and Ground | Actuate Starter | 8 volts minimum |
| Full Throttle switch | 3 and Ground 3 and Ground | Throttle closed or opened partially. Throttle fully open | No continuity Continuity |
| Idle switch | 2 and Ground | Throttle closed Open throttle 1mm | No continuity Continuity |
| Air temperature sensor | 6 and 22 | Ignition OFF | Resistance varies with temp.: 20°C (68°F) 2000-3000 ohms 80°C (176°F) 250-400 ohms |
| Idle speed control valve | 34 and 33 | Ignition OFF | 40 Ω |
| Tachometer/up-shift light | 11 and 21 | Ignition OFF | Continuity |
| Crankshaft speed (rpm) sensor | 8 and 27 | Ignition OFF | 0.6 to 1.6 kΩ |
| Reference (TDC) sensor | 25 and 26 | Ignition OFF | 0.6 to 1.6 kΩ |
| Cylinder head temperature sensor | 13 and Ground | Ignition OFF | Resistance varies with temp.: 0°C (32°F):4.4 – 6.8 kΩ 15° - 30°C (60° - 85°F):1.4 – 3.6 kΩ 40°C (105°F):1.0 – 1.3 kΩ 80°C (175°F):250 – 390 Ω 100°C (212°F):160 – 210 Ω 130°C (265°F):90 Ω |
| Fuel Injector control (Injectors 1,2 and 3) | 14 and Ground | Ignition ON | Fuel injectors must click when terminal 14 is touched to ground |
| Fuel Injector control (Injectors 4,5 and 6) | 15 and Ground | Ignition ON | Fuel injectors must click when terminal 15 is touched to ground |
| Volume Air flow sensor | 7 and 9 | Move sensor vane by hand or actuate starter | Resistance must fluctuate |
| Volume Air flow sensor | 22 and Ground | Ignition ON | Variable voltage signal (0-5 volts) |
| High altitude switch | 28 and Ground | Ignition OFF | Continuity |
| Oxygen sensor | 24 and Ground | Connect green oxygen sensor wire to ground | Continuity |
| Air conditioner ON Signal | 29 and Ground | Ignition ON A/C switch ON | Battery voltage |