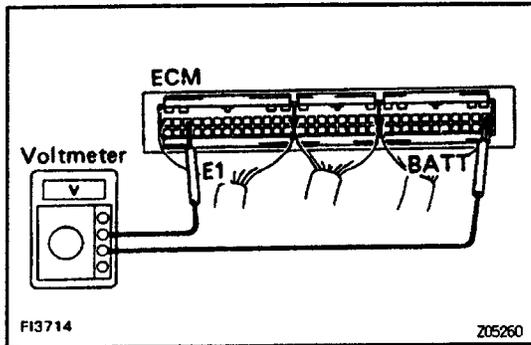


ENGINE CONTROL MODULE (ECM)

ENGINE CONTROL MODULE (ECM)

INSPECTION

HINT: The MFI circuit can be checked by measuring the voltage and resistance at the wiring connectors of the engine control module (ECM).



1. INSPECT VOLTAGE OF ENGINE CONTROL MODULE (ECM)

Check the voltage between each terminal of the wiring connectors.

- Turn the ignition switch ON.
- Measure the voltage at each terminal.

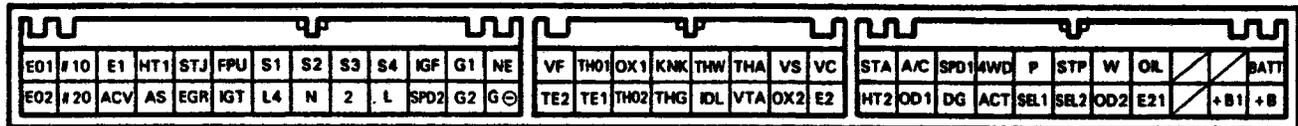
HINT:

- Do all voltage measurements with the connectors connected.
- Verify that the battery voltage is 11 V or more when the ignition switch is ON.

ECM Wiring Connectors Voltage

| Terminals | Condition | | STD voltage |
|------------------------|--|--|------------------|
| BATT - E1 | - | | 9 - 14 |
| +B - E1 | Ignition SW ON . | | |
| +B1 - E1 | | | |
| IDL - E2 (E21) | Ignition SW ON | Throttle valve open | 9 - 14 |
| VC - E2 (E21) | | - | 4.5 - 5.5 |
| VTA - E2 (E21) | | Throttle valve fully closed (Throttle opener must be cancelled first) | 0.3 - 0.8 |
| | | Throttle valve fully open | 3.2 - 4.9 |
| VC - E2 (E21) | Ignition SW. ON | - | 4.5 - 5.5 |
| VS - E2 (E21) | | Measuring Plate fully closed | 4.0 - 5.5 |
| | | Measuring plate fully open | 0.2 - 0.5 |
| | Idling | | 2.3 - 2.8 |
| | 3,000 rpm | | 0.3 - 1.0 |
| THA - E2 (E21) | Ignition SW ON | Intake air temperature 20°C (68°F) | 0.5 - 3.4 |
| THW - E2 (E21) | Ignition SW 4N | Engine coolant temperature 80°C (176°F) | 0.2 - 1.0 |
| STA - E1 | Cranking | | 6 V or more |
| #10 - E01 #20 - E02 | Ignition SW ON | | 9 - 14 |
| IGT - E1 | Idling | | Pulse generation |
| W - E1 | No trouble (malfunction indicator lamp off) and engine running | | 9 - 14 |
| STJ - E1 | Cranking | Engine coolant temperature 80°C (176°F) | 6 V or more |
| STP - E1 | Stop light switch ON | | 7.5 - 14 |

Engine Control Module (ECM) Terminals



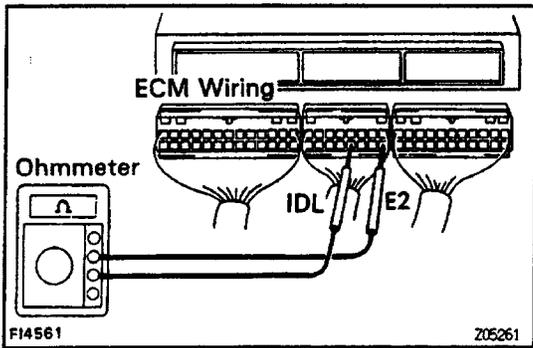
2. INSPECT RESISTANCE OF ENGINE CONTROL MODULE (ECM)

NOTICE:

- Do not touch the engine control module (ECM) terminals.
- The tester probe should be inserted into the wiring connector from the wiring side.

Check the resistance between each terminal of the wiring connectors.

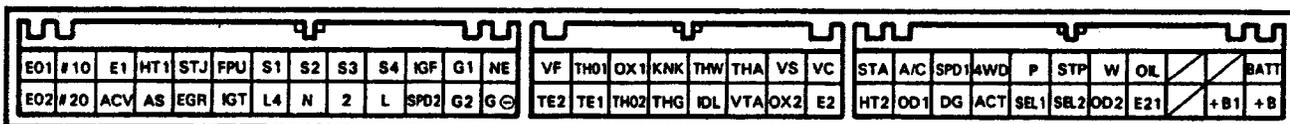
- Disconnect the connectors from the engine control module (ECM).
- Measure the resistance at each terminal.



ECM Wiring Connectors Resistance

| Terminals | Condition | Resistance (Ω) |
|----------------|--|----------------|
| IDL - E2 (E21) | Throttle valve open | Infinity |
| | Throttle valve fully closed (Throttle opener must be cancelled first) | 2.3 or less |
| VTA - E2 (E21) | Throttle valve fully open | 3.1 - 12.1 |
| | Throttle valve fully closed (Throttle opener must be cancelled first) | 0.47 - 6.1 |
| VC - E2 (E21) | Volume air flow meter connector disconnected | 3.9 - 9.0 |
| THA - E2 (E21) | Intake air temperature 20°C (68°F) | 2 - 3 |
| THW - E2 (E21) | Engine coolant temperature 80°C (176°F) | 0.2 - 0.4 |
| +B - E1 | - | 0.2 - 0.4 |
| VC - E2 (E21) | Throttle position sensor connector disconnected | 0.2 - 0.4 |
| VS - E2 (E21) | Measuring plate fully closed | 0.2 - 0.6 |
| | Measuring plate fully open | 0.02 - 1.20 |
| G1, G2 - G ⊖ | Cold (-10 - 50°C, 14 - 122°F) | 0.125 - 0.200 |
| | Hot (50 - 100°C, 122 - 212°F) | 0.160 - 0.235 |
| NE - G ⊖ | Cold (-10 - 50°C, 14 - 122°F) | 0.155 - 0.250 |
| | Hot (50 - 100°C, 122 - 212°F) | 0.190 - 0.290. |

Engine Control Module (ECM) Terminals



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