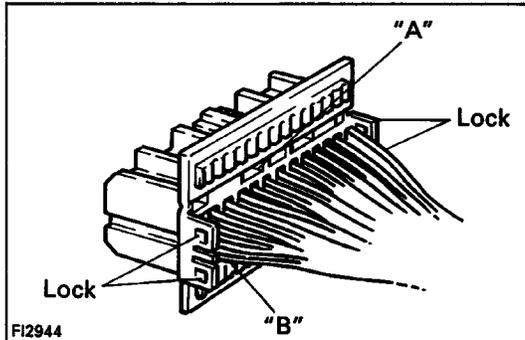


Electronic Control Module (ECM)

INSPECTION OF ECM

HINT: The MR and SFI circuit can be checked by measuring the resistance and voltage at the wiring connectors of the ECM.



FI2944

1. PREPARATION

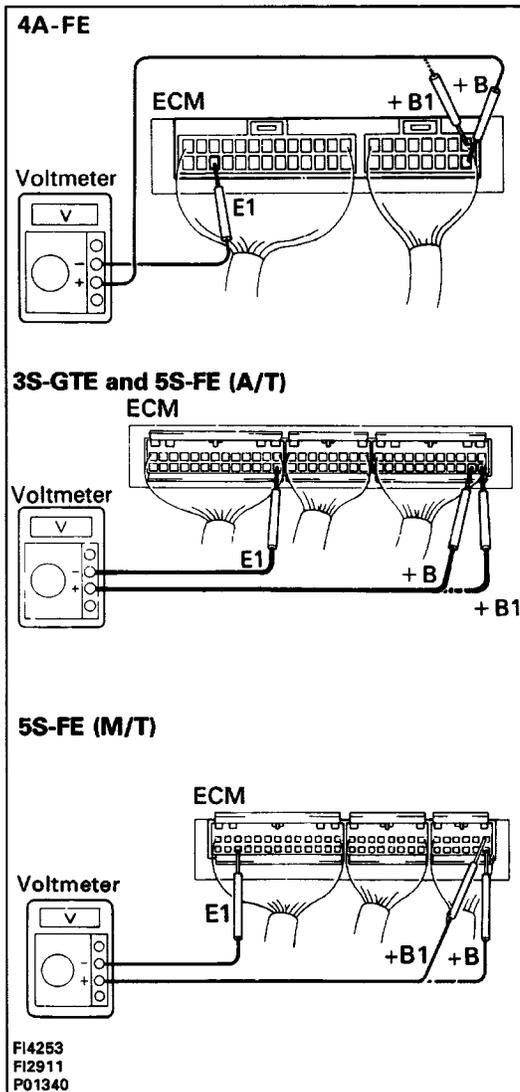
- Disconnect the connectors from the ECM.
- Remove the locks as shown in the illustration so that the tester probe(s) can easily come in.

NOTICE: Pay attention to sections "A" and "B" in the illustration which can be easily broken.

2. INSPECT VOLTAGE OF ECM

Check the voltage between each terminal of the wiring connectors.

- Turn the ignition switch ON.
 - Measure the voltage at each terminal.
- HINT:
- Perform all voltage measurements with the connectors connected.
 - Verify that the battery voltage is 11 V or more when the ignition switch is ON.

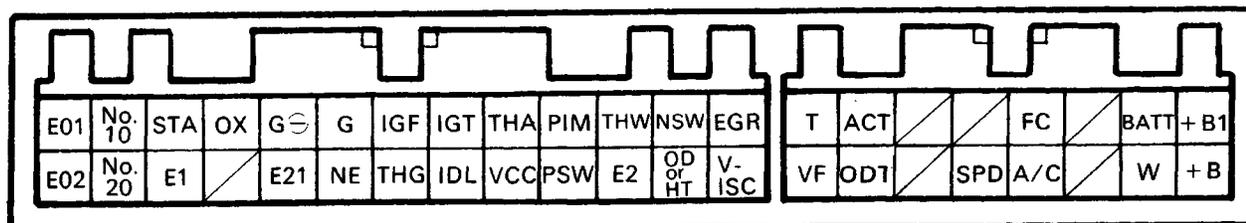


FI4253
FI2911
P01340

Voltage at ECM Wiring Connectors (4A-FE)

| Terminals | Condition | | STD voltage (V) |
|------------------------|-----------------------------------------------------------------|--------------------------------------------------|-----------------|
| +B + B1 - E1 | IG SW ON | | 10-14 |
| BATT - E 1 | - | | 10-14 |
| IDL - E2 | IG SW ON | Throttle valve open | 10-14 |
| PSW - E2 | | Throttle valve fully closed | 10-14 |
| PIM-E2 | IG SW ON | | 3.3-3.9 |
| VCC - E2 | | | 4.5-5.5 |
| No.10 E01 No.20 E02 | | | 10-14 |
| THA - E2 | IG SW ON | Intake air temp. 20°C (68°F) | 1-3 |
| THW - E2 | | Engine coolant temp. 80°C (176°F) | 0.1-1.0 |
| STA - E1 | Cranking | | 6-14 |
| IGT - E1 | Cranking or idling | | 0.7-1.0 |
| W - E1 | No trouble (Malfunction indicator- lamp off) and engine running | | 10-14 |
| A/C - E1 | IG SW ON | Air conditioning ON | 8-14 |
| ACT - E1 | | Heater blower SW ON | 4-6 |
| T - E1 | | Data link connector 1 TE1 - E1 not connected | 10-14 |
| | | Data link connector 1 TE1 - E1 connected | 0.5 or less |
| NSW - E1 | | Park/Neutral position switch P or N position | 0-2 |
| | | Ex. park/neutral position switch P or N position | 6-14 |
| V-ISC - E1 | Cranking for ten seconds after starting | | 10-14 |

ECM Terminals

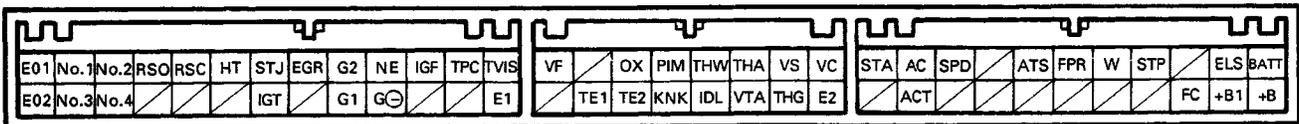


Voltage at ECM Wiring Connectors (3S-GTE)

| Terminals | Condition | | STD voltage (V) |
|--------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------|-----------------|
| +B - E1 + B1 | IG SW ON | | 10-14 |
| BATT - E 1 | - | | 10-14 |
| IDL - E2 | IG SW ON | Throttle valve open | 4.5-5.5 |
| VTA - E2 | | Throttle valve fully closed (Throttle opener must be cancelled first) | 0.1 -1.0 |
| | | Throttle valve fully open | 3.2-4.2 |
| VC - E2 | | - | 4.5-5.5 |
| VS - E2 | | Measuring plate fully closed | 3.7-4.3 |
| | | Measuring plate fully open | 0.2-0.5 |
| | Idling | 1.6-4.1 | |
| | 3,000 rpm | 1.0-2.0 | |
| No. 1 No. 2 _ E01 No. 3 E02 No. 4 | IG SW ON | | 10-14 |
| THA - E2 | IG SW ON | Intake air temp. 20°C (68°F) | 1 -3 |
| THW - E2 | | Engine coolant temp. 80°C (176°F) | 0.1 -1.1 |
| STA - E1 | Cranking | | 6-14 |
| IGT - E1 | Cranking or idling | | 0.8-1.2 |
| RSC_ E1 RSO | IG SW ON | ECM connectors disconnected | 8-14 |
| W-EI | No trouble (malfunction indicator lamp off) and engine running | | 10-14 |
| PIM - E2 | IG SW ON | | 2.5-4.5 |
| AC -E1 | IG SW ON | Air conditioning ON | 8-14 |
| *1 TVIS - E1 | | Throttle valve fully closed | 2.0 or less |
| | | Throttle valve open | 10-14 |
| *2 TVIS - E1 | Idling | 2.0 or less | |
| | 4,200 rpm or more | 10-14 | |
| TE1 - E1 | IG SW ON | Data link connector 1 TE1 - E1 not connected | 10-14 |
| | | Data link connector 1 TE1 - E1 connected | 0.5 or less |

ECM Terminals

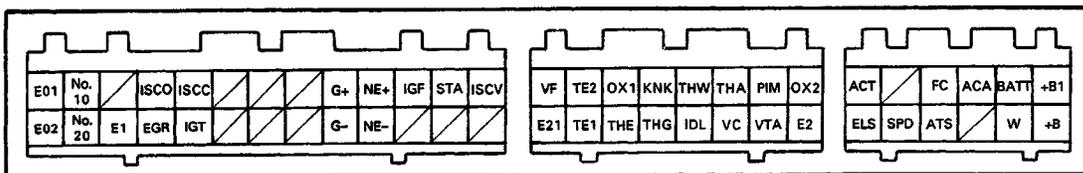
*1 w/ Regular Unleaded Gasoline *2 w/ Premium Unleaded Gasoline



Voltage at ECM Wiring Connectors (5S-FE)

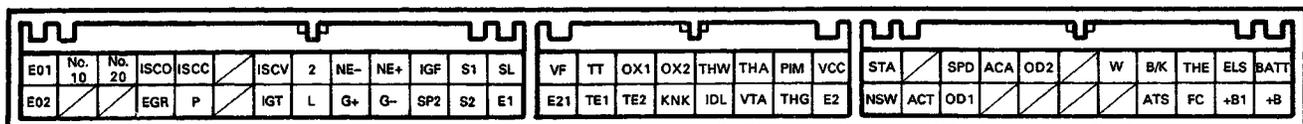
| Terminals | Condition | | STD voltage (V) |
|--------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------|-----------------|
| +B + B1 - E1 | IG SW ON | | 10-14 |
| BATT - E1 | - | | 10-14 |
| IDL - E2 | IG SW ON | Throttle valve open | 8-14 |
| VTA - E2 | | Throttle valve fully closed (Throttle opener must be cancelled first) | 0.8 - 1.2 |
| | | Throttle valve fully open | 3.2 - 4.2 |
| PIM-E2 | IG SW ON | | 3.3 - 3.9 |
| VC - E2 | | | 4.5 - 5.5 |
| No. 10 E01 No. 20 E02 | | | 10 - 14 |
| THA - E2 | IG SW ON | Intake air temp. 20°C (68°F) | 1.9 - 2.9 |
| THW - E2 | | Engine coolant temp. 80°C (176°F) | 0.1 - 1.1 |
| STA - E1 | Cranking | | 6 - 14 |
| IGT - E1 | Cranking or idling | | 0.8 - 1.2 |
| ISCC - E1 ISCO | IGSWON | ECM connectors disconnected | 8 - 14 |
| W-EI | No trouble (malfunction indicator lamp off) and engine running | | 10 - 14 |
| A/C - E1 | IG SW ON | Air conditioning ON | 8 - 14 |
| ACT - E1 | | Air conditioning ON | 4.5 - 5.5 |
| ACA - E1 | | Air conditioning ON | 2 or less |
| TE1 - E1 | | Data link connector 1 TE1 - E1 not connected | 10-14 |
| | | Data link connector 1 TE1 - E1 connected | 1 or less |
| NSW - E1 | | Park/Neutral position switch P or N position | 0 - 2 |
| | Ex. park/neutral position switch P or N position | 6 - 14 | |
| B/ K - E1 | Stop light SW ON (Brake pedal depressed) | | 10 - 14 |

ECM Terminals

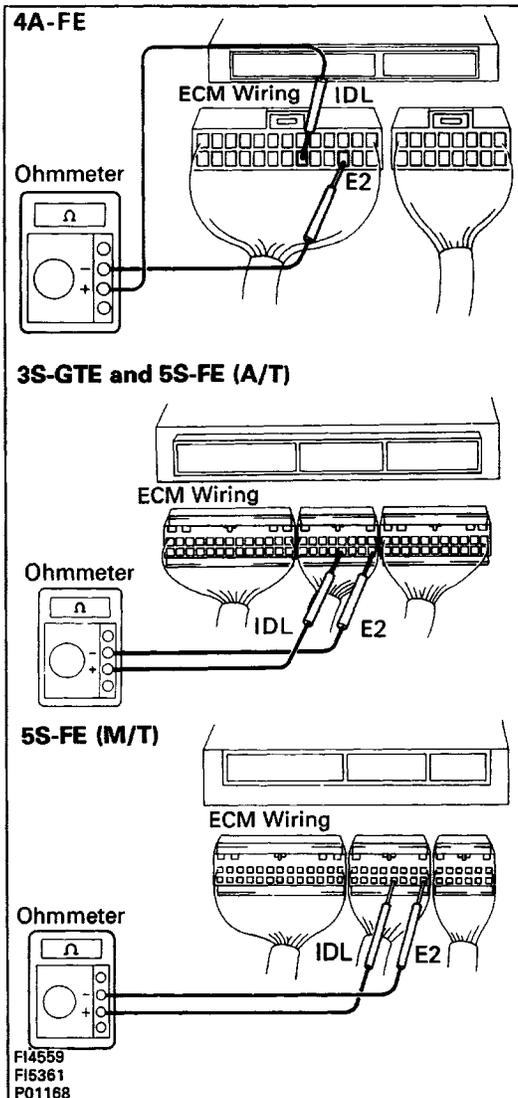


P01821

ECM Terminals



FI2796



2. INSPECT RESISTANCE OF ECM

NOTICE:

- Do not touch the ECM terminals.
- The tester probe should be inserted into the wiring connector from the wiring side.

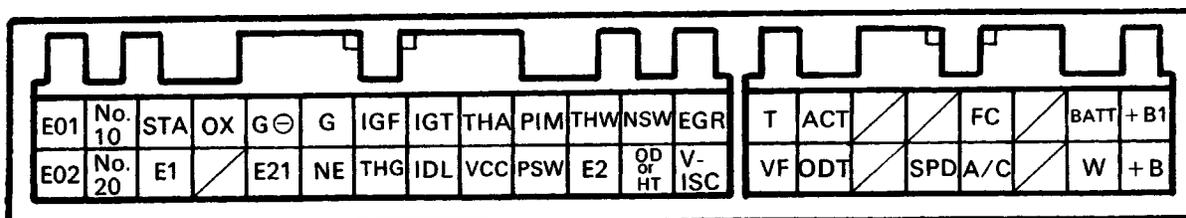
Check the resistance between each terminal of the wiring connectors.

- Disconnect the connectors from the ECM.
- Measure the resistance at each terminal.

Resistance of ECM Wiring Connector (4A-FE)

| Terminals | Condition | STD resistance (Ω) |
|-----------------|-----------------------------------------|--------------------|
| IDL - E2 | Throttle valve open | Infinity |
| | Throttle valve fully closed | 0 |
| PSW - E2 | Throttle valve fully open | 0 |
| | Throttle valve fully closed | Infinity |
| THA - E2 | Intake air temperature 20°C (68°F) | 2,000 - 3,000 |
| THW - E2 | Engine coolant temperature 80°C (176°F) | 200-400 |
| G1 NE - G(-) | Cold | 185-265 |

ECM Terminals

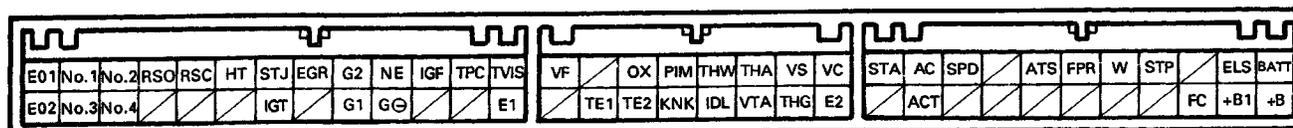


FI4266

Resistance of ECM Wiring Connectors (3S-GTE)

| Terminals | Condition | STD resistance (Ω) |
|---------------------|-----------------------------------|--------------------|
| IDL - E2 | Throttle valve open | Infinity |
| | Throttle valve fully closed | 2,300 or less |
| VTA - E2 | Throttle valve fully open | 3,100 - 12,100 |
| | Throttle valve fully closed | 470-6,100 |
| VC - E2 | - | 3,900 - 9,000 |
| VS - E2 | Measuring plate fully closed | 200-600 |
| | Measuring plate fully open | 20-1,200 |
| THA - E2 | Intake air temp. 20°C (68°F) | 2,000 - 3,000 |
| THW - E2 | Engine coolant temp. 80°C (176°F) | 200-400 |
| G1 G2 - G(-) | Cold | 125-190 |
| NE - G(-) | Cold | 155-240 |
| RSC + B RSO + B1 | - | 19.3-22.3 |

ECM Terminals

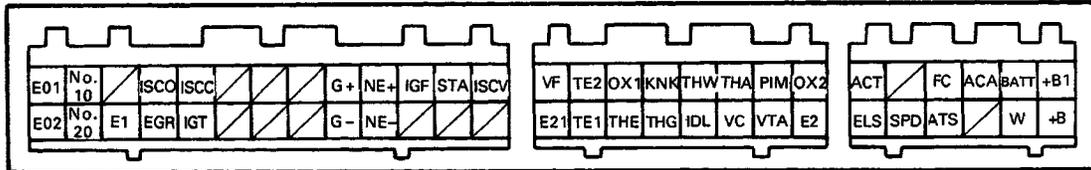


FI2796

Resistance of ECM Wiring Connectors (5S-FE)

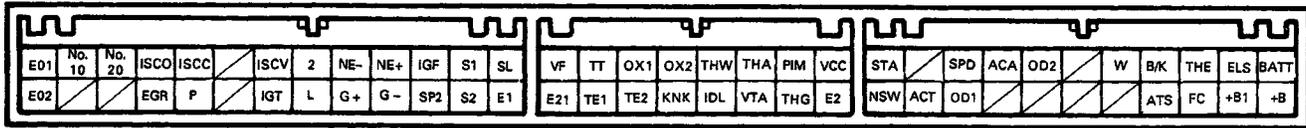
| Terminals | Condition | STD resistance (Ω) |
|-------------------------|--------------------------------------------------------------------------|--------------------|
| IDL - E2 | Throttle valve open | Infinity |
| | Throttle valve fully closed (Throttle opener must be cancelled first) | 2,300 or less |
| VTA - E2 | Throttle valve fully open | 2,000 - 10,200 |
| | Throttle valve fully closed (Throttle opener must be cancelled first) | 200-5,700 |
| VC - E2 | — | 2,500 - 5,900 |
| THA - E2 | Intake air temp. 20°C (68°F) | 2,000 - 3,000 |
| THW - E2 | Engine coolant temp. 80°C (176°F) | 200-400 |
| G+ - G- | Cold | 185-265 |
| NE+ - NE- | Cold | 370-530 |
| ISCC _ + B ISCO +B I | — | 19.3-22.3 |

ECM Terminals



P01821

ECM Terminals



FI2796