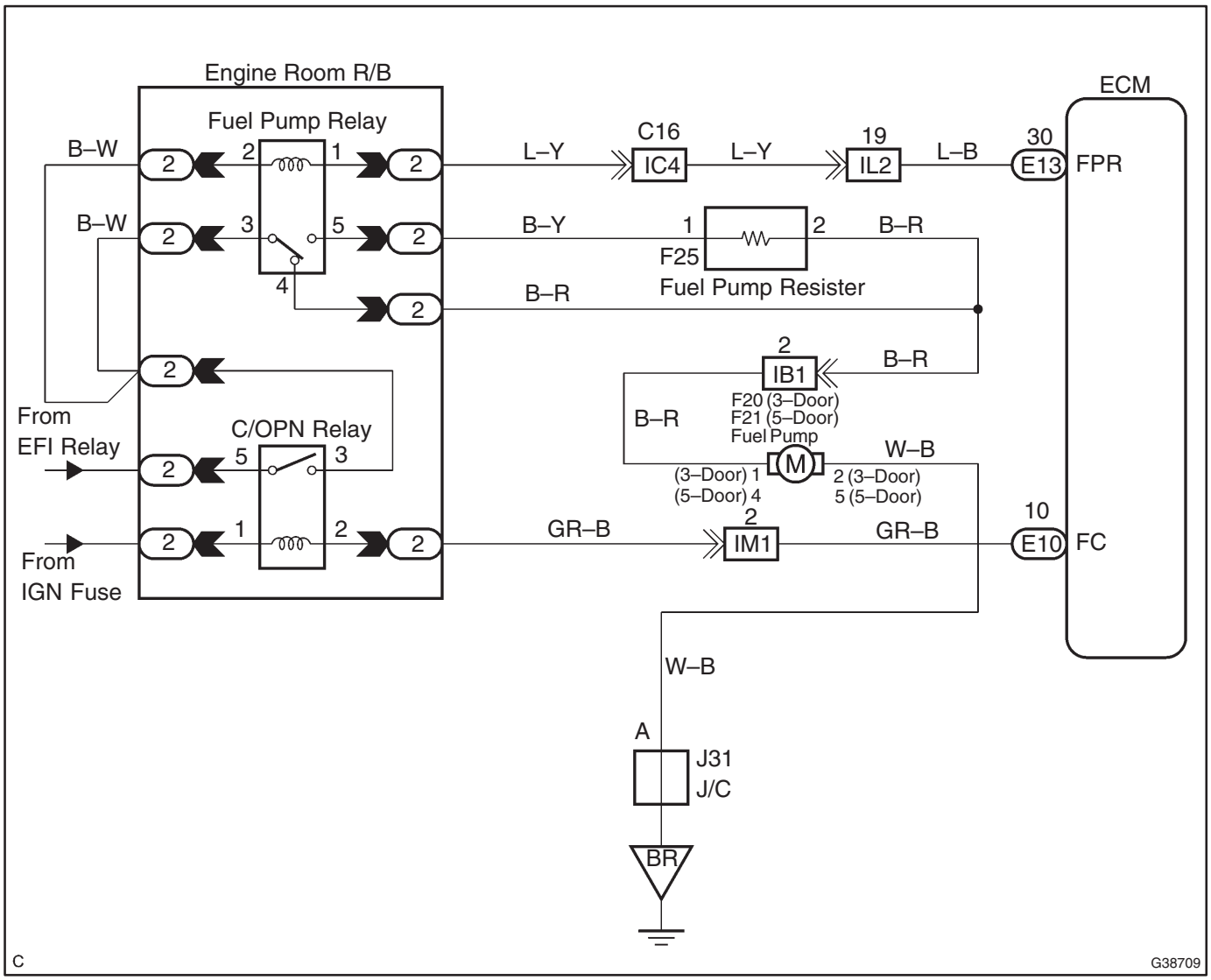
FUEL PUMP CONTROL CIRCUIT

CIRCUIT DESCRIPTION

Refer to DTC P0230 on page 05–289.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK FUEL PUMP OPERATION (See Pub. No. RM1017E, page 11–5)

(a) Check if there is pressure in the fuel inlet hose.

HINT:

If there is fuel pressure, you will hear the sound of fuel flowing.

OK > **Go to step 10**

NG

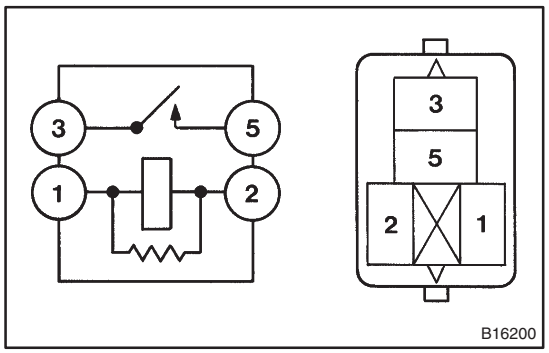
2	PERFORM ACTIVE TEST BY INTELLIGENT TESTER II(OPERATE CIRCUIT OPENING RELAY)

(a) Connect the Intelligent Tester II to the DLC3.
(b) Turn the ignition switch to ON and turn the Intelligent Tester II ON.
(c) Select the following menu items: Powertrain / Engine and ECT / Active Test / Fuel Pump Relay.
(d) Check the operation of the relay while operating it using the Intelligent Tester II.
Standard: Operating noise can be heard from the relay.

OK > **Go to step 5**

NG

3	INSPECT CIRCUIT OPENING RELAY



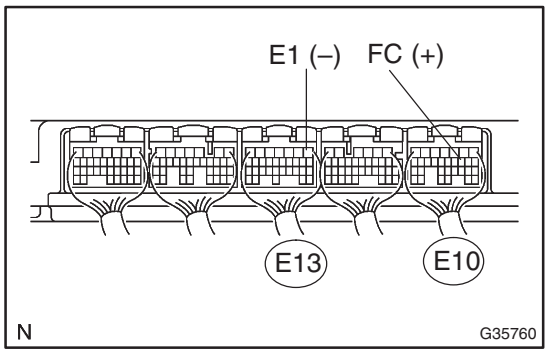
(a) Remove the circuit opening relay from the engine room R/B.
(b) Inspect the circuit opening relay.
Standard:

Terminal No.	Specified condition
3 – 5	10 kΩ or higher
3 – 5	Below 1 Ω (Apply battery voltage terminals 1 and 2)

NG > **REPLACE CIRCUIT OPENING RELAY**

OK

4 INSPECT ECM(FC VOLTAGE)



(a) Turn the ignition switch to ON.
(b) Measure the voltage between the terminals of the E10 and E13 ECM connectors.

Standard:

Symbols (Terminal No.)	Specified condition
FC (E10–10) – E1 (E13–1)	9 to 14 V

OK → **REPLACE ECM (See Pub. No. RM1017E, page 10–11)**

NG

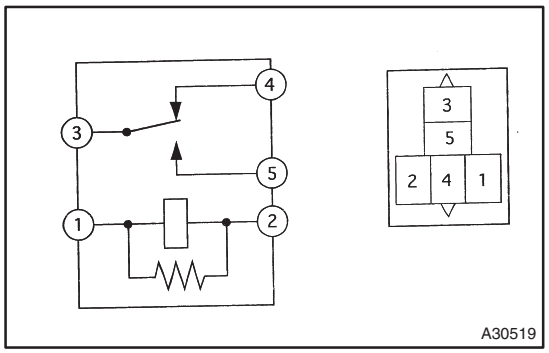
CHECK AND REPAIR HARNESS AND CONNECTOR (ECM – CIRCUIT OPENING RELAY, CIRCUIT OPENING RELAY – IGNITION SWITCH)

5 INSPECT ECM POWER SOURCE CIRCUIT (See page 05–395)

NG → **REPAIR OR REPLACE**

OK

6 INSPECT FUEL PUMP RELAY ASSY



(a) Remove the fuel pump relay from the engine room R/B.
(b) Inspect the fuel pump relay.

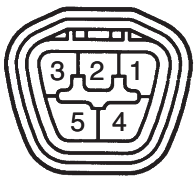
Standard:

Terminal No.	Specified condition
3 – 4	Below 1 Ω
3 – 4	10 kΩ or higher (Apply battery voltage terminals 1 and 2)
3 – 5	Below 1 Ω
3 – 5	10 kΩ or higher (Apply battery voltage terminals 1 and 2)

NG → **REPLACE FUEL PUMP RELAY ASSY**

OK

7 INSPECT FUEL PUMP



Fuel Pump
A74356

(a) Inspect fuel pump resistance.
(1) Measure the resistance between terminals 4 and 5.
Resistance: 0.2 to 3.0 Ω at 20°C (68°F)

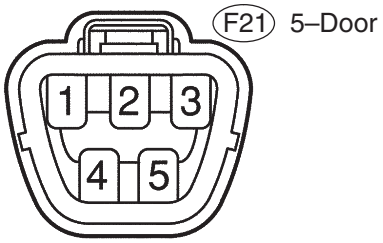
(b) Inspect fuel pump operation
(1) Apply battery voltage to both the terminals. Check that the pump operates.

NOTICE:
- **These tests must be done quickly (within 10 seconds) to prevent the coil from burning out.**
- **Keep fuel pump as far away from the battery as possible.**
- **Always do the switching at the battery side.**

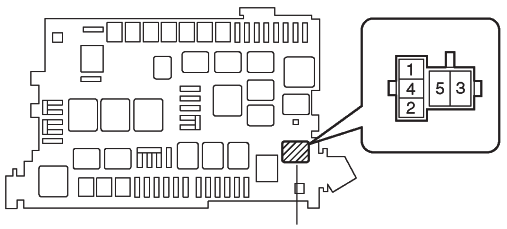
NG → **REPLACE FUEL PUMP**

OK

8 CHECK HARNESS AND CONNECTOR(FUEL PUMP – FUEL PUMP RELAY, FUEL PUMP – BODY GROUND)



P Fuel Pump Connector A67586



Y Fuel Pump Relay A66292

(a) Check the harness and the connector between the fuel pump connector and the fuel pump relay.
(1) Disconnect the fuel pump connector.
(2) Remove the fuel pump relay from the engine room R/B.
(3) Check for resistance between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
3–Door: Fuel pump (F20–1) – Fuel pump relay (4)	Below 1 Ω
5–Door: Fuel pump (F21–4) – Fuel pump relay (4)	Below 1 Ω

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
3–Door: Fuel pump (F20–1) or Fuel pump relay (4) – Body ground	10 kΩ or higher
5–Door: Fuel pump (F21–4) or Fuel pump relay (4) – Body ground	10 kΩ or higher

(b) Check the harness and the connector between the fuel pump connector and the body ground.
(1) Disconnect the fuel pump connector.
(2) Check for resistance between the wire harness side connector and the body ground.

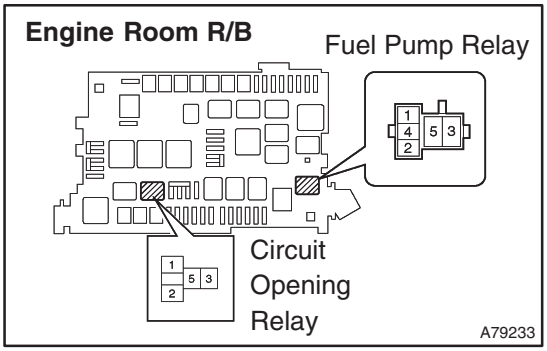
Standard (Check for open):

Symbols (Terminal No.)	Specified condition
3–Door: Fuel pump (F20–2) – Body ground	Continuity
5–Door: Fuel pump (F21–5) – Body ground	Continuity

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

9 CHECK HARNESS AND CONNECTOR(CIRCUIT OPENING RELAY – FUEL PUMP RELAY)



(a) Remove the circuit opening relay from the engine room R/B.
(b) Remove the fuel pump relay from the engine room R/B.
(c) Check for resistance between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
Circuit opening relay (3) – Fuel pump relay (3)	Below 1 Ω

Standard (Check for short):

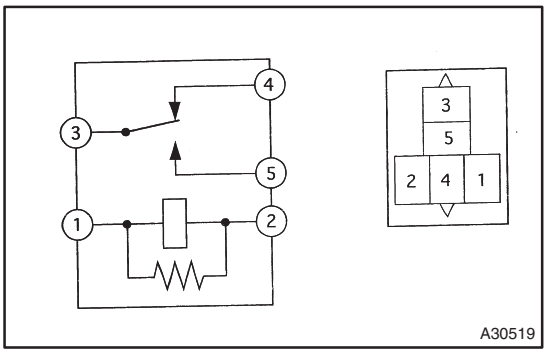
Symbols (Terminal No.)	Specified condition
Circuit opening relay (3) or Fuel pump relay (3) – Body ground	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

CHECK AND REPAIR HARNESS AND CONNECTOR (EFI RELAY – CIRCUIT OPENING RELAY)

10 INSPECT FUEL PUMP RELAY ASSY



(a) Remove the fuel pump relay from the engine room R/B.
(b) Inspect the fuel pump relay.

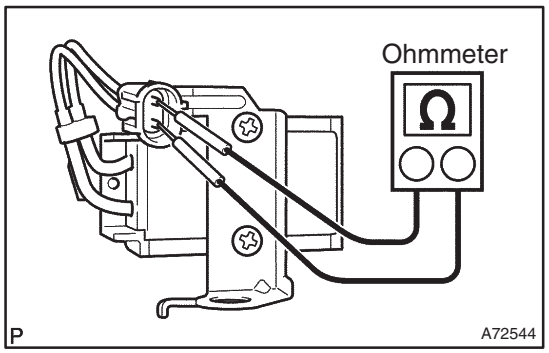
Standard:

Terminal No.	Specified condition
3 – 4	Below 1 Ω
3 – 4	10 kΩ or higher (Apply battery voltage terminals 1 and 2)
3 – 5	10 kΩ or higher
3 – 5	Below 1 Ω (Apply battery voltage terminals 1 and 2)

NG → REPLACE FUEL PUMP RELAY ASSY

OK

11	INSPECT FUEL PUMP RESISTER(RESISTANCE)

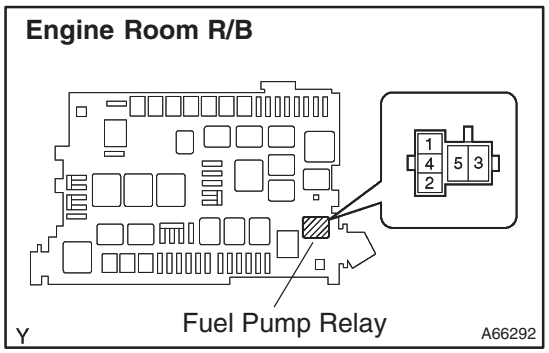


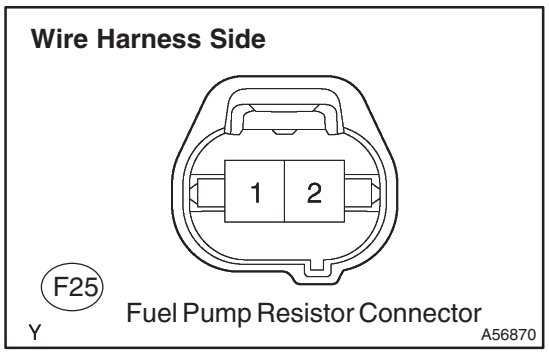
(a) Inspect the fuel pump resistor resistance.
(1) Measure the resistance between the terminals.
Standard: 0.70 to 0.76 Ω at 20°C (68°F)

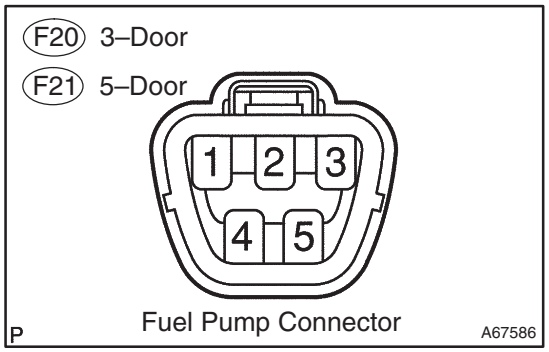
NG → **REPLACE FUEL PUMP RESISTER**

OK

12 CHECK HARNESS AND CONNECTOR(FUEL PUMP RELAY – FUEL PUMP RESISTOR, FUEL PUMP RESISTOR – FUEL PUMP)







(a) Check the harness and the connector between the fuel pump relay and the fuel pump resistor connector.

(1) Remove the fuel pump relay from the engine room R/B.

(2) Disconnect the fuel pump resistor connector.

(3) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
Fuel pump relay (5) – Fuel pump resistor (F25–1)	Continuity

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
Fuel pump relay (5) or Fuel pump resistor (F25–1) – Body ground	No continuity

(b) Check the harness and the connector between the fuel pump resistor connector and the fuel pump connector.

(1) Disconnect the fuel pump resistor connector.

(2) Disconnect the fuel pump connector.

(3) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
3–Door: Fuel pump resistor (F25–2) – Fuel pump (F20–1)	Continuity
5–Door: Fuel pump resistor (F25–2) – Fuel pump (F21–4)	Continuity

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
3–Door: Fuel pump resistor (F25–2) or Fuel pump (F20–1) – Body ground	No continuity
5–Door: Fuel pump resistor (F25–2) or Fuel pump (F21–4) – Body ground	No continuity

OK → **CHECK FOR INTERMITTENT PROBLEMS** (See page 05–199)

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR