DI3PG–01

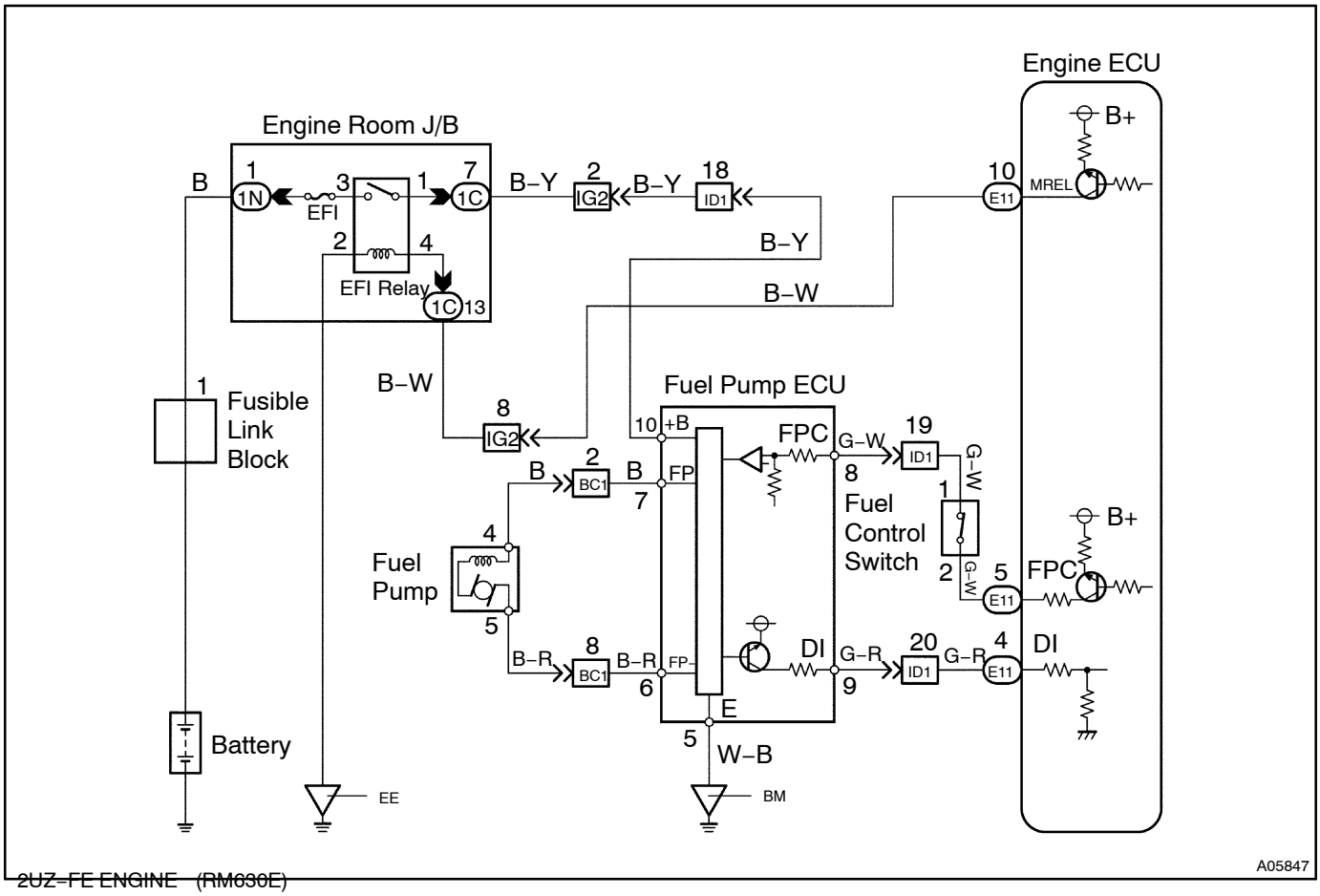
DTC	P1200/78	Fuel Pump Relay/ECU Circuit Malfunction (Europe)

CIRCUIT DESCRIPTION

The fuel pump speed is controlled at 2 steps (high speed, low speed) by the condition of the engine (srarting, light load, heavy load), when the engine starts (STA ON), the engine ECU sends a Hi signal (about 5 V) to the fuel pump ECU (FPC terminal). The fuel pump ECU then outputs Hi voltage (battery positive voltage) to the fuel pump so that the fuel pump operaters at high speed. After the engine starts, during idling or light loads, the engine ECU outputs a Low signal (about 2.5 V) to the fuel pump ECU, the fuel pump ECU outputs Low voltage (about 9 V) to the fuel pump and causes the fuel pump to operate at low speed.
If the intake air volume increases (high engine load), the engine ECU sends a Hi signal to the fuel pump ECU and causes the fuel pump to operate at high speed.

DTC No.	DTC Detecting Condition	Trouble Area
P1200	Open or short in fuel pump cirucit for 1 sec. or more with engine speed 1,000 rpm or less (2 trip detection logic)	• Open or short in fuel pump ECU circuit • Fuel pump ECU • Engine ECU power source circuit • Fuel pump • Engine ECU
	Open in input circuit of fuel pump ECU (FPC) with engine speed 1,000 rpm or less (2 trip detection logic)	
	Open or short in diagnostic signal line (DI) of fuel pump ECU with engine speed 1,000 rpm or less (2 trip detection logic)	

WIRING DIAGRAM



INSPECTION PROCEDURE

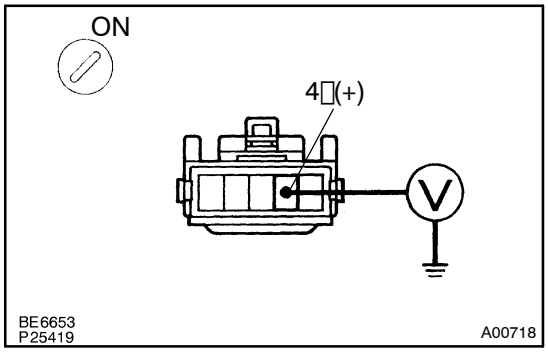
HINT:
Read freeze frame data using hand–held tester. Because freeze frame records the engine conditions when the malfunction is detected, when troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine warmed up or not, the air–fuel ratio lean or rich, etc. at the time of the malfunction.

1	**Check operation of fuel pump (See page FI–7).**

OK → **Go to step 7.**

NG

2	**Check voltage of fuel pump ECU power source.**



PREPARATION:
(a) Remove the LH quarter trim (See page FI–72).
(b) Disconnect the fuel pump ECU connector.
(c) Turn the ignition switch ON.

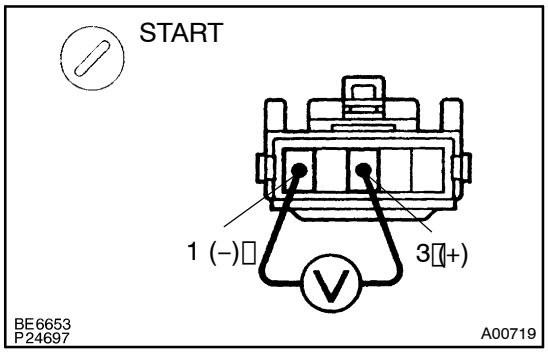
CHECK:
Measure voltage between terminal 4 of the fuel pump ECU connector and body ground.

OK:
Voltage: 9 – 14 V

NG → **Check for open and short in harness and connector between EFI main relay (Marking: EFI) and fuel pump ECU (See page IN–19).**

OK

3	Check voltage between terminals 1 and 3 of fuel pump ECU connector.



PREPARATION:

(a) Remove the LH quarter trim (See page FI–72).

(b) Disconnect the fuel pump ECU connector.

CHECK:

Measure voltage between terminals 1 and 3 of the fuel pump ECU connector when the ignition switch is turned to START.

OK:

Voltage: 4.5 – 5.5 V

OK	Go to step 5.

NG

4	Check for open and short in harness and connector between terminals FPC of engine ECU and 3 of fuel pump ECU, terminal 1 of fuel pump ECU and body ground (See page IN–19).

NG	Repair or replace harness or connector.

OK

Check and replace engine ECU (See page IN–19).

5	Check fuel pump (See page FI–7).

NG	Repair or replace fuel pump.

OK

6	Check for open and short in harness and connector between terminal 5 of fuel pump ECU and fuel pump, fuel pump and body ground (See page IN–19).

NG → Repair or replace harness or connector.

OK →

Replace fuel pump.

7	Check for open and short in harness and connector between terminals DI of engine ECU and 2 of fuel pump ECU (See page IN–19).

NG → Repair or replace harness or connector.

OK →

Check and replace engine ECU (See page IN–19).