

<b>DTC</b>	<b>P1200/78</b>	<b>Fuel Pump Relay Circuit Malfunction</b>
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## CIRCUIT DESCRIPTION

The fuel pump speed is controlled at 2 steps (high speed, low speed) according to the condition of the engine (starting, light load, heavy load).

When the engine starts, the engine ECU turns the fuel pump relay OFF to operate the fuel pump at high speed.

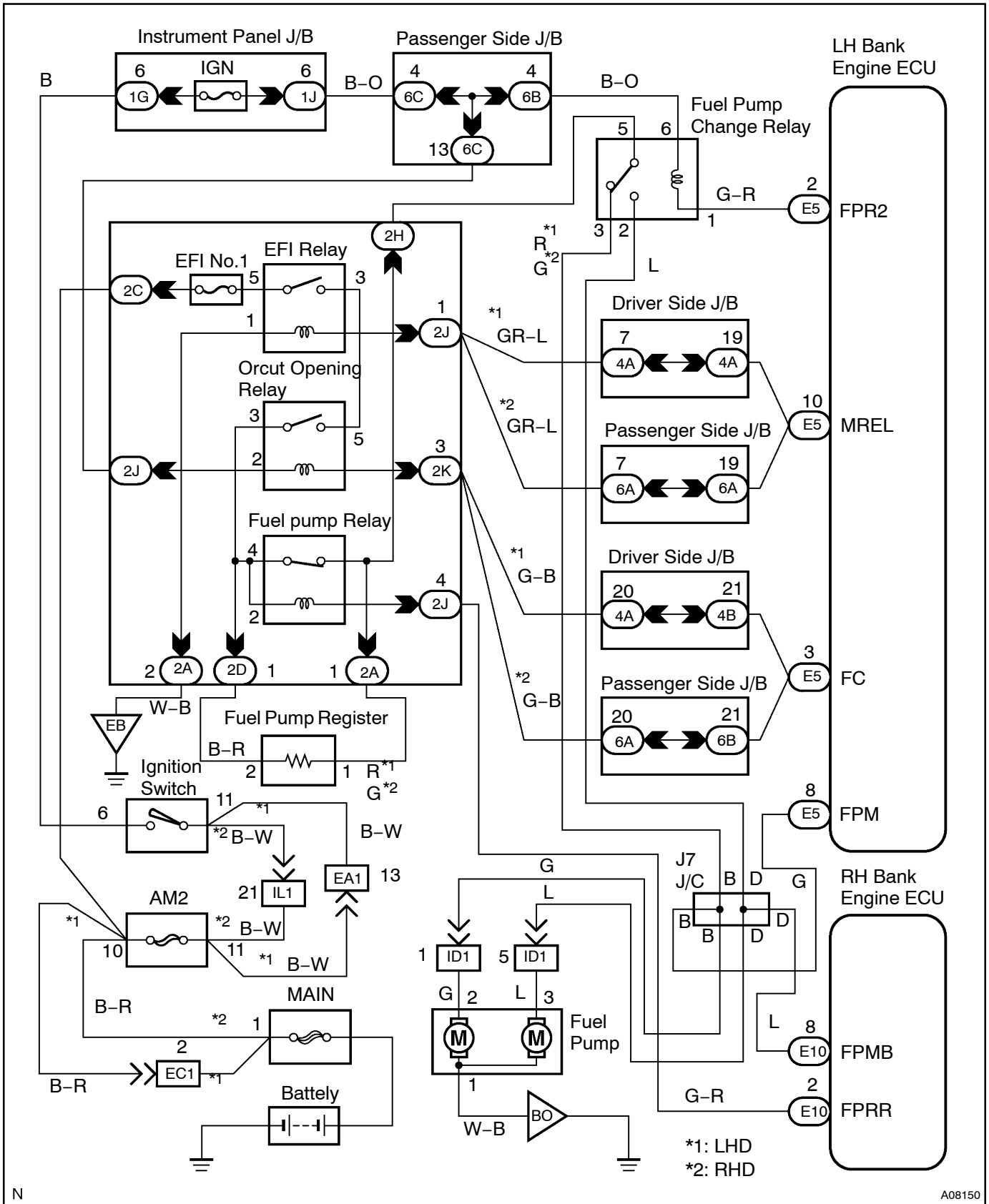
After the engine has started, during idling or when the load is light, the engine ECU turns the fuel pump relay ON to operate the fuel pump at low speed. When the intake air increases (heavy load), the engine ECU turns the fuel pump relay OFF to operate the fuel pump at high speed. There are two fuel pumps. The engine ECU switches from main to sub or sub to main every time the ignition switch is turned ON and OFF.

DTC No.	DTC Detecting Condition	Trouble Area
P1200/78	When open or short is detected in the fuel pump relay circuit for 0.5 sec. or more during cranking.	<ul style="list-style-type: none"> <li>• Open or short in fuel pump relay circuit</li> <li>• Fuel pump relay</li> <li>• Engine ECU</li> </ul>

### HINT:

This diagnostic chart is based on premise that engine is started. If the engine is not started, proceed to problem symptoms table on [DI-24](#).

# 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 fuel pump relay (See page FI-47).

NG

Replace fuel pump relay.

OK

2 Check fuel pump resistor (See page FI-50).

NG

Replace fuel pump resistor.

OK

3 Check for open and short in harness and connector between terminal FPRR of RH bank engine ECU and fuel pump relay.

NG

Repair or replace harness and connector.

OK

Check and replace RH bank engine ECU (See page IN-20).