

Diag. Code 78 Fuel Pump Control Circuit

— CIRCUIT DESCRIPTION —

The fuel pump speed is controlled at two steps (high speed, low speed) by the condition of the engine (starting, light load, heavy load), when the engine starts (STA ON), the engine & ECT ECU sends a Hi signal to the fuel pump ECU (FPC terminal).

The fuel pump ECU then outputs Hi voltage (battery voltage) to the fuel pump so that the fuel pump operates at high speed.

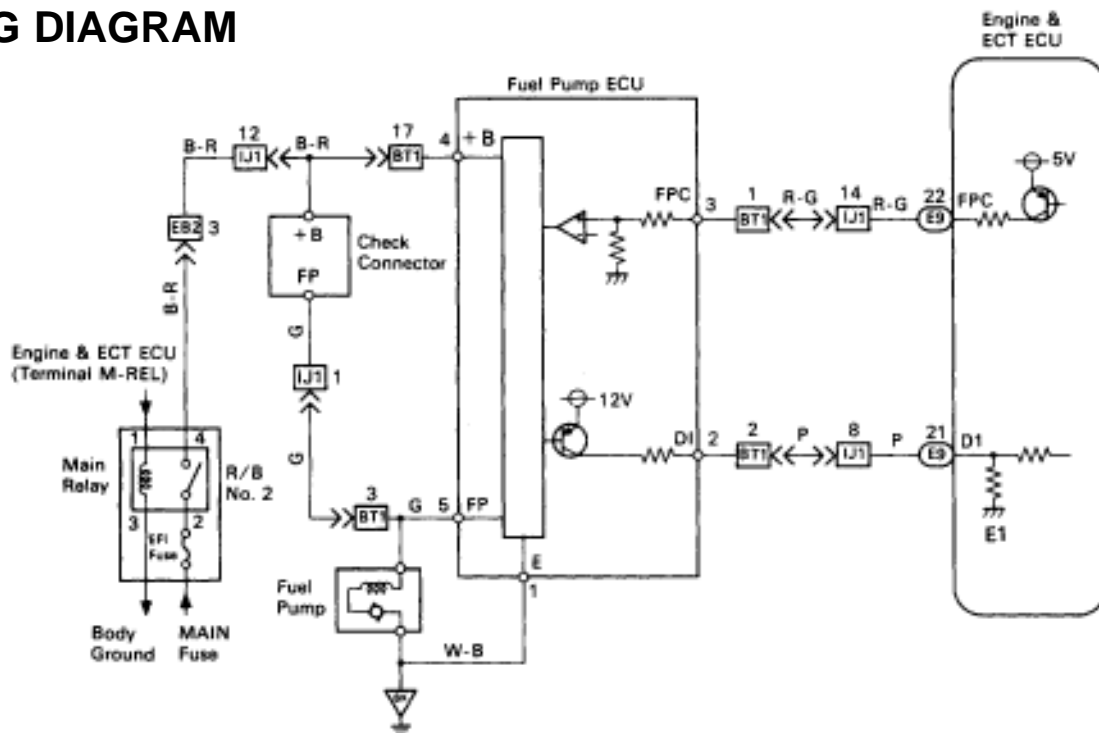
After the engine starts, during idling or light loads, the engine & ECT ECU outputs a High Low signal to the fuel pump ECU, the fuel pump ECU outputs Lo battery voltage (about 9V) to the fuel pump and causes the fuel pump to operate at low speed.

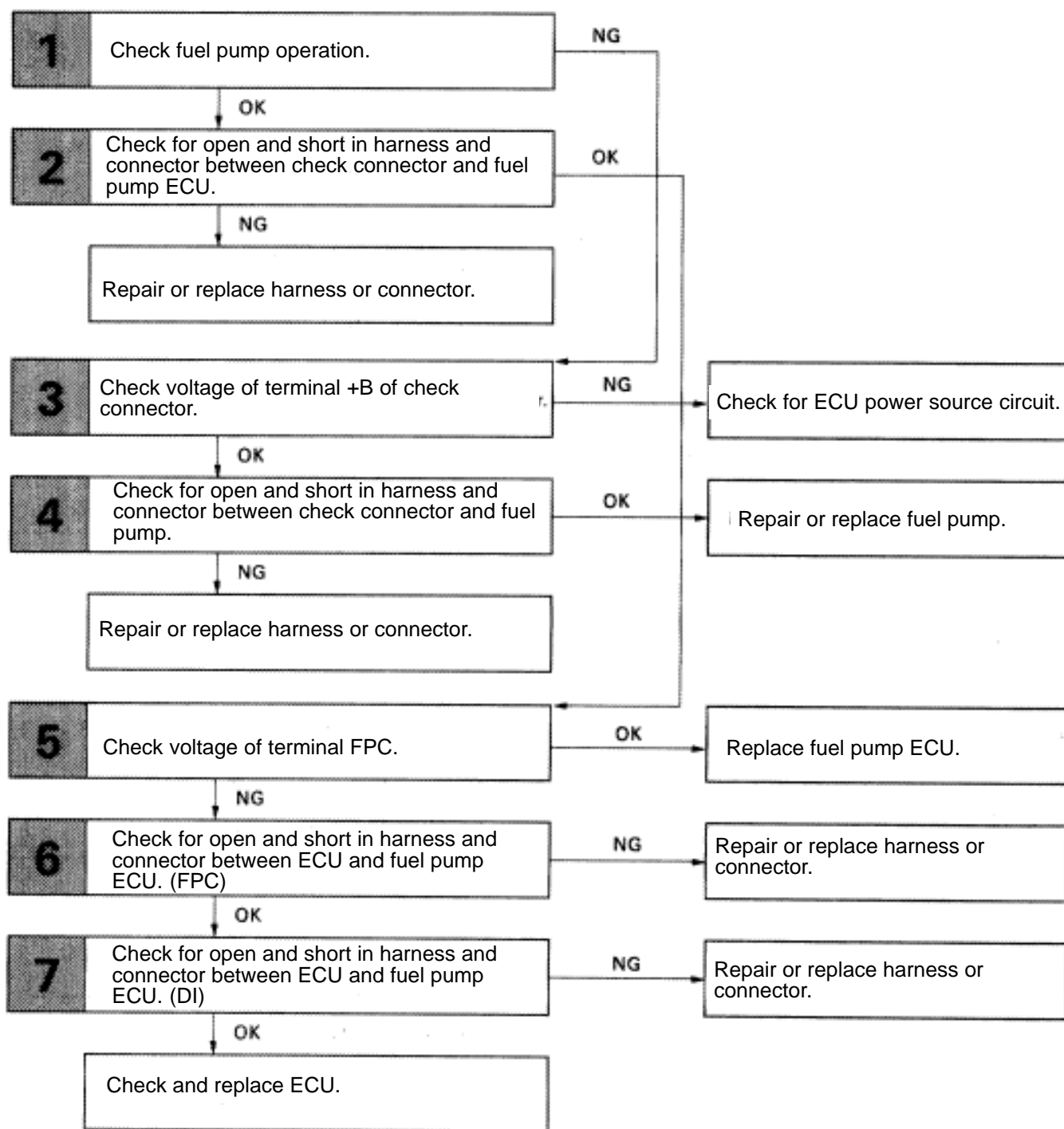
If the intake air volume increases (high engine load), the engine & ECT ECU sends a Hi signal to the fuel pump ECU and causes the fuel pump to operate at high speed.

Code No.	Diagnostic Code Detecting Condition	Trouble Area
78	(1) Open or short in fuel pump circuit for 1 sec. or more with engine speed 1,000 rpm or less. (2 trip detection logic)*	<ul style="list-style-type: none"> •Open or short in fuel pump ECU circuit. •Fuel pump ECU •Engine & ECT ECU power source circuit. •Fuel pump •Engine & ECT ECU
	(2) Open in input circuit of fuel pump ECU(FPC) with engine speed 1,000 rpm or less. (2 trip detection logic)*	
	(3) Open or short in diagnostic signal line (DI) of fuel pump ECU with engine speed 1,000 rpm or less. (2 trip detection logic)*	

*: See page [TR-21](#).

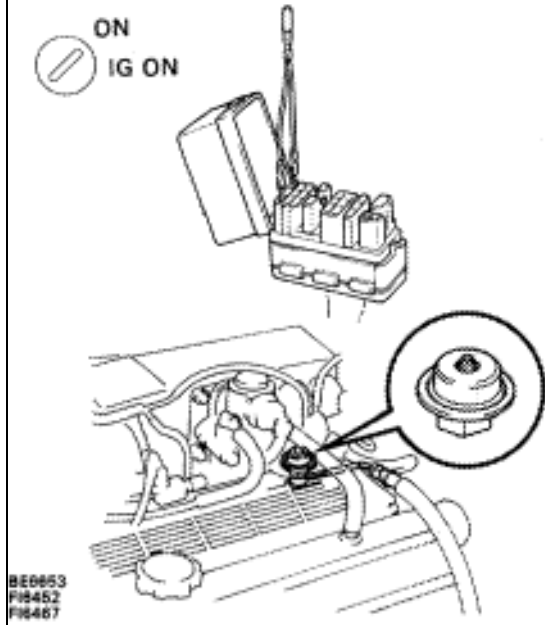
WIRING DIAGRAM



DIAGNOSTIC CHART

INSPECTION PROCEDURE

1 Check fuel pump operation.



- P** (2) Turn ignition switch ON.
(2) Using SST, connect terminals + B and FP of check connector.

SST 09843-18020

- C** Check that there is projection of the head of the pulsation damper screw.

- OK** Projection of the head of the pulsation damper screw.

OK

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Go to step 3.

2 Check for open and short in harness and connector between terminals + B ↔ + B FP ↔ FP of the check connector and fuel pump ECU (See page IN-27).

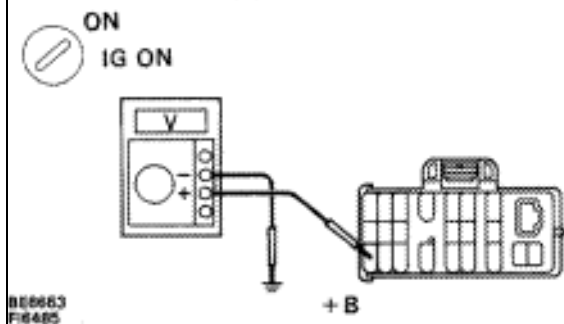
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OK

Go to step 5.

Repair or replace harness or connector.

3 Check voltage or terminal + B of check connector.



- P** Turn ignition switch ON.

- C** Measure voltage between terminal + B of check connector and body ground.

- OK** Voltage: 10 – 14 V

OK

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Check for ECU power source circuit (See page TR-124), and check for open in harness and connector between terminal + B of check connector and main relay.

- 4** Check for open and short in harness and connector between terminal FP of check connector, fuel pump and body ground (See page [IN-27](#)).

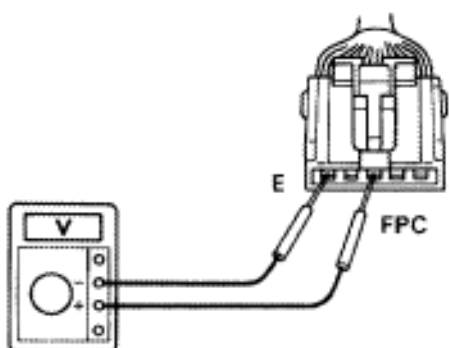
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OK

Repair or replace fuel pump.

Repair or replace harness or connector.

- 5** check voltage between terminals FPC and E of fuel pump ECU connector.

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- P** (2) Remove the LH quarter trim panel.
(See page [BO-123](#))
(2) Disconnect fuel pump ECU connector.

- C** Measure voltage between terminals FPC and E of fuel pump ECU connector when ignition switch is turned to start.

OK Voltage: 4 – 6 V

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OK

Replace fuel pump ECU.

- 6** Check for open in harness and connector between terminal FPC of engine & ECT ECU and terminal FPC of fuel pump ECU, terminal E of fuel pump ECU and body ground (See page [IN-27](#)).

OK

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Repair or replace harness or connector.

- 7** Check for open in harness and connector between terminal DI of engine & ECT ECU and terminal DI of fuel pump ECU (See page [IN-27](#)).

OK

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Repair or replace harness or connector.

Check and replace engine & ECT ECU.