DTC	49	COMMON RAIL PRESSURE SENSOR CIRCUIT MALFUNCTION

CIRCUIT DESCRIPTION

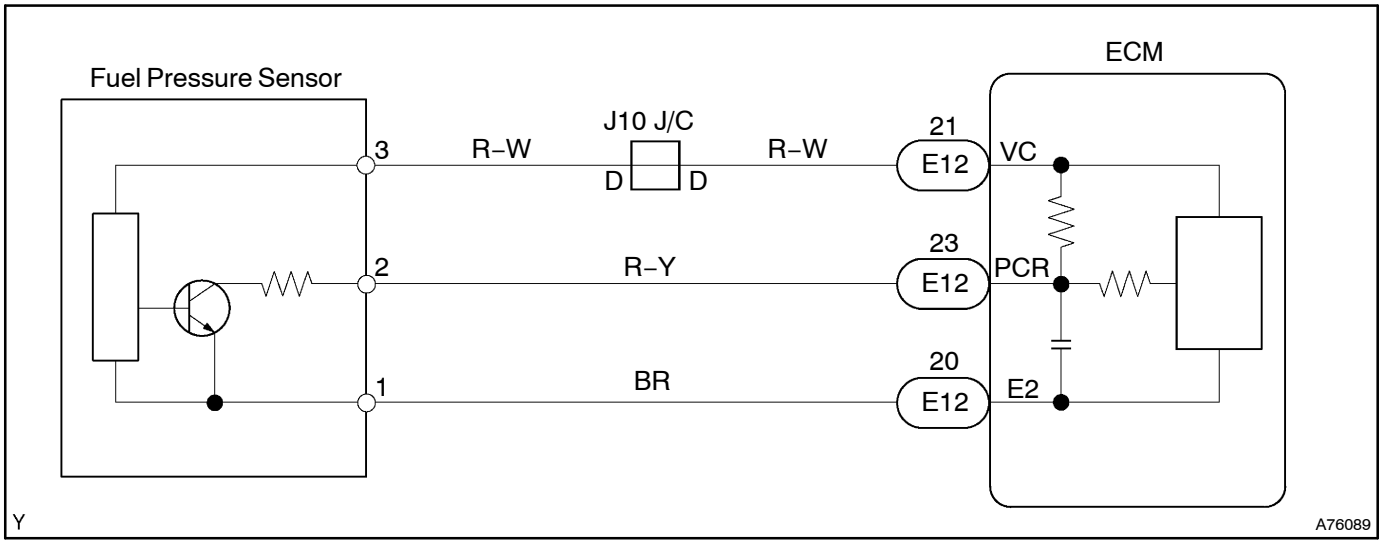
Fuel pressure sensor installed on a Common Rail detects the fuel pressure and controls to feed back the pump discharge in order to keep the target pressure (160 Mpa) set by the engine control computer.

DTC No.	DTC Detection Condition	Trouble Area
49	Open or short in fuel pressure sensor circuit for common rail	• Open or short in fuel pressure sensor circuit for common rail • Fuel pressure sensor for common rail • ECM

HINT:

After confirming DTC 49, use the hand–held tester to confirm the fuel rail pressure from the CURRENT DATA.

WIRING DIAGRAM

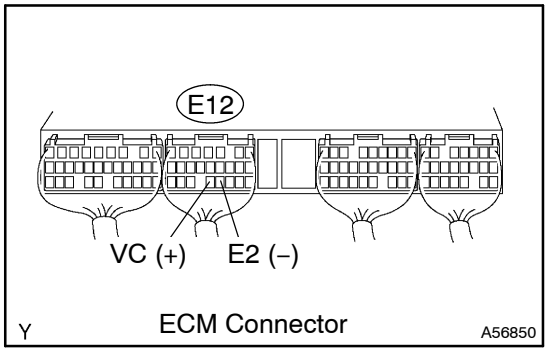


INSPECTION PROCEDURE

HINT:

- If different DTCs that are related to different systems are output simultaneously while terminal E2 is used as a ground terminal, terminal E2 may be open.
- Read freeze frame data using the hand–held tester, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, etc. at the time of the malfunction.

1	INSPECT ECM(CHECK VOLTAGE)



(a) Turn the ignition switch ON.

(b) Measure the voltage between the terminals of the ECM E12 connector.

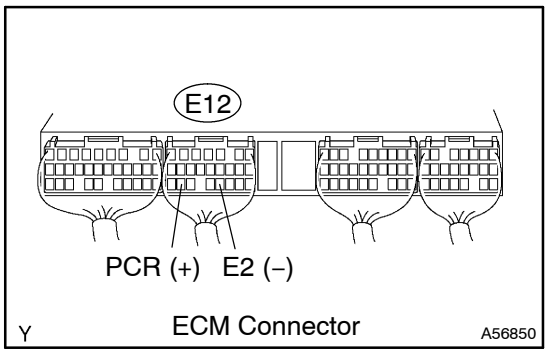
Voltage:

Symbols (Terminal No.)	Specified condition
VC (E12 – 21) ⇔ E2 (E12 – 20)	4.5 – 5.5 V

NG → CHECK AND REPLACE ECM

OK

2 INSPECT ECM(CHECK VOLTAGE)



(a) Start the engine.
(b) Measure the voltage between the terminals of the ECM E12 connector.

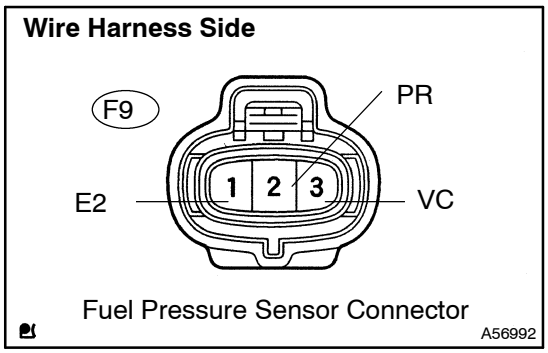
Voltage:

Symbols (Terminal No.)	Condition	Specified condition
PCR (E12 – 23) ⇔ E2 (E12 – 20)	20 °C (68 °F)	1.7 V

OK → CHECK AND REPLACE ECM

NG

3 CHECK HARNESS AND CONNECTOR(FUEL PRESSURE SENSOR FOR COMMON RAIL – ECM)



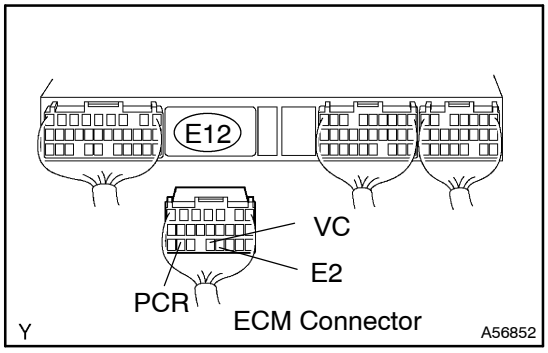
(a) Disconnect the fuel pressure sensor connector.
(b) Disconnect the ECM E12 connector.
(c) Check the continuity between the wire harness side connector.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VC (F9 – 3) ⇔ VC (E12 – 21)	Continuity
PR (F9 – 2) ⇔ PCR (E12 – 23)	
E2 (F9 – 1) ⇔ E2 (E12 – 20)	

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
VC (E12 – 21) ⇔ PCR (E12 – 23)	No continuity
VC (E12 – 21) ⇔ E2 (E12 – 20)	
PCR (E12 – 23) ⇔ E2 (E12 – 20)	



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE COMMON RAIL ASSY(See page 11–122)