

DTC P0402 Exhaust Gas Recirculation Flow Excessive Detected

CIRCUIT DESCRIPTION

Refer to Exhaust gas recirculation flow insufficient detected on page [EG-290](#).

DTC No.	Diagnostic Trouble Code Detecting Condition	Trouble Area
P0402	EGR gas temp. sensor value is high during EGR cut-off when engine is cold (Race engine at about 4,000 rpm without load so that vacuum is applied to port E) (2 trip detection logic)	- EGR valve stuck open - EGR VSV open malfunction - Open in VSV circuit for EGR - Short in EGR gas temp. sensor circuit - ECM
	EGR valve is always open (2 trip detection logic)	

See DTC P0401 for System Check Driving Pattern and Wiring Diagram.

INSPECTION PROCEDURE

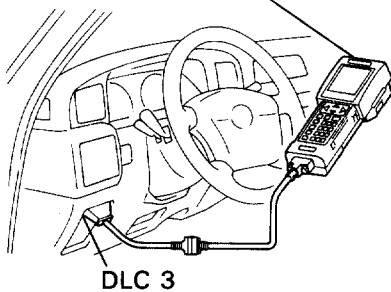
TOYOTA hand-held tester

1

Connect the TOYOTA hand-held tester and read EGR gas temperature value.



TOYOTA Hand-Held Tester



DLC 3

P

- Remove the fuse cover on the instrument panel.
- Connect the TOYOTA hand-held tester to the DLC 3.
- Turn ignition switch ON and TOYOTA hand-held tester main switch ON.

C

Read EGR gas temperature on the TOYOTA hand-held tester.

OK

EGR gas temp.: 150°C (302°F) or less.
(Not immediately after driving)

HINT: If there is a short circuit, the TOYOTA hand-held tester indicates Approx. 157.5°C (315.5°F)

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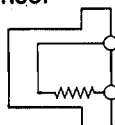
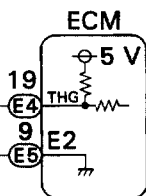
NG
OK

Go to step **4** .

2 Check for short in harness and ECM.



EGR Gas Temp. Sensor

1
2

P Disconnect the EGR gas temperature sensor connector.

C Read EGR gas temperature on the TOYOTA hand-held tester.

OK EGR gas temp.: 3.1°C (37.6°F)

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NG

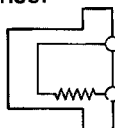
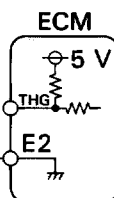
OK

Replace EGR gas temp. sensor.

3 Check for short in harness or ECM.



EGR Gas Temp. Sensor

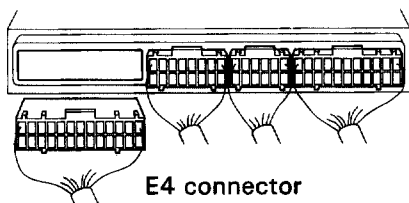
○
○

- P** (1) Remove instrument panel speaker No. 1 panel (See page [EG-173](#)).
(2) Disconnect the E4 connector of ECM.

HINT: EGR gas temp. sensor is disconnected.

C Read EGR gas temp. on the TOYOTA hand-held tester.

OK EGR gas temp.: 3.1°C (37.6°F)



E4 connector

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NG

OK

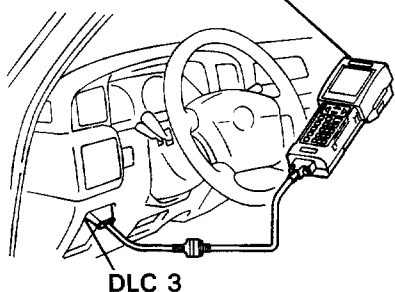
Repair or replace harness or connector.

Check and replace ECM (See page [IN-31](#)).

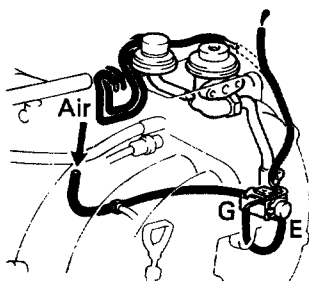
4 Check the VSV for EGR.



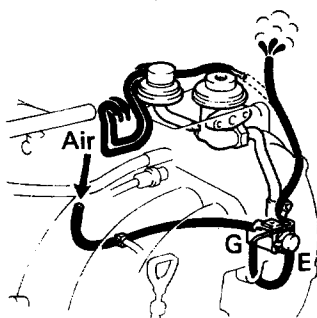
TOYOTA Hand-Held Tester



System: ON



System: OFF



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NG

- P**
- (1) Remove the fuse cover on the instrument panel.
 - (2) Connect the TOYOTA hand-held tester to the DLC 3.
 - (3) Turn ignition switch ON and TOYOTA hand-held tester main switch ON.
 - (4) Select the ACTIVE TEST mode on the TOYOTA hand-held tester.

C Check operation of VSV, when it is operated by the TOYOTA hand-held tester.

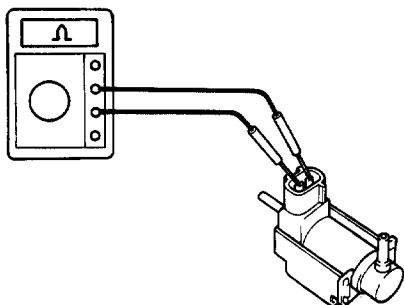
OK EGR system is ON:
Air does not flow from pipe G to pipe E.

EGR system is OFF:
Air from pipe G is flowing out through pipe E.

OK

Check EGR valve (See page [EG-127](#)).

5 Check operation of the VSV for EGR.



P (1) Remove air intake chamber (See page [EG-147](#)).

(2) Disconnect VSV connector.

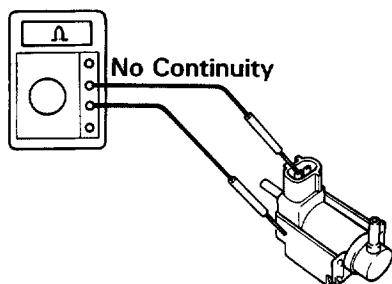
(3) Remove VSV.

C (1) Measure resistance between terminals.

(2) Measure resistance between each terminal and the body.

OK (1) Resistance: 30 ~ 34 Ω at 20 °C (68 °F).

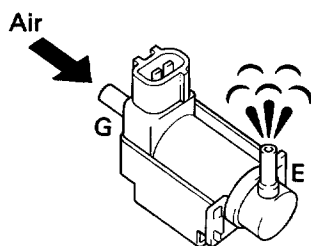
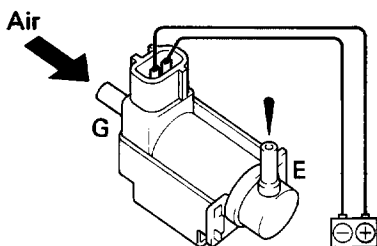
(2) Resistance: 1 M Ω or higher.



C Check operation of VSV when battery positive voltage is applied and released to the VSV terminal.

OK Battery positive voltage is applied:
Air does not flow from pipe G to pipe E.

Battery positive voltage is not applied:
Air from pipe G is flowing out through pipe E.



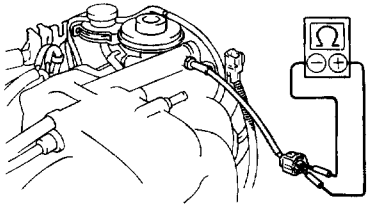
P09250
P09253
P23495
P23496

OK

NG

Replace VSV for EGR.

Check for short in harness and connector between VSV and ECM (See page [IN-26](#)).

OBD II scan tool (excluding TOYOTA hand-held tester)**1 Check resistance of EGR gas temp. sensor.****P** Disconnect EGR gas temp. sensor connector.**C** Measure resistance between terminals of EGR gas temp. sensor connector.**OK** Resistance: 2.5 K Ω or more.
(Not immediately after driving)**HINT:** If there is short circuit, ohmmeter indicates 200 Ω or less.

P22895

OK**NG**

Replace EGR gas temp. sensor.

2 Check for short in harness and connector between EGR gas temp. sensor and ECM (See page [IN-26](#)).**OK****NG**

Repair or replace harness or connector.

3 Check the VSV for EGR (See page [EG-298](#), step [5]).**NG****OK**Check EGR valve (See page [EG-127](#)).**4 Check operation of the VSV for EGR (See page [EG-303](#), step [5]).****OK****NG**

Replace VSV for EGR.

5 Check for short in harness and connector between VSV and ECM (See page [IN-26](#)).**OK****NG**

Repair or replace harness or connector.

Check and replace ECM (See page [IN-31](#)).