

DTC	P1656	OCV CIRCUIT MALFUNCTION
------------	--------------	--------------------------------

DTC	P1663	OCV CIRCUIT MALFUNCTION(BANK2)
------------	--------------	---------------------------------------

CIRCUIT DESCRIPTION

Refer to DTC P1349 on page [05-152](#) ..

DTC No.	DTC Detecting Condition	Trouble Area
P1656 P1663	Open or short in oil control valve circuit	• Open or short in oil control valve circuit • Oil control valve • ECM

WIRING DIAGRAM

Refer to DTC P1349 on page [05-152](#) .

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.

Hand-held Tester:

1	PERFORM ACTIVE TEST BY CHECK OCV CIRCUIT
----------	---

- Warmed up the engine.
- Select ACTIVE TEST on the hand-held tester.
- Check the engine speed when the OCV is made to operate by the hand-held tester.

Engine speed:

OCV is OFF: Normal engine speed

OCV is ON: Rough idle or engine stall

HINT:

DTCs P1656 and P1663 also output after the foreign object is caught in some part of the system in the engine oil and the system returns to normal in a short time. As engine ECM operates so that foreign objects are ejected, there is no problem about VVT. There is also no problem since the oil filter should get the foreign object in the engine oil.

OK

CHECK FOR INTERMITTENT PROBLEMS

NG

2	CHECK OPERATION OF OCV
----------	-------------------------------

- Start the engine and warmed it up.
- Apply battery positive voltage between terminals of the OCV.
- Check the engine speed.

Result: Rough idle or engine stalled.

NG

REPLACE OCV

OK

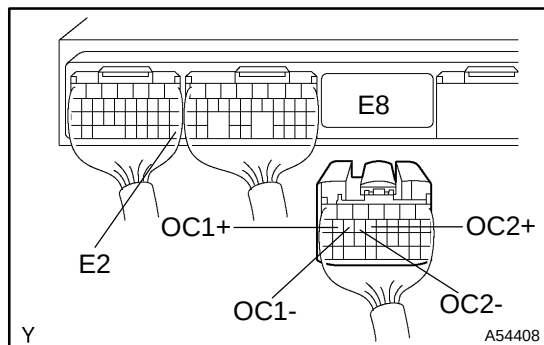
3 INSPECT ECM (See page 05-152)

NG

CHECK AND REPLACE ECM

OK

4 CHECK HARNESS AND CONNECTOR(OCV - ECM)



- Disconnect the engine ECM E8 connector.
- Disconnect the OCV connector.
- Check for open between the terminals OC1+ of the ECM connector and 1 of the OCV(RH) connector.
Resistance: 1 Ω or less
- Check for open between the terminals OC1- of the ECM connector and 2 of the OCV(RH) connector.
Resistance: 1 Ω or less
- Check for open between the terminals OC2+ of the ECM connector and 1 of the OCV(LH) connector.
Resistance: 1 Ω or less
- Check for open between the terminals OC2- of the ECM connector and 2 of the OCV(LH) connector.
Resistance: 1 Ω or less
- Check for short between the terminals OC1+, OC1-, OC2+, OC2- and E2 of the ECM connector.
Resistance: 1 M Ω or more

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

CHECK FOR INTERMITTENT PROBLEMS

OBDII scan tool (excluding Hand-held Tester):

1	CHECK OPERATION OF OCV (See page 10-2)
----------	--

NG**REPLACE OCV****OK**

2	INSPECT ECM (See page 05-152)
----------	---

NG**CHECK AND REPLACE ECM****OK**

3	CHECK HARNESS AND CONNECTOR(OCV - ECM)
----------	---

NG**REPAIR OR REPLACE HARNESS AND CONNECTOR****OK****CHECK FOR INTERMITTENT PROBLEMS**