

<b>DTC</b>	<b>P1656/39</b>	<b>OCV Circuit Malfunction</b>
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## CIRCUIT DESCRIPTION

Refer to VVT System Malfunction on page DI-111.

DTC No.	DTC Detecting Condition	Trouble Area
P1656/39	Open or short in oil control valve circuit	<ul style="list-style-type: none"> <li>• Open or short in oil control valve circuit</li> <li>• Oil control valve</li> <li>• Engine ECU</li> </ul>

## WIRING DIAGRAM

Refer to VVT System Malfunction on page DI-111 for the WIRING DIAGRAM.

## INSPECTION PROCEDURE

HINT:

- LH and RH bank engine ECU detect this DTC code respectively. The inspection procedures are same for both LH and RH bank engine ECU and described in this manual. Even though terminal name and part name on the side of RH bank are described in parenthesis, perform the inspection for only ECU that has detected DTC.
- 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.

### When using hand-held tester

1	<b>Check OCV circuit.</b>
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### PREPARATION:

- Start the engine and warmed it up.
- Connect the hand-held tester and select VVT from ACTIVE TEST menu.

### CHECK:

Check the engine speed when operate the OCV by the hand-held tester.

### OK:

**VVT system is OFF (OCV is OFF):**

**Normal engine speed**

**VVT system is ON (OCV is ON):**

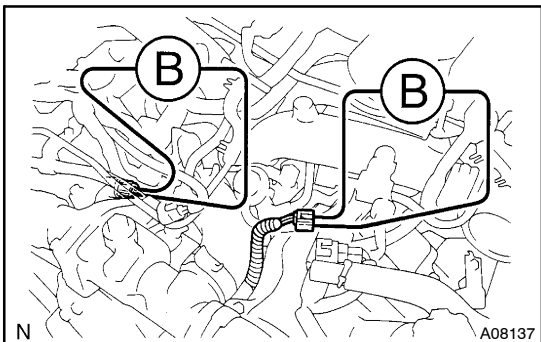
**Rough idle or engine stalled**

OK

**Check for intermittent problems  
(See page DI-4)**

NG

## 2 Check operation of OCV.



### PREPARATION:

- Start the engine and warm it up.
- Disconnect the OCV connector.
- Apply battery positive voltage between terminals of the OCV.

### CHECK:

Check the engine speed.

### OK:

Rough idle or engine stalled.

NG

Replace OCV.

OK

## 3 Check voltage between terminals OCV+ and OCV- of engine ECU connector (See page IN-20).

NG

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

OK

## 4 Check for open and short in harness and connector between OCV and engine ECU (See page IN-20).

NG

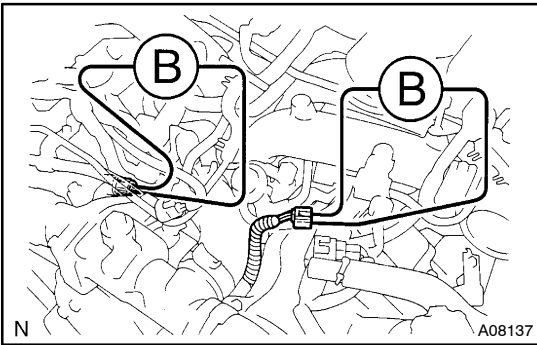
Repair or replace.

OK

Check for intermittent problems (See page DI-4).

## When not using hand-held tester

### 1 Check operation of OCV.



#### PREPARATION:

- (a) Start the engine and warm it up.
- (b) Disconnect the OCV connector.
- (c) Apply battery positive voltage between terminals of the OCV.

#### CHECK:

Check the engine speed.

#### OK:

Rough idle or engine stalled

NG

Replace OCV.

OK

### 2 Check voltage between terminals OCV+ and OCV- of engine ECU connector (See page IN-20).

NG

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

OK

### 3 Check for open and short in harness and connector between OCV and engine ECU (See page IN-20).

NG

Repair or replace.

OK

Check for intermittent problems (See page DI-4)