

DTC	P1656	OCV Circuit Malfunction
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CIRCUIT DESCRIPTION

Refer to DTC P1349 (VVT System Malfunction) on page [DI-122](#) .

DTC No.	DTC Detecting Condition	Trouble Area
P1656 P1663	Open or short in oil control valve circuit	<ul style="list-style-type: none"> • Open or short in oil control valve circuit • Oil control valve • ECM

WIRING DIAGRAM

Refer to DTC P1349 (VVT System Malfunction) on page [DI-122](#) for the WIRING DIAGRAM.

INSPECTION PROCEDURE

HINT:

Read freeze frame data using TOYOTA hand-held tester or OBD II scan tool. 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.

TOYOTA hand-held tester

1	Check OCV circuit.
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PREPARATION:

- (a) Start the engine and warmed it up.
- (b) Connect the TOYOTA hand-held tester and select VVT from ACTIVE TEST menu.

CHECK:

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

OK:

VVT system is OFF (OCV is OFF): Normal engine speed

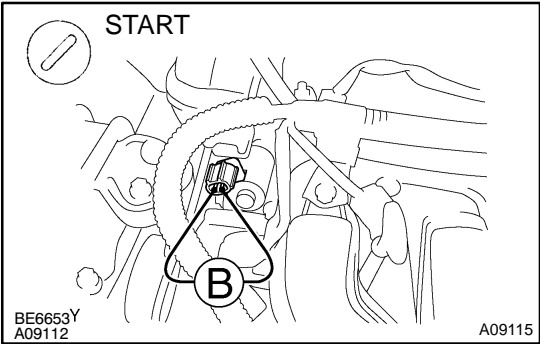
VVT system is ON (OCV is ON): Rough idle or engine stalled

OK

**Check for intermittent problems
(See page [DI-3](#)).**

NG

2	Check operation of OCV.
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PREPARATION:

- (a) Start the engine and warmed 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.
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OK

3	Check voltage between terminals OCV+ and OCV- of ECM connector (See page DI-122).
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NG	Check and replace ECM (See page IN-29).
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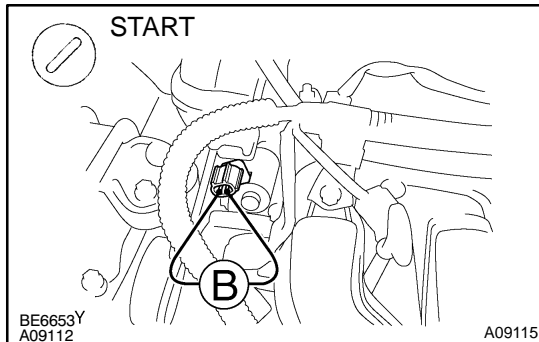
OK

4	Check for open and short in harness and connector between OCV and ECM (See page IN-29).
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NG	Repair or replace.
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OK

Check for intermittent problems (See page DI-3).
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OBD II scan tool (excluding TOYOTA hand-held tester)**1 Check operation of OCV.****PREPARATION:**

- (a) Start the engine and warmed 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 ECM connector (See page [DI-122](#)).****NG**

Check and replace ECM (See page [IN-29](#)).

OK**3 Check for open and short in harness and connector between OCV and ECM (See page [IN-29](#)).****NG**

Repair or replace.

OK

Check for intermittent problems (See page [DI-3](#)).