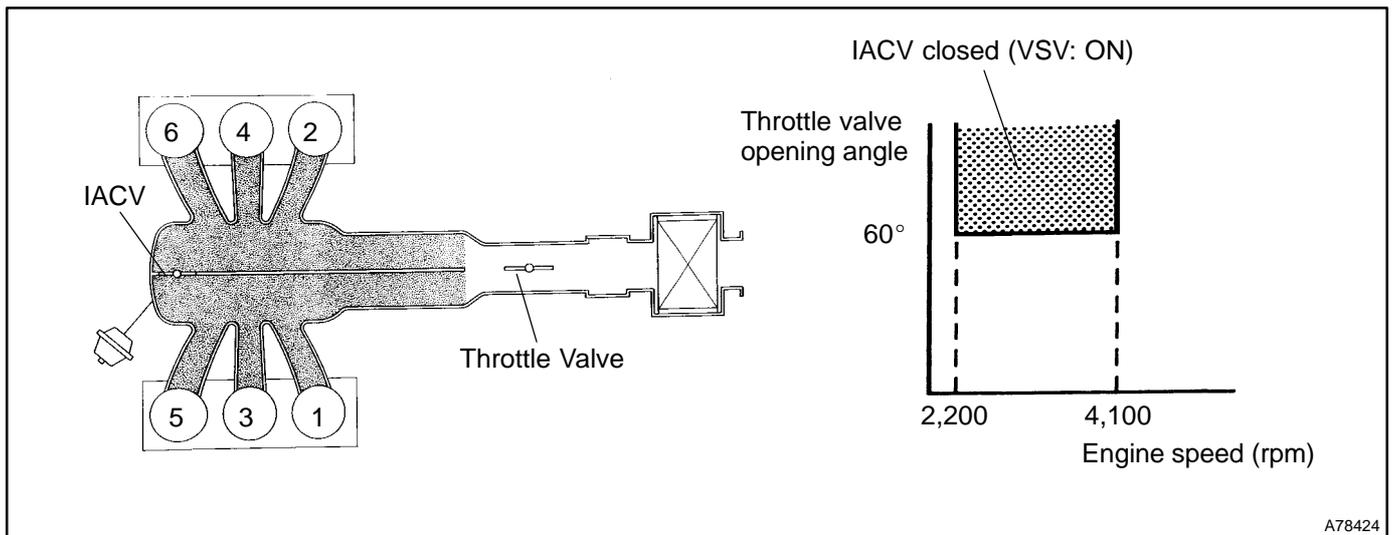


ACIS CONTROL CIRCUIT

CIRCUIT DESCRIPTION

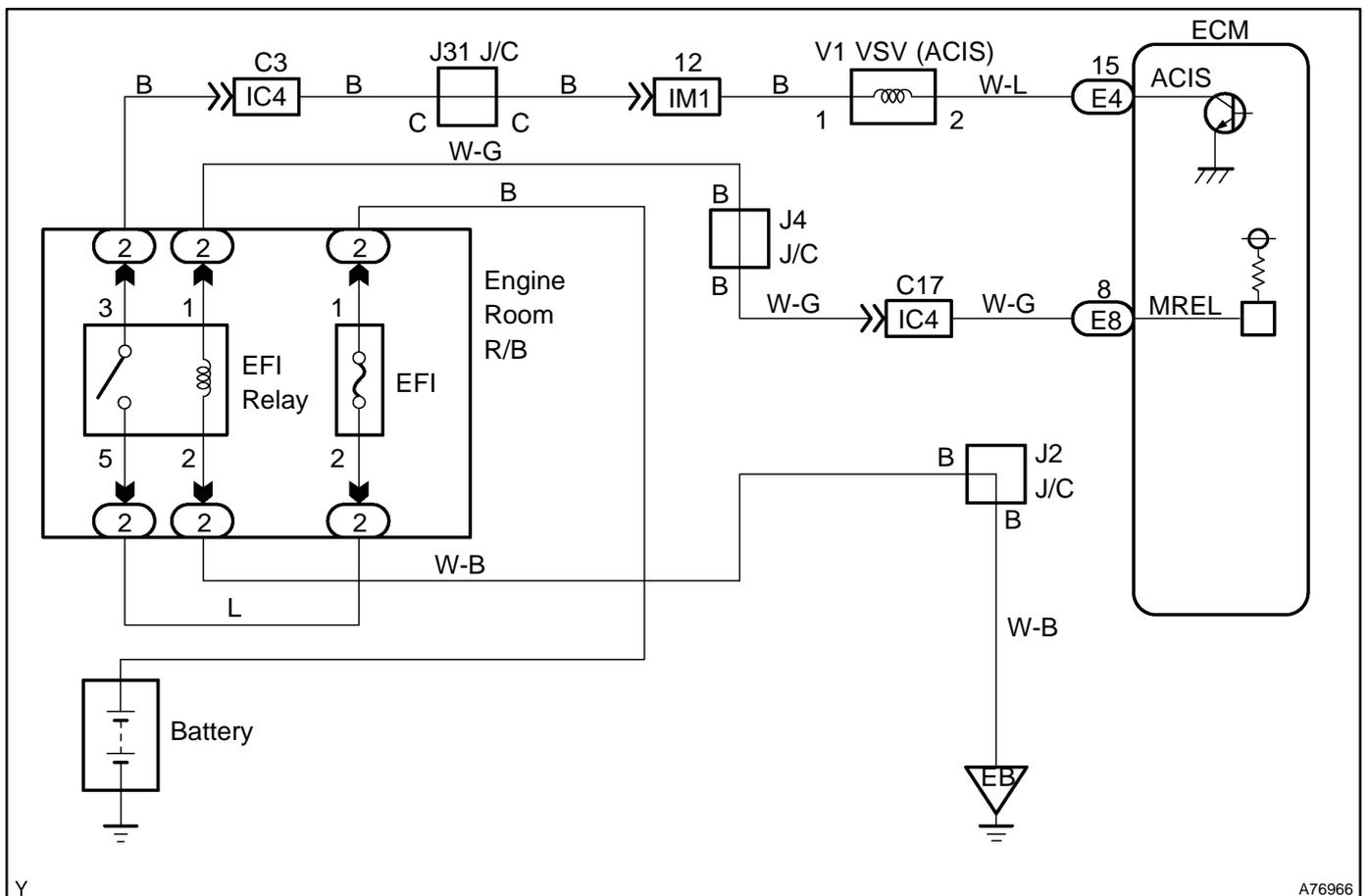
This circuit opens and closes the Intake Air Control Valve (IACV) in response to the engine load in order to increase the intake efficiency (ACIS: Acoustic Control Induction System).

When the engine speed is between 2,200 and 4,100 rpm and the throttle valve opening angle is 60° or more, the ECM supplies current to the VSV (ON status), so the IACV will close. Besides that condition, the VSV is usually OFF and the IACV is open.



A78424

WIRING DIAGRAM

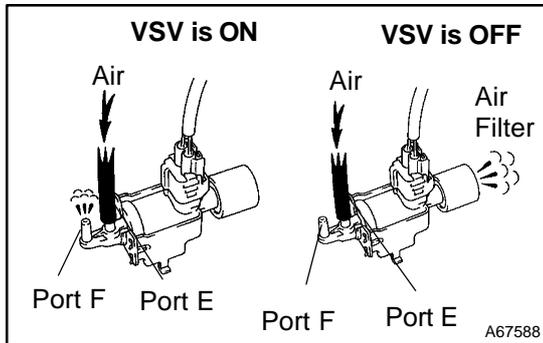


A76966

INSPECTION PROCEDURE

Hand-held tester:

1 PERFORM ACTIVE TEST BY HAND-HELD TESTER(OPERATE VSV FOR ACIS)



- (a) Disconnect the vacuum hose.
- (b) Connect the hand-held tester to the DLC3.
- (c) Turn the ignition switch ON and hand-held tester main switch ON.
- (d) Select the item "DIAGNOSIS/ENHANCED OBD II/ACTIVE TEST/INTAKE CTL VSV1" and operate the VSV for AICS.
- (e) Select the ACTIVE TEST mode on the hand-held tester.
- (f) Check the VSV operation when it is operated by the hand-held tester.

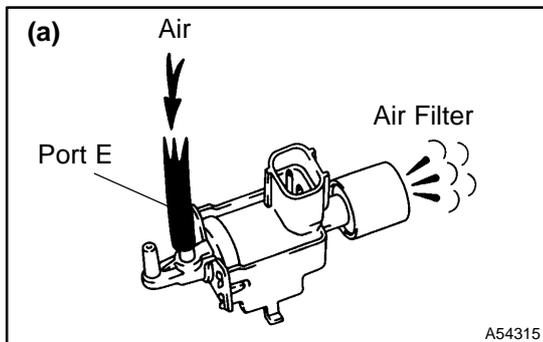
Standard:

Tester operation	Specified condition
VSV is ON	Air from port E flows out through port F
VSV is OFF	Air from port E flows out through the air filter

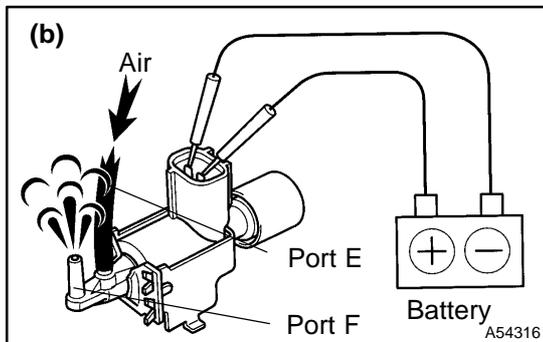
OK → Go to step 4

NG

2 CHECK VSV FOR ACIS(OPERATION)



- (a) Check that air flows from port E to the air filter.

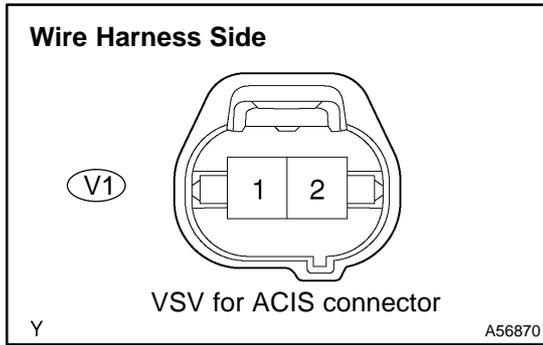


- (b) Apply battery positive voltage across the terminals.
- (c) Check that air flows from port E to port F.

NG → REPLACE VSV FOR ACIS

OK

3 CHECK HARNESS AND CONNECTOR(VSV FOR ACIS - ECM, VSV FOR ACIS - EFI RELAY)



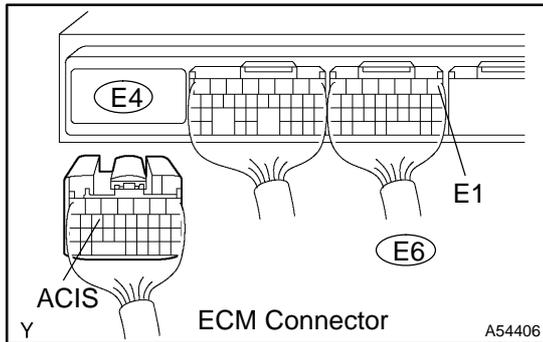
- (a) Check the wire harness between the VSV connector for the ACIS and ECM connector.
 - (1) Disconnect the VSV for ACIS connector.
 - (2) Disconnect the E4 ECM connector.
 - (3) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VSV for ACIS (V1-2) - ACIS (E4-15)	Continuity

Standard (Check for short):

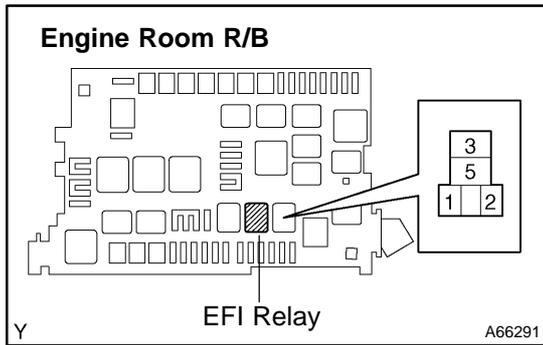
Symbols (Terminal No.)	Specified condition
VSV for ACIS (V1-2) or ACIS (E4-15) - E1 (E6-1)	No continuity



- (b) Check the wire harness between the VSV for the ACIS and EFI relay.
 - (1) Disconnect the VSV for ACIS connector.
 - (2) Remove the EFI relay from the engine room R/B.
 - (3) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VSV for ACIS (V1-1) - EFI relay terminal 3 of R/B	Continuity



NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4 CHECK VACUUM HOSE(INTAKE MANIFOLD - INTAKE AIR CONTROL VALVE, INTAKE AIR CONTROL VALVE - VSV FOR ACIS)

- (a) Check that the vacuum hose is connected correctly.
- (b) Check the vacuum hose for looseness and disconnection.
- (c) Check the vacuum hose for cracks, hole and damage.

NG REPAIR OR REPLACE VACUUM HOSE

OK

**5 INSPECT INTAKE AIR CONTROL VALVE(INTAKE AIR SURGE TANK)
(See page 13-2)**

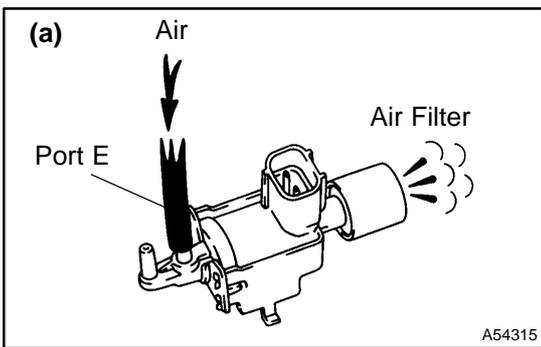
NG → **REPLACE INTAKE AIR CONTROL VALVE (INTAKE AIR SURGE TANK) (See page 14-163)**

OK

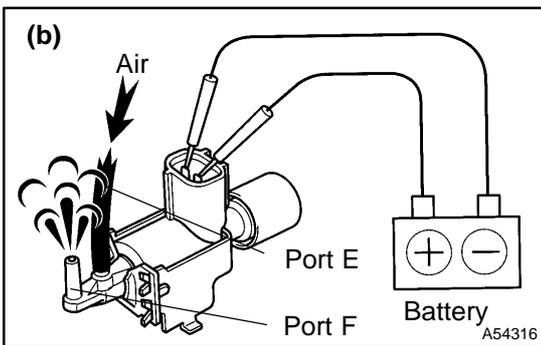
CHECK AND REPLACE ECM (See page 01-35)

OBD II scan tool (excluding hand-held tester):

1 INSPECT VSV FOR ACIS(OPRATION)



(a) Check that air flows from port E to the air filter.

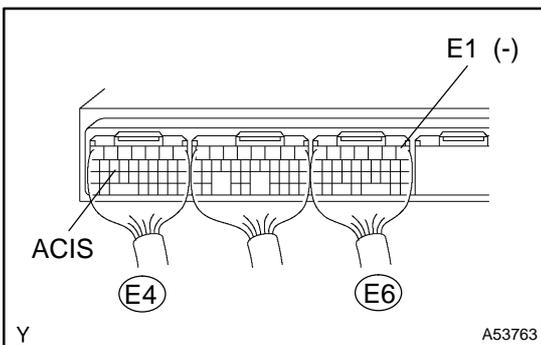


(b) Apply battery positive voltage across the terminals.
(c) Check that air flows from port E to port F.

NG → **REPLACE VSV FOR ACIS**

OK

2 CHECK ECM(ACIS VOLTAGE)



(a) Start the engine.
(b) Measure the voltage between the terminals of the E4 and E6 ECM connectors.

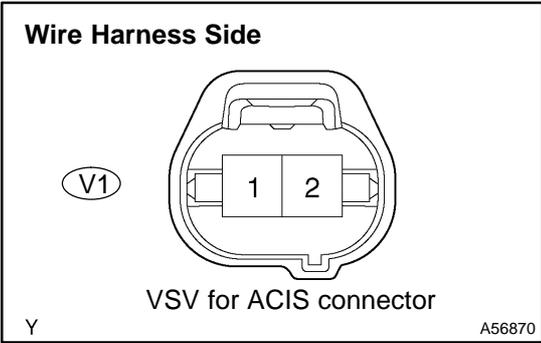
Standard:

Symbols (Terminal No.)	Condition	Specified condition
ACIS (E4-15) - E1 (E6-1)	<ul style="list-style-type: none"> Engine speed is between 2,200 rpm and 4,100 rpm. Throttle valve opening angle is 60° or more 	9 to 14 V

OK Go to step 4

NG

3 CHECK HARNESS AND CONNECTOR(VSV FOR ACIS - ECM, VAV FOR ACIS - EFI RELAY)



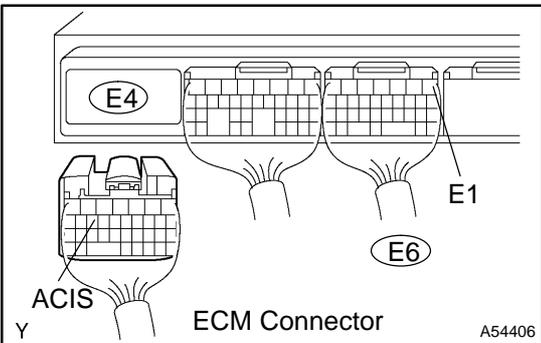
- (a) Check the wire harness between the VSV connector for the ACIS and ECM connector.
- (1) Disconnect the VSV for ACIS connector.
 - (2) Disconnect the E4 ECM connector.
 - (3) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VSV for ACIS (V1-2) - ACIS (E4-15)	Continuity

Standard (Check for short):

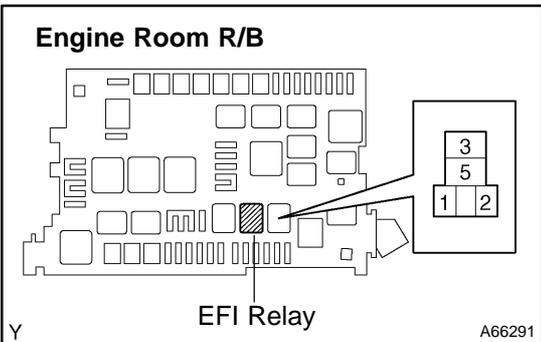
Symbols (Terminal No.)	Specified condition
VSV for ACIS (V1-2) or ACIS (E4-15) - E1 (E6-1)	No continuity



- (b) Check the wire harness between the VSV for the ACIS and EFI relay.
- (1) Disconnect the VSV for ACIS connector.
 - (2) Remove the EFI relay from the engine room R/B.
 - (3) Check for continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
VSV for ACIS (V1-1) - EFI relay terminal 3 of R/B	Continuity



NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4 CHECK VACUUM HOSE(INTAKE MANIFOLD - INTAKE AIR CONTROL VALVE, INTAKE AIR CONTROL VALVE - VSV FOR ACIS)

- (a) Check if the vacuum hose is connected correctly.
- (b) Check the vacuum hose for looseness and disconnection.
- (c) Check the vacuum hose for cracks, hole and damage.

NG REPAIR OR REPLACE VACUUM HOSE

OK

5	INSPECT INTAKE AIR CONTROL VALVE(INTAKE AIR SURGE TANK) (See page 13-2)
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NG**REPLACE INTAKE AIR CONTROL VALVE (IN-
TAKE AIR SURGE TANK) (See page [14-163](#))****OK****CHECK AND REPLACE ECM (See page [01-35](#))**