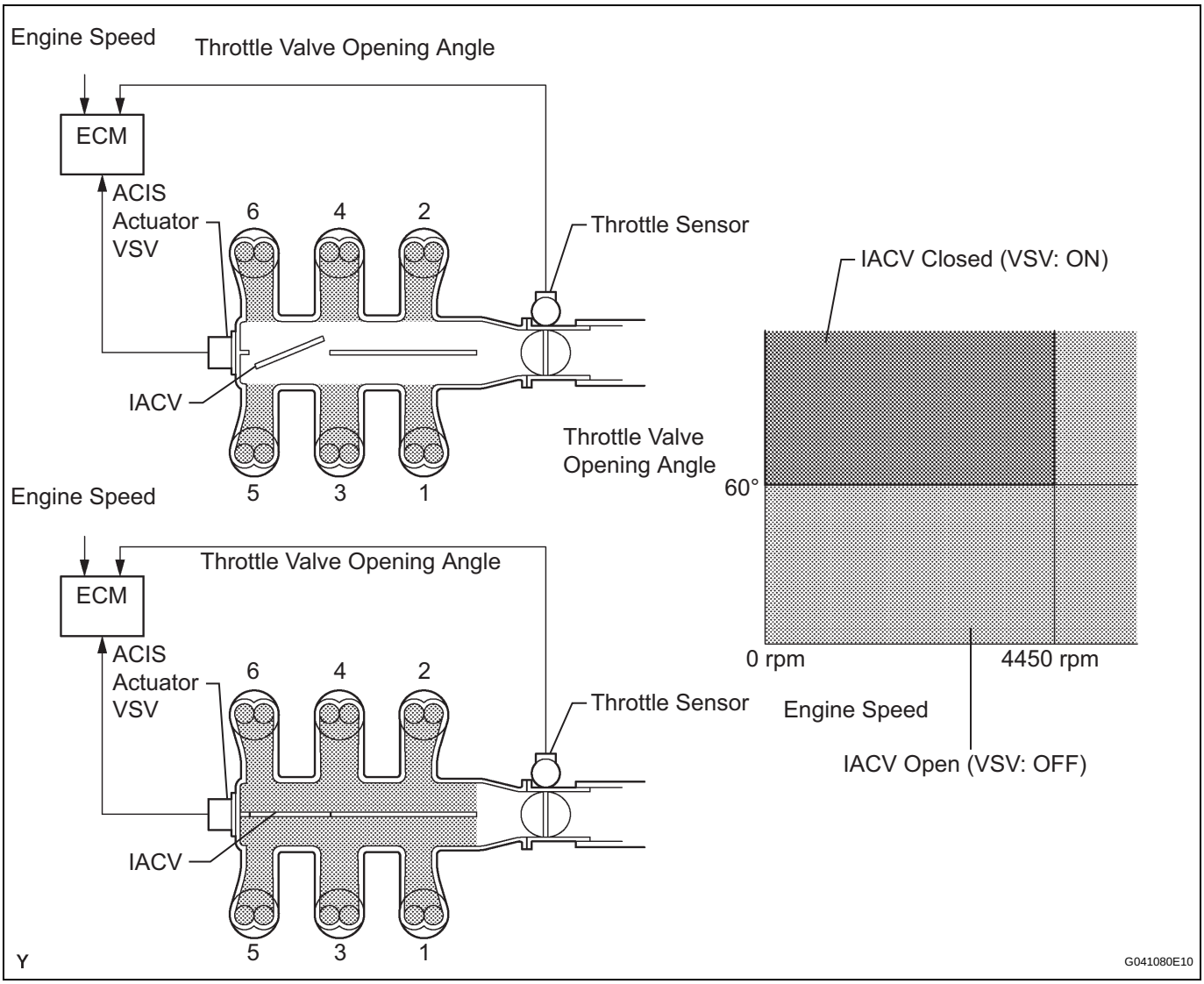
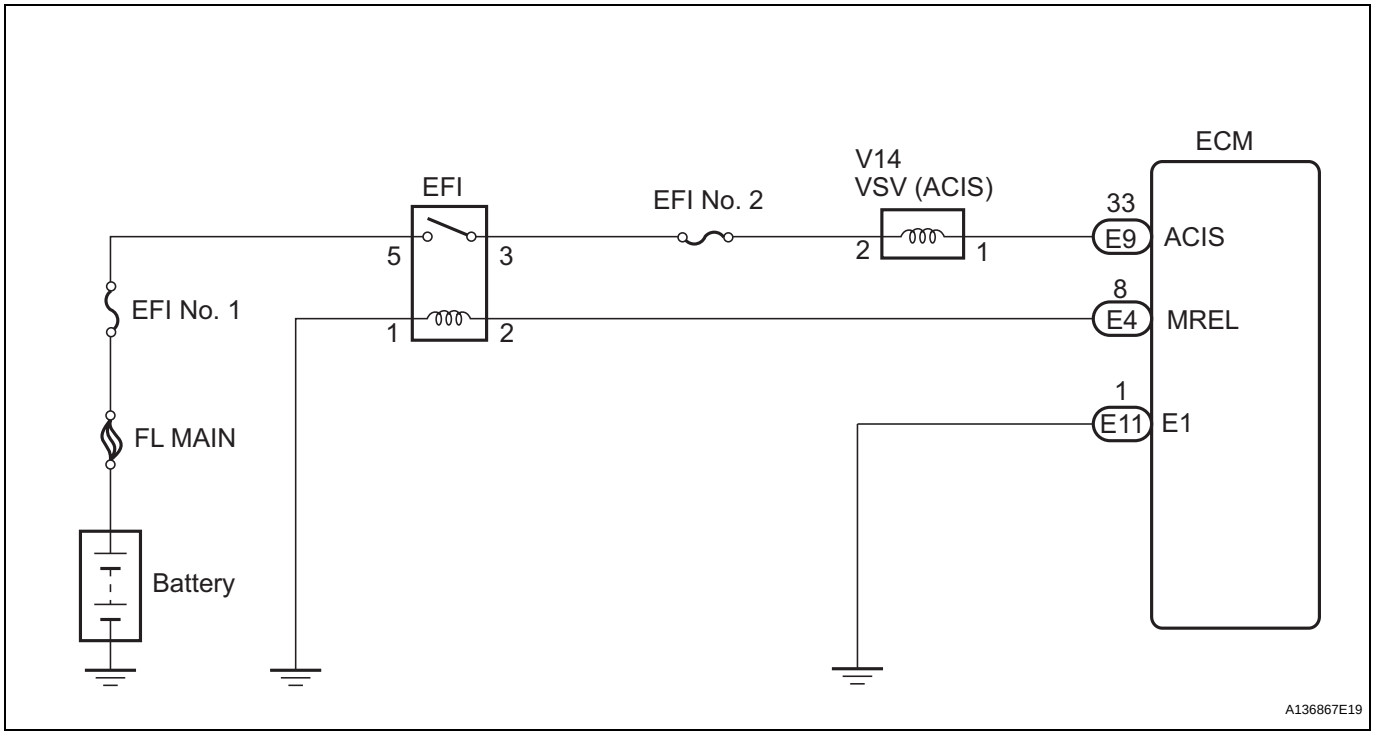
ACIS Control Circuit

DESCRIPTION

This circuit opens and closes the Intake Air Control Valve (IACV) in response to changes in the engine load in order to increase the intake efficiency (ACIS: Acoustic Control Induction System).
When the engine speed is between 0 and 4450 rpm and the throttle valve opening angle is 60° or more, the ECM supplies current to the VSV (ON status), to close the IACV. Under other conditions, the VSV is usually OFF and the IACV is open.



WIRING DIAGRAM



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER (OPERATE VSV FOR ACIS)

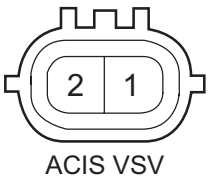
(a) Connect the intelligent tester to the DLC3.
(b) Start the engine and turn the intelligent tester on.
(c) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / ACTIVE TEST / INTAKE CTL VSV1. Operate the VSV for AICS.
OK:
Operational noise can be heard.

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

NG

2	CHECK INTAKE AIR CONTROL VALVE (OPERATION)

Component Side:



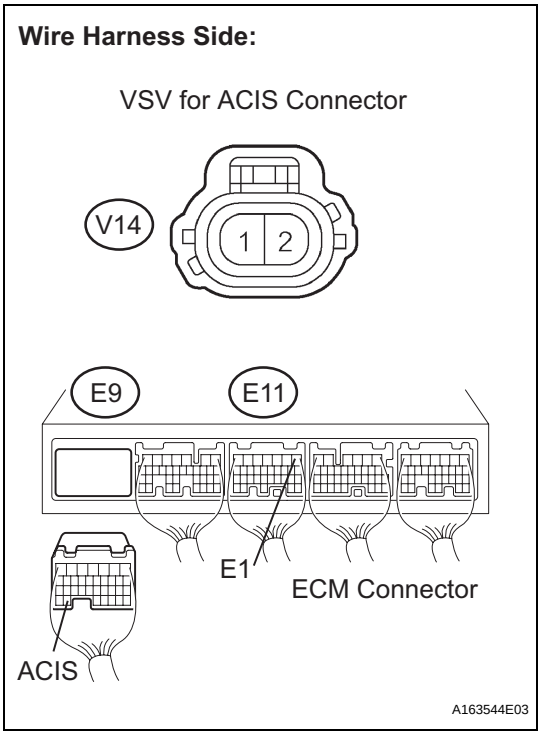
(a) Disconnect the V14 VSV for ACIS connector.
(b) Apply battery voltage between the terminals of the air intake valve connector.
(c) Check the air intake valve operation.
OK:
Operational noise can be heard.
(d) Reconnect the VSV for ACIS connector.

NG → **REPLACE INTAKE AIR SURGE TANK**

ES

OK

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



(a) Check the wire harness and connectors between the VSV for ACIS and ECM.
(1) Disconnect the V14 VSV for ACIS connector.
(2) Disconnect the E9 ECM connector.
(3) Measure the resistance according to the value(s) in the table below.

Standard resistance :

Check for open

Tester Connection	Specified Condition
VSV for ACIS (V14-1) - ACIS (E9-33)	Below 1 Ω

Check for short

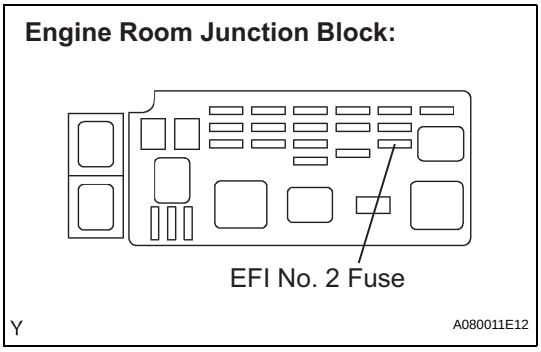
Tester Connection	Specified Condition
VSV for ACIS (V14-1) or ACIS (E9-33) - E1 (E11-1)	10 kΩ or higher

(4) Reconnect the VSV for ACIS connector.
(5) Reconnect the ECM connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (VSV FOR ACIS - ECM)**

OK

4 INSPECT FUSE (EFI NO. 2 FUSE)



(a) Check the EFI No. 2 fuse.
(1) Remove the EFI No. 2 fuse from the engine room junction block.
(2) Measure the EFI No. 2 fuse resistance.

Standard resistance:

Below 1 Ω

(3) Reinstall the EFI No. 2 fuse.

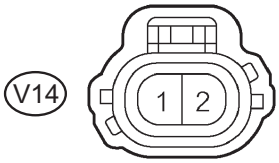
NG → **REPLACE FUSE (EFI NO. 2 FUSE)**

OK

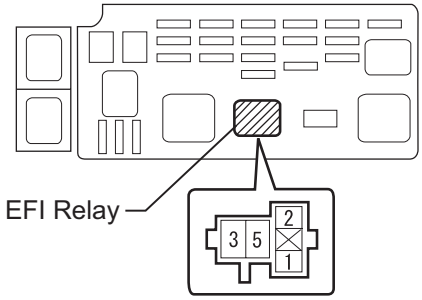
5	CHECK HARNESS AND CONNECTOR (VSV FOR ACIS - EFI RELAY)

Wire Harness Side:

VSV for ACIS Connector



Engine Room Junction Block:



A163545E04

(a) Check the wire harness between the VSV for ACIS connector and EFI relay.
  (1) Remove the EFI relay from the engine room junction block.
  (2) Disconnect the V14 VSV connector.
  (3) Measure the resistance according to the value(s) in the table below.
  Standard resistance :
  Check for open

Tester Connection	Specified Condition
VSV for ACIS (V14-2) - EFI relay terminal (3)	Below 1 Ω

  (4) Reinstall the EFI relay.
  (5) Reconnect the VSV connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (VSV FOR ACIS - EFI RELAY)**

OK

CHECK ECM POWER SOURCE CIRCUIT (See page ES-437)

ES