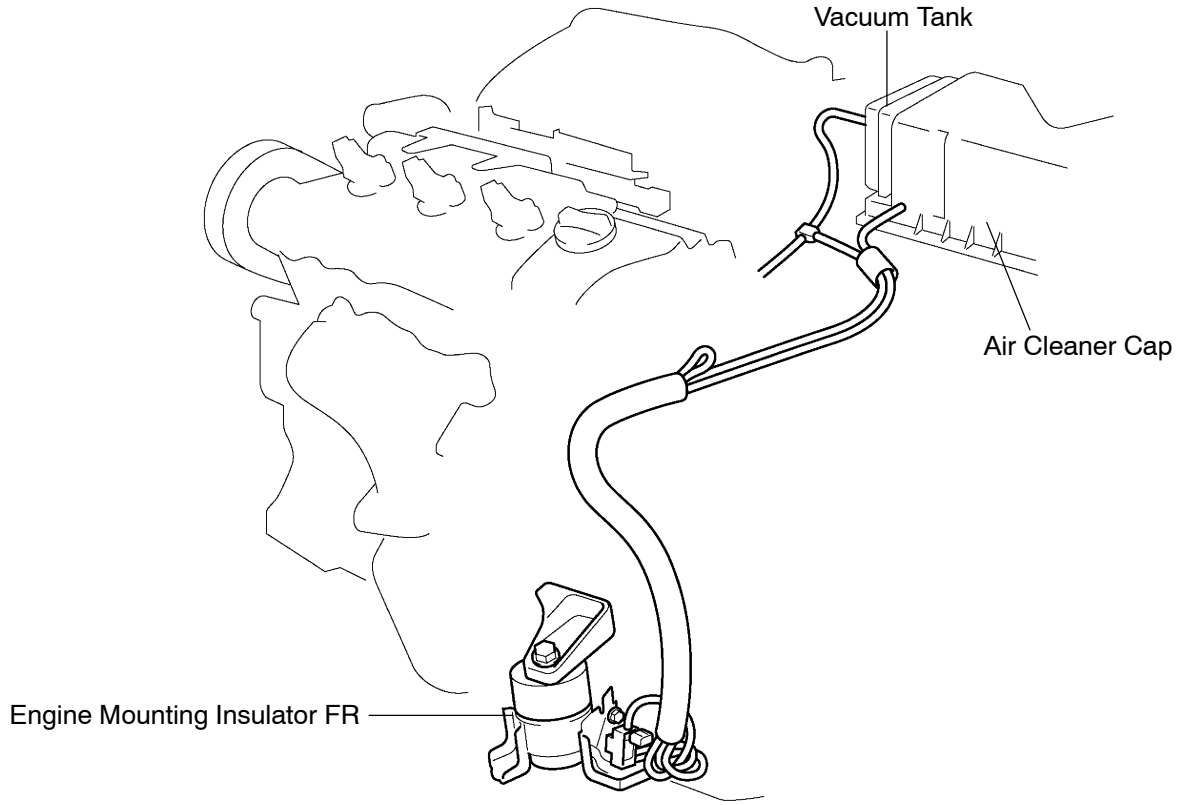
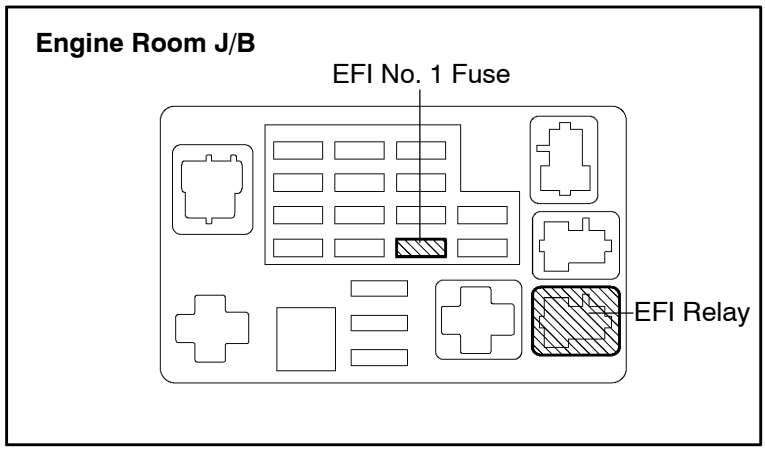
ACTIVE CONTROL ENGINE MOUNT

LOCATION





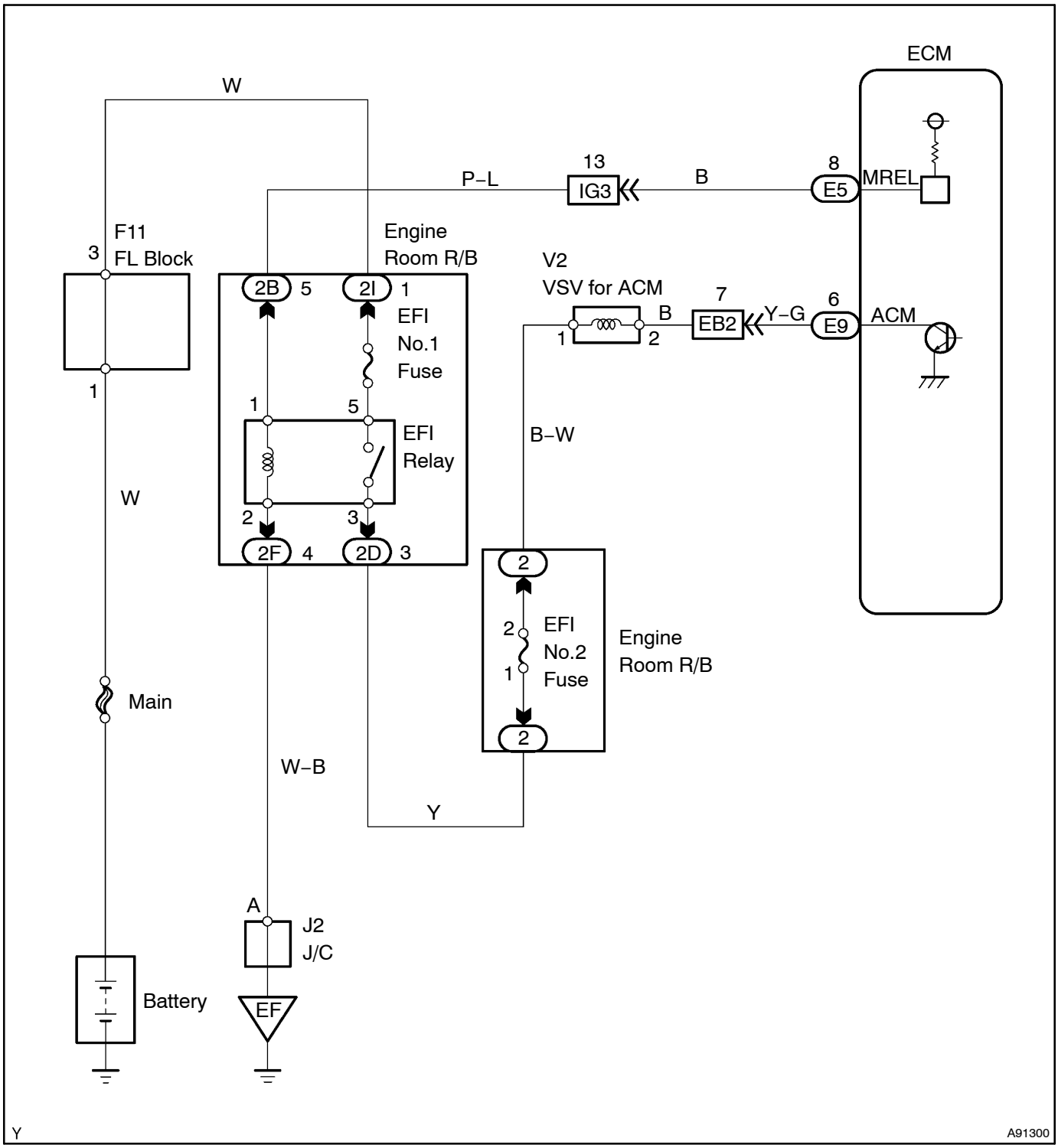
Y

A91304

CIRCUIT DESCRIPTION

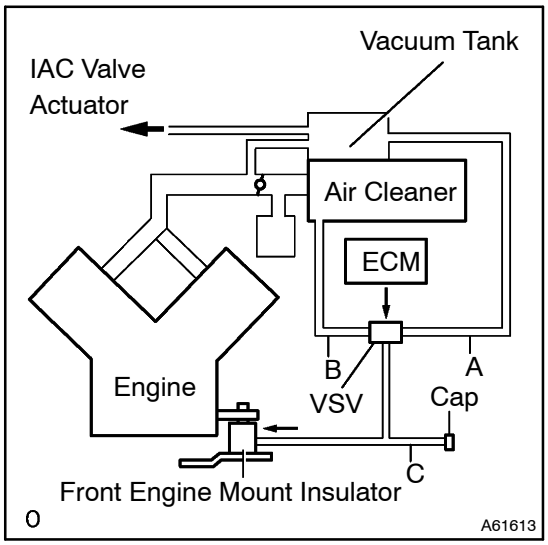
The Active Control Engine Mount (ACM) system decreases engine vibration at low engine speed using the VSV for ACM. The VSV is controlled by a pulse signal transmitted to the VSV from the ECM. The frequency of this pulse signal is matched to the engine speed to decrease engine vibration.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK VACUUM HOSES

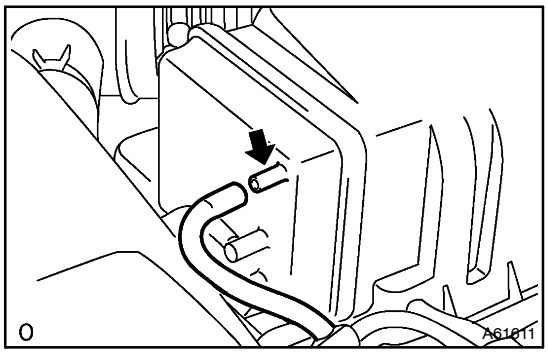


(a) Check if the vacuum hose cap is missing.
(b) If the hose is damaged, replace the vacuum hose assembly.
(c) Check the air and vacuum hoses for looseness, disconnection and blockage.

NG → **REPAIR OR REPLACE VACUUM HOSES**

OK

2 CHECK VACUUM

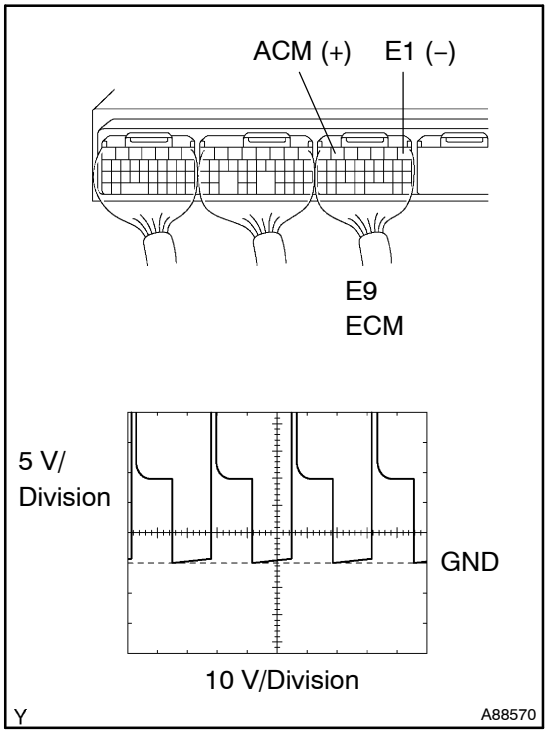


(a) Start the engine.
(b) Disconnect the vacuum hose from the vacuum tank.
(c) Check that an unconnected port located on the vacuum tank applies suction to your finger.
(d) Reconnect the vacuum hose to the vacuum tank.

NG → **CHECK AND REPLACE VACUUM SOURCE AND HOSES**

OK

3 INSPECT ECM (ACM VOLTAGE)



(a) Connect the oscilloscope between terminals ACM and E1 of the E9 ECM connector.
(b) Warm up engine to normal operating temperature.
(c) Turn the A/C switch on.
(d) Check the voltage of terminals ACM and E1 of the E9 ECM connector.

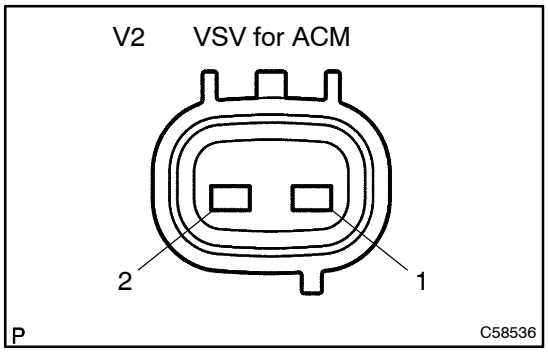
Result:

Condition	Voltage
Shift position is D range, and engine speed is 850 rpm or less	Pulse generation
Shift position is D range, and engine speed is 950 rpm or more	9 to 14 V
Shift position is P range	9 to 14 V

OK → **Go to step 6**

NG

4 INSPECT VSV FOR ACM (RESISTANCE)

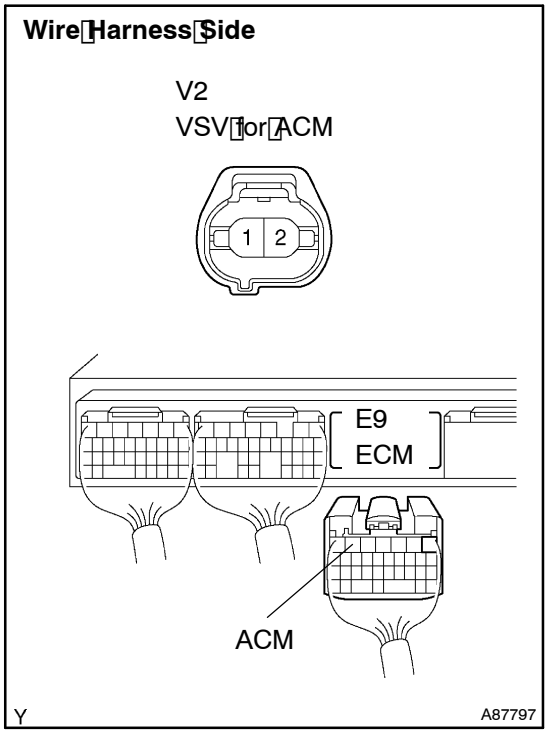


(a) Disconnect the V2 VSV connector.
(b) Check the resistance of the terminals 1 and 2.
Standard: 19 to 21 Ω at 20°C (68°F)

NG → **REPLACE VSV**

OK

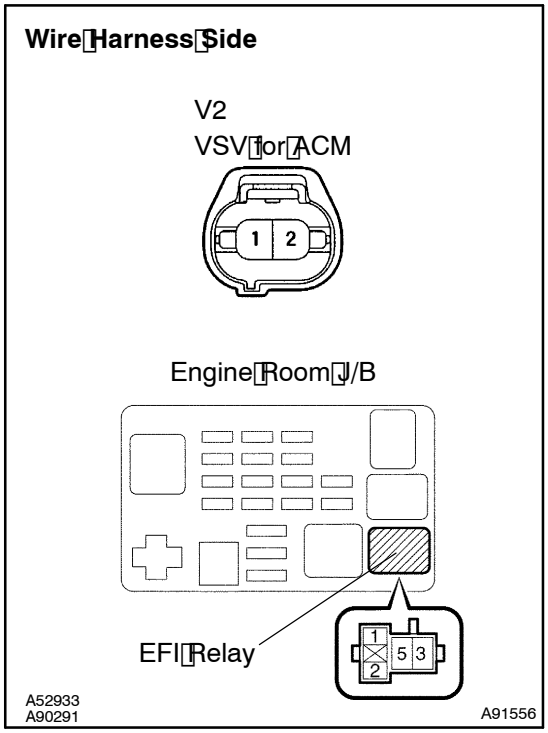
5	CHECK WIRE HARNESS (VSV FOR ACM – ECM, VSV FOR ACM – EFI RELAY)



(a) Check the wire harness between the VSV and ECM.
(1) Disconnect the V2 VSV connector for ACM.
(2) Disconnect the E9 ECM connector.
(3) Check the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
V2–2 – E9–6 (ACM)	Below 1 Ω
V2–2 or E9–6 (ACM) – Body ground	10 kΩ or higher



(b) Check the wire harness between the VSV and EFI relay.
(1) Disconnect the V2 VSV connector.
(2) Remove the EFI relay from the engine room J/B.
(3) Check the resistance of the wire harness side connectors.

Standard:

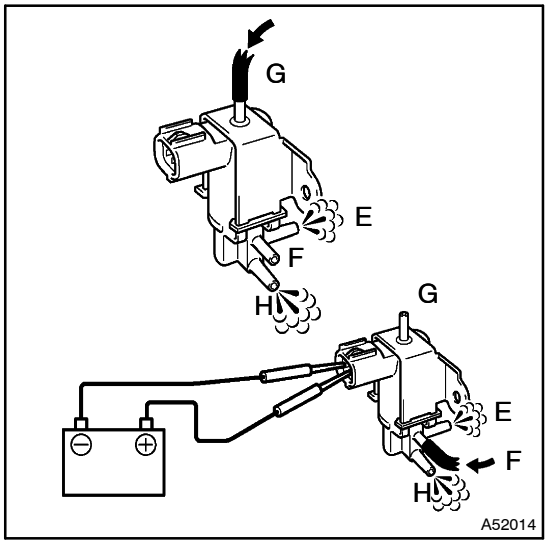
Tester Connection	Specified Condition
V2–1 (VSV for ACM) – J/B EFI relay terminal 3	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK →

REPLACE ECM (See page 10–13)

6	INSPECT VSV FOR ACM (OPERATION)

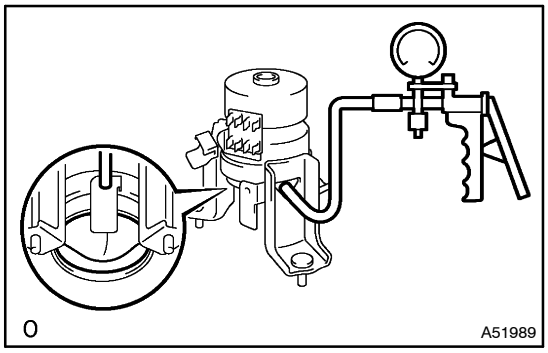


(a) Remove the VSV.
(b) Check operation of the VSV when battery positive voltage is applied to the terminals of the VSV connector.
Battery positive voltage is not applied:
The air from pipe G is flowing out through pipes E and H.
Battery positive voltage is applied:
The air from pipe F is flowing out through pipes E and H.

NG → **REPLACE DUTY VACUUM SWITCHING VALVE**

OK

7	INSPECT TRANSVERSE ENGINE ENGINE MOUNTING INSULATOR



(a) Disconnect the vacuum hose from the front engine mount insulator.
(b) Using MITYVAC (Hand–held Vacuum Pump), apply a vacuum of 80 kPa (600 mmHg, 25 in.Hg) and wait for 1 minute.
(c) Make sure there is no needle movement on the MITY-VAC.
(d) Check that there is no fluid leakage caused by a broken lower diaphragm.

NG → **REPLACE TRANSVERSE ENGINE ENGINE MOUNTING INSULATOR**

OK

SYSTEM OK