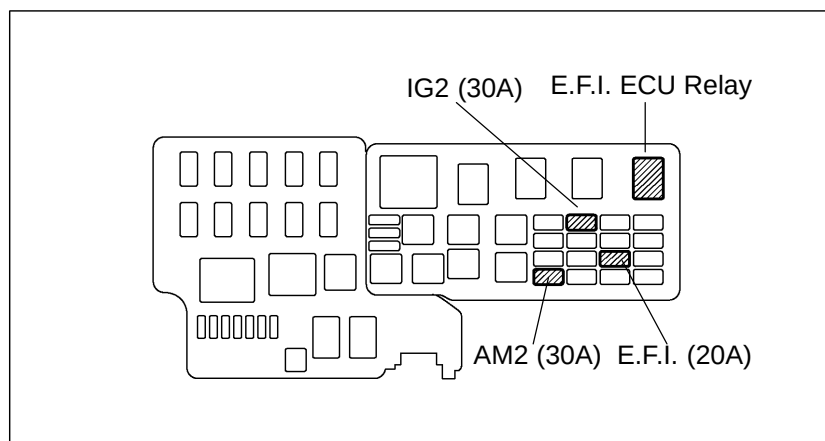
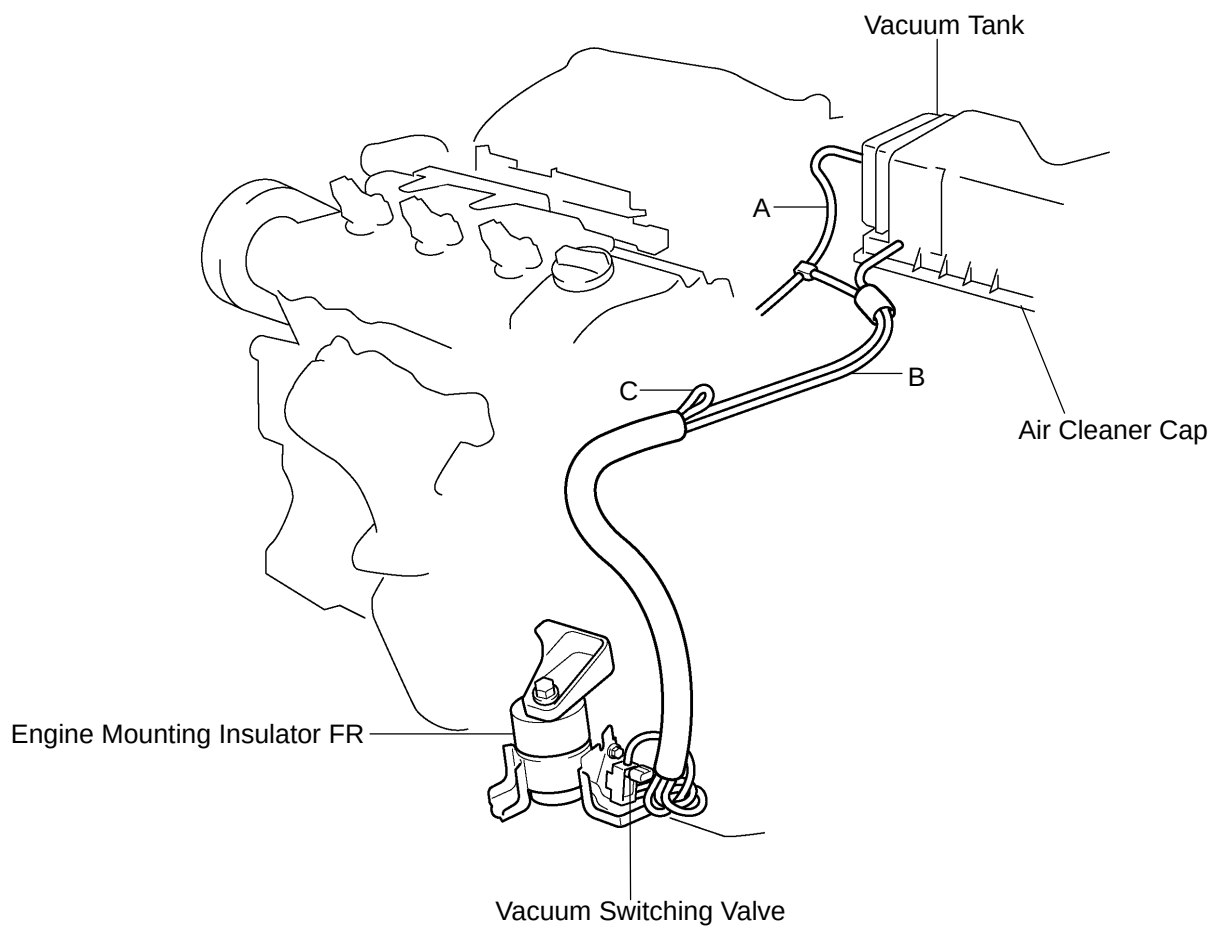


ACTIVE CONTROL ENGINE MOUNT

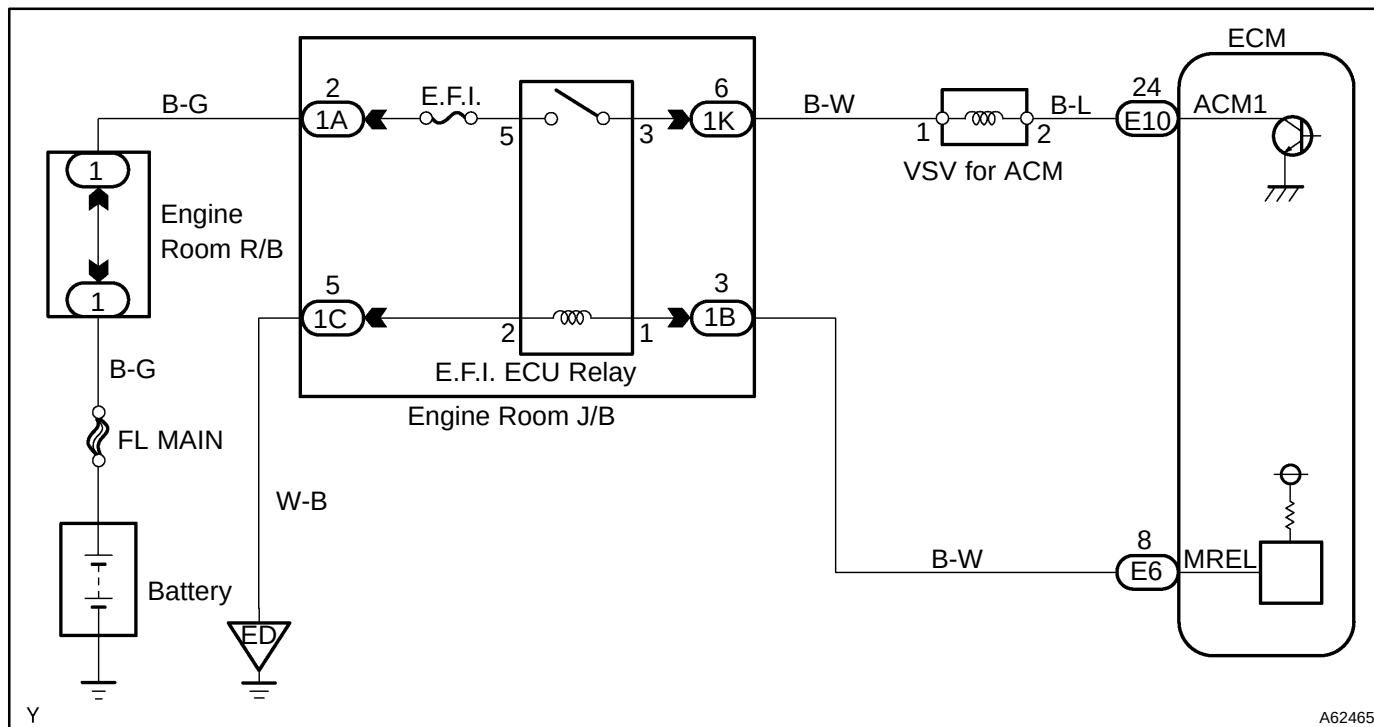
LOCATION



CIRCUIT DESCRIPTION

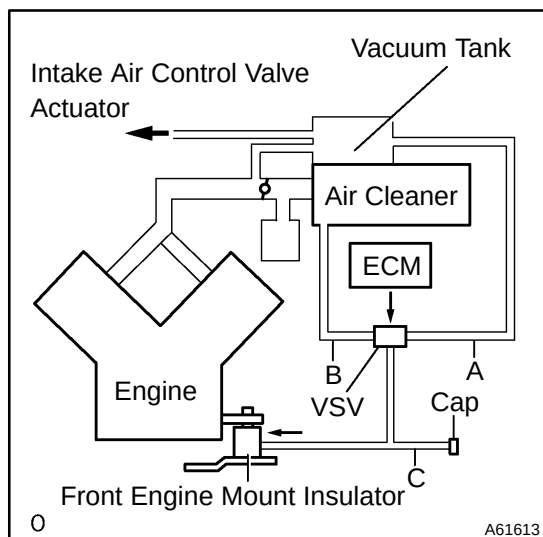
Active control engine mount (ACM) system dampens engine vibration at low engine speed using ACM VSV. The VSV is controlled by a pulse signal transmitted to the VSV from the engine control module (ECM). In normal operation, the frequency of this pulse signal is correctly matched to engine speed to effectively dampen engine vibration.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK VACUUM HOSE



- Check whether the cap of vacuum hose is missing or not.
- Do not repair the hose with a cap by cutting it. If the hose is damaged, be sure to replace whole vacuum hose assembly.
- Check the air/vacuum hose for looseness, disconnection and blockage.

NG

REPAIR OR REPLACE VACUUM HOSE

OK

2	PERFORM ACTIVE TEST BY OBD II SCAN TOOL OR HAND-HELD TESTER(ACTIVE CONTROL ENGINE MOUNT)
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- (a) Warm up engine to normal operating temperature.
- (b) Connect the hand-held tester to the DLC3.
- (c) Select the ACM inhibit active test on the hand-held tester.
- (d) Shift transmission into "N" or "P" range.
- (e) Check whether or not engine vibration is increased while the ACM inhibit active test is in the "ON" state.

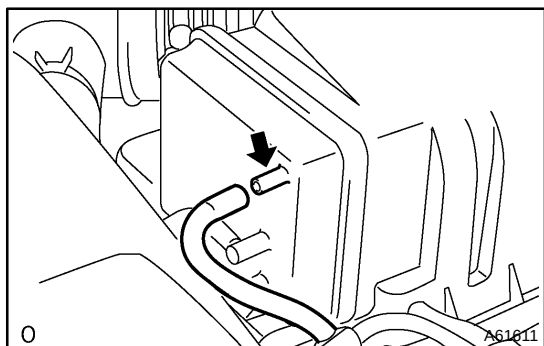
Result: Engine vibration is increased.

NG

Go to step 4

OK

3	CHECK INTAKE MANIFOLD VACUUM PRESSURE
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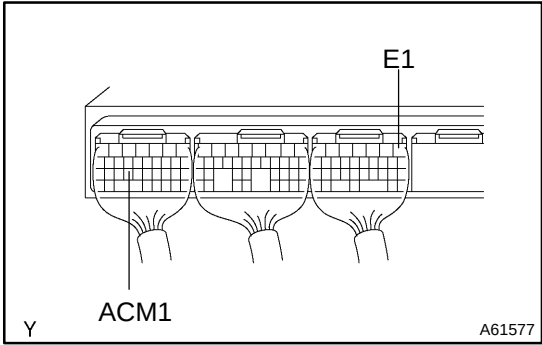
- (a) Warm up engine to normal operating temperature.
- (b) Chock the 4 wheels.
- (c) Fully apply the parking brake.
- (d) Keep your foot pressing firmly on the brake pedal.
- (e) Shift transmission into "D" position.
- (f) Disconnect the vacuum hose.
- (g) Check that disconnected hose applies suction to your finger intermittently.

OK

SYSTEM OK

NG

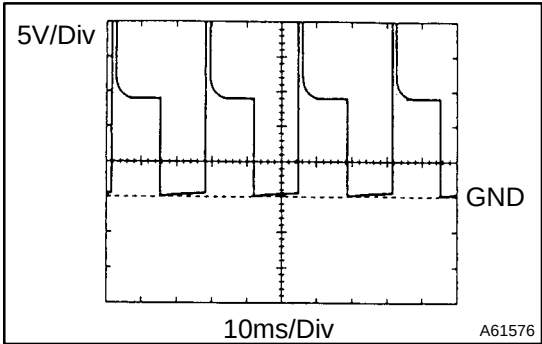
4 INSPECT ECM



- (a) Connect the oscilloscope between terminals ACM1 and E1 of ECM connector.
- (b) Warm up engine to normal operating temperature.
- (c) Measure voltage between terminals ACM1 of and E1 of ECM connector.

Result:

Condition	Voltage
Shift position is D range, and engine speed is 900 rpm or less.	Pulse generation
Shift position is D range, and engine speed is 900 rpm or more.	9 - 14 V
Shift position is P range.	9 - 14 V

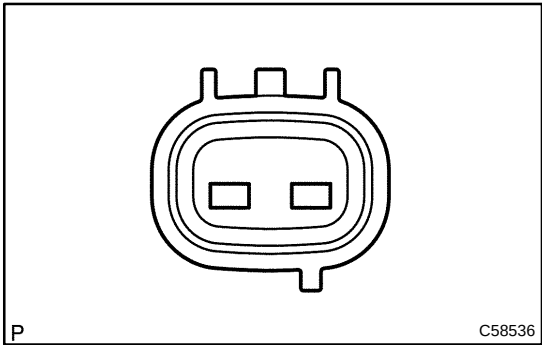


OK

Go to step 7

NG

5 INSPECT DUTY VACUUM SWITCHING VALVE(RESISTANCE)



- (a) Disconnect the VSV connector for ACM.
- (b) Measure resistance between the terminals.

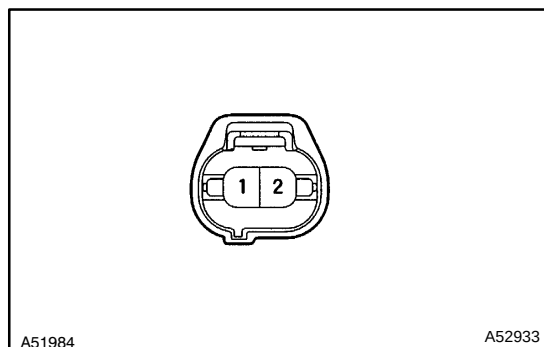
Resistance: 19 - 21 Ω at 20°C (68°F)

NG

REPLACE DUTY VACUUM SWITCHING VALVE

OK

6 CHECK HARNESS AND CONNECTOR



- (a) Disconnect the connector from the VSV of ACM.
- (b) Remove the E.F.I. ECU Relay.
- (c) Check for open between the terminals 3 of the E.F.I. ECU Relay in the holder and 1 of the VSV connector for ACM.

NOTICE:

Do not insert the tester leads too hard in the procedure above, or the holder may be damaged.

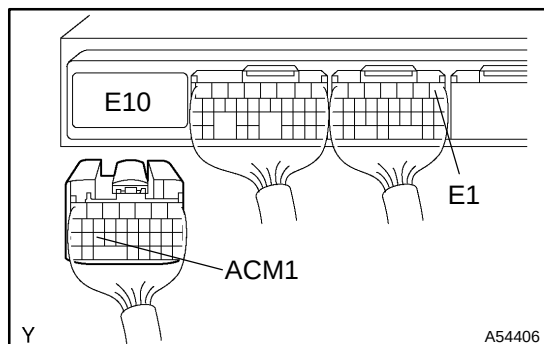
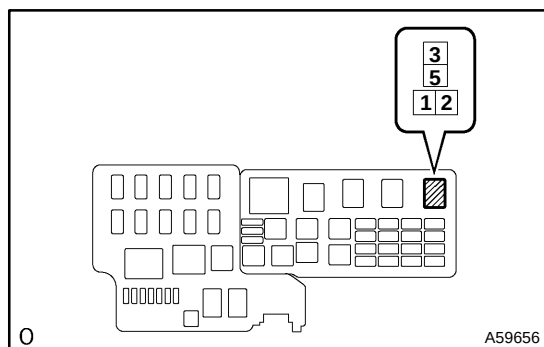
Resistance: 1 Ω or less

- (d) Check for short between the terminals 3 and 2 of the E.F.I. ECU Relay in the holder.

NOTICE:

Do not insert the tester leads too hard in the procedure above, or the holder may be damaged.

Resistance: 1 M Ω or more

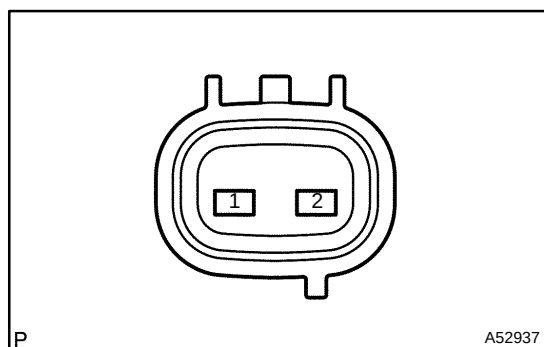


- (e) Disconnect the ECM E10 connector.
- (f) Check for open between the terminals ACM1 of the ECM connector and 2 of the VSV connector for ACM.

Resistance: 1 Ω or less

- (g) Check for short between the the terminals ACM1 and E1 of the ECM connector.

Resistance: 1 M Ω or more



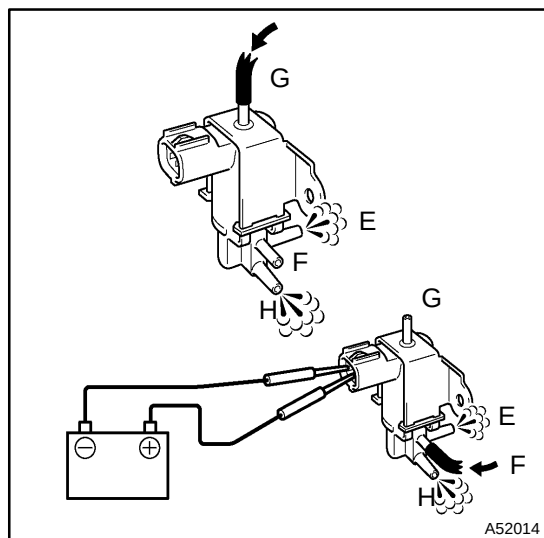
NG

CHECK AND REPLACE WIRE HARNESS

OK

CHECK AND REPLACE ECM

7 INSPECT DUTY VACUUM SWITCHING VALVE(OPERATION)



- Disconnect the VSV connector for ACM.
- Check operation of VSV for ACM when battery positive voltage is applied to the terminals of VSV connector for ACM or not.

Battery positive voltage is not applied:

The air from pipe G is flowing out through pipe E and H.

Battery positive voltage is applied:

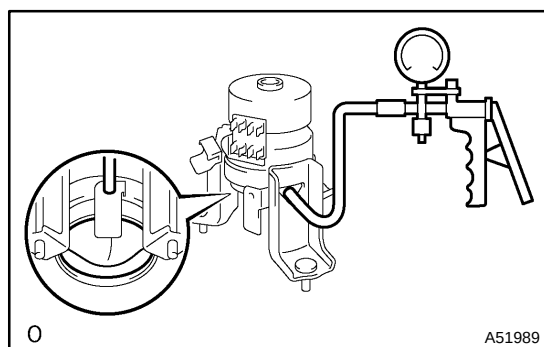
The air from pipe F is flowing out through pipe E and H.

NG

REPLACE DUTY VACUUM SWITCHING VALVE

OK

8 INSPECT ENGINE MOUNTING INSULATOR ASSY FRONT



- Disconnect the vacuum hose from front engine mount insulator.
- Using MITYBAC (Hand-Held Vacuum Pump), apply vacuum of 80 kPa (600 mmHg, 25 in.Hg) and allow it to stand for 1 minutes.
- Check that there is no change in the needle movement.
- Check that there is no fluid leakage caused by a brake of a lower diaphragm.

NG

REPLACE ENGINE MOUNTING INSULATOR ASSY FRONT

OK

SYSTEM OK