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Service Category: Engine/Hybrid System		Section: Engine Control
Model Year: 2008	Model: ES350	Doc ID: RM000002E53006X
Title: 2GR-FE ENGINE CONTROL SYSTEM: ACTIVE CONTROL ENGINE MOUNT SYSTEM: P16A1: Linear Solenoid Circuit or G Sensor Circuit (2008 ES350)		

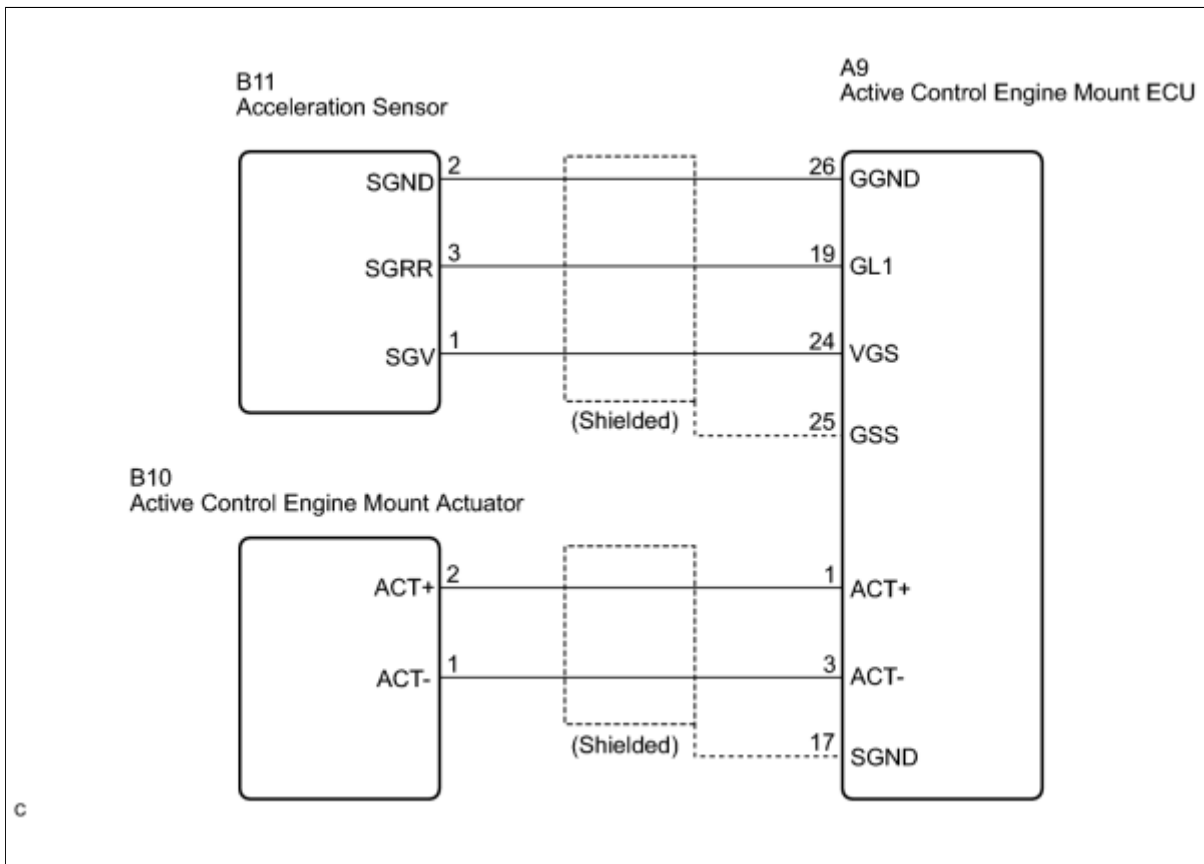
DTC	P16A1	Linear Solenoid Circuit or G Sensor Circuit
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DESCRIPTION

The ECU receives information from the G sensor, ECM (engine speed, engine load ratio coolant temperature, and shift position) skid control ECU (vehicle speed), and A/C ECU (ambient temperature). Based on this information, the ECU drives the solenoid actuator that is built in the front mount to generate vibration that is opposite to the engine vibration in order to reduce engine vibration.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
P16A1	While the active control engine mount ECU is controlling the actuators, problems (open circuit, short circuit, overcurrent, etc.) occur in the ECU, actuators, or the circuits.	<ul style="list-style-type: none"> • Acceleration sensor • Front engine mounting insulator • Open or short in active control engine mount actuator circuit • Active control engine mount ECU
	The vibration signal level from the acceleration sensor is lower than specified (problems with the sensor or the actuator may be stuck).	

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1. PERFORM ACTIVE TEST BY TECHSTREAM (CHECK THE E-ACM)

- (a) Connect Techstream to DLC3.
- (b) Start the engine and turn the tester ON.
- (c) Enter the following menus: Powertrain / E-ACM / Active Test.
- (d) Check if the active mount control actuator operates.

Standard:

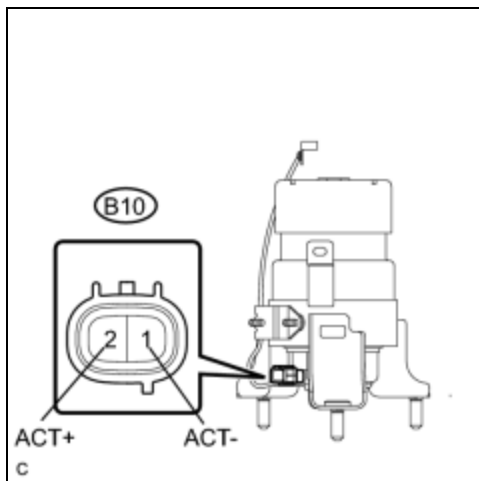
The active mount control actuator operates normally.

OK ► CHECK ACCELERATION SENSOR

NG



2. CHECK FRONT ENGINE MOUNTING INSULATOR (ACTIVE CONTROL ENGINE MOUNT ACTUATOR)



(a) Disconnect the B10 active control mount actuator connector.

(b) Measure the resistance between the ACT+ and ACT- terminals of the actuator connector.

Standard resistance:

TESTER CONNECTION	SPECIFIED VALUE
ACT+ (B10-2) - ACT- (B10-1)	0.73 to 0.77 Ω
ACT+ (B10-2) - Body ground	1 M Ω or higher
ACT- (B10-1) - Body ground	1 M Ω or higher

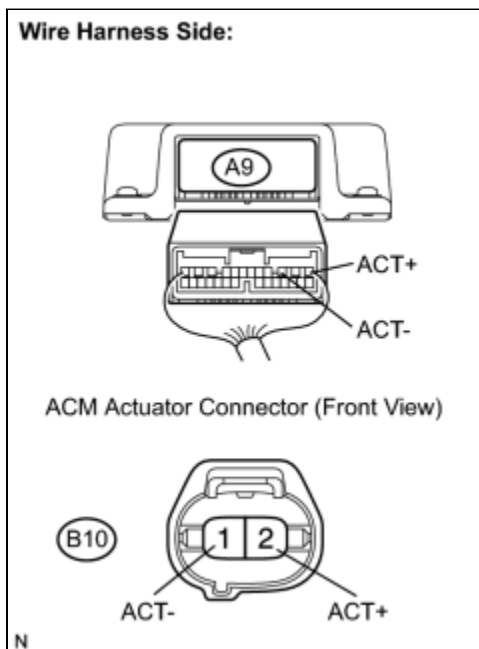
NG REPLACE FRONT ENGINE MOUNTING INSULATOR

OK



3. CHECK HARNESS AND CONNECTOR (ECU - ACTUATOR)

Wire Harness Side:



(a) Disconnect the A9 active control engine mount ECU connector and B10 active control engine mount actuator connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance:

TESTER CONNECTION	SPECIFIED VALUE
ACT+ (A9-1) - ACT+ (B10-2)	Below 1 Ω
ACT- (A9-3) - ACT- (B10-1)	Below 1 Ω

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► REPLACE ACTIVE CONTROL ENGINE MOUNT ECU

