

Visual Inspection and Diagnostic Pre-checks

- Verify BJB fuse 97 (10A) is OK.
- Make sure the grille opening does not have any debris or other obstructions that inhibit operation of the active grille shutter.
- Make sure the active grille shutter actuator electrical connector is not disconnected.

DIAGNOSIS AND TESTING > ACTIVE GRILLE SHUTTER > PINPOINT TEST(S) >

PINPOINT TEST A : THE ACTIVE GRILLE SHUTTER IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY - 3.5L TIVCT OR 5.0L ENGINE > PINPOINT TEST A : THE ACTIVE GRILLE SHUTTER IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY - 3.5L TIVCT OR 5.0L ENGINE

A1 RETRIEVE THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

Ignition ON.

Using a diagnostic scan tool, perform PCM self-test.

Is DTC P05A7, U0046 or U0284 present?

Yes	GO to A2
No	For DTC P059F or P05A1, GO to A7 For all other PCM Diagnostic Trouble Codes (DTCs), REFER to the DTC Chart: Powertrain Control Module (PCM) .

A2 CHECK THE VOLTAGE SUPPLY TO THE ACTIVE GRILLE SHUTTER ACTUATOR

Ignition OFF.

Disconnect: Active Grille Shutter Actuator C1651 .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1651-3		Ground

Is the voltage greater than 11 volts?

Yes	GO to A3
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No	VERIFY BJB fuse 97 (10A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the SYSTEM WIRING DIAGRAMS article to identify the cause of the circuit short.
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A3 CHECK THE ACTIVE GRILLE SHUTTER ACTUATOR GROUND CIRCUIT FOR AN OPEN

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1651-1	Ω	Ground

Is the resistance less than 3 ohms?

Yes	For DTC U0046 or U0284, GO to A4. For DTC P05A7, GO to A9
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No	REPAIR the circuit.
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A4 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

Disconnect: Active Grille Shutter Actuator C1651 .

Disconnect: PCM C1551B (3.5L TiVCT) or C1381B (5.0L).

For 3.5L TiVCT, measure:

Positive Lead	Measurement / Action	Negative Lead
C1651-2	Ω	C1551B-74

For 5.0L, measure:

Positive Lead	Measurement / Action	Negative Lead
C1651-2	Ω	C1381B-74

Is the resistance less than 3 ohms?

Yes	GO to A5
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No	REPAIR the circuit.
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A5 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1651-2		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to A6

A6 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO GROUND

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1651-2	Ω	Ground

Is the resistance greater than 10, 000 ohms?

Yes	GO to A10
No	REPAIR the circuit. CLEAR the Diagnostic Trouble Codes (DTCs). REPEAT the self-test.

A7 VERIFY THE ACTIVE GRILLE SHUTTER OPERATION USING THE GRILLE SHUTTER A POSITION - COMMANDED (GRILL_A_CMD) PARAMETER IDENTIFICATION (PID)

Start the engine and allow it to idle for at least 30 seconds to allow for the active grille shutter calibration to complete.

Using a diagnostic scan tool, view PCM Parameter Identifications (PIDs).

Using a diagnostic scan tool, select the PCM Parameter Identification (PID) GRILL_A_CMD and active command the active grille shutter from 100% (open) to 0% (closed) while observing the active grille shutter operation from the front of the vehicle.

Does the active grille shutter fully open and close when commanded by the diagnostic scan tool?

Yes	The active grille shutter system is operating correctly at this time. The concern may have been caused by debris or obstruction.
No	GO to A8

A8 CHECK THE ACTIVE GRILLE SHUTTER FOR OBSTRUCTIONS AND/OR MECHANICAL BINDING CONCERNS

Ignition OFF.

Remove the active grille shutter actuator. REFER to: Active Grille Shutter Actuator .

Manually open and close the active grille shutter, removing any obstructions which can inhibit operation of the active grille shutter or linkage. The active grille shutter should open and close easily with no binding.

Does the active grille shutter operate freely with no binding or obstruction?

Yes	GO to A9
No	REPAIR the binding/obstruction, or if necessary, INSTALL a new active grille shutter. REFER to: Active Grille Shutter .

A9 CHECK FOR CORRECT ACTIVE GRILLE SHUTTER ACTUATOR OPERATION

Disconnect: Active Grille Shutter Actuator C1651 (if not previously disconnected).

Inspect the active grille shutter actuator electrical connector and jumper harness.

Repair:

corrosion (install new connector or terminals - clean module pins)

damaged or bent pins - install new terminals/pins as necessary

pushed-out pins - install new pins as necessary

Reconnect the active grille shutter actuator connector, jumper harness and all previously disconnected system connectors. Make sure they seat and latch correctly.

Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new active grille shutter actuator. REFER to: Active Grille Shutter Actuator .
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

A10 CHECK FOR THE CORRECT ACTIVE GRILLE SHUTTER ACTUATOR OPERATION

Inspect the active grille shutter actuator and PCM electrical connectors.