Glass, Frames and Mechanisms

Refer to Wiring Diagrams Cell 100 , Power Windows for schematic and connector information.

Refer to Wiring Diagrams Cell 56 , Rear Window Defrost for schematic and connector information.

Special Tool(s)

 ST2332-A	Worldwide Diagnostic System (WDS) 418-F224, New Generation STAR (NGS) Tester 418-F052, or equivalent diagnostic tool with appropriate adapter cable
 ST1137-A	73III Automotive Meter 105-R0057 or equivalent

Principles of Operation

Power Window Control

NOTE: *Battery power and ground must be removed before disconnecting the GEM connectors to avoid setting false DTCs.*

The driver power window one-touch down operation is controlled by the generic electronic module (GEM). This feature functions only when the ignition switch is in the RUN or ACCY positions. The GEM determines ignition switch position by monitoring the key-in ignition, RUN/ACCY and RUN/START circuits. The one-touch down operation is requested of the GEM by momentarily pressing the driver window regulator control switch DOWN for 62 ms to 320 ms. The GEM uses the initial voltage input from the down switch to begin the one-touch down operation. If the voltage input was less than 320 ms, the GEM will maintain the voltage supply to the motor down circuit. The GEM will maintain the operation until:

- seven seconds expires.
- motor stall is detected by monitoring the current draw.
- a voltage input is received by the GEM on either the up or down switch circuits.

The ground for one-touch down operation does not pass through the GEM. The ground is supplied through the driver window regulator control switch as with normal operation. If the GEM continues to see voltage on the down circuit for more than 320 ms after initial activation the GEM will not effect operation. The down circuit through the GEM is a direct connection to the motor in its normal state. This allows the driver window regulator control switch to control the motor for normal operation.

The passenger window motors are hardwired directly to the window regulator control switches.

Inspection and Verification

1. Verify the customer concern by operating the system.

2. Visually inspect for obvious signs of mechanical or electrical damage.

Visual Inspection Chart

Mechanical	Electrical
• Power window regulator • Window run weatherstrip • Door window glass	• Central junction box (CJB) circuit breaker 43 (20A), fuse 39 (5A) or 23 (15A) • Battery junction box (BJB) fuse HTD BL (40A) • Generic electronic module (GEM) • Window regulator control switch • Window regulator motor

Mechanical	Electrical
	• Instrument cluster module (ICM) • Heated rear window relay • Rear window defrost switch • Heated rear window grid • Circuitry

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

4. If the diagnostic tool does not communicate with the vehicle, refer to the diagnostic tool manual.

5. Carry out the diagnostic tool data link test. If the diagnostic tool responds with:
   - SCP or ISO = all eelctronic control units no response/not equipped, refer to Section 418-00.
   - No response/not equipped for the GEM, GO to Pinpoint Test A.
   - No response/not equipped for the ICM, refer to Section 413-01.
   - System passed, retrieve and record the continuous diagnostic trouble codes (DTCs), erase the continuous DTCs and carry out self-test diagnostics for the GEM or ICM.

6. If the GEM or ICM DTCs retrieved are related to the concern, go to the Generic Electronic Module (GEM) Diagnostic Trouble Code (DTC) Index or the Instrument Cluster Module (ICM) Diagnostic Trouble Code (DTC) Index.

7. If no DTCs related to the concern are retrieved, proceed to the Symptom Chart to continue diagnostics.

Generic Electronic Module (GEM) Diagnostic Trouble Code (DTC) Index

DTC	Description	Source	Action
B1217	Horn Relay Output Driver Circuit Failure	GEM	GO to Section 501-14B.
B1218	Horn Relay Output Driver Short to Battery	GEM	GO to Section 501-14B.
B1312	Lamp Headlamp Input Circuit Short to Battery	GEM	GO to Section 413-09.
B1317	Battery Voltage High	GEM	GO to Section 414-00.
B1318	Battery Voltage Low	GEM	GO to Section 414-00.
B1322	Door Ajar Driver Circuit Short to Ground	GEM	GO to Section 417-02.
B1330	Door Ajar Passenger Circuit Short to Ground	GEM	GO to Section 417-02.
B1334	Decklid Ajar Rear Door Circuit Short to Ground	GEM	GO to Section 417-02.
B1339	Chime Input Request Circuit Short to Battery	GEM	GO to Section 413-09.
B1340	Chime Input Request Circuit Short to Ground	GEM	GO to Section 413-09.
B1342	ECU is Defective	GEM	CLEAR the DTC. RETRIEVE the DTCs. If DTC B1342 is retrieved, INSTALL a new GEM. REFER to Section 419-10.
B1353	Ignition Key-in Circuit Open	GEM	GO to Section 413-09.
B1359	Ignition RUN/ACC Circuit Failure	GEM	GO to Section 211-05.
B1396	Power Door Lock Circuit Short to Battery	GEM	GO to Section 501-14B.
B1397	Power Door Unlock Circuit Short to Battery	GEM	GO to Section 501-14B.

DTC	Description	Source	Action
B1405	Power Window Driver Down Circuit Short to Battery	GEM	GO to Pinpoint Test D for convertible, or GO to Pinpoint Test E for coupe.
B1408	Power Window Driver Up Circuit Short to Battery	GEM	GO to Pinpoint Test D for convertible, or GO to Pinpoint Test E for coupe.
B1410	Power Window Driver Motor Circuit Failure	GEM	GO to Pinpoint Test D for convertible, or GO to Pinpoint Test E for coupe.
B1426	Lamp Safety Belt Circuit Short to Battery	GEM	REFER to Section 413-01.
B1428	Lamp Safety Belt Circuit Failure	GEM	REFER to Section 413-01.
B1431	Wiper Brake/run Relay Circuit Failure	GEM	GO to Section 501-16.
B1432	Wiper Brake/run Relay Circuit Short to Battery	GEM	GO to Section 501-16.
B1434	Wiper High/low Speed Relay Coil Circuit Failure	GEM	GO to Section 501-16.
B1436	Wiper High/low Speed Relay Coil Circuit Short to Battery	GEM	GO to Section 501-16.
B1438	Wiper Mode Select Switch Circuit Failure	GEM	GO to Section 501-16.
B1441	Wiper Mode Select Switch Circuit Short to Ground	GEM	GO to Section 501-16.
B1446	Wiper Park Sense Circuit Failure	GEM	GO to Section 501-16.
B1448	Wiper Park Sense Circuit Short to Battery	GEM	GO to Section 501-16.
B1450	Wiper Wash/Delay Switch Circuit Failure	GEM	GO to Section 501-16.
B1453	Wiper Wash/Delay Switch Circuit Short to Ground	GEM	GO to Section 501-16.
B1458	Wiper Washer Pump Motor Relay Circuit Failure	GEM	GO to Section 501-16.
B1460	Wiper Washer Pump Motor Relay Circuit Short to Battery	GEM	GO to Section 501-16.
B1462	Safety Belt Switch Circuit Failure	GEM	GO to Section 413-09.
B1466	Wiper High/Low Speed Not Switching	GEM	GO to Section 501-16.
B1473	Wiper Low Speed Circuit Motor Failure	GEM	GO to Section 501-16.
B1476	Wiper High Speed Circuit Motor Failure	GEM	GO to Section 501-16.
B1498	Decklid Punch-out Sensor Ground Short	GEM	GO to Section 419-01.
B1551	Decklid Release Circuit Failure	GEM	GO to Section 501-14B.
B1553	Decklid Release Circuit Short to Battery	GEM	GO to Section 501-14B.
B1555	Ignition RUN/START Circuit Failure	GEM	GO to Section 211-05.
B1603	Lamp Anti-Theft Indicator Circuit Failure	GEM	GO to Section 419-01.
B1605	Lamp Anti-Theft Indicator Circuit Short to Battery	GEM	GO to Section 419-01.
B1687	Lamp Dome Input Circuit Short to Battery	GEM	GO to Section 417-02.
B1833	Door Unlock Disarm Switch Circuit Short to Ground	GEM	GO to Section 419-01.

DTC	Description	Source	Action
B2486	Parklamp Output Relay Driver Circuit Failure	GEM	GO to Section 419-01.
B2488	Parklamp Output Relay Driver Circuit Short to Battery	GEM	GO to Section 419-01.
C1189	Brake Fluid Level Sensor Input Circuit Short to Ground	GEM	REFER to Section 413-01.
C1223	Lamp Brake Warning Output Circuit Failure	GEM	REFER to Section 413-01.
C1225	Lamp Brake Warning Output Circuit Short to Battery	GEM	REFER to Section 413-01.

Instrument Cluster Module (ICM) Diagnostic Trouble Code (DTC) Index

DTC	Description	Source	Action
B1343	Heated Backlight Input Circuit Failure	ICM	GO to Pinpoint Test H.

Symptom Chart

Refer to the Wiring Diagrams for the connector numbers stated in pinpoint tests.

Symptom Chart

Condition	Possible Causes	Action
• No communication with the generic electronic module (GEM)	• Central junction box (CJB) fuse 39 (5A). • GEM. • Circuitry.	• GO to Pinpoint Test A.
• All power windows are inoperative — convertible	• Circuitry. • Central junction box (CJB) circuit breaker 43 (20A). • Window regulator control switch.	• GO to Pinpoint Test B.
• All power windows are inoperative — coupe	• Circuitry. • Central junction box (CJB) circuit breaker 43 (20A). • Window regulator control switch.	• GO to Pinpoint Test C.
• A single power window is inoperative — driver, convertible	• Circuitry. • Central junction box (CJB) fuse 43 (20A). • Ignition switch. • Window regulator motor. • Window regulator control switch. • Generic electronic module (GEM).	• GO to Pinpoint Test D.
• A single power window is inoperative — driver, coupe	• Circuitry. • Central junction box (CJB) fuse 43 (20A). • Ignition switch. • Window regulator motor. • Window regulator control switch. • Generic electronic module (GEM).	• GO to Pinpoint Test E.

• The one-touch down feature is inoperative	• Circuitry. • Central junction box (CJB) fuse 43 (20A). • Ignition switch. • Window regulator motor. • Window regulator control switch. • Generic electronic module (GEM).	• For convertible, GO to Pinpoint Test D. • For coupe, GO to Pinpoint Test E.
• A single power window is inoperative — passenger	• Circuitry. • Driver window regulator control switch. • Window regulator motor. • Passenger window regulator control switch.	• GO to Pinpoint Test F.
• A single power window is inoperative — rear, convertible only	• Circuitry. • Window regulator motor. • Driver window regulator control switch.	• GO to Pinpoint Test G.
• The defrost system is inoperative	• Battery junction box (BJB) fuse HTD BL (30A). • Central junction box (CJB) fuse 23 (15A). • Circuitry. • Instrument cluster module (ICM). • Rear window defrost switch. • Heated rear window grid.	• GO to Pinpoint Test H.
• The defrost system will not shut off automatically	• Circuit. • Instrument cluster module (ICM). • Rear window defrost switch.	• GO to Pinpoint Test I.

Pinpoint Tests

PINPOINT TEST A : NO COMMUNICATION WITH THE GENERIC ELECTRONIC MODULE (GEM)

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

A1 CHECK THE GEM POWER SUPPLY

- Ignition OFF.
- Disconnect: GEM C201a.
- Disconnect: GEM C201b.
- Ignition ON.
- Using the following table, measure the voltage between the GEM, harness side and ground.

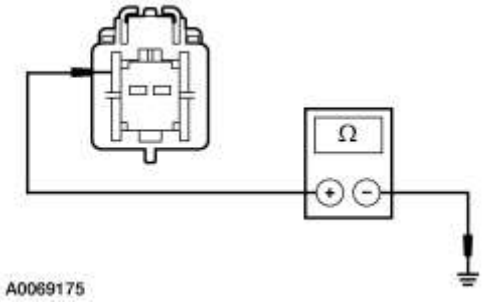
Connector	Pin	Circuit
C201a	4	400 (LB/BK)
C201a	1	1006 (DG/WH)
C201b	2	1001 (WH/YE)
C201b	3	193 (YE/LG)

Are the voltages greater than 10 volts?

Yes	GO to A2.
No	REPAIR the circuit(s) in question. TEST the system for normal operation.

A2 CHECK THE GEM GROUND CIRCUIT 397 (BK/WH) FOR OPEN

- Ignition OFF.
- Measure the resistance between the GEM C201b pin 4, circuit 397 (BK/WH), harness side and ground.

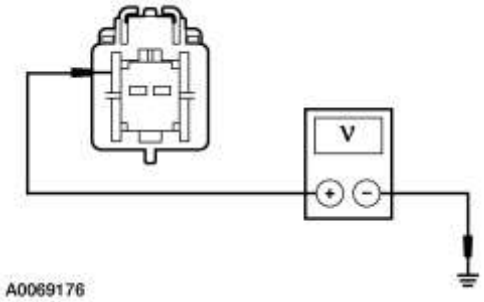


Is the resistance less than 5 ohms?

Yes	GO to A3.
No	REPAIR the circuit(s) in question. TEST the system for normal operation.

A3 CHECK CIRCUIT 397 (BK/WH) FOR SHORT TO POWER

- Measure the voltage between the GEM C201b pin 4, circuit 397 (BK/WH), harness side and ground.



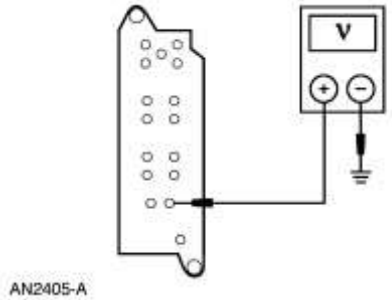
Is any voltage present?

Yes	REPAIR the circuit. TEST the system for normal operation.
No	REFER to Section 418-00.

PINPOINT TEST B : ALL POWER WINDOWS ARE INOPERATIVE — CONVERTIBLE

B1 CHECK THE POWER SUPPLY TO THE WINDOW REGULATOR CONTROL SWITCH

- Ignition OFF.
- Disconnect: Driver Window Regulator Control Switch C537.
- Ignition ON.
- Measure the voltage between driver window regulator control switch C537 pin 15, circuit 400 (LB/BK), harness side and ground.

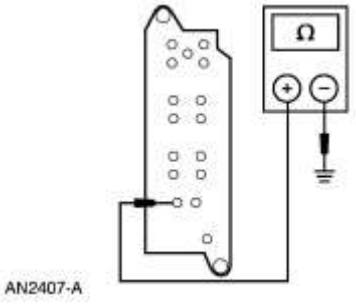


Is the voltage greater than 10 volts?

Yes	GO to B2.
No	REPAIR the circuit. TEST the system for normal operation.

B2 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window regulator control switch C537 pin 14, circuit 1205 (BK), harness side and ground.



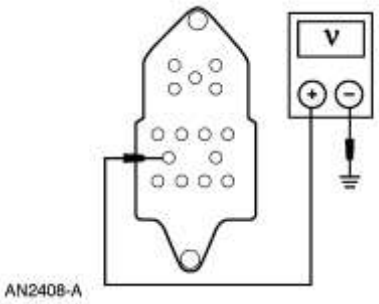
Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

PINPOINT TEST C : ALL POWER WINDOWS ARE INOPERATIVE — COUPE

C1 CHECK THE POWER SUPPLY TO THE WINDOW REGULATOR CONTROL SWITCH

- Ignition OFF.
- Disconnect: Driver Window Regulator Control Switch C508.
- Ignition ON.
- Measure the voltage between driver window regulator control switch C508 pin 10, circuit 400 (LB/BK), harness side and ground.

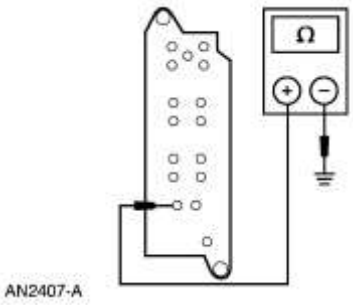


Is the voltage greater than 10 volts?

Yes	GO to C2.
No	REPAIR the circuit. TEST the system for normal operation.

C2 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window regulator control switch C508 pin 14, circuit 1205 (BK), harness side and ground.



Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

PINPOINT TEST D : A SINGLE POWER WINDOW IS INOPERATIVE — DRIVER, CONVERTIBLE

D1 CHECK THE IGNITION SWITCH INPUT TO THE GEM

- Select GEM PID IGN_A, IGN_R, IGN_S and IGN_KEY.
- Insert the ignition key in the ignition switch and turn to each position while monitoring PIDs.

Did the PID values agree with the ignition switch positions?

Yes	GO to D2.
No	REFER to Section 211-05 for ignition switch diagnosis.

D2 CHECK THE DRIVER WINDOW REGULATOR CONTROL SWITCH INPUT TO THE GEM

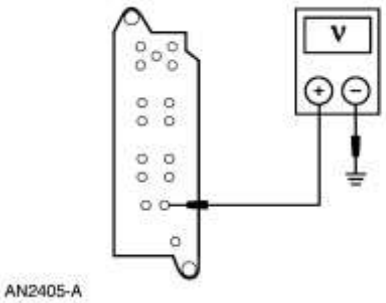
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: GEM PID D_UP_SW and D_DN_SW.
- Actuate the driver window regulator control switch to the UP and DOWN position.

Did the PID values agree with the driver window regulator control switch positions?

Yes	GO to D9.
No	GO to D3.

D3 CHECK THE POWER SUPPLY TO THE WINDOW REGULATOR CONTROL SWITCH

- Disconnect: Driver Window Regulator Control Switch C537.
- Ignition ON.
- Measure the voltage between driver window regulator control switch C537 pin 15, circuit 400 (LB/BK), harness side and ground.

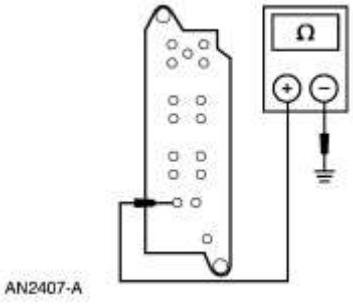


Is the voltage greater than 10 volts?

Yes	GO to D4.
No	GO to D8.

D4 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window regulator control switch C537 pin 14, circuit 1205 (BK), harness side and ground.



Is the resistance less than 5 ohms?

Yes	GO to D5.
No	REPAIR the circuit. TEST the system for normal operation.

D5 CHECK THE DRIVER WINDOW REGULATOR CONTROL SWITCH

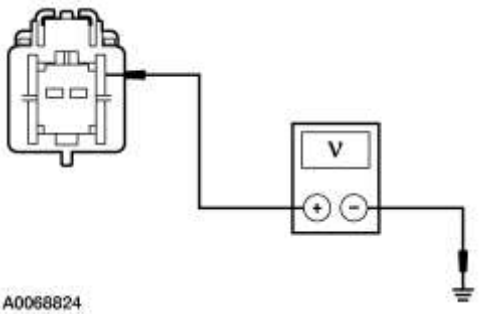
- Carry out the Driver Window Regulator Control Switch component test.
  Refer to Wiring Diagrams Cell 149 for component testing.

Did the driver window regulator control switch pass?

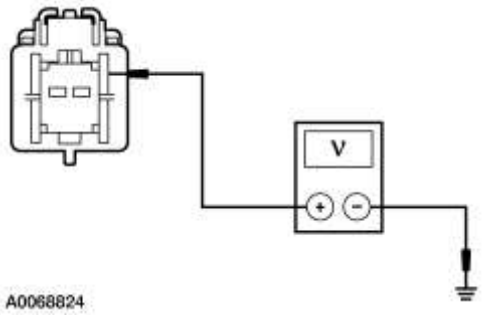
Yes	GO to D6.
No	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.

D6 CHECK CIRCUIT 226 (WH/BK) FOR A SHORT TO BATTERY

- Ignition OFF.
- Disconnect: GEM C201a.
- Measure the voltage between GEM C201a pin 2, circuit 226 (WH/BK), harness side and ground.



- Ignition ON.
- Measure the voltage between GEM C201a pin 2, circuit 226 (WH/BK), harness side and ground.

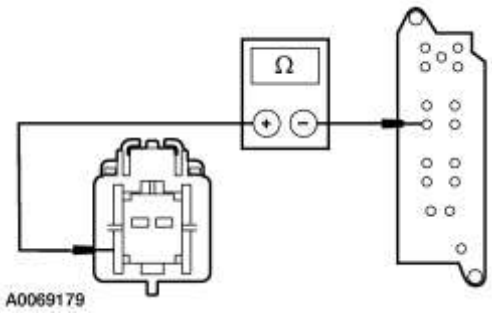


Is either voltage greater than 10 volts?

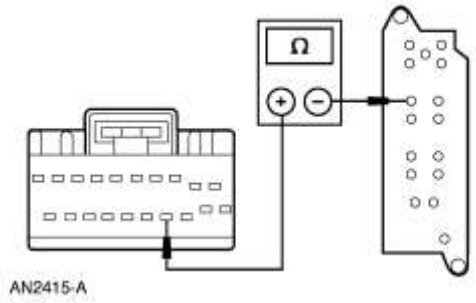
Yes	REPAIR the circuit. TEST the system for normal operation.
No	GO to D7.

D7 CHECK CIRCUIT 991 (TN/LB) AND 992 (WH/BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: GEM C201c.
- Measure the resistance between driver window regulator control switch C537 pin 8, circuit 991 (TN/LB), harness side and GEM C201a pin 3, circuit 991 (TN/LB), harness side.



- Measure the resistance between driver window regulator control switch C537 pin 6, circuit 992 (WH/BK), harness side and GEM C201c pin 14, circuit 992 (WH/BK), harness side.

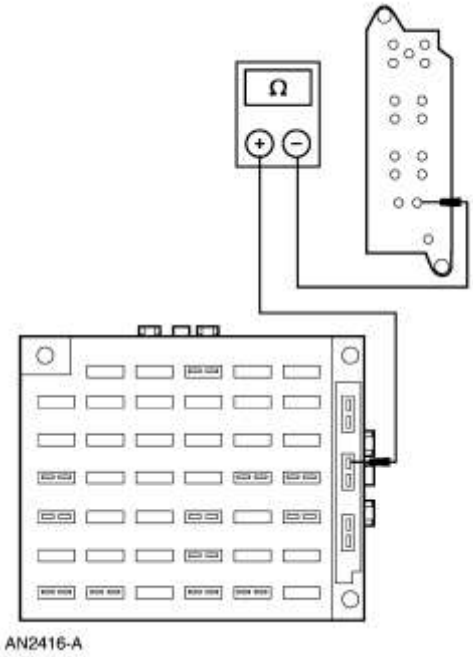


Are the resistances less than 5 ohms?

Yes	INSTALL a new GEM. REFER to Section 419-10. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

D8 CHECK CIRCUIT 400 (LB/BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: CJB Circuit Breaker 43 (20A).
- Measure the resistance between driver window regulator control switch C537 pin 15, circuit 400 (LB/BK), harness side and CJB circuit breaker 43 (20A) output pin, circuit 400 (LB/BK).



Is the resistance less than 5 ohms?

Yes	REPAIR the power supply to CJB circuit breaker 43 (20A). TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

D9 CHECK THE GEM CONTROL OF THE DRIVER POWER WINDOW

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: GEM Active Command FRONT WINDOW CONTROL.
- Trigger DR DOWN ON.

Did the driver window move down?

Yes	INSTALL a new GEM. REFER to Section 419-10. TEST the system for normal operation.
No	GO to D10.

D10 CHECK THE WINDOW REGULATOR MOTOR OPERATION

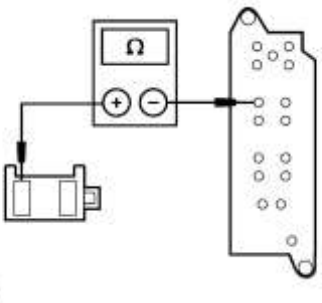
- Disconnect: Driver Window Regulator Motor C518.
- Connect a 20 amp fused jumper wire between battery positive and one pin of the window regulator motor (component side).
- Momentarily connect a jumper wire between second pin of the window regulator motor and ground.
- Reverse the jumper wires on the window regulator motor.

Did the window regulator motor operate in both directions?

Yes	GO to D11.
No	INSTALL a new window regulator motor. REFER to Motor — Window Regulator in this section. TEST the system for normal operation.

D11 CHECK CIRCUIT 992 (WH/BK) FOR AN OPEN BETWEEN THE DRIVER WINDOW MOTOR AND THE WINDOW REGULATOR CONTROL SWITCH

- Disconnect: Driver Window Regulator Control Switch C537.
- Measure the resistance between driver window regulator control switch C537 pin 6, circuit 992 (WH/BK), harness side and driver window regulator motor C518, circuit 992 (WH/BK), harness side.

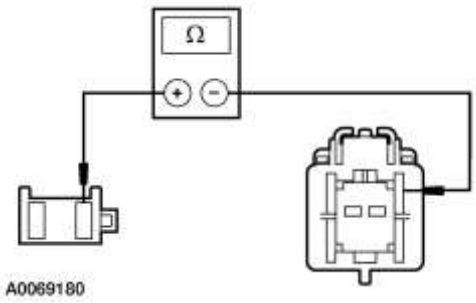


Is the resistance less than 5 ohms?

Yes	GO to D12.
No	REPAIR the circuit. TEST the system for normal operation.

D12 CHECK CIRCUIT 226 (WH/BK) FOR AN OPEN

- Disconnect: GEM C201a.
- Measure the resistance between GEM C201a pin 2, circuit 226 (WH/BK), harness side and driver window regulator motor C518, circuit 226 (WH/BK), harness side.

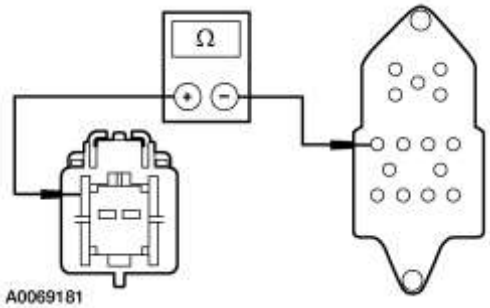


Is the resistance less than 5 ohms?

Yes	GO to D13.
No	REPAIR the circuit. TEST the system for normal operation.

D13 CHECK CIRCUIT 400 (LB/BK) FOR AN OPEN TO THE GEM

- Ignition OFF.
- Disconnect: CJB Circuit Breaker 43 (20A).
- Measure the resistance between GEM C021a pin 4, circuit 400 (LB/BK), harness side and CJB circuit breaker 43 (20A) output pin, circuit 400 (LB/BK).



Is the resistance less than 5 ohms?

Yes	INSTALL a new GEM. REFER to Section 419-10. TEST the system for normal operation.

No	REPAIR the circuit. TEST the system for normal operation.

PINPOINT TEST E : A SINGLE POWER WINDOW IS INOPERATIVE — DRIVER, COUPE

E1 CHECK THE IGNITION SWITCH INPUT TO THE GEM

- Select GEM PID IGN_A, IGN_R, IGN_S and IGN_KEY.
- Insert the ignition key in the ignition switch and turn to each position while monitoring PIDs.

Did the PID values agree with the ignition switch positions?

Yes	GO to E2.
No	REFER to Section 211-05 for ignition switch diagnosis.

E2 CHECK THE DRIVER WINDOW REGULATOR CONTROL SWITCH INPUT TO THE GEM

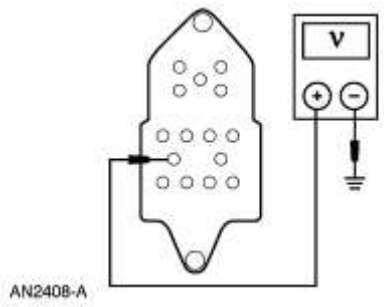
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: GEM PID D_UP_SW and D_DN_SW.
- Actuate the driver window regulator control switch to the UP and DOWN position.

Did the PID values agree with the driver window regulator control switch positions?

Yes	GO to E9.
No	GO to E3.

E3 CHECK THE POWER SUPPLY TO THE WINDOW REGULATOR CONTROL SWITCH

- Disconnect: Driver Window Regulator Control Switch C508.
- Ignition ON.
- Measure the voltage between driver window regulator control switch C508 pin 10, circuit 400 (LB/BK), harness side and ground.

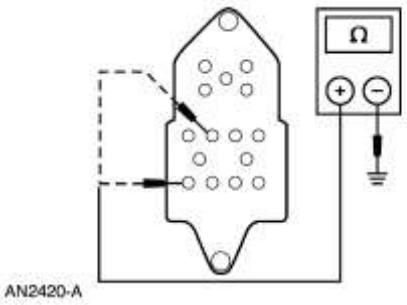


Is the voltage greater than 10 volts?

Yes	GO to E4.
No	GO to E8.

E4 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window regulator control switch C508 pin 7, circuit 1205 (BK), harness side and ground; and between driver window regulator control switch C508 pin 12, circuit 1205 (BK), harness side and ground.



Is the resistance less than 5 ohms?

Yes	GO to E5.
No	REPAIR the circuit. TEST the system for normal operation.

E5 CHECK THE DRIVER WINDOW REGULATOR CONTROL SWITCH

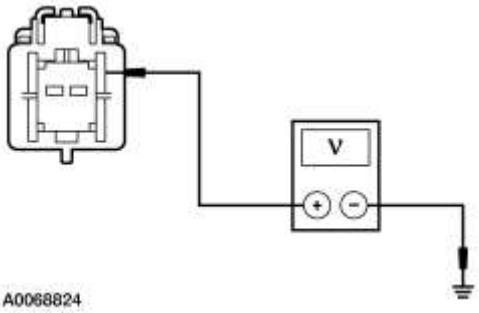
- Carry out the Driver Window Regulator Control Switch component test.
  Refer to Wiring Diagrams Cell 149 for component testing.

Did the driver window regulator control switch pass?

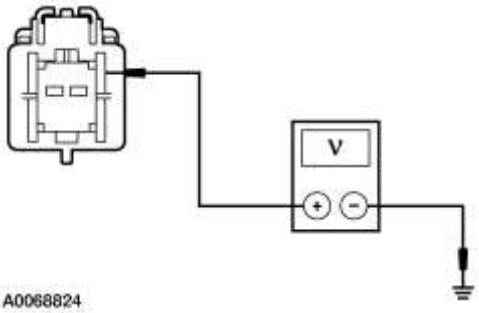
Yes	GO to E6.
No	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.

E6 CHECK CIRCUIT 226 (WH/BK) FOR A SHORT TO BATTERY

- Ignition OFF.
- Disconnect: GEM C201a.
- Measure the voltage between GEM C201a pin 2, circuit 226 (WH/BK), harness side and ground.



- Ignition ON.
- Measure the voltage between GEM C201a pin 2, circuit 226 (WH/BK), harness side and ground.



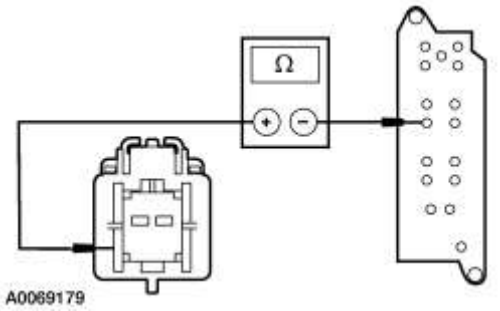
Is either voltage greater than 10 volts?

Yes	REPAIR the circuit. TEST the system for normal operation.

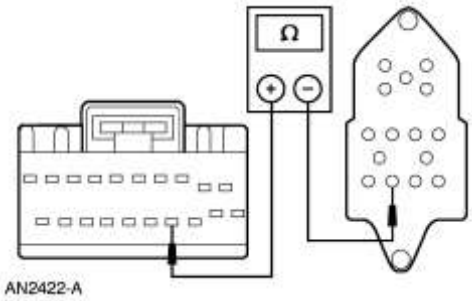
No	GO to E7.

E7 CHECK CIRCUIT 991 (TN/LB) AND 992 (WH/BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: GEM C201c.
- Measure the resistance between driver window regulator control switch C508 pin 6, circuit 991 (TN/LB), harness side and GEM C201a pin 3, circuit 991 (TN/LB), harness side.



- Measure the resistance between driver window regulator control switch C508 pin 13, circuit 992 (WH/BK), harness side and GEM C201c pin 14, circuit 992 (WH/BK), harness side.

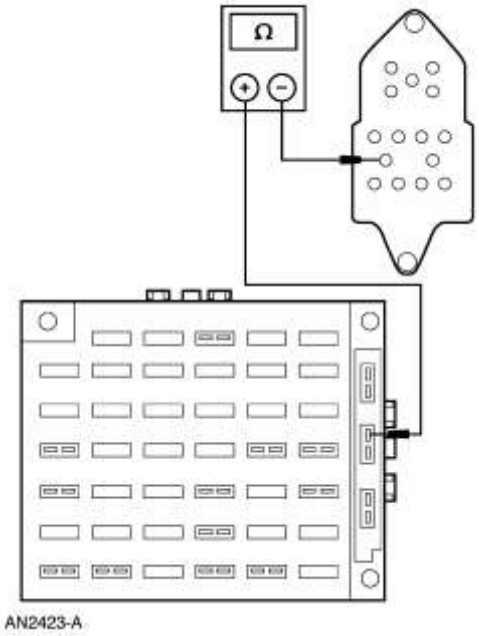


Are the resistances less than 5 ohms?

Yes	INSTALL a new GEM. REFER to Section 419-10. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

E8 CHECK CIRCUIT 400 (LB/BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: CJB Circuit Breaker 43 (20A).
- Measure the resistance between driver window regulator control switch C508 pin 10, circuit 400 (LB/BK), harness side and CJB circuit breaker 43 (20A) output pin, circuit 400 (LB/BK).



Is the resistance less than 5 ohms?

Yes	REPAIR the power supply to CJB circuit breaker 43 (20A). TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

E9 CHECK THE GEM CONTROL OF THE DRIVER POWER WINDOW

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: GEM Active Command FRONT WINDOW CONTROL.
- Trigger DR DOWN ON.

Did the driver window move down?

Yes	INSTALL a new GEM. REFER to Section 419-10. TEST the system for normal operation.
No	GO to E10.

E10 CHECK THE WINDOW REGULATOR MOTOR OPERATION

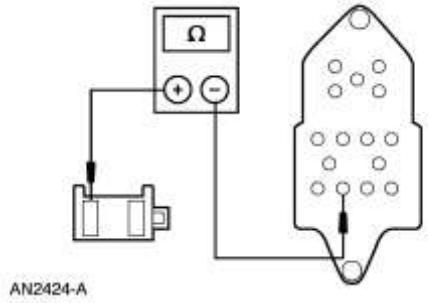
- Disconnect: Driver Window Regulator Motor C518.
- Connect a 20 amp fused jumper wire between battery positive and one pin of the window regulator motor (component side).
- Momentarily connect a jumper wire between the second pin of the window regulator motor and ground.
- Reverse the jumper wires on the window regulator motor.

Did the window regulator motor operate in both directions?

Yes	GO to E11.
No	INSTALL a new window regulator motor. REFER to Motor — Window Regulator in this section. TEST the system for normal operation.

E11 CHECK CIRCUIT 992 (WH/BK) FOR AN OPEN BETWEEN THE DRIVER WINDOW MOTOR AND THE WINDOW REGULATOR CONTROL SWITCH

- Disconnect: Driver Window Regulator Control Switch C508.
- Measure the resistance between driver window regulator control switch C508 pin 13, circuit 992 (WH/BK), harness side and driver window motor C518, circuit 992 (WH/BK), harness side.

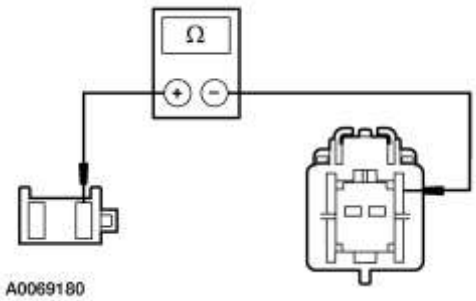


Is the resistance less than 5 ohms?

Yes	GO to E12.
No	REPAIR the circuit. TEST the system for normal operation.

E12 CHECK CIRCUIT 226 (WH/BK) FOR AN OPEN

- Disconnect: GEM C201a.
- Measure the resistance between GEM C201a pin 2, circuit 226 (WH/BK), harness side and driver window motor C518, circuit 226 (WH/BK), harness side.

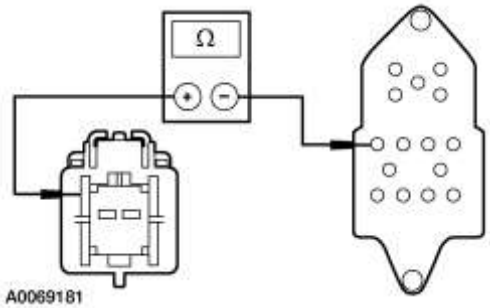


Is the resistance less than 5 ohms?

Yes	GO to E13.
No	REPAIR the circuit. TEST the system for normal operation.

E13 CHECK CIRCUIT 400 (LB/BK) FOR AN OPEN TO THE GEM

- Ignition OFF.
- Disconnect: CJB Circuit Breaker 43 (20A).
- Measure the resistance between GEM C201a pin 4 circuit 400 (LB/BK), harness side and CJB circuit breaker 43 (20A) output pin, circuit 400 (LB/BK).



Is the resistance less than 5 ohms?

Yes	INSTALL a new GEM. REFER to Section 419-10. TEST the system for normal operation.

No	REPAIR the circuit. TEST the system for normal operation.

PINPOINT TEST F : A SINGLE POWER WINDOW IS INOPERATIVE — PASSENGER FRONT

F1 CHECK THE OPERATION FROM THE DRIVER WINDOW REGULATOR CONTROL SWITCH

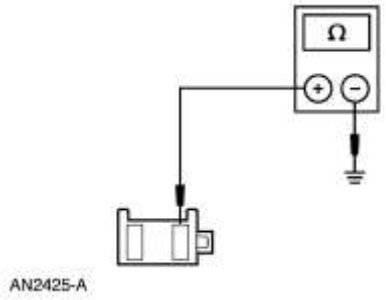
- Ignition ON.
- Operate the passenger window from the driver window regulator control switch.

Is the passenger window inoperative from the driver window regulator control switch?

Yes	GO to F2.
No	GO to F15.

F2 CHECK CIRCUIT 334 (RD/YE) FOR GROUND

- Ignition OFF.
- Disconnect: Passenger Window Regulator Motor C623.
- Measure the resistance between passenger window regulator motor C623, circuit 334 (RD/YE), harness side and ground.

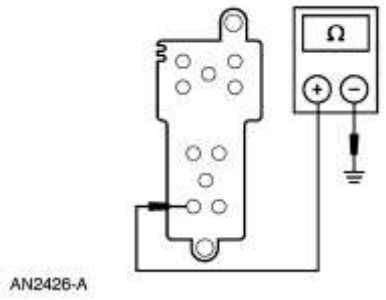


Is the resistance less than 5 ohms?

Yes	GO to F8.
No	GO to F3.

F3 CHECK CIRCUIT 314 (TN/LB) FOR GROUND

- Disconnect: Passenger Window Regulator Control Switch C629.
- Measure the resistance between passenger window regulator control switch C629 pin 9, circuit 314 (TN/LB), harness side and ground.

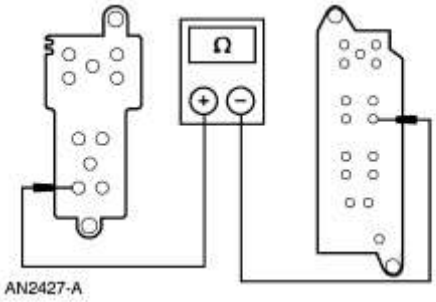


Is the resistance less than 5 ohms?

Yes	GO to F7.
No	GO to F4 for convertible, or GO to F5 for coupe.

F4 CHECK CIRCUIT 314 (TN/LB) FOR AN OPEN (CONVERTIBLE)

- Disconnect: Driver Window Regulator Control Switch C537.
- Measure the resistance between driver window regulator control switch C537 pin 9, circuit 314 (TN/LB), harness side and passenger window regulator control switch C629 pin 9, circuit 314 (TN/LB), harness side.

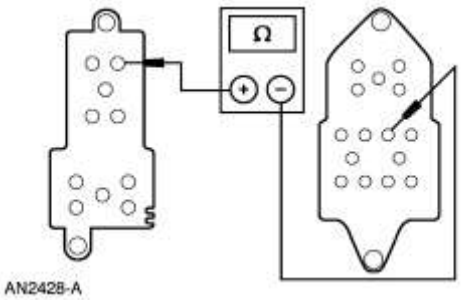


Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

F5 CHECK CIRCUIT 314 (TN/LB) FOR AN OPEN (COUPE)

- Disconnect: Driver Window Regulator Control Switch C508.
- Measure the resistance between driver window regulator control switch C508 pin 8, circuit 314 (TN/LB), harness side and passenger window regulator control switch C629 pin 9, circuit 314 (TN/LB), harness side.

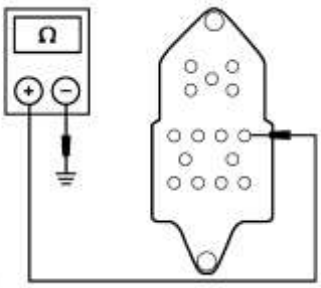


Is the resistance less than 5 ohms?

Yes	GO to F6.
No	REPAIR the circuit. TEST the system for normal operation.

F6 CHECK PASSENGER UP GROUND CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window regulator control switch C508 pin 9, circuit 1205 (BK), harness side and ground.

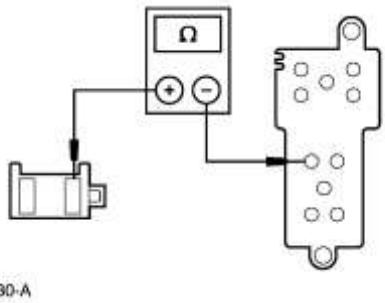


Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

F7 CHECK CIRCUIT 334 (RD/YE) FOR AN OPEN

- Measure the resistance between passenger window regulator control switch C629 pin 6, circuit 334 (RD/YE), harness side and passenger window motor C623, circuit 334 (RD/YE), harness side.

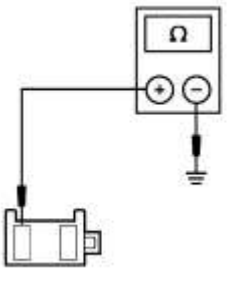


Is the resistance less than 5 ohms?

Yes	INSTALL a new passenger window regulator control switch. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

F8 CHECK CIRCUIT 333 (YE/RD) FOR GROUND

- Measure the resistance between passenger window regulator motor C623, circuit 333 (YE/RD), harness side and ground.

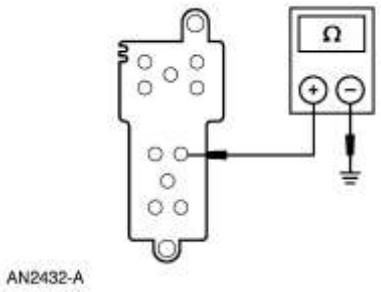


Is the resistance less than 5 ohms?

Yes	GO to F14.
No	GO to F9.

F9 CHECK CIRCUIT 313 (WH/YE) FOR GROUND

- Disconnect: Passenger Window Regulator Control Switch C629.
- Measure the resistance between passenger window regulator control switch C629 pin 7, circuit 313 (WH/YE), harness side and ground.

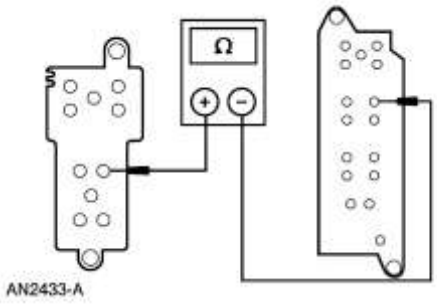


Is the resistance less than 5 ohms?

Yes	GO to F13.
No	GO to F10 for convertible, or GO to F11 for coupe.

F10 CHECK CIRCUIT 313 (WH/YE) FOR AN OPEN (CONVERTIBLE)

- Disconnect: Driver Window Regulator Control Switch C537.
- Measure the resistance between driver window regulator control switch C537 pin 7, circuit 313 (WH/YE), harness side and passenger window regulator control switch C629 pin 7, circuit 313 (WH/YE), harness side.

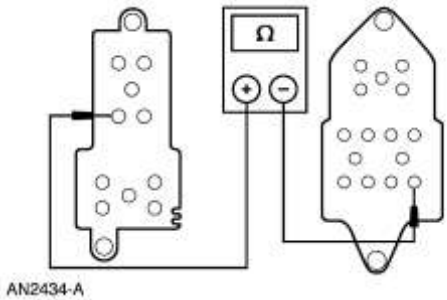


Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

F11 CHECK CIRCUIT 313 (WH/YE) FOR AN OPEN (COUPE)

- Disconnect: Driver Window Regulator Control Switch C508.
- Measure the resistance between driver window regulator control switch C508 pin 15, circuit 313 (WH/YE), harness side and passenger window regulator control switch C629 pin 7, circuit 313 (WH/YE), harness side.

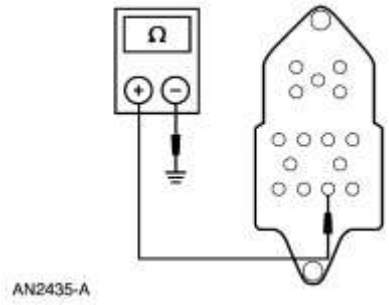


Is the resistance less than 5 ohms?

Yes	GO to F12.
No	REPAIR the circuit. TEST the system for normal operation.

F12 CHECK PASSENGER DOWN GROUND CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window regulator control switch C508 pin 14, circuit 1205 (BK), harness side and ground.

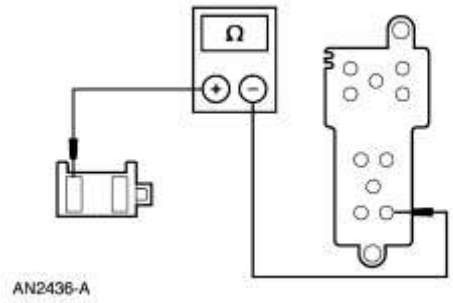


Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

F13 CHECK CIRCUIT 333 (YE/RD) FOR AN OPEN

- Measure the resistance between passenger window regulator control switch C629 pin 10, circuit 333 (YE/RD), harness side and passenger window regulator motor C623, circuit 333 (YE/RD), harness side.



Is the resistance less than 5 ohms?

Yes	INSTALL a new passenger window regulator control switch. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

F14 CHECK THE DRIVER WINDOW REGULATOR CONTROL SWITCH

- Carry out the Driver Window Regulator Control Switch component test.
  Refer to Wiring Diagrams Cell 149 for component testing.

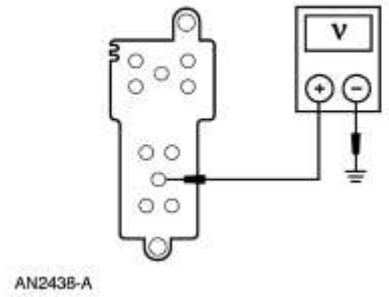
Is the driver window regulator control switch OK?

Yes	INSTALL a new passenger window regulator motor. REFER to Motor — Window Regulator in this section. TEST the system for normal operation.

No	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.

F15 CHECK THE POWER SUPPLY TO THE PASSENGER WINDOW REGULATOR CONTROL SWITCH

- Ignition OFF.
- Disconnect: Passenger Window Regulator Control Switch C629.
- Ignition ON.
- Measure the voltage between passenger window regulator control switch C629 pin 8, circuit 194 (PK), harness side and ground.

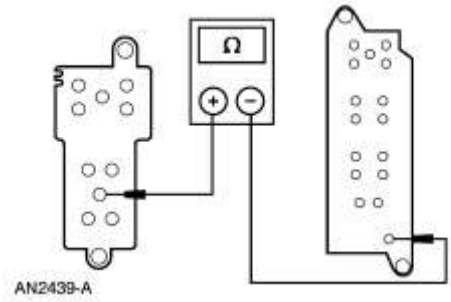


Is the voltage greater than 10 volts?

Yes	INSTALL a new passenger window regulator control switch. TEST the system for normal operation.
No	For convertible, GO to F16 . For coupe, REPAIR the circuit. TEST the system for normal operation.

F16 CHECK CIRCUIT 194 (PK) FOR AN OPEN

- Ignition OFF.
- Disconnect: Driver Window Regulator Control Switch C537.
- Measure the resistance between driver window regulator control switch C537 pin 16, circuit 194 (PK), harness side and passenger window regulator control switch C629 pin 8, circuit 194 (PK), harness side.



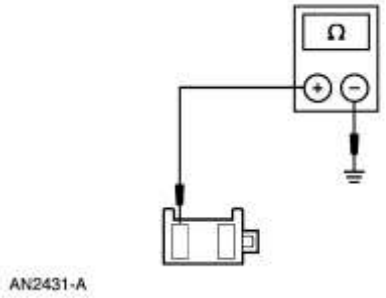
Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

PINPOINT TEST G : A SINGLE POWER WINDOW IS INOPERATIVE — REAR, CONVERTIBLE ONLY

G1 CHECK CIRCUIT 316 (YE/LB) OR 319 (YE/BK) FOR GROUND

- Disconnect: Rear Window Regulator Motor C3118 LH or C3119 RH.
- Measure the resistance between left rear window regulator motor C3118, circuit 316 (YE/LB), harness side and ground; or between right rear window regulator motor C3119, circuit 319 (YE/BK), harness side and ground.

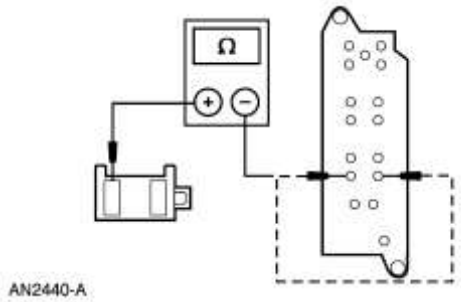


Is the resistance less than 5 ohms?

Yes	GO to G3.
No	GO to G2.

G2 CHECK CIRCUIT 316 (YE/LB) OR 319 (YE/BK) FOR AN OPEN

- Disconnect: Driver Window Regulator Control Switch C537.
- Measure the resistance between left rear window regulator motor C3118, circuit 316 (YE/LB), harness side and driver window regulator control switch C537 pin 12, circuit 316 (YE/LB), harness side; or between right rear window regulator motor C3119, circuit 319 (YE/BK), harness side and driver window regulator control switch C537 pin 13, circuit 319 (YE/BK), harness side.

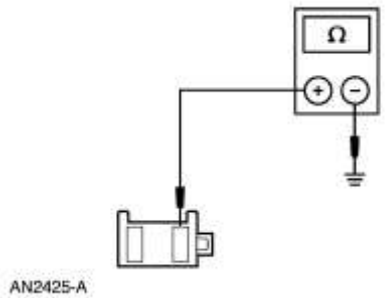


Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

G3 CHECK CIRCUIT 317 (GY/OG) OR 320 (RD/BK) FOR GROUND

- Measure the resistance between left rear window regulator motor C3118, circuit 317 (GY/OG), harness side and ground; or between right rear window regulator motor C3119, circuit 320 (RD/BK), harness side and ground.



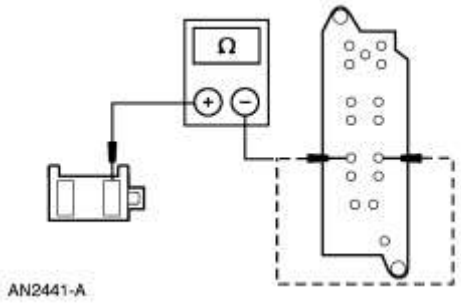
Is the resistance less than 5 ohms?

Yes	GO to G5.

No	GO to G4.

G4 CHECK CIRCUIT 317 (GY/OG) OR 320 (RD/BK) FOR AN OPEN

- Disconnect: Driver Window Regulator Control Switch C537.
- Measure the resistance between left rear window regulator motor C3118, circuit 317 (GY/OG), harness side and driver window regulator control switch C537 pin 10, circuit 317 (GY/OG), harness side; or between right rear window regulator motor C3119, circuit 320 (RD/BK), harness side and driver window regulator control switch C537 pin 11, circuit 320 (RD/BK), harness side.



Is the resistance less than 5 ohms?

Yes	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

G5 CHECK DRIVER WINDOW REGULATOR CONTROL SWITCH

- Disconnect: Driver Window Regulator Control Switch C537.
- Carry out the Driver Window Regulator Control Switch component test.
  Refer to Wiring Diagrams Cell 149 for component testing.

Is the driver window regulator control switch OK?

Yes	INSTALL a new rear window regulator motor. REFER to Motor — Window Regulator, Quarter in this section. TEST the system for normal operation.
No	INSTALL a new driver window regulator control switch. REFER to Switch — Window Regulator Control in this section. TEST the system for normal operation.

PINPOINT TEST H : THE DEFROST SYSTEM IS INOPERATIVE

H1 CHECK POWER TO INDICATOR LIGHT

- Ignition ON.
- Depress the rear window defrost switch to ON.

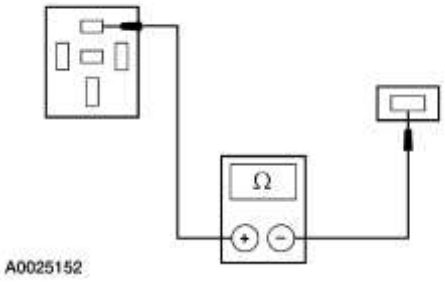
Is the rear window defrost switch indicator ON?

Yes	GO to H2.
No	GO to H3.

H2 CHECK CIRCUIT 186 (BR/LB) FOR AN OPEN

- Ignition OFF.
- Disconnect: Heated Rear Window Relay.
- Disconnect: Heated Rear Window Grid Power Supply Connector C402a.

- Measure the resistance between heated rear window relay, circuit 186 (BN/LB), harness side and heated rear window grid C402a, circuit 186 (BN/LB), harness side.



Is the resistance less than 5 ohms?

Yes	GO to H7.
No	REPAIR the circuit. TEST the system for normal operation.

H3 CHECK THE DIAGNOSTIC TROUBLE CODES (DTCS)

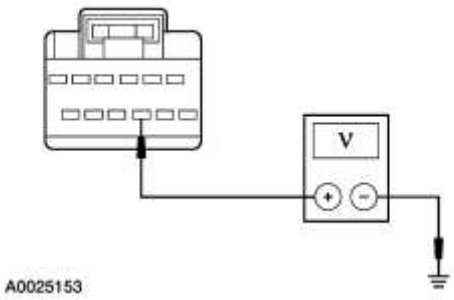
- Refer to the results from the previous instrument cluster module (ICM) self-test.

Was DTC B1343 retrieved?

Yes	GO to H4.
No	GO to H6.

H4 CHECK CIRCUIT 175 (BK/YE)

- Disconnect: ICM C220a.
- Ignition ON.
- Measure the voltage between ICM C220a pin 9, circuit 175 (BK/YE), harness side and ground.

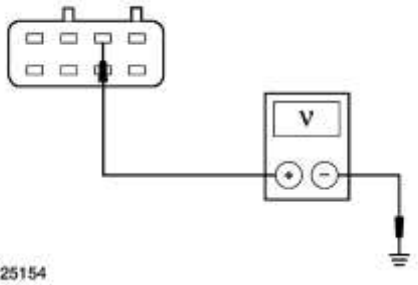


Is the voltage greater than 10 volts?

Yes	GO to H5.
No	GO to H16.

H5 CHECK CIRCUIT 175 (BK/YE) FOR A SHORT TO POWER

- Disconnect: Rear Window Defrost Switch C241.
- Measure the voltage between rear window defrost switch C241 pin 2, circuit 175 (BK/YE), harness side and ground.



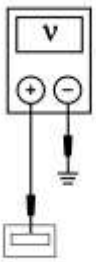
A0025154

Is the voltage greater than 10 volts?

Yes	REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
No	INSTALL a new rear window defrost switch. REFER to Rear Window Defrost Switch in this section. TEST the system for normal operation.

H6 CHECK THE REAR HEATED WINDOW GRID POWER

- Disconnect: Heated Rear Window Grid Power Supply Connector C402a.
- Ignition ON.
- Depress the rear window defrost switch to ON.
- Measure the voltage between heated rear window grid C402a circuit 186 (BN/LB), harness side and ground.



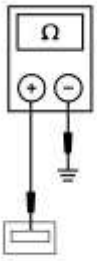
AN1273-A

Is the voltage greater than 10 volts?

Yes	GO to H7.
No	GO to H8.

H7 CHECK THE REAR WINDOW GROUND

- Ignition OFF.
- Disconnect: Heated Rear Window Grid Ground Connector C402b.
- Measure the resistance between heated rear window grid C402b, circuit 1205 (BK), harness side and ground.



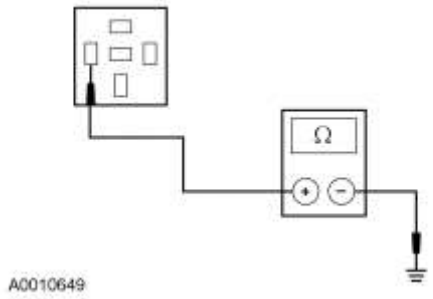
AN1274-A

Is the resistance less than 5 ohms?

Yes	CARRY OUT the Heated Rear Window Grid Wire test. REFER to Component Tests in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

H8 CHECK CIRCUIT 727 (YE/BK)

- Disconnect: Heated Rear Window Relay.
- Depress the rear window defrost switch to ON.
- Measure the resistance between heated rear window relay pin 85, circuit 727 (YE/BK), harness side and ground.

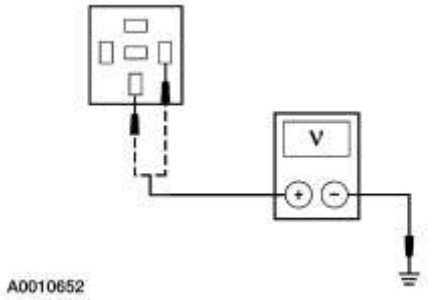


Is the resistance less than 5 ohms?

Yes	GO to H9.
No	GO to H11.

H9 CHECK CIRCUIT 185 (BK) FOR POWER

- Measure the voltage between heated rear window relay pin 86 and pin 30, circuit 185 (BK), harness side and ground.

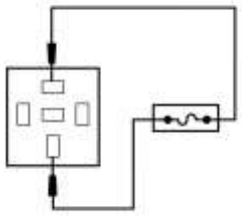


Are the voltages greater than 10 volts?

Yes	GO to H10.
No	REPAIR the supply circuit. TEST the system for normal operation.

H10 CHECK CIRCUIT 186 (BR/LB) FOR AN OPEN

- Using a fused jumper wire (15A), jumper across the heated rear window relay pin 30, circuit 185 (BK), harness side and the heated rear window relay pin 87, circuit 186 (BR/LB), harness side.



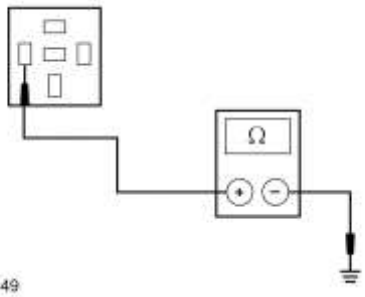
A0010854

Is the rear window defrost switch indicator ON?

Yes	INSTALL a new heated rear window relay. TEST the system for normal operation.
No	REPAIR circuit 186 (BR/LB). TEST the system for normal operation.

H11 CHECK ICM OUTPUT

- Trigger the ICM active command R DEFRLY to ON.
- Measure the resistance between the heated rear window relay pin 85, circuit 727 (YE/BK), harness side and ground.



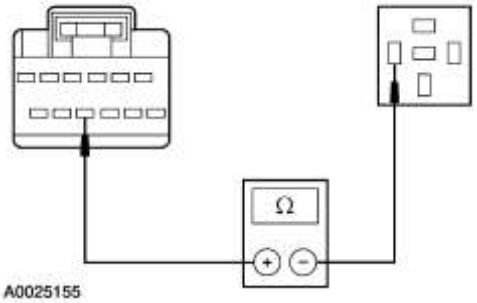
A0010649

Is the resistance less than 5 ohms?

Yes	GO to H13.
No	GO to H12.

H12 CHECK CIRCUIT 727 (YE/BK) FOR AN OPEN

- Ignition OFF.
- Measure the resistance between ICM C220a pin 10, circuit 727 (YE/BK), harness side and the heated rear window relay pin 85, circuit 727 (YE/BK) , harness side.



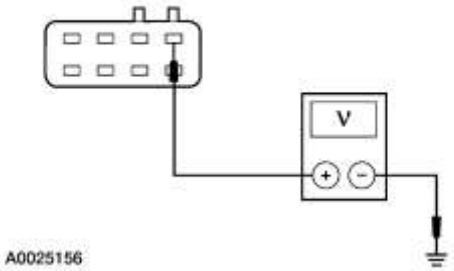
A0025155

Is the resistance less than 5 ohms?

Yes	GO to H16.
No	REPAIR the circuit. TEST the system for normal operation.

H13 CHECK POWER TO REAR WINDOW DEFROST SWITCH

- Disconnect: Rear Window Defrost Switch C241.
- Ignition ON.
- Measure the voltage between the rear window defrost switch C241 pin 1, circuit 883 (PK/LB), harness side and ground.

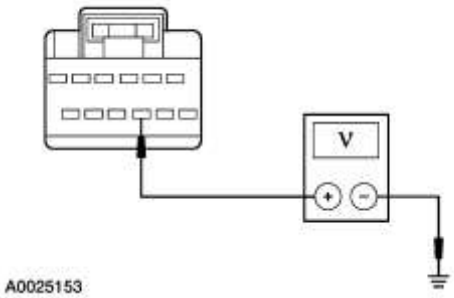


Is the voltage greater than 10 volts?

Yes	GO to H14.
No	REPAIR the supply circuit. TEST the system for normal operation.

H14 CHECK INPUT TO THE ICM

- Connect: Rear Window Defrost Switch C241.
- Depress the rear window defrost switch to ON.
- Measure the voltage between ICM C220a pin 9, circuit 175 (BK/YE), harness side and ground.

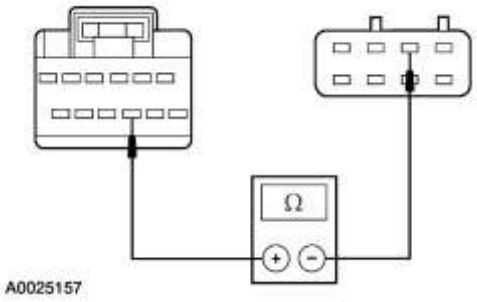


Is the voltage greater than 10 volts?

Yes	GO to H16.
No	GO to H15.

H15 CHECK CIRCUIT 175 (BK/YE) FOR AN OPEN

- Ignition OFF.
- Measure the resistance between ICM C220a pin 9, circuit 175 (BK/YE), harness side and the rear window defrost switch C241 pin 2, circuit 175 (BK/YE) , harness side.



Is the resistance less than 5 ohms?

Yes	INSTALL a new rear window defrost switch. REFER to Rear Window Defrost Switch in this section. TEST the system for normal operation.
No	REPAIR the circuit. TEST the system for normal operation.

H16 CHECK THE ICM FOR CORRECT OPERATION

- Disconnect all ICM connectors.
- Check for:
  - corrosion
  - pushed-out pins
- Connect all ICM connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.

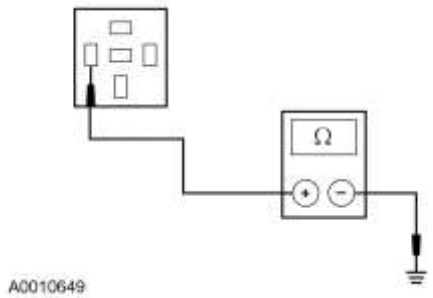
Is the concern still present?

Yes	INSTALL a new ICM. REFER to Section 413-01. CLEAR the DTCs. REPEAT the self-test.
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

PINPOINT TEST I : THE DEFROST SYSTEM WILL NOT SHUT OFF AUTOMATICALLY

I1 CHECK CIRCUIT 727 (YE/BK)

- Disconnect: Heated Rear Window Relay.
- Ignition ON.
- Depress the rear window defroster switch to OFF.
- Measure the resistance between heated rear window relay pin 85, circuit 727 (YE/BK) , harness side and ground.

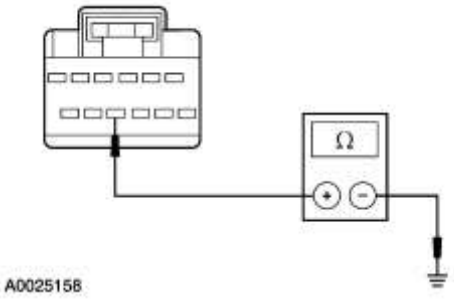


Is the resistance greater than 10,000 ohms?

Yes	GO to I3.
No	GO to I2.

I2 CHECK CIRCUIT 727 (YE/BK) FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between instrument cluster module (ICM) C220a pin 10, circuit 727 (YE/BK) , harness side and ground.

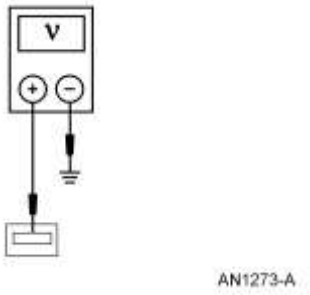


Is the resistance greater than 10,000 ohms?

Yes	GO to I4.
No	REPAIR the circuit. TEST the system for normal operation.

I3 CHECK CIRCUIT 186 (BN/LB) FOR A SHORT TO POWER

- Disconnect: Heated Rear Window Grid Power Supply Connector C402a.
- Measure the voltage between heated rear window grid C402a circuit 186 (BN/LB), harness side and ground.



Is the voltage greater than 10 volts?

Yes	REPAIR the circuit. TEST the system for normal operation.
No	INSTALL a new heated rear window relay. TEST the system for normal operation.

I4 CHECK THE ICM FOR CORRECT OPERATION

- Disconnect all ICM connectors.
- Check for:
  - corrosion
  - pushed-out pins
- Connect all ICM connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.

Is the concern still present?

Yes	INSTALL a new ICM. REFER to Section 413-01. CLEAR the DTCs. REPEAT the self-test.
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

Component Tests

Grid Wire Test

1. Using a bright lamp inside the vehicle, inspect the wire grid from the exterior. A broken grid wire will appear as a brown spot.
2. Run the engine at idle. Set the rear window defrost switch to ON. The indicator light should come on.
3. Working from the interior of the vehicle with a voltmeter, contact the broad red-brown stripes of the rear glass window positive lead to battery side and negative lead to ground side. The meter should read 10-13 volts. A lower voltage reading indicates a loose ground connection.
4. Contact a good ground point with the negative lead of the meter. The voltage reading should not differ.
5. With the negative lead of the meter grounded, touch each grid line of the heated rear window glass at its midpoint with the positive lead. A reading of approximately 6 volts indicates that the line is good. A reading of zero volts indicates that the line is broken between the midpoint and the B+ side of the grid line. A reading of 12 volts indicates that the circuit is broken between the midpoint of the grid line and ground.