

Glass, Frames and Mechanisms

DTC Chart: Front Controls Interface Module (FCIM)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

FCIM DTC Chart

DTC	Description	Action
B1C83:12	Rear Defog Relay: Circuit Short to Battery	GO to Pinpoint Test A
B1C83:14	Rear Defog Relay: Circuit Short To Ground or Open	• If the rear window defrost is inoperative, GO to Pinpoint Test A • If the rear window defrost is always active, GO to Pinpoint Test B
All other Diagnostic Trouble Codes (DTCs)	-	Refer to the appropriate section in Group 412 for the procedure.

DTC Chart: Driver Door Module (DDM)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

DDM DTC Chart

DTC	Description	Action
B1088:83	LIN Bus "B": Value of Signal Protection Calculation Incorrect	GO to Pinpoint Test C
B1088:87	LIN Bus "B": Missing Message	GO to Pinpoint Test C
B117E:07	Front Power Window Up: Mechanical Failure	INITIALIZE the driver door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) .
B117E:16	Front Power Window Up: Circuit Voltage Below Threshold	GO to Pinpoint Test C
B117E:4B	Front Power Window Up: Over Temperature	WAIT 10 minutes to allow the window motor to cool. INITIALIZE the driver door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) . VERIFY the DTC is no longer present. If the DTC returns, INSPECT the window seals, glass runs and window regulator for a binding condition. REPAIR as necessary.
B117E:92	Front Power Window Up: Performance or Incorrect Operation	INITIALIZE the driver door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) .
B1189:29	Front Window Position Sensor: Signal Invalid	GO to Pinpoint Test C
B12C5:71	Front Window Lifter Motor Up Relay: Actuator Stuck	GO to Pinpoint Test C
B12C8:71	Front Window Lifter Motor Down Relay: Actuator Stuck	GO to Pinpoint Test C

B13F1:4B	Driver Power Window Motor: Over Temperature	CLEAR the DTC. WAIT 10 minutes to allow the window motor to cool. INITIALIZE the driver door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) . VERIFY the DTC is no longer present. If the DTC returns, INSPECT the window seals, glass runs and window regulator for a binding condition. REPAIR as necessary.
C1B14:11	Sensor Supply Voltage A: Circuit Short To Ground	GO to Pinpoint Test C
C1B14:15	Sensor Supply Voltage A: Circuit Short To Battery or Open	GO to Pinpoint Test C
U2013:24	Switch Pack: Signal Stuck High	CLEAR the DTC. TEST the system for normal operation from the master window control switch. If any individual switches within the master window control switch are inoperative or the DTC returns, INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
All other Diagnostic Trouble Codes (DTCs)	-	REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).

DTC Chart: Passenger Door Module (PDM)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic

practices.

REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

PDM DTC Chart

DTC	Description	Action
B117E:07	Front Power Window Up: Mechanical Failure	INITIALIZE the passenger door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) .
B117E:16	Front Power Window Up: Circuit Voltage Below Threshold	GO to Pinpoint Test D
B117E:4B	Front Power Window Up: Over Temperature	WAIT 10 minutes to allow the window motor to cool. INITIALIZE the passenger door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) . VERIFY the DTC is no longer present. If the DTC returns, INSPECT the window seals, glass runs and window regulator for a binding condition. REPAIR as necessary.
B117E:92	Front Power Window Up: Performance or Incorrect Operation	INITIALIZE the passenger door window regulator motor. REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) .
B1189:29	Front Window Position Sensor: Signal Invalid	GO to Pinpoint Test D
B12C5:71	Front Window Lifter Motor Up Relay: Actuator Stuck	GO to Pinpoint Test D

B12C8:71	Front Window Lifter Motor Down Relay: Actuator Stuck	GO to Pinpoint Test D
B13F2:4B	Passenger Power Window Motor: Over Temperature	CLEAR the DTC. TEST the system for normal operation. If the DTC returns, INSPECT the window seals, glass runs and window regulator for a binding condition. REPAIR as necessary.
C1B14:11	Sensor Supply Voltage A: Circuit Short To Ground	GO to Pinpoint Test D
C1B14:15	Sensor Supply Voltage A: Circuit Short To Battery or Open	GO to Pinpoint Test D
U2002:24	Switch: Signal Stuck High	GO to Pinpoint Test D
All other Diagnostic Trouble Codes (DTCs)	-	REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).

Symptom Chart(s)

Symptom Chart: Glass, Frames and Mechanisms

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

Symptom Chart

Condition	Possible Sources	Actions
The power sliding rear window is inoperative/ does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test I

Both front door power windows are inoperative from the master window control switch	• Wiring, terminals or connectors • Master window control switch • DDM	• DIAGNOSE any related DDM Diagnostic Trouble Codes (DTCs) first. REFER to the DDM DTC Chart in this section. • If there are no related Diagnostic Trouble Codes (DTCs) present, INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
Both rear passenger power windows are inoperative	• Refer to the Pinpoint Test	• GO to Pinpoint Test H
A single power window is inoperative/ does not operate correctly -LH front	• Refer to the Pinpoint Test	• GO to Pinpoint Test C
A single power window is inoperative/ does not operate correctly - RH front	• Refer to the Pinpoint Test	• GO to Pinpoint Test D
A single power window is inoperative/ does not operate correctly - LH rear	• Refer to the Pinpoint Test	• GO to Pinpoint Test F
A single power window is inoperative/ does not operate correctly - RH rear	• Refer to the Pinpoint Test	• GO to Pinpoint Test G
The one-touch up feature is inoperative	• Refer to the Pinpoint Test	• GO to Pinpoint Test E

The defrost system is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The defrost system does not shut off automatically	Refer to the Pinpoint Test	GO to Pinpoint Test B
The defrost system does not respond to voice command only	Refer to the Pinpoint Test	VERIFY the rear window defrost operation using the instrument panel rear window defrost switch. If the rear window defrost is still inoperative, GO to Pinpoint Test A If the rear window defrost operates, DIAGNOSE the inoperative voice command system. Refer to the appropriate section in Group 415 for the procedure.
The defrost system does not respond to touchscreen command only	Refer to the Pinpoint Test	VERIFY the rear window defrost operation using the instrument panel rear window defrost switch. If the rear window defrost is still inoperative, GO to Pinpoint Test A If the rear window defrost operates, DIAGNOSE the inoperative touchscreen system. Refer to the appropriate section in Group 415 for the procedure.

Pinpoint Test(s)

The Defrost System is Inoperative

Refer to Wiring Diagrams Cell 56 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1C83:12	Rear Defog Relay: Circuit Short to Battery	This DTC sets when the FCIM detects a short to voltage on the rear window defrost relay control circuit.
B1C83:14	Rear Defog Relay: Circuit Short To Ground or Open	This DTC sets when the FCIM detects an open or short to ground on the rear window defrost relay control circuit.

Possible Causes

- Fuse
- BJB
- Wiring, terminals or connectors
- Rear window defrost grid
- FCIM

Visual Inspection and Diagnostic Pre-checks

- Verify BJB fuse 99 (40A) is OK.
- Inspect the rear window defrost grid and electrical connectors for damage.

PINPOINT TEST A : THE DEFROST SYSTEM IS INOPERATIVE

A1 CHECK THE REAR WINDOW DEFROST FUSE

- Ignition OFF.
- Inspect the BJB fuse 99 (40A).

Is the fuse OK?

Yes	GO to A2
No	REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.

A2 CHECK THE REAR WINDOW DEFROST GRID VOLTAGE

- Ignition OFF.
- Disconnect: Heated Rear Window Element C3368B.
- Start the engine.
- Activate the rear window defrost switch.

Is the voltage greater than 11 volts?

Yes	GO to A3
No	VERIFY the BJB fuse 99 (40A). If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. If OK, GO to A4

A3 CHECK THE REAR WINDOW DEFROST GRID GROUND

- Ignition OFF.
- Disconnect: Heated Rear Window Element (LH) C3368A.

Is the resistance less than 3 ohms?

Yes	CARRY OUT the Grid Wire Test. REFER to Grid Wire Test. REPAIR the rear window defrost grid, INSTALL a new rear window glass sliding panel or INSTALL a new rear window glass assembly if necessary. REFER to: Rear Window Glass Sliding Panel (501-11 Glass, Frames and Mechanisms, Removal and Installation). REFER to: Fixed Glass (501-11 Glass, Frames and Mechanisms, General Procedures).
No	REPAIR the circuit.

A4 CHECK THE REAR WINDOW DEFROST RELAY CONTROL CIRCUIT FOR VOLTAGE

- Ignition OFF.
- Disconnect: FCIM C2402A.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to A6
No	GO to A5

A5 CHECK THE REAR WINDOW DEFROST RELAY CONTROL CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: BJB C1035C.

Is the resistance less than 3 ohms?

Yes	INSTALL a new BJB.
No	REPAIR the circuit.

A6 CHECK THE REAR WINDOW DEFROST RELAY OPERATION

- **NOTE:** *If the jumper wire fuse blows when it is connected, refer to the Wiring Diagrams manual to identify the possible causes of the circuit short to voltage.*

Is the voltage greater than 11 volts?

Yes	REMOVE the fused jumper wire. GO to A8
No	REMOVE the fused jumper wire. GO to A7

A7 CHECK THE REAR WINDOW DEFROST RELAY OUTPUT CIRCUIT FOR AN OPEN

- Ignition OFF.

Is the resistance less than 3 ohms?

Yes	INSTALL a new BJB.
No	REPAIR the circuit.

A8 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the FCIM connectors.
- 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 FCIM connectors and all previously disconnected rear window defrost 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,  Click here to access Guided Routine (FCIM).
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.

The Defrost System Does Not Shut Off Automatically

Refer to Wiring Diagrams Cell 56 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1C83:14	Rear Defog Relay: Circuit Short To Ground or Open	This DTC sets when the FCIM detects an open or short to ground on the rear window defrost relay control circuit.

Possible Causes

- Wiring, terminals or connectors
- BJB
- FCIM

PINPOINT TEST B : THE DEFROST SYSTEM DOES NOT SHUT OFF AUTOMATICALLY

B1 CHECK THE FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect: Heated Rear Window Element C3368B.
- Disconnect: FCIM C2402A.
- Ignition ON.

Is any voltage present?

Yes	GO to B2
No	GO to B4

B2 CHECK THE REAR WINDOW DEFROST RELAY CONTROL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: BJB C1035C.

Is the resistance greater than 10,000 ohms?

Yes	GO to B3
No	REPAIR the circuit.

B3 CHECK THE REAR WINDOW DEFROST RELAY OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

- Disconnect: BJB C1035D.

Is any voltage present?

Yes	REPAIR the circuit.
No	INSTALL a new BJB.

B4 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the FCIM connectors.
- 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 FCIM connectors and all previously disconnected rear window defrost 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,  Click here to access Guided Routine (FCIM).
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.

A Single Power Window Is Inoperative/Does Not Operate Correctly - LH Front

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1088:83	LIN Bus "B": Value of Signal Protection Calculation Incorrect	This DTC sets when the DDM has received invalid data from the master window control switch.
B1088:87	LIN Bus "B": Missing Message	This DTC sets when the DDM has lost communication from the master window control switch.
B117E:16	Front Power Window Up: Circuit Voltage Below Threshold	This DTC sets when the DDM senses the driver window regulator motor circuit voltage is too low.

B1189:29	Front Window Position Sensor: Signal Invalid	This DTC sets when the DDM detects a difference with one or both of the Hall-effect sensor circuit(s). When this DTC is present, the front window only operates in short steps.
B12C5:71	Front Window Lifter Motor Up Relay: Actuator Stuck	This DTC sets when the DDM detects the UP relay (integral to the DDM) is stuck or a short to voltage is present in the UP window motor circuit. When this DTC is present, the front window does not operate.
B12C8:71	Front Window Lifter Motor Down Relay: Actuator Stuck	This DTC sets when the DDM detects the DOWN relay (integral to the DDM) is stuck or a short to voltage is present in the DOWN window motor circuit. When this DTC is present, the front window does not operate.
C1B14:11	Sensor Supply Voltage A: Circuit Short To Ground	This DTC sets when the DDM detects a short to ground in the Hall-effect sensor power supply circuit. When this DTC is present, the front window only operates in short steps.
C1B14:15	Sensor Supply Voltage A: Circuit Short To Battery or Open	This DTC sets when the DDM detects a short to voltage or open in the Hall-effect sensor power supply circuit. When this DTC is present, the front window only operates in short steps.

Possible Causes

- Wiring, terminals or connectors
- Master window control switch
- Driver door window regulator motor
- DDM

Visual Inspection and Diagnostic Pre-checks

- Verify BCM fuse 23 (10A) is OK.

PINPOINT TEST C : A SINGLE POWER WINDOW IS INOPERATIVE/DOES NOT OPERATE CORRECTLY- LH FRONT

C1 CHECK FOR DDM (DRIVER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Using a diagnostic scan tool, perform DDM self-test.

Are any DDM Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC C1B14:11, GO to C9 For DTC B1189:29 or C1B14:15, GO to C7 For DTC B117E:16, B12C5:71 or B12C8:71, GO to C3 For DTC B1088:83 and B1088:87, GO to C14 For all other Diagnostic Trouble Codes (DTCs), REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to C2

C2 CHECK THE FRONT LEFT DOOR WINDOW SWITCH (FL_WDW) PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view DDM Parameter Identifications (PIDs).
- Monitor the DDM PID FL_WDW while pressing and releasing the driver door window control switch in the up and down positions.

Does the PID status agree with the driver door window control switch as it is pressed and released?

Yes	GO to C3
No	INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).

C3 CHECK FOR A SHORT TO VOLTAGE IN THE WINDOW UP/DOWN CIRCUITS

- Ignition OFF.
- Disconnect: Driver Door Window Regulator Motor C518.
- Disconnect: DDM C501A.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to C4

C4 CHECK FOR A SHORT TO GROUND IN THE WINDOW UP/DOWN CIRCUITS

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to C5
No	REPAIR the circuit in question.

C5 CHECK FOR AN OPEN IN THE WINDOW UP/DOWN CIRCUITS

Are the resistances less than 3 ohms?

Yes	GO to C6
No	REPAIR the circuit in question.

C6 CHECK THE DDM (DRIVER DOOR MODULE) OUTPUT

NOTICE: The following step uses a test lamp to simulate normal circuit loads. Use only a Rotunda Test Lamp (SGT27000) or 250- 300mA incandescent bulb test lamp. To avoid connector terminal damage, use the Rotunda Flex Probe kit for the test lamp probe connection to the vehicle. Do not use the test lamp probe directly on any connector.

NOTE: Because the power window motor electrical connector (Hall-effect sensor input) is disconnected, the DDM only activates the window output for approximately 500 ms then turns off.

- Connect: DDM C501A.
- Ignition ON.
- Activate the driver door window control switch in the up and down positions while observing the test lamp.

Does the test lamp momentarily illuminate when the driver door window control switch is activated in both up and down positions?

Yes	INSTALL a new driver door window regulator motor. REFER to: Front Door Window Regulator and Motor - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	GO to C20

C7 CHECK THE HALL-EFFECT POWER AND RETURN CIRCUITS

NOTICE: The following step uses a test lamp to simulate normal circuit loads. Use only a Rotunda Test Lamp (SGT27000) or 250- 300mA incandescent bulb test lamp. To avoid connector terminal damage, use the Rotunda Flex Probe kit for the test lamp probe connection to the vehicle. Do not use the test lamp probe directly on any connector.

- Ignition OFF.
- Disconnect: Driver Door Window Regulator Motor C518.
- Ignition ON.

Does the test lamp illuminate?

Yes	GO to C11
No	GO to C8

C8 CHECK FOR AN OPEN IN THE HALL-EFFECT POWER AND RETURN CIRCUITS

- Ignition OFF.
- Disconnect: DDM C501A.

Are the resistances less than 3 ohms?

Yes	GO to C20
No	REPAIR the circuit in question.

C9 CHECK THE HALL-EFFECT POWER CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: DDM C501A.

Is the resistance greater than 10,000 ohms?

Yes	GO to C20
No	GO to C10

C10 CHECK THE HALL-EFFECT POWER CIRCUIT FOR A SHORT TO GROUND WITH THE POWER WINDOW MOTOR DISCONNECTED

- Disconnect: Driver Door Window Regulator Motor C518.

Is the resistance greater than 10,000 ohms?

Yes	INSTALL a new driver door window regulator motor. REFER to: Front Door Window Regulator and Motor - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit.

C11 CHECK FOR A SHORT TO VOLTAGE IN THE HALL-EFFECT SIGNAL CIRCUITS

- Ignition OFF.
- Disconnect: DDM C501A.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to C12

C12 CHECK FOR A SHORT TO GROUND IN THE HALL-EFFECT SIGNAL CIRCUITS

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to C13
No	REPAIR the circuit in question.

C13 CHECK FOR AN OPEN IN THE HALL-EFFECT SIGNAL CIRCUITS

Are the resistances less than 3 ohms?

Yes	INSTALL a new driver door window regulator motor. REFER to: Front Door Window Regulator and Motor - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to C20
No	REPAIR the circuit in question.

C14 CHECK FOR VOLTAGE TO THE MASTER WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: Master Window Control Switch C504 (regular cab) or C535 (SuperCab and SuperCrew).
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to C15
No	VERIFY BCM fuse 23 (10A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.

C15 CHECK THE MASTER WINDOW CONTROL SWITCH GROUND CIRCUIT

NOTICE: The following step uses a test lamp to simulate normal circuit loads. Use only a Rotunda Test Lamp (SGT27000) or 250- 300mA incandescent bulb test lamp. To avoid connector terminal damage, use the Rotunda Flex Probe kit for the test lamp probe connection to the vehicle. Do not use the test lamp probe directly on any connector.

- Ignition ON.

Does the test lamp illuminate?

Yes	GO to C17
No	GO to C16

C16 CHECK THE MASTER WINDOW CONTROL SWITCH GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: DDM C501A.

Is the resistance less than 3 ohms?

Yes	GO to C20
No	REPAIR the circuit.

C17 CHECK THE MASTER WINDOW CONTROL SWITCH LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: DDM C501A.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to C18

C18 CHECK THE MASTER WINDOW CONTROL SWITCH LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.

Is the resistance greater than 10,000 ohms?

Yes	GO to C19
No	REPAIR the circuit.

C19 CHECK THE MASTER WINDOW CONTROL SWITCH LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

Is the resistance less than 3 ohms?

Yes	INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). CLEAR the Diagnostic Trouble Codes (DTCs). TEST the system for normal operation. If the concern is still present, GO to C20
No	REPAIR the circuit.

C20 CHECK FOR CORRECT DDM (DRIVER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the DDM connectors.
- 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 DDM connectors. Make sure they seat and latch correctly.
- Reconnect all previously disconnected connectors.
- Ignition ON.
- 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 DDM. REFER to: Driver Door Module (DDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

A Single Power Window Is Inoperative/Does Not Operate Correctly - RH Front

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B117E:16	Front Power Window Up: Circuit Voltage Below Threshold	This DTC sets when the PDM senses the passenger front window regulator motor circuit voltage is too low.
B1189:29	Front Window Position Sensor: Signal Invalid	This DTC sets when the PDM detects a difference with one or both of the Hall-effect sensor circuit(s). When this DTC is present, the front window only operates in short steps.
B12C5:71	Front Window Lifter Motor Up Relay: Actuator Stuck	This DTC sets when the PDM detects the UP relay (integral to the PDM) is stuck or a short to voltage is present in the UP window motor circuit. When this DTC is present, the front window does not operate.
B12C8:71	Front Window Lifter Motor Down Relay: Actuator Stuck	This DTC sets when the PDM detects the DOWN relay (integral to the PDM) is stuck or a short to voltage is present in the DOWN window motor circuit. When this DTC is present, the front window does not operate.
C1B14:11	Sensor Supply Voltage A: Circuit Short To Ground	This DTC sets when the PDM detects a short to ground in the Hall-effect sensor power supply circuit. When this DTC is present, the front window only operates in short steps.
C1B14:15	Sensor Supply Voltage A: Circuit Short To Battery or Open	This DTC sets when the PDM detects a short to ground in the Hall-effect sensor power supply circuit. When this DTC is present, the front window only operates in short steps.

U2002:24	Switch: Signal Stuck High	This DTC sets when the PDM detects the window control switch is stuck in the UP or DOWN position or a short to ground is present on the input circuit for greater than 10 seconds.
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Possible Causes

- Wiring, terminals or connectors
- Master window control switch
- Passenger door window control switch
- Passenger door window regulator motor
- PDM

PINPOINT TEST D : A SINGLE POWER WINDOW IS INOPERATIVE/DOES NOT OPERATE CORRECTLY - RH FRONT

D1 CHECK FOR PDM (PASSENGER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Using a diagnostic scan tool, perform PDM self-test.

Are any PDM Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC C1B14:11, GO to D15 For DTC B1189:29 or C1B14:15, GO to D13 For DTC B117E:16, B12C5:71 or B12C8:71, GO to D9 For DTC U2002:24, GO to D6 For all other Diagnostic Trouble Codes (DTCs), REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to D2

D2 CHECK THE WINDOW OPERATION FROM THE PASSENGER DOOR WINDOW CONTROL SWITCH

- Attempt to operate the RH door window from the passenger door window control switch.

Does the RH door window operate correctly from the passenger door window control switch?

Yes	INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	GO to D3

D3 CHECK THE PASSENGER DOOR WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: Passenger Door Window Control Switch C604.
- Carry out the passenger door window control switch component test.
Refer to Wiring Diagrams Cell 149 for schematic and connector information.

Did the passenger door window control switch pass the component test?

Yes	GO to D4
No	INSTALL a new passenger door window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).

D4 CHECK THE WINDOW CONTROL SWITCH UP/DOWN CIRCUITS

- Ignition ON.

Does the window operate upward and downward when the fused jumper wire is in place?

Yes	GO to D5
No	GO to D8

D5 CHECK THE WINDOW CONTROL SWITCH RETURN CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: PDM C652A.

Is the resistance less than 3 ohms?

Yes	GO to D20
No	REPAIR the circuit.

D6 CHECK THE WINDOW CONTROL SWITCH CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: PDM C652A.

Are the resistances greater than 10,000 ohms?

Yes	GO to D20
No	GO to D7

D7 CHECK THE WINDOW CONTROL SWITCH CIRCUITS FOR A SHORT TO GROUND WITH THE WINDOW CONTROL SWITCH DISCONNECTED

- Disconnect: Passenger Door Window Control Switch C604.

Are the resistances greater than 10,000 ohms?

Yes	INSTALL a new passenger door window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit in question.

D8 CHECK THE WINDOW CONTROL SWITCH CIRCUITS FOR AN OPEN

- Ignition OFF.
- Disconnect: PDM C652A.

Are the resistances less than 3 ohms?

Yes	GO to D9
No	REPAIR the circuit in question.

D9 CHECK FOR A SHORT TO VOLTAGE IN THE WINDOW UP/DOWN CIRCUITS

- Ignition OFF.
- Disconnect: PDM C652A (if not previously disconnected).
- Disconnect: Passenger Door Window Regulator Motor C608.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to D10

D10 CHECK FOR A SHORT TO GROUND IN THE WINDOW UP/DOWN CIRCUITS

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to D11
No	REPAIR the circuit in question.

D11 CHECK FOR AN OPEN IN THE WINDOW UP/DOWN CIRCUITS

Are the resistances less than 3 ohms?

Yes	GO to D12
No	REPAIR the circuit in question.

D12 CHECK THE PDM (PASSENGER DOOR MODULE) OUTPUT

NOTICE: The following step uses a test lamp to simulate normal circuit loads. Use only a Rotunda Test Lamp (SGT27000) or 250- 300mA incandescent bulb test lamp. To avoid connector terminal damage, use the Rotunda Flex Probe kit for the test lamp probe connection to the vehicle. Do not use the test lamp probe directly on any connector.

NOTE: Because the power window motor electrical connector (Hall-effect sensor input) is disconnected, the PDM only activates the window output for approximately 500 ms then turns off.

- Ignition OFF.
- Connect: PDM C652A.
- Ignition ON.
- Activate the passenger door window control switch in the up and down positions while observing the test lamp.

Does the test lamp momentarily illuminate when the window control switch is activated in both up and down positions?

Yes	INSTALL a new passenger door window regulator motor. REFER to: Front Door Window Regulator and Motor - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	GO to D20

D13 CHECK THE HALL-EFFECT POWER AND RETURN CIRCUITS

NOTICE: The following step uses a test lamp to simulate normal circuit loads. Use only a Rotunda Test Lamp (SGT27000) or 250- 300mA incandescent bulb test lamp. To avoid connector terminal damage, use the Rotunda Flex Probe kit for the test lamp probe connection to the vehicle. Do not use the test lamp probe directly on any connector.

- Ignition OFF.
- Disconnect: Passenger Door Window Regulator Motor C608.
- Ignition ON.

Does the test lamp illuminate?

Yes	GO to D17
No	GO to D14

D14 CHECK FOR AN OPEN IN THE HALL-EFFECT POWER AND RETURN CIRCUITS

- Ignition OFF.
- Disconnect: PDM C652A.

Are the resistances less than 3 ohms?

Yes	GO to D20
No	REPAIR the circuit in question.

D15 CHECK THE HALL-EFFECT POWER CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: PDM C652A.

Is the resistance greater than 10,000 ohms?

Yes	GO to D20
No	GO to D16

D16 CHECK THE HALL-EFFECT POWER CIRCUIT FOR A SHORT TO GROUND WITH THE PASSENGER DOOR WINDOW REGULATOR MOTOR DISCONNECTED

- Disconnect: Passenger Door Window Regulator Motor C608.

Is the resistance greater than 10,000 ohms?

Yes	INSTALL a new passenger door window regulator motor. REFER to: Front Door Window Regulator and Motor - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit.

D17 CHECK FOR A SHORT TO VOLTAGE IN THE HALL-EFFECT SIGNAL CIRCUITS

- Ignition OFF.
- Disconnect: PDM C652A.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
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No	GO to D18
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D18 CHECK FOR A SHORT TO GROUND IN THE HALL-EFFECT SIGNAL CIRCUITS

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to D19
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No	REPAIR the circuit in question.
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D19 CHECK FOR AN OPEN IN THE HALL-EFFECT SIGNAL CIRCUITS

Are the resistances less than 3 ohms?

Yes	INSTALL a new passenger door window regulator motor. REFER to: Front Door Window Regulator and Motor - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to D20
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No	REPAIR the circuit in question.
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D20 CHECK FOR CORRECT PDM (PASSENGER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the PDM connectors.
- 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 PDM connectors. Make sure they seat and latch correctly.
- Reconnect all previously disconnected connectors.
- Ignition ON.
- 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 PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

The One-Touch Up Feature Is Inoperative

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

Possible Causes

- Window regulator motor not initialized
- Window control switch
- DDM
- PDM

PINPOINT TEST E : THE ONE-TOUCH UP FEATURE IS INOPERATIVE

E1 INITIALIZE THE SUSPECT POWER WINDOW

- Carry out the initialization procedure on the suspect power window.
REFER to: Power Door Window Initialization (501-11 Glass, Frames and Mechanisms) .

Is the one-touch up feature operating correctly?

Yes	The system is operating normally at this time. The window lost initialization.
No	If the one-touch up feature is inoperative for the LH front window, INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new DDM. REFER to: Driver Door Module (DDM) (419-10 Multifunction Electronic Modules, Removal and Installation). If the one-touch up feature is inoperative for the RH front window, INSTALL a new window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, Removal and Installation).

A Single Power Window Is Inoperative/Does Not Operate Correctly - LH Rear

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

Possible Causes

- Wiring, terminals or connectors
- Window control switch
- LH rear door window control switch
- LH rear door window regulator motor

Visual Inspection and Diagnostic Pre-checks

- Verify the lock-out switch is in the UNLOCK position.

PINPOINT TEST F : A SINGLE POWER WINDOW IS INOPERATIVE/DOES NOT OPERATE CORRECTLY - LH REAR

F1 CHECK THE LH (LEFT-HAND) REAR DOOR WINDOW OPERATION FROM THE MASTER WINDOW CONTROL SWITCH

- Ignition ON.
- Attempt to operate the LH rear door window from the master window control switch.

Does the LH rear door window operate correctly from the master window control switch?

Yes	GO to F2
No	GO to F3

F2 CHECK THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH LOCK-OUT CIRCUIT FEED FOR VOLTAGE

- Ignition OFF.
- Disconnect: LH Rear Door Window Control Switch C701.
- Ignition ON.
- Make sure the window lock-out switch is in the UNLOCK position.

Is the voltage greater than 11 volts?

Yes	INSTALL a new LH rear door window control switch. For SuperCab, REFER to: Rear Door Window Control Switch - SuperCab, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). For SuperCrew, REFER to: Rear Door Window Control Switch - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit.

F3 CHECK THE LH (LEFT-HAND) REAR DOOR WINDOW OPERATION FROM LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Make sure the window lock-out switch is in the UNLOCK position.
- Attempt to operate the LH rear door window from the LH rear door window control switch.

Does the LH rear door window operate when using the LH rear door window control switch?

Yes	GO to F4
No	GO to F6

F4 CHECK THE WINDOW CONTROL SWITCH UP/DOWN CIRCUITS

- Ignition OFF.
- Disconnect: Master Window Control Switch C535.
- Ignition ON.

Does the window operate upward and downward when the fused jumper wire is in place?

Yes	REMOVE the jumper wire. INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REMOVE the jumper wire. GO to F5

F5 CHECK THE WINDOW CONTROL CIRCUITS FOR AN OPEN BETWEEN THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH AND THE MASTER WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: LH Rear Door Window Control Switch C701.

Are the resistances less than 3 ohms?

Yes	INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit in question.

F6 CHECK THE HIGH CURRENT POWER TO THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH FOR AN OPEN

- Ignition OFF.
- Disconnect: LH Rear Door Window Control Switch C701.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to F7
No	REPAIR the circuit.

F7 CHECK THE GROUND TO THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH FOR AN OPEN

- Ignition OFF.

Is the resistance less than 3 ohms?

Yes	GO to F8
No	REPAIR the circuit.

F8 CHECK THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Carry out the LH rear door window control switch component test.
Refer to Wiring Diagrams Cell 149 for schematic and connector information.

Did the LH rear door window control switch pass the component test?

Yes	GO to F9
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No	INSTALL a new LH rear door window control switch. For SuperCab, REFER to: Rear Door Window Control Switch - SuperCab, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). For SuperCrew, REFER to: Rear Door Window Control Switch - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
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F9 CHECK FOR AN OPEN BETWEEN THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH AND THE WINDOW MOTOR

- Disconnect: LH Rear Door Window Regulator Motor C703.

Are the resistances less than 3 ohms?

Yes	INSTALL a new LH rear door window regulator motor. For SuperCab, REFER to: Rear Door Window Regulator and Motor - SuperCab, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). For SuperCrew, REFER to: Rear Door Window Regulator and Motor - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
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No	REPAIR the circuit in question.
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A Single Power Window Is Inoperative/Does Not Operate Correctly - RH Rear

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

Possible Causes

- Wiring, terminals or connectors
- Window control switch
- RH rear door window control switch
- RH rear door window regulator motor

Visual Inspection and Diagnostic Pre-checks

- Verify the lock-out switch is in the UNLOCK position.

PINPOINT TEST G : A SINGLE POWER WINDOW IS INOPERATIVE/DOES NOT OPERATE CORRECTLY - RH REAR

G1 CHECK THE RH (RIGHT-HAND) REAR DOOR WINDOW OPERATION FROM THE MASTER WINDOW CONTROL SWITCH

- Ignition ON.
- Attempt to operate the RH rear door window from the master window control switch.

Does the RH rear door window operate correctly from the master window control switch?

Yes	GO to G2
No	GO to G3

G2 CHECK THE RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH LOCK-OUT CIRCUIT FEED FOR VOLTAGE

- Ignition OFF.
- Disconnect: RH Rear Door Window Control Switch C801.
- Ignition ON.
- Make sure the window lock-out switch is in the UNLOCK position.

Is the voltage greater than 11 volts?

Yes	INSTALL a new RH rear door window control switch. For SuperCab, REFER to: Rear Door Window Control Switch - SuperCab, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). For SuperCrew, REFER to: Rear Door Window Control Switch - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit.

G3 CHECK THE RH (RIGHT-HAND) REAR DOOR WINDOW OPERATION FROM RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Make sure the window lock-out switch is in the UNLOCK position.
- Attempt to operate the RH rear door window from the RH rear door window control switch.

Does the RH rear door window operate when using the RH rear door window control switch?

Yes	GO to G4
No	GO to G6

G4 CHECK THE WINDOW CONTROL SWITCH UP/DOWN CIRCUITS

- Ignition OFF.
- Disconnect: Master Window Control Switch C535.
- Ignition ON.

Does the window operate upward and downward when the fused jumper wire is in place?

Yes	REMOVE the jumper wire. INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
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No	REMOVE the jumper wire. GO to G5
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G5 CHECK THE WINDOW CONTROL CIRCUITS FOR AN OPEN BETWEEN THE RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH AND THE MASTER WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: RH Rear Door Window Control Switch C801.

Are the resistances less than 3 ohms?

Yes	INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
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No	REPAIR the circuit in question.
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G6 CHECK THE HIGH CURRENT POWER TO THE RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH FOR AN OPEN

- Ignition OFF.
- Disconnect: RH Rear Door Window Control Switch C801.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to G7
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No	REPAIR the circuit.
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G7 CHECK THE GROUND TO THE RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH FOR AN OPEN

- Ignition OFF.

Is the resistance less than 3 ohms?

Yes	GO to G8
No	REPAIR the circuit.

G8 CHECK THE RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Carry out the RH rear door window control switch component test.
Refer to Wiring Diagrams Cell 149 for schematic and connector information.

Did the RH rear door window control switch pass the component test?

Yes	GO to G9
No	INSTALL a new RH rear door window control switch. For SuperCab, REFER to: Rear Door Window Control Switch - SuperCab, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). For SuperCrew, REFER to: Rear Door Window Control Switch - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).

G9 CHECK FOR AN OPEN BETWEEN THE RH (RIGHT-HAND) REAR DOOR WINDOW CONTROL SWITCH AND THE WINDOW MOTOR

- Disconnect: RH Rear Door Window Regulator Motor C803.

Are the resistances less than 3 ohms?

Yes	INSTALL a new RH rear door window regulator motor. For SuperCab, REFER to: Rear Door Window Regulator and Motor - SuperCab, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation). For SuperCrew, REFER to: Rear Door Window Regulator and Motor - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit in question.

Both Rear Passenger Power Windows Are Inoperative

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

Possible Causes

- Fuse
- Circuit breaker
- Wiring, terminals or connectors
- Master window control switch

Visual Inspection and Diagnostic Pre-checks

- Verify the lock-out switch is in the UNLOCK position.
- Verify BCM fuse 23 (10A) is OK.

PINPOINT TEST H : BOTH REAR PASSENGER POWER WINDOWS ARE

INOPERATIVE

H1 CHECK THE HIGH CURRENT POWER TO THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: LH Rear Door Window Control Switch C701.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to H3
No	GO to H2

H2 CHECK FOR A SHORT TO GROUND IN THE HIGH CURRENT POWER CIRCUIT TO THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: BCM Circuit Breaker 38 (30A).
- Install a fused jumper wire in place of BCM Circuit Breaker 38 (30A).
- Connect: LH Rear Door Window Control Switch C701.
- Ignition ON.
- Attempt to operate each individual rear door power window in both directions from each of the rear passenger door switches.

Did the jumper wire fuse open during the test?

Yes	REMOVE the fused jumper wire. REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.
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No	If the rear power windows operated correctly with the fused jumper wire in place, INSTALL a new circuit breaker. If the rear power windows did not operate with the fused jumper wire in place, REPAIR as necessary.
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H3 CHECK FOR VOLTAGE TO THE MASTER WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: Master Window Control Switch C535.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to H4
No	VERIFY BCM fuse 23 (10A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.

H4 CHECK FOR AN OPEN IN THE LOW CURRENT POWER TO THE LH (LEFT-HAND) REAR DOOR WINDOW CONTROL SWITCH

- Ignition OFF.

Is the resistance less than 3 ohms?

Yes	INSTALL a new master window control switch. REFER to: Front Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).
No	REPAIR the circuit.

The Power Sliding Rear Window is Inoperative/Does Not Operate Correctly

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

Normal Operation and Fault Conditions

REFER to: [Glass, Frames and Mechanisms - System Operation and Component Description](#) (501-11 Glass, Frames and Mechanisms, Description and Operation).

Possible Causes

- Fuse(s)
- BJB
- Wiring, terminals or connectors
- Power sliding rear window switch
- Rear sliding window motor

Visual Inspection and Diagnostic Pre-checks

- Verify BJB fuse 102 (30A) is OK.
- Verify BCM fuse 23 (10A) is OK.

PINPOINT TEST I : THE POWER SLIDING REAR WINDOW IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

I1 CHECK THE SLIDING REAR WINDOW FUSE	
• Ignition OFF. • Inspect the BJB fuse 102 (30A).	
Is the fuse OK?	
Yes	GO to I2
No	REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.
I2 CHECK THE POWER SLIDING REAR WINDOW SWITCH OPERATION	

- Disconnect: BJB C1035C
- Connect:

Positive Lead	Measurement / Action	Negative Lead
C1035C-25		Ground

- Ignition ON.
- Observe the voltage while pressing and holding the power sliding rear window switch in the OPEN position.
- Connect:

Positive Lead	Measurement / Action	Negative Lead
C1035C-29		Ground

- Observe the voltage while pressing and holding the power sliding rear window switch in the CLOSE position.

Is the voltage greater than 11 volts when the power sliding rear window switch is pressed in the OPEN and CLOSE positions?

Yes	GO to I5
No	GO to I3

I3 CHECK THE VOLTAGE SUPPLY CIRCUIT TO THE POWER SLIDING REAR WINDOW SWITCH FOR AN OPEN

- Ignition OFF.
- Disconnect: Power Sliding Rear Window Switch C980.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to I4
No	VERIFY BCM fuse 23 (10A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.

I4 CHECK FOR AN OPEN BETWEEN THE POWER SLIDING REAR WINDOW RELAYS AND THE POWER SLIDING REAR WINDOW SWITCH

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035C-25	Ω	C980-3

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035C-29	Ω	C980-2

Are the resistances less than 3 ohms?

Yes	REPLACE the power sliding rear window switch.
No	REPAIR the circuit in question.

I5 CHECK THE POWER SLIDING REAR WINDOW OPEN AND CLOSE RELAYS

NOTICE: The following step uses a test lamp to simulate normal circuit loads. Use only a Rotunda Test Lamp (SGT27000) or 250- 300mA incandescent bulb test lamp. To avoid connector terminal damage, use the Rotunda Flex Probe kit for the test lamp probe connection to the vehicle. Do not use the test lamp probe directly on any connector.

- Connect: BJB C1035C.
- Connect: Power Sliding Rear Window Switch C980.
- Disconnect: Rear Sliding Window Motor C3145.
- Connect:

Positive Lead	Measurement / Action	Negative Lead
C3145-1		C3145-2

- Ignition ON.
- Observe the test lamp while pressing and holding the power sliding rear window switch in the OPEN and CLOSE positions.

Does the test lamp illuminate when the power sliding rear window switch is pressed in the OPEN and CLOSE positions?

Yes	REPLACE Rear sliding window motor REFER to: Rear Sliding Window Motor (501-11 Glass, Frames and Mechanisms, Removal and Installation). .
No	GO to I6

I6 CHECK FOR AN OPEN BETWEEN THE POWER SLIDING REAR WINDOW RELAYS AND THE REAR SLIDING WINDOW MOTOR

- Disconnect: BJB C1035D.
- Disconnect: Rear Sliding Window Motor C3145.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035D-44	Ω	C3145-1

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035D-45	Ω	C3145-2

Are the resistances less than 3 ohms?

Yes	REPLACE the BJB.
No	REPAIR the circuit in question.

Component Test- Grid Wire Test

1. Using a bright light in the vehicle, inspect the grid wire from the exterior. A broken grid wire will appear as a brown spot.
2. Run the engine at idle. Activate the rear window defrost switch. The indicator light should come on.
3. Working in the vehicle with a voltmeter, contact the broad red-brown stripes of the rear glass window (positive lead to B+ side and the 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 change.

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 the line is good. A reading of 0 volt indicates the line is broken between the midpoint and the B+ side of the grid line. A reading of 12 volts indicates the circuit is broken between the midpoint of the grid line and ground.
6. Pinpointing the exact position of the break can be accomplished (if the voltmeter reads 0 volt when the midpoint of the grid line is touched with the positive lead of the voltmeter) by moving the positive lead of the voltmeter toward the B+ side of the grid line and touching the grid line until the voltmeter reads 12 volts. If the voltmeter reads 12 volts when the midpoint of the grid line is touched with the positive lead of the voltmeter, simply move the positive lead of the voltmeter toward the ground connection of the grid line and touch the grid line until the voltmeter reads 0 volt.