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1990 FORD Bronco OEM Service and Repair Workshop Manual

[Go to manual page](#)

C701-5	\bar{V}	Ground
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Are the voltages greater than 11 volts?

Yes	GO to F2
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No	REPAIR the circuit in question.
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F2 CHECK THE REAR DOOR WINDOW CONTROL SWITCH GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C701-8	Ω	Ground

Are the resistances less than 3 ohms?


Yes	GO to F3
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No	REPAIR the circuit.
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F3 CHECK THE POWER WINDOW CONTROL CIRCUITS FOR AN OPEN

- Disconnect: Driver Door Window Control Switch C5006A.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
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C701-7		C701-8
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Does the LH (left-hand) rear window move up and/or down?

Yes REMOVE the jumper wires.
 If the rear window did not operate from the rear door window control switch, INSTALL a new LH (left-hand) 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).
 If the rear window did not operate from the driver door window control switch, INSTALL a new driver door window control switch.
 REFER to: [Driver Door Window Control Switch - Vehicles With: Front Power Windows](#) (501-11 Glass, Frames and Mechanisms, Removal and Installation).

No REMOVE the jumper wires. GO to [F5](#)

F5 CHECK THE LH (LEFT-HAND) REAR POWER WINDOW CIRCUITS FOR AN OPEN

- Ignition OFF.
- Disconnect: LH (left-hand) Rear Window Regulator Motor C703.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C701-7	Ω	C703-1
C701-6	Ω	C703-2

Are the resistances less than 3 ohms?

Positive Lead	Measurement / Action	Negative Lead
C801-3	V	Ground
C801-5	V	Ground

Are the voltages greater than 11 volts?

Yes GO to [G2](#)

No REPAIR the circuit in question.

G2 CHECK THE REAR DOOR WINDOW CONTROL SWITCH GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C801-8	Ω	Ground



Are the resistances less than 3 ohms?

Yes GO to [G3](#)

No REPAIR the circuit.

G3 CHECK THE POWER WINDOW CONTROL CIRCUITS FOR AN OPEN

- Disconnect: Driver Door Window Control Switch C5006A.

C801-5		C801-6
C801-7		C801-8

Does the RH (right-hand) rear window move up and/or down?

Yes	<p>REMOVE the jumper wires.</p> <p>If the rear window did not operate from the rear door window control switch, INSTALL a new RH (right-hand) 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).</p> <p>For SuperCrew, REFER to: Rear Door Window Control Switch - SuperCrew, Vehicles With: Rear Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).</p> <p>If the rear window did not operate from the driver door window control switch, INSTALL a new driver door window control switch.</p> <p>REFER to: Driver Door Window Control Switch - Vehicles With: Front Power Windows (501-11 Glass, Frames and Mechanisms, Removal and Installation).</p>
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No	REMOVE the jumper wires. GO to G5
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G5 CHECK THE RH (RIGHT-HAND) REAR POWER WINDOW CIRCUITS FOR AN OPEN

- Ignition OFF.
- Disconnect: RH (right-hand) Rear Door Window Regulator Motor C803.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C801-7	Ω	C803-1

Normal Operation and Fault Conditions REFER to: [Glass, Frames and Mechanisms - Vehicles With: One-Touch Open Driver Window - System Operation and Component Description](#)

(501-11 Glass, Frames and Mechanisms, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
BCMC (body control module C) B15E5:11	Rear Heated Windscreen Output: Circuit Short To Ground	If equipped with diesel engine, sets when the BCMC (body control module C) detects a short to ground on the rear window defrost output circuit.
BCMC (body control module C) B15E5:15	Rear Heated Windscreen Output: Circuit Short To Battery Or Open	If equipped with diesel engine, sets when the BCMC (body control module C) detects a short to voltage or open in the rear window defrost output circuit.

Possible Sources

- Fuse
- Wiring, terminals or connectors
- Rear window defrost grid
- Rear window glass
- HVAC (heating, ventilation and air conditioning) module
- BCMC (body control module C)

Visual Inspection and Pre-checks

- If equipped with gas engine, verify BCMC (body control module C) fuse 50 (40A) is OK.
- Inspect the rear window defrost grid and electrical connectors for damage.

I1 CHECK FOR BCMC (BODY CONTROL MODULE C) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, perform BCMC (body control module C) self-test.

Is BCMC (body control module C) DTC (diagnostic trouble code) U0164:87 present?

Yes	REFER to: Body Control Module C (BCMC) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
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I4 CHECK THE REAR WINDOW DEFROST GRID GROUND

- Ignition OFF.
- Disconnect: Heated Rear Window Element C402B.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C402B-1	Ω	Ground

Is the resistance less than 3 ohms?

Yes	<p>REPAIR the rear window defrost grid, INSTALL a new rear window glass sliding panel or INSTALL a new rear window glass assembly if necessary.</p> <p>To repair the defrost grid, REFER to: Heated Window Grid Wire Repair (501-11 Glass, Frames and Mechanisms, General Procedures).</p> <p>To install a new rear window glass sliding panel, REFER to: Rear Window Glass Sliding Panel (501-11 Glass, Frames and Mechanisms, Removal and Installation).</p> <p>To install a new rear window glass assembly, REFER to: Fixed Glass (501-11 Glass, Frames and Mechanisms, General Procedures).</p>
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No	REPAIR the circuit.
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I5 CHECK THE REAR WINDOW DEFROST SWITCH PID (PARAMETER IDENTIFICATION)

- Start the engine.
- Access the HVAC (heating, ventilation and air conditioning) and monitor the CC_SW_R_DEF (Rear Defrost Switch) PID (parameter identification)
- Monitor the rear window defrost switch PID (parameter identification) while pressing and releasing the rear window defrost switch.

Does the PID (parameter identification) agree with the rear window defrost switch status?

- Disconnect and inspect all the HVAC (heating, ventilation and air conditioning) module 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 HVAC (heating, ventilation and air conditioning) module 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	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new HVAC (heating, ventilation and air conditioning) module.</p> <p>REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module (412-00 Climate Control System - General Information, Removal and Installation).</p>
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No	<p>The system is operating correctly at this time. The concern may have been caused by poor connections. ADDRESS the root cause of any connector or pin issues.</p>
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18 CHECK FOR CORRECT BCMC (BODY CONTROL MODULE C) OPERATION

- Ignition OFF.
- Disconnect and inspect all the BCMC (body control module C) 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 BCMC (body control module C) 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	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and</p>
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C1035B-31		Ground
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**Is any voltage present?**

Yes	REPAIR the circuit.
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No	GO to J2
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J2 CHECK FOR CORRECT BCMC (BODY CONTROL MODULE C) OPERATION

- Ignition OFF.
- Disconnect and inspect all the BCMC (body control module C) 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 BCMC (body control module C) 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 (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new BCMC (body control module C) . REFER to: Body Control Module C (BCMC) (419-10 Multifunction Electronic Modules, Removal and Installation).
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No	The system is operating correctly at this time. The concern may have been caused by poor connections. ADDRESS the root cause of any connector or pin issues.
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Fixed Glass

501-11 Glass, Frames and Mechanisms	2022 F-150
General Procedures	Procedure revision date: 09/23/2019

Fixed Glass

Repair

1. **NOTE**

Some interior trim, exterior trim and/or components may require removal based on the tools and removal method used.

NOTE

In some instances repair methods may be combined to achieve the best results.

NOTE

If any of the following conditions exist, the fixed glass must be discarded. A new fixed glass is required.

- The fixed glass is the windshield glass and equipped with a camera bracket.
- The fixed glass is the windshield glass and equipped with adhesive mouldings.

Choose the best repair method for the type of glass being replaced.

1. Cold knife method – uses the cold knife to cut the urethane from the outside of a vehicle provided the blade can reach the bead.