

Wipers and Washers

DTC Charts

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).

BCM DTC Chart

DTC	Description	Action
B130F:12	Run Accessory Control: Circuit Short To Battery	GO to Pinpoint Test A
B130F:14	Run Accessory Control: Circuit Short To Ground or Open	• If the windshield wipers are inoperative, GO to Pinpoint Test A • If the windshield wipers operate with the ignition off, GO to Pinpoint Test D
All other Diagnostic Trouble Codes (DTCs)	-	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules) .

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).

SCCM DTC Chart

DTC	Description	Action
B1008:09	Wiper Mode Switch: Component Failure	- If the windshield wipers are inoperative, INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). - CLEAR the DTC and repeat the self-test. If DTC B1008:09 is retrieved again, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). - If the windshield wipers are on continuously, GO to Pinpoint Test D
B1051:09	Front Washer Switch: Component Failure	- INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). - CLEAR the DTC and repeat the self-test. If DTC B1008:09 is retrieved again, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
B10AD:02	Rain Sensor: General Signal Failure	GO to Pinpoint Test F
B10AD:08	Rain Sensor: Bus Signal / Message Failure	GO to Pinpoint Test F
B10AD:49	Rain Sensor: Internal Electronic Failure	INSTALL a new rain sensor. REFER to: Rain Sensor (501-16 Wipers and Washers, Removal and Installation).

B10AD:55	Rain Sensor: Not Configured	CARRY OUT the Programmable Module Installation (PMI) for the SCCM using As-Built data.
B1131:02	Wiper motor module: General Signal Failure	• If the wipers are inoperative, or no symptom is present, GO to Pinpoint Test A • If the wipers are always on, GO to Pinpoint Test D
B1131:08	Wiper motor module: Bus Signal / Message Failure	GO to Pinpoint Test B
B1131:11	Wiper motor module: Circuit Short To Ground	GO to Pinpoint Test B
B1131:49	Wiper motor module: Internal Electronic Failure	INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
B1131:55	Wiper motor module: Not Configured	CARRY OUT the PMI for the SCCM using As-Built data.
B1131:9A	Wiper motor module: Component or System Operating Conditions	DIAGNOSE the symptom present with the wiper/washer system. REFER to the Symptom Chart in this section.
B12F7:09	Single Wipe Switch: Component Failure	• INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). • CLEAR the DTC and repeat the self-test. If DTC B12F7:09 is retrieved again, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).

All other Diagnostic Trouble Codes (DTCs)	-	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components) .
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Symptom Chart

Symptom Chart: Wiper and Washer

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
All windshield wiper modes are inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The intermittent and/or low speed windshield wipers are inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test B
The high speed windshield wipers are inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test C
The windshield wipers stay on continuously	Refer to the Pinpoint Test	GO to Pinpoint Test D
The windshield wipers do not operate correctly in the intermittent mode	Refer to the Pinpoint Test	GO to Pinpoint Test E
The rain sensitive wiper feature is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test F
The rain sensitive wipers have erratic/inconsistent operation	Refer to the Pinpoint Test	GO to Pinpoint Test F

The rain sensitive wipers are too sensitive/not sensitive enough to moisture	Refer to the Pinpoint Test	GO to Pinpoint Test F
The windshield wipers do not park at the correct position	Refer to the Pinpoint Test	GO to Pinpoint Test G
The windshield washer is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The windshield washer is always on	Refer to the Pinpoint Test	GO to Pinpoint Test I
The front camera washer is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test J

Symptom Chart

Symptom Chart: Heated Wiper Park

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 heated wiper park is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test K

Pinpoint Tests

All Windshield Wiper Modes Are Inoperative

Refer to Wiring Diagrams Cell 81 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

BCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B130F:12	Run Accessory Control: Circuit Short To Battery	Sets when the BCM detects a short to voltage from the wiper relay control circuit.
B130F:14	Run Accessory Control: Circuit Short To Ground or Open	Sets when the BCM detects an open from the wiper relay control circuit.

SCCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1131:02	Wiper motor module: General Signal Failure	Sets when the input to the windshield wiper motor from the fail-safe circuit does not match the requested input from the SCCM.

Possible Causes

- Fuse
- Wiring, terminals or connectors
- Wiper/washer switch
- BJB
- Windshield wiper motor
- SCCM
- BCM

Visual Inspection and Diagnostic Pre-checks

- Inspect BJB fuses 3 (30A) and 10 (5A)

PINPOINT TEST A : ALL WINDSHIELD WIPER MODES ARE INOPERATIVE

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

A1 CHECK FOR BCM (BODY CONTROL MODULE) DTC (DIAGNOSTIC TROUBLE CODE) B130F:12, B130F:14 OR SCCM (STEERING COLUMN CONTROL MODULE) DTC (DIAGNOSTIC TROUBLE CODE) B1131:02

- Ignition ON.
- Using a diagnostic scan tool, carry out the BCM self-test.
- Using a diagnostic scan tool, carry out the SCCM self-test.

Is DTC B130F:12, B130F:14 or B1131:02 present?

Yes	For DTC B130F:12, GO to A2 For DTC B130F:14, GO to A4 For DTC B1131:02, GO to A11
No	GO to A7

A2 CHECK THE BJB (BATTERY JUNCTION BOX) WIPER RELAY CONTROL CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BJB C1035C.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035C-11		Ground

Is any voltage present?

Yes	GO to A3
No	INSTALL a new BJB.

A3 ISOLATE THE WIPER RELAY CONTROL CIRCUIT SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM C2280F.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035C-11		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to A15

A4 CHECK THE WIPER RELAY CONTROL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect BCM C2280F.
- Disconnect: negative battery cable.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2280F-24	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to A6
No	GO to A5

A5 ISOLATE THE WINDSHIELD WIPER RELAY CONTROL SUPPLY CIRCUIT SHORT TO GROUND

- Disconnect BJB C1035C.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2280F-24	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	INSTALL a new BJB
No	REPAIR the circuit.

A6 CHECK THE WIPER RELAY CONTROL CIRCUIT FOR AN OPEN

- Disconnect BJB C1035C.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1035C-11	Ω	C2280F-24

Is the resistance less than 3 ohms?

Yes	GO to A15
No	REPAIR the circuit.

A7 CHECK THE INPUT TO THE SCCM (STEERING COLUMN CONTROL MODULE) USING THE WIPER/WASHER SWITCH PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs).
- Using a diagnostic scan tool, view the following SCCM wiper/washer switch Parameter Identifications (PIDs):
 - F_WASH_SW (Washer Switch (Front))
 - F_WIP_INT_D1 (Front Wiper Intermittent Data 1)
 - F_WIP_INT_D2 (Front Wiper Intermittent Data 2)
 - F_WIP_INT_D3 (Front Wiper Intermittent Data 3)
 - F_WIP_INT_D4 (Front Wiper Intermittent Data 4)
 - F_WIP_INT_D5 (Front Wiper Intermittent Data 5)
 - F_WIP_SLO_SW (Front Wiper Command Low Speed)
 - F_WIPE_FAST_SW (Front Wiper Command High Speed)
- Cycle the wiper/washer switch from off to the high speed setting and then back to off.

Do the Parameter Identifications (PIDs) correspond correctly with each setting selection?

Yes	GO to A8
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No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
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A8 CHECK FOR VOLTAGE TO THE WINDSHIELD WIPER MOTOR

- Ignition OFF.
- Disconnect Windshield Wiper Motor C125.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to A10
No	VERIFY the BJB fuse 3 (30A) is OK. If OK, GO to A9 If not OK, REFER to the Wiring Diagrams Manual to identify the possible cause of the circuit short.

A9 CHECK THE WIPER RELAY OUTPUT CIRCUIT FOR AN OPEN

- Disconnect BJB C1035B.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C125-8	Ω	C1035B-3

Is the resistance less than 3 ohms?

Yes	INSTALL a new BJB.
No	REPAIR the circuit.

A10 CHECK THE WINDSHIELD WIPER MOTOR GROUND CIRCUIT FOR AN OPEN

- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to A11
No	REPAIR the circuit.

A11 CHECK THE FAIL-SAFE HIGH SPEED WIPER GROUND CIRCUIT CONTROL

NOTICE: This pinpoint test 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 Windshield Wiper Motor C125.
- Ignition ON.
- Place the wiper/washer switch to the high speed setting and then off.
- Ignition OFF.

Does the test lamp illuminate when the wiper washer switch is in the high speed setting?

Yes	GO to A13
No	GO to A12

A12 CHECK THE FAIL-SAFE HIGH SPEED WIPER GROUND CIRCUIT FOR AN OPEN

NOTE: *If steps A2-A12 did not identify the cause of the concern, a double fault may be present. After the fail-safe ground is diagnosed and repaired, it is necessary to check all operation modes and diagnose any symptom still present.*

- Disconnect SCCM C226.

Is the resistance less than 3 ohms?

Yes	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to A14
No	REPAIR the circuit.

A13 CHECK FOR CORRECT WINDSHIELD WIPER MOTOR OPERATION

- Disconnect and inspect the windshield wiper motor connector.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the windshield wiper motor connector. Make sure it seats and latches 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
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No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.
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A14 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Disconnect and inspect all the SCCM connectors:
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins
 - pushed-out pins – install new pins as necessary
- Reconnect the SCCM connectors. Make sure they seat and latch correctly.

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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, 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.

A15 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all the BCM connectors:
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins
 - pushed-out pins – install new pins as necessary
- Reconnect the BCM connectors. Make sure they seat and latch correctly.

Is the concern still present?

Yes	 Click here to access Guided Routine (BCM).
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 Intermittent And/Or Low Speed Windshield Wipers Are Inoperative

Refer to Wiring Diagrams Cell 81 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

SCCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1131:08	Wiper motor module: Bus Signal / Message Failure	Sets when the SCCM detects a communication fault with the windshield wiper motor over the LIN.
B1131:11	Wiper motor module: Circuit Short to Ground	Sets when the SCCM detects a short to ground from the windshield wiper motor LIN circuit.

Possible Sources

- Wiring, terminals or connectors
- Wiper/washer switch
- Windshield wiper motor
- Rain sensor
- SCCM

Visual Inspection and Diagnostic Pre-checks

- Inspect the wiper/washer switch for damage

PINPOINT TEST B : THE INTERMITTENT AND/OR LOW SPEED WINDSHIELD WIPERS ARE INOPERATIVE

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

NOTE: It may be necessary to disconnect and then reconnect the battery after the repair to enable the wiper operation.

B1 CHECK THE HIGH SPEED WIPER OPERATION

• Ignition ON.

• Place the wiper/washer switch to the high speed setting and observe the windshield wipers. Place the wiper/washer switch to the off setting.

Do the windshield wipers operate with the wiper/washer switch in the high speed setting?

Yes

GO to [B2](#)

No

[GO to Pinpoint Test A](#)

B2 CHECK THE LOW SPEED WIPER OPERATION

- Place the wiper/washer switch to the low speed setting and observe the windshield wipers. Place the wiper/washer switch to the off setting.

Do the windshield wipers operate with the wiper/washer switch in the low speed setting?

Yes	If not equipped with a rain sensor, GO to Pinpoint Test E If equipped with a rain sensor, GO to Pinpoint Test F
No	GO to B3

B3 CHECK THE INPUT TO THE SCCM (STEERING COLUMN CONTROL MODULE) USING THE FRONT WIPER COMMAND LOW SPEED (F_WIP_SLO_SW) PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs).
- Using a diagnostic scan tool, view the SCCM PID F_WIP_SLO_SW.
- Place the wiper/washer switch to the low speed setting.

Does the PID indicate the wiper/washer switch is in the low speed setting?

Yes	If equipped with a rain sensor, GO to B4 If not equipped with a rain sensor, GO to B5
No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).

B4 ISOLATE THE RAIN SENSOR

- Ignition OFF.
- Disconnect Rain Sensor C914.
- Ignition ON.
- Place the wiper/washer switch to the low speed setting and observe the windshield wipers. Place the wiper/washer switch to the off setting.

Do the windshield wipers operate with the wiper/washer switch in the low speed setting?

Yes	INSTALL a new rain sensor. REFER to: Rain Sensor (501-16 Wipers and Washers, Removal and Installation).
No	GO to B5

B5 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect Windshield Wiper Motor C125.
- Disconnect SCCM C226.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to B6

B6 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.

Is the resistance greater than 10,000 ohms?

Yes	GO to B7
No	REPAIR the circuit.

B7 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

Is the resistance less than 3 ohms?

Yes	GO to B8
No	REPAIR the circuit.

B8 CHECK FOR CORRECT WINDSHIELD WIPER MOTOR OPERATION

- Disconnect and inspect the windshield wiper motor connector.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the windshield wiper motor connector. Make sure it seats and latches 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to B9
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

B9 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Disconnect and inspect all the SCCM connectors.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SCCM 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

The High Speed Windshield Wipers Are Inoperative

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Sources

- Windshield wiper motor
- Wiper/washer switch
- SCCM

PINPOINT TEST C : THE HIGH SPEED WINDSHIELD WIPERS ARE INOPERATIVE

C1 CHECK THE INPUT TO THE SCCM (STEERING COLUMN CONTROL MODULE) USING THE FRONT WIPER COMMAND HIGH SPEED (F_WIP_FAST_SW) PID (PARAMETER IDENTIFICATION)	
• Ignition ON. • Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs). • Using a diagnostic scan tool, view the SCCM PID F_WIPE_FAST_SW. • Place the wiper/washer switch to the high speed setting.	
Does the PID indicate the wiper/washer switch is in the high speed setting?	
Yes	INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).

No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
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The Windshield Wipers Stay On Continuously

Refer to Wiring Diagrams Cell 81 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

BCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B130F:14	Run Accessory Control: Circuit Short To Ground or Open	Sets when the BCM detects a short to ground from the wiper relay control circuit.

SCCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1008:09	Wiper Mode Switch: Component Failure	Sets when the SCCM detects a fault from the wiper/washer switch input.

B1131:02	Wiper Motor Module: General Signal Failure	Sets when the input to the windshield wiper motor from the fail-safe circuit does not match the requested input from the SCCM.
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Possible Sources

- Wiring, terminals or connectors
- Wiper/washer switch
- Windshield wiper motor
- SCCM
- BCM

Visual Inspection and Diagnostic Pre-checks

- Inspect the wiper/washer switch for damage

PINPOINT TEST D : THE WINDSHIELD WIPERS STAY ON CONTINUOUSLY

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.	
D1 CHECK THE WINDSHIELD WIPER OPERATION WITH THE IGNITION OFF	
• Ignition OFF. • Observe the windshield wiper operation.	
Do the windshield wipers operate with the ignition off?	
Yes	GO to D5
No	GO to D2
D2 CHECK THE WINDSHIELD WIPER OPERATION WITH THE SCCM (STEERING COLUMN CONTROL MODULE) DISCONNECTED	

- Ignition OFF.
- Disconnect SCCM C226.
- Ignition ON.
- Observe the windshield wiper operation.

Does the windshield wiper motor continue to operate?

Yes	GO to D3
No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to D9

D3 CHECK THE HIGH SPEED FAIL-SAFE CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect Windshield Wiper Motor C125.

Is the resistance greater than 10,000 ohms?

Yes	GO to D4
No	REPAIR the circuit.

D4 CHECK FOR CORRECT WINDSHIELD WIPER MOTOR OPERATION

- Disconnect and inspect the windshield wiper motor connector.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the windshield wiper motor connector. Make sure it seats and latches 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

D5 CHECK FOR BCM (BODY CONTROL MODULE) DTC (DIAGNOSTIC TROUBLE CODE) B130F:14

- Ignition ON.
- Using a diagnostic scan tool, carry out the BCM self-test.

Is DTC B130F:14 present?

Yes	GO to D6
No	GO to D8

D6 CHECK THE WIPER RELAY CONTROL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect BCM C2280F.
- Disconnect: negative battery cable.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2280F-24	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to D10
No	GO to D7

D7 ISOLATE THE WIPER RELAY CONTROL CIRCUIT SHORT TO GROUND

- Ignition OFF.
- Disconnect BJB C1035C.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2280F-24	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	INSTALL a new BJB.
No	REPAIR the circuit.

D8 CHECK THE WINDSHIELD WIPER MOTOR VOLTAGE SUPPLY CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BJB C1035B.

Is any voltage present?

Yes	REPAIR the circuit.
No	INSTALL a new BJB.

D9 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Disconnect and inspect all the SCCM connectors.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SCCM 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

D10 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all the BCM connectors.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the BCM 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	 Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

The Windshield Wipers Do Not Operate Correctly In The Intermittent Mode

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Sources

- Wiper/washer switch
- Windshield wiper motor
- SCCM

Visual Inspection and Diagnostic Pre-checks

- Inspect the wiper/washer switch for damage

PINPOINT TEST E : THE WINDSHIELD WIPERS DO NOT OPERATE CORRECTLY IN THE INTERMITTENT MODE

E1 VERIFY IF THE VEHICLE IS EQUIPPED WITH A RAIN SENSOR

- Inspect the vehicle for a rain sensor.

Is the vehicle equipped with a rain sensor?

Yes	GO to E2
No	GO to E3

E2 VERIFY THE RAIN SENSITIVE WIPER FEATURE IS DISABLED IN THE VEHICLE MESSAGE CENTER

- Ignition ON.
- Access the vehicle settings in the message center using the steering wheel controls and check the rain sensitive feature setting.

Is the rain sensitive feature enabled?

Yes	GO to Pinpoint Test F
No	GO to E3

E3 CHECK THE LOW SPEED WIPER OPERATION

- Ignition ON.
- Place the wiper/washer switch to the low speed setting and observe the windshield wipers. Place the wiper/washer switch to the off setting.

Do the low speed wipers operate when the low speed setting is selected?

Yes	GO to E4
No	GO to Pinpoint Test B

E4 CHECK THE INPUT TO THE SCCM (STEERING COLUMN CONTROL MODULE) USING THE THE WIPER/WASHER SWITCH PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs).
- Using a diagnostic scan tool, view the following SCCM wiper/washer switch Parameter Identifications (PIDs):
 - F_WIP_INT_D1 (Front Wiper Intermittent Data 1)
 - F_WIP_INT_D2 (Front Wiper Intermittent Data 2)
 - F_WIP_INT_D3 (Front Wiper Intermittent Data 3)
 - F_WIP_INT_D4 (Front Wiper Intermittent Data 4)
 - F_WIP_INT_D5 (Front Wiper Intermittent Data 5)
- Cycle the wiper/washer switch from off through each of the intermittent settings.

Do the Parameter Identifications (PIDs) correspond correctly with each setting selection?

Yes	INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
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No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
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The Rain Sensitive Wiper Feature Is Inoperative/Does Not Operate Correctly

Refer to Wiring Diagrams Cell 81 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

SCCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B10AD:02	Rain Sensor: General Signal Failure	Sets when the SCCM detects a communication fault with the rain sensor.
B10AD:08	Rain Sensor: Bus Signal / Message Failure	Sets when the SCCM detects a communication fault with the rain sensor.

Possible Sources

- Fuse
- Wiring, terminals or connectors
- Rain sensitive feature not enabled
- Foreign material on windshield, such as dirt, dust or bugs
- Wiper blades
- Windshield glass

- Wiper/washer switch
- Windshield wiper motor
- Rain sensor
- SCCM

Visual Inspection and Diagnostic Pre-checks

- Inspect BJB fuse 10 (5A)
- Inspect the windshield for damage
- Inspect the rain sensor mounting for damage

PINPOINT TEST F : THE RAIN SENSITIVE WIPER FEATURE IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

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

F1 CHECK THE LOW SPEED WIPER OPERATION

- Ignition ON.
- Place the wiper/washer switch to the low speed setting and observe the windshield wipers. Place the wiper/washer switch to the off setting.

Do the low speed wipers operate when the low speed setting is selected?

Yes	GO to F2
No	GO to Pinpoint Test B

F2 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) B10AD:02 OR B10AD:08

- Using a diagnostic scan tool, carry out the SCCM self-test.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC B10AD:02 or B10AD:08, GO to F11 For all other Diagnostic Trouble Codes (DTCs), REFER to the SCCM DTC Chart in this section.
No	GO to F3

F3 VERIFY THE RAIN SENSITIVE WIPER FEATURE IS ENABLED IN THE VEHICLE MESSAGE CENTER

- Access the vehicle settings in the message center using the steering wheel controls. Make sure the rain sensitive feature is enabled.

Is the rain sensitive feature enabled?

Yes	GO to F4
No	ENABLE the rain sensitive feature. INFORM the customer how to enable/disable the rain sensitive feature.

F4 CHECK THE INPUT TO THE SCCM (STEERING COLUMN CONTROL MODULE) USING THE WIPER/WASHER SWITCH PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, monitor the following SCCM wiper/washer switch Parameter Identifications (PIDs):
 - F_WIP_INT_D1 (Front Wiper Intermittent Data 1)
 - F_WIP_INT_D2 (Front Wiper Intermittent Data 2)
 - F_WIP_INT_D3 (Front Wiper Intermittent Data 3)
 - F_WIP_INT_D4 (Front Wiper Intermittent Data 4)
 - F_WIP_INT_D5 (Front Wiper Intermittent Data 5)
- Cycle the wiper/washer switch from off through each of the auto/intermittent sensitivity settings.

Do the Parameter Identifications (PIDs) correspond correctly with each setting selection?

Yes	GO to F5
No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).

F5 CHECK THE WINDSHIELD FOR DAMAGE

- Ignition OFF.
- Inspect the windshield glass for any cracks, pits or other visible damage around the area of the rain sensor.

Is any windshield damage present near the area of the rain sensor?

Yes	INSTALL a new windshield. REFER to: Fixed Glass (501-11 Glass, Frames and Mechanisms, General Procedures).
No	GO to F6

F6 CHECK THE WINDSHIELD GLASS FOR STREAKING

- Ignition ON.
- Turn the wiper/washer switch to the low speed wiper setting and while applying water to the windshield surface. Observe the wipe quality, especially around the area of the rain sensor.

Is any streaking present on the windshield around the area of the rain sensor?

Yes	GO to F7
No	GO to F9

F7 CHECK THE WINDSHIELD WIPER BLADES FOR STREAKING

- Ignition OFF.
- Clean the windshield glass with glass cleaner.
- Clean the wiper blades with isopropyl alcohol swabs. Wipe the entire length of the wiper blades.
- Ignition ON.
- Place the wiper/washer switch to the low speed wiper setting and while applying water to the windshield surface. Observe the wipe quality, especially around the area of the rain sensor.

Was there noticeable improvement in the wipe quality after cleaning the glass and the wiper blades?

Yes	GO to F8
No	INSTALL new wiper blades. GO to F8

F8 RECHECK THE RAIN SENSITIVE WIPERS OPERATION

- Place the wiper/washer switch to the auto/intermittent 5 setting (most sensitive to moisture) while applying water on the windshield above the rain sensor.

Do the wipers operate when water is applied to the windshield surface?

Yes	The system is operating correctly at this time. The concern may have been caused by poor wipe quality on the windshield around the rain sensor.
No	GO to F9

F9 CHECK FOR THE PRESENCE OF THE LENS GEL

- Ignition OFF.
- Lightly press the rain sensor against the windshield and release the rain sensor clips.

Does the rain sensor remain adhered to the windshield?

Yes	ATTACH the retaining clips. GO to F10
No	The sensor gel-type lens is missing or damaged. INSTALL a new rain sensor. REFER to: Rain Sensor (501-16 Wipers and Washers, Removal and Installation).

F10 INSPECT THE RAIN SENSOR MOUNTING AREA

NOTE: The rain sensor gel-type lens can be damaged or contaminated during rain sensor removal, rain sensor bracket separation or incorrect installation.

- From the outside of the vehicle, inspect the area of the windshield glass where the rain sensor is mounted. The rain sensor contact area should appear black, with no bubbles, air pockets or contaminants between the windshield glass and the rain sensor.

Does the rain sensor contact area appear black, with no bubbles, air pockets or contaminants between the windshield glass and the rain sensor?

Yes	GO to F11
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No	REMOVE the rain sensor. REFER to: Rain Sensor (501-16 Wipers and Washers, Removal and Installation). CLEAN the mating surfaces between the windshield glass and the rain sensor. INSTALL the rain sensor correctly. TEST the system for normal operation. If the concern is still present, INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
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F11 CHECK THE RAIN SENSOR VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect Rain Sensor C914.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to F12
No	VERIFY BJB fuse 10 (5A) 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.

F12 CHECK THE RAIN SENSOR GROUND CIRCUIT FOR AN OPEN

Is the voltage greater than 11 volts?

Yes	GO to F13
No	REPAIR the circuit.

F13 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect SCCM C226.

Is the resistance less than 3 ohms?

Yes	GO to F14
No	REPAIR the circuit.

F14 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Disconnect and inspect all the SCCM connectors.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect all the SCCM 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

The Windshield Wipers Do Not Park At The Correct Position

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Sources

- Wiper mounting arm and pivot shaft
- Windshield wiper motor

Visual Inspection and Diagnostic Pre-checks

- Inspect the mounting arm and pivot shaft for damage

PINPOINT TEST G : THE WINDSHIELD WIPERS DO NOT PARK AT THE CORRECT POSITION

G1 CHECK THE WIPER MOUNTING ARM AND PIVOT SHAFT FOR DAMAGE	
• Ignition OFF. • Inspect the wiper mounting arm and pivot shaft for damage.	
Is the wiper mounting arm and pivot shaft OK?	
Yes	GO to G2
No	INSTALL a wiper mounting arm and pivot shaft. REFER to: Windshield Wiper Pivot Arm (501-16 Wipers and Washers, Removal and Installation).
G2 CHECK THE WINDSHIELD WIPER PARK RELAY OPERATION	

- Ignition ON.
- Place the wiper/washer switch to the low speed setting. When the wiper blades are in the middle of a wipe, place the wiper/washer switch off.

Do the windshield wipers immediately stop when the wiper/washer switch is turned off?

Yes	INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
No	ADJUST the pivot arms correctly on the windshield.

The Windshield Washer Is Inoperative

Refer to Wiring Diagrams Cell 81 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Causes

- Wiring, terminals or connectors
- Windshield washer hose
- Windshield washer jet
- Washer pump
- Wiper/washer switch
- Windshield wiper motor
- SCCM

Visual Inspection and Diagnostic Pre-checks

- Inspect the wiper/washer switch for damage

PINPOINT TEST H : THE WINDSHIELD WASHER IS INOPERATIVE

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

H1 CHECK THE AMBIENT AIR TEMPERATURE

- Check the ambient air temperature.

Is the ambient air temperature below freezing?

Yes	GO to H2
No	GO to H4

H2 CHECK THE WASHER SOLVENT

- Check the washer solvent and make sure it is of the correct type to use for the temperature conditions present.

Is the correct type of washer solvent present?

Yes	GO to H3
No	ALLOW the vehicle to warm to room temperature. DRAIN and REFILL the windshield washer reservoir with the correct washer solvent type. INFORM the customer of the correct type of washer solvent to use for the temperature conditions present.

H3 CHECK FOR WASHER SOLVENT TO THE WASHER JETS

- Disconnect the washer hoses from the windshield washer jets and place them in a container to capture fluid.
- Ignition ON.
- Momentarily activate the windshield washer function.

Is washer fluid emitted at the washer hoses?

Yes	INSTALL a new washer jet in question.
No	GO to H4

H4 CHECK FOR WASHER PUMP ACTIVATION

- Ignition ON.
- While listening for washer pump activation near the right front of the vehicle, have an assistant activate the windshield washer function.

Does the washer pump activate?

Yes	GO to H5
No	GO to H6

H5 CHECK FOR DAMAGED WASHER HOSES

- Inspect the washer hoses for kinks or damage.

Are the washer hoses OK?

Yes	Install a new washer pump. REFER to: Windshield Washer Pump (501-16 Wipers and Washers) .
No	REPAIR the washer hoses as necessary.

H6 CHECK THE WIPER/WASHER SWITCH INPUT USING THE WASHER SWITCH (FRONT) (F_WASH_SW) PID (PARAMETER IDENTIFICATION)

- Ignition ON.
- Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs).
- Using a diagnostic scan tool, view the SCCM PID F_WASH_SW.
- Activate and release the wash function on the wiper/washer switch.

Does the PID indicate correctly when the switch is activated?

Yes	GO to H7
No	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).

H7 CHECK FOR VOLTAGE TO THE WASHER PUMP

NOTICE: This pinpoint test 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 Washer Pump C137.
- Ignition ON.
- Use the wiper/washer switch to activate the windshield washer function.

Does the test lamp illuminate when the washer is activated?

Yes	GO to H8
No	GO to H9

H8 CHECK THE WASHER PUMP GROUND CIRCUIT FOR AN OPEN

NOTICE: This pinpoint test 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.

- Use the wiper/washer switch to activate the windshield washer function.

Does the test lamp illuminate when the washer is activated?

Yes	INSTALL a new washer pump. REFER to: Windshield Washer Pump (501-16 Wipers and Washers) .
No	REPAIR the circuit.

H9 CHECK THE WASHER PUMP VOLTAGE SUPPLY CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect Windshield Wiper Motor C125.

Is the resistance greater than 10,000 ohms?

Yes	GO to H10
No	REPAIR the circuit.

H10 CHECK THE WASHER PUMP VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

Is the resistance less than 3 ohms?

Yes	GO to H11
No	REPAIR the circuit.

H11 CHECK FOR CORRECT WINDSHIELD WIPER MOTOR OPERATION

- Disconnect and inspect the windshield wiper motor connector.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the windshield wiper motor connector. Make sure it seats and latches 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

The Windshield Washer Is Always On

Refer to Wiring Diagrams Cell 81 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Causes

- Wiper/washer switch
- Windshield wiper motor
- SCCM

Visual Inspection and Diagnostic Pre-checks

- Inspect the wiper/washer switch for damage

PINPOINT TEST I : THE WINDSHIELD WASHER IS ALWAYS ON

I1 CHECK THE WIPER/WASHER SWITCH INPUT USING THE WASHER SWITCH (FRONT) (F_WASH_SW) PID (PARAMETER IDENTIFICATION)	
• Ignition ON. • Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs). • Using a diagnostic scan tool, view the SCCM PID F_WASH_SW.	
Does the PID indicate the switch is activated?	
Yes	INSTALL a new wiper/washer switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern is still present, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	INSTALL a new windshield wiper motor. REFER to: Windshield Wiper Motor (501-16 Wipers and Washers, Removal and Installation).

The Front Camera Washer Is Inoperative

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Causes

- Front camera washer hose
- Front camera washer jet

Visual Inspection and Diagnostic Pre-checks

- Inspect the front camera washer jet for damage

PINPOINT TEST J : THE FRONT CAMERA WASHER IS INOPERATIVE

J1 CHECK THE WINDSHIELD WASHER OPERATION	
• Ignition ON. • Momentarily activate the windshield washer function.	
Does the windshield washer operate?	
Yes	GO to J2
No	GO to Pinpoint Test H
J2 CHECK FOR WASHER SOLVENT TO THE FRONT CAMERA WASHER JET	

- Ignition OFF.
- Disconnect the washer hose from the front camera washer jet and place it in a container to capture fluid.
- Ignition ON.
- Momentarily activate the windshield washer function.

Is washer fluid emitted at the washer hose?

Yes	INSTALL a new front camera washer jet.
No	INSTALL a new front camera washer hose.

The Heated Wiper Park is Inoperative

Normal Operation and Fault Conditions

REFER to: Wipers and Washers (501-16 Wipers and Washers) .

Possible Causes

- Fuse
- BJB
- Wiring, terminals or connectors
- Heated wiper park grid

Visual Inspection and Diagnostic Pre-checks

- Verify BJB fuse 80 (10A) is OK.
- Inspect the heated wiper park grid and electrical connectors for damage.

PINPOINT TEST K : THE HEATED WIPER PARK IS INOPERATIVE

K1 CHECK FOR REAR DEFROST SYSTEM DTCS

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

Is DTC B1C83:12 or B1C83:14 present?

Yes	Diagnose the rear defrost system concern before attempting to diagnose any heated wiper park system concerns. REFER to: Glass, Frames and Mechanisms (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
No	GO to K2

K2 CHECK THE REAR WINDOW DEFROST GRID VOLTAGE

NOTICE: The following Pinpoint Test uses a test light 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: Rear Window Defrost Grid C3368B.
- Ignition ON.
- Activate the rear window defrost.

Does the test lamp illuminate when the rear window defrost is activated?

Yes	GO to K3
No	Diagnose the rear defrost system concern before attempting to diagnose any heated wiper park system concerns. REFER to: Glass, Frames and Mechanisms (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).

K3 CHECK THE HEATED WIPER PARK GRID VOLTAGE SUPPLY CIRCUIT FOR VOLTAGE

NOTICE: The following Pinpoint Test uses a test light 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 Heated Windshield Element C1532.
- Ignition ON.
- Activate the rear window defrost.

Does the test lamp illuminate when the rear window defrost is activated?

Yes	GO to K5
No	VERIFY BJB fuse 80 (10A) is OK. If OK, GO to K4 If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.

K4 CHECK THE HEATED WIPER PARK GRID VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Disconnect BJB C1035D.

Is the resistance less than 3 ohms?

Yes	INSTALL a new BJB.
No	REPAIR the circuit.

K5 CHECK THE HEATED WIPER PARK GRID GROUND

NOTICE: The following Pinpoint Test uses a test light 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.

Does the test lamp illuminate?

Yes	INSTALL a new windshield. REFER to: Fixed Glass (501-11 Glass, Frames and Mechanisms, General Procedures).
No	REPAIR the circuit.