

Trailer Lamps

DTC Chart: Body Control Module (BCM)

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
B132B:12	Left Stop/Turn Lamp: Circuit Short To Battery	GO to Pinpoint Test B
B132B:14	Left Stop/Turn Lamp: Circuit Short To Ground or Open	GO to Pinpoint Test B
B132C:12	Right Stop/Turn Lamp: Circuit Short To Battery	GO to Pinpoint Test B
B132C:14	Right Stop/Turn Lamp: Circuit Short To Ground or Open	GO to Pinpoint Test B
B1449:12	Trailer Tow Park/Tail Lamp Output: Circuit Short To Battery	GO to Pinpoint Test D
B1449:14	Trailer Tow Park/Tail Lamp Output: Circuit Short To Ground or Open	GO to Pinpoint Test D

U1000:00	Solid State Driver Protection Active -Driver Disabled: No Sub Type Information	The module has temporarily disabled an output because an excessive current draw exists (such as a short to ground). The BCM cannot enable the output until the cause of the short is corrected. ADDRESS all other Diagnostic Trouble Codes (DTCs) first. After the cause of the concern is corrected, CLEAR the Diagnostic Trouble Codes (DTCs). REPEAT the self-test.
U3000:49	Control Module: Internal Electronic Failure	The module has permanently disabled an output because an excessive current draw fault (such as a short to ground) has exceeded the limits that the BCM can withstand. The cause of the excessive current draw MUST be corrected before a new BCM is installed. ADDRESS all other Diagnostic Trouble Codes (DTCs) first. After the cause of the concern is corrected,   Click here to access Guided Routine (BCM).
For other BCM Diagnostic Trouble Codes (DTCs)	-	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).

DTC Chart: Trailer Module (TRM)

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).

TRM DTC Chart

DTC	Description	Action

B1D08:11	Left Trailer Direction Indicator: Circuit Short To Ground	GO to Pinpoint Test C
B1D08:12	Left Trailer Direction Indicator: Circuit Short To Battery	GO to Pinpoint Test C
B1D09:11	Right Trailer Direction Indicator: Circuit Short To Ground	GO to Pinpoint Test C
B1D09:12	Right Trailer Direction Indicator: Circuit Short To Battery	GO to Pinpoint Test C
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test G
U0422:68	Invalid Data Received From Body Control Module: Event Information	This DTC sets when data is invalid from the BCM. CLEAR the DTC. REPEAT the self-test. If DTC U0422:68 returns, RETRIEVE and REPAIR all Diagnostic Trouble Codes (DTCs) set in the BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).
U1000:00	Solid State Driver Protection Active -Driver Disabled: No Sub Type Information	The module has temporarily disabled an output because an excessive current draw exists (such as a short to ground). The TRM cannot enable the output until the cause of the short is corrected. ADDRESS all other Diagnostic Trouble Codes (DTCs) first. After the cause of the concern is corrected, CLEAR the Diagnostic Trouble Codes (DTCs). REPEAT the self-test.
U2100:00	Initial Configuration Not Complete: No Sub Type Information	CHECK the vehicle service history for recent service actions related to this module. This DTC sets due to incomplete or incorrect PMI procedures. If there have been recent service actions with this module, REPEAT the PMI procedure as directed by the diagnostic scan tool. REFER to: Module Configuration - System Operation and Component Description (418-01 Module Configuration, Description and

		Operation). If there have been no recent service actions, INSTALL a new TRM to correct the failure to retain configuration data.
U3000:49	Control Module: Internal Electronic Failure	The module has permanently disabled an output because an excessive current draw fault (such as a short to ground) has exceeded the limits that the TRM can withstand. The cause of the excessive current draw MUST be corrected before a new TRM is installed. ADDRESS all other Diagnostic Trouble Codes (DTCs) first. After the cause of the concern is corrected, INSTALL a new TRM.

Symptom Chart

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
A module does not respond to the diagnostic scan tool	• Fuse • Wiring, terminals or connectors • Module	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
All the trailer lamps are inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
One or more trailer stop/turn lamps are inoperative or always on - vehicles not equipped with a TRM	Refer to the Pinpoint Test	GO to Pinpoint Test B

One or more trailer stop/turn lamps are inoperative or always on - vehicles equipped with a TRM	Refer to the Pinpoint Test	GO to Pinpoint Test C
The trailer parking lamps are inoperative or always on	Refer to the Pinpoint Test	GO to Pinpoint Test D
The trailer reversing lamps are inoperative or always on	Refer to the Pinpoint Test	GO to Pinpoint Test E
The trailer battery charging is inoperative/does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test F

Pinpoint Tests

All The Trailer Lamps Are Inoperative

Refer to Wiring Diagrams Cell 95 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- Wiring, terminals or connectors
- Trailer tow connector
- Trailer concern

Visual Inspection and Diagnostic Pre-checks

- Inspect the trailer tow connector for signs of corrosion or damage. Repair or install a new trailer tow connector as required.

PINPOINT TEST A : ALL THE TRAILER LAMPS ARE INOPERATIVE

A1 CHECK THE TRAILER TOW GROUND CIRCUIT FOR CONTINUITY TO GROUND

- Ignition OFF.
- Disconnect: Trailer.
- Disconnect: Negative Battery Cable.
- If equipped with a 4-pin connector only, measure:

Click to display connectors

For 4-Pin Connector

Positive Lead	Measurement / Action	Negative Lead
C4098-4	Ω	Ground

- If equipped with a 4-pin and 7-pin connector, measure:

Click to display connectors

For 4-Pin Connector

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 4	Ω	Ground

Click to display connectors

For 7-Pin Connector

Positive Lead	Measurement / Action	Negative Lead
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7-Pin Connector, Pin 2	Ω	Ground
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Is the resistance less than 3 ohms?

Yes	The vehicle is operating correctly. SEND the trailer to an authorized camper/trailer repair facility.
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No	If equipped with a 4-pin connector only, REPAIR the circuit. If equipped with a 4-pin and 7-pin connector, GO to A2
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A2 CHECK THE TRAILER TOW GROUND CIRCUIT FOR AN OPEN

- Disconnect: Trailer Tow C4099.

Is the resistance less than 3 ohms?

Yes	INSTALL a new trailer tow connector. TEST the system for normal operation.
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No	REPAIR the circuit.
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One Or More Trailer Stop/Turn Lamps Are Inoperative Or Always On - Vehicles Not Equipped With A TRM

Refer to Wiring Diagrams Cell 95 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B132B:12	Left Stop/Turn Lamp: Circuit Short To Battery	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH trailer stoplamp/turn signal output circuit.
B132B:14	Left Stop/Turn Lamp: Circuit Short To Ground or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open or short to ground from the LH trailer stoplamp/turn signal output circuit.
B132C:12	Right Stop/Turn Lamp: Circuit Short To Battery	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH trailer stoplamp/turn signal output circuit.
B132C:14	Right Stop/Turn Lamp: Circuit Short To Ground or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open or short to ground from the RH trailer stoplamp/turn signal output circuit.

Possible Sources

- Fuse
- Wiring, terminals or connectors
- Trailer concern
- Trailer tow connector
- TRM

Visual Inspection and Diagnostic Pre-checks

- Verify the BJB fuse 35 (20A) is OK.
- Inspect the trailer tow connector for signs of corrosion or damage. Repair or install a new trailer tow connector as required.

PINPOINT TEST B : ONE OR MORE TRAILER STOP/TURN LAMPS ARE INOPERATIVE OR ALWAYS ON - VEHICLES NOT EQUIPPED WITH A TRM (TRAILER MODULE)

B1 CHECK FOR VOLTAGE THROUGH THE TRAILER TOW CONNECTOR

- Ignition OFF.
- Disconnect: Trailer.
- Ignition ON.
- If equipped with a 4-pin connector only, while applying and releasing the brake pedal, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1		Ground

- If equipped with a 4-pin and 7-pin connector, for 4-pin connector, while applying and releasing the brake pedal, measure:

Click to display connectors

LH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 2		Ground

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 1		Ground

- If equipped with a 4-pin and 7-pin connector, for 7-pin connector, while applying and releasing the brake pedal, measure:

Click to display connectors

LH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 1		Ground

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 4		Ground

Is the voltage greater than 11 volts when the brake pedal is pressed and 0 volts when the brake pedal is released?

Yes	The vehicle is operating correctly. SEND the trailer to an authorized camper/trailer repair facility.
No	If equipped with a 4-pin connector only, if both stop/turn lamps are inoperative, VERIFY the BJB fuse 35 (20A) is OK. If OK, GO to B3 If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. If equipped with a 4-pin connector only, if only one stop/turn lamp is inoperative, GO to B4 If equipped with a 4-pin connector only, if both stop/turn lamps are always on, INSTALL a new BJB. If equipped with a 4-pin connector only, if only one stop/turn lamp is always on, GO to B8 If equipped with a 4-pin and 7-pin connector, GO to B2

B2 CHECK FOR VOLTAGE TO THE TRAILER TOW CONNECTOR (VEHICLE HARNESS)

- Ignition OFF.
- Disconnect: Trailer Tow C4099.
- Ignition ON.
- While applying and releasing the brake pedal, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4099-4		Ground

Is the voltage greater than 11 volts when the brake pedal is pressed and 0 volts when the brake pedal is released?

Yes	INSTALL a new trailer tow connector. TEST the system for normal operation.
No	If both stop/turn lamps are inoperative, VERIFY the BJB fuse 35 (20A) is OK. If OK, GO to B3 If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. If only one stop/turn lamp is inoperative, GO to B4 If both stop/turn lamps are always on, INSTALL a new BJB. If only one stop/turn lamp is always on, GO to B8

B3 CHECK THE TRAILER TOW STOP/TURN LAMP RELAY VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

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

Is the voltage greater than 11 volts?

Yes	INSTALL a new BJB.
No	REPAIR the circuit.

B4 CHECK THE TRAILER TOW STOP/TURN LAMP RELAY ENERGIZE CIRCUIT FOR GROUND

- Ignition OFF.
- Disconnect: BJB C1035D.
- Ignition ON.
- While applying the brake pedal, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
Battery Positive		C1035D-10

Is the voltage greater than 11 volts?

Yes	GO to B7
No	GO to B5

B5 CHECK THE TRAILER TOW STOP/TURN LAMPS RELAY ENERGIZE CIRCUIT FOR A SHORT TO VOLTAGE

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

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C2280F-13		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to B6

B6 CHECK THE TRAILER TOW STOP/TURN LAMPS RELAY ENERGIZE CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C2280F-13	Ω	C1035D-10

Is the resistance less than 3 ohms?

Yes	GO to B9
No	REPAIR the circuit.

B7 CHECK THE TRAILER TOW STOP/TURN LAMPS RELAY OUTPUT CIRCUIT FOR AN OPEN

- Disconnect: BJB C1035C.
- If equipped with a 4-pin connector only, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1	Ω	C1035C-4

- If equipped with a 4-pin and 7-pin connector, for 4-pin connector, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 1	Ω	C1035C-4

- If equipped with a 4-pin and 7-pin connector, for 7-pin connector, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 4	Ω	C1035C-4

Is the resistance less than 3 ohms?

Yes	REPAIR the circuit.
No	INSTALL a new BJB.

B8 CHECK THE TRAILER TOW STOP/TURN LAMPS RELAY OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

- Place the headlamp switch in the OFF position.
- Disconnect: BJB C1035C.
- Ignition ON.
- If equipped with a 4-pin connector only, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1		Ground

- If equipped with a 4-pin and 7-pin connector, for 4-pin connector, measure:

Click to display connectors

LH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead

4-Pin Connector, Pin 2		Ground
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Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 1		Ground

- If equipped with a 4-pin and 7-pin connector, for 7-pin connector, measure:

Click to display connectors

LH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 1		Ground

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 4		Ground

Is any voltage present?

Yes	REPAIR the circuit.
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No	INSTALL a new BJB.
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B9 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all 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.
- 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 (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.

One Or More Trailer Stop/Turn Lamps Are Inoperative Or Always On - Vehicles Equipped With A TRM

Refer to Wiring Diagrams Cell 95 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1D08:11	Left Trailer Direction Indicator: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the TRM detects a short to ground from the LH trailer stoplamp/turn signal output circuit.
B1D08:12	Left Trailer Direction Indicator: Circuit Short To Battery	A continuous memory and on-demand DTC that sets when the TRM detects a short to voltage from the LH trailer stoplamp/turn signal output circuit.
B1D09:11	Right Trailer Direction Indicator: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the TRM detects a short to ground from the RH trailer stoplamp/turn signal output circuit.
B1D09:12	Right Trailer Direction Indicator: Circuit Short To Battery	A continuous memory and on-demand DTC that sets when the TRM detects a short to voltage from the RH trailer stoplamp/turn signal output circuit.

Possible Sources

- Fuse
- Wiring, terminals or connectors
- Trailer concern
- Trailer tow connector
- TRM

Visual Inspection and Diagnostic Pre-checks

- Verify the BJB fuse 35 (20A) is OK.
- Inspect the trailer tow connector for signs of corrosion or damage. Repair or install a new trailer tow connector as required.

PINPOINT TEST C : ONE OR MORE TRAILER STOP/TURN LAMPS ARE INOPERATIVE OR ALWAYS ON - VEHICLES EQUIPPED WITH A TRM (TRAILER MODULE)

C1 CHECK FOR VOLTAGE THROUGH THE TRAILER TOW CONNECTOR

- Ignition OFF.
- Disconnect: Trailer.
- Ignition ON.
- If equipped with a 4-pin connector only, while applying and releasing the brake pedal, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1		Ground

- If equipped with a 4-pin and 7-pin connector, for 4-pin connector, while applying and releasing the brake pedal, measure:

Click to display connectors

LH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 2		Ground

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead

4-Pin Connector, Pin 1		Ground
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- If equipped with a 4-pin and 7-pin connector, for 7-pin connector, while applying and releasing the brake pedal, measure:

Click to display connectors

LH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 1		Ground

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 4		Ground

Is the voltage greater than 11 volts when the brake pedal is pressed and less than 7 volts when the brake pedal is released?

Yes	The vehicle is operating correctly. SEND the trailer to an authorized camper/trailer repair facility.
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- No** If equipped with a 4-pin connector only, if both stop/turn lamps are inoperative, GO to [C3](#)
- If equipped with a 4-pin connector only, if only one stop/turn lamp is inoperative, GO to [C5](#)
- If equipped with a 4-pin connector only, if both stop/turn lamps are always on, GO to [C8](#)
- If equipped with a 4-pin connector only, if only one stop/turn lamp is always on, GO to [C7](#)
- If equipped with a 4-pin and 7-pin connector, GO to [C2](#)

C2 CHECK FOR VOLTAGE TO THE TRAILER TOW CONNECTOR (VEHICLE HARNESS)

- Ignition OFF.
- Disconnect: Trailer Tow C4099.
- Ignition ON.
- While applying and releasing the brake pedal, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4099-4		Ground

Is the voltage greater than 11 volts when the brake pedal is pressed and less than 7 volts when the brake pedal is released?

Yes	INSTALL a new trailer tow connector. TEST the system for normal operation.
No	If both stop/turn lamps are inoperative, GO to C3 If only one stop/turn lamp is inoperative, GO to C5 If both stop/turn lamps are always on, GO to C8 If only one stop/turn lamp is always on, GO to C7

C3 CHECK FOR VOLTAGE TO THE TRM (TRAILER MODULE)

- Ignition OFF.
- Disconnect: TRM C2498A.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to C4
No	VERIFY the BJB fuse 35 (20A) 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.

C4 CHECK THE TRM (TRAILER MODULE) GROUND CIRCUIT

- Ignition OFF.
- Disconnect: TRM C2498B.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to C8
No	REPAIR the circuit.

C5 CHECK TRAILER STOP/TURN LAMP CIRCUITS FOR AN OPEN

- Ignition OFF.
- Disconnect: TRM C2498C.
- Ignition ON.
- If equipped with a 4-pin connector only, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1	Ω	C2498C-8

- If equipped with a 4-pin and 7-pin connector, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4099-4	Ω	C2498C-8

Is the resistance less than 3 ohms?

Yes	GO to C6
No	REPAIR the circuit.

C6 CHECK TRAILER STOP/TURN LAMP CIRCUITS FOR A SHORT TO GROUND

- If equipped with a 4-pin connector only, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1	Ω	Ground

- If equipped with a 4-pin and 7-pin connector, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4099-4	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to C8
No	REPAIR the circuit.

C7 CHECK TRAILER STOP/TURN LAMP CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: TRM C2498C.
- Ignition ON.
- If equipped with a 4-pin connector only, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4098-1		Ground

- If equipped with a 4-pin and 7-pin connector, measure:

Click to display connectors

RH Stop/Turn Lamp

Positive Lead	Measurement / Action	Negative Lead
C4099-4		Ground

Is ant voltage present?

Yes	REPAIR the circuit.
No	GO to C8

C8 CHECK FOR CORRECT TRM (TRAILER MODULE) OPERATION

- Disconnect and inspect all TRM 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 TRM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new TRM.
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 Trailer Parking Lamps Are Inoperative Or Always On

Refer to Wiring Diagrams Cell 95 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

B1449:12	Trailer Tow Park/Tail Lamp Output: Circuit Short To Battery	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the trailer parking lamps relay enable circuit.
B1449:14	Trailer Tow Park/Tail Lamp Output: Circuit Short To Ground or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open short to ground from the trailer parking lamps relay enable circuit.

Possible Sources

- Fuse(s)
- Wiring, terminals or connectors
- Trailer tow connector
- Trailer tow parking lamps relay
- Trailer concern

Visual Inspection and Diagnostic Pre-checks

- Verify the BJB fuse 34 (25A) is OK.
- Inspect the trailer tow connector for signs of corrosion or damage. Repair or install a new trailer tow connector as required.

PINPOINT TEST D : THE TRAILER PARKING LAMPS ARE INOPERATIVE OR ALWAYS ON

D1 CHECK FOR VOLTAGE THROUGH THE TRAILER TOW CONNECTOR

- Ignition OFF.
- Disconnect: Trailer.
- Ignition ON.
- Place the headlamp switch in the PARKING LAMPS position.
- If equipped with a 4-pin and 7-pin connector, for 4-pin connector, measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead

4-Pin Connector, Pin 3		Ground
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- If equipped with a 4-pin and 7-pin connector, for 7-pin connector, measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 6		Ground

- Place the headlamp switch in the OFF position.
- If equipped with a 4-pin and 7-pin connector, for 4-pin connector, measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
4-Pin Connector, Pin 3		Ground

- If equipped with a 4-pin and 7-pin connector, for 7-pin connector, measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 6		Ground

Is the voltage greater than 11 volts when the headlamps switch in the PARKING LAMPS position and 0 volts when the headlamps switch in the OFF position?

Yes	The vehicle is operating correctly. SEND the trailer to an authorized camper/trailer repair facility.
No	If equipped with a 4-pin connector only, If the trailer parking lamps are inoperative, GO to D3 If equipped with a 4-pin and 7-pin connector, If the trailer parking lamps are inoperative, GO to D2 If the trailer parking lamps are always on, GO to D8

D2 CHECK FOR VOLTAGE TO THE TRAILER TOW CONNECTOR (VEHICLE HARNESS)

- Ignition OFF.
- Disconnect: Trailer Tow C4099.
- Ignition ON.
- Place the headlamp switch in the PARKING LAMPS position.

Is the voltage greater than 11 volts?

Yes	INSTALL a new trailer tow connector. TEST the system for normal operation.
No	GO to D3

D3 CHECK THE TRAILER TOW PARKING LAMPS RELAY

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect: Trailer Tow Parking Lamps Relay.
- Substitute with a known good relay.
- Ignition ON.
- Place the headlamp switch in the PARKING LAMPS position.

Is the voltage greater than 11 volts?

Yes	REMOVE the known good relay. INSTALL a new trailer tow parking lamp relay. TEST the system for normal operation.
No	REMOVE the known good relay. GO to D4

D4 CHECK THE TRAILER TOW PARKING LAMPS RELAY VOLTAGE SUPPLY CIRCUITS

- Measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
Trailer Tow Parking Lamps Relay Socket Pin 1		Ground

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
Trailer Tow Parking Lamps Relay Socket Pin 3		Ground

Is the voltage greater than 11 volts?

Yes	GO to D5
No	VERIFY the BJB fuse 34 (25A) are OK. If OK, REPAIR the circuit in question. If not OK, REFER to the Wiring Diagrams manual to identify the possible cause of the circuit short.

D5 CHECK THE TRAILER TOW PARKING LAMPS RELAY GROUND

- Measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
Trailer Tow Parking Lamps Relay Socket Pin 1		Trailer Tow Parking Lamps Relay Socket Pin 2

Is the voltage greater than 11 volts?

Yes	REPAIR the parking lamps relay output circuit between the parking lamps relay and trailer tow connector.
No	GO to D6

D6 CHECK THE TRAILER TOW PARKING LAMPS RELAY CONTROLLED GROUND CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Place the headlamp switch in the OFF position.
- Disconnect: BCM C2280F.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to D7

D7 CHECK THE TRAILER TOW PARKING LAMPS RELAY CONTROLLED GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.

Is the resistance less than 3 ohms?

Yes	GO to D10
No	REPAIR the circuit.

D8 CHECK THE TRAILER TOW PARKING LAMPS RELAY OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect: Trailer Tow Parking Lamps Relay.
- Disconnect: If equipped, TRM C2498C.
- Ignition ON.
- Measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
Trailer Tow Parking Lamps Relay Socket Pin 5		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to D9

D9 CHECK THE TRAILER TOW PARKING LAMPS RELAY GROUND CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: BCM C2280F.

Is the resistance greater than 10,000 ohms?

Yes	GO to D10
No	REPAIR the circuit.

D10 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all 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.
- 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 (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 Trailer Reversing Lamps Are Inoperative Or Always On

Refer to Wiring Diagrams Cell 95 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- Fuse(s)
- Wiring, terminals or connectors
- Trailer tow connector
- Trailer tow reversing lamps relay
- Trailer concern

Visual Inspection and Diagnostic Pre-checks

- Verify the BJB fuse 87 (10A) is OK.
- Inspect the trailer tow connector for signs of corrosion or damage. Repair or install a new trailer tow connector as required.

PINPOINT TEST E : THE TRAILER REVERSING LAMPS ARE INOPERATIVE OR ALWAYS ON

E1 CHECK FOR VOLTAGE THROUGH THE TRAILER TOW CONNECTOR		
• Ignition OFF. • Disconnect: Trailer. • Apply the parking brake. • Ignition ON. • Place the gear selector lever in REVERSE. • Measure: Click to display connectors		
Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 7		Ground

- Place the gear selector lever in PARK.
- Measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 7		Ground

Is the voltage greater than 11 volts when the gear selector lever is in REVERSE and 0 volts when the gear selector lever is in PARK?

Yes	The vehicle is operating correctly. SEND the trailer to an authorized camper/trailer repair facility.
No	If the trailer reversing lamps are inoperative, GO to E2 If the trailer reversing lamps are always on, GO to E8

E2 CHECK FOR VOLTAGE TO THE TRAILER TOW CONNECTOR (VEHICLE HARNESS)

- Place the gear selector lever in PARK.
- Ignition OFF.
- Disconnect: Trailer Tow C4099.
- Apply the parking brake.
- Ignition ON.
- Place the gear selector lever in REVERSE.

Is the voltage greater than 11 volts?

Yes	INSTALL a new trailer tow connector. TEST the system for normal operation.
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No	VERIFY the BJB fuse 87 (10A) is OK. If OK, GO to E3 If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.
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E3 CHECK THE TRAILER TOW REVERSING LAMPS RELAY ENERGIZE CIRCUIT FOR VOLTAGE

- Place the gear selector lever in PARK.
- Ignition OFF.
- Disconnect: BJB C1035D.
- Apply the parking brake.
- Ignition ON.
- Place the gear selector lever in the REVERSE.

Is the voltage greater than 11 volts?

Yes	GO to E4
No	GO to E5

E4 CHECK THE TRAILER TOW REVERSING LAMPS RELAY GROUND CIRCUIT

Is the voltage greater than 11 volts?

Yes	GO to E7
No	REPAIR the circuit.

E5 CHECK THE TRAILER TOW REVERSING LAMPS RELAY ENERGIZE CIRCUIT FOR A SHORT TO GROUND

- Place the gear selector lever in PARK.
- Ignition OFF.
- Disconnect: BCM C2280G.

Is the resistance greater than 10,000 ohms?

Yes	GO to E6
No	REPAIR the circuit.

E6 CHECK THE TRAILER TOW REVERSING LAMPS RELAY ENERGIZE CIRCUIT FOR AN OPEN

Is the resistance less than 3 ohms?

Yes	GO to E11
No	REPAIR the circuit.

E7 CHECK THE TRAILER TOW REVERSING LAMPS RELAY OUTPUT CIRCUIT FOR AN OPEN

- Disconnect: BJB C1035C.

Is any voltage present?

Yes	REPAIR the circuit.
No	INSTALL a new BJB.

E8 CHECK THE TRAILER TOW REVERSING LAMPS RELAY OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect: BJB C1035C.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to E9

E9 CHECK THE TRAILER TOW REVERSING LAMPS RELAY ENERGIZE CIRCUIT FOR VOLTAGE IN PARK

- Place the gear selector lever in PARK.
- Ignition OFF.
- Disconnect: BJB C1035D.
- Ignition ON.

Is any voltage present?

Yes	GO to E10
No	INSTALL a new BJB.

E10 CHECK THE TRAILER TOW REVERSING LAMPS RELAY ENERGIZE CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: BCM C2280G.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to E11

E11 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all 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.
- 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 (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 Trailer Battery Charging Is Inoperative/Does Not Operate Correctly

Refer to Wiring Diagrams Cell 95 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- Fuse
- Wiring, terminals or connectors
- Trailer tow connector
- TRM
- Trailer concern

Visual Inspection and Diagnostic Pre-checks

- Verify the BJB fuse 36 (25A) is OK.
- Inspect the trailer tow connector for signs of corrosion or damage. Repair or install a new trailer tow connector as required.

PINPOINT TEST F : THE TRAILER BATTERY CHARGING IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

F1 CHECK FOR VOLTAGE THROUGH THE TRAILER TOW CONNECTOR
• Disconnect: Trailer. • Ignition ON. • Using a diagnostic scan tool, view the TRM Parameter Identifications (PIDs). • Select the TRM Point Output Relay (PWR_PT_RLY) active command. • Command the Power Point Output Relay active command ON. • Measure: Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
7-Pin Connector, Pin 5		Ground

Is the voltage greater than 11 volts?

Yes	The vehicle is operating correctly. SEND the trailer to an authorized camper/trailer repair facility.
No	GO to F2

F2 CHECK FOR VOLTAGE TO THE TRAILER TOW CONNECTOR (VEHICLE HARNESS)

- Ignition OFF.
- Disconnect: Trailer Tow C4099.
- Ignition ON.
- Using a diagnostic scan tool, view the TRM Parameter Identifications (PIDs).
- Select the TRM Point Output Relay (PWR_PT_RLY) active command.
- Command the Power Point Output Relay active command ON.

Is the voltage greater than 11 volts?

Yes	INSTALL a new trailer tow connector. TEST the system for normal operation.
No	GO to F3

F3 CHECK FOR CHARGING VOLTAGE TO THE TRM (TRAILER MODULE)

- Ignition OFF.
- Disconnect: TRM C2498A.

Is the voltage greater than 11 volts?

Yes	GO to F4
No	VERIFY the BJB fuse 36 (25A) 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.

F4 CHECK THE TRAILER TOW BATTERY CHARGE CIRCUIT FOR AN OPEN

- Disconnect: TRM C2498C.

Is the resistance less than 3 ohms?

Yes	GO to F5
No	REPAIR the circuit.

F5 CHECK FOR CORRECT TRM (TRAILER MODULE) OPERATION

- Disconnect and inspect all TRM 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 TRM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new TRM.
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.

Normal Operation and Fault Conditions

REFER to: [Exterior Lighting - System Operation and Component Description](#) (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0140:00	Lost Communication With Body Control Module: No Sub-Type Information	A continuous memory DTC that sets when the TRM if messages received from the BCM are missing.

Possible Sources

- Communication concern
- BCM
- TRM
- BCM concern

PINPOINT TEST G : U0140:00

G1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify that there is an observable symptom present.

Is an observable symptom present?

Yes	GO to G2
No	The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition. CLEAR the DTC.

G2 CHECK THE COMMUNICATION NETWORK

- Using a diagnostic scan tool, perform a network test.

Does the TRM and BCM pass the network test?

Yes	GO to G3
No	DIAGNOSE the TRM or BCM not communicating with the diagnostic scan tool. REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

G3 RETRIEVE THE BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, perform the BCM self-test.

Are any BCM Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	GO to G4

G4 RECHECK THE TRM (TRAILER MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the TRM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, perform the TRM self-test.

Is DTC U0140:00 still present?

Yes	GO to G5
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

G5 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0140 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, perform the self-test.
- Retrieve the Diagnostic Trouble Codes (DTCs) from all modules.

Is DTC U0140 set in any other module?

Yes	GO to G6
No	GO to G7

G6 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all 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.
- 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 (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.

G7 CHECK FOR CORRECT TRM (TRAILER MODULE) OPERATION

- Disconnect and inspect all TRM 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 TRM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new TRM.
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.

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