

When a circuit fault is detected, the TBM sends a message to the IPC to display WIRING FAULT ON TRAILER, sound an audible alert chime and the TBM disables trailer brake output (except for the trailer connectivity test pulse).

When a trailer is connected to the vehicle the message center should display TRAILER CONNECTED. If the WIRING FAULT ON TRAILER message is only displayed when the trailer is connected the fault is with the trailer wiring.

The trailer brake system only works with electric-magnet actuated drum type brakes and electric over hydraulic brakes. If the trailer is equipped with a different style of brakes or if the trailer is not equipped with brakes, the system does not function.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1418A:11	Trailer Brake Output: Circuit Short to Ground	This DTC sets in continuous memory when the ignition is set to RUN or during the on-demand self test if the current draw on the PWM output circuit is greater than 49 amps.
B1418A:12	Trailer Brake Output: Circuit Short to Battery	This DTC sets in continuous memory when the ignition is set to RUN and vehicle speed is greater than 3 km/h (2 mph) or during the on-demand self test if the PWM output is greater than 7.1 volts when not braking or greater than 4 volts during braking.

Possible Sources

- Wiring, terminals or connectors
- TBM
- Trailer

DIAGNOSIS AND TESTING > AUXILIARY BRAKE SYSTEM - VEHICLES WITH: TRAILER BRAKE CONTROL > PINPOINT TESTS > PINPOINT TEST C : THE MESSAGE CENTER DISPLAYS WIRING FAULT ON TRAILER > PINPOINT TEST C : THE MESSAGE CENTER DISPLAYS WIRING FAULT ON TRAILER



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

(DTCS)

Verify a trailer is **not** connected to the trailer tow connector.

Ignition ON.

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

Clear the Diagnostic Trouble Codes (DTCs).

Test drive the vehicle in the following manner:

maintain a speed greater than 5 km/h (3 mph)

turn the headlights ON

lightly apply the brakes for more than 5 seconds

activate the left and right turn signals

Ignition OFF.

Ignition ON.

Wait at least 10 seconds for all modules to wake up and prove out.

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

Is DTC B148A:11 or B148A:12 present?

Yes	GO to C2
No	For all other TBM Diagnostic Trouble Codes (DTCs), GO to the DTC Chart: TBM . If no Diagnostic Trouble Codes (DTCs) return, the system is operating correctly at this time. INSPECT the 7-pin trailer tow connector C4099 for water intrusion, corrosion, pushed-out pins and spread terminals. REPAIR or INSTALL new as necessary.

C2 CHECK THE TRAILER TOW CONNECTOR

Ignition OFF.

Disconnect in-line connector C423 .

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

Clear the Diagnostic Trouble Codes (DTCs).

Test drive the vehicle in the following manner:

maintain a speed greater than 5 km/h (3 mph)

turn the headlights ON

lightly apply the brakes for more than 5 seconds

activate the left and right turn signals

Ignition OFF.

Ignition ON.

Wait at least 10 seconds for all modules to wake up and prove out.

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

Is DTC B148A:11 or B148A:12 present?

Yes	For DTC B148A:11, GO to C3. For DTC B148A:12, GO to C4
------------	--

No	INSTALL a new 7-pin trailer tow connector.
-----------	--

C3 CHECK THE TBM (TRAILER BRAKE CONTROL MODULE) PWM (PULSE WIDTH MODULATION) OUTPUT CIRCUIT FOR A SHORT TO GROUND

Ignition OFF.

Connect in-line connector C423 .

Disconnect TBM C2142 .

Measure:

Positive Lead	Measurement / Action	Negative Lead
C4099-3	Ω	Ground

Is the resistance greater than 10, 000 ohms?

Yes	GO to C4
------------	----------

No	REPAIR the circuit.
-----------	---------------------

C4 CHECK THE TBM (TRAILER BRAKE CONTROL MODULE) PWM (PULSE WIDTH MODULATION) OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

Ignition OFF.

Connect in-line connector C423 .

Disconnect TBM C2142 .

Ignition ON.

Operate the park lamps and measure:

Positive Lead	Measurement / Action	Negative Lead
---------------	----------------------	---------------

C4099-3		Ground
---------	---	--------

Operate the stoplamps and measure:

Positive Lead	Measurement / Action	Negative Lead
C4099-3		Ground

Operate the reversing lamps and measure:

Positive Lead	Measurement / Action	Negative Lead
C4099-3		Ground

At anytime, was any voltage present?

Yes	REPAIR the circuit. REFER to the SYSTEM WIRING DIAGRAMS article to identify the possible causes of the circuit short.
------------	---

No	GO to C5
-----------	----------

C5 CHECK FOR CORRECT TBM (TRAILER BRAKE CONTROL MODULE) OPERATION

Disconnect TBM C2142 (if not previously disconnected).

Using a good light source, inspect the connector for the following:

- corrosion - install new connector or terminal and clean the module pins
- damaged or bent pins - install new terminals or pins
- pushed-out pins - install new pins as necessary
- spread terminals - install new terminals as necessary

Connect TBM C2142 and make sure it seats and latches correctly.

Test drive the vehicle in the following manner:

- maintain a speed greater than 5 km/h (3 mph)
- turn the headlights ON
- lightly apply the brakes for more than 5 seconds
- activate the left and right turn signals

Ignition OFF.

Ignition ON.

Wait at least 10 seconds for all modules to wake up and prove out.

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