DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	This DTC sets in continuous memory and on-demand if the voltage supplied to the TBM is less than 9 volts for longer than 5 minutes while not braking.

Possible Sources

- Fuses
- Wiring, terminals or connectors
- Charging system concern
- Battery
- TBM

Visual Inspection and Diagnostic Pre-checks

- Make sure the vehicle battery terminals and cables are free of any corrosion and other contaminants.
- Make sure the vehicle battery terminals are tightened to their correct torque specifications.
- Make sure BJB fuse 49 (30A) is OK.

DIAGNOSIS AND TESTING > AUXILIARY BRAKE SYSTEM - VEHICLES WITH: TRAILER BRAKE CONTROL > PINPOINT TESTS > PINPOINT TEST E : U3003:16 > PINPOINT TEST E : U3003:16

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

E1 RECHECK THE TBM (TRAILER BRAKE CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

Using a diagnostic scan tool, clear the TBM Diagnostic Trouble Codes (DTCs).

Ignition OFF.

Ignition ON.

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

Is DTC U3003:16 still present?

Yes	GO to E2

No	The system is operating correctly at this time. The DTC may have set due to a previous low battery voltage condition.

E2 CHECK FOR CHARGING SYSTEM DIAGNOSTIC TROUBLE CODES (DTCS) IN THE PCM (POWERTRAIN CONTROL MODULE)

Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Is DTC B1317, B1318, B1676, U3003:16 or U3003:17 present in one or more modules AND are any charging system Diagnostic Trouble Codes (DTCs) present in the PCM?

Yes	DIAGNOSE the PCM Diagnostic Trouble Codes (DTCs). REFER to: ELECTRONIC ENGINE CONTROLS - 2.7L EcoBoost (238kW/324PS). REFER to: ELECTRONIC ENGINE CONTROLS - 3.5L EcoBoost (272kW/370PS). REFER to: ELECTRONIC ENGINE CONTROLS - 3.5L Duratec (209kW/284PS). REFER to: ELECTRONIC ENGINE CONTROLS - 5.0L 32V Ti-VCT.

No	GO to E3

E3 CHECK THE BATTERY CONDITION AND STATE OF CHARGE

Carry out the Battery Condition Test pinpoint test. REFER to: Battery .

Did the battery pass the condition test?

Yes	GO to E4

No	INSTALL a new battery. REFER to: Battery .

E4 CHECK THE TBM (TRAILER BRAKE CONTROL MODULE) VOLTAGE SUPPLY FOR AN OPEN

Ignition OFF.

Disconnect TBM C2142 .

Remove BJB fuse 49 (30A).

Measure:

Positive Lead	Measurement / Action	Negative Lead
C2142-8	Ω	BJB fuse 49 (30A) output side

Is the resistance less than 3 ohms?

Yes	GO to E5

No	VERIFY BJB fuse 49 (30A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the SYSTEM WIRING DIAGRAMS article to identify the cause of the circuit short.

E5 CHECK THE TBM (TRAILER BRAKE CONTROL MODULE) GROUND CIRCUIT FOR AN OPEN

Ignition OFF.

Disconnect the battery negative cable. REFER to: Battery Disconnect and Connect .

Measure:

Positive Lead	Measurement / Action	Negative Lead
C2142-3	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to E6

No	REPAIR the circuit.

E6 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 , make sure it seats and latches correctly.

Connect the battery negative cable (if previously disconnected). REFER to: Battery Disconnect and Connect .

Install BJB fuse 49 (30A).

Operate the system and verify 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