

Pinpoint Test - DTC: AN, Raptor

U3003:16 and U3003:17

Refer to Wiring Diagrams Cell 46 for schematic and connector information.

NOTE: *Diagnostic Trouble Codes (DTCs) U3003:16 and U3003:17 can be set if the vehicle has been recently jump started, the battery has been recently charged or the battery has been discharged. The battery may become discharged due to excessive load(s) on the charging system from aftermarket accessories or if the battery has been left unattended with the accessories on.*

Normal Operation - RCM

The RCM continuously monitors the input voltage for correct operation. If the RCM detects input voltage below 9.0 volts while a fault is present, or below 6.0 volts, whether or not a fault is present, it stores DTC U3003:16 in memory. If the RCM detects input voltage above 16 volts while a fault is present, or above 18 volts, regardless of fault status, it stores DTC U3003:17 in memory. If the RCM sets DTC U3003:16 or U3003:17, it sends a message to the IPC to illuminate the airbag warning indicator.

Normal Operation - OCSM

The OCSM continuously monitors the input voltage for correct operation. If the OCSM detects input voltage below 8 volts, it stores DTC U3003:16 in memory. If the OCSM detects input voltage above 18 volts, it stores DTC U3003:17 in memory. If the OCSM sets DTC U3003:16 or U3003:17, it sends a fault message to the RCM. The RCM then sends a message to the IPC to illuminate the airbag warning indicator.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

U3003:16	Battery Voltage: Circuit Voltage Below Threshold	This DTC sets if the RCM detects voltage below 9 volts with certain SRS faults present or below 6 volts, whether or not a SRS fault exists.
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	This DTC sets if the RCM detects voltage above 16 volts with certain SRS faults present or above 18 volts without a SRS fault.
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	This DTC sets if the OCSM detects voltage below 8 volts.
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	This DTC sets if the OCSM detects voltage above 18 volts.

Possible Sources

- Wiring, terminals or connectors
- OCSM
- RCM

Visual Inspection and Diagnostic Pre-checks

- Inspect for damaged wiring harness(es).
- Inspect for loose or damaged connectors.

PINPOINT TEST A : U3003:16 AND U3003:17

 **WARNING: Incorrect repair techniques or actions can cause an accidental Supplemental Restraint System (SRS) deployment. Never compromise or depart from these instructions. Failure to precisely follow all instructions could result in serious personal injury from an accidental deployment.**

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

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: Only disconnect or reconnect SRS components when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.

NOTE: Install new components only when directed to do so in the pinpoint test.

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford parts catalog to make sure the correct component is being installed. If an incorrect SRS component is installed, Diagnostic Trouble Codes (DTCs) may set.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

A1 RETRIEVE ALL CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS) IN ALL MODULES

 **WARNING:** Before beginning any service procedure in this section, refer to Safety Warnings in section 100-00 General Information. Failure to follow this instruction may result in serious personal injury.

- REFER to: [Pyrotechnic Device Health and Safety Precautions](#) (100-00 General Information, Description and Operation).
- Ignition ON.
- 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 charging system. Refer to the appropriate section in Group 414 for the procedure. REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (272kW/370PS) (414-00 Charging System - General Information, Diagnosis and Testing). REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (272kW/370PS) (414-00 Charging System - General Information, Diagnosis and Testing).
No	GO to A2

A2 TEST BATTERY CONDITION

- Ignition OFF.
- Carry out the Battery Condition Test.
REFER to: [Battery](#) (414-01 Battery, Mounting and Cables, Diagnosis and Testing).

Did the battery pass the condition test?

Yes	If the battery passed the condition test but required a recharge, DIAGNOSE the charging system. REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (272kW/370PS) (414-00 Charging System - General Information, Diagnosis and Testing). REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (272kW/370PS) (414-00 Charging System - General Information, Diagnosis and Testing). CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCs). If the battery passed the condition test and did not require a recharge, GO to A3
No	INSTALL a new battery. REFER to: Battery (414-01 Battery, Mounting and Cables, Removal and Installation). CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

A3 CHECK THE CHARGING SYSTEM VOLTAGE

- Start the engine.
- Measure the voltage of the battery.
- For DTC U3003:17, turn off all accessories while measuring the battery voltage.
- For DTC U3003:16, turn on headlights and HVAC fan on high while measuring the battery voltage.

Is the voltage between 13 and 15.2 volts?

Yes	For DTC U3003:16, GO to A4 For DTC U3003:17, GO to A6
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No	DIAGNOSE the charging system. REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (272kW/370PS) (414-00 Charging System - General Information, Diagnosis and Testing). REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (272kW/370PS) (414-00 Charging System - General Information, Diagnosis and Testing). CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCs).
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A4 CHECK FOR OPEN IGNITION CIRCUIT TO THE MODULE

- Ignition OFF.
- Depower the SRS. Refer to
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect the module with the concern:
 - For the RCM, disconnect C310A and C310B.
 - For the OCSM, disconnect C3285.

Is the resistance less than 1 ohm?

Yes	GO to A5
No	REPAIR the circuit as necessary. Refer to Wiring Diagrams Cell 5 for schematic and connector information. CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

A5 CHECK FOR OPEN GROUND TO THE MODULE

- For the RCM, measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
RCM mounting bracket	Ω	Ground

Is the resistance less than 1 ohm?

Yes	GO to A6
No	For the RCM, VERIFY there is no corrosion between the RCM and the mounting surface. VERIFY the fasteners are clean and tightened to specification with no corrosion. REPAIR as necessary. Refer to Wiring Diagrams Cell 5 for schematic and connector information. For the OCSM, REPAIR the circuit. Refer to Wiring Diagrams Cell 5 for schematic and connector information. CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

A6 CHECK FOR MODULE OPERATION

- Ignition OFF.
- If not previously directed to do so, depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect the module with the concern:
 - For the RCM, disconnect C310A and C310B (if not previously disconnected).
 - For the OCSM, disconnect OCSM C3285 (if not previously disconnected).
- Check for the following:
 - 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
- Connect the module with the concern:
 - For the RCM, connect C310A and C310B. Make sure the connector seats correctly and engages the Connector Position Assurance (CPA) lever/lock.

- For the OCSM, connect C3285. Make sure the connector seats correctly.
- Repower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).

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 and DTC U3003:16 or U3003:17 was present in the RCM, INSTALL a new RCM. REFER to REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, Removal and Installation). If no Technical Service Bulletins (TSBs) address this concern and DTC U3003:16 or U3003:17 was present in the OCSM, INSTALL a new OCSM. REFER to: Occupant Classification System (OCS) Sensor - Vehicles With: Multi-Contour Seats (501-20B Supplemental Restraint System, Removal and Installation). REFER to: Occupant Classification System (OCS) Sensor - Vehicles Without: Multi-Contour Seats (501-20B Supplemental Restraint System, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.