

2016 Chevy Truck Silverado 2500 4WD V8-6.6L DSL Turbo

Vehicle > ALL Diagnostic Trouble Codes (DTC) > Testing and Inspection > B Code Charts > B001A

SUPPLEMENTAL INFLATABLE RESTRAINTS

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Diagnostic Instructions

- Perform the Diagnostic System Check - Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

DTC Descriptors

DTC B0015

Driver Seat Belt Retractor Pretensioner Deployment Loop

DTC B001A

Driver Seat Belt Anchor Pretensioner Deployment Loop

DTC B001B

Passenger Seat Belt Anchor Pretensioner Deployment Loop

DTC B0022

Passenger Seat Belt Retractor Pretensioner Deployment Loop

For symptom byte information refer to Symptom Byte List.

Diagnostic Fault Information

Circuit	Short to Ground	High Resistance	Open	Short to Voltage	Signal Performance
Driver Seat Belt Retractor Pretensioner High Control	B0015 02, B0015 0E	B0015 0D	B0015 04, B0015 0D	B0015 01	—
Driver Seat Belt Retractor Pretensioner Low Control	B0015 02, B0015 0E	B0015 0D	B0015 04, B0015 0D	B0015 01	—
Driver Seat Belt Anchor Pretensioner Low Control	B001A 02, B001A 0E	B001A 0D	B001A 04	B001A 01	—
Driver Seat Belt Anchor Pretensioner High Control	B001A 02, B001A 0E	B001A 0D	B001A 04	B001A 01	—

Circuit	Short to Ground	High Resistance	Open	Short to Voltage	Signal Performance
Passenger Seat Belt Anchor Pretensioner Low Control	B001B 02, B001B 0E	B001B 0D	B001B 04	B001B 01	—
Passenger Seat Belt Anchor Pretensioner High Control	B001B 02, B001B 0E	B001B 0D	B001B 04	B001B 01	—
Passenger Seat Belt Retractor Pretensioner High Control	B0022 02, B0022 0E	B0022 0D	B0022 04, B0022 0D	B0022 01	—
Passenger Seat Belt Retractor Pretensioner Low Control	B0022 02, B0022 0E	B0022 0D	B0022 04, B0022 0D	B0022 01	—

Circuit/System Description

During a side or frontal crash of sufficient force the inflatable restraint sensing and diagnostic module (SDM) will allow current to flow through the deployment loop in order to deploy an air bag or pretensioner. There are 2 shorting bars which will short together control circuits, when the connector is disconnected. This will help to prevent unwanted deployment of the air bag or pretensioner during servicing.

Conditions for Running the DTC

Ignition voltage is between 9–16 V.

Conditions for Setting the DTC

B0015 01, B001A 01, B001B 01, B0022 01

The pretensioner control circuit is shorted to voltage for 2 s.

B0015 02, B001A 02, B001B 02, B0022 02

The pretensioner control circuit is shorted to ground for 2 s.

B0015 04, B001A 04, B001B 04, B0022 04

The pretensioner control circuit is open for 2 s.

B0015 0D, B001A 0D, B001B 0D, B0022 0D

The pretensioner deployment loop resistance is greater than 4.2 Ω for 2 s.

B0015 0E, B001A 0E, B001B 0E, B0022 0E

The pretensioner deployment loop resistance is less than 1.4 Ω for 2 s.

Action Taken When the DTC Sets

- The inflatable restraint sensing and diagnostic module requests the instrument cluster to illuminate the AIR BAG indicator.
- The inflatable restraint sensing and diagnostic module will store a DTC, however if an event occurs the system will still attempt deployments.

Conditions for Clearing the DTC

- The condition for setting the DTC no longer exists.
- A history DTC will clear once 100 malfunction-free ignition cycles have occurred.

Diagnostic Aid

Note: The following diagnostic aids apply for both current and history DTCs.

An incorrectly installed connector position assurance (CPA) or incorrectly seated connector can cause a shorting bar to short both control circuits together. Check the connectors and CPAs if a DTC with symptom byte 02 or 0E is set, to ensure the shorting bars are not causing the circuits to be shorted together. Shorting bars are used in the locations listed below:

- Driver and passenger anchor or retractor pretensioners
- Inline harness connectors
- Harness side of the inflatable restraint sensing and diagnostic module connector

Terminal fretting or incorrectly seated connectors can cause an open/high resistance condition. Check the circuit terminals for fretting or incorrectly seated connector if a DTC with symptom byte 04 or 0D is set. DTCs of deployment loops which are in the seat can occur because of stress or damage to the harness due to seat movement. Move the seat to the full extent of travel while using the scan tool to observe deployment type loop parameters.

Reference Information

Schematic Reference

SIR Schematics

Connector End View Reference

Master Electrical Component List

Description and Operation

Supplemental Inflatable Restraint System Description and Operation

Electrical Information Reference

- Circuit Testing
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs
- Connector Repairs

Scan Tool Reference

Control Module References for scan tool information

Special Tools

EL-38125-580 - Terminal Release Tool Kit

Circuit/System Verification

Note: Refer to SIR Service Precautions.

- Inspect all terminals for damage or corrosion when disconnecting connectors. Damage or corrosion in the following requires repair or replacement of the affected component/connector.
 - Seat belt retractor pretensioner
 - Seat belt anchor pretensioner
 - Inflatable restraint sensing and diagnostic module
 - Seat belt retractor pretensioner wiring harness connector
 - Seat belt anchor pretensioner wiring harness connector
 - Inflatable restraint sensing and diagnostic module wiring harness connector
- The connector and connector position assurance (CPA) may seat independent of each other. Both the connector and CPA should seat with an audible and/or tactile click. The CPA isolates the shorting-bars within the connector allowing the deployment circuit to operate properly.
- If the condition is intermittent or cannot be duplicated, disconnect the connectors and add dielectric grease / lubricant (Nyogel 760G or equivalent, meeting GM specification 9986087). This procedure will correct the high resistance condition due to terminal fretting corrosion.

1. Verify the appropriate scan tool Deployment Loop Resistance parameters stay consistently between 2.1 and 4.0 Ω without any spikes or dropouts while moving the harness near each connector listed below:

- F112 Seat Belt Retractor Pretensioner
- F113 Seat Belt Anchor Pretensioner
- Any inline harness connector
- K36 Inflatable Restraint Sensing and Diagnostic Module

⇒ **If less than 2.1 or greater than 4.0 Ω**

Refer to Circuit/System Testing.

⇒ **If there are spikes or dropouts, perform the following**

- Inspect each connector terminal and harness for damage or corrosion and repair as necessary
- Apply dielectric grease / lubricant (Nyogel 760G or equivalent, meeting GM specification 9986087) to each connector terminal
- Insure each connector and CPA is correctly seated.

↓ **If within 2.1 and 4.0 Ω without any spikes or dropouts**

2. All OK

Circuit/System Testing

1. Ignition OFF. Scan tool disconnected. Disconnect the appropriate harness connector listed below:
 - F112 Seat Belt Retractor Pretensioner
 - F113 Seat Belt Anchor Pretensioner
2. Test for greater than 25 Ω between the control circuit terminals 1 and 2.

⇒ **If 25 Ω or less**

1. Disconnect the X2 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
Note: Some connectors may be equipped with shorting bars as a safety component to prevent accidental deployment. When testing on a connector with shorting bars, the shorting bars must be disabled to ensure accurate test results. Insert an appropriate pick from EL-38125-580 and depress the shorting bars above the appropriate terminals. This will lift the shorting bar from the terminal and allow accurate test results. Take care not to damage the connector, shorting bar, or terminal when depressing the shorting bar.
2. Test for infinite resistance between the two control circuits.
 - ⇒ If less than infinite resistance, repair the short between the two circuits.
 - ⇒ If infinite resistance, replace the K36 Inflatable Restraint Sensing and Diagnostic Module.

↓ **If greater than 25 Ω**

3. Ignition ON.
4. Test for less than 11 V between the control circuit terminals listed below and ground:
 - Control circuit terminal 1
 - Control circuit terminal 2

⇒ **If 11 V or greater**

1. Ignition OFF. Disconnect the X2 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module. Ignition ON
2. Test for less than 1 V between the control circuit and ground.
 - ⇒ If 1 V or greater, repair the short to voltage on the circuit.
 - ⇒ If less than 1 V, replace the K36 Inflatable Restraint Sensing and Diagnostic Module.

↓ **If less than 11 V**

5. Ignition OFF.
6. Test for greater than 25 Ω between the control circuit terminals listed below and ground:
 - Control circuit terminal 1
 - Control circuit terminal 2

⇒ **If 25 Ω or less**

1. Disconnect the X2 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
2. Test for infinite resistance between the control circuit and ground.

- ⇒ If less than infinite resistance, repair the short to ground on the circuit.
- ⇒ If infinite resistance, replace the K36 Inflatable Restraint Sensing and Diagnostic Module.

↓ **If greater than 25 Ω**

7. Install a 3 A fused jumper wire between the control circuit terminals 1 and 2. Ignition ON.
8. Verify the appropriate scan tool Deployment Loop Resistance parameter is less than 2 Ω .

⇒ **If 2 Ω or greater**

1. Ignition OFF. Disconnect the X2 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
2. Test for less than 2 Ω in each control circuit end to end.

- ⇒ If 2 Ω or greater, repair the open/high resistance in the circuit.
- ⇒ If less than 2 Ω , replace the K36 Inflatable Restraint Sensing and Diagnostic Module.

↓ **If less than 2 Ω**

9. Ignition OFF, connect the harness connector at the F112 Seat Belt Retractor Pretensioner or F113 Seat Belt Anchor Pretensioner, press in the CPA (if equipped) until an audible and/or tactile click is heard.
10. Ignition ON, clear DTCs. Operate the vehicle within the Conditions for Running the DTC.
11. Verify DTC B0015, B001A, B001B, or B0022 is not set.

⇒ **If DTC B0015, B001A, B001B, or B0022 is set**

Replace the appropriate F112 Seat Belt Retractor Pretensioner or F113 Seat Belt Anchor Pretensioner.

↓ **If DTC B0015, B001A, B001B, or B0022 is not set**

12. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

- Front Seat Belt Anchor Plate Tensioner Replacement
- Seat Belt Retractor Pretensioner Replacement - Front
- Control Module References for inflatable restraint sensing and diagnostic module replacement, programming and setup

