

SPECIFICATIONS

FASTENER SPECIFICATIONS

Reusable Threaded Fastener Tightening Specifications

NOTE: <i>All fasteners listed in this table can be reused after removal.</i>
Child Seat Restraint System Belt Bracket Bolt
Front Seat Belt Buckle Fastener
Front Seat Belt Guide Adjuster Bolt
Front Seat Belt Retractor Bolt
Rear Center Seat Belt Buckle Nut
Rear Seat Belt Retractor Anchor Plate Bolt
Rear Seat Belt Retractor Bolt

SCHEMATIC WIRING DIAGRAMS

SEAT BELT WIRING SCHEMATICS

Seat Belts



DIAGNOSTIC INFORMATION AND PROCEDURES

DTC B0072 OR B0073

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 B0072

Driver Seat Belt Switch

DTC B0073

Passenger Seat Belt Switch

For symptom byte information refer to [Symptom Byte List](#) .

Diagnostic Fault Information

Driver Seat Belt Sensor Control
Passenger Seat Belt Sensor Control

Circuit/System Description

The inflatable restraint seat belt buckle switch is within the seat belt buckle and provides an input to the Inflatable Restraint Sensing and Diagnostic Module (SDM). Th

Conditions for Running the DTC

Ignition voltage is between 9 - 16 V.

Conditions for Setting the DTC

B0072 01 or B0073 01

The seat belt switch circuit is shorted to voltage.

B0072 02 or B0073 02

The seat belt switch circuit is shorted to ground.

B0072 04 or B0073 03

The seat belt switch circuit is open.

B0072 05 or B0073 05

The seat belt switch circuit is shorted to voltage or open.

B0072 06 or B0073 06

The seat belt switch circuit is shorted to ground or open.

B0072 08 or B0073 08

The seat belt switch signal is invalid.

B0072 0B or B0073 0B

The seat belt switch signal is above threshold.

B0072 0C or B0073 0C

The seat belt switch signal is below threshold.

Action Taken When the DTC Sets

The inflatable restraint sensing and diagnostic module will store a DTC and illuminate the Air Bag indicator in the instrument cluster.

Conditions for Clearing the DTC

The condition for setting the DTC no longer exists.

Reference Information

Schematic Reference

Seat Belt Wiring Schematics

Connector End View Reference

Master Electrical Component List , or **Inline Harness Connector End Views - Index** or **Component Connector End Views - Index**

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

Circuit/System Verification

1. Ignition ON.
2. Verify the appropriate scan tool Seat Belt Status parameter changes between Buckled and Unbuckled when the seat belt is buckled and unbuckled.
 - **If the parameter does not change**
Refer to Circuit/System Testing.
 - **Go to next step: If the parameter changes**
3. All OK.

Circuit/System Testing

NOTE: When removing connectors inspect for damage or corrosion. Damage or corrosion in the following requires repair or replacement

- **B153D Seat Belt Buckle-Driver**
- **B153P Seat Belt Buckle-Passenger**
- **K36 Inflatable Restraint Sensing and Diagnostic Module**

1. Ignition OFF, disconnect the harness connector at the appropriate B153 Seat Belt Buckle.
2. Test for less than 5 Ω between the low reference circuit terminal B and ground.
 - **If 5 Ω or greater**

1. Ignition OFF, disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
2. Test for less than 2 Ω in the low reference 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.
- **Go to next step: If less than 5 Ω**
3. Ignition ON.
4. Verify the appropriate scan tool Seat Belt Status parameter is Buckled.
 - **If not Buckled**
 1. Ignition OFF, disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
 2. Test for infinite resistance between the signal circuit terminal A 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.
 - **Go to next step: If Buckled**
5. Install a 3 A fused jumper wire between the signal circuit terminal A and the low reference circuit terminal B.
6. Verify the appropriate scan tool Seat Belt Status parameter is Unbuckled.
 - **If not Unbuckled**
 1. Ignition OFF, disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module, ignition ON.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - Go to next step: If less than 1 V
 3. Test for less than 2 Ω in the signal 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.
 - **Go to next step: If Unbuckled**
7. Test or replace the B153 Seat Belt Buckle.

Component Testing

1. Ignition OFF, disconnect the harness connector at the B153 Seat Belt Buckle.
2. Test for infinite resistance between the signal terminal A and the low reference terminal B.
 - **If less than infinite resistance**
Replace the B153 Seat Belt Buckle.
 - **Go to next step: If infinite resistance**
3. Insert the seat belt into the buckle.
4. Test for less than 5 Ω between the signal terminal A and the low reference terminal B.
 - **If 5 Ω or greater**
Replace the B153 Seat Belt Buckle.
 - **Go to next step: If less than 5 Ω**
5. All OK.

Repair Instructions

Perform the [Diagnostic Repair Verification](#) after completing the repair.

- [Front Seat Belt Buckle Replacement](#)
- [Control Module References](#) for Inflatable Restraint Sensing and Diagnostic Module replacement, programming, and setup.

SYMPTOMS - SEAT BELTS

NOTE: Review the seat belt system description and operation in order to familiarize yourself with the system and how it functions. Ref

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the seat belt system.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to [Testing for Intermittent Conditions and Poor Connections](#) .

Symptom List

Refer to the following symptom diagnostic procedure in order to diagnose the symptom:

- [Seat Belt Indicator Malfunction - Driver](#)
- [Seat Belt Indicator Malfunction - Passenger](#)

SEAT BELT GUIDE ADJUSTER STUCK IN FULL DOWN POSITION

Seat Belt Guide Adjuster Stuck in Full Down Position

Definition: This potential condition will not impact the designed performance or reliability of the vehicle.

If equipped, the seat belt guide adjuster cannot be raised because the seat belt is locked. This may occur if the seat belt guide adjuster is activated too quickly.

SEAT BELT RETRACTOR DOES NOT FUNCTION PROPERLY OR IS INOPERATIVE - AUTOMATIC LOCKING RETRACTOR

Seat Belt Retractor Does Not Function Properly or is Inoperative - Automatic Locking Retractor

Definition: Do not replace the seat belt retractor for these conditions until first attempting to disengage the locking mechanism by reviewing the potential causes and the

Automatic Locking Retractor (ALR)
When the seat belt is pulled out to full extension, it automatically converts the seat belt retractor into a cinch-down mode (i.e. ALR) which causes the seat belt to lock. 1
Inadvertent activation of the seat belt retractor ALR system may also occur with the use of a seat belt extender.

Performance Vehicles
The ALR locking mode is also provided at the driver's position of some performance vehicles, as a unique feature. With the ALR active, the operator is snugly cinched i

SEAT BELT RETRACTOR DOES NOT FUNCTION PROPERLY OR IS INOPERATIVE - OVERSPOOL LOCK

Seat Belt Retractor Does Not Function Properly or is Inoperative - Overspool Lock

Definition: Do not replace the seat belt retractor for these conditions until first attempting to disengage the locking mechanism by reviewing the potential causes and the

Overspool Lock
The seat belt retractor may exhibit an unintentional locking condition if the seat belt retracts to the stowed position too rapidly. This may also occur if the seat belt guide

Rear Seat with Integrated Seat Belt Retractor
This condition may also exist on vehicles with seat belts integrated into the rear seat back and may present itself as a seat back locked in the folded down position.

SEAT BELT RETRACTOR DOES NOT FUNCTION PROPERLY OR IS INOPERATIVE - VEHICLE SENSING

Seat Belt Retractor Does Not Function Properly or is Inoperative - Vehicle Sensing

Definition: Do not replace the seat belt retractor for these conditions until first attempting to disengage the locking mechanism by reviewing the potential causes and the

This type of intermittent locking occurs in response to the vehicle under the following conditions:

- 1. The vehicle changes speed or direction abruptly (the vehicle goes into rapid acceleration, deceleration, or aggressive cornering).
- 2. When the vehicle is parked on an incline (fore-aft or side-to-side).
- 3. Rough road conditions where the seat belt retractor sensor mechanism is bounced into a locked condition.

In all of these conditions, as long as tension is maintained on the seat belt, the seat belt retractor will stay locked. When tension is released, the seat belt retracts slightly

SEAT BELT RETRACTOR DOES NOT FUNCTION PROPERLY OR IS INOPERATIVE - BELT SENSING

Seat Belt Retractor Does Not Function Properly or is Inoperative - Belt Sensing

Definition: Do not replace the seat belt retractor for these conditions until first attempting to disengage the locking mechanism by reviewing the potential causes and the

The seat belt retractor may lock intermittently in response to a rapid extraction of the seat belt during use. When the seat belt reels out at an accelerated rate and maintai

SEAT BELT RETRACTOR DOES NOT FUNCTION PROPERLY OR IS INOPERATIVE - BELT TWISTING

Seat Belt Retractor Does Not Function Properly or is Inoperative - Belt Twisting

Definition: Do not replace the seat belt retractor for these conditions until first attempting to disengage the locking mechanism by reviewing the potential causes and the

When there is a twist in the seat belt behind the opening in the trim panel or seat back, it may prevent smooth operation of the seat belt.

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Seat belt twisting at or before the seat belt retractor guide.

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Center seat belt twisting.

SEAT BELT RETRACTOR DOES NOT FUNCTION PROPERLY OR IS INOPERATIVE - GUIDE CONTAMINATION

Seat Belt Retractor Does Not Function Properly or is Inoperative - Guide Contamination

Definition: Do not replace the seat belt retractor for these conditions until first attempting to disengage the locking mechanism by reviewing the potential causes and the



Slow return of the seat belt into the seat belt retractor may occur due to contamination build up on the seat belt retractor guide. Contamination buildup is primarily from

NOISE HEARD FROM MOTORIZED SEAT BELT RETRACTOR

Noise Heard from Motorized Seat Belt Retractor

Definition: Do not replace the seat belt retractor for this condition until first verifying the source.

Auto-tightening seat belt retractors will make an audible motor noise during seat belt tightening and release operations for 2-3 seconds after the event.

SEAT BELT BUCKLE DOES NOT FUNCTION PROPERLY AND/OR SEAT BELT WARNING LAMP ILLUMINATED

Seat Belt Buckle Does Not Function Properly and/or Seat Belt Warning Lamp Illuminated

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Solid or Liquid Contamination

A contaminant may have been spilled onto or into the seat belt buckle causing the seat belt buckle to not latch or unlatch properly and potentially illuminating the seat b

SEAT BELT INDICATOR MALFUNCTION - DRIVER

Diagnostic Instructions

- Perform the Diagnostic System Check prior to using this diagnostic procedure: [Diagnostic System Check - Vehicle](#)

- Review the description of Strategy Based Diagnosis: [Strategy Based Diagnosis](#)
- An overview of each diagnostic category can be found here: [Diagnostic Procedure Instructions](#)

Diagnostic Fault Information

Signal - Terminal 2 @ B153D Front Seat Belt Buckle - Driver
Low Reference - Terminal 1 @ B153D Front Seat Belt Buckle - Driver
1. Seat Belt Reminder Indicator = Always On
2. Seat Belt Reminder Indicator = Always Off

Circuit/System Description

For an overview of the component/system, refer to: [Seat Belt System Description and Operation](#)

Signal
Low Reference

B88D Seat Belt Switch - Driver
K36 Restraints Control Module

Reference Information

Schematic Reference

Seat Belt Wiring Schematics

Connector End View Reference

[Master Electrical Component List](#) , or [Inline Harness Connector End Views - Index](#) or [Component Connector End Views - Index](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)
- [Electrical Relay Replacement \(Attached to Wire Harness\)](#) , or [Electrical Relay Replacement \(Within an Electrical Center\)](#)

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition - On / Vehicle - In Service Mode
2. Perform the appropriate scan tool control function: All Indicators @ P16 Instrument Cluster - On and Off

Verify the component turns On and Off: Seat Belt Reminder Indicator

- **If the component does not turn On and Off**

Replace the appropriate component: P16 Instrument Cluster

- **Go to next step: If the component turns On and Off**

3. Operate the component: B153D Front Seat Belt Buckle - Driver - Buckled

Verify the scan tool parameter: Driver Seat Belt Status = Buckled

- **If not the specified state**

Refer to: Circuit/System Testing

- **Go to next step: If the specified state**

4. Operate the component: B153D Front Seat Belt Buckle - Driver - Unbuckled

Verify the scan tool parameter: Driver Seat Belt Status = Unbuckled

- **If not the specified state**

Refer to: Circuit/System Testing

- **Go to next step: If the specified state**

5. All OK.

Circuit/System Testing

1. Ignition - On / Vehicle - In Service Mode
2. Disconnect the electrical connector: B153D Front Seat Belt Buckle - Driver
3. Test for less than 5 ohms between the test points: Low Reference terminal 1 & Ground
 - **If 5 ohms or greater**

1. Disconnect the electrical connector: K36 Restraints Control Module
2. Test for less than 2 ohms between the test points: Low Reference circuit terminal 1 @ B153D Front Seat Belt Buckle - Driver & The other end of the circuit
 - If 2 ohms or greater - Repair the open/high resistance in the circuit.
 - If less than 2 ohms - Replace the component: K36 Restraints Control Module
- **Go to next step: If less than 5 ohms**
4. Ignition - On / Vehicle - In Service Mode
5. Verify the scan tool parameter: Driver Seat Belt Status = Buckled
 - **If not the specified state**
 1. Ignition/Vehicle - Off
 2. Disconnect the electrical connector: K36 Restraints Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 2 @ Component harness & Ground
 - If less than infinite resistance - Repair the short to ground on the circuit.
 - If infinite resistance - Replace the component: K36 Restraints Control Module
 - **Go to next step: If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 2 & Low Reference circuit terminal 1
7. Verify the scan tool parameter: Driver Seat Belt Status = Unbuckled
 - **If not the specified state**
 1. Ignition/Vehicle - Off & Remove - Jumper wire(s)
 2. Disconnect the electrical connector: K36 Restraints Control Module
 3. Ignition - On / Vehicle - In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground
 - If 1 V or greater - Repair the short to voltage on the circuit.
 - Go to next step: If less than 1 V
 5. Ignition/Vehicle - Off
 6. Test for less than 2 ohms between the test points: Signal circuit terminal 2 @ Component harness & The other end of the circuit
 - If 2 ohms or greater - Repair the open/high resistance in the circuit.
 - If less than 2 ohms - Replace the component: K36 Restraints Control Module
 - **Go to next step: If the specified state**
8. Test or replace the component: B153D Front Seat Belt Buckle - Driver

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair: [Diagnostic Repair Verification](#)

- [Front Seat Belt Buckle Replacement](#)
- For control module replacement, programming, and setup refer to: [Control Module References](#)

SEAT BELT INDICATOR MALFUNCTION - PASSENGER

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.

Diagnostic Fault Information

Passenger Seat Belt Switch Signal
Passenger Seat Belt Switch Low Reference
Passenger Seat Belt Indicator Control
Ground
1. Indicator will remain ON with seat belt buckled.
2. Indicator will illuminate only for the bulb check.
3. Indicator will not illuminate.
4. Indicator always ON.

Circuit/System Description

When an individual is sitting in the passenger seat the passenger presence sensor detects the individual. A signal to the inflatable restraint sensing and diagnostic module

Diagnostic Aids

Objects on the passenger seat can cause the passenger seat belt reminder to be commanded on. Depending on the sensing technology used, a conductive object (computer

Reference Information

Schematic Reference

Seat Belt Wiring Schematics

Connector End View Reference

[Master Electrical Component List](#), or [Inline Harness Connector End Views - Index](#) or [Component Connector End Views - Index](#)

Description and Operation

Seat Belt System Description and Operation

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the passenger seat belt indicator turns ON and OFF when performing the Passenger Seat Belt Reminder Indicator On/Off Control Function with a scan tool
 - **If the passenger seat belt indicator does not turn ON and OFF**
Refer to Circuit/System Testing - Seat Belt Indicator Malfunction.
 - **Go to next step: If the passenger seat belt indicator turns ON and OFF**
3. Verify the scan tool Passenger Seat Belt Status parameter changes between Buckled and Unbuckled when buckling and unbuckling the seat belt.
 - **If the parameter does not change between Buckled and Unbuckled when buckling and unbuckling the seat belt**
Refer to Circuit/System Testing - Seat Belt Switch Malfunction.
 - **Go to next step: If the parameter changes between Buckled and Unbuckled when buckling and unbuckling the seat belt**
4. All OK.

Circuit/System Testing

Seat Belt Switch Malfunction

NOTE: When removing connectors inspect for damage or corrosion. Damage or corrosion in the following requires repair or replacement.

- B153P Seat Belt Buckle - Passenger
- Seat belt switch harness connector
- K36 Inflatable Restraint Sensing and Diagnostic Module
- Inflatable Restraint Sensing and Diagnostic Module harness connector

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B153 Seat Belt Buckle - Passenger. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 5 Ω between the low reference circuit terminal 1 and ground.
 - **If 5 Ω or greater**
 1. Disconnect the 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.
 - **Go to next step: If less than 5 Ω**
3. Ignition ON.
4. Verify the scan tool Passenger Seat Belt Status parameter is Buckled.
 - **If the scan tool Passenger Seat Belt Status parameter does not display Buckled**
 1. Disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
 2. Test for infinite resistance between the signal circuit terminal 2 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If less infinite resistance, replace the K36 Inflatable Restraint Sensing and Diagnostic Module.
 - **Go to next step: If the scan tool Passenger Seat Belt Status parameter does display Buckled**
5. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 1.
6. Verify the scan tool Passenger Seat Belt Status parameter is Unbuckled.
 - **If the scan tool Passenger Seat Belt Status parameter is not Unbuckled**
 1. Disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
 2. Ignition ON.
 3. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - **Go to next step: If less than 1 V**
 4. Test for less than 2 Ω in each 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.
 - **Go to next step: If the scan tool Passenger Seat Belt Status parameter does display Unbuckled**
7. Ignition OFF, connect all harness connectors. Ignition ON.
8. Verify the scan tool Passenger Seat Belt Status parameter changes between Buckled and Unbuckled when buckling and unbuckling the seat belt.
 - **If the Passenger Seat Belt Status parameter is not Buckled and Unbuckled**
Test or replace the B153 Seat Belt Buckle - Passenger.
 - **Go to next step: If the Passenger Seat Belt Status parameter does display Buckled and Unbuckled**
9. All OK.

Seat Belt Indicator Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the P14 Passenger Air Bag Disable Indicator. It may take up to 2 min for all vehicle
2. Test for less than 20 Ω between the ground circuit terminal 3 and ground.

- **If 20 Ω or greater**

1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **Go to next step: If less than 20 Ω**
3. Test for 3-7 V between terminal 6 and ground when commanding the Passenger Seat Belt Reminder On with a scan tool.
 - **If greater then the specified range**
 1. Ignition OFF, disconnect the 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 1V or greater, repair the short to voltage on the circuit.
 - If less than 1V, replace the K36 Inflatable Restraint Sensing and Diagnostic Module.
 - **If less then the specified range**
 1. Ignition OFF, disconnect the 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.
 3. Test for less than 2 Ω in the 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.
 - **Go to next step: If between 3-7 V**
4. Test for less than 1 V between terminal 6 and ground when commanding the Passenger Seat Belt Reminder OF with a scan tool.
 - **If greater than 1 V**
Replace the K36 Inflatable Restraint Sensing and Diagnostic Module
 - **Go to next step: If less than 1 V**
5. Test or replace the P14 Passenger Air Bag Disable Indicator.

Component Testing

1. Ignition OFF, disconnect the harness connector at the B153 Seat Belt Buckle - Passenger.
2. Buckle the passenger seat belt.
3. Test for infinite resistance between the signal circuit terminal 2 and the low reference circuit terminal 1.
 - **If less than infinite resistance**
Replace the B153 Seat Belt Buckle - Passenger.
 - **Go to next step: If infinite resistance**
4. B88 seat belt switch in the unbuckled position.
5. Test for less than 2 Ω between the signal circuit terminal 2 and the low reference terminal 1.
 - **If 2 Ω or greater**
Replace the B153 Seat Belt Buckle - Passenger.
 - **Go to next step: If less than 2 Ω**
6. All OK.

Repair Instructions

Perform the [Diagnostic Repair Verification](#) after completing the repair

- [Front Seat Belt Buckle Replacement](#)
- [Instrument Panel Airbag Arming Status Display Replacement](#)
- [Control Module References](#) for inflatable restraint sensing and diagnostic module replacement, programming and setup

REPAIR INSTRUCTIONS

REPAIRS AND INSPECTIONS REQUIRED AFTER A COLLISION

WARNING: Restraint systems can be damaged in a collision. To help avoid injury and ensure that all parts in need of replacement are replaced

- Replace any seat belt system that was in use during the collision serious enough to deploy any automatic restraint device
- Replace any seat belt system that has torn, worn, or damaged components. This not only includes adult seat belt systems
- Replace any seat belt system if you observe the words "REPLACE" or "CAUTION", or if a yellow tag is visible. Do not replace
- Replace any seat belt system if you are doubtful about its condition. This not only includes adult seat belt systems, but bu

Do NOT replace single seat belt system components in vehicles that have been in a collision as described above. Always r

After a minor collision where no automatic restraint device was deployed, seat belt system replacement may not be necessary, unless some of the parts are torn, worn, or

SEAT BELT RETRACTOR GUIDE CLEANING

WARNING: Do not use any liquid cleaners, solvents, sandpaper, steel wool, or Scotch Brite pads to clean the seat belt retractor guide. Thes

Cleaning Procedure

1. With the key in the off position, lift the seat belt up to expose the seat belt retractor guide.



2. Using the plastic hook side of a hook and loop material strip, gently rub the seat belt retractor guide and remove the contamination buildup.



NOTE:

- Use the hook side of hook and loop material or equivalent.
- The hook material should be plastic. DO NOT use metal hook and loop material. DO NOT use the loop side during this

3. Slightly move the seat belt to one side of the seat belt retractor guide and continue to gently clean the guide surface.

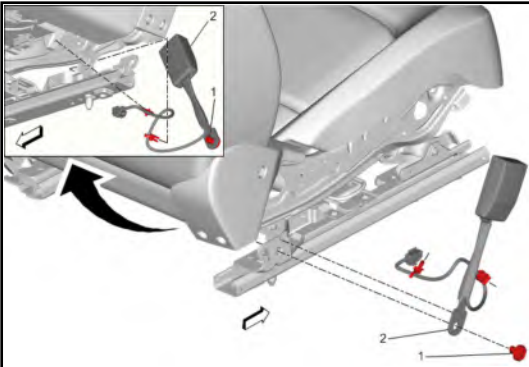


4. Slightly move the seat belt to the other side of the seat belt retractor guide and continue to gently clean the guide surface.



5. Verify that seat belt retraction has improved once cleaning is complete.

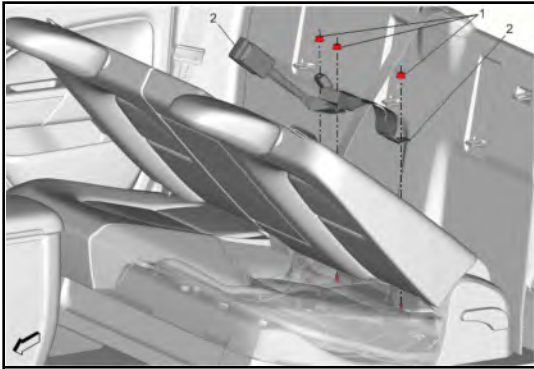
FRONT SEAT BELT BUCKLE REPLACEMENT



NOTE: Callouts in the following chart represent components shown in graphic above.

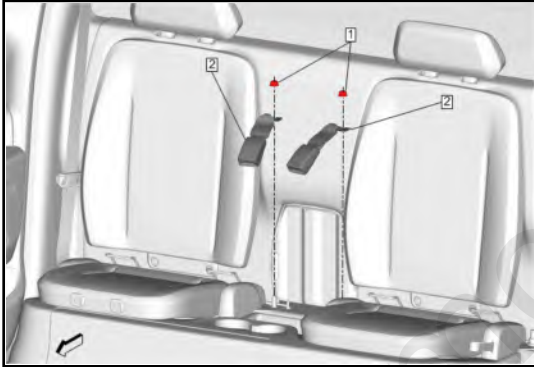
Preliminary Procedure
Remove driver or passenger seat. Refer to [Front Seat Removal and Installation](#) .

REAR CENTER SEAT BELT BUCKLE REPLACEMENT (CREW CAB)



NOTE: Callouts in the following chart represent components shown in graphic above.

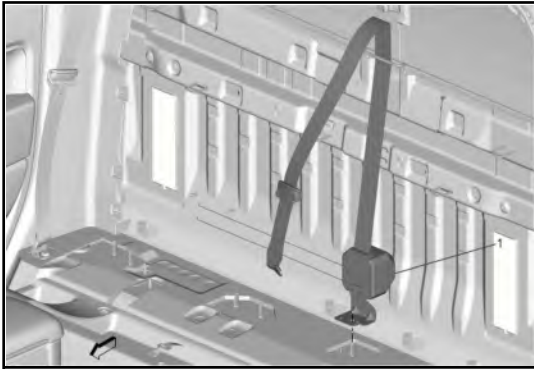
REAR CENTER SEAT BELT BUCKLE REPLACEMENT (EXTENDED CAB)



NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedure <u>Rear Window Lower Garnish Molding Access Hole Cover Replacement (Jack Cover, Extended Cab) , or Rear Window Lower Garnish Molding Access Hole C</u>

REAR SEAT CENTER BELT RETRACTOR REPLACEMENT

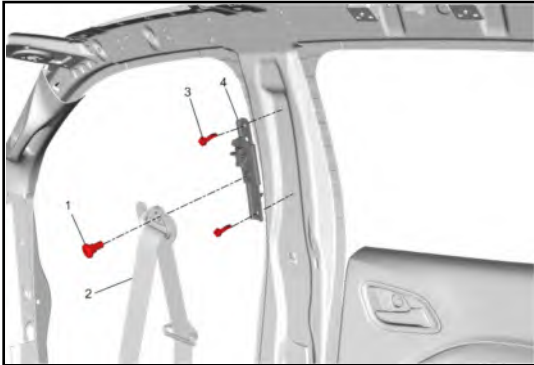


NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedures

- 1. Remove the rear end trim finish panel. Refer to [Rear End Trim Finish Panel Replacement \(Crew Cab\)](#) , or [Rear End Trim Finish Panel Replacement \(Exte](#)
- 2. Remove the rear center seat belt buckle. Refer to [Rear Center Seat Belt Buckle Replacement \(Crew Cab\)](#), or [Rear Center Seat Belt Buckle Replacement \(E](#)

FRONT SEAT BELT GUIDE ADJUSTER REPLACEMENT (CREW CAB)

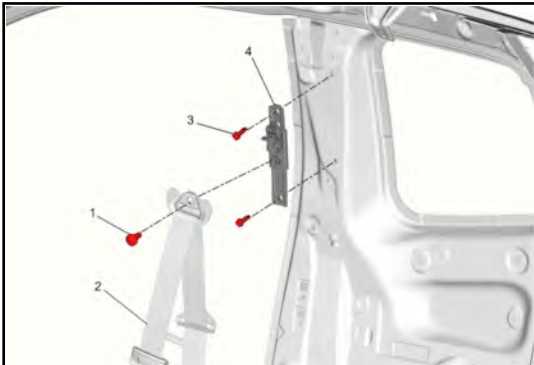


NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedure

Remove the center pillar upper trim panel. Refer to [Center Pillar Upper Trim Panel Replacement \(Crew Cab\)](#).

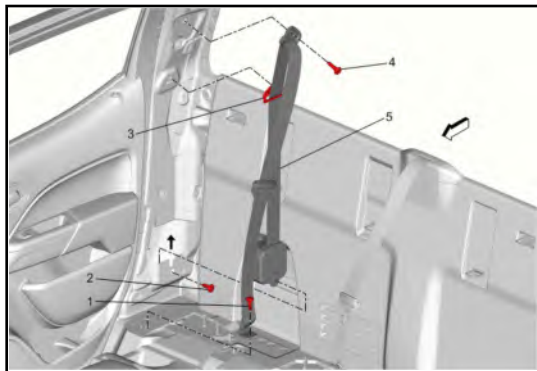
FRONT SEAT BELT GUIDE ADJUSTER REPLACEMENT (EXTENDED CAB)



NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedure
Rear Side Door Trim Replacement (Extended Cab)

REAR SEAT BELT RETRACTOR REPLACEMENT (CREW CAB)

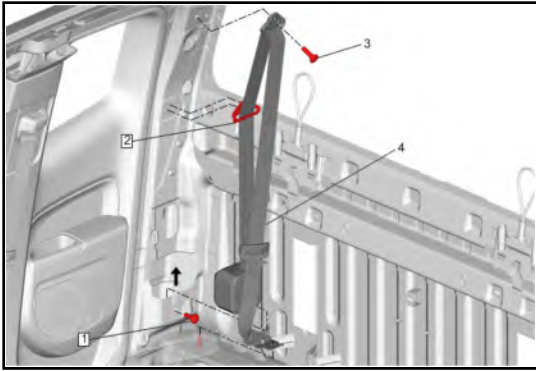


NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedures

1. Remove the rear seat. Refer to [Rear Seat Removal and Installation](#) .
2. Remove the body lock pillar garnish molding. Refer to [Body Lock Pillar Garnish Molding Replacement](#) .

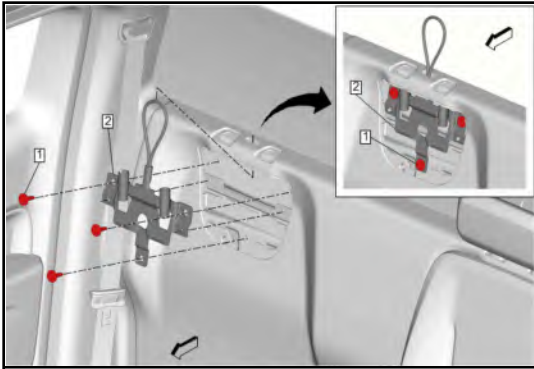
REAR SEAT BELT RETRACTOR REPLACEMENT (EXTENDED CAB)



NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedures

- 1. Remove the rear seat cushion nut. [Rear Seat Cushion Removal and Installation \(Extended Cab\)](#)
- 2. [Body Side Rear Window Garnish Molding Replacement \(Extended Cab\)](#)
- 3. [Rear Seat Belt Opening Bezel Replacement](#)



NOTE: Callouts in the following chart represent components shown in graphic above.

Preliminary Procedures

- 1. [Rear Seat Back Cushion Removal and Installation \(Extended Cab\)](#)
- 2. {If equipped} [Rear Window Lower Garnish Molding Access Hole Cover Replacement \(Jack Cover, Extended Cab\)](#) , or [Rear Window Lower Garnish Molding Access Hole Cover Replacement \(Extended Cab - Seat Back\)](#)
- 3. [Rear Seat Head Restraint Guide Replacement \(Extended Cab - Seat Back\)](#) , or [Rear Seat Head Restraint Guide Replacement \(Extended Cab - Seat Cushion\)](#)

DESCRIPTION AND OPERATION

SEAT BELT SYSTEM DESCRIPTION AND OPERATION

Seat Belt System Block Diagram



Restraint System

NOTE: If the vehicle has been in a collision, refer to [Repairs and Inspections Required After a Collision](#)

The vehicle has front and rear seat belts that are the primary means of occupant restraint. Seat belts help to keep the occupants inside the passenger compartment and to

- Frontal impact type crashes
- Rear impact type crashes
- Side impact type crashes
- Roll-over type crashes

All seat belt retractors have emergency locks. The retractors remain unlocked during normal operation and under normal driving conditions. The retractors remain unloc

- A rapid extraction of the seat belt webbing from the retractor
- An abrupt change in vehicle speed
- An abrupt change in vehicle direction
- Operation of the vehicle on a steep upgrade
- Operation of the vehicle on a downgrade

The seat belts have an automatic locking (cinch) feature. The cinch feature is activated when the seat belt webbing is completely extended from the retractor. The cinch

Front Seat Belt System

The front seat belt system includes a driver and passenger seat belt retractor pretensioner. Both front seat belt pretensioners includes a seat belt switch in the seat buckle

NOTE: The front passenger seat is equipped with a passenger presence sensor, which detects an occupant. If the passenger presence

- When the driver seat belt is buckled and the ignition switch is turned ON, the following events will occur:
 - The tone alarm will not operate.
 - The reminder lamp will not operate.
- When the passenger seat belt is buckled with an occupant sitting in the passenger front seat, then the ignition switch is turned ON, the following events will occur
 - The tone alarm will not operate.
 - The reminder lamp, which is located within the Instrument Panel Multifunction Switch, will not be turned ON.
- When the driver seat belt is not buckled and the ignition switch is in the ON position, the following events will occur:
 - The tone alarm will operate for 4 - 8 seconds and then go OFF.
 - The fasten safety belt indicator will turn ON for 20 seconds, until the driver seat belt is buckled.
- When the passenger seat belt is not buckled with an occupant sitting in the passenger front seat, then the ignition switch is turned ON, the following events will occur:
 - The tone alarm will operate for 4 - 8 seconds and then go OFF.
 - The reminder lamp, which is located within the Instrument Panel Multifunction Switch, will be turned ON.

Rear Seat Belt System

The Rear Seat Belt System includes the following components:

- The rear seat belt retractor is located at the wheelhouse panel and attached to the floor panel by the rear seat shoulder belt retractor bracket.
- The rear seat belt buckles and the center seat belt buckle are attached to each seat.

Child Seat Restraint System

WARNING: A child in a rear-facing child restraint can be seriously injured if the front passenger air bag inflates, because the back of a rear-

A child in a rear-facing child restraint can be seriously injured if the right-front passengers air bag inflates. This is because the back of a rear-facing child restraint would

The child seat may only be used in a forward facing seating location. The child seat should be installed and secured according to the manufacturer's directions. If the chi

All vehicles are equipped with a dual-mode type retractor with emergency and automatic locking features. The automatic locking feature is for restraint of a child seat. I

If a child seat is to be used in the second seat position, a special dealer-installed anchor must be used in order to anchor the child seat top strap. This only applies to the s

Fasten Safety Belt Indicators

There are two fasten safety belt indicators for this vehicle. The driver fasten safety belt reminder is displayed in the instrument cluster, and the passenger fasten safety be

- During the bulb check
 - The inflatable restraint sensing and diagnostic module (SDM) sends the status of the driver seat belt to the instrument cluster via serial data. The passenger seat be
-