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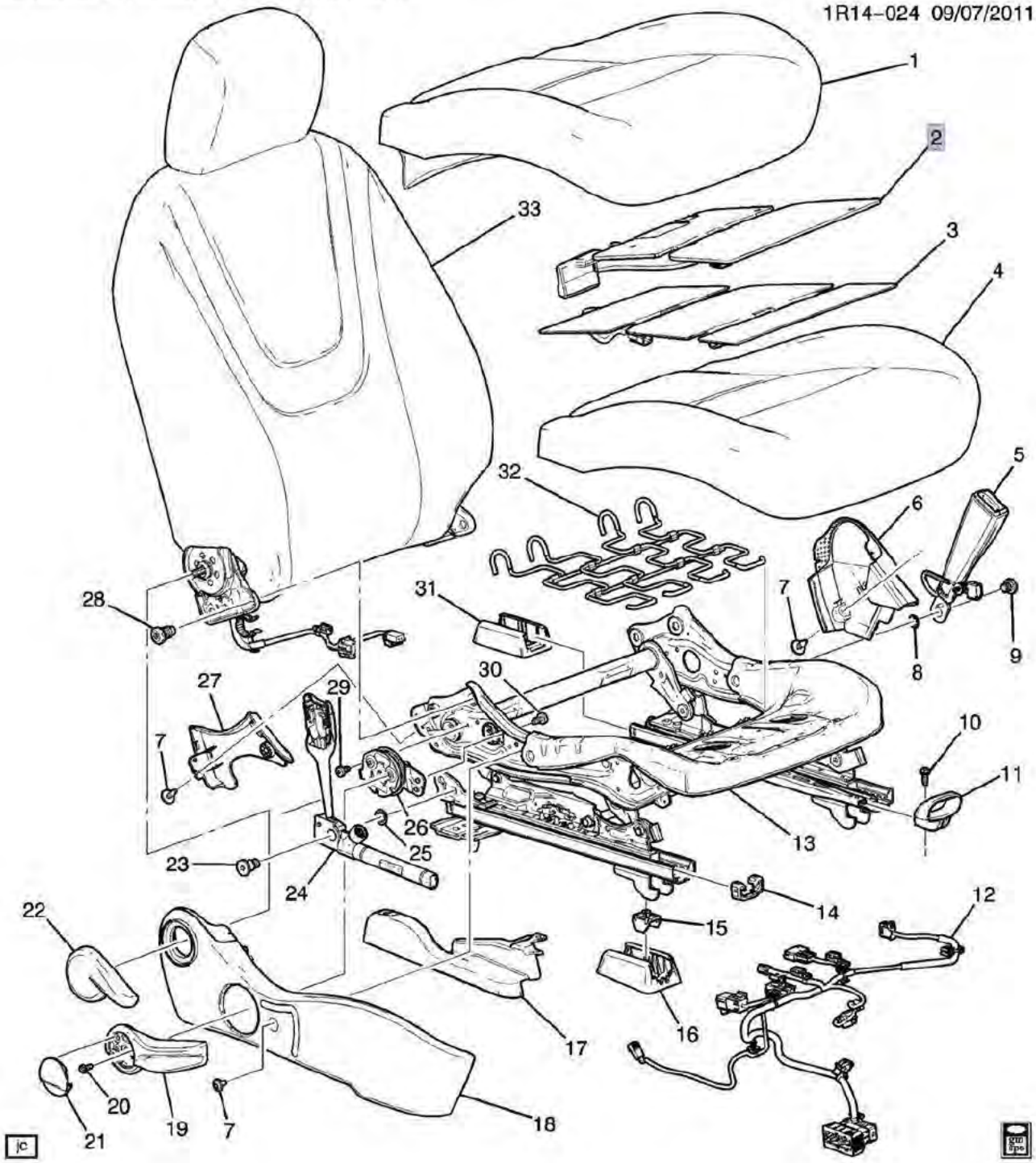
Make: Chevrolet Year: 2013 Model: Volt

C - Chevrolet > 2013 > R - 1R1 - Volt > 14 - INTERIOR TRIM-FRONT SEAT TRIM-SEAT BELTS > (1R14-024) 2013-2015 RC SEAT ASM/PASSENGER CUSHION (LEATHER TRIM EW4) >

1R14-024 09/07/2011



Make: Chevrolet Year: 2013 Model: Volt

C - Chevrolet > 2013 > R - 1R1 - Volt > 14 - INTERIOR TRIM-FRONT SEAT TRIM-SEAT BELTS > (1R14-024) 2013-2015 RC SEAT ASM/PASSENGER CUSHION (LEATHER TRIM EW4) >

Call	Part #	Group	H	Description	Usage	Year	Qty
1	22903887	14.880		COVER, P/SEAT CUSH (BLACK)	RC68 (A51,EW4,01A,4B4,4B6)	2013 - 2015	01
1	22903888	14.880		COVER, P/SEAT CUSH (WHITE)	RC68 (A51,EW4,03E,4B4)	2013 - 2014	01
1	22903889	14.880		COVER, P/SEAT CUSH (SPICE RED)	RC68 (A51,EW4,01V,4A0)	2013 - 2013	01
2		NS		MODULE KIT, AIRBAG FRT PASS PRESENCE (W/ SEN) (*KIT1)		2013 - 2015	
3	22928321	11.500		HEATER, P/SEAT CUSH (*KIT1)	RC (A51,EW4)	2013 - 2015	01
4		NS		PAD, P/SEAT CUSH (*KIT1)		2013 - 2015	
5	19257494	14.875		BELT KIT, P/SEAT (BKL SI) (INCLS 8,9) (BLACK)	RC (A51,01A,01V,03E,03G, 4B4,4B6)	2013 - 2015	01
6	20933909	11.362		PANEL, P/SEAT CUSH SI FIN (BLACK)	RC (EW4,4A0,4B4,4B6)	2013 - 2015	01
7	13110832	11.561		BOLT, P/SEAT (M5X0.8X12) (11.558)	RC,RD,RE (A51)	2012 - 2013	10
8		NS		RETAINER, P/SEAT BELT BKL BOLT (PART OF 5)		2013 - 2015	
9	11611116	14.875		BOLT, P/SEAT BELT BKL (PART OF 5)	RC,RE	2013 - 2015	01
10	20811528	11.588		BOLT, F/SEAT ADJR HDL (4.2X1.41X15) (SEAT PAN SCREWS) (11.561)	RC,RE (A51)	2013 - 2015	01
11	20811561	11.588		HANDLE, P/SEAT ADJR (BLACK) (FRT, TOWEL BAR REL)	RC (EW4,4A0,4B4,4B6)	2013 - 2015	01
11	20933986	11.586		HANDLE, P/SEAT ADJR (BLACK) (LWR, VERTICAL)	RC (EW4,4A0,4B4,4B6)	2013 - 2013	01
12	22786517	13.090	R	HARNESS, P/SEAT WRG	RC (A51,EW4)	2013 - 2015	01
13	13582680	11.419		FRAME, P/SEAT CUSH (INCLS 14,26,29,30) (4 WAY MANUAL)	RC	2013 - 2013	01
14	13100009	11.573		COVER, F/SEAT ADJR FIN (PART OF 13) (TRACK END CAP)	RC,RE (A51)	2013 - 2015	08
15	13239046	11.561		SPACER, F/SEAT ADJR FRT	RC,RE (A51)	2013 - 2015	02
16	20933868	11.573	L	COVER, F/SEAT ADJR TRK FIN (BLACK)	RC (A51,EW4,01A,4B4,4B6)	2013 - 2013	02
16	20933868	11.573	L	COVER, F/SEAT ADJR TRK FIN (BLACK)	RC (A51,EW4,03E,4B4)	2013 - 2013	02

Call	Part #	Group	H	Description	Usage	Year	Qty
16	20933868	11.573	L	COVER, F/SEAT ADJR TRK FIN (BLACK)	RC (A51,EW4,01V,4A0)	2013 - 2013	02
16	22925381	11.573	L	COVER, F/SEAT ADJR TRK FIN (URBAN)	RC68 (A51,07G,4EH)	2013 - 2014	01
17	20934002	14.880		COVER, P/SEAT CUSH CLOSEOUT (BLACK)	RC (EW4,01V,4A0)	2013 - 2014	01
17	20934002	14.880		COVER, P/SEAT CUSH CLOSEOUT (BLACK)	RC (EW4,01A,4B6)	2013 - 2015	01
17	20934002	14.880		COVER, P/SEAT CUSH CLOSEOUT (BLACK)	RC (EW4,03E,4B4)	2013 - 2015	01
18	20933903	11.362		PANEL, P/SEAT CUSH OTR FIN (BLACK)	RC (EW4,4B4)	2013 - 2013	01
18	20933903	11.362		PANEL, P/SEAT CUSH OTR FIN (BLACK)	RC (EW4,4B6)	2013 - 2013	01
18	20933907	11.362		PANEL, P/SEAT CUSH OTR FIN (BLACK)	RC (EW4,4B4,4B6)	2013 - 2015	01
18	20933907	11.362		PANEL, P/SEAT CUSH OTR FIN (BLACK)	RC (EW4,4A0)	2013 - 2015	01
19	20933986	11.588		HANDLE, P/SEAT ADJR (BLACK) (LWR, VERTICAL)	RC (EW4,4A0,4B4,4B6)	2013 - 2013	01
20	11611441	11.588		BOLT, F/SEAT TILT ADJR LVR (M5X.8X6)	RC,RD,RE	2012 - 2013	02
21	20933991	11.588	R	CAP, F/SEAT ADJR HDL BOLT (BLACK)	RC (EW4,4A0,4B4,4B6)	2013 - 2013	01
22	20933988	11.377		HANDLE, P/SEAT RECL (BLACK)	RC (4A0,4B4,4B6)	2013 - 2015	01
23		NS		BOLT, P/SEAT BELT TENSR (RETR SI) (PART OF 24)		2013 - 2015	
24	19257498	14.875		TENSIONER KIT, P/SEAT BELT (RETR SI) (INCLS 23,25) (BLACK)	RC (A51,01A,01V,03E,03G, 4A0,4B4,4B6)	2013 - 2013	01
25		NS		RETAINER, P/SEAT BELT TENSR BOLT (PART OF 24)		2013 - 2015	
26	13577199	11.561		ADJUSTER, P/SEAT VERT (PART OF 13)	RC,RE	2013 - 2015	01
27	20933872	11.377		COVER, P/SEAT INR RECL FIN (BLACK)	RC (EW4,4A0,4B4,4B6)	2013 - 2013	01
28	13272975	11.377		BOLT, F/SEAT RECL ACTR (M12X1.25X20.5) (14.896)	RC (A51)	2013 - 2015	04
29	11570519	08.913		SCREW, PAN HD, M6X1X13,10 THD 12 OD,9.8, PHOS & OIL.W/ADH (PART OF 13) (Service Lane Part)		2012 - 2015	AR
30	11570519	08.913		SCREW, PAN HD, M6X1X13,10 THD 12 OD,9.8, PHOS & OIL.W/ADH (PART OF 13) (Service Lane Part)		2012 - 2015	02
31	20933866	11.573		COVER, P/SEAT INR ADJR TRK RR FIN (BLACK)	RC (4B4,4B6)	2013 - 2015	01

Call	Part #	Group	H	Description	Usage	Year	Qty
32	20897336	11.419		WIRE, F/SEAT CUSH PAD	RC,RE	2013 - 2015	02
33	20897040	14.802		PAD, P/SEAT BK (SEE GROUP "14.000" "SEAT ASM/PASSENGER BACK" FOR DETAILED ILLUSTRATED VIEW)	RC	2013 - 2013	01
K01	22968438	14.865		MODULE KIT, AIRBAG FRT PASS PRESENCE (W/ SEN) (INCLS 2-4)	RC (KA1)	2013 - 2015	01

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Document ID: [redacted]

DTC B0074

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 B0074 00 Passenger Presence Sensor Circuit Malfunction

DTC B0074 0D Passenger Presence Sensor Resistance Above Threshold

DTC B0074 0E Passenger Presence Sensor Resistance Below Threshold

DTC B0074 0F Passenger Presence Sensor Erratic (Wet Seat)

Circuit/System Description

The passenger presence module monitors the sensor status continually. Whenever the sensor mat has an internal malfunction, the passenger presence module will set DTC B0074.

Conditions for Running the DTC

Ignition voltage is between 9-16 V.

Conditions for Setting the DTC

B0074 00

The passenger presence module has detected a disconnection from the sensor mat.

B0074 0D

The passenger presence module has detected a resistance above threshold.

B0074 0E

The passenger presence module has detected a resistance below threshold.

B0074 0F

The passenger presence module has detected a wet seat fault.

Action Taken When the DTC Sets

The inflatable restraint sensing and diagnostic module requests the instrument panel cluster to illuminate the AIR BAG indicator.

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 Aids

- If either the inflatable restraint sensing and diagnostic module or passenger presence module were replaced verify that the correct part numbers were used for the vehicle application.

[redacted]

- If this DTC is set as either current or history it may have been caused by an electronic device. If an electronic device (computers, MP3 players, cell phones, diagnostic scan tool, power inverter, etc.) was placed on the passenger seat the passenger presence module may command the passenger air bag indicator to turn on and/or command the passenger seat belt indicator to turn on. Make sure there are no objects on the passenger seat and clear the DTCs. If this DTC resets then perform this diagnostic. If the DTC does not reset there is no further work needed on the passenger presence system.
- If this DTC is set as either current or history it may have been caused by an aftermarket seat heater. The aftermarket seat heater may command the passenger air bag indicator to turn on and/or command the passenger seat belt indicator to turn on. Remove the aftermarket seat heater from the passenger seat and clear the DTCs. If this DTC resets then perform this diagnostic. If the DTC does not reset there is no further work needed on the passenger presence system.

Reference Information

Schematic Reference

SIR Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Supplemental Inflatable Restraint System Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Note: This system is serviced as a kit (seat foam, module and/or sensing mat). Perform a Passenger Presence System Preload whenever a component is replaced, refer to Passenger Presence System Programming and Setup. Inspect component connectors for damage or corrosion. Repair or replace the affected component/connector:

- Passenger presence module
- Passenger presence module harness connector
- Seat wiring harness to vehicle 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.

1. Verify the DTC remains current while moving the passenger seat forward and backward through it's full range of motion.

⇒ **If the DTC changes to History**

If the status changes this could be indication of a seat to vehicle harness connection issue, refer to Circuit/System Testing.

⇓ **If the DTC remains Current**

2. Verify with the scan tool, the fault does not change status while moving the harness near each connector listed below.
    - K85 Passenger Presence Module

[redacted]

- B60 Passenger Presence Sensor
- Any seat harness inline

⇒ **If the status changes**

If the reading is erratic while moving the harness, perform the following:

- Inspect each connector terminal for damage or corrosion and repair as necessary.
- Ensure each connector and CPA is correctly seated.

⇓ **If the status does not change**

3. All OK.

Circuit/System Testing

Note: This system is serviced as a kit (seat foam, module and/or sensing mat). Perform a Passenger Presence System Preload whenever a component is replaced, refer to Passenger Presence System Programming and Setup. Inspect component connectors for damage or corrosion. Repair or replace the affected component/connector.

1. Confirm that all passenger presence system connectors are fully seated.
2. Verify that DTC B0074 0F is not set.

⇒ **DTC B0074 0F is set.**

Note: Verify there are no electronic devices on the passenger seat. If not, then verify the seat is dry by removing the trim from the seat bottom frame. If the seat is wet, allow 24-48 hours dry time with trim completely off. If the DTC is history, do not replace B60 Passenger Presence Sensor. Clear passenger presence module DTCs.

2.1. Verify there are no electronic devices on the passenger seat.

⇒ Completely empty the passenger seat of any objects

⇓ If the seat is empty

2.2. Verify the seat is dry by removing the trim from the seat bottom frame.

⇒ If the seat is wet, allow 24-48 hours dry time with trim completely off.

⇓ If the seat is dry

2.3. If the DTC is history, do not replace B60 Passenger Presence Sensor, and clear passenger presence module DTCs.

⇓ **DTC B0074 0F does not set.**

3. Verify DTC B0074 00, B0074 0D or B0074 0E is not set.

⇒ **DTC B0074 00, B0074 0D or B0074 0E is set.**

Replace the K85 Passenger Presence Module.

⇓ **DTC B0074 00, B0074 0D or B0074 0E do not set.**

4. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

Control Module References for passenger presence module replacement, programming and setup

[redacted]

DTC B0081

Diagnostic Instructions

- Perform the Diagnostic System Check - Vehicle prior to using the 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 B0081 00 Passenger Presence Module Erratic (sets in the Inflatable Restraint Sensing and Diagnostic Module)

DTC B0081 3A Passenger Presence Module Incorrect Component Installed (sets in the Inflatable Restraint Sensing and Diagnostic Module)

DTC B0081 71 Passenger Presence Module Invalid Serial Data Received (sets in Inflatable Restraint Sensing and Diagnostic Module)

DTC B0081 11 Passenger Presence Module High Input (sets in the Passenger Presence Module)

DTC B0081 4B Passenger Presence Module Calibration Not Learned (sets in the Passenger Presence Module)

DTC B0081 5A Passenger Presence Module Plausibility Failure (sets in Passenger Presence Module)

Circuit/System Description

When the ignition is turned ON, the Passenger Presence Module and the Inflatable Restraint Sensing and Diagnostic Module performs tests to diagnose critical malfunctions. When the Inflatable Restraint Sensing and Diagnostic Module has completed the power-up mode, the Inflatable Restraint Sensing and Diagnostic Module will establish communication with the Passenger Presence Module. The Inflatable Restraint Sensing and Diagnostic Module will also request the instrument panel cluster (IPC) to illuminate both of the PASSENGER AIR BAG ON/OFF indicators ON for 5 seconds. If the Inflatable Restraint Sensing and Diagnostic Module determines the correct Passenger Presence Module is installed and functioning normally, the Inflatable Restraint Sensing and Diagnostic Module will illuminate the passenger air bags ON or OFF indicator based on messages from the Passenger Presence Module. The Inflatable Restraint Sensing and Diagnostic Module sends a message to the IPC to illuminate the appropriate PASSENGER AIR BAG ON/OFF indicator.

Conditions for Running the DTC

Ignition voltage is between 9-16 V.

Conditions for Setting the DTC

All of the following conditions must exist for 5 seconds:

B0081 00

The Inflatable Restraint Sensing and Diagnostic Module sets this DTC if there is a fault present in the Passenger Presence Module.

B0081 3A

The Inflatable Restraint Sensing and Diagnostic Module sets this DTC when the Inflatable Restraint Sensing and Diagnostic Module has received a message from the Passenger Presence Module which indicates a mismatch between the Inflatable Restraint Sensing and Diagnostic Module and Passenger Presence Module. There is either an incorrect Inflatable Restraint Sensing and Diagnostic Module or Passenger Presence Module installed on this vehicle.

[redacted]

B0081 71

The Inflatable Restraint Sensing and Diagnostic Module sets this DTC when the Inflatable Restraint Sensing and Diagnostic Module has received invalid serial data from the Passenger Presence Module.

B0081 11

The Passenger Presence Module sets this DTC when there is a high input to the Passenger Presence Module.

B0081 4B

The Passenger Presence Module sets this DTC when the Passenger Presence Module has not learned the calibrations.

B0081 5A

The Passenger Presence Module sets this code when the Passenger Presence Module has lost communications with the Inflatable Restraint Sensing and Diagnostic Module.

Action Taken When the DTC Sets

- The Inflatable Restraint Sensing and Diagnostic Module disables the passenger instrument panel air bag.
- The Passenger Presence Module will illuminate the Passenger Airbag On/Off indicator status as OFF.
- When the Passenger Presence Module sets this DTC, the Passenger Presence Module communicates with the Inflatable Restraint Sensing and Diagnostic Module to turn the AIRBAG indicator on.
- When the Inflatable Restraint Sensing and Diagnostic Module sets this DTC, the Inflatable Restraint Sensing and Diagnostic Module will turn the AIRBAG indicator on.
- The Inflatable Restraint Sensing and Diagnostic Module requests the instrument panel cluster (IPC) to illuminate the AIRBAG indicator.

Conditions for Clearing the DTC

- The condition for setting the DTC no longer exists and there is no activity on the low speed serial data circuits.
- A history DTC will clear once 100 malfunction-free ignition cycles have occurred.

Diagnostic Aids

- If either the Inflatable Restraint Sensing and Diagnostic Module or Passenger Presence Module were replaced verify that the correct part numbers were used for the vehicle application.
- If this DTC is set as either current or history it may have been caused by an electronic device. If an electronic device (Computers, MP3 Players, Cell Phones, Diagnostic Scan Tool, Power Inverter, etc.) was placed on the passenger seat the Passenger Presence Module may command the passenger air bag indicator to turn on and/or command the passenger seat belt indicator to turn on. Make sure there are no objects on the passenger seat and clear the DTCs. If this DTC resets then perform this diagnostic. If the DTC does not reset there is no further work needed on the passenger presence system.
- If this DTC is set as either current or history it may have been caused by an aftermarket seat heater. The aftermarket seat heater may command the passenger air bag indicator to turn on and/or command the passenger seat belt indicator to turn on. Remove the aftermarket seat heater from the passenger seat and clear the DTCs. If this DTC resets then perform this diagnostic. If the DTC does not reset there is no further work needed on the passenger presence system.

Reference Information

Schematic Reference

SIR Schematics

Connector End View Reference

Component Connector End Views

[redacted]

Description and Operation

Supplemental Inflatable Restraint 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

Note:

- When removing connectors inspect for damage, corrosion or poor connection. Damage or corrosion in the following requires repair or replacement of the affected component/connector.
- Passenger Presence Module
- Inflatable Restraint Sensing and Diagnostic Module
- Passenger Presence Module harness connector
- Inflatable Restraint Sensing and Diagnostic Module wiring harness connector

1. Vehicle in Service Mode.
   Verify that DTC B0081 is the only DTC set in the K36 Inflatable Restraint Sensing and Diagnostic Module or K85 Passenger Presence Module.

⇒ **If any other DTC is set**
Diagnose the other DTCs first, refer to Diagnostic Trouble Code (DTC) List - Vehicle.

⇓ **If B0081 is the only DTC set**

Note: The K36 Inflatable Restraint Sensing and Diagnostic Module sets a redundant B0081 00 DTC when the K85 Passenger Presence Module sets a DTC B0081 11, B0081 4B, or B0081 71.

2. Verify DTC B0081 11 or DTC B0081 4B is not set in the K85 Passenger Presence Module.

⇒ **If DTC B0081 11 or DTC B0081 4B is set in the K85 Passenger Presence Module**
The correct calibration was not learned by the K85 Passenger Presence Module. Perform the Passenger Presence System Preload Test procedure. Refer to Passenger Presence System Programming and Setup.

⇓ **If neither of these DTCs are set in the K85 Passenger Presence Module**

3. Verify DTC B0081 5A is not set in the K85 Passenger Presence Module.

⇒ **If DTC B0081 5A is set in the K85 Passenger Presence Module**

3.1. Check the connections at the K36 Inflatable Restraint Sensing and Diagnostic Module and K85 Passenger Presence Module.

3.2. Clear the DTC's and check if DTC B0081 5A sets again in the K85 Passenger Presence Module.

⇒ If DTC B0081 5A sets again replace the B60 Passenger Presence Sensor.

⇓ If DTC B0081 5A does not set

3.3. All OK.

⇓ **If none of these DTCs set in the K85 Passenger Presence Module**

4. Verify DTC B0081 3A is not set in the K36 Inflatable Restraint Sensing and Diagnostic Module.

⇒ **If DTC B0081 3A is set in the K36 Inflatable Restraint Sensing and Diagnostic Module**

4.1. Either an incorrect replacement K85 Passenger Presence Module or K36 Inflatable Restraint Sensing and Diagnostic Module was placed in this vehicle. Check and make sure the part numbers are correct for each module.

[redacted]

⇒ If either part number is incorrect replace it with the correct part number.

⇓ If both part numbers are correct

4.2. Clear the DTC's and check if DTC B0081 3A sets again in the K36 Inflatable Restraint Sensing and Diagnostic Module.

⇒ If DTC B0081 3A sets again replace the B60 passenger presence sensor. If the DTC sets again replace the K36 Inflatable Restraint Sensing and Diagnostic Module.

⇓ If DTC B0081 3A does not set

4.3. All OK.

⇓ **If DTC B0081 3A is not set in the K36 Inflatable Restraint Sensing and Diagnostic Module**

5. Verify DTC B0081 71 is not set in the K36 Inflatable Restraint Sensing and Diagnostic Module.

⇒ **If DTC B0081 71 is set in the K36 Inflatable Restraint Sensing and Diagnostic Module**

5.1. Check the connections at the K36 Inflatable Restraint Sensing and Diagnostic Module and K85 Passenger Presence Module.

5.2. Clear the DTC's and check if DTC B0081 71 sets again in the K36 Inflatable Restraint Sensing and Diagnostic Module.

⇒ If DTC B0081 71 sets again replace the B60 passenger presence sensor.

⇓ If DTC B0081 71 does not set

5.3. All OK.

⇒ **If DTC B0081 71 does not set in the K36 Inflatable Restraint Sensing and Diagnostic Module**

6. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

- SIR/SRS Wiring Repairs
- Control Module References for passenger presence system or Inflatable Restraint Sensing and Diagnostic Module replacement, programming and setup

[redacted]

DTC B1001 (Passenger Presence System)

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 Descriptor

DTC B1001 00 Option Configuration Error

Circuit/System Description

The Inflatable Restraint Sensing and Diagnostic Module (SDM) stores a 4-digit primary key for the Passenger Presence Module. The Inflatable Restraint Sensing and Diagnostic Module sends the Passenger Presence Module the primary key. If the Passenger Presence Module determines that it is the wrong primary key, the Passenger Presence Module will set DTC B1001 and send the Inflatable Restraint Sensing and Diagnostic Module a vehicle mismatch message. The Inflatable Restraint Sensing and Diagnostic Module then will set DTC B0081 and illuminate the SIR warning indicator. The Passenger Presence Module does not use a secondary key.

Conditions for Running the DTC

Ignition voltage is between 9-16 volts.

Conditions for Setting the DTC

The 4-digit primary key stored in the Inflatable Restraint Sensing and Diagnostic Module does not match the 4-digit key stored in the Passenger Presence Module.

Action Taken When the DTC Sets

- The Inflatable Restraint Sensing and Diagnostic Module requests the instrument panel cluster to illuminate the AIR BAG indicator.
- The passenger instrument panel air bag deployment is disabled.

Conditions for Clearing the DTC

The 4-digit Primary Key in the Inflatable Restraint Sensing and Diagnostic Module and in the Passenger Presence Module match.

Diagnostic Aids

This DTC is an indication that the passenger presence system module was not set-up correctly, is not the correct part number or that the Passenger Presence Module is defective.

Reference Information

Schematic Reference

SIR Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Supplemental Inflatable Restraint System Description and Operation

[redacted]

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

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

- Passenger Presence Module
- Passenger Presence Module wiring harness

1. Verify the correct K85 Passenger Presence Module part number has been installed

⇒ **If the K85 Passenger Presence Module installed has an incorrect part number**

Replace the K85 Passenger Presence Module.

⇓ **If the K85 Passenger Presence Module installed has a correct part number**

2. Verify that DTC B1001 is not set as current in the K85 Passenger Presence Module.

⇒ **If DTC is set as current, . If Inflatable Restraint Sensing and Diagnostic Module part number is correct**

2.1. Verify the Inflatable Restraint Sensing and Diagnostic Module part number is correct.

⇒ If the K36 Inflatable Restraint Sensing and Diagnostic Module part number is incorrect, replace the K36 Inflatable Restraint Sensing and Diagnostic Module

⇓ If the K36 Inflatable Restraint Sensing and Diagnostic Module part number is correct

2.2. Replace the K85 Passenger Presence Module

⇓ **If the DTC is no set as current**

3. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the diagnostic procedure.

Control Module References for K85 Passenger Presence Module and K36 Inflatable Restraint Sensing and Diagnostic Module replacement, setup, and programming

[redacted]

Passenger Presence System Rezeroing

Introduction

The inflatable restraints passenger presence system is a calibrated system that requires re-zeroing or a zero check anytime the seat cushion trim attachments have been removed or the passenger presence system has been replaced. The procedures below are designed to assist in the re-zeroing of the passenger presence system. Before you start, read these procedures carefully and completely. For further information regarding the passenger presence system refer to Supplemental Inflatable Restraint System Description and Operation.

Note: The following procedures must be followed:

1. Read this procedure carefully and completely.
2. The passenger presence system will not function properly if the passenger presence system re-zeroing procedure is not performed.
3. Perform the Diagnostic Repair Verification after successfully completing the re-zeroing procedure to ensure the system is functioning properly.

Passenger Presence System Re-zeroing Procedure

Note:

- Before the passenger presence system can be re-zeroed the front passenger seat must be completely empty of all items. The presence of any items on the front passenger seat will affect the calibration and operation of the passenger presence system.
- DTC B0081 will set if the re-zero system test is performed with:
  - An aftermarket seat heater located too close to the sensor mat
  - A scan tool, laptop, or other electronic device is in the seat
  - The seat is damp or wet
  - An object or person is in the seat

1. Make sure that temperature is between 32°F to 100°F before running a Re-zero procedure.
2. Empty the front outboard passenger seat.
3. Verify that all SIR and passenger presence system components, connectors, and connector position assurances are properly connected and mounted.
4. Install a scan tool.

   Note: The presence of current DTCs, except DTC B0081 4A or B0081 4B, will prevent the passenger presence system from re-zeroing and may set additional DTCs.
5. Vehicle ON, with a scan tool, perform the Passenger Presence Sensor Learn procedure.
6. If the test fails, confirm that the seat is empty. Perform the Passenger Presence Sensor Learn test again. If the test fails again, verify DTC B0081 is not set as current. If the DTC is set refer to Diagnostic Trouble Code (DTC) List - Vehicle. If the test successfully completed, Vehicle OFF.
7. After the passenger presence system has been successfully re-zeroed, perform the Diagnostic Repair Verification.

[redacted]

DTC B1001 (Inflatable Restraint Sensing and Diagnostic Module)

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 Descriptor

DTC B1001 00 Option Configuration

Circuit/System Description

The inflatable restraint sensing and diagnostic module stores a primary data key, which is a 4-digit number. When the ignition is turned ON, the inflatable restraint sensing and diagnostic module compares this information to the information stored in the body control module (BCM) via serial data. If there is a mismatch between the information stored in the inflatable restraint sensing and diagnostic module and body control module, DTC B1001 will set.

Conditions for Running the DTC

System voltage is between 9-16 V.

Conditions for Setting the DTC

The 4-digit Primary Data Key stored in the inflatable restraint sensing and diagnostic module does not match the 4 digits stored in the body control module.

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 disables all deployments.

Conditions for Clearing the DTC

The last 4-digit Primary Data Key in the inflatable restraint sensing and diagnostic module matches the last 4 digits stored in the Body Control Module.

Diagnostic Aids

- This DTC is an indication that an incorrect inflatable restraint sensing and diagnostic module is installed in the vehicle, or that the inflatable restraint sensing and diagnostic module and/or the body control module was replaced without reprogramming the body control module with the new information.
- If the inflatable restraint sensing and diagnostic module was previously programmed and DTC B1001 is now set, the setup portion of program was not completed. Proceed to the inflatable restraint sensing and diagnostic module setup portion of the Inflatable Restraint Sensing and Diagnostic Module Programming and Setup

Reference Information

Schematic Reference

SIR Schematics

Connector End View Reference

Component Connector End Views

[redacted]

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. Verify the scan tool K36 Inflatable Restraint Sensing and Diagnostic Module Primary Key Status paramater is Valid.

⇒ **If the K36 Inflatable Restraint Sensing and Diagnostic Module Primary Key Status parameter is Invalid**

Perform the K36 Inflatable Restraint Sensing and Diagnostic Module setup. Refer to Inflatable Restraint Sensing and Diagnostic Module Programming and Setup.

⇓ **If the K36 Inflatable Restraint Sensing and Diagnostic Module Primary Key Status parameter is Valid**

2. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

- SIR/SRS Wiring Repairs
- Control Module References for inflatable restraint sensing and diagnostic module replacement, programming and setup

[redacted]

Airbag 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

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Passenger Air Bag OFF Indicator Control	2	2*	4	—
Passenger Air Bag ON Indicator Control	3	3*	5	—
Passenger Air Bag Disable Indicator Ground	—	1	1	—

1. Both indicators always OFF
2. The OFF indicator will not illuminate
3. The ON indicator will not illuminate
4. The OFF indictor always ON
5. The ON indicator always ON

* High resistance may cause the appropriate indicator to illuminate less bright than normal

Circuit/System Description

The passenger air bag ON/OFF indicators are used to notify the driver when the passenger presence system has enabled or disabled the passenger instrument panel air bag. When the ignition is turned ON, the ignition voltage is supplied to the passenger presence module. When the Inflatable Restraint Sensing and Diagnostic Module (SDM) receives the appropriate serial data message from the passenger presence module the Inflatable Restraint Sensing and Diagnostic Module will then provide voltage to the appropriate indicator.

Reference Information

Schematic Reference

SIR Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Supplemental Inflatable Restraint System Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs

[redacted]

- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Note: The passenger air bag ON and OFF indicators may not operate as expected if there are supplemental inflatable restraint (SIR) DTCs. Repair all SIR DTCs before proceeding with this diagnostic.

1. Vehicle in Service Mode.
2. With a scan tool command the passenger air bag ON indicator and passenger air bag OFF indicator ON and OFF. The respective indicators should turn ON and OFF as commanded.

Circuit/System Testing

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

- Passenger air bag disable on/off indicator.
- Passenger air bag disable on/off indicator wiring harness.

1. Vehicle OFF.
2. Disconnect the harness connector at the P14 Passenger Air Bag Disable Indicator.
3. Test for less than 10 Ω between the ground circuit terminal 2 and ground.

⇒ **If 10 Ω or greater**

Repair the open/high resistance in the circuit.

⇓ **If less than 10 Ω**

4. Vehicle in Service Mode.
5. With a scan tool, command the passenger air bag OFF indictor OFF.
6. Test for less than 11 V between the control circuit terminal 3 and ground.

⇒ **If 11 V or greater**

6.1. Vehicle OFF.

6.2. Disconnect the X1 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.

6.3. Vehicle in Service Mode.

6.4. 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**

7. With a scan tool, command the passenger air bag OFF indicator ON.
8. Test for greater than 4 V between the control circuit terminal 3 and ground.

⇒ **If 4 V or less**

8.1. Disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.

8.2. Test for infinite resistance between the control circuit and ground.

⇒ If less than infinite resistance, repair the short to ground on the circuit.

8.3. 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 greater than 4 V**

[redacted]

9. With a scan tool, command the passenger air bag ON indicator OFF.
10. Test for less than 11 V between the control circuit terminal 1 and ground.

⇒ **If 11 V or greater**

10.1. Vehicle OFF.
10.2. Disconnect the X1 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
10.3. Vehicle in Service Mode.
10.4. 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**

11. With a scan tool, command the passenger air bag ON indicator ON.
12. Test for greater than 4 V between the control circuit terminal 1 and ground.

⇒ **If 4 V or less**

12.1. Disconnect the harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
12.2. Test for infinite resistance between the control circuit and ground.
⇒ If less than infinite resistance, repair the short to ground on the circuit.
12.3. 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 greater than 4 V**

13. Replace the P14 Passenger Air Bag Disable Indicator.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the diagnostic procedure.

- Instrument Panel Airbag Arming Status Display Replacement
- Control Module References for K36 Inflatable Restraint Sensing and Diagnostic Module replacement, programming and setup

[redacted]

Supplemental Inflatable Restraint System Description and Operation

SIR System Overview

The supplemental inflatable restraint (SIR) system supplements the protection offered by the seat belts. The SIR system contains an inflatable restraint sensing and diagnostic module (SDM), air bags, seat belt pretensioners (anchor and retractor), and impact sensors. The SDM determines the severity of a collision with the assistance of impact sensors located at strategic points on the vehicle. When the SDM detects a collision, the SDM will process the information provided by the impact sensors to further support air bag or pretensioner deployment. The SDM will deploy the air bags and pretensioners if it detects a collision of sufficient force. If the force of the impact is not sufficient to warrant air bag deployment, the SDM may still deploy the seat belt pretensioners. The SDM contains a sensing device that converts vehicle velocity changes to an electrical signal. The SDM compares these signals to values stored in memory. If the signals exceed a stored value, the SDM will determine the severity of the impact and either cause current to flow through the frontal deployment loops deploying the frontal air bags and pretensioners, or it will deploy the pretensioners only. The SDM continuously monitors the deployment loops for malfunctions and illuminates the AIR BAG indicator if a fault is detected. The SDM performs continuous diagnostic monitoring of the SIR system electrical components. Upon detection of a circuit malfunction, the SDM will set a DTC and inform the driver by illuminating the AIR BAG indicator. The steering column and knee bolsters are designed to absorb energy and compress during frontal collisions in order to limit leg movement and decrease the chance of injury to the driver and passenger.

AIR BAG Indicator (Driver)

The AIR BAG indicator, located in the instrument cluster, is used to notify the driver of SIR system malfunctions and to verify that the inflatable restraint sensing and diagnostic module (SDM) is communicating with the instrument cluster. When the ignition is turned ON, the SDM is supplied with ignition positive voltage. The instrument cluster will momentarily turn on the AIR BAG indicator. While the indicator is on, the SDM conducts tests on all SIR system components and circuits. If no malfunctions are detected the SDM will communicate with the instrument cluster through the serial data circuit and command the AIR BAG indicator OFF. The SDM provides continuous monitoring of the air bag circuits by conducting a sequence of checks. If a malfunction is detected the SDM will store a diagnostic trouble code (DTC) and command the instrument cluster to illuminate the AIR BAG indicator via serial data. The presence of a SIR system malfunction could result in non-deployment of the air bags or deployment in conditions less severe than intended. The AIR BAG indicator will remain ON until the malfunction has been repaired.

Inflatable Restraint Sensing and Diagnostic Module (SDM)

The inflatable restraint sensing and diagnostic module (SDM) is a microprocessor and the control center for the supplemental inflatable restraint (SIR) system. The SDM contains internal sensors along with external impact sensors, mounted at strategic locations on the vehicle. In the event of a collision, the SDM compares the signals from the internal and external impact sensors to a value stored in memory. When the generated signals exceed the stored value, the SDM will cause current to flow through the appropriate deployment loops to deploy the air bags. The SDM records the SIR system status when a deployment occurs and illuminates the AIR BAG indicator located in the instrument cluster. The SDM performs continuous diagnostic monitoring of the SIR system electrical components and circuitry when the ignition is turned ON. If the SDM detects a malfunction, a DTC will be stored and the SDM will request the instrument cluster to illuminate the AIR BAG indicator, notifying the driver that a malfunction exists. In the event that ignition positive voltage is lost during a collision, the SDM maintains a 23-volt loop reserve for deployment of the air bags. It is important when disabling the SIR system for servicing or rescue operations to allow the 23-volt loop reserve to dissipate, which could take up to 1 minute.

Air Bags

This vehicle contains 8 air bags. The 8 air bags are located in the steering wheel (dual air bags), instrument panel (passenger side) (dual air bags), driver seat side (B-pillar), passenger seat side (B-pillar), left roof rail, right roof rail, driver knee (instrument panel), passenger knee (instrument panel). To view the locations of the air bags refer to Master Electrical Component List. Air bags contain a housing, inflatable air bag, two initiating devices (if dual air bag), canister of gas generating material and, in some cases, stored compressed gas. The deployment loops supply current through the air bags to deploy the air bags. The steering wheel and passenger instrument panel air bags have two stages of deployment, which varies the amount of restraint to the occupant according to

[redacted]

the collision severity. For moderate frontal collisions the air bags deploy at less than full deployment which consists of stage 1 of the air bag. For more severe frontal collisions a full deployment is initiated which consists of stage 1 and stage 2 of the air bag. The current passing through the air bags ignite the material in the canister producing a rapid generation of gas and is some cases, the release of compressed gas. The gas produced from this reaction rapidly inflates the air bag. Once the air bag is inflated it quickly deflates through the air bag vent holes and/or the bag fabric. Each air bag is equipped with a shorting bar located in the connectors of the air bag. The shorting bar shorts the air bag deployment loop circuitry to prevent unwanted deployment of the air bag when it is disconnected.

Seat Belt Pretensioners (Anchor and Retractor)

The seat belt pretensioners (driver and passenger) consist of a housing, seat belt retractor (located in the B-pillar), seat belt anchor (located on the floor), seat belt webbing, an initiator, and a canister of gas generating materials. To view the locations of the seat belt pretentioners refer to Master Electrical Component List. The initiator is part of the seat belt pretensioner deployment loop. When the vehicle is involved in a collision of sufficient force, the SDM causes current to flow through the seat belt deployment loops to the initiator. Current passing through the initiator ignites the material in the canister producing a rapid generation of gas. The gas produced from this reaction deploys the seat belt pretensioners which removes all of the slack in the seat belts. Depending on the severity of the collision, the seat belt pretensioners may deploy without the frontal air bags deploying, or they will deploy immediately before the frontal air bags deploy. Each seat belt pretensioner is equipped with a shorting bar that is located in the connector of the seat belt pretensioner. The shorting bar shorts the seat belt pretensioner circuitry to prevent unwanted deployment of the seat belt pretensioner when the connector is disconnected.

Impact Sensors

This vehicle contains 6 impact sensors. The 6 impact sensors are located in the front of the vehicle (2, left and right), and one in each of the four doors. To view the locations of the impact sensors refer to Master Electrical Component List. The impact sensors contain a sensing device which monitors vehicle acceleration and velocity changes to detect side collisions that are severe enough to warrant air bag deployment. The impact sensor are not part of the deployment loop, but instead provide input to the SDM. The SDM contains a microprocessor that performs calculations using the measured accelerations and compares these calculations to a value stored in memory. When the generated calculations exceed the stored value, the SDM will cause current to flow through the deployment loops deploying the appropriate air bags.

Passenger Presence Detection System and Air Bag Indicator (Passenger)

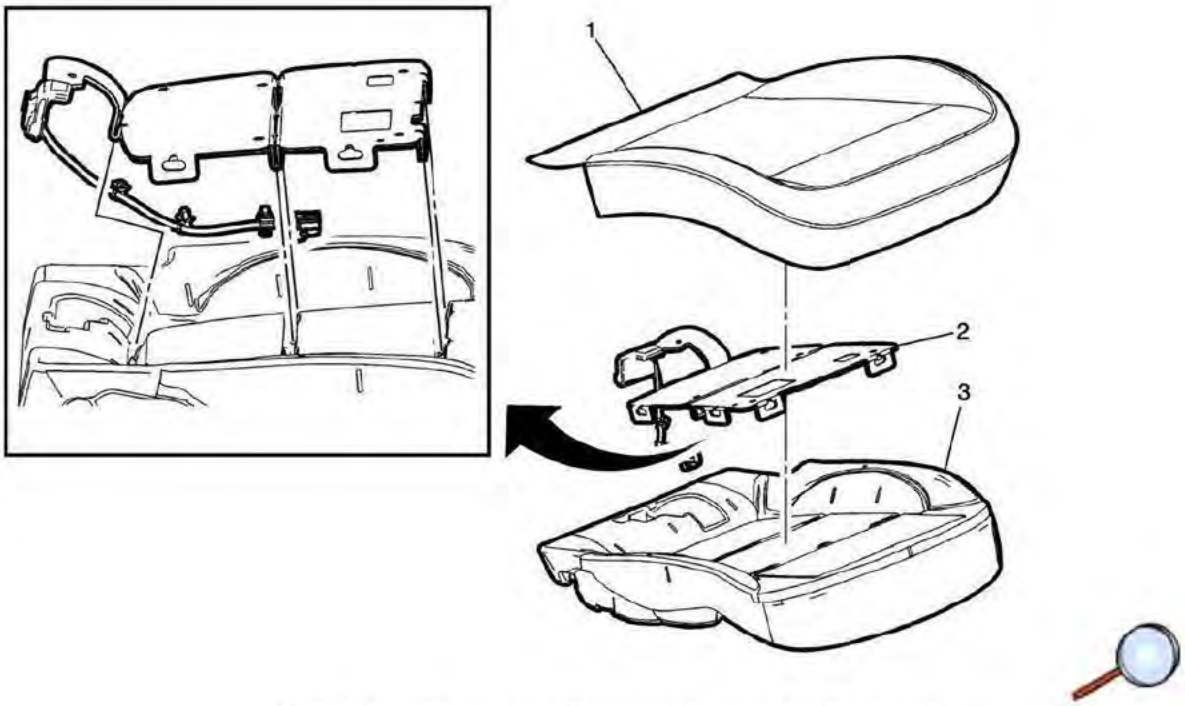
Note: The passenger presence system (PPS) is a calibrated unit. When replacing the assembly all parts in the service kit must remain together. Do not mix any of the old parts with the new parts. After repairing or replacing the PPS, the preload test must be performed in order to function properly.

The passenger presence detection system (PPS) is used to monitor the type of occupant that is sitting in the front passenger seat and communicate the status to the inflatable restraint sensing and diagnostic module (SDM). The SDM then uses this information to determine whether to enable or suppress the deployment of the passenger instrument panel air bag. The PPS consists of an electronic control module, a sensor mat in the seat, a harness, and PASSENGER AIR BAG ON/OFF indicators. The PPS transmits and receives a low-level electric field. The measured capacitance value of this field is used to determine the type of occupant sitting in the front passenger seat. If the measured capacitance is less than a calibrated value, then the passenger presence module will send a serial data signal to the SDM to disable the passenger instrument panel air bag. If the measured capacitance is greater than a calibrated value, then the passenger presence module will send a serial data signal to the SDM to enable the passenger instrument panel air bag. The SDM will notify the customer of the enable/disable status by illuminating one of the PASSENGER AIR BAG ON/OFF indicator. PPS monitors itself for faults and will displays diagnostic trouble codes (DTCs) onthe scan tool. When a fault is detected, the passenger presence module sends out a message to the SDM. The SDM responds by sending a command message to the IPC to illuminate the AIR BAG indicator.

Seat Belt Indicators

The seat belt indicators are controlled through the inflatable restraint sensing and diagnostic module (SDM). For further information on seat belt indicators refer to Seat Belt System Description and Operation.

Airbag Front Passenger Presence Sensor Replacement



Airbag Front Passenger Presence Sensor Replacement

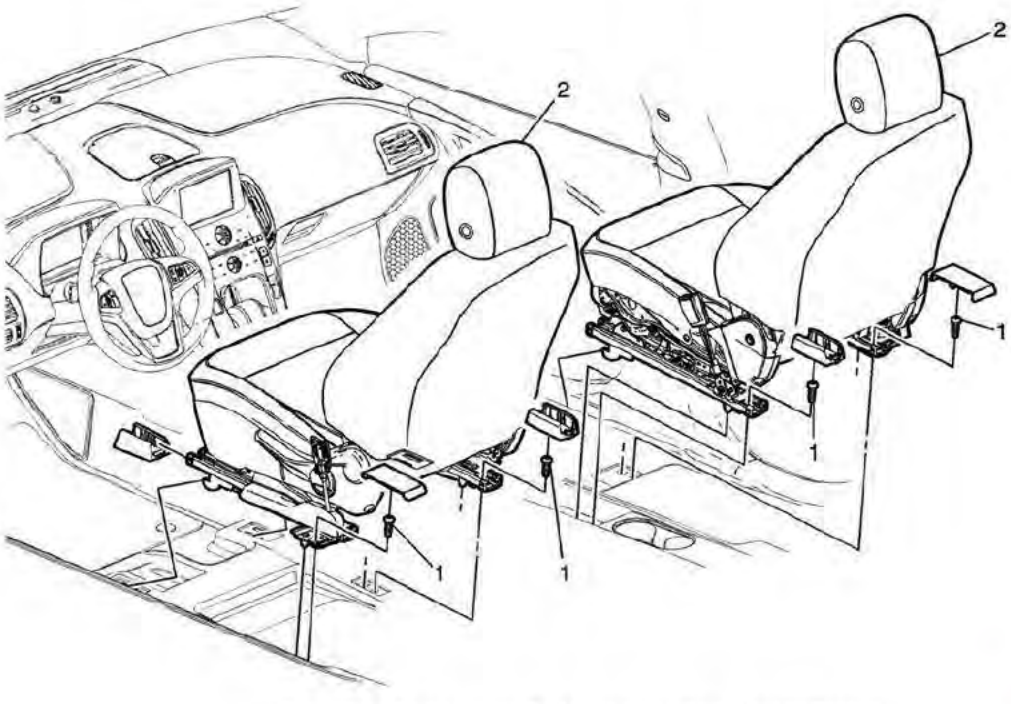
Callout	Component Name
Warning: Refer to SIR Warning. **Warning:** Replace the passenger presence system as a complete assembly to prevent possible injury to the occupant. All the components in the service kit are assembled and calibrated as a unit. Using only some of the components in the service kit will cause the passenger presence system to operate improperly. **Warning:** To avoid personal injury, perform a preload test on the passenger presence system whenever you remove or replace the seat cushion trim. Failure to do so may cause the system to malfunction. **Preliminary Procedure** 1. Remove the driver or passenger seat. Refer to Driver or Passenger Seat Removal and Installation. 2. Remove the front seat cushion cover. Refer to Front Seat Cushion Cover and Pad Replacement.	
1	Front Seat Cushion Cover
2	Inflatable Restraint Front Passenger Presence Sensor Assembly **Procedures** 1. Preload Test the inflatable restraint passenger presence system whenever the seat cushion or any component of the passenger presence system is removed. Refer to Control Module References. 2. Disconnect the electrical connectors. 3. Separate the cushion cover from the pad assembly.

[redacted]

Callout	Component Name
	4. Program the inflatable restraint passenger presence system after replacement. Refer to Control Module References. **Tip:** - The passenger presence system is an integral part of the pad on the passenger seat cushion. - The sensor, module and seat cushion pad must be replaced as a unit. - Note the routing of the wiring harness and connector location for installation.
3	Front Seat Cushion Pad

[redacted]

Driver or Passenger Seat Removal and Installation



Driver or Passenger Seat Removal and Installation

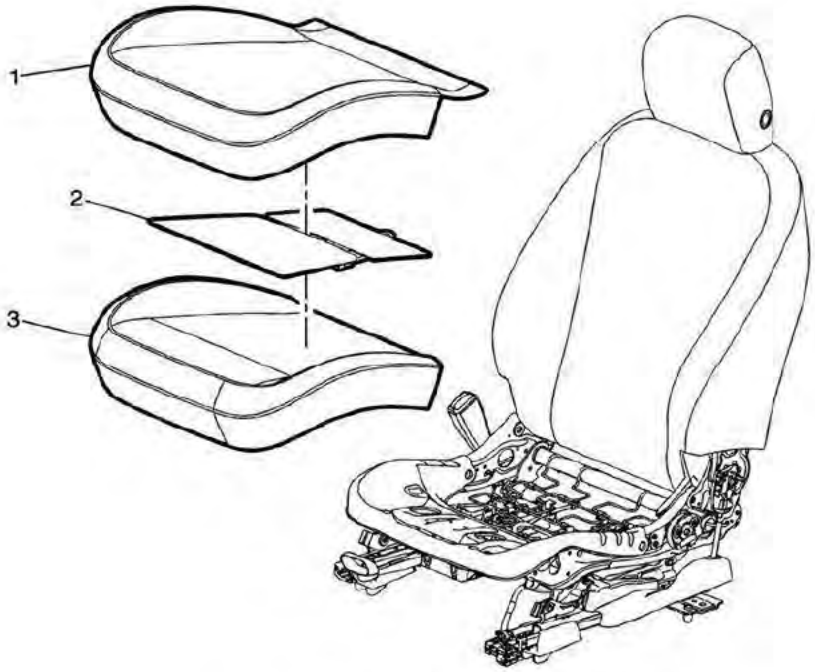
Callout	Component Name
Warning: Refer to SIR Warning. **Preliminary Procedures** 1. Disable the SIR system. Refer to SIR Disabling and Enabling. 2. Disconnect the front seat belt tensioner fastener by removing the cap, bolt, and cover. Refer to Driver or Passenger Seat Retractor Side Belt Replacement.	
1	Front Seat Bolt (Qty: 4) **Caution:** Refer to Fastener Caution. **Procedure** 1. Adjust the seat to the full forward position to gain access to the rear bolts. 2. Remove the foot cover by pulling up on the rear of the cover and then pushing forward to gain access to the rear outboard bolts. **Tighten** 45 Y (33 lb ft)
2	Front Seat Assembly (Qty: 2) **Procedure** 1. Disconnect the electrical.

[redacted]

Callout	ComponentName
	2. With the aid of an assistant remove the front seat, by tilting the seat forward and then lifting and pulling the seat rearwards to disengage the front hooks. 3. Transfer components as necessary.

[redacted]

Front Seat Cushion Cover and Pad Replacement



Front Seat Cushion Cover and Pad Replacement

Callout	Component Name
Warning: Refer to SIR Warning. **Preliminary Procedures** 1. Remove the driver or passenger seat. Refer to Driver or Passenger Seat Removal and Installation. 2. Remove the driver or passenger seat cushion outer finish panel. Refer to Driver or Passenger Seat Cushion Outer Finish Panel Replacement. 3. Remove the driver or passenger seat inner recliner finish cover. Refer to Driver or Passenger Seat Inner Recliner Finish Cover Replacement.	
1	Front Seat Cushion Cover **Procedure** 1. Disengage the J-channel retainers from the seat cushion frame. 2. Disconnect the electrical connectors that attach to the seat cushion, if equipped. 3. Remove the seat cushion cover and pad from the seat cushion frame as an assembly. 4. Separate the seat cushion from the seat cushion pad by pulling the cover away from the pad. 5. When replacing the front passenger seat cushion, you must also replace the inflatable restraint passenger presence sensor. Refer to Airbag Front Passenger Presence Sensor Replacement.
2	Front Seat Cushion Heater, If Equipped

[redacted]

Callout	Component Name
	Procedure Remove the driver or passenger seat cushion heater. Refer to Driver Seat Cushion Heater Replacement or Passenger Seat Cushion Heater Replacement.
3	Front Seat Cushion Pad

[redacted]

Inflatable Restraint Passenger Presence System Scan Tool Information

Sensing and Diagnostic Module Scan Tool Data Parameters

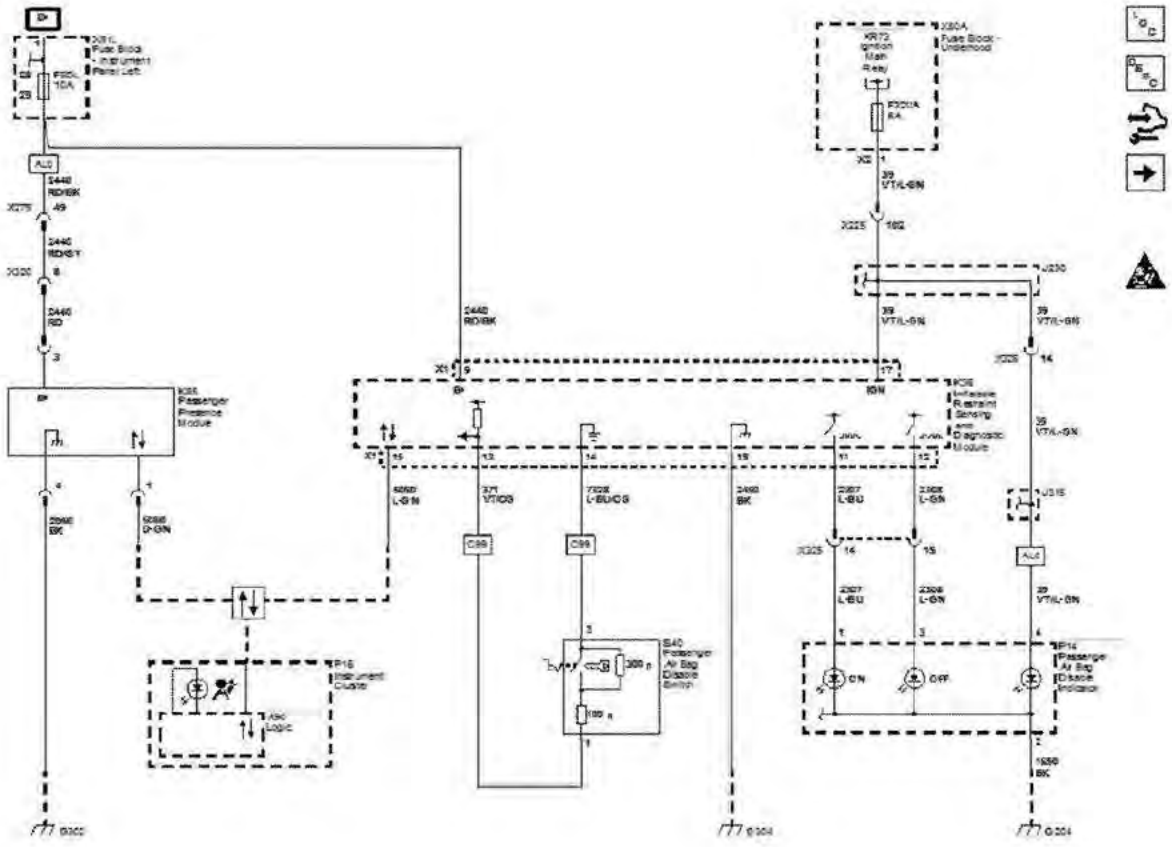
Parameter	Expected Value	Definition
Operating Conditions: Vehicle in Service Mode		
Base Model Part Number	Varies, 8 Digit Number	The scan tool displays the part number of the PPS module which is stored in non volatile memory.
Battery Voltage	Volts	The scan tool will display battery voltage.
Calibration Part Number	Varies, 8 Digit Number	The scan tool displays the part number of the calibration file in the PPS module.
End Model Part Number	Varies, 8 Digit Number	The scan tool displays the part number of the PPS module in production.
Manufacturer's Traceability Number	Varies, 16 Digit Number	The scan tool displays the 16 digit traceability number in the PPS module.
Passenger Classification	Empty Seat	The scan tool displays Unknown, Calibration Mode, Empty Seat, Small Occupant Type 1, Small Occupant Type 2, Small Occupant Type 3, Small Occupant Type 4, Large Occupant Type 1, Large Occupant Type 2, Large Occupant Type 3, Large Occupant Type 4, Module Setup, Not Available, Child Seat Facing Rearward, Child Seat Facing Forward, Child Seat Facing Unknown Direction. This is the state of what occupies the passenger seat, as monitored by the passenger presence system.
Passenger Presence Module Primary Key	Hex Value	The scan tool indicates the primary key Hex value.
Passenger Presence System Reporting DTC(s)	Yes/No	The PPS module will report if there are DTCs set in the passenger presence module.
Passenger Seat Occupancy Status	Empty Seat	The scan tool displays Undefined, Empty Seat, Occupied, or Invalid. This is the state of the passenger seat if it is occupied or empty and monitored by the passenger presence system.
Power Mode	Off / Accessory / Run / Crank Request	The scan tool will display the power mode of the vehicle.

[redacted]

Parameter	Expected Value	Definition
Primary Key Status	Valid/Invalid	The scan tool displays Valid if the primary key matches what is stored to memory in the PPS module.
Received Primary Key	Hex Value	The scan tool displays a Hex value indicating the PPS module received primary key data.
Software Part Number	Varies, 8 Digit Number	The scan tool displays the software part number in the PPS module.

[redacted]

Power, Ground, Data Communication and Passenger Presence Detection



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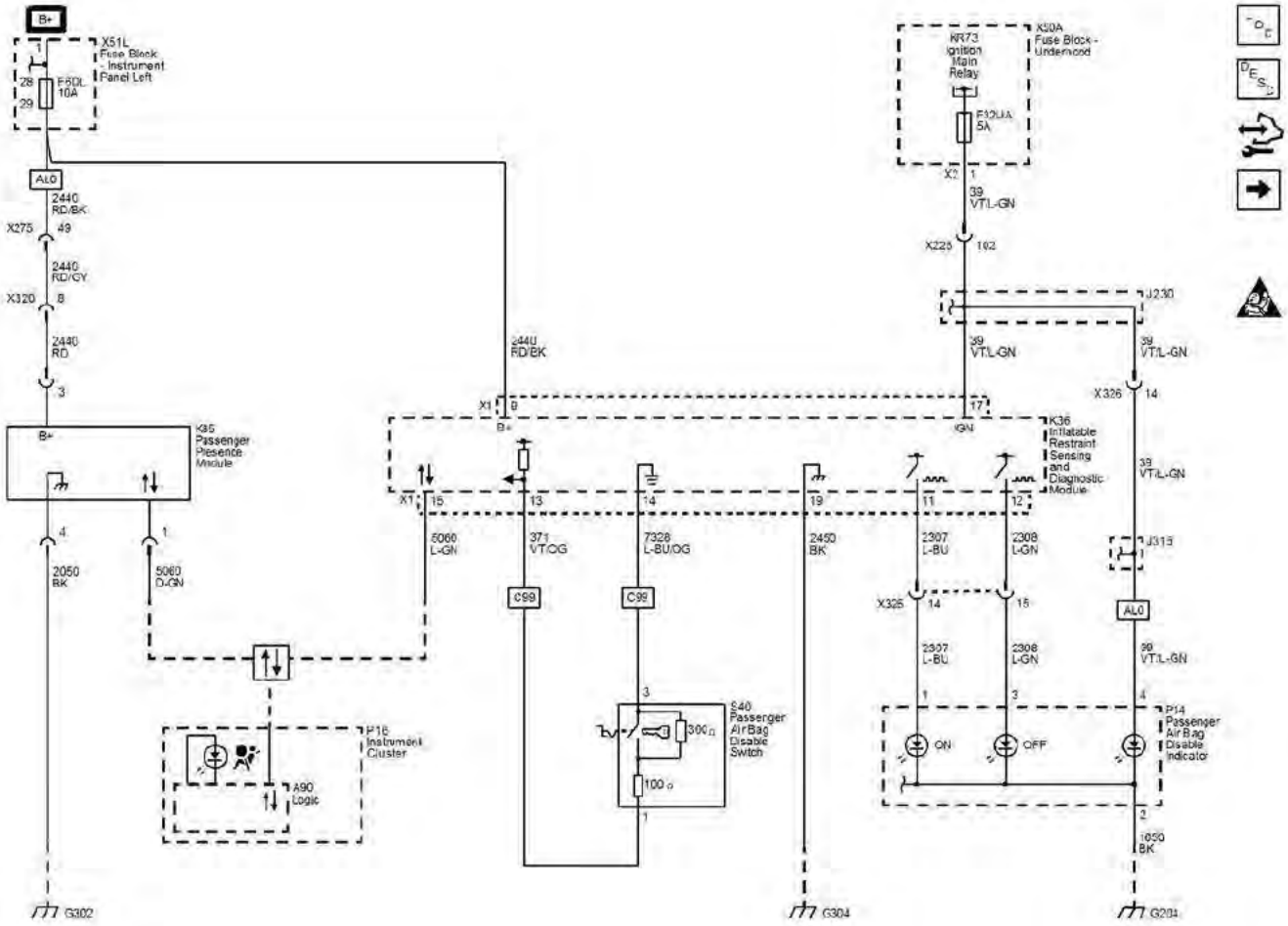

B+
X51L
Fuse Block - Instrument Panel Left
28
29
F50L
10A
AL0
2440
RD/BK
X275
49
2440
RD/GY
X320
8
2440
RD
3
K35
Passenger Presence Module
4
1
2050
BK
5060
D-GN
P16
Instrument Cluster
A90
Logic
G302
2440
RD/BK
X1
9
B+
15
13
14
19
11
12
5060
L-GN
371
VT/OG
7328
L-BU/OG
2450
BK
2307
L-BU
2308
L-GN
C99
C99
3
S40
Passenger Air Bag Disable Switch
300 Ω
100 Ω
1
G304
K36
Inflatable Restraint Sensing and Diagnostic Module
IGN
17
X325
14
16
AL0
99
VT/L-GN
1
3
4
P14
Passenger Air Bag Disable Indicator
ON
OFF
2
1050
BK
G204
K50A
Fuse Block - Underhood
KR73
Ignition Main Relay
F12UA
5A
X2
1
39
VT/L-GN
X225
102
J230
39
VT/L-GN
X326
14
39
VT/L-GN
J313

DTC B101D

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 Descriptor

DTC B101D Electronic Control Unit Hardware

For symptom byte information, refer to Symptom Byte List.

Circuit/System Description

The internal fault detection is handled inside the device. The symptom byte information is for engineering reference only. No external circuit diagnosis is involved.

Conditions for Running the DTC

- The device runs the program to detect an internal fault when power up is commanded. The only requirements are voltage and ground. This program runs even if the voltage is out of the valid operating range.
- The keyless entry control module will set this DTC with symptom byte 39 when the keyless entry control module antenna is activated.

Conditions for Setting the DTC

The device has detected an internal malfunction.

Action Taken When the DTC Sets

The device refuses all additional inputs.

Conditions for Clearing the DTC

- A current DTC clears when the malfunction is no longer present.
- A history DTC clears when the device ignition cycle counter reaches the reset threshold of 50, without a repeat of the malfunction.

Diagnostic Aids

- This DTC may be stored as a history DTC without affecting the operation of the device.
- Do not replace a device based only on DTC B101D being set in history with the exception of the following devices:
  - K36 Inflatable Restraint Sensing and Diagnostic Module
  - K85 Passenger Presence Module
- If DTC B101D is set as current, replace the appropriate device.

Reference Information

Schematic Reference

- Data Communication Schematics
- Control Module References

[redacted]

Connector End View Reference

Component Connector End Views

Description and Operation

Data Link Communications 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. Vehicle in Service Mode.
2. Verify DTC B101D is not set.

⇒ **If DTC B101D is set with symptom byte 43**

2.1. Program the device that set the DTC.

2.2. Verify the DTC does not set.

⇒ If the DTC sets, replace the device that set the DTC.

⇓ If the DTC does not set

2.3. All OK.

⇒ **If DTC B101D is set with any symptom byte, except symptom byte 43**

Replace the device that set the DTC.

⇓ **If DTC B101D is not set**

3. All OK

Repair Instructions

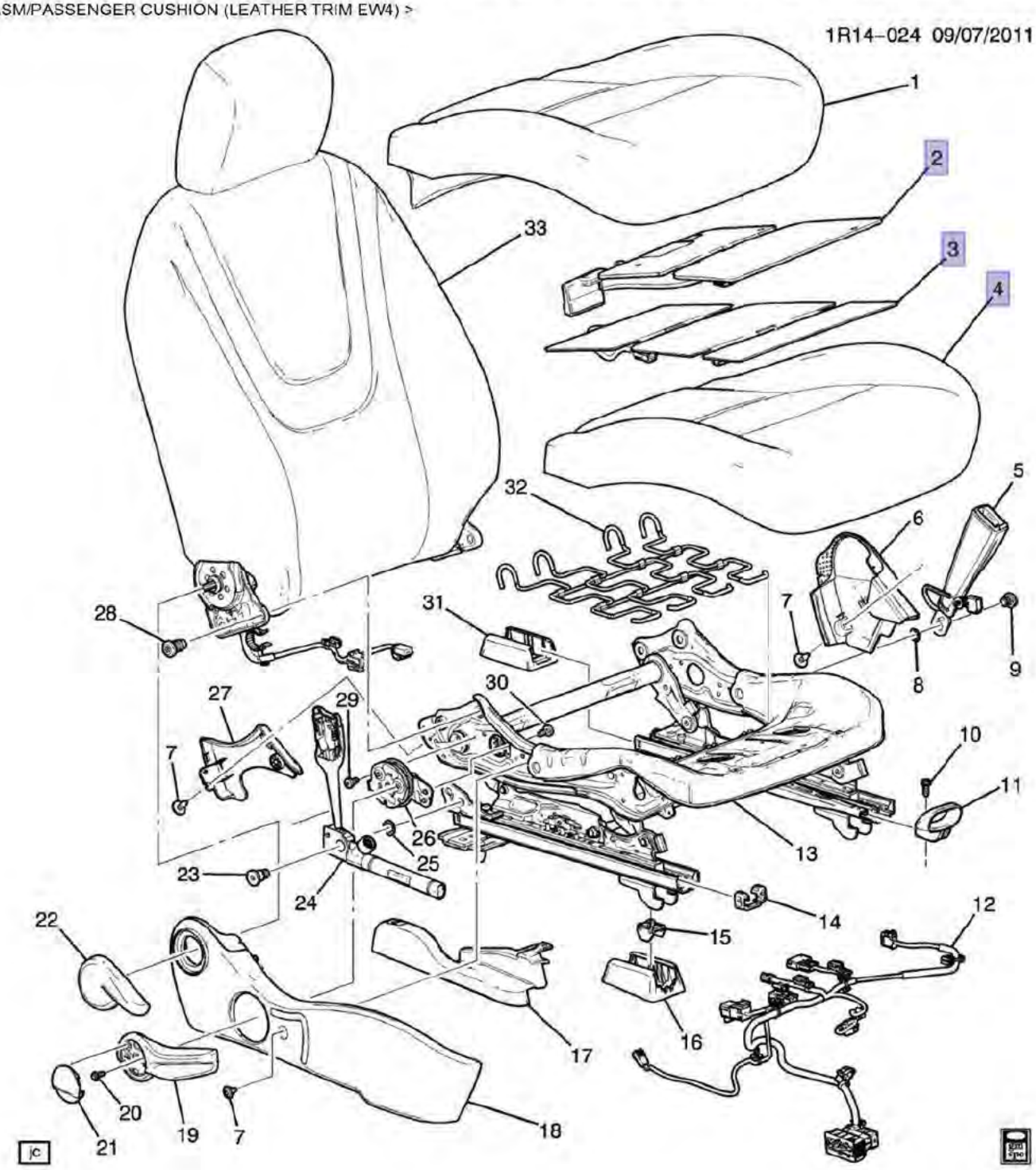
Perform the Diagnostic Repair Verification after completing the repair.

Control Module References for device replacement, programming and setup

[redacted]

Make: Chevrolet Year: 2013 Model: Volt

C - Chevrolet > 2013 > R - 1R1 - Volt > 14 - INTERIOR TRIM-FRONT SEAT TRIM-SEAT BELTS > (1R14-024) 2013-2015 RC SEAT ASM/PASSENGER CUSHION (LEATHER TRIM EW4) >



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