

GENERAL INFORMATION

Clutch Trouble Shooting

*** PLEASE READ THIS FIRST ***

NOTE: This is **GENERAL** information. This article is not intended to be specific to any unique situation or individual vehicle configuration. For model-specific information see appropriate articles where available.

ALL MODELS

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CLUTCH TROUBLE SHOOTING

Problem & Possible Cause	Action
Clutch Chatters/Grabs	
Incorrect Pedal Adjustment	Adjust Free Play
Worn Input Shaft Spline	Replace Input Shaft
Binding Pressure Plate	Replace Pressure Plate
Binding Throw-Out Lever	Check Throw-Out Lever, Check Throw-Out Bearing, Check Bearing Retainer
Uneven Pressure Plate Contact With Flywheel	Align/Replace Worn Parts
Transmission Misaligned	Align Transmission
Worn Pressure Plate	Replace Clutch Assembly
Oil-Saturated Disc	Replace Clutch Assembly, Repair Oil Leak
Loose Engine Mounts	Replace Engine Mounts
Clutch Pedal Sticks Down	
Clutch Cable Binding	Replace Clutch Cable
Weak Pressure Plate Springs	Replace Clutch Assembly
Binding Clutch Linkage	Lubricate Linkage
Broken Clutch Pedal Return Spring	Replace Return Spring
Clutch Will Not Release	
Oil-Saturated Disc	Replace Clutch Assembly, Repair Oil Leak
Defective Disc Face	Replace Clutch Assembly
Disc Sticking on Input Shaft Splines	Replace Disc/Input Shaft
Binding Pilot Bearing	Replace Pilot Bearing
Faulty Clutch Master Cylinder	Replace Master Cylinder
Faulty Clutch Slave Cylinder	Replace Slave Cylinder
Blown Clutch Hose	Replace Hose
Sticky Throw-Out Bearing Sleeve	Clean/Lube Sleeve
Clutch Cable Binding	Replace Clutch Cable
Broken/Loose Bellhousing	Check Bellhousing
Rattling/Squeaking	
Broken Throw-Out Lever Return Spring	Replace Return Spring
Faulty Throw-Out Bearing	Replace Throw-Out Bearing
Faulty Clutch Disc	Replace Clutch Disc

2021 DTC INDEX

XT4

DIAGNOSTIC TROUBLE CODE (DTC) LIST - VEHICLE

This master list includes all applicable diagnostic trouble codes in alphanumeric order.

DTC	Diagnostic Procedure
B0010	Image Display Cameras - DTC B0010
B0012	Supplemental Restraints - DTC B0012 or B0013
B0013	Supplemental Restraints - DTC B0012 or B0013
B0014	Supplemental Restraints - DTC B0014 or B0021
B0015	Supplemental Restraints - DTC B0015, B001A, B001B, or B0022
B0016	Supplemental Restraints - DTC B0016 or B0023
B0017	Supplemental Restraints - DTC B0017 or B0024
B0019	Supplemental Restraints - DTC B0019 or B0020
B001A	Supplemental Restraints - DTC B0015, B001A, B001B, or B0022
B001B	Supplemental Restraints - DTC B0015, B001A, B001B, or B0022
B0020	Supplemental Restraints - DTC B0019 or B0020
B0021	Supplemental Restraints - DTC B0014 or B0021
B0022	Supplemental Restraints - DTC B0015, B001A, B001B, or B0022
B0023	Supplemental Restraints - DTC B0016 or B0023
B0024	Supplemental Restraints - DTC B0017 or B0024
B0052	Supplemental Restraints - DTC B0052
B0071	Supplemental Restraints - DTC B0071
B0072	Seat Belts - DTC B0072 or B0073
B0073	Seat Belts - DTC B0072 or B0073
B0081	Supplemental Restraints - DTC B0081 (Inflatable Restraint Sensing and Diagnostic Module)
B0083	Supplemental Restraints - DTC B0083-B0088
B0084	Supplemental Restraints - DTC B0083-B0088
B0085	Supplemental Restraints - DTC B0083-B0088
B0086	Supplemental Restraints - DTC B0083-B0088
B0087	Supplemental Restraints - DTC B0083-B0088
B0088	Supplemental Restraints - DTC B0083-B0088
B0163	HVAC - Automatic - DTC B0163 or B0183
B0183	HVAC - Automatic - DTC B0163 or B0183
B018A	HVAC - Automatic - DTC B018A, B048C, B048E, or B1395
B0193	HVAC - Automatic - DTC B0193
B0223	HVAC - Automatic - DTC B0223, B0228, B0233, B0408, B0413, B0418, B0423, B1395, or B374A
B0228	HVAC - Automatic - DTC B0223, B0228, B0233, B0408, B0413, B0418, B0423, B1395, or B374A
B0233	HVAC - Automatic - DTC B0223, B0228, B0233, B0408, B0413, B0418, B0423, B1395, or B374A
B0283	Fixed and Moveable Windows - DTC B0283
B0408	HVAC - Automatic - DTC B0223, B0228, B0233, B0408, B0413, B0418, B0423, B1395, or B374A
B040A	HVAC - Automatic - DTC B040A

6. Call XM again and request the XM advisor to deactivate the service. From there, verify that the deactivation was received by the receiver by verifying they only have Channels 0 and 1 available. This process could take 5+ minutes.
7. Perform an Ignition/RAP Power cycle (Should still see only channel 0 and channel 1 present after this power cycle).
8. Call XM and Activate the receiver with the SiriusXM programming package appropriate for the capability of the audio system.
9. The activation can take up to 30 minutes to complete. Do not attempt to change from channel 1 until the XM advisor says it is ok to change channels. (Note: A slight mute in the audio may be heard on some models during the activation).
10. Once other channels appear, wait a few more minutes for all channels to load properly, then turn the radio off.
11. Perform an Ignition/RAP Power cycle
12. Check activation status (Proceeded with checking ALL available channels for no audio condition).
13. Power cycle vehicle.
14. Recheck activation status (Checked all previously suspect channels written down earlier in step 4).

NOTE: If the concern is still present after following the previous steps. It may be necessary to perform a 24hr deactivation and then reactivate to resolve.

15.

Component Testing

CAUTION: Refer to [Test Probe Caution](#) .

NOTE: Before testing the coax cable, check the cable exterior for being pinched, cut, damaged, or having loose connections at the components, which can cause reception issues.

To prevent false reading when testing the center coax terminals, use care not to ground the test probe on the outer housing/shield.

Coax Cable Test

1. Ignition OFF/Vehicle OFF, disconnect the coax cable at both components.
2. Test for less than 5 Ω between coax cable center terminal end to end.
 - **If 5 Ω or greater**
Replace the coax cable
 - **Go to next step: If less than 5 Ω**
3. Test for less than 5 Ω between the coax cable outer shield end to end.
 - **If 5 Ω or greater**
Replace the coax cable
 - **Go to next step: If less than 5 Ω**
4. Test for infinite resistance between the coax cable center terminal and the coax cable outer shield.
 - **If less than infinite resistance**
Replace the coax cable
 - **Go to next step: If infinite resistance**
5. All OK

Repair Instructions

DTC U01B0 00

Lost Communication with Battery Monitor Module

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	U01B0	U01B0	-	-
Ignition	U01B0	U01B0	-	-
LIN Serial Data	U01B0	U01B0	U01B0	-
Ground	-	U01B0	-	-

Circuit/System Description

The Local Interconnect Network (LIN) Bus consists of a single wire with a transmission rate of 10.417 Kbit/s. The serial data is transmitted over a LIN circuit between a master control module and other LIN devices within a particular subsystem. If serial data communication is lost between any of the LIN devices on the LIN bus network, the master control module will set a no communication code against the non-communicating LIN device.

Conditions for Running the DTC

The system voltage is between 9 - 16 V.

Conditions for Setting the DTC

A supervised periodic message that includes the transmitter device availability has not been received.

Action Taken When the DTC Sets

Specific subsystems will not function.

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.

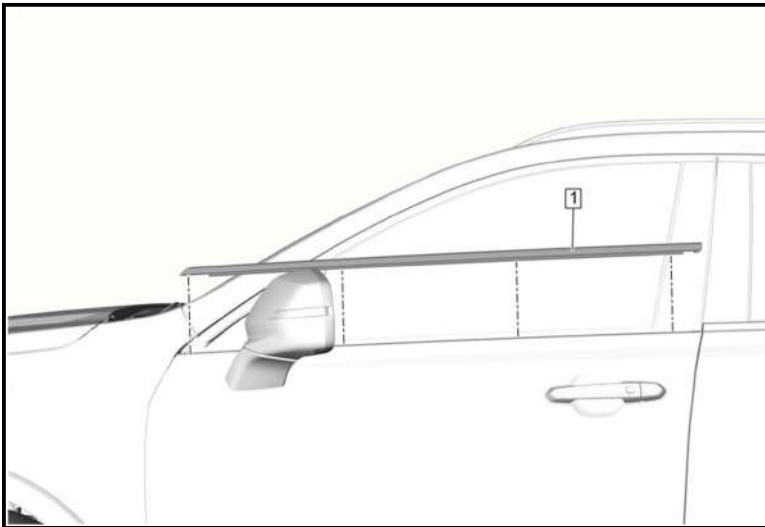
Diagnostic Aids

- Sometimes, while diagnosing a specific customer concern or after a repair, you may notice a history U code present. However, there is no associated "current" or "active" status. Loss of communication U codes such as these can set for a variety of reasons. Many times, they are transparent to the vehicle operator and technician, and/or have no associated symptoms. Eventually, they will erase themselves automatically after a number of fault-free ignition cycles. This condition would most likely be attributed to one of these scenarios:
 - A device on the data communication circuit was disconnected while the communication circuit is awake.
 - Power to one or more devices was interrupted during diagnosis.
 - A low battery condition was present, so some devices stop communicating when battery voltage drops below a certain threshold.
 - Battery power was restored to the vehicle and devices on the communication circuit did not all re-initialize at the same time.
 - If a loss of communication U code appears in history for no apparent reason, it is most likely associated with one of the scenarios above. These are all temporary conditions and should never be

CAUTION: Refer to [Fastener Caution](#) .

Place the bottom of the front side door window frame rear applique (2) down into the door panel first, then push the top of the rear side door window frame rear applique into the top retaining clip until seated.

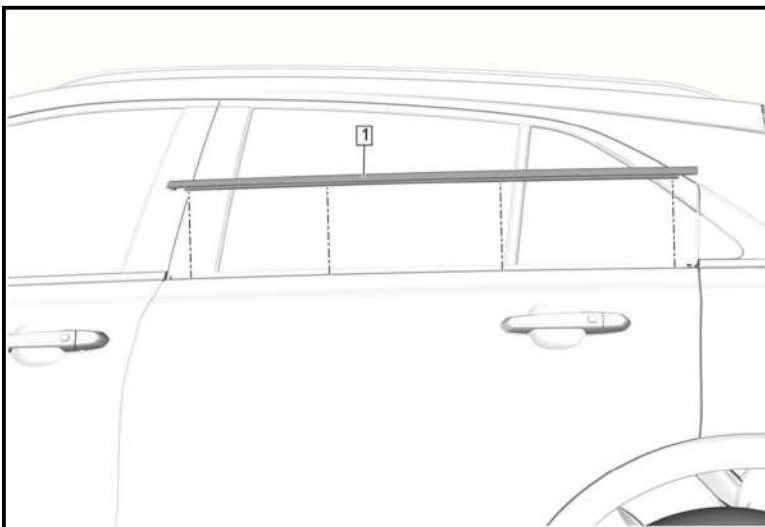
2. Front Side Door Window Frame Rear Applique Bolt (1) - Install and tighten [2x] 2.5 N.m (22 lb in)



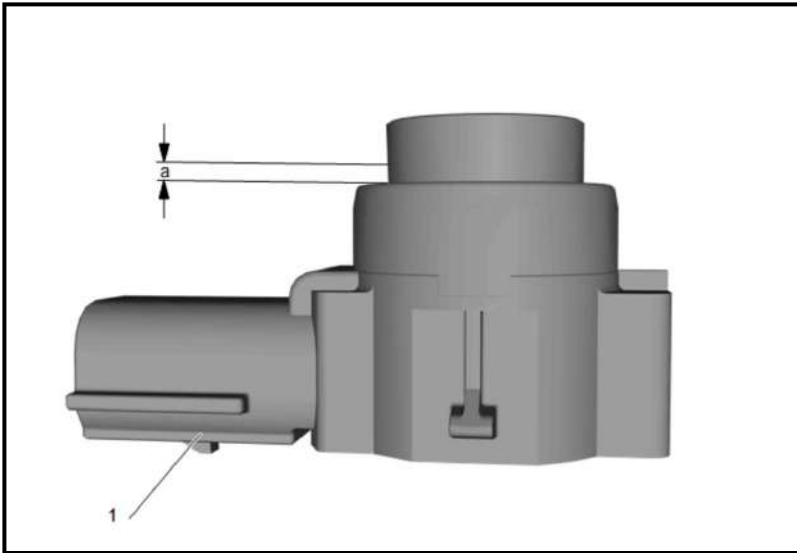
3. Front Side Door Window Belt Reveal Molding (1) - Install - [Front Side Door Window Belt Reveal Molding Replacement](#)

REAR SIDE DOOR WINDOW FRAME FRONT APPLIQUE REPLACEMENT

Removal Procedure



1. Rear Side Door Window Belt Reveal Molding (1) - Remove - [Rear Side Door Window Belt Reveal Molding Replacement](#)

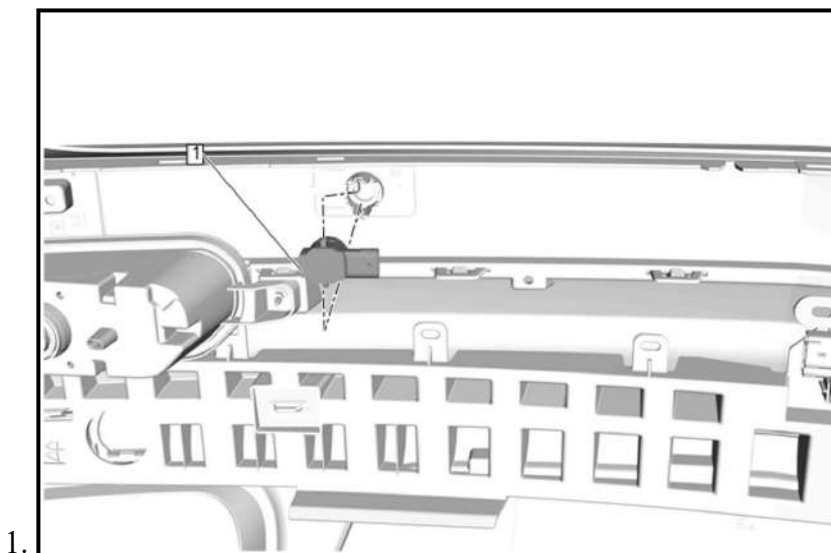


NOTE: Do not refinish previously painted sensors. Excess paint build up will cause the sensor to be inoperative.

Pay attention not to scratch sensor (1), sensor already comes prepared to be spray painted.

- Do not sand or prep the sensor head with a Scotch-Brite pad, sensor does not need to be sanded to be spray painted. Use only approved pre clean solvent from your paint manufacturer.
- Mask off the sensor 1/4 in up the sensor shaft (a) from the body of sensor and mask the remainder of the sensor body that will not be painted.
- Apply paint, paint thickness shall not exceed 4.4 mils of paint to the head of the sensor using care to ensure the sides maintain the same paint film thickness as the top.
- Verify paint film with a wet film paint thickness gauge or with a DeFelsko Positector 200B dry film ultrasonic paint thickness gauge.
- Follow the drying conditions of the paint manufacturer before proceeding installation.

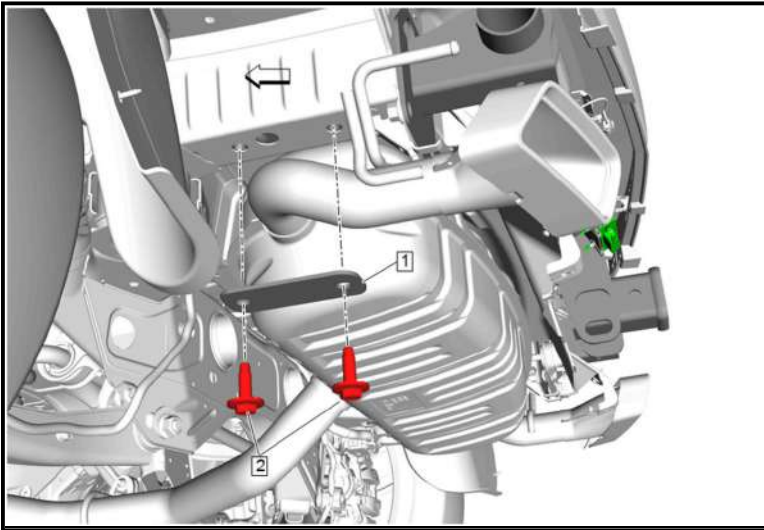
Installation Procedure



NOTE: Ensure the silicone decoupling ring is installed on the sensor to avoid sensor failure.

Insert the sensor (1) into the housing.

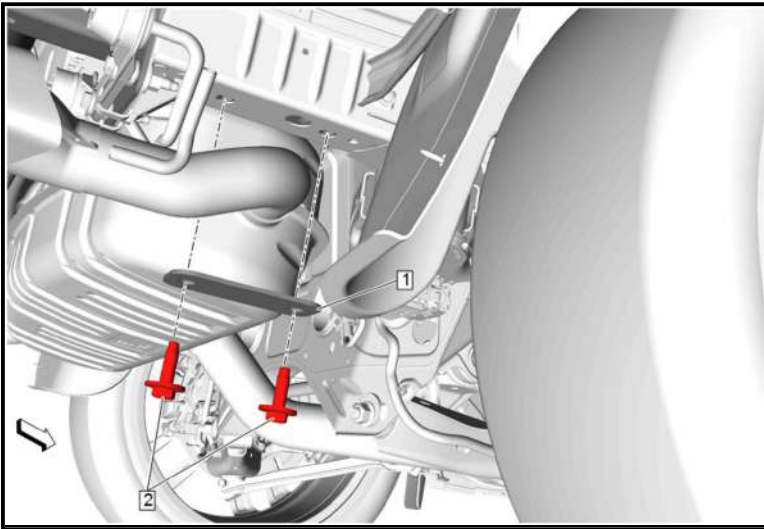
2. Connect the electrical connector.



4.

Trailer Hitch Platform Bolt (2) - Remove [2x]

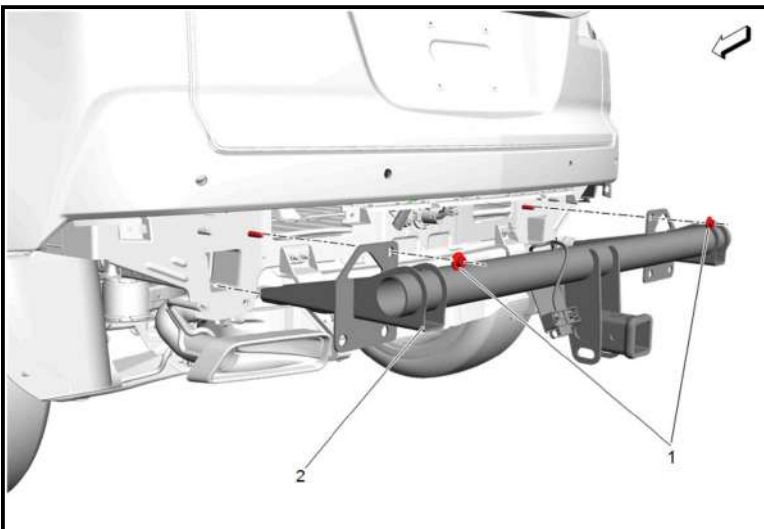
5. Trailer Hitch Platform Reinforcement Plate (1) - Remove



6.

Trailer Hitch Platform Bolt (2) - Remove [2x]

7. Trailer Hitch Platform Reinforcement Plate (1) - Remove



8.

Trailer Hitch Platform Nut (1) - Remove [2x]

9. Trailer Hitch Platform (2) - Remove

Conditions for Setting the DTC

- Air in the system
- Brakes Worn Unevenly
- Brake Fluid - Leaking External
- Brake Fluid - Leaking Internal

Actions Taken When the DTC Sets

Malfunction Indicator Lamp (MIL) = ON

Conditions for Clearing the DTC

The conditions for setting the DTC no longer exist.

Reference Information

Schematic Reference

Antilock Brake System Wiring Schematics

Connector End View Reference

Master Electrical Component List , or Component Connector End Views - Index

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition - On/Vehicle - In Service Mode
2. Perform the scan tool control function: Brake Hydraulics Test
 - **If the procedure/test does not pass**
Refer to: Hydraulic Brake System Bleeding
 - **Go to next step: If the procedure/test passes**
3. Ignition/Vehicle & All vehicle systems - Off - For greater than 2 min
4. Ignition - On/Vehicle - In Service Mode
5. Verify DTC C2A17 is not set.
 - **If DTC C2A17 is set**
Test or replace the component: A104 Brake Master Cylinder
 - **Go to next step: If DTC C2A17 is not set**
6. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair: Diagnostic Repair Verification

- If less than 2 Ω , replace the K47 Rear Differential Clutch Control Module.
- **If greater than 4.8 V**
 1. Ignition OFF, disconnect the X2 harness connector at the K47 Rear Differential Clutch Control Module, Ignition ON/Vehicle in Service Mode.
 2. Test for less than 1 V between the appropriate signal circuit terminal and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K47 Rear Differential Clutch Control Module.
- **Go to next step: If between 4.4 - 4.8 V**
- 6. Test or replace the M32 Differential Clutch Pump.

Repair Instructions

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

- [Differential Carrier Assembly Replacement](#) for M32 Differential Clutch Pump.
- [Control Module References](#) for control module replacement, programming and setup.

DTC C1260-C1267

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 C1260 00

Power Transfer Unit Clutch Position Sensor Circuit High Voltage

DTC C1261 00

Power Transfer Unit Clutch Position Sensor Circuit Low Voltage

DTC C1262 00

Power Transfer Unit Clutch Position Sensor Circuit

DTC C1263 00

Power Transfer Unit Clutch Position Sensor Signal Circuit High

DTC C1264 00

Power Transfer Unit Clutch Position Sensor Signal Circuit Low

DTC C1265 00

Power Transfer Unit Clutch Position Sensor Signal Circuit

DTC C1266 00

Power Transfer Unit Clutch Position Sensor Signal Circuit Incorrect

DTC C1267 00

Power Transfer Unit Clutch Position Sensor Signal Out Of Range

Diagnostic Fault Information

Harness Name	Callout
J201 Instrument Panel Harness	10
X210 Instrument Panel Harness to Body Harness X210 Instrument Panel Harness to Body Harness	11
X211 Instrument Panel Harness to Body Harness X211 Instrument Panel Harness to Body Harness	12
J204 Instrument Panel Harness (UV6)	13
J234 Instrument Panel Harness	14
J209 Instrument Panel Harness	15
X300 Floor Console Harness to Instrument Panel Harness X300 Floor Console Harness to Instrument Panel Harness	16
X302 Floor Console Harness to Instrument Panel Harness X302 Instrument Panel Harness to Floor Console Harness	17
J202 Instrument Panel Harness (KEM and KI3)	18
X212 Instrument Panel Harness to Body Harness X212 Instrument Panel Harness to Body Harness	19
J221 Instrument Panel Harness	20
X216 Instrument Panel Harness to Body Harness (UV2/UVB) X216 Instrument Panel Harness to Body Harness (UV2/UVB)	21
X220 Instrument Panel Harness to Body Harness X220 Instrument Panel Harness to Body Harness	22
J211 Instrument Panel Harness (V92)	23
J216 Instrument Panel Harness	24

Center Console Harness Routing

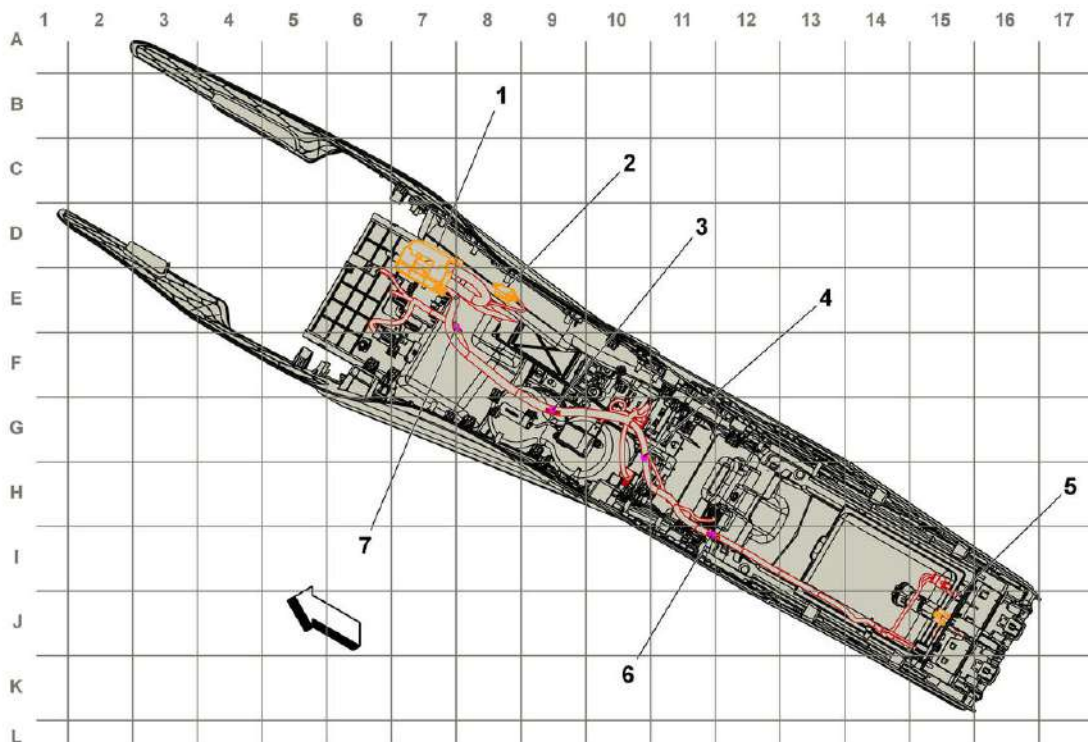
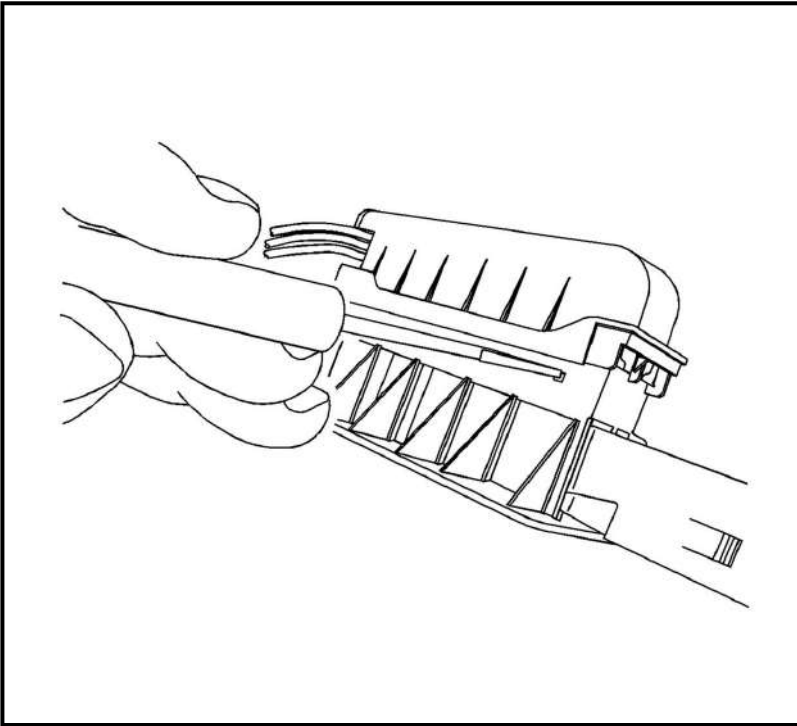


Fig. 10: Center Console Harness Routing
 Courtesy of GENERAL MOTORS COMPANY

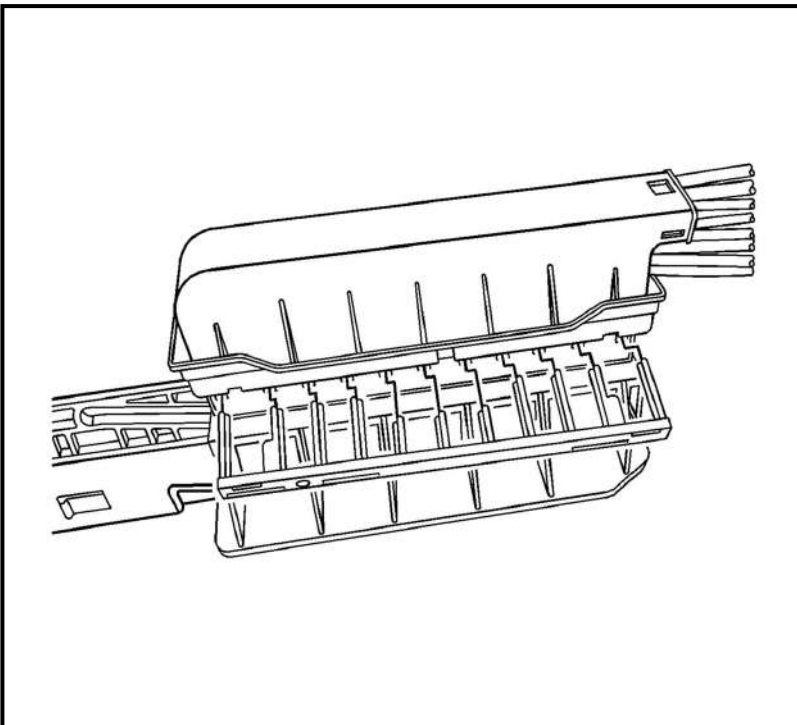
3.



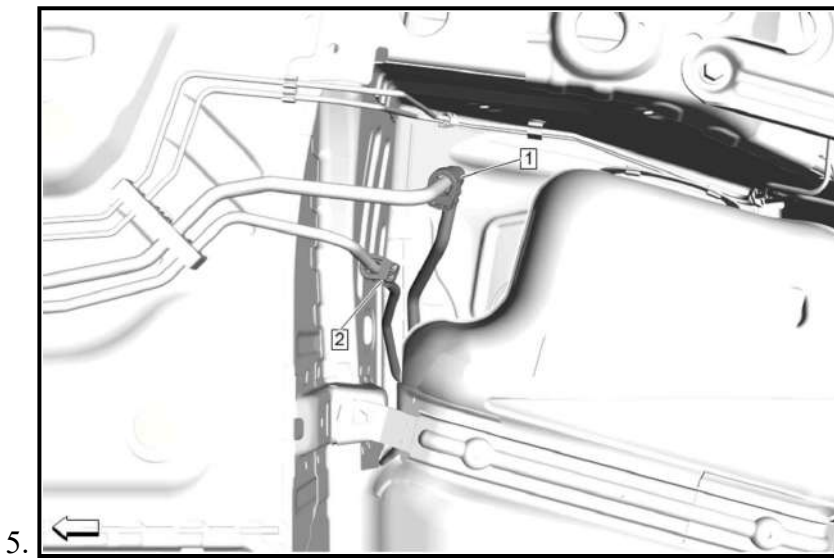
NOTE: Terminal position assurance (TPA) is keyed and can only be inserted in one direction.

Using terminal release tool J-38125-11A or equivalent, push the TPA tabs into the connector body.

4.



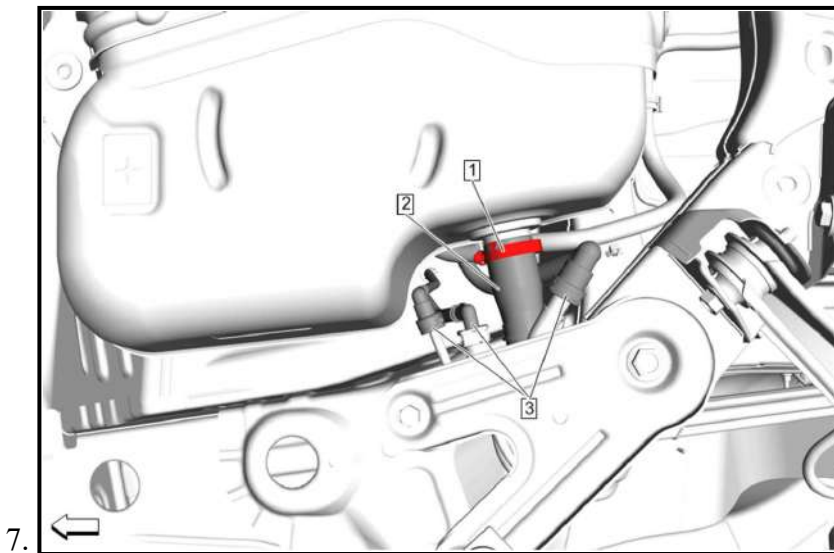
Pull the TPA from the connector body.



5.

Fuel Feed Pipe (2) - Connect - [Plastic Collar Quick Connect Fitting Service](#)

6. Fuel Tank Vent Pipe (1) - Connect - [Plastic Collar Quick Connect Fitting Service](#)

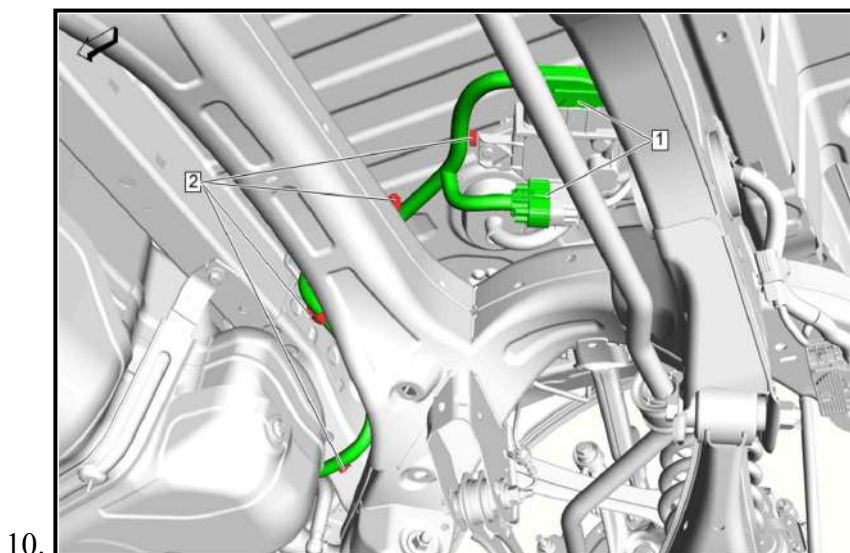


7.

Fuel Tank Vent Pipe (3) - Connect [3x] - [Plastic Collar Quick Connect Fitting Service](#)

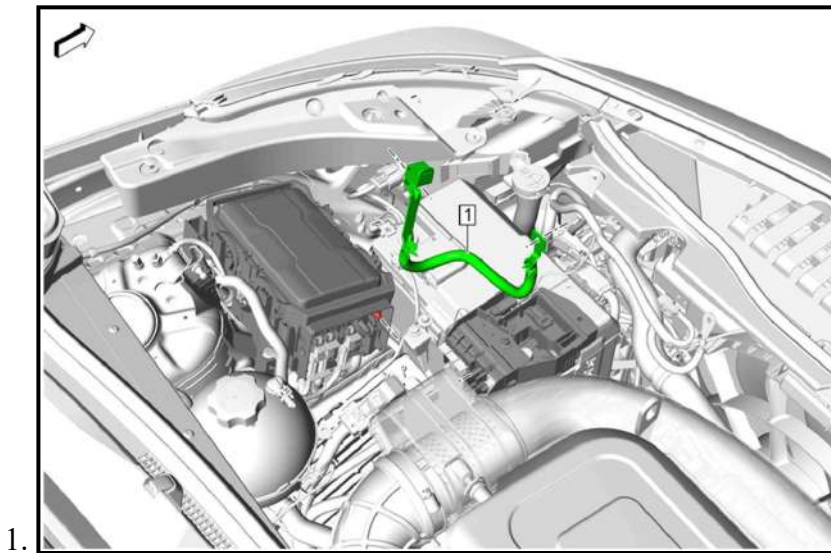
8. Fuel Tank Filler Hose (2) - Install

9. Fuel Tank Filler Hose Clamp (1) - Tighten 3.5 N.m (31 lb in)

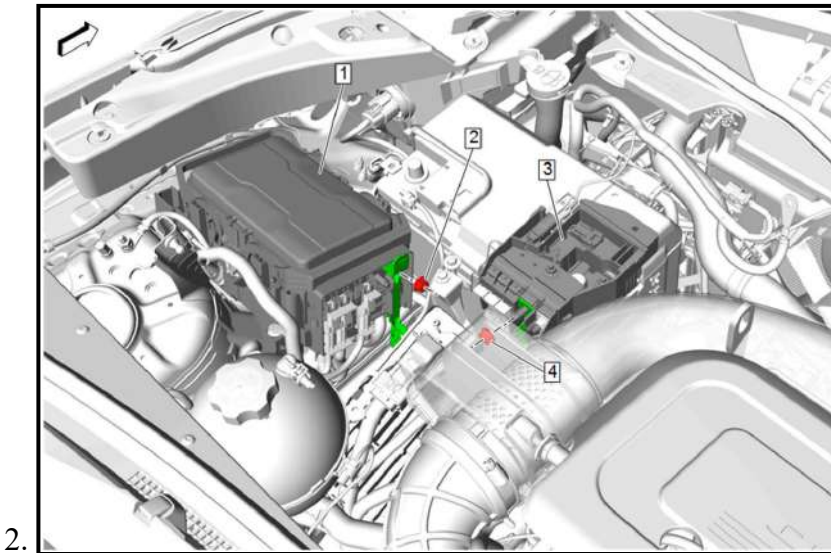


10.

Installation Procedure

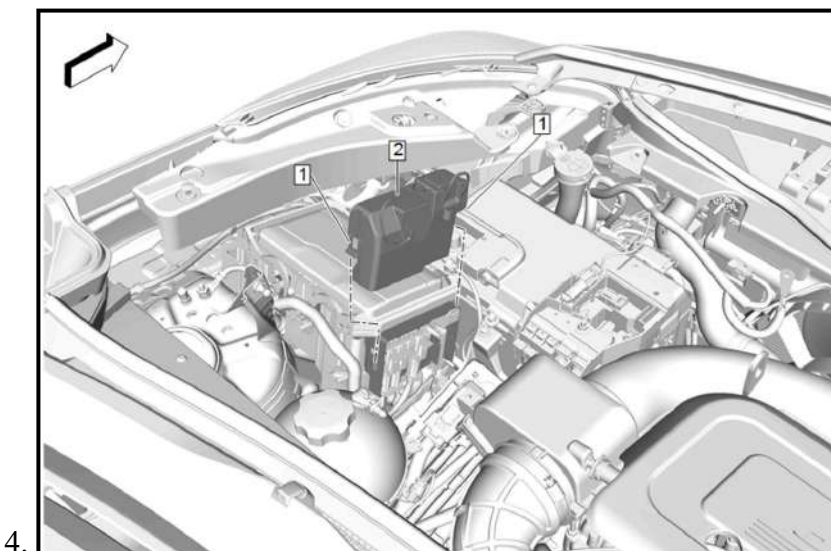


1. Battery Positive Junction Block Cable (1) - Install

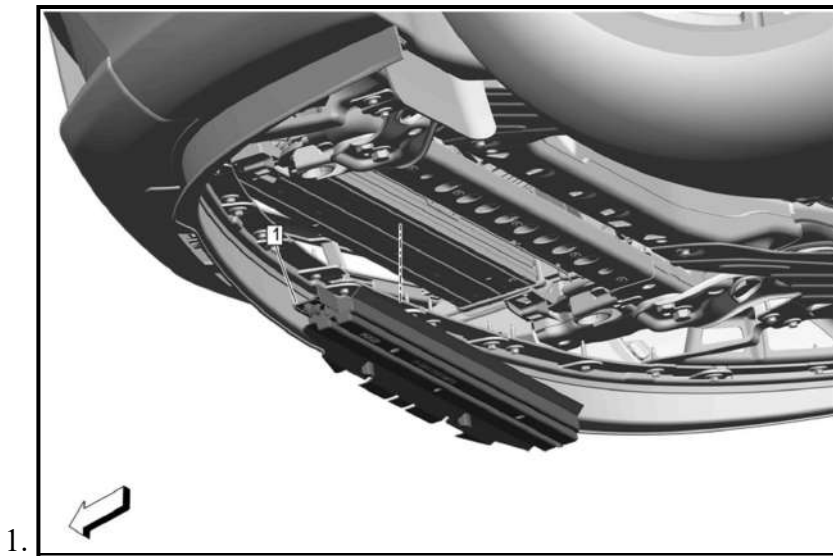


2. Battery Positive Cable Nut (4) @ Battery Distribution Engine Compartment Fuse Block (3) - Install - [Battery Distribution Engine Compartment Fuse Block Replacement](#)

3. Battery Positive Cable Nut (2) @ Engine Wiring Harness Junction Block (1) - Install - [Engine Wiring Harness Junction Block Replacement](#)



4.



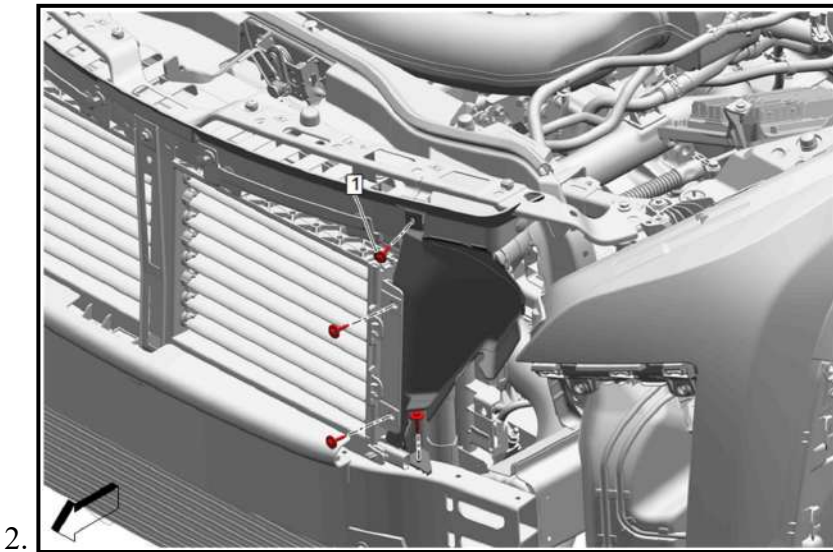
1. Radiator Air Lower Baffle (1) - Install

2. Front Compartment Air Deflector- Front - Install - [Front Compartment Air Deflector Replacement - Front](#)

RADIATOR AIR SIDE UPPER BAFFLE REPLACEMENT - LEFT SIDE

Removal Procedure

1. Front Bumper Fascia - Remove - [Front Bumper Fascia Removal and Installation](#)



2. Radiator Air Side Baffle Bolt (1) - Remove [4x]

Step	Action	Yes	No
	4. Allow the engine to idle to normal operating temperature. 5. Select the maximum blower speed. 6. Select the Instrument panel air outlet mode. 7. Select the coldest temperature setting. 8. Cycle through all of the blower speeds, modes and temperatures to define what type of odor is present. <ul style="list-style-type: none"> • Musty smell • Coolant smell • Oil smell Does the odor have a musty smell?		
6	Inspect the air inlet grille and passenger compartment air filter for signs of water and debris. Is there debris or signs of water present?	Go to Step 7	Go to Step 8
7	Remove any debris and replace the passenger compartment air filter. Is the repair complete?	Go to Step 19	-
8	Inspect for water leaks and a wet carpet. Is there a water leak or wet carpet?	Go to Step 9	Go to Step 17
9	Perform a water leak test to identify area of the leak. Inspect for the following areas for water leaks: <ul style="list-style-type: none"> • Blockage of the evaporator and blower module drain upper hose. • Water leaks around the windshield • Open body seams, grommets and seals • Sunroof drain tubes • Leaks around the door seals Is a leak present?	Go to Step 10	Go to Step 17
10	Repair the leak as necessary. Is the repair complete?	Go to Step 19	-
11	Does the odor have a coolant smell?	Go to Step 12	Go to Step 15
12	Inspect the external cooling system for leaks and repair. Loss of Coolant Was there external coolant leak found?	Go to Step 19	Go to Step 13
13	Inspect for coolant leaking inside the vehicle or for a film build-up on the windshield. Is the condition present?	Go to Step 14	Go to Step 19
14	Replace the heater core. Heater Core Replacement Is the repair complete?	Go to Step 19	-
15	Does the odor have an oily smell?	Go to Step 16	Go to Step 19
16	1. Inspect the engine compartment for oil leaks. <ul style="list-style-type: none"> • for a LSQ engine, refer to Oil Leak Diagnosis • for a LSY engine, refer to Oil Leak Diagnosis 2. Inspect for transmission fluid leaks: M3H or MJD Automatic transmission: refer to Fluid Leak Diagnosis 3. Repair any oil leaks.	Go to Step 19	-