



# Service Bulletin

## TECHNICAL

**Subject:** Loss of High Speed GMLAN Communications, Intermittent No Crank, IP Gage Fluctuation, Intermittent Door Lock Cycling, Intermittent Chime Operation, Various IP Warning Lamps Illuminated, Transmission May Not Shift, Engine May Stall, Communication DTCs U0073, U0100, U0101, U0102, U0109, U0121 or U0140 Set (Repair Terminals in Transmission Harness Connector, Repair Open or Shorted GM High Speed LAN Circuits, Open or Shorted Data Link Resistor, Corrosion or Poor Connections in Various Control Module Connectors)

**Models:** 2007-2009 Cadillac XLR  
2007-2014 Cadillac Escalade Models  
2009-2013 Cadillac Escalade Hybrid  
2007-2013 Chevrolet Avalanche, Silverado 1500  
2007-2014 Chevrolet Corvette, Silverado 2500/3500, Suburban, Tahoe  
2008-2013 Chevrolet Silverado Hybrid, Tahoe Hybrid  
2007-2013 GMC Sierra 1500  
2007-2014 GMC Sierra 2500/3500, Yukon Models  
2008-2013 GMC Sierra Hybrid, Yukon Hybrid  
2008-2009 HUMMER H2  
Equipped With Gasoline Engine and 6 Speed Automatic Transmission 6L80 (RPO MYC) or 6L90 (RPO MYD)  
Equipped With Hybrid Propulsion (RPO HP2) and Two Mode 2ML70 Automatic Transmission

**Attention:** As of the 2015 calendar year, the Data Bus Diagnostic Tool is available to assist in diagnosing issues with High Speed LAN. Refer to the Data Bus Diagnostic Tool User Guide, available in SI under Select and View a User Guide on the base screen. If after using the Data Bus Diagnostic Tool, the cause of the issue has not been found, continue with this bulletin which covers common areas of possible concern. This Bulletin also applies to any of the above models that may be Export vehicles.

*This Bulletin has been revised to add Model Years and update the information. Please discard Corporate Bulletin Number 08-07-30-021G.*

### Condition

Some customers may comment on any of the following conditions:

- The malfunction indicator lamp (MIL) may be illuminated.
- Instrument panel cluster (IPC) warning lamps may illuminate.
- The transmission may not shift or defaults to 2nd gear.
- The door locks may cycle by themselves.

- The engine may not crank intermittently.
- Engine may stall (applies to Corvette, Hybrid Full Size Truck models)
- A driver information center (DIC) message may be displayed.
- The IPC gages may fluctuate.
- Applying the brakes may cause the IPC to become erratic and the chimes to operate simultaneously.
- Engine cooling fan runs continuously causing dead 12v Battery.
- Malfunction Indicator Lamp flickers or is dim.

Depending on the vehicle and build, technicians may find one or more, but not limited to the following, High Speed GMLAN Communication DTCs set as Current or History:

- P0700: Transmission Control Module (TCM) Requested MIL Illumination
- U0073: Control Module Communications Bus OFF
- U0100: Lost Communication With ECM/PCM
- U0101: Lost Communication With Transmission Control Module (TCM)
- U0102: Lost Communication with Transfer Case Control Module (TCCM)
- U0109: Lost Communication With Fuel Pump Control Module
- U0121: Lost Communication With ABS Control Module
- U0140: Lost Communication With Body Control Module (BCM)
- U186B: Lost Communication With TCM
- U0129 : Lost Communication with Brake System Control Module
- U186B: Lost Communication with TCM
- U0293: Lost Communication with HP2 Powertrain Control Module
- U1862: Battery Energy Control Module Lost Communication with Communications Gateway Module
- U1876: Drive Motor Control Module A Lost Communication With Engine Control Module (ECM)
- U1879: Drive Motor Control Module B Lost Communication With Engine Control Module (ECM)
- U1886: Battery Energy Control Module Lost Communication with Engine Control Module (ECM)
- U1888: Hybrid Powertrain Control Module Lost Communication With Starter/Generator Control Module

## Cause

These conditions may be caused by, but not limited to, any of the following:

- Chafed, damaged, pinched, open or shorted wiring.
- The terminal(s) for the High Speed GMLAN Serial Data Bus has or have backed out of the 16-way electrical connector to the automatic transmission.
- The terminal position assurance (TPA) lock in the transmission 16-way electrical connector is not fully seated.
- The High Speed GMLAN Serial Data Bus circuits are open or shorted to ground.
- Corrosion in a control module connector.
- Intermittent or poor connections in the inline connectors containing the High Speed GMLAN Serial Data Bus circuits.
- Water intrusion in a control module connector.

**Note:** Model Year 2007 vehicles.

- The Terminator Resistor is open or shorted.

**Note:** Model Year 2008 Sierra and Silverado vehicles.

- The Data Link Resistor is open or shorted.

**Note:** Model Year 2009 and newer Sierra and Silverado vehicles.

- The Data Link Resistor 1 is open or shorted.

**Note:** Model Year 2008 and newer Avalanche, Escalade, Tahoe, Yukon vehicles.

- The Data Link Resistor 1 is open or shorted.

**Note:** Model Year 2008 and newer Hybrid RPO HP2 vehicles.

- The Data Link Resistor 2 (RPO HP2) is open or shorted.

**Note:** The following cause only pertains to hybrid RPO HP2 vehicles equipped with OnStar® Delete RPO UE0.

- The High Speed GMLAN jumper harness loop connector that plugs into the bottom rear of the interior driver side junction block, is open or shorted from chafing on the IP brace.

## Correction

**Note:** As of the 2015 calendar year, the Data Bus Diagnostic Tool is available to assist in diagnosing issues with High Speed LAN. Refer to the Data Bus Diagnostic Tool User Guide, available in SI under Select and View a User Guide on the base screen. If after using the Data Bus Diagnostic Tool, the cause of the issue has not been found, continue with this bulletin which covers common areas of possible concern.

Do This	Don't Do This
Repair or replace any backed out or damaged transmission connector terminal(s) as necessary.	<b>DO NOT replace any control module, wiring harness or component until you have first isolated the cause of the condition or followed this procedure in its entirety.</b>
Ensure that the transmission connector TPA is fully seated (TPA is centered in check window).	
Repair the High Speed GMLAN Serial Data Bus circuits that are open, shorted to ground or have poor connections.	
Repair the corrosion or water intrusion condition in the affected module connector.	
Replace the Terminator Resistor that is open or shorted.	
Replace the Data Link Resistor 1 or Data Link Resistor 2 (RPO HP2 vehicles only) that is open or shorted.	
Repair the junction block jumper harness loop connector wiring that is open or shorted. (RPO HP2 Vehicles equipped with OnStar® Delete RPO UE0 Only).	

## Information for the Procedures to Diagnose and Repair the Above Conditions

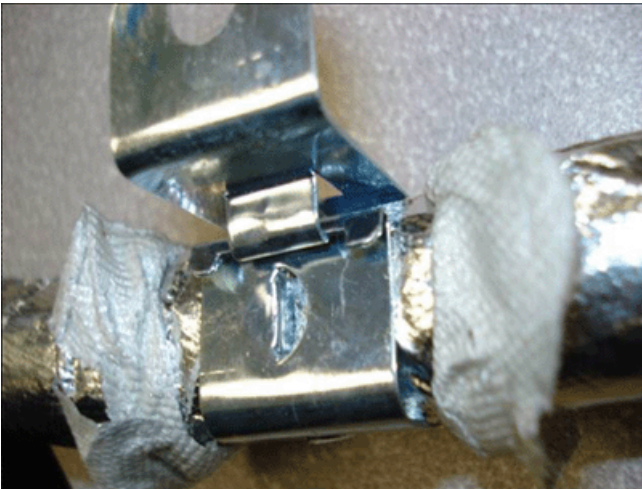
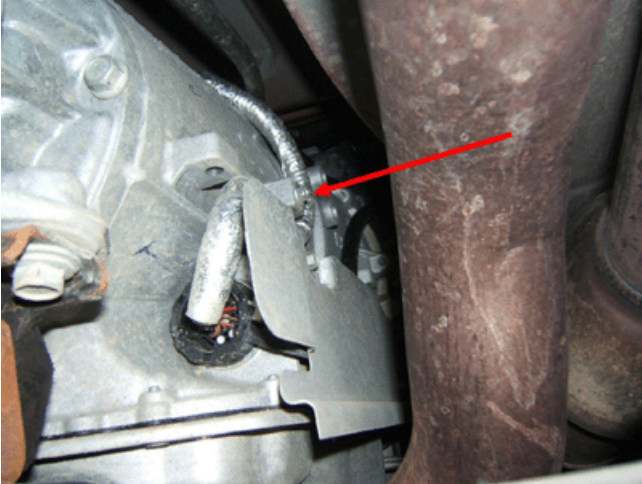
1. Perform the Diagnostic System Check-Vehicle to begin your diagnosis.
2. Perform a thorough visual inspection of the vehicle.
3. Depending on the vehicle and vehicle build, some of the procedures may not be applicable.

**Note:** The following procedure is the only one applicable to the Corvette and XLR.

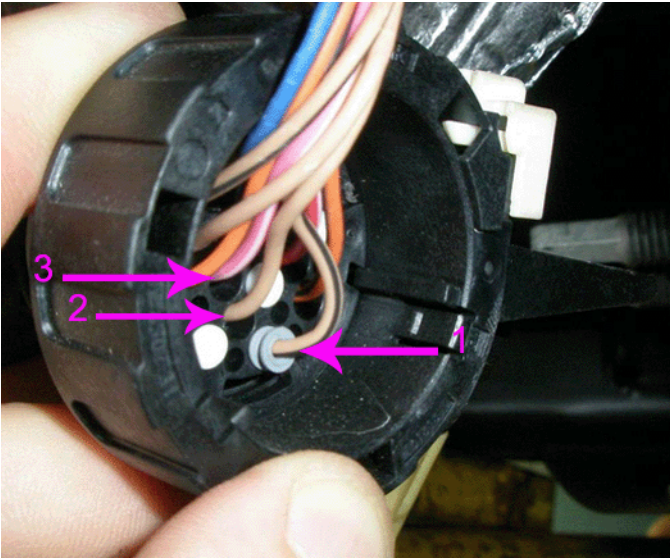
## Chafed Wiring Harness at Transmission Case Retaining Clip and Inspection of the 16-way Electrical Connector for Backed Out Terminals

**Note:** This is the Only procedure which applies to Corvette and XLR.

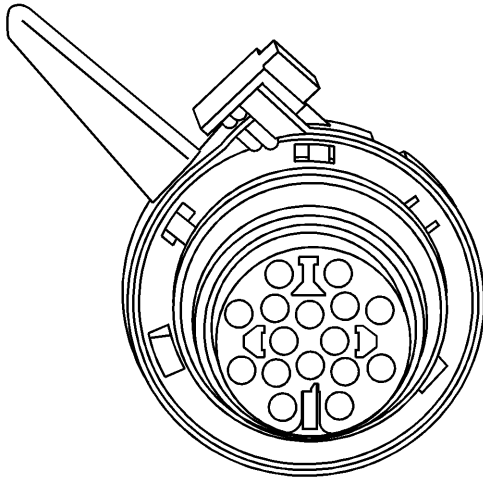
1. Turn OFF the ignition and all accessories.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in SI.



3. Locate the 16-way electrical connector on the right side of the automatic transmission as shown.
4. Inspect for chafed, damaged, pinched, open or shorted wiring within the conduit of the harness where it is secured at the transmission by a metal attachment clip as shown. Inspect any wiring harness where these metal attachment clips are used on the vehicle as needed.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the conduit by covering any sharp edge with butyl tape and the conduit and wiring harness with woven polyester (PET) electrical tape. Secure the harness as needed.

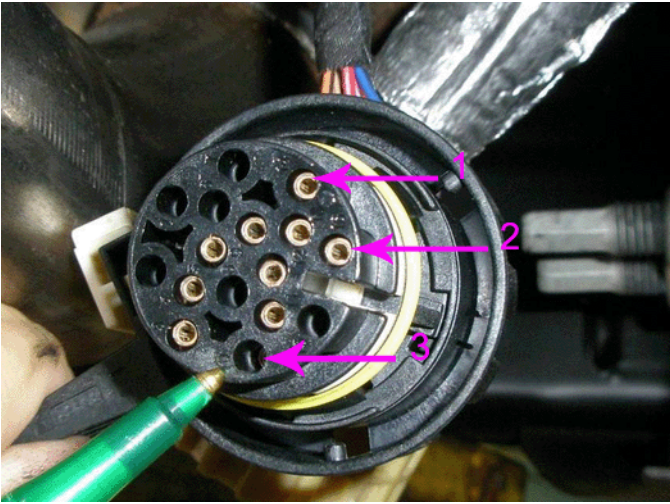


5. **Before** disconnecting the 16-way connector, **inspect** for any backed out terminals (1) as shown. Fully seated terminals (2,3) are shown for comparison.
  - 5.1. If a backed out terminal (1) is found, identify the terminal(s) on the **repair order**.
  - 5.2. Look at the connector in order to identify the number of the cavity with the backed out terminal. Refer to Wiring Systems and Power Management > Component Locator > Master Electrical Component List in SI.

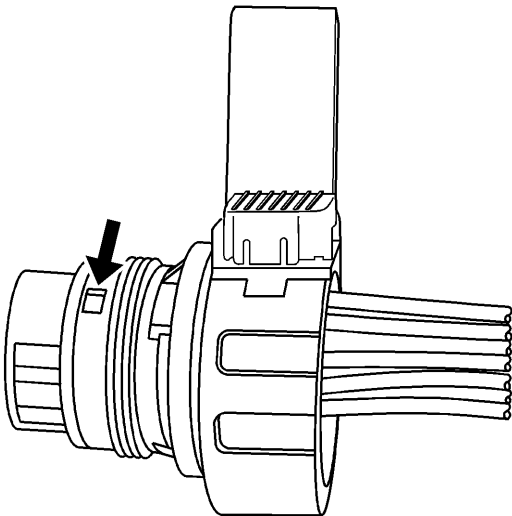


**Note:** For 2ML70 Only: Disconnect the 4WAL electrical connector.

6. Use the following procedure to disconnect the 16-way electrical connector:
  - 6.1. Release and hold the slide lock on the wiring harness connector.
  - 6.2. Rotate the connector lever and remove the connector from the component.

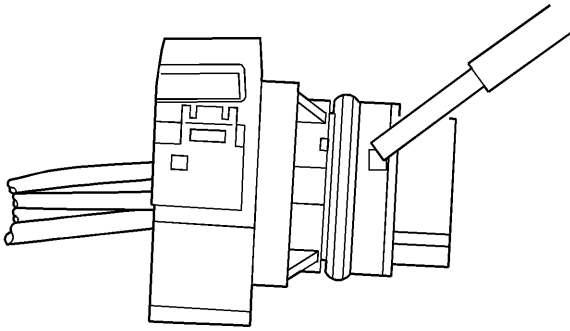


7. **Inspect** for any backed out terminals (3) as shown. Fully seated terminals (1,2) are shown for comparison.
  - 7.1. If a backed out terminal (3) is found, identify the terminal(s) on the **repair order**.
  - 7.2. Look at the connector in order to identify the number of the cavity with the backed out terminal. Refer to Wiring Systems and Power Management > Component Locator > Master Electrical Component List in SI.
8. Repair or replace the terminal(s) as necessary using the following procedure:

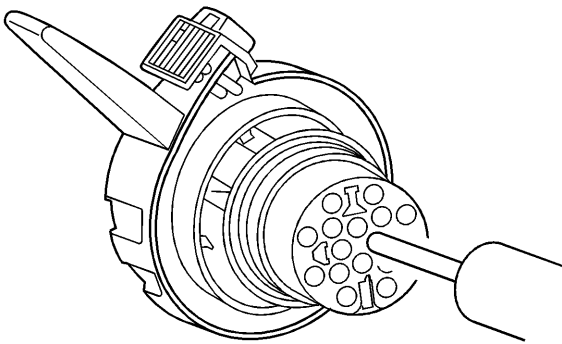


- 8.1. Locate the terminal position assurance (TPA) as shown.

**Note:** The TPA cannot be removed from the connector while there are terminals present in the connector body.



8.2. Use a small flat blade tool to push the TPA until it bottoms out.



8.3. See the release tool cross reference in the Reference Guide of the J-38125 to ensure that the correct release tool is used. Use the J-38125-28 tool to release the terminals by inserting the tool into the terminal cavity as shown.

8.4. While holding the removal tool in place, **gently** pull the wire out of the back of the connector.

**Note:** If the female terminal(s) must be replaced, it is part number 22124472200. It is located in Yazaki tray number 12 in the J-38125 Terminal Repair Kit.

8.5. Repair or replace the terminal(s) as needed. Refer to the instructions in the J-38125 manual.

9. If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI.

10. Slide the new terminal(s) into the correct cavity at the back of the connector until it locks in place. The new terminal(s) should be even with the other terminal(s).

11. Ensure that each terminal is locked in place by **gently** pulling on the wire.

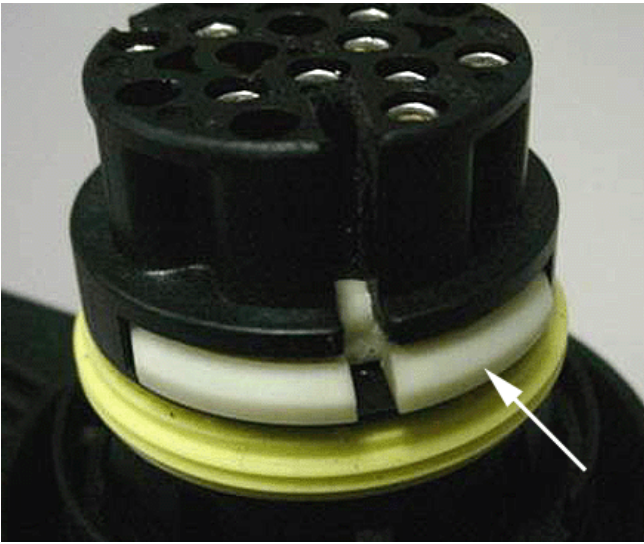
**Note:** The male terminal(s) cannot be repaired as they are an integral part of the transmission control module (TCM).

12. Inspect for bent or misaligned terminal(s) in the transmission half of the electrical connector.

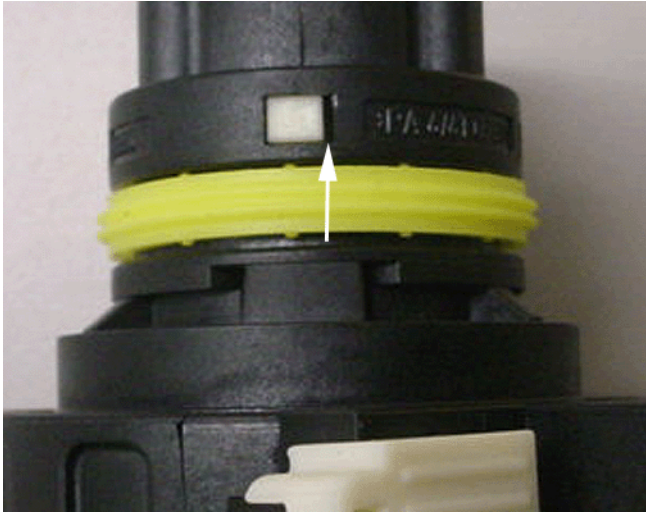
⇒ If they are bent, use a suitable tool and apply gentle pressure to straighten them. Indicate on the repair order the terminal number that was bent.

⇒ If they are damaged, replace the TCM. Refer to Control Solenoid Valve and Transmission Control Module Assembly Replacement in SI.

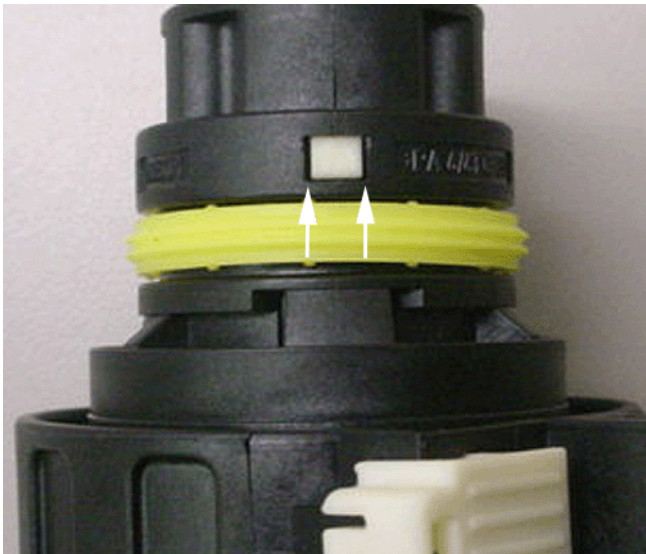
13. Prior to installing the transmission connector, perform the following steps to ensure that the TPA lock is fully seated.



Locate the TPA lock in the reassembled transmission connector. Refer to the arrow in the illustration above, which points to a TPA lock. This one is in an unseated position. Using a small flat blade tool, push to seat the TPA until it bottoms out. Verify the TPA is fully seated.



- If the TPA is off-center in the check window as shown, then it is only partially seated. Note the large gap at the arrow. Reseat the TPA lock and ensure that it is fully seated.



- If the TPA lock is centered in the window as shown, then it is fully seated. The gaps shown by the arrows should be even on both sides.

**Note:** For 2ML70 Only: Connect the 4WAL electrical connector.

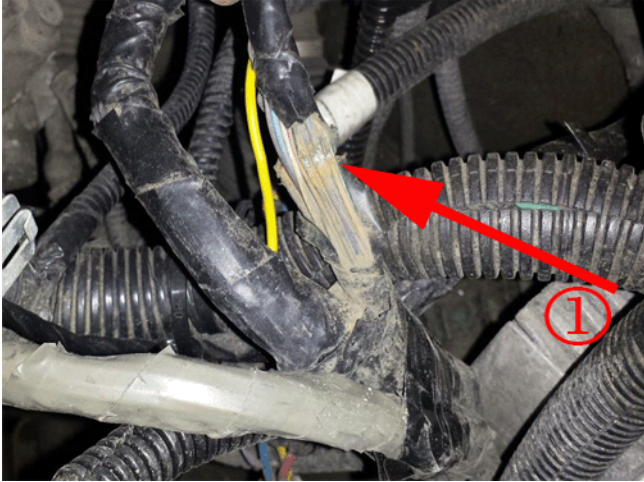
14. Connect the 16-way electrical connector to the transmission.



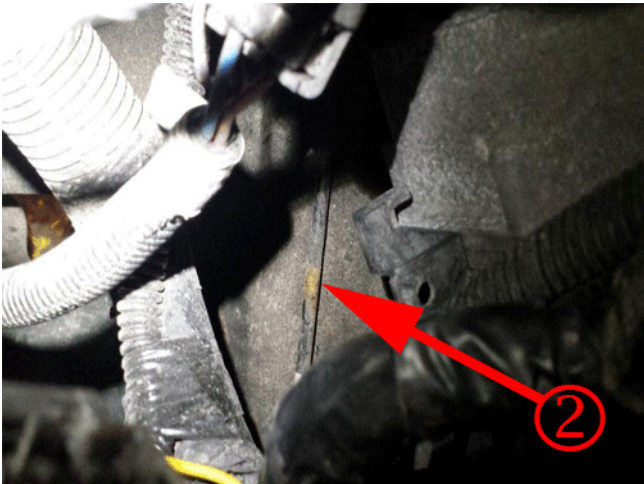
15. Lower the vehicle.
16. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Multiple Wires Cut and/or Corroded Due to Contact Between the Engine Wiring Harness and the Right Front Brake Pipe on the Left Front Frame Rail

1. Turn OFF the ignition and all accessories.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.



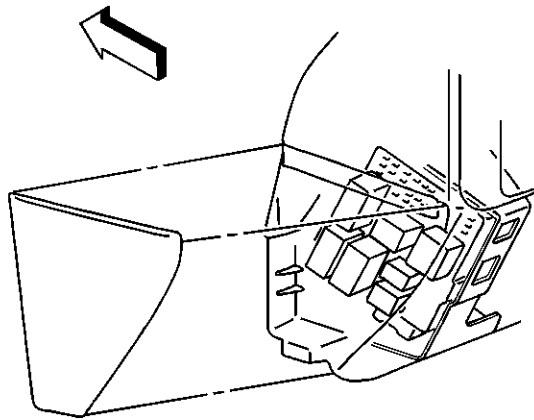
1. Engine Harness



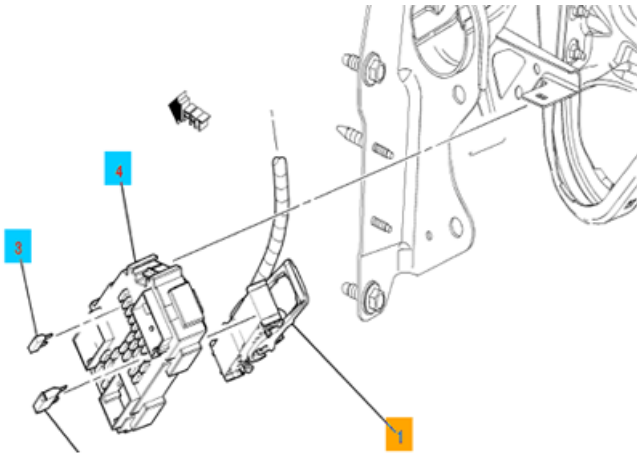
2. Brake Pipe That's Subject to Rubbing
3. Inspect for chafed, damaged, pinched, open or shorted wiring on the engine harness in areas illustrated above.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the harness by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
4. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
5. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Inspection of Fuse Block - I/P (Left Side) for Loose Connector X1

1. Turn OFF the ignition and all accessories.
2. Disconnect the negative battery cable. Refer to Battery Disconnect Caution and Battery Negative Cable Disconnection and Connection in SI.



3. Remove the left side fuse block as shown.



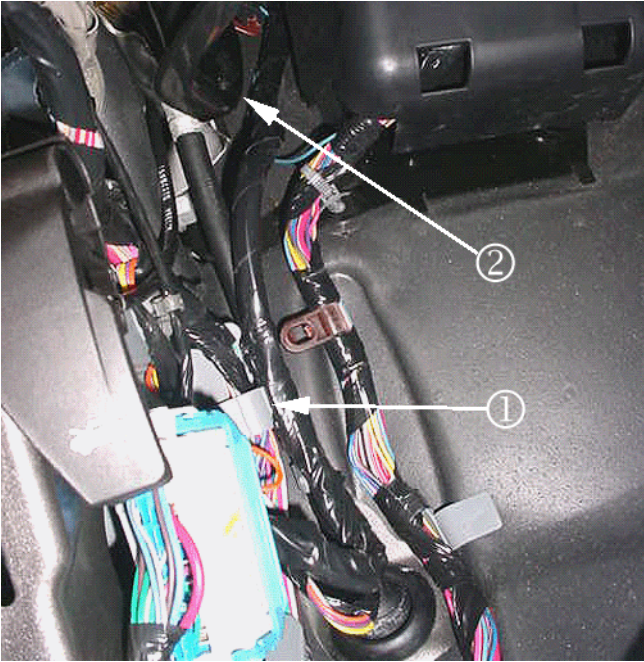
4. Inspect connector X1 (1) on the back of the fuse block for a loose connection. Secure the connector as needed.
5. Install the left side fuse block.
6. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
7. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Chafed IP Wiring Harness Near Park Brake Pedal Assembly

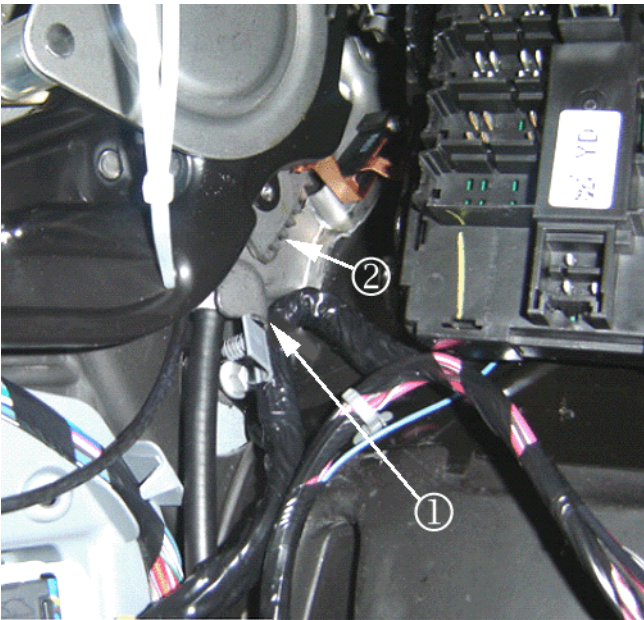
The above condition may cause one or more of the following fuses to open:

- 60A - MBEC1 (#72) (Underhood)
- 30A - AMP (#40) (Underhood)
- 15A - RDO (#41) (Underhood)
- 10A - IPC (#46) (Underhood)
- 15A - AIR BAG BATT (#51) (Underhood)
- 10A - DSM (Left side of IP)

**Five areas of potential contact have been identified:**



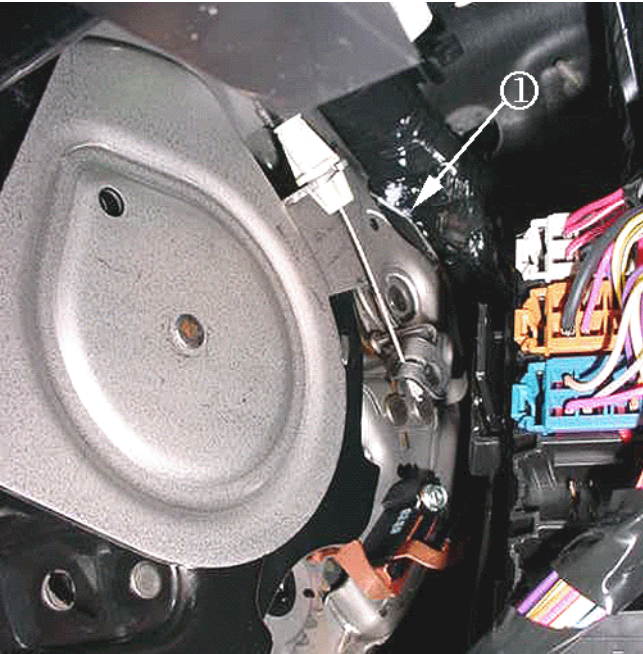
- The IP wiring branch to C202 may have been routed outboard of the junction block (left IP) and the retaining clip (1) off the branch may not have been fully seated. Possible point of contact (2).



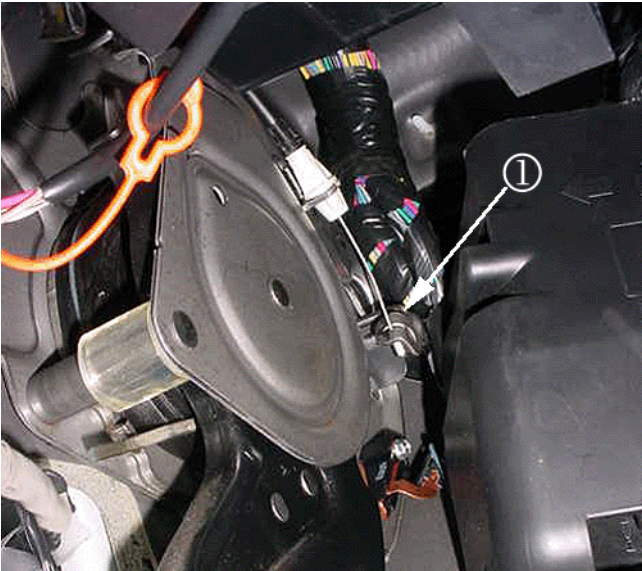
- The IP wiring branch to C202 may have been pushed up and forward into the park brake assembly and the retaining clip off the branch may not have been fully seated. Possible points of contact (1, 2).



- The IP wiring branch to C202 may not have been secured into place as the gray retaining clip (1) off the branch was never seated.



- The IP harness may be in hard contact with the top rear edge (1) of the park brake assembly.



- When releasing the park brake pedal, the moving part (1) at the end of the park brake release cable may be coming into hard contact with the IP harness.

If a condition is suspected or found with one of the circuits running to C1 or C2 of the junction block or to the inline IP-to-body connector C202 or at any of these areas of concern then remove the front driver side door sill plate, driver side body hinge pillar trim panel, left IP outer trim cover and perform the following steps:

1. Turn OFF the ignition and all accessories.
2. Inspect the IP harness for chafed, damaged, pinched, open or shorted wiring at the park brake pedal assembly. Refer to the potential damage points as shown in the photos - at the side and rear of the park brake assembly. Be advised that damage may be covered by electrical tape, or turned away and hid from view.
3. Engage and release the park brake several times. Observe the moving part at the end of the park brake release cable as it may contact and damage the IP harness. Inspect the IP harness at this possible contact point. Note that any damage may be covered by electrical tape and/or hid from view.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the harness by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape.

Engage and release the park brake several times. Verify the harness is no longer making contact with any sharp edge or point of the park brake assembly. If it is still making contact, route it away from the contact point and secure it with tie straps.

Proceed to Step 4.



4. Inspect how the IP branch to C202 is routed. Route the harness as necessary to match the correct routing in the photo as shown. In order to route the IP harness branch correctly (behind the junction block-left I/P), remove the cover from the junction block-left I/P and unseat the junction block from the

bracket.

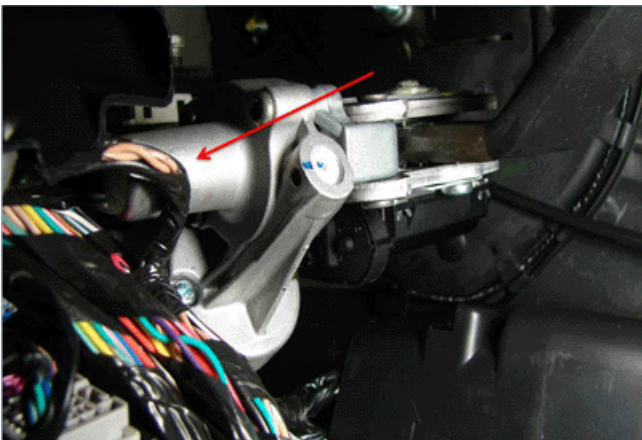
5. Disconnect C202. Route the harness so that it lies between the "goalposts" of the junction block bracket. Seat the junction block to the bracket. The harness will now be under the junction block.
6. Secure the harness by seating the grey offset retaining clip to the dashmat (or brown "buddy clip" if present - usually on SUV's only). Reconnect C202.
7. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Chafed IP Wiring Harness at Left Side Junction Block Mounting Bracket

1. Turn OFF the ignition and all accessories.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
3. Remove the left side junction block. Refer to Instrument Panel Electrical Center or Junction Block Replacement - Left Side in SI.
4. Inspect for chafed, damaged, pinched, open or shorted wiring at the mounting bracket.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the harness by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
5. Replace the left side junction block. Refer to Instrument Panel Electrical Center or Junction Block Replacement - Left Side in SI.
6. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
7. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Chafed Wiring Harness at Adjustable Pedals Motor

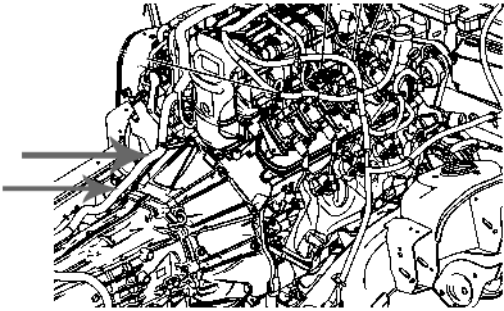
1. Turn OFF the ignition and all accessories.



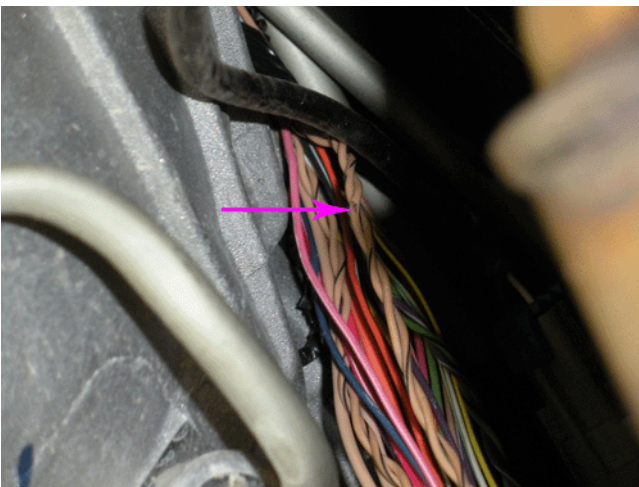
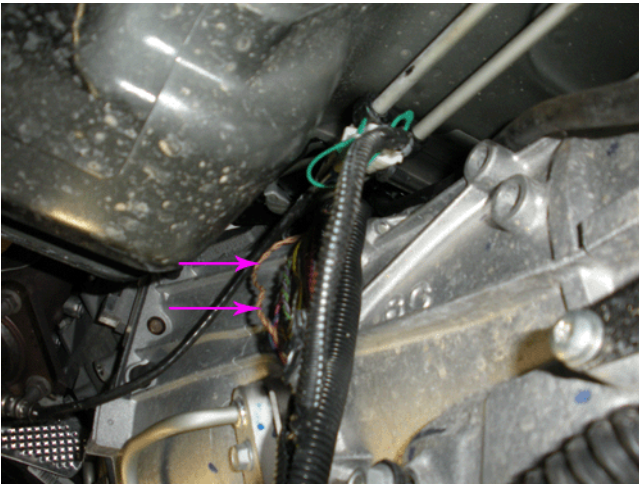
2. Inspect for chafed, damaged, pinched, open or shorted wiring at the adjustable pedals motor as shown.
3. If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
4. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Chafed Wiring Harness at Transmission

1. Turn OFF the ignition and all accessories.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
3. Raise the vehicle. Refer to Lifting and Jacking the Vehicle in SI.
4. Support the transmission with a transmission jack.
5. Remove the transmission support crossmember. Refer to Transmission Support Crossmember Replacement in SI.



6. Lower the transmission sufficiently to provide access to the engine wiring harness where it routes from the engine intake manifold to the transmission bell housing as shown.
7. Release the wiring harness conduit from the retainers that secure it to the transmission and/or transfer case.



8. Examine the harness for wiring that may be exposed outside of the conduit. Inspect all areas for chafed, damaged, pinched, open or shorted wiring as shown. If damage to the wiring is not observed, then extract the wiring from the conduit and inspect all remaining areas as needed.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures > Wiring Repairs in SI. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
9. Raise the transmission as needed to install the transmission support crossmember. Refer to Transmission Support Crossmember Replacement in SI.
10. Lower the vehicle.
11. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.

12. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Chafed ECM Wiring Harness From Bracket Contact Near Engine Intake Manifold

1. Turn OFF the ignition and all accessories.
2. Remove the upper intake manifold sight shield. Refer to Upper Intake Manifold Sight Shield Replacement in SI.

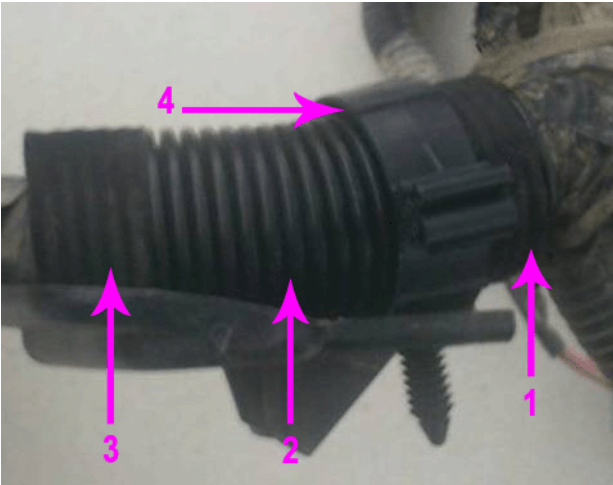


3. Locate the portion of the engine wiring harness where it branches off from the intake manifold to the ECM in the area shown (1).



4. Inspect the wiring harness for damage from contact with the steel bracket (1).
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures > Wiring Repairs in SI.
5. Cover any sharp edge on the bracket with butyl tape and the harness with woven polyester (PET) electrical tape.

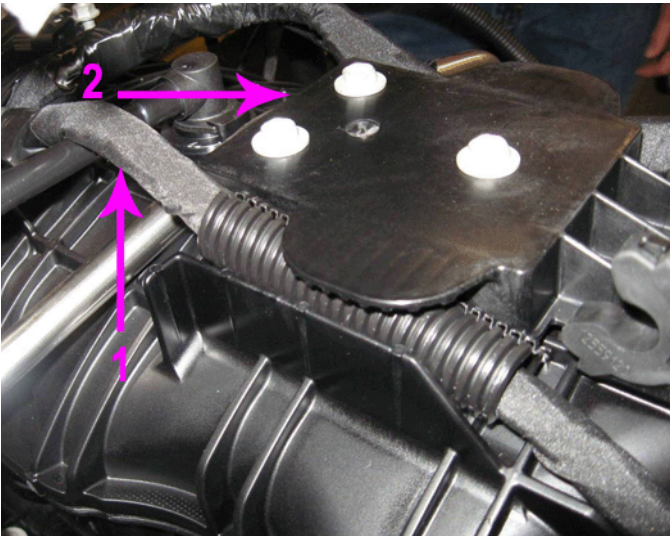




6. Protect the wiring harness by adding additional conduit (2) as shown. Tape the conduit to the harness at both ends (1,3) to prevent movement.
7. Secure the harness to the bracket with a retaining clip (4) as needed.

### Chafed Wiring Harness at Rear of Engine Intake Manifold

1. Turn OFF the ignition and all accessories.
2. Remove the upper intake manifold sight shield. Refer to Upper Intake Manifold Sight Shield Replacement in SI.



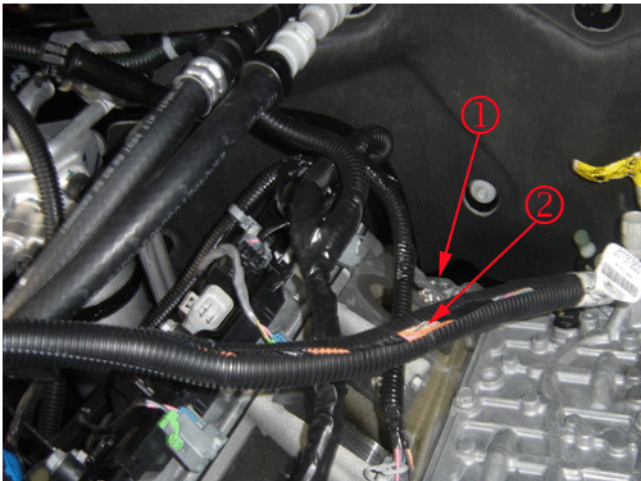
3. Remove the retaining plate (2) that covers the wiring harness (1) on the top of the engine intake manifold run channel.



4. Gently release and slightly raise the wiring harness (2) from the run channel (1) to allow some slack in the harness.

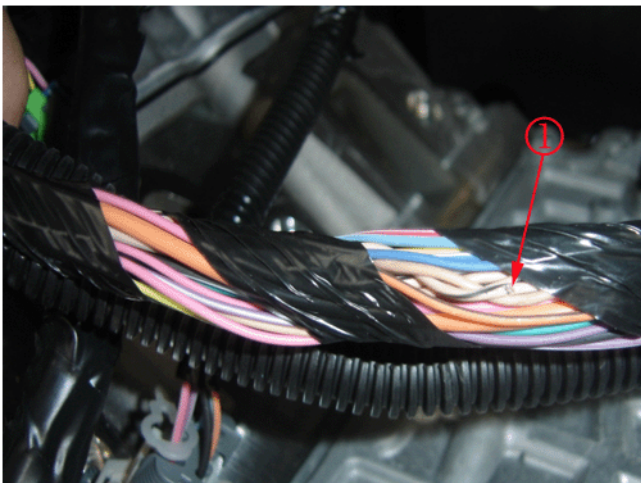


5. Release the wiring harness conduit from the retainers that secure it to the rear of the engine and at the top of the transmission bell housing.



**Note:** The engine intake manifold is shown removed to provide clarity.

6. Gently pull the wiring harness (2) up from the rear of the engine (1).



Inspect for chafed (1), damaged, pinched, open or shorted wiring. If damage is not observed, then extract the wiring from the conduit and inspect all of the remaining areas as needed.

⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures.

7. Protect the conduit by covering any sharp edges on the engine or transmission with butyl tape and the harness with woven polyester (PET) electrical tape.

8. Secure the wiring harness within the conduit as needed.
9. Attach the wiring harness conduit to the retainers that secure it to the rear of the engine and at the top of the transmission bell housing.



10. Secure the wiring harness (2) within the engine intake manifold run channel (1).



⇒ If the vehicle has a small engine wiring harness bundle, secure a portion of the harness within some conduit (1) in the area that will be covered by the retaining plate to prevent movement.

11. Tape both ends of the conduit (1) to the wiring harness.



12. Install and secure the retaining plate (2) over the top of the wiring harness bundle (1).
13. Install the upper intake manifold sight shield.
14. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Chafed Wiring Harness at Chassis Body Mounts Left Side Frame Rail

1. Turn OFF the ignition and all accessories.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in SI.

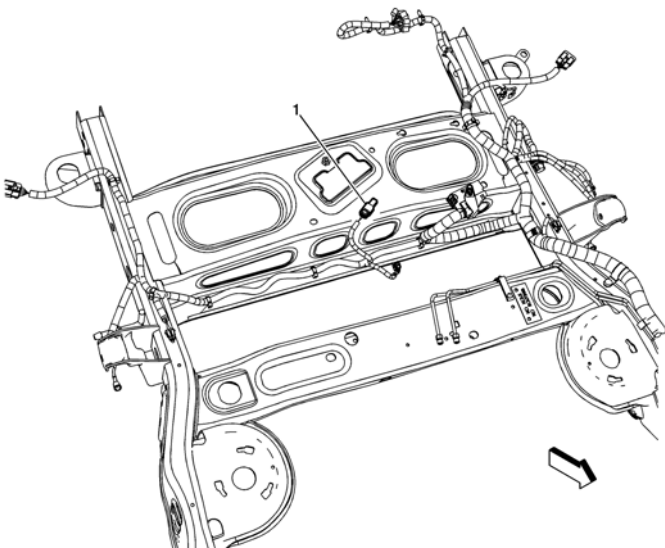


3. Inspect the wiring harness along the left side frame rail at the body mounts as shown for chafed, damaged, pinched, open or shorted wiring.
4. If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
5. Lower the vehicle.
6. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

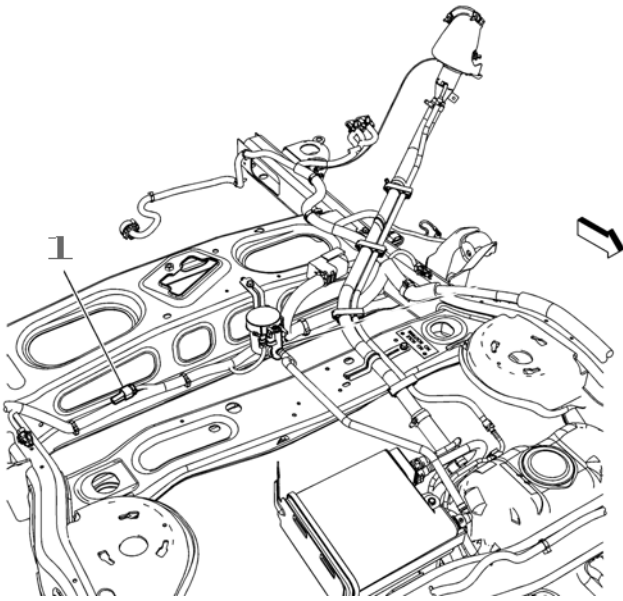
## GMLAN Terminator Resistor 2007 Vehicles

1. Turn OFF the ignition and all accessories.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in SI.

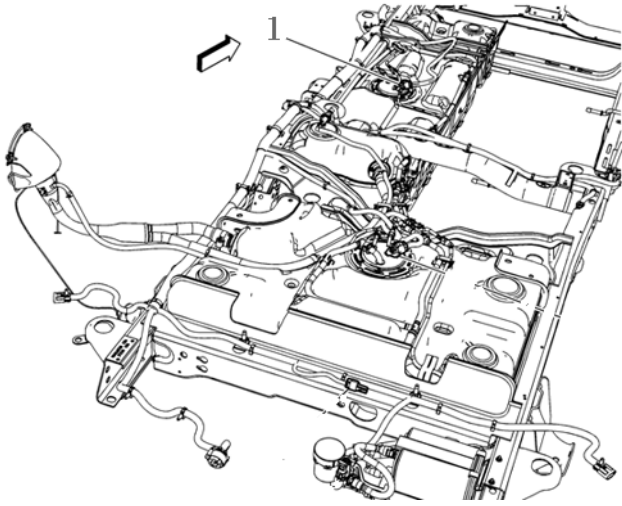
### Typical Location of Terminator Resistor (1) Short Wheel Base Vehicle



### Typical Location of Terminator Resistor (1) Long Wheel Base Vehicle - RPO NQZ



### Typical Location of Terminator Resistor (1) Long Wheel Base Vehicle - Except RPO NQZ



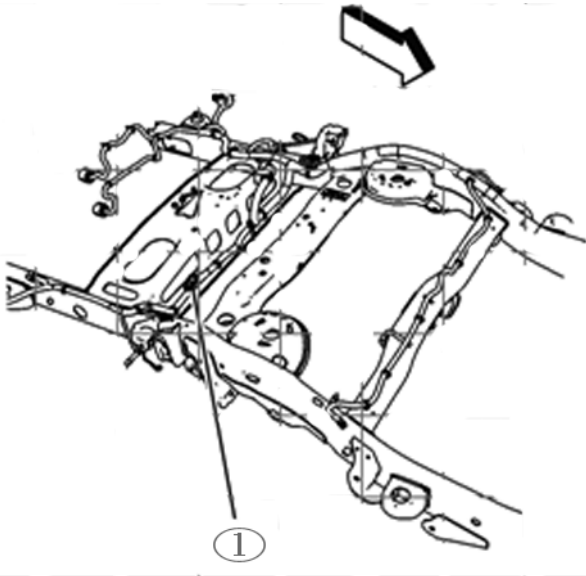
**Note:** RPO NQZ Without Auxiliary Fuel Tank.

3. On the vehicle being serviced, observe the location of the terminator resistor. Inspect the wiring harness leading to the terminator resistor, for chafed, damaged, pinched, open or shorted wiring.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
  - ⇒ If the wiring is not damaged, proceed to Step 4.
4. Disconnect the electrical connector from the terminator resistor.
5. Test the terminator resistor for 110–130Ω.
  - ⇒ If the resistance is not within the specified range, replace the terminator resistor and proceed to Step 6.
  - ⇒ If the resistance is within the specified range, connect the electrical connector to the terminator resistor. Refer to Power and Signal Distribution > Data Communications > Scan Tool Does Not Communicate with High Speed GMLAN Device **OR** Diagnostic Trouble Code (DTC) List - Vehicle in SI.
6. Connect the electrical connector to the terminator resistor. Secure the terminator resistor as needed.
7. Lower the vehicle.
8. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

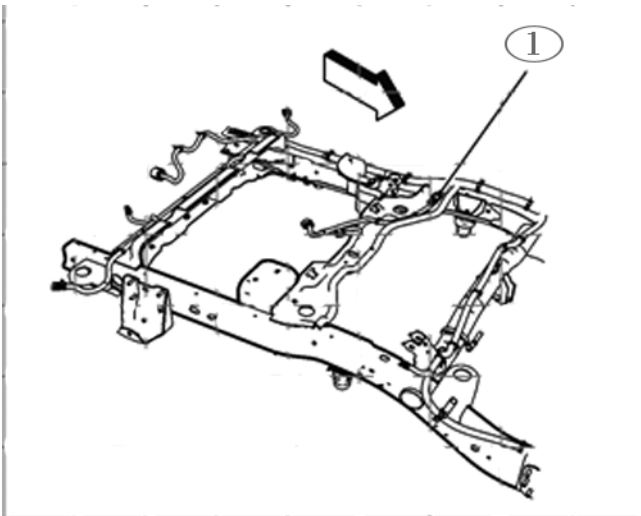
### Data Link Resistor 1 2009 Vehicles

1. Turn OFF the ignition and all accessories.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in SI.

### Typical Location of Data Link Resistor 1 (1) Short and Long Wheel Base Vehicles



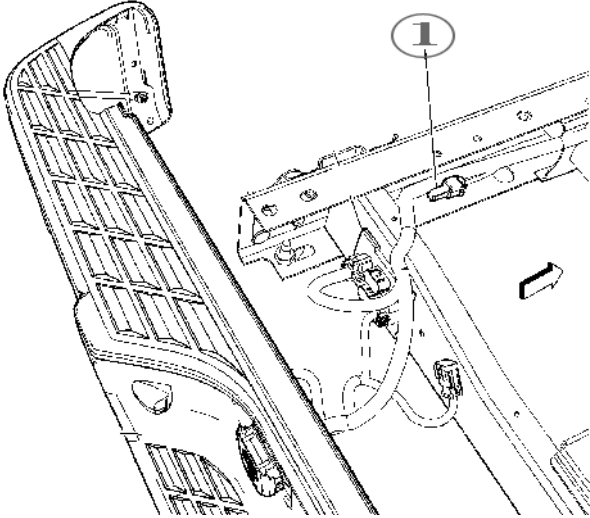
### Typical Location of Data Link Resistor 1 (1) Long Wheel Base HD Vehicles



3. On the vehicle being serviced, observe the location of the data link resistor 1 (1). Inspect the wiring harness leading to the data link resistor 1, for chafed, damaged, pinched, open or shorted wiring.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
  - ⇒ If damage is not found, proceed to Step 4.
4. Disconnect the electrical connector from the data link resistor 1.
5. Test the Data Link Resistor 1 for 110–130Ω.
  - ⇒ If the resistance is not within the specified range, replace the data link resistor 1 and proceed to Step 6.
  - ⇒ If the resistance is within the specified range, connect the electrical connector to the data link resistor 1. Refer to Power and Signal Distribution > Data Communications > Scan Tool Does Not Communicate with High Speed GMLAN Device **OR** Diagnostic Trouble Code (DTC) List - Vehicle in SI.
6. Connect the electrical connector to the data link resistor 1. Secure the data link resistor 1 as needed.
7. Lower the vehicle.
8. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Rear Chassis Mounted Data Link Resistor 1 Chafed Wiring Harness Causing Intermittent No/Crank and/or Scan Tool Does Not Communicate with High Speed GMLAN Device

1. Turn OFF the ignition and all accessories.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in SI.



3. Typical location of a data link resistor 1 (1) mounted on the rear of the chassis.

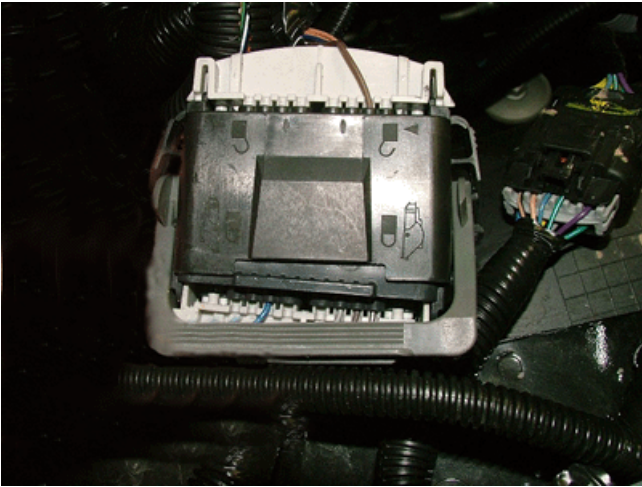


4. Inspect the wiring harness leading to the rear data link resistor 1, between the truck box and frame for chafed, damaged, pinched, open or shorted wiring as shown.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed. Proceed to Step 9.
  - ⇒ If the wiring is not damaged, proceed to Step 5.
5. Disconnect the electrical connector from the data link resistor 1.
6. Test the data link resistor 1 for 110–130Ω.
  - ⇒ If the resistance is not within the specified range, replace the data link resistor 1 and proceed to Step 7.
  - ⇒ If the resistance is within the specified range, connect the electrical connector to the data link resistor 1. Refer to Power and Signal Distribution > Data Communications > Scan Tool Does Not Communicate with High Speed GMLAN Device **OR** Diagnostic Trouble Code (DTC) List - Vehicle in SI.
7. Connect the electrical connector to the data link resistor 1. Secure the resistor as needed.
8. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
9. Lower the vehicle.
10. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Inspection of Engine Harness Connector X109 for Backed Out or Bent Terminals and Poor Connections

1. Turn OFF the ignition and all accessories.

2. Locate the X109 connector. Refer to Wiring Systems and Power Management > Component Locator > Master Electrical Component List > X109 in SI.



3. **Before** disconnecting, verify the connector is fully seated together even though the lever is locked down as shown.  
If the connector is not fully seated, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures > Connector Repairs in SI.
4. Inspect the connector for the following conditions:
  - Backed out terminals
  - Bent pins
  - Corrosion
  - Poor terminal tension (use the correct test probe)

⇒ If a condition is found, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI.

**AND**

⇒ If corrosion is found, proceed to the section of the bulletin titled: **Repairing Fretting Corrosion** to complete the repair.
5. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Inspection of Engine Harness Connector X115 for Backed Out or Bent Terminals and Poor Connections

1. Turn OFF the ignition and all accessories.
2. Locate the X115 connector. Refer to Wiring Systems and Power Management > Component Locator > Master Electrical Component List > X115 in SI.
3. Inspect the connector for the following conditions:
  - Backed out terminals
  - Bent pins
  - Corrosion
  - Poor terminal fit (use the correct test probe)

⇒ If a condition is found, repair as needed. Refer to Wiring Systems and Power Management > Diagnostic Information and Procedures in SI.

**AND**

⇒ If corrosion is found, proceed to the section of the bulletin titled: **Repairing Fretting Corrosion** to complete the repair.
4. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Hybrid Models (HP2) Chafed Wiring Harness Locations and Inspection of Engine Harness Connector X150 for Backed Out Terminals and/or Poor Connections at Ground Locations G102 and G300

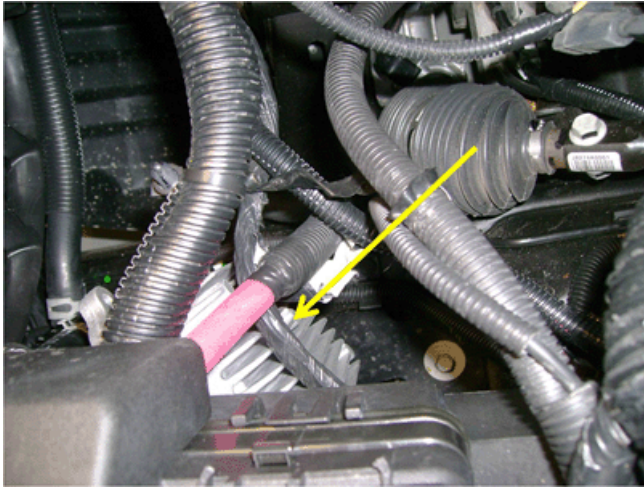
1. Turn OFF the ignition and all accessories.
2. Locate the X150 connector. Refer to Wiring Systems and Power Management > Component Locator > Master Electrical Component List > X150 in SI.
3. Inspect the connector for the following conditions:
  - Backed out terminals



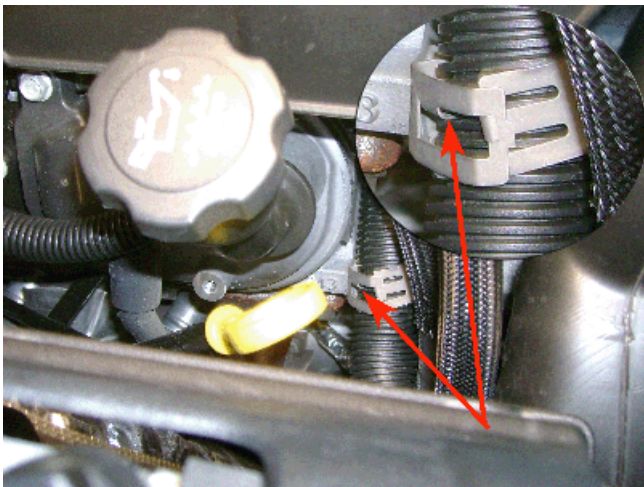
- Bent pins
  - Corrosion
  - Poor terminal fit (use the correct test probe)
- ⇒ If a condition is found, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI.

**AND**

- ⇒ If corrosion is found, proceed to the section of this bulletin titled: **Repairing Fretting Corrosion** to complete the repair.
- ⇒ If a condition or corrosion is not found, proceed to Step 4.



4. Inspect for a misrouted harness having chafed, damaged, pinched, open or shorted wiring from rubbing on the cooling fins of the Transmission Auxiliary Fluid Pump Control Module as shown.
- ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed. Proceed to Step 8.
- ⇒ If the wiring is not damaged, proceed to Step 5.



5. Inspect for chafed, damaged, pinched or shorted wiring caused by a mispositioned harness retaining clip as shown. This condition usually occurs when the tab of the clip is aligned with a slot in the conduit.
- ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed. Proceed to Step 8.
- ⇒ If the wiring is not damaged, proceed to Step 6.
6. Locate ground connections G102 and G300. Refer to Wiring Systems and Power Management > Component Locator > Master Electrical Component List > G102 and G300 in SI.
7. Inspect G102 and G300 for a clean and tight connection. Undercoating or corrosion may be present between the eyelet and the frame resulting in a poor connection.

- ⇒ If a poor connection or undercoating is found, clean the area and repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI.

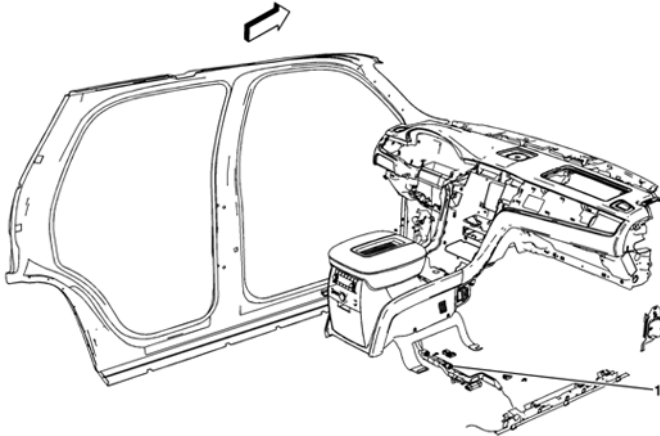
Proceed to Step 8.

- ⇒ If corrosion is found, clean the area and repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Proceed to the section of this bulletin titled: **Repairing Fretting Corrosion** to complete the repair.

8. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Hybrid Models (RPO HP2) Data Link Resistor 2

1. Turn OFF the ignition and all accessories.



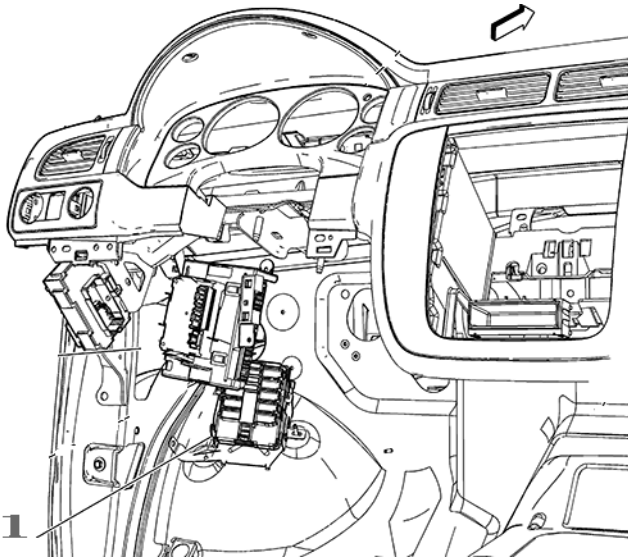
2. Inspect the harness leading to the data link resistor 2 (1) for chafed, damaged, pinched, open or shorted wiring. Refer to Power and Signal Distribution > Data Communications > Schematic and Routing Diagrams > Data Communication Schematics.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures. Protect the conduit by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the harness as needed.
  - ⇒ If the wiring is not damaged, proceed to Step 3.
3. Disconnect the electrical connector from the data link resistor 2.
4. Test the data link resistor 2 for 110–130Ω.
  - ⇒ If the resistance is not within the specified range, replace the data link resistor 2 and proceed to Step 5.
  - ⇒ If the resistance is within the specified range, connect the electrical connector to the terminator resistor. Refer to Power and Signal Distribution > Data Communications > Scan Tool Does Not Communicate with High Speed GMLAN Device **OR** Diagnostic Trouble Code (DTC) List - Vehicle in SI.
5. Connect the electrical connector to the data link resistor 2. Secure the resistor as needed.
6. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Hybrid Models (HP2) Equipped With OnStar® Delete RPO UE0 — IP Junction Block Jumper Harness Loop Connector Chafed Wiring

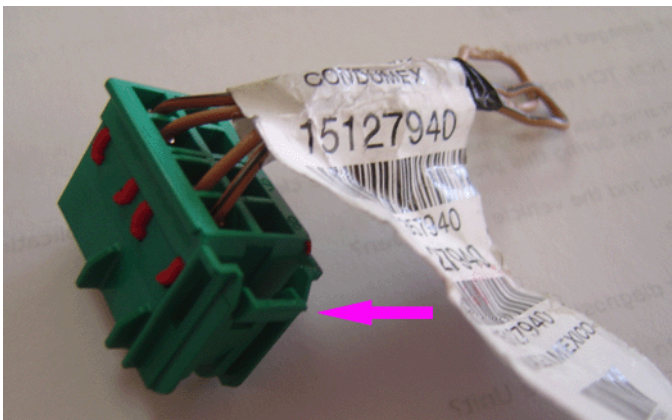
### Various Symptoms and/or Powertrain and Communication DTCs Set

The following is a list of some of the DTCs that may be set and is not all inclusive: C0242, P0700, P0AC4, U0293, U0100, U0109, U0129, U0140, U1862, U186B, U1886 or U1888.

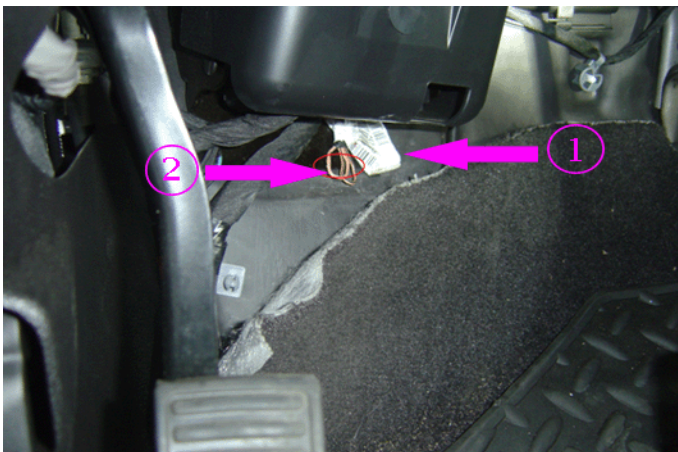
1. Turn OFF the ignition and all accessories.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.



3. Locate the junction block (1) on the driver side of the vehicle under the instrument panel (IP).



4. Locate the jumper harness loop connector that plugs into the bottom back of the junction block.



5. Inspect the jumper harness loop connector (1) for chafed (2), damaged, pinched, open or shorted wiring from contact with the IP brace.
  - ⇒ If the wiring is damaged, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI. Protect the harness by covering any sharp edge with butyl tape and the harness with woven polyester (PET) electrical tape. Secure the jumper harness loop connector as needed. Proceed to Step 6.
  - ⇒ If the wiring is not repairable, replace the P/N 15127940 jumper harness loop connector. Protect the connector by covering any sharp edge with butyl tape and the jumper harness loop connector wiring with woven polyester (PET) electrical tape. Secure the harness as needed. Proceed to Step 6.
6. Secure the junction block as needed.
7. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
8. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Lost Communication with Various Control Modules and DTCs Set

### DTC Descriptors

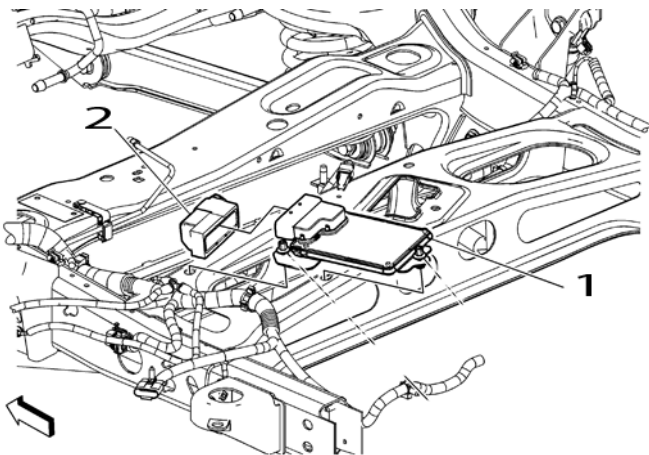
**Note:** Depending on the vehicle and vehicle build there may be other DTCs set by other modules.

- DTC U0073 Control Module Communication Bus A Off
  - DTC U0100 Lost Communication with Engine/Powertrain Control Module (ECM/PCM)
  - DTC U0101 Lost Communication with Transmission Control Module (TCM)
  - DTC U0102 Lost Communication with Transfer Case Control Module
  - DTC U0121 Lost Communication with Electronic Brake Control Module (EBCM)
  - DTC U0140 Lost Communication with Body Control Module (BCM)
1. Connect a scan tool and perform the Diagnostic System Check – Vehicle. Retrieve and record any DTCs, Current or in History from all of the control modules.  
If any DTC(s) are set, refer to Diagnostic Trouble Code (DTC) List – Vehicle to identify the connector(s) of the control module/component which may be causing the condition.
  2. Turn OFF the ignition and all accessories.
  3. Disconnect the connector(s) at the affected module.
  4. Inspect the connector(s) for the following conditions:
    - Backed out terminals
    - Bent pins
    - Corrosion
    - Poor terminal tension. Use the correct test probe.
    - Water intrusion
      - ⇒ If a condition is found, repair as needed. Refer to Power and Signal Distribution > Wiring Systems and Power Management > Diagnostic Information and Procedures in SI.  
Proceed to Step 5.
      - ⇒ If corrosion or water intrusion is found, proceed to the section of this bulletin titled: **Repairing Fretting Corrosion** to complete the repair.
  5. Reconnect the connector at the affected module.
  6. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

### Inspection of Electronic Suspension Control (ESC) Module Connector for Missing Weather Plugs in Not Used Cavities (RPO Z55 or G69)

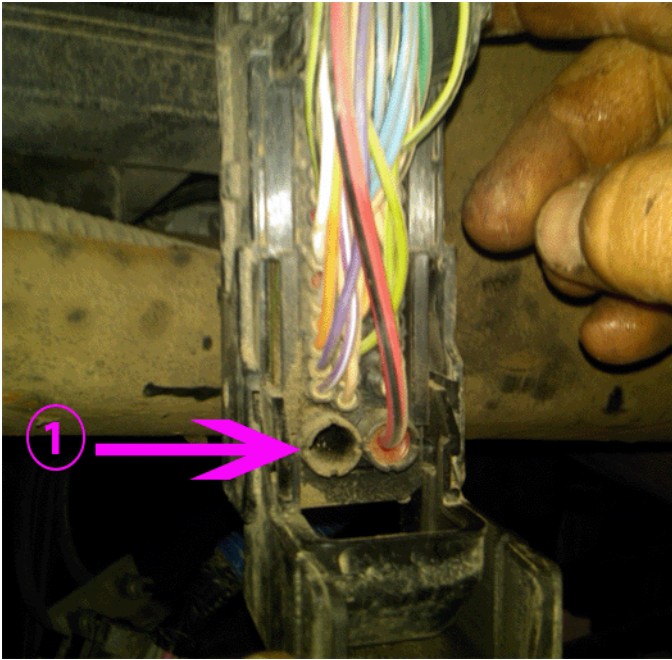
1. Turn OFF the ignition and all accessories.

#### Typical Location of ESC Module



2. Locate the ESC module (1).
3. Disconnect the connector (2) at the ESC module (1).

## Typical View of Missing Weather Plug



4. Inspect the connector of the ESC module for weather plugs that are missing from: **Not Used** cavities (1). Refer to > Power and Signal Distribution > Wiring Systems and Power Management > Component Locator > Master Electrical Component List > Electronic Suspension Control (ESC) Module > Connector End View for a list of cavities that are: **Not Used**.  
⇒ If a weather plug is missing from any **Not Used** cavity, repair as needed.
5. Install the connector (2) to the ESC module (1).
6. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

## Repairing Fretting Corrosion

**Note:** Fretting corrosion looks like little dark smudges on the electrical terminals and appear where the actual electrical contact is being made. In less severe cases it may be unable to be seen or identified without the use of a magnifying glass.

1. If water intrusion is observed in the connector, use pressure regulated compressed air to dry it out.



2. **DO NOT** apply an excessive amount of dielectric lubricant as shown, to the connectors as hydrolock may result when attempting to mate the connectors. This could cause terminals to back out, resulting in an intermittent connection.

**Important:** Use **ONLY** a clean nylon brush that is **DEDICATED** to the repair of this specific condition.

Using a one-inch or smaller nylon bristle brush, apply dielectric lubricant P/N 12377900 (in Canada P/N 10953529) to both the module or component side and the harness side of the affected connectors.

3. Reconnect the affected connector(s) and wipe away any excess lubricant that may be present.
4. If needed, connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection in SI.
5. Clear any DTCs that may be present with a scan tool and verify the proper operation of the vehicle.

OnStar is a registered trademark of the OnStar Corporation.

## Parts Information

Part Number	Description	Material Allowance
22124472200	J-38125 Terminal Repair Kit, Yazaki Tray Number 12 - Female Terminal	—
88988999	RESISTOR - DATA LINK	—
12377900 (in Canada, 10953529)	Dielectric Lubricant (50 gram tube)	\$11.56 (USD) (\$2.90 per repair) \$17.35 (CDN) (\$4.35 per repair)
-	Woven Polyester (PET) Electrical Tape	\$22.72 (\$3.00 per repair)

## Warranty Information

For transmission electrical repairs please note in the technicians comments field on the repair order which terminal number(s) were repaired or replaced. Also if a male terminal is bent (transmission side of connector), then indicate the bent terminal number on the repair order.

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
5430840	Terminal Replacement	<b>Use Published Labor Operation Time</b>
5430902	Wire to Wire Repair	
5430922	Connector Reconnection	
5430962	Ground Stud or Nut Repair or Replacement	
5430190	Block Assembly, Wiring Harness Junction - Left Body and Instrument Panel Replace	
2680278*	Lubricate Body Control Module (BCM) Connector With Dielectric Lubricant	0.1-0.3 hr
2680288*	Lubricate Engine Control Module (ECM) Connector With Dielectric Lubricant	

2680298*	Lubricate Transmission Control Module (TCM) Connector With Dielectric Lubricant	
2680308*	Lubricate Electronic Brake Control Module (EBCM) Connector With Dielectric Lubricant	
2680318*	Lubricate “ <b>Other</b> ” Connector With Dielectric Lubricant**	
2680328*	Repair and Reroute IP Wire Harness Near Park Brake	0.8 hr
<p>*This is a unique Labor Operation for Bulletin use only. It will not be published in the Labor Time Guide.</p> <p>**<b>You Must</b> Document the Affected Connector on the Repair Order.</p> <p><b>Note:</b> Any additional time for component R&amp;R to gain access or for repair time greater than 0.3 hr must be submitted as Other Labor Hours and requires appropriate authorization and service management approval.</p>		

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



WE SUPPORT VOLUNTARY TECHNICIAN CERTIFICATION