

## Preventing an Inadvertent Airbag Deployment



It's simple. If you work on any components of the Supplemental Inflatable Restraint (SIR) system without disabling the system, you run the risk of an inadvertent airbag deployment, which is dangerous and costly.

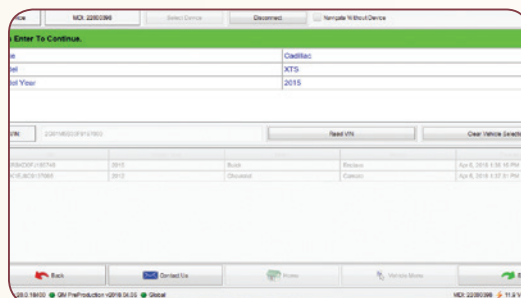
Here's a possible scenario. A vehicle comes into the dealership with an illuminated airbag MIL and a DTC set in the Sensing and Diagnostic Module (SDM). The technician determines that the SDM should be replaced. But the new SDM fails programming because a DTC is still set. Frustrated by the misdiagnosis, the technician quickly picks up the connected SDM without thinking twice. You know

continued on page 2

## Latest GDS2 Core Software Updates VIN Field

The latest update to the GDS2 core software (Version 20.0.18400) in TIS2Web, released April 23, 2018, includes changes to the VIN field on the Vehicle Selection screen.

After updating the core software, when a user connects to a vehicle, the VIN field will be grayed out, which will prevent accidental changes to



Updated Vehicle Selection screen with grayed out VIN field.

continued on page 2

### CONTENTS

|  |   |
|--|---|
| Preventing an Inadvertent Airbag Deployment . . . . .                  | 1 |
| Latest GDS2 Core Software Updates VIN Field . . . . .                  | 1 |
| Install API Manager Message Displayed After Radio Replacement. . . . . | 3 |
| Repair for Suspension Leans to the Left Condition . . . . .            | 4 |
| Updated Battery Part Numbers and CCA Chart . . . . .                   | 5 |
| Recovery of Failed USB Radio Programming . . . . .                     | 6 |
| Service Know-How . . . . .   | 6 |

# Preventing an Inadvertent Airbag Deployment

– continued from page 1

what happens next. The SDM interprets the movement as a rollover event and the system deploys the airbags. This type of scenario can occur with the vehicle off and sitting stationary in the service bay.

The point is to never get too comfortable working around any SIR components and to always follow the proper safety procedures, including disabling the SIR system. Failure to observe the proper procedures while working with the SIR system could cause airbag deployment, personal injury, and unnecessary SIR system repairs.



Common airbag locations

## SI Warnings

All Service Information warnings should be followed at all times, including the following warning for the SIR system:

*When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Failure to observe the correct procedure could cause deployment of the SIR components. Serious injury can occur. Failure to observe the correct procedure could also result in unnecessary SIR system repairs.*

In order to help avoid accidental airbag deployment, anytime a vehicle requires repair of the SIR system and another vehicle system, it's recommended that repairs be made to the SIR system first, and then repairs made on the other system.

In addition, the ignition should be in the Off position for any service work that requires impact to the body or frame. For example, when adjusting the side door striker using a hammer or mallet.

## SIR Component Locations

Components of the SIR system are installed in various locations around a vehicle. Refer to the SIR Identification Views in the appropriate Service Information to find the location of the SIR components when servicing a vehicle.

Also refer to SIR component and wiring location views in Supplemental Inflatable Restraint before performing a service on or around Supplemental Inflatable Restraint components or wiring.

## Disabling the SIR system

Here's when and how the SIR system should be disabled.

| Condition   | Action   |
|---|--|
| If the vehicle was involved in an accident with an air bag deployment.<br><br>When moving, removing or replacing an SIR component or a component attached to an SIR component. (Anytime you remove fasteners.)<br><br>If the vehicle is suspected of having shorted electrical wires. | Disconnect the negative battery cable(s)   |
| When performing SIR diagnostics.  | Follow the appropriate SIR service manual diagnostic procedure(s)                                  |
| When performing electrical diagnosis on components other than the SIR system.   | Remove the SIR/Airbag fuse(s) when indicated by the diagnostic procedure to disable the SIR system |

To disable the SIR system by disconnecting the negative battery cable:

1. Turn the steering wheel so that the vehicles wheels are pointing straight ahead.
2. Place the ignition in the Off position.
3. Disconnect the negative battery cable from the battery.
4. Wait 2 minutes before working on system.

## Handling the SDM

There is a warning label on the SDM. It should never be unbolted or disconnected from the vehicle without first disabling the SIR system. The SDM is equipped with a rollover sensor. Turning the SDM

continued on page 3

# Latest GDS2 Core Software Updates VIN Field

– continued from page 1

the VIN field. If there is a need to build a vehicle manually, click the "Clear Vehicle Selection" button then proceed as usual.

The GDS2 core software update is available by selecting the GDS2 icon in TIS2Web.

When updating to a new core version, many firewalls/antivirus programs will recognize it as a new application. It may be necessary to engage your local IT support to ensure GDS2 is entered as an exception in these programs to allow normal functionality. GDS2 users

also need full administrative rights to install the update. If issues are encountered with GDS2 not functioning properly, right click on the GDS2 icon on the desktop and select "Run as administrator."

For assistance, contact the Techline Customer Support Center (TCSC) at 1-800-828-6860 (English) or 1-800-503-3222 (French).

🙏 Thanks to Chris Henley

# Preventing an Inadvertent Airbag Deployment

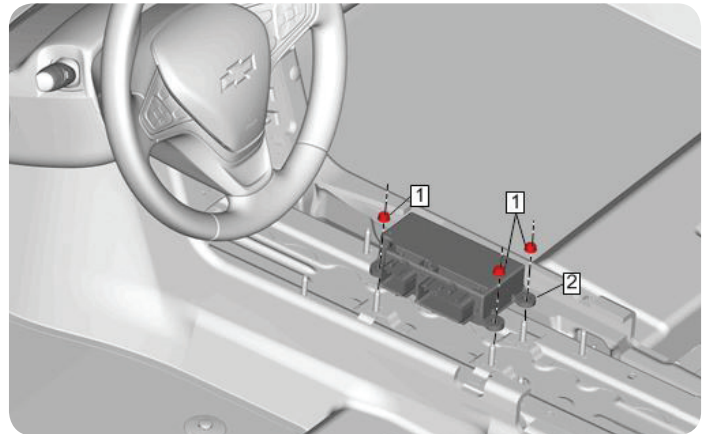
– continued from page 2

over while under power may result in airbag deployment. If the unbolted module is picked up or tilted, and the system is powered, the SDM may see this as a rollover event and the system will respond accordingly. In addition, do not strike or jolt the SDM, which may also be interpreted as a rollover or collision.

The SDM also maintains a reserved energy supply that provides deployment power for the air bags if the module loses battery power during a collision. Deployment power is available for as much as 2 minutes after disconnecting the vehicle power. Wait 2 minutes before working on any SIR system after disabling the system to prevent deployment of the air bags from the reserved energy supply.

Because of the possibility of deployment, the SDM fasteners should not be removed until the battery is disconnected and the SDM electrical connector is removed. The fasteners should be reinstalled and torqued to the proper specifications before reattaching the SDM electrical connector. The electrical connector must be reattached before reconnecting the negative battery cable to the battery.

For additional information, refer to GM training course 22048.55V – Preventing Unintended Airbag Deployment and Bulletin #16-NA-055: Information Regarding Servicing Components Located Near SIR Components.



Sensing and Diagnostic Module

🙏 Thanks to Len Tillard

## Install API Manager Message Displayed After Radio Replacement

When downloading or launching an app after a radio replacement on some 2017-2018 CTS; 2018 ATS, XTS and Terrain models equipped with infotainment system RPOs IOU or IOT, the message "Please Install API Manager through AppShop" may be displayed.

The Install API Manager message may occur if the radio reset procedure was not followed correctly prior to the removal of the radio. The Radio Replacement procedures in the Service Information have been updated.



Install API Manager message

If this message is displayed, reinstall the previously removed radio and then properly perform the radio reset procedure.

It also may be necessary to delete the app and download it again.

The API Manager app is installed during production and verified by OnStar, and it is required in order for other apps that are downloaded to the infotainment system to function properly. The radio reset clears the installed status of the app and allows OnStar to resend the app to the new radio.

**TIP:** If the radio reset procedure is not performed prior to removing the radio and the radio is returned to the Electronic Service Center (ESC), which means the radio is unavailable to be reinstalled, it may take several days for TAC to request the manual reset and resend the app to the new radio, delaying vehicle repairs.

### Radio Reset Procedure

To perform a radio reset before removing the radio:

- Select Return to Factory Settings in the Settings menu. The following options will be listed:
  - Reset Vehicle Settings
  - Clear All Private Data
  - Restore Radio Settings
- Select each option and then select Continue to reset the radio. Wait two minutes before turning off the vehicle.

After replacing the A11 radio:

- Follow the programming instructions under Control Module References in the Service Information.
- After programming is completed, run the engine for three minutes. Next, turn off the vehicle and open and close the driver's door. Wait up to five minutes for all vehicle modules to go to sleep. The customer's desired applications can now be downloaded to the infotainment system.

Refer to Bulletin #18-NA-116 for additional information.

🙏 Thanks to Jeremy Richardson



# Repair for Suspension Leans to the Left Condition

Some 2015-2018 Colorado and Canyon models may appear to be leaning slightly toward the left side due to the mass distribution of the vehicle.

If this condition is noticed, installing a shim on the rear left-side of the vehicle between the rear axle and the left-side leaf spring, or installing a shim on the rear left-side of the vehicle and a new front coil spring will adjust the suspension to correct the leaning appearance.



To determine the amount of lean present on the vehicle, measure the wheel opening heights. Wheel opening trim heights are different from the Z (front) and D (rear) trim heights.

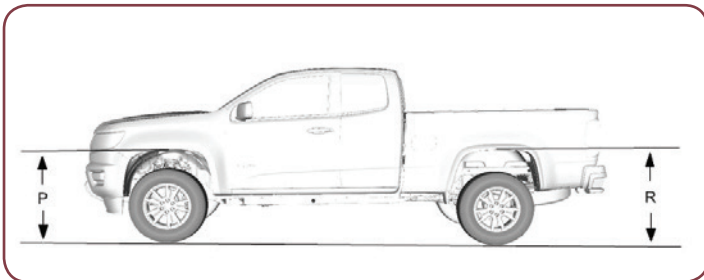
Before making any measurements:

- Set the tire pressures to the proper pressures (according to the Tire and Loading Information label by the driver's door latch)
- Fill the fuel tank (GM does not cover fuel costs) or simulate weight of a full fuel tank
- Ensure proper weight distribution
- Park the vehicle on a level surface, such as an alignment ramp

## P and R Measurements

The front wheel-opening height is known as P height and the rear wheel-opening height is known as R height. These heights will indicate the most direct and repeatable measurement of a leaning condition.

Measure from the top of the fender wheel opening through the center of the wheel to the ground.



Measure the P and R trim heights from the top of the wheel opening to the ground.

- If the cross P height or cross R height (the difference between the left-side and right-side P height measurement or left-side and right-side R height measurement) is 12 mm (0.47 inches) or less, no repairs are necessary.
- If the cross P height measurement is 13 mm (0.5 inches) or more, install a shim and front coil spring.
- If the cross R height measurement is 13 mm (0.5 inches) or more, install a shim.

## Shim Installment

The shim is installed between the left-rear leaf spring and the axle. Tension should be maintained on the leaf spring using a C-clamp on each end of the spring.

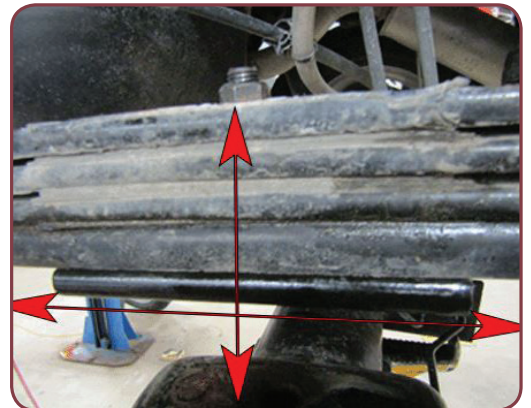
The shim slides under the spring and the bolt, up through the hole of the spring.

The shim should line up with the leaf spring.

It's not necessary to remove the leaf spring or the fuel tank. Do not disassemble or remove the right-rear leaf spring.



The shim slides under the spring.



The shim should line up with the leaf spring.

After installing the shim and, if necessary, the front coil spring, the vehicle must be driven 3 to 5 miles (5 to 8 km) to settle the suspension.

**TIP:** Measurements of the new P and R heights must be taken after repairs are completed. Before and after measurements must be attached to the warranty claim when a front coil spring has been replaced.

Refer to Bulletin #18-NA-108 for additional information, part numbers and front coil spring selection instructions for 2WD and 4WD vehicles equipped with a gasoline or diesel engine.

🙏 Thanks to Charles Hensley and Ed Flanagan

# Updated Battery Part Numbers and CCA Chart

GM has released an updated Original Equipment Batteries Part Number chart for use when testing batteries using the EL-50313 GR8 Battery Tester/Charger. The chart includes cold cranking amperage (CCA) ratings and identifies the type of battery. Refer to the latest version of Bulletin #5-06-03-002 for more information.

Correct battery CCA ratings and battery type are critical for proper test results when using the EL-50313.

Access to the battery specification label, which contains the OEM part number and CCA rating and type, may be difficult without removing the battery. Use the updated chart for the ratings and part numbers needed to set up a proper battery test.

**TIP:** Print the battery chart and keep it with your EL-50313 Battery Tester/Charger as a quick reference during battery testing.

## Electronic Parts Catalog Part Numbers

If a battery needs to be replaced, the correct ACDelco battery warranty replacement in the Electronic Parts Catalog is designated by the "Original Equipment Replacement" note in the description field. Bulletin #15-06-03-002 has additional details about how to provide feedback on battery part numbers.

## Battery Testing


When testing batteries:

- Select "Out of Vehicle" when setting up the test.
- Disconnect both of the battery cables from the battery. The battery does not need to be removed from the vehicle.
- Connect the EL-50313 directly to the battery terminal posts.
- Select the correct SAE CCA. The battery should be close to room temperature and not frozen.
- Select the proper battery type; Flooded, AGM, or Stop/Start AGM (AUX12 Battery).

The proper battery type must be selected to prevent battery damage and ensure correct test results.

When an automotive 12V battery is cold (below freezing), its capacity starts to be reduced. The capacity can be observed in the voltage level of the battery, as well as measured cold cranking amps. A cold battery is also resistant to charging. The colder the battery, the more these characteristics are affected. Depending how cold a battery is, it can fail testing using any type of battery test equipment, including the EL-50313 (GR8). A cold battery should be warmed to a temperature above 4°C (40°F) prior to testing.

🙏 Thanks to Gary McCraw

| <div>  <div>2015-2018</div> </div>   |                        |     |                  |                  |                  |                     |                |     |                |
|---|------------------------|-----|------------------|------------------|------------------|---------------------|----------------|-----|----------------|
| <b>GM Original Equipment Battery Ratings and Part Numbers</b><br><small>Refer to the Electronic Parts Catalog for additional replacement battery information.</small> |                        |     |                  |                  |                  |                     |                |     |                |
| Vehicle   | Engine                 | CCA | MY 16 OEM Part # | MY 17 OEM Part # | MY 18 OEM Part # | ACDelco Part Number | GM Part Number | CCA | Battery Type   |
| <b>PASSIVE CARS</b>   |                        |     |                  |                  |                  |                     |                |     |                |
| ATS   | All Engines            | 700 | 23423787         | 23423787         | 23423787         | 45AGM               | 88804541       | 760 | AGM            |
|   | Performance RPO - 1Y42 | 500 | 8880429          | 8880429          | 8880429          | LN1AGM              | 8880429        | 500 | AGM            |
| ATS with Stop/Start   | L4/Gas                 | 730 | 23423790         | 23423790         | 23423790         | 94RAAGM             | 88804542       | 900 | AGM            |
| Aveo  | L4/Gas                 | 510 | 04668768         | 04668768         | 04668768         | 84PS                | 88803266       | 500 | Flooded        |
| Bolt EV   | ELECTRIC               | 820 | -                | 42726125         | -                | LN1AGM              | 8880429        | 860 | AGM            |
| Camaro  | L4, V6 & V8/Gas        | 700 | 23423787         | 23423787         | 23423787         | 40AGM               | 88804541       | 760 | AGM            |
| Cascade   | L4/Gas                 | 760 | 13487890         | 13487890         | 13487890         | 94RAAGM             | 88804542       | 800 | AGM            |
| City Express  | L4/Gas                 | 470 | 24410678008      | 24410678008      | 24410678008      | 131PPS              | 88806203       | 620 | Flooded        |
| Corvette  | All Engines            | 615 | 22940810         | 22940810         | 22940810         | 48PS                | 88805244       | 610 | Flooded        |
| Cruze   | L4/Diesel              | 720 | 22948860         | 22948860         | 22948860         | 94RPS               | 88805394       | 620 | Flooded        |
|   | L4/Gas                 | 626 | 23214405         | -                | -                | 47PS                | 88806274       | 626 | Flooded        |
| Cruze with Stop/Start   | L4/Gas                 | 615 | -                | 22940810         | 22940810         | 48PS                | 88805244       | 610 | Flooded        |
|   | L4/Gas                 | 730 | 23423790         | 23423790         | 23423790         | 94RAAGM             | 88804542       | 900 | AGM            |
| CT6   | L704/DRIVE             | 850 | 23423790         | 23423790         | 23423790         | 40AGM               | 88804539       | 900 | AGM            |
| CT6   | L70 PHEV               | 730 | -                | 23333100         | 23333100         | -                   | -              | -   | -              |
| CTS Sedan (VIN A)   | All Engines            | 730 | 23423790         | 23423790         | 23423790         | 94RAAGM             | 88804542       | 900 | AGM            |
| ELR   | L4/Gas                 | 600 | 479717R          | -                | -                | EV142               | 88805476       | 630 | AGM            |
| Impala (VIN 1)  | L4 & V6/Gas            | 615 | 22940810         | 22940810         | 22940810         | 48PS                | 88805244       | 610 | Flooded        |
| Impala (VIN 1) with Stop/Start  | L4/Gas                 | 730 | 23423790         | 23423790         | 23423790         | 94RAAGM             | 88804542       | 900 | AGM            |
|   | L4V L4/Gas             | 155 | AUX12            | AUX12            | AUX12            | AUX12               | 88804003       | 155 | Stop/Start AGM |
| Impala Limited (VIN W)  | V8/Gas                 | 600 | 10360694         | -                | -                | 24PS                | 88805418       | 660 | Flooded        |

GM TechLink is published for all GM retail technicians and service consultants to provide timely information to help increase knowledge about GM products and improve the performance of the service department.

### Publisher:

John Meade  
GM Customer Care and Aftersales

### Editor:

Lisa G. Scott  
GM Customer Care and Aftersales

### Technical Editor:

Mark Spencer  
mspencer@gpstrategies.com

### Production Manager:

Marie Meredith

### Creative Design:

5by5 Design LLC  
dkelly@5by5dzn.com

### Fax number:

1-248-729-4704

### Write to:

✉ TechLink  
PO Box 500  
Troy, MI 48007-0500

### GM TechLink on the Web:

🌐 GM GlobalConnect

General Motors service tips are intended for use by professional technicians, not a "do-it-yourselfer." They are written to inform those 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 information applies to your vehicle or that your vehicle will have that condition. See a General Motors dealer servicing your brand of General Motors vehicle for information on whether your vehicle may benefit from the information.

Inclusion in this publication is not necessarily an endorsement of the individual or the company.

Copyright© 2018 General Motors  
All rights reserved.

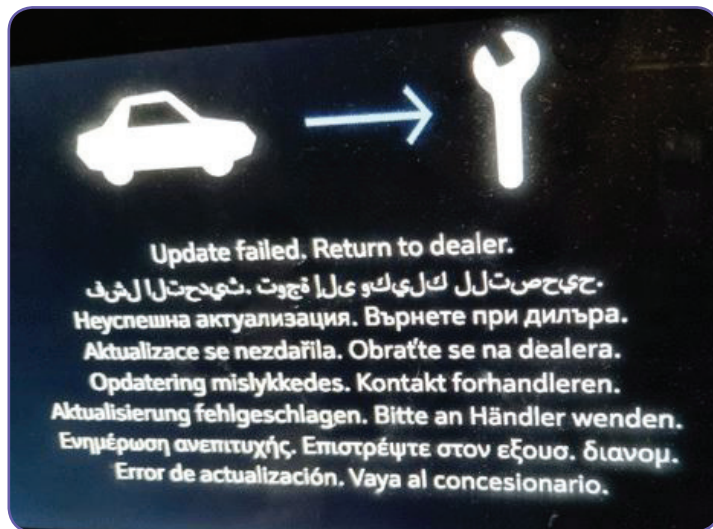


# Recovery of Failed USB Radio Programming

If an error occurs during USB radio programming on some 2017-2018 CTS; 2018 ATS, XTS and Terrain models equipped with infotainment system RPOs IOS, IOU or IOT, an "Update failed. Return to dealer." message may be displayed.

There are several reasons that this error message may be displayed. In most cases, the error message is the result of an issue with the USB thumb drive (or flash drive), or is due to improper use or operation of the USB thumb drive.

Do not replace the radio if the error message is displayed without following the recovery procedures and guidelines, which can help in recovering the radio and allow successful programming to be completed



USB radio programming error message

## Before USB Programming

- Use a high-quality USB 3.0 thumb drive that is FAT32 formatted.
- A USB thumb drive has a limited number of write/erase cycles and will degrade in performance over time. It is recommended to replace thumb drives used for service programming every 6 months to ensure peak performance.

- Always properly eject the USB thumb drive from the computer before physically disconnecting it. Do not pull out the USB thumb drive from the computer before it is properly ejected.

## During USB Programming

- Upon reaching 10% completion on the update, the update bar may reset to 0%, this is normal.
- The display may go black at various points during the update. Wait at least 90 seconds for the update bar to return before aborting the update. Unless the "Update failed" message is displayed, do not remove the USB thumb drive from the vehicle until the radio displays the Home screen and is fully operational.

## Radio Recovery

If USB radio programming fails, remove and then reinstall the USB thumb drive in the vehicle's USB port. If the update status bar is displayed, allow the update to finish, which may take up to 18 minutes. If the update status bar does not appear, the source of the issue may be the contents of the USB thumb drive or the USB thumb drive itself.

TIS2Web will auto-eject the USB thumb drive upon completion of the USB download. Do not remove the USB thumb drive from the computer until the pop-up message indicates the USB drive has been ejected.

Delete all files from the USB thumb drive and download the needed files again. Properly eject the USB thumb drive from the computer. Next, install the USB thumb drive and download the updated files to the vehicle. The update status bar should appear within 10 seconds.

If the update still does not start, try the programming again with a different high-quality USB 3.0 thumb drive. If the same image is displayed on the screen using a new 3.0 USB thumb drive, replace the radio.

For additional information, refer to Bulletin #18-NA-110.

🙏 Thanks to Jeremy Richardson

## Service Know-How

### 10218.04V – Emerging Issues – April 12, 2018

The latest service topics from GM Brand Quality and Engineering are covered, including an update to the Wireless Charging Mat Kit and a review of the 6T70 Bearing Cup Removal Tools.

#### To view Emerging Issues seminars:

- Log into [www.centeroflearning.com](http://www.centeroflearning.com).
- Enter Emerging Issues in the Search box.
- Select the desired Emerging Issues seminar course title.
- Click the Launch button.

