



Recall Bulletin



PRODUCT SAFETY RECALL

SUBJECT: Compressed Natural Gas (CNG) Fuel Tank Shut-Off Solenoid Connector

MODELS: 2011-2013 Chevrolet Express
2011-2013 GMC Savana
Equipped with CNG Fuel System

All involved vehicles that are in dealer inventory must be held and not delivered to customers, dealer traded, or used for demonstration purposes until the repair contained in this bulletin has been performed on the vehicle.

CONDITION

General Motors, based on data and information from supplier IMPCO Automotive, has decided that a defect, which relates to motor vehicle safety, exists in certain compressed natural gas (CNG) fuel systems installed by IMPCO Automotive on 2011-2013 model year CNG equipped Chevrolet Express and GMC Savana vehicles. As a result, General Motors and IMPCO Automotive are conducting a safety recall.

The underbody shut-off solenoid connector to a CNG fuel tank may corrode and could form a high-resistance short in the connector, potentially causing overheating or a self-extinguishing flame. If there is a fuel leak or other combustible material in the vicinity, there is a risk of fire.

CORRECTION

Improved solenoids and securing nuts will be installed for all exterior tanks and the regulator, and the 30 amp gas fuel pump fuse will be replaced with either a 7.5 amp fuse (for the four tank configuration) or a 5.0 amp fuse (for the three tank configuration). In addition, the wiring routing will be adjusted, if necessary, to eliminate any undue tension on the connector, and anti-corrosion sealing plugs will be installed into the valve body (2013 model year vehicles have these plugs already installed).

General Motors will contact certain fleets directly to arrange for the performance of the required repair. Vehicle owners will also be sent a letter from General Motors advising them to schedule an appointment with a Chevrolet or GMC dealer for this repair.

VEHICLES INVOLVED

All involved vehicles are identified by Vehicle Identification Number on the Investigate Vehicle History screen in GM Global Warranty Management system. Dealership service personnel

should always check this site to confirm vehicle involvement prior to beginning any required inspections and/or repairs. It is important to routinely use this tool to verify eligibility because not all similar vehicles may be involved regardless of description or option content.

For dealers with involved vehicles, a listing with involved vehicles containing the complete vehicle identification number, customer name, and address information has been prepared and will be provided to US and Canadian dealers through the GM GlobalConnect Recall Reports. Dealers will not have a report available if they have no involved vehicles currently assigned.

The listing may contain customer names and addresses obtained from Motor Vehicle Registration Records. The use of such motor vehicle registration data for any purpose other than follow-up necessary to complete this recall is a violation of law in several states/provinces/countries. Accordingly, you are urged to limit the use of this report to the follow-up necessary to complete this recall.

PART INFORMATION

Parts required to complete this recall are to be obtained from General Motors Customer Care and Aftersales (GMCCA). Please refer to your “involved vehicles listing” before ordering parts. Normal orders should be placed on a DRO = Daily Replenishment Order. In an emergency situation, parts should be ordered on a CSO = Customer Special Order.

Part Number	Description	Quantity/Vehicle
23425126	Service Kit	1 *
13586114	Connector	1-4 (If Required) **
19168446	Splice Sleeve Kit	1-4 (If Required) **

* Kit includes 7.5-amp fuse, 5-amp fuse, fuse and relay label, 6 CNG valve plugs, 4 CNG solenoids, 4 solenoid nuts, 2 o-rings, and Parker lube.

** Do NOT order connectors or splice packs unless a connector requires replacement.

SERVICE PROCEDURE

Service Procedure Overview

- Remove the 30-amp fuel pump fuse and replace it with a 7.5-amp fuse if the vehicle is equipped with a 4-tank system.
- Remove the 30-amp fuel pump fuse and replace it with a 5-amp fuse if the vehicle is equipped with a 3-tank system.
- Install a new underhood fuse and relay label.
- Inspect HPL solenoid electrical connector for corrosion or contamination.
- Remove and replace four exterior CNG solenoids.
- Inspect the HPL solenoid electrical connector harness condition and routing.
- Insert plugs into CNG valves (this step can be skipped for 2013 model year vehicles, which have the plugs already installed).

Fuse Replacement, Fuse and Relay Label Replacement

1. Open the hood and disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnection and Connection* in SI. **Document ID 2069921**
2. Remove the underhood electrical center cover.

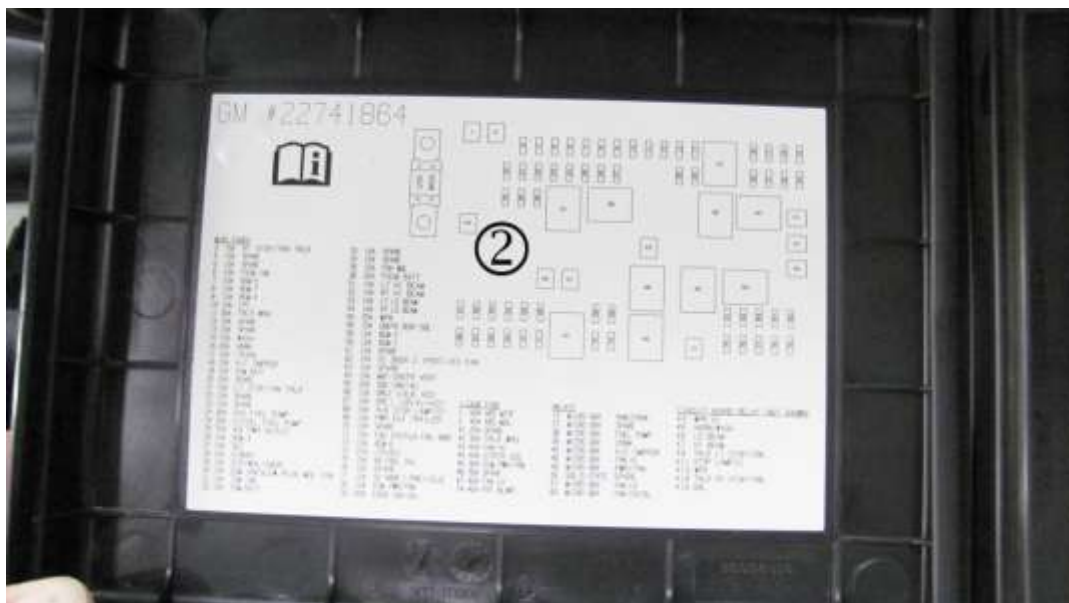


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3. Locate the 30-amp fuel pump fuse and remove it from the underhood electrical center or junction block (1). Refer to number 24 on the fuse and relay label, which is located on the underside of the underhood electrical center cover.
4. Discard the 30 amp fuel pump fuse.

Note: A new label and 7.5 and 5 amp fuse are included in the parts kit, P/N .23425126.

- If the vehicle is equipped with a 4-tank system (RPO UFP), install a 7.5-amp fuse.
- If the vehicle is equipped with a 3-tank system (RPO UFM), install a 5-amp fuse.



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5. Clean the existing fuse and relay label (2) with water and shop towel.
6. Ensure the existing label is dry and free of dust and grime.
7. Install a new label over the existing label. (Position 24) Note: Label may have to be trimmed to fit so it only covers item #24.
8. Install the underhood electrical center cover.

Midship Tank Shield and Aft Axle Tank Shield Removal

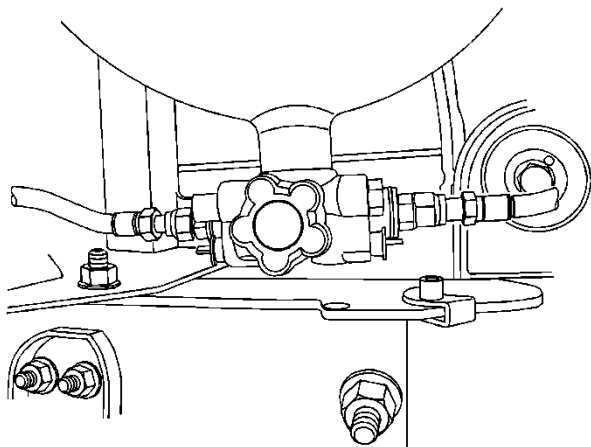
9. Raise and support the vehicle. Refer to *Lifting and Jacking the Vehicle* in SI. **Document ID 2123474**

Note: Two technicians are required to complete steps 10 and 11 below.

Tools Required: 6mm Allen wrench

10. Remove the midship tank shield bolts and mid shield. Refer to *Compressed Natural Gas Tank Cover Replacement – Midship Tank* in SI. **Document ID 2565154**
11. Remove the Aft axle tank shield bolts. Refer to *Compressed Natural Gas Tank Cover Replacement – Aft Tank* in SI. **Document ID 2565700**

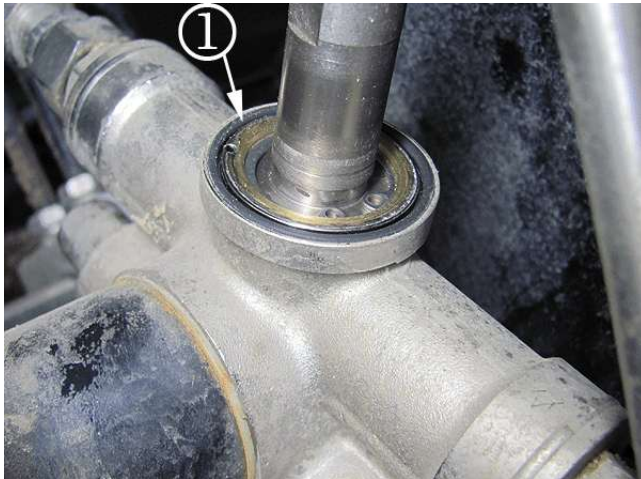
Midship Tank Service Repair Work



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1. Close the manual shutoff valve for the midship tank.
2. Disconnect the high pressure lockoff (HPL) solenoid electrical connector.
3. Inspect HPL solenoid harness connector for corrosion or contamination.
 - If corrosion or contamination is present, replace the connector with **GM P/N 13586114**. Refer to GM instructions included with connector and *Splicing Copper Wire Using Splice Sleeves* in SI.
 - If corrosion or contamination is NOT present, proceed to step 4.
4. Mark the connector orientation of the solenoid on the valve using a marker to ensure correct installation of the new solenoid.
5. Remove the 7/8" HPL solenoid coil retaining nut and discard it.

6. Remove the HPL solenoid coil and discard it.
7. Apply a thin layer of Parker lube on the lower HPL solenoid seal on both sides of the seal.



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8. Replace lower HPL solenoid coil seal (1).
9. Using the reference mark created in step 4, install a new HPL solenoid coil. (Plug on solenoid points up.)



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10. Apply a thin layer of Parker lube on the upper HPL solenoid retaining nut seal on both sides of the seal.
11. Place new seal in groove in nut.
12. Install the HPL solenoid coil retaining nut. Tighten the retaining nut to **6.5 Nm (57.5 lb-in)**.
13. Connect the HPL solenoid harness connector.

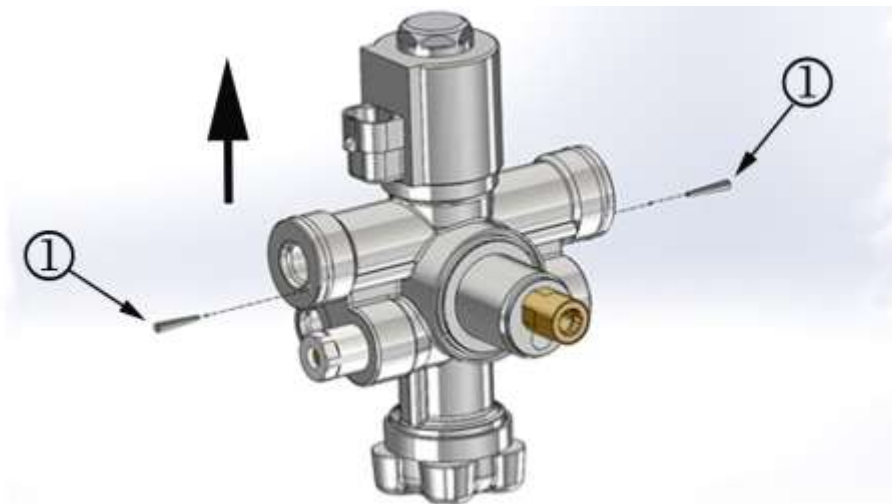


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Electrical connector harness shown with no strain on the harness. Note that there is slack in the harness. If the harness does not have any slack, remove the tie strap and adjust the harness. Secure the harness with a new tie strap.

14. Verify that there is no strain on HPL solenoid electrical connector.

- If there is strain on the electrical connector harness, remove the connector tie strap and reposition the harness to relieve the wire strain. Install a new tie strap to secure harness.
- If there is no strain on the electrical connector harness, proceed to step 15.



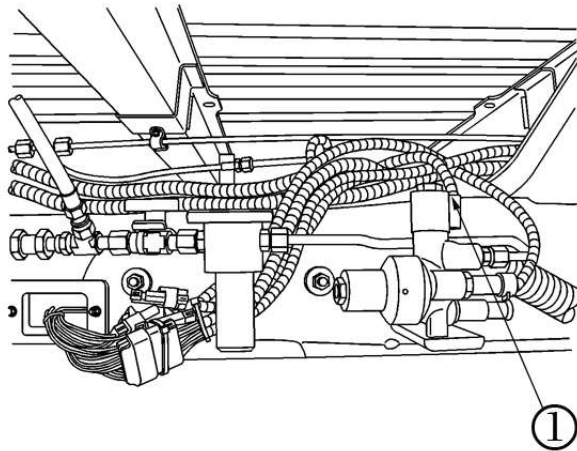
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Connector must point upward.

15. Install two CNG cylinder tank valve plugs (1). Refer to the illustration. This step can be skipped for 2013 model year vehicles, which have plugs already installed.

16. Open the manual shutoff valve for the midship tank.

Regulator Service Repair Work



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1. Disconnect the high pressure lockoff (HPL) solenoid electrical connector (1).
2. Inspect HPL solenoid harness connector for corrosion or contamination.
 - If corrosion or contamination is present, replace the connector with **GM P/N 13586114**. Refer to GM service instructions included with connector and *Splicing Copper Wire Using Splice Sleeves* in SI.
 - If corrosion or contamination is NOT present, proceed to step 3.
3. Mark the connector orientation of the solenoid on the regulator using a marker to ensure correct installation of the new solenoid.
4. Remove the HPL solenoid coil retaining nut and discard it.
5. Remove the HPL solenoid coil and discard it.
6. Apply a thin layer of Parker lube on the lower HPL solenoid seal on both sides of the seal.



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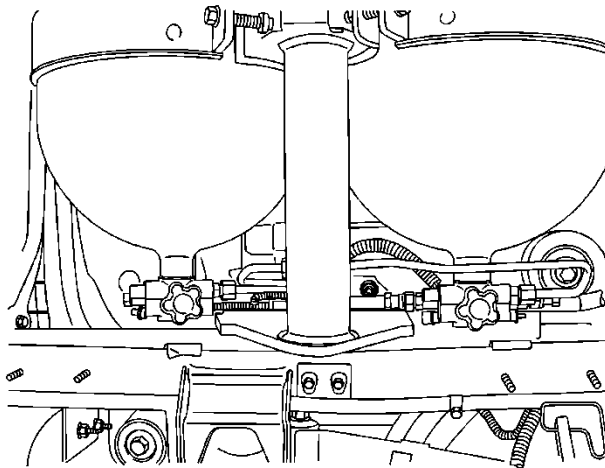
7. Replace lower HPL solenoid coil seal (1).
8. Using the reference mark created in step 3, install a new HPL solenoid coil.



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9. Apply a thin layer of Parker lube on the upper HPL solenoid retaining nut seal on both sides of the seal.
10. Place new seal in groove in nut.
11. Install the HPL solenoid coil retaining nut. Tighten the retaining nut to **6.5 Nm (57.5 lb-in)**.
12. Connect the HPL solenoid electrical connector.

Aft Axle Tank Service Repair Work



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1. Close the manual shutoff valves for the Aft axle tanks.
2. Disconnect the high pressure lockoff (HPL) solenoid electrical connectors.
3. Inspect HPL solenoid harness connectors for corrosion or contamination.
 - If corrosion or contamination is present, replace the connector with **GM P/N 13586114**. Refer to GM service instructions included with connector and *Splicing Copper Wire Using Splice Sleeves* in SI.
 - If corrosion or contamination is NOT present, proceed to step 4.

Note: Perform steps 4-15 on both tank valves.

4. Mark the connector orientation of the solenoid on the valve using a marker to ensure correct installation of the new solenoid.
5. Remove the HPL solenoid coil retaining nut and discard it.
6. Remove the HPL solenoid coil and discard it.
7. Apply a thin layer of Parker lube on the lower HPL solenoid seal on both sides of the seal.



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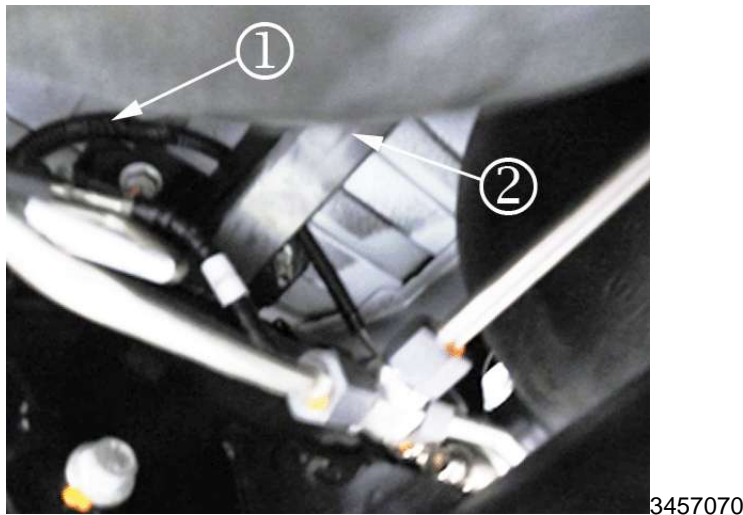
8. Replace lower HPL solenoid coil seal (1).
9. Using the reference mark created in step 4, install a new HPL solenoid coil on the aft assembly. Turn the forward coil 180 degrees to face the aft tank assembly.



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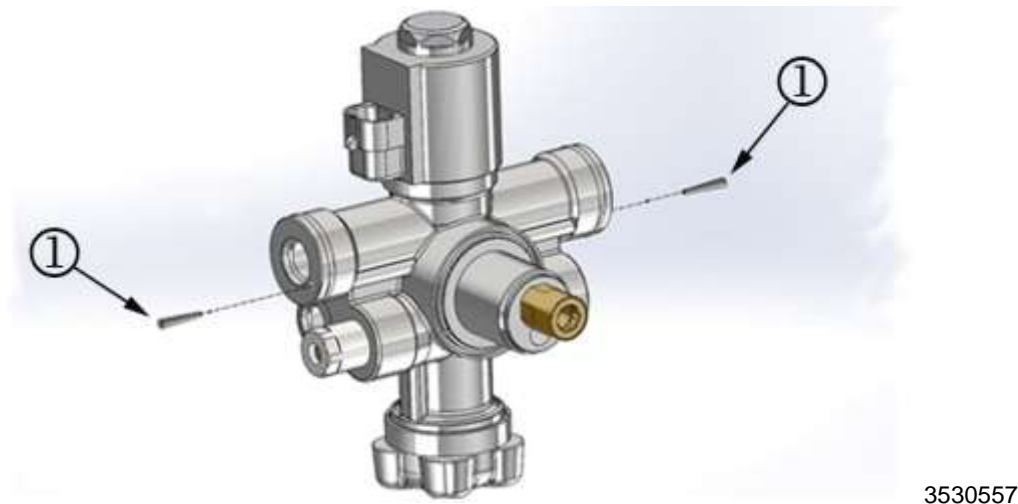
Note: Both HPL solenoid connectors should face each other after installation.

10. Apply a thin layer of Parker lube on the upper HPL solenoid retaining nut seal on both sides of the seal.
11. Place new seal in groove in nut.
12. Install the HPL solenoid coil retaining nut. Tighten the retaining nut to **6.5 Nm (57.5 lb-in)**.
13. Connect the HPL solenoid electrical connector.



Note: Perform step 12 on forward valve only.

14. Route the forward HPL solenoid harness (1) over the top of brace (2) so that the connector feeds directly into the solenoid.
15. Connect the HPL solenoid harness connector.



16. Install two CNG cylinder tank valve plugs (1). Refer to the illustration. This step can be skipped for 2013 model year vehicles, which have plugs already installed.
17. Open the manual shutoff valves for the Aft axle tanks.

CNG Fuel System Check

1. Lower the vehicle. Refer to *Lifting and Jacking the Vehicle* in SI. **Document ID 2123474**
2. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnection and Connection* in SI. **Document ID 2069921**
3. Start the engine.
4. Raise and support vehicle. Refer to *Lifting and Jacking the Vehicle* in SI. **Document ID 2123474**

Note: Use a paper clip or equivalent to perform the magnetic functionality test. The solenoids will only be magnetic while the engine is running.

5. Verify the operation of the solenoid by performing a magnetic functionality test on the four CNG HPL solenoids.
 - 5.1 Ensure vehicle is running.
 - 5.2 Place paper clip or equivalent on the HPL solenoid retaining nut.
 - 5.3 Determine if HPL solenoid retaining nut is magnetic. If the HPL solenoid retaining nut is magnetic, the CNG HPL solenoid operates as designed.
 - 5.4 Lower the vehicle. Refer to *Lifting and Jacking the Vehicle* in SI. **Document ID 2123474**
 6. Turn off the engine after completing the magnetic functionality test.
 7. Raise and support vehicle. Refer to *Lifting and Jacking the Vehicle* in SI. **Document ID 2123474**
- Note:** Two technicians are required to complete steps 8 and 9.
8. Install the midship tank shield bolts and mid shield. Refer to *Compressed Natural Gas Tank Cover Replacement – Midship Tank* in SI. **Document ID 2565154**
 9. Install the Aft axle tank shield bolts. Refer to *Compressed Natural Gas Tank Cover Replacement – Aft Tank* in SI. **Document ID 2565700**
 10. Lower the vehicle. Refer to *Lifting and Jacking the Vehicle* in SI. **Document ID 2123474**

WARRANTY TRANSACTION INFORMATION

Submit a transaction using the table below. All transactions should be submitted as a ZFAT transaction type, unless noted otherwise.

Labor Code	Description	Labor Time
9100037	Rework CNG System	1.8
	Add: Replace Connector	0.4-1.6

CUSTOMER NOTIFICATION – For US and Canada

General Motors will notify customers of this recall on their vehicle (see copy of customer letter included with this bulletin).

DEALER RECALL RESPONSIBILITY – For US (US States, Territories, and Possessions)

It is a violation of Federal law for a dealer to deliver a new motor vehicle or any new or used item of motor vehicle equipment (including a tire) covered by this notification under a sale or lease until the defect or noncompliance is remedied.

The US National Traffic and Motor Vehicle Safety Act provides that each vehicle that is subject to a recall of this type must be adequately repaired within a reasonable time after the customer has tendered it for repair. A failure to repair within sixty days after tender of a vehicle is prima facie evidence of failure to repair within a reasonable time. If the condition is not adequately repaired within a reasonable time, the customer may be entitled to an identical or reasonably equivalent vehicle at no charge or to a refund of the purchase price less a reasonable allowance for depreciation. To avoid having to provide these burdensome remedies, every effort must be made to promptly schedule an appointment with each customer and to repair their vehicle as soon as possible. In the recall notification letters, customers are told how to

contact the US National Highway Traffic Safety Administration if the recall is not completed within a reasonable time.

DEALER RECALL RESPONSIBILITY – All

All unsold new vehicles in dealers' possession and subject to this recall must be held and inspected/repaired per the service procedure of this recall bulletin before customers take possession of these vehicles.

Dealers are to service all vehicles subject to this recall at no charge to customers, regardless of mileage, age of vehicle, or ownership, from this time forward.

Customers who have recently purchased vehicles sold from your vehicle inventory, and for which there is no customer information indicated on the dealer listing, are to be contacted by the dealer. Arrangements are to be made to make the required correction according to the instructions contained in this bulletin. A copy of the customer letter is provided in this bulletin for your use in contacting customers. Recall follow-up cards should not be used for this purpose, since the customer may not as yet have received the notification letter.



August 2013

Dear General Motors Customer:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

General Motors, based on data and information from supplier IMPCO Automotive, has decided that a defect, which relates to motor vehicle safety, exists in certain compressed natural gas (CNG) fuel systems installed by IMPCO Automotive on 2011-2013 model year CNG equipped Chevrolet Express and GMC Savana vehicles. As a result, General Motors and IMPCO Automotive are conducting a safety recall. We apologize for this inconvenience. However, we are concerned about your safety and continued satisfaction with our products.

I M P O R T A N T

- Your 2011-2013 model year Chevrolet Express or GMC Savana CNG equipped vehicle is involved in safety recall 13139.
- Owners who have not been contacted by General Motors concerning this recall should schedule an appointment with their Chevrolet or GMC dealer to arrange for the repairs to be completed.
- This service will be performed for you at **no charge**.

Why is your vehicle being recalled?

The underbody shut-off solenoid connector to a CNG fuel tank may corrode and could form a high-resistance short in the connector, potentially causing overheating or a self-extinguishing flame. If there is a fuel leak or other combustible material in the vicinity, there is a risk of fire.

What will we do?

To correct this condition, improved solenoids and securing nuts will be installed for all exterior tanks and the regulator, and the 30 amp gas fuel pump fuse will be replaced with either a 7.5 amp fuse (for the four tank configuration) or a 5.0 amp fuse (for the three tank configuration). In addition, the wiring routing will be adjusted, if necessary, to eliminate any undue tension on the connector, and anti-corrosion sealing plugs will be installed into the valve body (2013 model year vehicles have these plugs already installed). This service will be performed at **no charge**. The approximate time for the actual repair can be as much as four hours per vehicle, but the wait time for your vehicle may be longer depending on how busy the dealership is.

What should you do?

General Motors will contact certain fleets directly to arrange for the performance of the required repair. If you have not already been contacted by General Motors, please schedule an appointment with your Chevrolet or GMC dealer for this repair.

Do you have questions?

If you have questions or concerns that your dealer is unable to resolve, please contact the GM Fleet Action Center at 1-800-353-3867.

If after contacting your dealer and the Fleet Action Center, you are still not satisfied GM has done their best to remedy this condition without charge and within a reasonable time, you may wish to write the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590, or call the toll-free Vehicle Safety Hotline at 1.888.327.4236 (TTY 1.800.424.9153), or go to <http://www.safercar.gov>. The National Highway Traffic Safety Administration Campaign ID Number for this recall is 13V225.

Federal regulation requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the lessee within ten days.

Jim Moloney
General Director,
Customer and Relationship Services

GM Recall #13139