

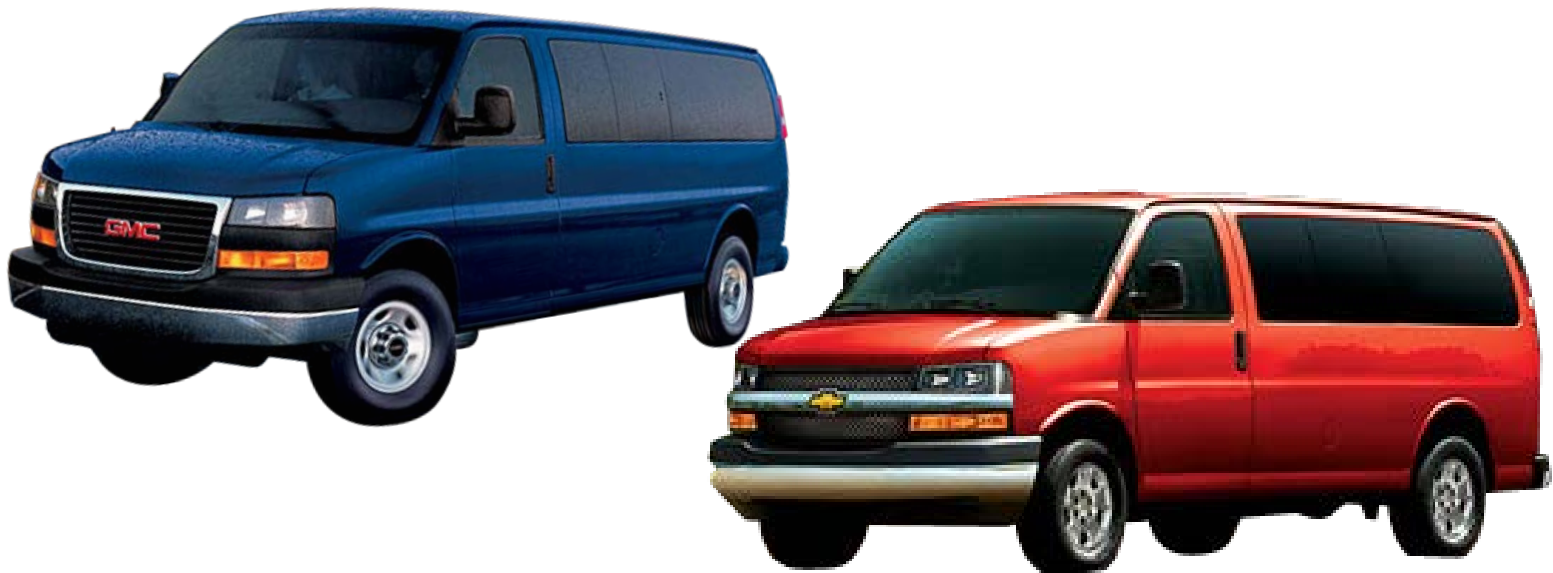
# 2011 Compressed Natural Gas (CNG) Chevrolet Express and GMC Savana Emergency Response Guide



GM Service Technical College provides First Responder Guides (FRG) and Quick Reference (QR) Sheets free of charge to First Responders. FRGs and QRs can be displayed in a classroom as long as they are represented as GM information and are not modified in any way.

GM's First Responder Guides are available at [www.gmstc.com](http://www.gmstc.com)

The intent of this guide is to provide information to help you respond to emergency situations involving Chevrolet Express and GMC Savana Compressed Natural Gas (CNG) vehicles in the safest manner possible. This guide contains a general description of how the Chevrolet Express and GMC Savana CNG vehicles operate and includes illustrations of the unique components. The guide also identifies potential safety concerns.



The Chevrolet Express and GMC Savana are full-sized cargo vans used as fleet vehicles that contain low-emissions compressed natural gas. The combustion of natural gas reduces harmful carbon monoxide emissions by 90% and lowers the cost compared to gasoline operation.

# Vehicle Identification

The Chevrolet Express and GMC Savana CNG vehicles can be identified by labels on the exterior of the vehicle and labels within the vehicle.

The CNG labels on the outside of the vehicle are located:

- on the lower right side of the rear door
- near the vehicle fuel tank door
- within the gas cap door



## Vehicle Identification (continued)

The CNG labels inside of the vehicle are located:

- On the tank covers
- On the manual valve



### WARNING

To help avoid damage to the CNG tank inside and reduce the risk of explosion, tank shield must be present. Do not drill, modify or use as a work surface.



# System Operation

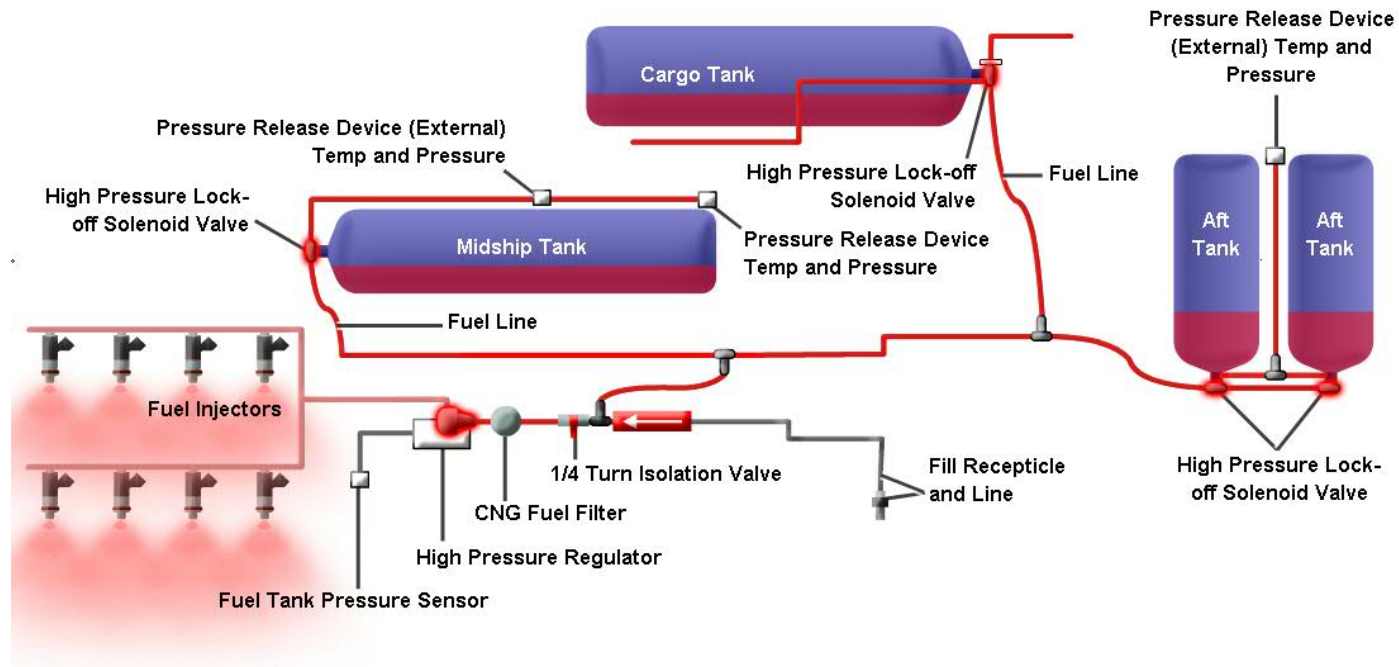
The Chevrolet Express and GMC Savana CNG cargo vans are equipped with a Vortec 6.0L V8 engine, designed especially for CNG operation.



# CNG System Components

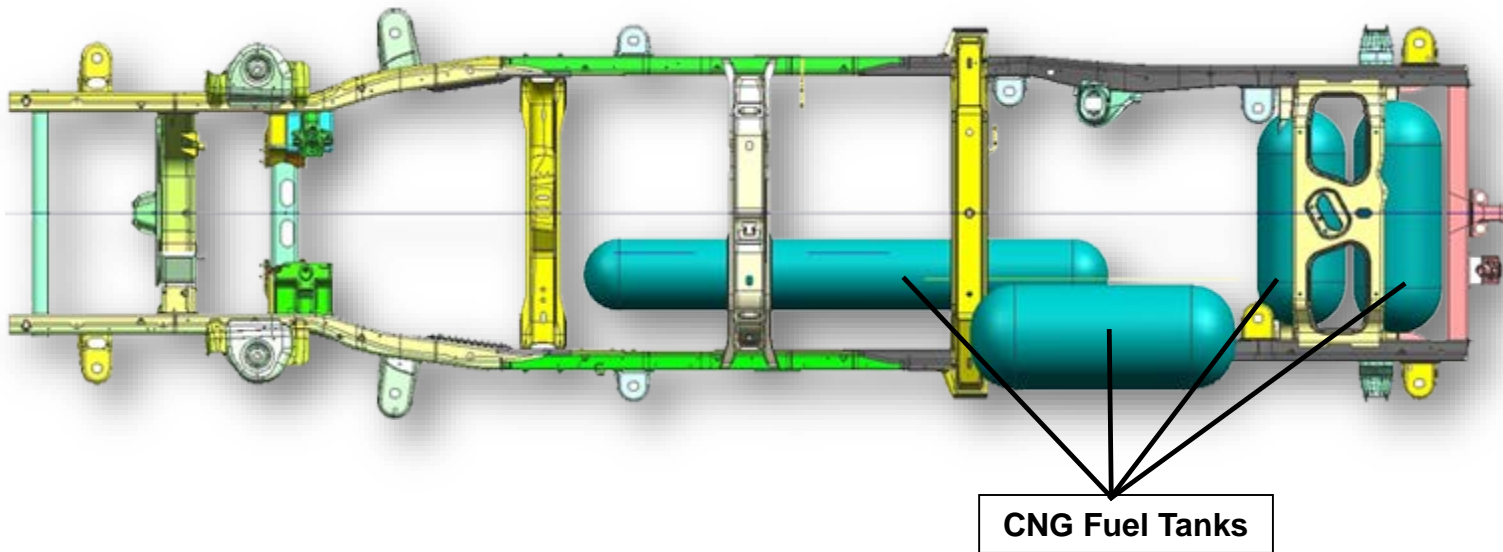
The CNG system is composed of the following components:

- Fuel Storage Tanks:
  - Midship Tank
  - Cargo Tank
  - Aft Tanks
- High Pressure Lock-off Solenoid Valve
- Fuel Tank Pressure Sensor
- Fill Receptacle and Line
- High Pressure Regulator
- Fuel Lines
- Fuel Injectors
- ¼ Turn Isolation Valve
- Pressure Relief Devices
- CNG Fuel Filter



# CNG Fuel Tanks

The Savanna and Express are equipped with three CNG fuel tanks and an optional fourth tank, which are mounted in the vehicles. Two tanks are located in tandem behind the rear axle. One tank is located under the vehicle between the axles where the gasoline tank is normally positioned. The optional fourth tank is located in the cargo compartment.

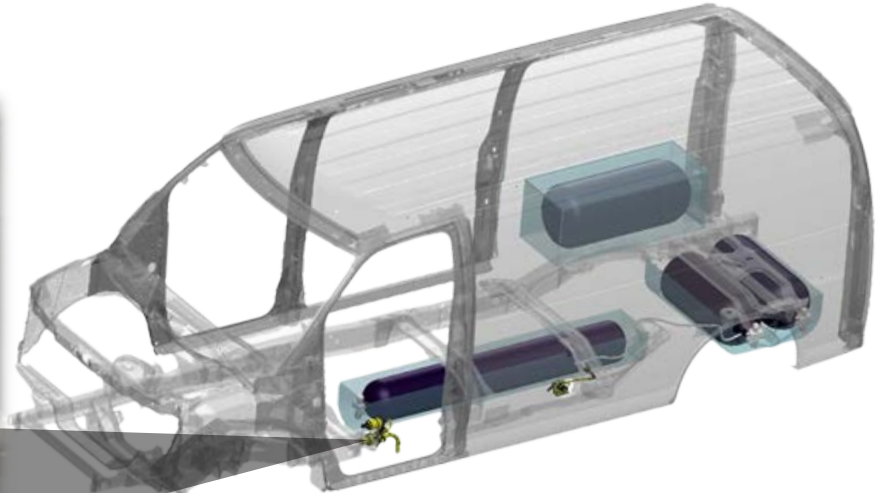
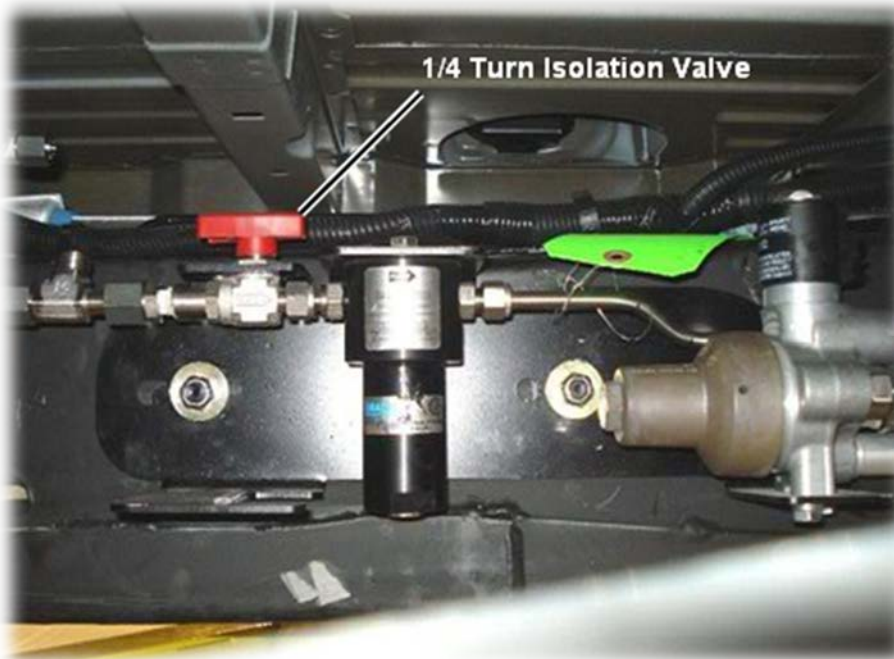


# CNG Fuel System Leak

If a fuel leak is suspected in the engine compartment, ensure the ignition key is turned to the OFF position. The  $\frac{1}{4}$  turn isolation valve should be turned to the OFF position in order to stop the flow of fuel to the engine compartment. The  $\frac{1}{4}$  turn isolation valve is located under the vehicle, midway between the front and rear tires on the inside of the driver side frame. To turn off the valve, turn the lever  $\frac{1}{4}$  turn clockwise.

**Warning:**

Do NOT try to stop a leak by over-tightening any fitting, this will result in damage to the fitting, which may cause injury.





# Chevrolet Express and GMC Savana Airbags

The Express and Savana have two front seats which are equipped with frontal and roof rail airbags to protect the front seat occupants.

The frontal air bags are mounted in the steering wheel for the driver and in the front instrument panel for the front passenger. Roof rail air bags are located behind the trim covering the roof rails on each side of the vehicle and in the right rear roof rail.

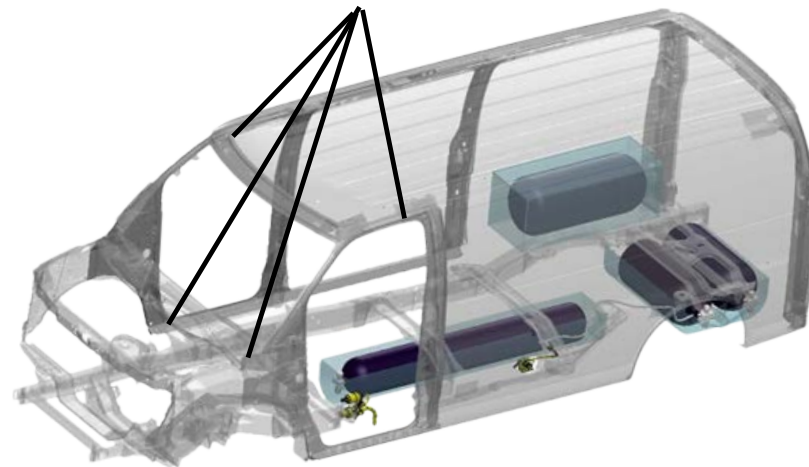
The dual pretensioner seatbelts for the front seats work together with the airbag system to protect the occupants in the event of a crash.

Frontal airbags are designed to deploy in moderate to severe frontal or near frontal crashes.

Roof rail air bags are designed to deploy in moderate to severe side impacts, certain rollover events, and severe frontal impacts.

The appearance of deployed airbags does NOT ensure all stages of the airbags have deployed.

**Airbag Locations**



**Warning:**

Anyone who is up against or very close to any airbag when it inflates could be seriously injured or killed. If you cannot disconnect the battery power, do not place your body or any objects on or very close to any airbag module.

# Airbag Deployment

After an air bag has been deployed and the power removed, there are no cutting restrictions to a particular air bag.

If the roof rail air bags are deployed, all pillar and rail locations can be cut. If the roof rail air bag is not deployed, do not cut the rear pillar or upper rail without visually identifying and avoiding the location of the inflator by removing the trim. Cutting other portions of a roof rail air bag system is acceptable.

Any non-deployed air bag can self-deploy in the event of a fire. Do not expose any air bag module to fire. This precaution will help prevent an unwanted air bag deployment.

Each air bag has unique sensor locations. After a crash, wiring to the sensors might be damaged, which could initiate an unwanted deployment. Disconnecting the battery cables is the best way to reduce the likelihood of unwanted air bag deployment during a rescue.

**Warning:**

The presence of a deployed airbag does not guarantee that the inflator module is inactive. Always assume airbags are active in order to prevent injury.



# Disabling 12V power

Disabling 12 volt power is essential to ensure personal safety even if the airbags in the vehicle appear to have been deployed. After disabling 12 volt power, wait at least 1 minute to allow any un-deployed air bag reserve energy to dissipate.

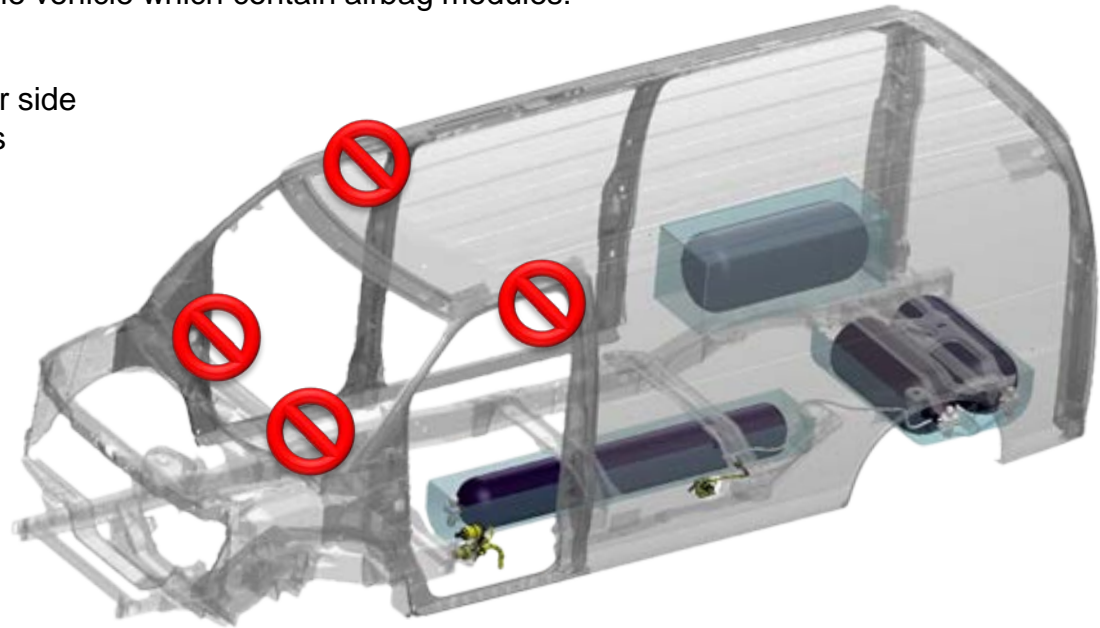
To disable power, disconnect the negative (black) cable.



# Vehicle DO NOT CUT ZONES

Do NOT cut the following areas of the vehicle which contain airbag modules:

- steering wheel
- front instrument panel, passenger side
- roof rails, front left and right sides
- roof rails, right rear



**WARNING:** Do NOT cut into the vehicle until the 12 volt electrical system has been disabled. Cutting into the vehicle prior to disconnecting and isolating the 12 volt electrical energy sources may cause air bag deployment resulting in serious injury.

# First Responder Considerations

## Fire

The CNG fuel within the CNG tanks is flammable. Natural gas only becomes flammable when CNG concentrations are between 5-15% natural gas and oxygen.

In the case of a natural gas fire, stop the fuel flow. If any secondary fires emerge, extinguish natural gas flames using a carbon dioxide or dry chemical fire extinguisher.



## Conclusion

General Motors is committed to making your job as safe as possible.

We are confident the information contained in this guide will prove useful as you prepare to assist those involved in an emergency event.



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GM Licensing Program Hdqtrs, 5775 Enterprise Ct. Warren, MI 48092, Attn: Licensing Coordinator