



2015

**Express/Savana
LPG Liquefied Petroleum
Gas Supplement**



2015 Express/Savana LPG Liquefied Petroleum Gas Supplement

Instruments and Controls	5-1
Warning Lights, Gauges, and Indicators	5-1
Driving and Operating	9-1
Starting and Operating	9-1
Fuel	9-3
Trailer Towing	9-5
Vehicle Care	10-1
General Information	10-1
Vehicle Checks	10-1
Wheels and Tires	10-2
Jump Starting	10-3
Towing the Vehicle	10-3
Appearance Care	10-3
Service and Maintenance	11-1
Maintenance Schedule	11-1
Technical Data	12-1
Vehicle Data	12-2
Index	i-1



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This vehicle only operates on Liquefied Petroleum Gas (LPG). It will not operate on gasoline, diesel, or Compressed Natural Gas (CNG) fuel.

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

Propriétaires Canadiens

A French language manual can be obtained from your dealer, at www.helminc.com, or from:

On peut obtenir un exemplaire de ce guide en français auprès du concessionnaire ou à l'adresse suivante:

Helms, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Using this Supplement

This supplement contains information specific to the unique components of the vehicle. It does not explain everything you need to know about the vehicle. Read this supplement along with the owner manual to learn about the vehicle's features and controls.

Index

A good place to look for what you need is the Index in back of this supplement. It is an alphabetical list of what is in the supplement, and the page number where you will find it.

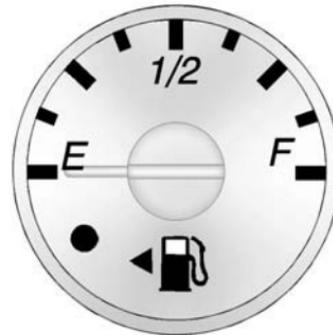
Instruments and Controls

Warning Lights, Gauges, and Indicators

Fuel Gauge 5-1

Warning Lights, Gauges, and Indicators

Fuel Gauge



When the ignition is on, the fuel gauge indicates about how much fuel is left in the vehicle fuel tank.

An arrow on the fuel gauge indicates the side of the vehicle the fuel door is on.

The fuel gauge has been calibrated to display full at approximately 220 L (58 gal) for the four tank system and 136 L (36 gal) for the three tank system.

When the low fuel warning indicator flashes, fill the tank as soon as possible.

Liquefied Petroleum Gas (LPG) fuel gauge readings are affected by changes in fuel temperature and fuel pressure.

See *Filling the Tank* on page 9-3 for more information.

Driving and Operating

Starting and Operating

Starting the Engine	9-1
Parking	9-2

Fuel

Fuel	9-3
Filling the Tank	9-3
Fuel System Leak	9-4

Trailer Towing

General Towing Information ...	9-5
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Starting and Operating

Starting the Engine

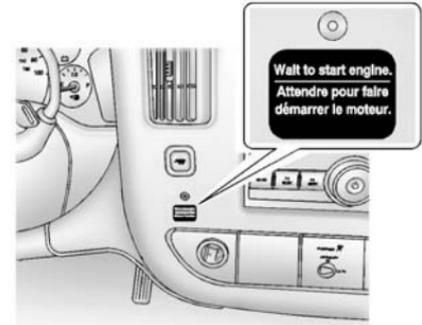
To place the transmission in the proper gear:

Move the shift lever to P (Park) or N (Neutral). The engine will not start in any other position. To restart the engine when the vehicle is already moving, use N (Neutral) only.

Starting the propane vehicle is different than a gasoline vehicle. Before the vehicle will start, the fuel lines and injectors must be refilled with liquid fuel. A priming process fills the system each time the ignition key is turned to ON.

If the engine has been off less than 10 minutes, the vehicle should start immediately. If the engine has been off longer than 10 minutes, up to an eight-second wait to start time is required.

Starting Procedure



1. Turn the key to RUN, and wait until the Wait to Start light on the instrument panel turns off.

9-2 Driving and Operating

2. With your foot off the accelerator pedal, turn the ignition key to START. When the engine starts, let go of the key. The idle speed will go down as the engine gets warm. Do not race the engine immediately after starting it.

Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

The vehicle has a Computer-Controlled Cranking System. This feature assists in starting the engine and protects components. If the ignition key is turned to the START position, and then released when the engine begins cranking, the engine will continue cranking for a few seconds or until the vehicle starts. If the engine does not start and the key is held in START for many seconds, cranking will stop after 15 seconds to prevent cranking motor damage. To prevent gear damage, this system also

prevents cranking if the engine is already running. Engine cranking can be stopped by turning the ignition switch to the ACC/ACCESSORY or LOCK/OFF position.

Caution

Cranking the engine for long periods of time, by returning the ignition to the START position immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to let the cranking motor cool down.

3. If the engine does not start in two to three seconds after cranking begins, repeat the starting procedure.
4. If the engine still will not start, check the fuel level. If the vehicle still does not start, it requires service.

Caution

If you add electrical parts or accessories, you could change the way the engine operates. Any resulting damage would not be covered by the vehicle warranty. See "Add-On Electrical Equipment" in the owner manual.

Parking

Evaporative System Pump

The vehicle may have an evaporative system pump. This pump will operate when the vehicle has been shut off after continuous driving. The pump may cycle frequently for up to 72 hours. This is normal.

Fuel

This vehicle is designed to operate on Liquefied Petroleum Gas (LPG) that meets the following automotive standards for fuel composition and quality:

- US-HD5 in the United States
- US-HD10 in California
- Grade 1 Fuel in Canada

Fuels that do not meet these standards may decrease engine power and damage emission controls.

The main component of LPG is propane, a highly flammable, colorless gas. An odorant has been added for detection through smell. LPG is stored on the vehicle under pressure (maximum 2 151 kPa/ 312 psi). Gas should never be smelled and a hissing sound should not be heard, unless refueling is being done. If gas is smelled or a hissing sound is heard at any other time, turn the engine off. It may be

possible to hear the fuel flowing while the engine is running if standing close to the pipework or various fuel system components. This is normal and should not be confused with a hissing sound at fittings that may indicate a fuel leak. Follow the instructions under *Fuel System Leak on page 9-4*.

Refueling Station Information

Public and private LPG stations may be found on the following federal government website:

<http://www.afdc.energy.gov/afdc/locator/stations/>

Filling the Tank

 **Warning**

LPG is flammable and highly explosive. You could be killed or seriously injured if leaking gas is ignited. If you suspect a leak, do not start the engine or drive the
(Continued)

Warning (Continued)

vehicle. Have the vehicle immediately towed, inspected, and repaired by an authorized GM dealer.

The fill valve is on the driver side.

There is an identifying black diamond-shaped LPG label on the rear of the vehicle. Do not remove this label. This label is necessary for compliance with NFPA-58 regulations and insuring the vehicle. Driving without this label may violate the laws or regulations in some states. Replacement labels can be ordered from your dealer.

Refueling Procedure

Refueling time varies depending upon the refueling system used — consult with the refueling station attendant or system provider. Always observe all safety recommendations and operating instructions on the refueling

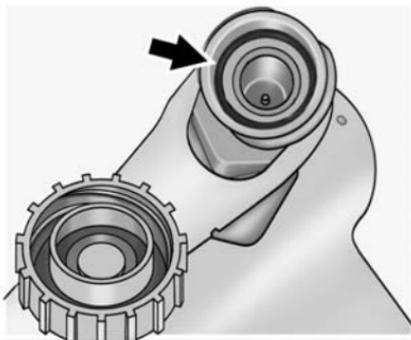
9-4 Driving and Operating

equipment. When refueling, use a standard Sherwood PV903 unloading adapter to match the Sherwood PV623B or PV1855SD filler valve.

Put the vehicle into P (Park) and turn off the engine prior to refueling. Remove the dust cap from the receptacle, clean off any dirt or debris on the receptacle, and follow the refueling instructions on the pump or provided by the station operator.

Warning

Attempting to fill an LPG fuel system that has a missing or damaged O-ring is dangerous. LPG can leak. If the LPG is ignited, you or others could be injured. Replace the O-ring before filling the tank.



Fill Valve O-Ring

If fuel or vapor is heard or seen leaking from the nozzle-fill valve connection, stop refueling immediately. Dirt or other debris may be preventing a positive connection. Turn off the refueling dispenser, disconnect the nozzle, reconnect it to the fill valve, and begin refueling again. If it continues to leak, have an authorized dealer inspect the sealing O-ring in the fill valve.

Refueling will stop automatically when the tank is full. To disconnect the vehicle from the refueling station, remove the nozzle from the fill valve. A hissing sound may be heard as a small amount of propane escapes. This is normal.

Put the fill valve dust cap on securely and close the fuel filler door.

Fuel System Leak

Warning

If you smell a persistent propane odor or hear a continual hissing sound, there could be a propane leak. If the propane is ignited, you or others could be injured. Do not start the engine or drive the vehicle. Have the vehicle towed to an authorized GM dealer for service.

A slight propane odor may be detected for a few moments after refueling. This is normal. You should not be able to smell propane at any other time. If you do, or if you hear a hissing sound, the fuel system may have a leak.

If propane is smelled or a hissing sound is heard:

1. Park the vehicle in a well-ventilated area and apply the parking brake. Keep heat, sparks, and flame away. Open all the vehicle doors for ventilation.
2. Turn the ignition to LOCK/OFF.

Do not drive the vehicle. The vehicle should be towed to an authorized GM dealer.

Trailer Towing

General Towing Information

The vehicle is neither designed nor intended to tow a trailer.

Vehicle Care

General Information

Vehicle Storage 10-1

Vehicle Checks

Doing Your Own

Service Work 10-1

Fuel System Components ... 10-2

Wheels and Tires

Tire Changing 10-2

Jump Starting

Jump Starting 10-3

Towing the Vehicle

Towing the Vehicle 10-3

Appearance Care

Exterior Care 10-3

General Information

Vehicle Storage

In addition to vehicle storage procedures outlined in the owner manual, the following should be done with the vehicle in the event it will not be driven for extended periods of time:

- If you store the vehicle indoors, it should be parked in a well-ventilated area. We recommend the installation of an LPG/propane leak detector at a low point in the area.
- After storing the vehicle for an extended period, and before starting the engine for the first time, open the doors and leave them open for several minutes. This allows any gas vapors that may have collected in the cargo area to dissipate.

Vehicle Checks

Doing Your Own Service Work

Warning

Never try to do your own service work on the LPG fuel system. You can be injured and the vehicle can be damaged if you try to do your own service work. Service and repair of this system should only be performed by an authorized GM dealer.

Caution

Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.

Fuel System Components

 **Warning**

Tampering with, or improperly maintaining the high-pressure fuel system can cause a dangerous condition in which serious injury or death may result. Never attempt to modify the fuel system, and always have the fuel system repaired and maintained by a qualified dealer.

LPG fuel system components include fuel tanks located under the vehicle, electronically controlled fuel injectors, fuel lines, and other equipment. Fuel system components comply with the appropriate safety standards. These component parts have been designed and approved for use in an LPG vehicle. Never modify or replace any original LPG components or parts with those specified for a gasoline-powered vehicle. Improper parts or components can damage the vehicle fuel system and affect the vehicle safety and performance.

Wheels and Tires

Tire Changing

For vehicles without a spare tire, see *Towing the Vehicle on page 10-3*.

For vehicles with a spare tire, see “Tire Changing” in the owner manual.

Jump Starting

Warning

If the LPG fuel system has a leak, a spark from the jumper cables could ignite the gas, causing injury or death. Do not jump start the vehicle if you smell a persistent gas odor or hear a continual hissing sound. Have the vehicle towed to an authorized GM dealer for service. See *Fuel System Components* on page 10-2.

See “Jump Starting” in the owner manual.

Towing the Vehicle

Warning

Improperly positioned tow straps, hooks, or chains can damage the LPG fuel system and cause a leak. If leaking gas catches fire, it could cause injury or death. To avoid damage, always flatbed on a car carrier.

See the owner manual for more information on towing the disabled vehicle.

Appearance Care

Exterior Care

Finish Damage

Painted body repairs should not be cured by heating. The pressure release device on the LPG fuel pressure relief valve will open and release gas at 2151 kPa (312 psi) and 60°C (approximately 140°F).

Service and Maintenance

Maintenance Schedule

Maintenance Schedule 11-1

Maintenance Schedule

 **Warning**

The tank shields protect the LPG tank in a crash and from road hazards. Removal of the shields may result in tank damage that could result in a rupture or possible explosion of the tank. You or others could be injured or even killed. If you must remove a tank shield for any reason, e.g., tank inspection or vehicle repair, always reinstall the shield before operating the vehicle.

This LPG vehicle is designed for routine maintenance (fluids, filters, etc.) according to the original specifications as provided in the owner manual for gasoline fuel vehicles. See the owner manual for maintenance service intervals and fluid specifications.

See your dealer or other qualified repair facility for required service and maintenance. Your dealer has the necessary training and parts to repair the vehicle.

In addition, the LPG system requires the following every 48 280 km (30,000 mi):

- Replacement of the fuel fill filter.
- Replacement of the in-line fuel filter (three tank system only).

Technical Data

Vehicle Data

Capacities and
Specifications 12-2

Vehicle Data

Capacities and Specifications

Application	Capacities	
	Metric	English
LPG Fuel Tank Capacity		
Four Tank System	219.5 L	58 gal
Three Tank System	136.3 L	36 gal

A	
Appearance Care	
Exterior	10-3
B	
Battery	
Jump Starting	10-3
C	
Canadian Vehicle Owners	ii
Capacities and Specifications	12-2
Cleaning	
Exterior Care	10-3
Components	
Fuel System	10-2
E	
Engine	
Starting	9-1

F	
Flat Tire	
Changing	10-2
Fuel	9-3
Filling the Tank	9-3
Gauge	5-1
Fuel System Components	10-2
Fuel System Leak	9-4
G	
Gauges	
Fuel	5-1
General Information	
Towing	9-5
I	
Introduction	ii
J	
Jump Starting	10-3

L	
Leak	
Fuel System	9-4
M	
Maintenance Schedule	11-1
P	
Parking	9-2
S	
Service	
Doing Your Own Work	10-1
Specifications and	
Capacities	12-2
Starting the Engine	9-1
Storage	
Vehicle	10-1
Supplement	
Using	ii

T

Tires
 Changing 10-2

Towing
 General Information 9-5
 Vehicle 10-3

U

Using This Supplement ii

V

Vehicle
 Canadian Owners ii
 Towing 10-3

Vehicle Storage 10-1