



Owner's Manual Supplement

**Liquefied Petroleum Gas (LPG)
Fuel System
for
1998 GM Medium Duty Chassis
(C-60/C-70)
with
6.0L and 7.0L V8**

OWNERS MANUAL SUPPLEMENT

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REFUELING YOUR VEHICLE

CAUTION: *When refueling your vehicle:*

- **Do not smoke. Extinguish all smoking materials.**
 - **Do not fill a propane fuel tank that is damaged and/or shows signs of leaks and/or corrosion.**
 - **Do not overfill a propane fuel tank. Refill tank to recommended capacity only.**
 - **Do not fill a propane fuel tank from another propane bottle. Fill from an approved re-fueling station only.**
 - **Do not transfer propane within 50 feet of a potential ignition source. Extinguish or shut-off all potential ignition sources.**
 - **Wear suitable gloves and eye protection during fuel transfer.**
- Failure to follow any one of these cautions may result in bodily injury or death.**

1. Turn the engine off and set the parking brake.
2. Inspect the fill port O-ring. Replace if missing or damaged.
3. Connect the fill nozzle to the fill port.
4. Open the shut-off valve at the storage tank and turn on the pump.
5. When fuel transfer is complete, close the fill nozzle valve.
6. Turn off the pump and close the shut-off valve at the storage tank.
7. Loosen the fill nozzle and allow the pressure to vent.
8. Disconnect the fill nozzle.

IMPCO® PROPANE FUEL SYSTEM

MAINTENANCE SCHEDULE

The following maintenance services are specific to the propane fuel system and must be performed *in addition to* the services listed in the OEM Owner's Manual.

The services shown in this schedule up to 120,000 miles should be performed after 120,000 miles at the same interval.

Installation Date

- Check FCV / ICV operation
- Inspect all vacuum lines and fittings
- Inspect all fuel lines and fittings
- Set spark plug gap to 0.032"

9,000 Miles (3)

- Inspect intake system for vacuum leaks

30,000 Miles (3)

- Inspect intake system for vacuum leaks
- Inspect all vacuum lines and fittings
- Inspect all fuel lines and fittings
- Spark plug service (28)
- Inspect the mixer air valve (60)

60,000 Miles (3)

- Inspect intake system for vacuum leaks
- Inspect converter / check regulator primary and secondary pressures (61)
- Replace LPG fuel filter
- Inspect all vacuum lines and fittings
- Inspect all fuel lines and fittings
- Spark plug service (28)
- Replace ignition wires
- Inspect mixer air valve (60)

80,000 Miles (3)

- Replace Heated Exhaust Gas Oxygen Sensor

90,000 Miles (3)

- Inspect intake system for vacuum leaks
- Inspect all vacuum lines and fittings
- Inspect all fuel lines and fittings
- Spark plug service (28)
- Inspect mixer air valve (60)

120,000 Miles (3)

- Inspect intake system for vacuum leaks
- Inspect converter / check regulator primary and secondary pressures (61)
- Replace LPG fuel filter
- Inspect all vacuum lines and fittings
- Inspect all fuel lines and fittings
- Spark plug service (28)
- Replace ignition wires

- Inspect mixer air valve (60)

FOOTNOTES

- (3) = An Emission Control Service
- (28) = Replace spark plugs. Set gap to 0.032". Inspect spark plug wires for damage. Check wire boot and boot heat shield fit at spark plugs and distributor. Replace parts as needed.
- (60) = Remove the diaphragm cover and spring from the mixer. Remove the air valve assembly from the mixer body. Inspect for dirt , oil contamination or damage. Clean or repair as necessary.
- (61) = If primary and secondary pressure are within specification, no further action is necessary. If pressures are out of specification, remove diaphragm cover and spring. Inspect for dirt , oil contamination or damage. Clean or repair as necessary.

LPG PARTS AND SERVICE

For the name of the nearest authorized IMPCO® parts and service center, contact Customer Service at:

IMPCO® Technologies, Inc.
17872 Cartwright Rd.
Irvine, CA 92614-6217
(562) 860-6666

TECHNICAL ASSISTANCE

For technical assistance, contact IMPCO® at:

IMPCO® Technologies, Inc.
17872 Cartwright Rd.
Irvine, CA 92614-6217
1-800-816-8691

INSTALLER INFORMATION

Name: _____

Address: _____

Phone: _____

IMPCO® PROPANE FUEL SYSTEM

ALTERNATIVE FUELS WARRANTY SUPPLEMENT

The following warranty information is provided for the Liquefied Petroleum Gas (LPG) System installed on your 1998 Medium Duty Truck, and supplements the Gasoline Engine warranty contained in your “MY98 Dedicated LPG Heavy-Duty Engine Owner’s Manual Supplement”.

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and IMPCO Technologies, Inc. (IMPCO) are pleased to explain the emission control system warranty for the LPG System installed on your 1998 vehicle. In California, new motor vehicles must be designed, built and equipped to meet the State's stringent anti-smog standards. IMPCO must warrant the LPG emission control system on your truck for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your LPG fuel system. Your LPG emission control system may include parts such as the converter and electronic control unit. Also included may be hoses, connectors and other emission-related assemblies.

Where a warrantable condition exists, IMPCO will repair your LPG System at no cost to you including diagnosis, parts and labor.

IMPCO’S WARRANTY COVERAGE

For 5 years or 50,000 miles (whichever comes first), if an LPG System emission-related part on your vehicle is defective, the part will be repaired or replaced by IMPCO. This is your emission control system **DEFECTS WARRANTY**.

OWNER’S WARRANTY RESPONSIBILITIES

As the LPG System owner, you are responsible for the performance of the scheduled maintenance listed in your ‘Warranty and Owner’s Assistance Information’ manual and IMPCO Owner’s and Service Manual Supplement. IMPCO recommends that you retain all receipts covering maintenance on your LPG fuel system, but IMPCO cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

You are responsible for presenting your vehicle to an IMPCO Authorized Service Facility as soon as a problem exists. The warranty reports should be completed in a reasonable amount of time, not to exceed 30 days.

As the LPG System owner, you should also be aware that IMPCO may deny you warranty coverage if your LPG fuel system or a part has failed due to abuse, neglect, improper maintenance or modifications not approved by IMPCO.

If you have any questions regarding your warranty rights and responsibilities, you should contact IMPCO’s Customer Service Department at (562) 860-6666 or the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731.

ALTERNATIVE FUELS WARRANTY SUPPLEMENT (CONT.)

IMPCO TECHNOLOGIES WARRANTY COVERAGE

IMPCO warrants to the owner that the LPG fuel system was designed, built, and equipped so as to conform at the time of sale with applicable regulations of the Federal Environmental Protection Agency (EPA) or to the California Air Resources Board (CARB), and is free from defects in materials and workmanship which cause the system to fail to conform with those regulations during the warranty period.

Emission-related defects in the genuine IMPCO components listed below, including related diagnostic costs, parts, and labor, are covered by this warranty.

The applicable warranty period shall begin on the date the vehicle is delivered to the first retail purchaser, or, if the vehicle is first placed in service as a demonstrator or company vehicle prior to sale at retail, on the date the vehicle is first placed in such service.

If your vehicle fails a California emission inspection, and if the emissions failure is caused by the failure or malfunction of an LPG system emissions-warranted part, IMPCO will correct the part failure or malfunction.

WHAT IS COVERED

Listed below are the LPG System parts that affect your vehicle's emissions. Maintenance items that require scheduled replacement are warranted up to the first replacement interval specified in your Owner's and Service Manual Supplement.

Converter / Regulator	Fuel & Idle Control Solenoid Assembly
Assembly Module 425 Mixer	Regulator Control Valve
Adaptive Digital Processor (ADP)	Dual Spark Module (DSM)
Fuel Lock-off Module	Heated Exhaust Gas Oxygen Sensor (HEGO)
LPG Fuel Tank & Lines	

Miscellaneous Items Used in Above Systems: Connectors, Fittings, Hoses, Mounting Hardware, Relays, Sensors, Switches, Valves, and Wiring.

If failure of one of the components listed above results in failure of another part, both will be covered by this warranty.

ALTERNATIVE FUELS WARRANTY SUPPLEMENT (CONT.)

WHAT IS NOT COVERED

Specifically excluded from this warranty are the following occurrences:

- Those items listed under 'What is Not Covered' in your 1998 Chevrolet / GMC Medium Duty Truck 'Warranty and Owner's Assistance Information' booklet;
- Damage due to neglect, abuse or improper application;
- Damage due to accident, acts of God, or improper vehicle or engine maintenance or performance;
- Damage due to unauthorized repair or adjustments in which parts or components other than those manufactured or supplied by IMPCO have been used, and IMPCO demonstrates that said repair or adjustment by unauthorized persons or use of such parts has contributed to the warranty problem;
- Damage or failure of the LPG System to operate properly due to fault of the truck and not attributable to the LPG System or component (s) thereof;
- Damage caused by use of procedures or by use of fuel, oils, lubricants or fluids not recommended in the maintenance manual for the LPG System;
- Significant alteration of the truck or LPG System after the system is installed on the truck which may affect the operation or performance of the LPG System;
- An engine failure due to any malfunction. Contact the General Motors Zone Office in your area for more information on GM's Supplemental Limited Warranty Service Agreement;
- Extra expenses, or economic loss such as vehicle towing;
- Tanks used with the LPG System. Tanks are warranted separately by the tank manufacturer. NOTE: See tank manufacturer's warranty for details.

Nor does IMPCO warrant the LPG System to be compatible with any particular vehicle or engine except for the vehicle or engine specifically designated in this limited warranty as being suitable for the LPG System. In addition, coverage does not apply if the odometer has been disconnected or its reading has been altered, or the vehicle's actual mileage cannot be determined.

WARRANTY LIMITATIONS

IMPCO does not authorize any person to create for it any other obligation or liability in connection with the LPG System. Any implied warranty of fitness for a particular purpose or merchantability that is applicable to the LPG System is limited in duration to the duration of the above warranty.

Performance of repairs and any required adjustments are the exclusive remedy under this warranty, including any implied warranty. IMPCO shall not be liable for incidental or consequential damages resulting from any breach of this written warranty or any implied warranty.

REPLACEMENT PARTS

The LPG fuel system was designed, manufactured, tested and certified using parts manufactured or supplied by IMPCO. **It is recommended that only parts manufactured or supplied by IMPCO be used for maintenance and repair of the LPG System.**

The warranty obligations are not dependent upon the use of any particular brand of replacement parts. The owner may elect to use parts not manufactured or supplied by IMPCO for replacement purposes. Use of replacement parts which are not of equivalent quality may impair the effectiveness of the LPG System, possibly void the warranty and may be a violation of both federal and state laws.

If parts other than parts manufactured or supplied by IMPCO are used for maintenance, replacement, or repair of components affecting the LPG System, the owner should assure that a certified part is used, and such part is warranted by their manufacturer to be equivalent to those parts manufactured or supplied by IMPCO in performance and durability, and to meet all necessary approvals and certifications for use with the system. A certified part is a part certified in accordance with 40 CFR 85.

ALTERNATIVE FUELS WARRANTY SUPPLEMENT (CONT.)

MAINTENANCE AND REPAIRS

See your 'Warranty and Owner's Assistance Information' Manual for information on LPG System warranty service.

In an emergency situation when a warranted part or a warranty station is not reasonably available to the truck owner, repairs may be performed at any qualified service establishment, or by the owner, using any replacement part. IMPCO will consider reimbursement for expenses incurred, not to exceed IMPCO's suggested retail price for all warranted parts replaced, and labor charges based on IMPCO's recommended time allowance for the warranty repair at the geographically appropriate hourly rate. A part not being available within 10 day or a repair not being completed within 30 days constitutes an emergency.

In the interest of customer satisfaction, any repair or replacement shall be warranted for the remainder of the standard warranty period. IMPCO may use new or reconditioned parts in the repair of a defective part. If IMPCO elects to replace a defective part, it may be replaced with a new, remanufactured, reconditioned or repaired part of the same or similar design.

HOW TO FILE AN EMISSION PERFORMANCE WARRANTY CLAIM

Take the vehicle to an authorized service provider to obtain service under the IMPCO Limited Warranty on the LPG System. Repairs qualifying under the IMPCO Warranty will be performed by an authorized service location within a reasonable time at no charge (not to exceed 30 days after receipt of the vehicles by the service provider, or within the time period required by local or state law). The only exception should be if the owner requests or agrees to an extension, or if a delay results from events beyond the control of the service provider or IMPCO. Repairs that do not qualify will be charged to the vehicle owner. The owner of the vehicle will be notified to whether the repair qualifies under the warranty within a reasonable time. If so notified, any required repairs shall be provided at no charge.

In the event a warranty is not handled satisfactorily, please contact IMPCO Customer Service at (562) 860-6666.