



L.P.G - Liquid Petroleum Gas Systems



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L.P.G. Systems

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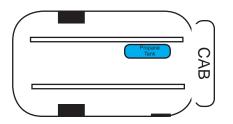


L.P.G. Tank (Ford Models)



Ford Models

The L.P.G. storage tank on the Coach House is located on the driver's side, inboard of the frame on all Ford powered models. Only experienced personnel should fill the tank.



There is a remote fill port located behind the side entrance door on the passenger side of the motor home.





There is a remote fill switch located below the remote fill port. Push the remote fill switch handle in for filling only, and pull out for normal operation.

The remote fill switch requires constant power while pulled to the "out" (on) position. While your vehicle is stored it is recommended to push the remote fill switch "in" (to the off position) so the auxiliary batteries will not be drained. The switch is designed to meet safety requirements which state that the power must be off when filling the tank.



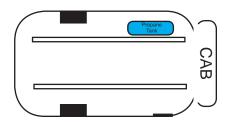
L.P.G. Tank (Mercedes Benz Models)



Mercedes Benz Models

Mercedes-Benz

The L.P.G. tank is located on the driver's side and outside the frame on the 240/241 XL models.



Mercedes Benz models have a direct fill valve. The direct fill valve is located behind the driver's side lower front door.



Safety Note:

Turn off all L.P.G. appliances when filling the tank.

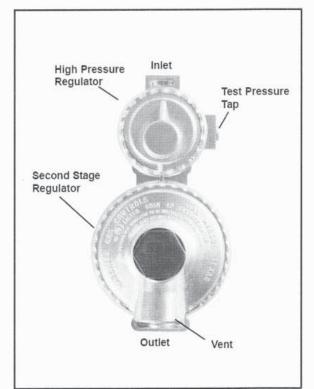


L.P.G. Regulator

The L.P.G. system uses a two-stage regulator manufactered by Marshall Products to control the pressure to the L.P.G. appliances to assure the proper functioning and safe operation of the appliances. The regulator is located under the floor of the motor home near the L.P.G. storage tank and is enclosed in a protective shield to prevent damage to the regulator or clogging of the vent. If the motor home is driven through heavy snow or mud, the vent opening should be checked to make sure that it is not clogged by snow, mud or ice. An opening in the bottom of the shelf allows access to the vent.



Product Information Model 290-00 Regulator



Marshall Products

Regulator Specifications

BTU Capacity (propane): 160,000 BTU/HR1 Inlet: 1/4" FNPT 3/8" FNPT Outlet: Diaphragm: Fabric reinforced high pressure & second stage diaphragm Weight: 1.09 lbs. 5-1/4"L, 3-1/8"W, 2-5/8"D Dimensions: **Underwriters Laboratories Listed** Second Stage Relief Mechanism: Per UL 144 Mounting Holes: 3-1/2" on center Body: Zinc die cast

Average based on 25 PSIG inlet pressure and 9" WC outlet pressure at manufacturer's standard setpoint²
*Setpoint: Inlet=100 PSIG, Outlet=11" WC, Flow rate=30 SCFH air

Introduction

Thank you for purchasing the Model 290-00 regulator. The Model 290 series integral two-stage regulator is a high pressure regulator combined with a second-stage regulator. The high pressure regulator reduces the full cylinder pressure within 10-13 PSIG range. The second-stage then reduces the inlet pressure down to 11 inches of water column (0.4 PSIG) outlet pressure. NOTE: THE 290-00 SERIES IS AN INTEGRAL, TWO-STAGE REGULATOR THAT MEETS RVIA REQUIRE-MENTS FOR USE ON RECREATIONAL VEHICLES AND COMPLIES WITH REVISED UL 144 REQUIREMENTS (JUNE1998) AND NFPA REQUIREMENTS.

Installation

The regulator will function regardless of the position in which it is mounted. However, ANSI A119.2, NFPA 501C Recreational Vehicles Code 2-2.7.6 provides in part, "The regulator(s) shall be mounted only in a position (with the vent pointed) downward within 45 degrees of vertical and the diaphragm area being drained" (emphasis added). It is important to install the regulator in a position in which the cover cannot possibly become a receptacle for water or other foreign material. Marshall suggests following these same installation guidelines as it pertains to vent location for all applications.

Operation

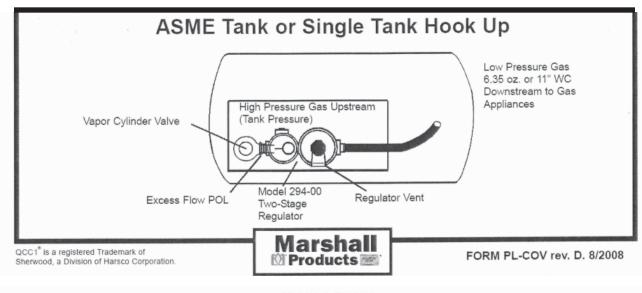
With single-stage regulation, the regulator functions under extreme variations of inlet pressure caused by the changes in outside temperature. As a result of these variations in inlet pressure, minor variations in outlet pressure are possible. Two-stage regulation results in a consistent inlet pressure to the second-stage, thereby minimizing minor outlet pressure variations from the second-stage regulator.

Important

Do not attempt to adjust or remove test pressure tap. Only qualified persons should install, adjust or service LP gas regulators. If service is needed, contact a qualified LP dealer. Always make sure cylinders are properly filled and never accept cylinders that are over filled. When replacing newly filled cylinders to the regulator, check all connections for leaks with an approved leak detector solution or a mixture of non-ammonia soap and water. Never use matches or an open flame. Note: Low pressure regulators are designed to regulate LP vapor only. Use of this regulator on LP systems equipped with ASME tanks which allow liquid or debris to enter the vapor system will nullify the warranty.



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Limited Warranty

Marshall warrants its products to be free from defects in material and workmanship under conditions of normal use for a term of one year from date of purchase. Proof of purchase must accompany return.

This warranty does not apply to products which have been damaged for any reason after leaving the control of Marshall, including, but not limited to damage caused by abuse, misuse, negligence, accident, modification, installation, alteration or repair, nor will Marshall be responsible for consequential damages. Marshall disclaims any implied warranty or warranties of any other nature other than as outlined above.

During the warrant period, if a product is found defective in material or workmanship, it will be replaced or repaired without charge if returned in accordance with the following instructions. The product should be packed carefully and returned, postal charges prepaid to: Marshall Gas Controls, 1000 Civic Center Loop, San Marcos, TX 78666. A note should be included advising the nature of the malfunction. Damage to the product incurred during packaging or shipping the product to Marshall Gas Controls is not covered under this warranty.

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Marshall Gas Controls 1000 Civic Center Loop, San Marcos, TX 78666 Fax (512) 396-2619 Phone (512) 396-2257 Toll Free 1(800) 877-2495 E-Mail address: www.mgc-mbc.com A Division of the S.H. Leggitt Company



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Regulator Freeze Up

Under some conditions, moisture may be present in the L.P. gas in your tank and this can cause the regulator to freeze up, stopping flow to the appliances. This condition occurs more frequently in cold weather or at higher altitudes and usually can be cured or prevented by having methanol injected into the L.P. G. tank. Only experienced, qualified personnel should do this. Some L.P.G. stations expecially at higher altitudes, will already have methanol in the L.P. gas they dispense. It is suggested that if you plan to go to a colder climate or a higher altitude, that you wait until you reach those areas before completely filling your tank. The small cost difference is well worth it to reduce the risk of freeze up.



Mandatory Consumer Information

The following information is being supplied to conform with the mandates of:

ANSI A119.2 / NFPA 501C-1987

and to ensure the greatest possible degree of safety for our customers. Please study this information carefully and keep it in your vehicle at all times.

Should this information be misplaced, additional copies are available from our corporate office for a nominal charge.

A)

<u>WARNING</u>

L.P. Gas containers shall not be placed or stored inside the vehicle. L.P. Gas containers are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere.

B)

WARNING

IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING! COOKING APPLIANCES NEED FRESH AIR FOR SAFE OPERATION

Before Operation:

1) Open overhead vent or turn on exhaust fan.

2) Open window.

This warning label has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion. Unlike homes, the amount of oxygen supply is limited to the size of the recreational vehicle, and proper ventilation when using the cooking appliance(s) will avoid dangers. Cooking appliances should not be used for comfort heating as the danger of asphyxiation is greater when the appliance is used for long periods of time.



C) A warning label has been located near the L.P. Gas container. This label reads:

DO NOT FILL LP-GAS CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY

Overfilling the L.P. Gas container can result in uncontrolled flow which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid L.P. Gas. Safety regulation prevents filling over 80%.

D) WARNING

Portable fuel-burning equipment, including wood and charcoal grills and stoves, must not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle may cause fires or ashpyxiation.

E)

<u>WARNING</u>

Storage of L.P. Gas containers, gasoline or other flammable liquids insdie your vehicle - even for short periods of time - presents a risk of fire and/or explosion. All flammable liquids should be stored safely in a well-ventilatied area outside your vehicle and in proper containers.

F) The following label has been placed in the vehicle near the range area.

IF YOU SMELL GAS

- 1) Extinguish any open flames, pilot lights and all smoking materials
- 2) Do not touch electrical switches.
- 3) Shut off the gas supply at the tank valve(s) or gas supply connection.
- 4) Open doors and other ventilation openings.
- 5) Leave the area until odor clears.
- 6) Have the gas system checked and leakage sourcee corrected before using again.

G) L.P. Gas regulators must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that regulator vent faces downward and the cover is kept in place to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.

