

SAFETY TIPS

**PROPANE SYSTEMS
ON CAMPERS AND
RECREATION
VEHICLES**

PROPANE HANDLING FOR CAMPERS AND RV'S

As a highly portable fuel, propane provides you with modern convenience no matter where you travel. Stored as a liquid and used as a gas, it will cook your meals, heat your RV or camper, keep you supplied with hot water, and even refrigerate your food. Propane is non-toxic, safe and economical.

Propane is combustible. This booklet contains some important points for safe storage, handling and use of propane cylinders, systems and appliances. If others travelling with you are unfamiliar with propane, or if you lend your vehicle to someone - be sure to acquaint them with these safety tips.

BE FAMILIAR WITH ITS ODOUR

When produced, propane is both colourless and odourless. An odourant is added so, in the event of a leak, you can detect the escaping gas by its strong, distinct smell (like rotten eggs or boiling cabbage). Ask your propane supplier to familiarize you and your family with this smell.

Under certain circumstances, propane gas may lose this smell. This is called "odour fade," and can occur in any cylinder. As well, not everyone has a sense of smell and physical conditions such as competing odours, common colds and allergies, smoking, etc. may lessen a person's ability to detect odours.

If you think the odour of your propane gas is weak, or if your sense of smell is impaired, call your propane supplier. A service technician can verify the odour of the propane gas in your tank. If your sense of smell is impaired, consider installing an electronic propane detector in your RV.

REMEMBER If you suspect a leak, follow these steps:

1. Have all other occupants leave the vehicle immediately.
2. Eliminate all sources of ignition. (i.e. Extinguish open flames. Do not turn light switches or flashlights 'ON' or 'OFF'. Do not operate cellular phones).
3. Turn off all gas appliances.
4. Open all doors and windows and let fresh air blow away the escaped gas.
5. Close all cylinder supply valves immediately.
6. Call a trained gas service person and do not turn the gas on again until the leak has been found and corrected.

GENERAL CYLINDER INFORMATION

A properly filled propane cylinder contains up to 80 per cent liquid, (Figure A, page 3). The remaining 20 per cent of space above the liquid contains propane vapour. It's this vapour that burns in your appliance.

The vapour space also provides room for the liquid propane to expand if the cylinder is exposed to warmer temperatures.

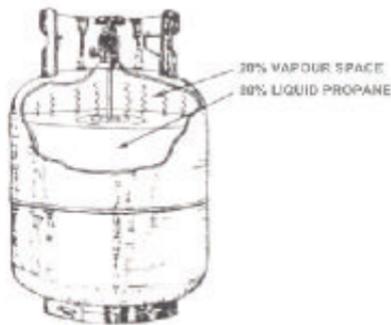


Figure A
Cut-away of a Typical Propane Cylinder

REMEMBER

If a cylinder is overfilled (beyond 80 per cent capacity), the following potentially hazardous conditions could occur:

- ⚡ **The pressure relief valve may open, discharging propane.**
- ⚡ **If the pressure relief valve fails to open, the container could rupture, resulting in serious injury or property damage.**
- ⚡ **Propane liquid could enter the piping system, resulting in higher than normal pressures to the appliances.**

ALL PROPANE CYLINDERS ARE NOT ALIKE

There are two basic types of portable cylinder's - a vertical (upright) standard cylinder and the horizontal cylinder that comes with a special mounting bracket and can be installed vertically or horizontally. When you purchase a new cylinder, be sure it fits the bracket you have. If you use a cylinder exchange service, be sure the cylinder you receive is the same type you turned in. Vertical cylinders can only be used standing upright, whereas horizontal cylinders are designed for service while lying on their sides.

REMEMBER

Be familiar with the type of cylinder(s) you own. Installing the incorrect cylinder could allow propane liquid to enter the piping system, causing your appliances to malfunction and creating a fire and explosion hazard.

Finally, when you install your new or refilled cylinder, remember that in a single cylinder system all appliance valves must be turned off before you open the container service valve.

CYLINDER REQUALIFICATION

All propane cylinders must be inspected and requalified by a **A**qualified technician every 10 years. For information about cylinder markings, inspection and requalification, consult your propane dealer.

Your cylinder should also have a decal like the one in Figure B, which identifies the contents as a flammable gas.

Filling an outdated propane cylinder violates federal law.



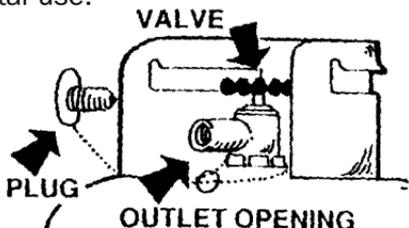
Figure B
1075 Shoulder Label

HANDLING PROPANE CYLINDERS PROPERLY

Whether transporting or storing your propane cylinder, you need to handle it properly. Here are some safety tips you should follow:

- Never transport a cylinder lying on its side unless it's a cylinder designed for horizontal use.

- When transporting disconnected cylinders, plug or cap all cylinder outlets with a threaded safety plug.



- Never use, store, or transport cylinders in the passenger space or living area of your RV or camper.
- Always store a cylinder outdoors and up off the ground on a non-combustible base. Another good practice when storing a cylinder is to plug or cap the service valve outlet.
- Cylinders that are damaged, show signs of corrosion, have been exposed to fire, or appear to be leaking gas should be removed from service immediately. Have defective cylinders repaired or disposed of by a qualified service technician as soon as possible.

REFUELING PORTABLE CYLINDERS

A cylinder should never be filled past 80 per cent. An overfilled cylinder is no bargain, it's hazardous because there will be no room left for the liquid propane to expand. As a result, gas may escape, creating a potentially hazardous situation.

REMEMBER

Only personnel trained in the proper filling procedures of propane cylinders should fill your cylinder. If you are unsure, ask to see their certification.

REFUELING PERMANENTLY MOUNTED CYLINDER

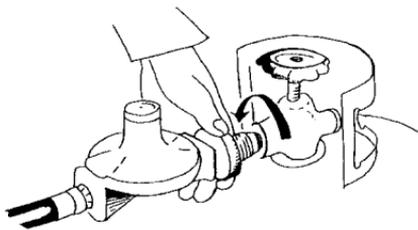
Before entering the refueling area, turn off all pilot lights, appliances, and automatic ignition devices. Before permanently mounted propane cylinders are refuelled, turn off the vehicle engine and have all passengers leave the RV or camper.

REMEMBER

In most provinces it's law that all appliances and pilot lights must be turned off and cylinder valves closed while travelling.

PROCEDURES FOR CHANGING CYLINDERS

1. Make sure all appliance valves are shut off.
2. Shut off the cylinder(s) service valve supplying propane to the sytem.
3. Use a properly sized wrench to disconnect the cylinder (left hand thread) and remove for refilling. Install a protective plug in valve outlet if transporting.
4. Prior to reconnecting the cylinder to the service line, secure cylinder in a cabinet or bracket and remove the protective plug.



5. Reconnect the cylinder to the service line.
6. Check your appliances to be sure that appliance gas valves are still turned off inside the vehicle.
7. Turn on the cylinder service valve and listen for gas flowing through the regulator.
8. If you hear gas flowing through the regulator, immediatly shut off the cylinder service valve and check that all appliance valves are turned off and there are no open lines.

9. Check for leaks with an approved leak detector solution or a mixture of 50% liquid soap and 50% water Brush on to any connections or valves. If bubbles expand, there may



be a leak. Be sure to check that the control equipment is operational and not stuck in the "open" position.

Never use a match or an open flame to check for leaks.

10. After you're sure the system is leak-free and the controls are operating properly, pilots can be relit following manufacturer's instructions.

SECURING CONTAINERS

Make sure your propane gas cylinder and regulators are installed and properly secured in or on your RV or camper. Depending on the type of vehicle, cylinders and regulating equipment can be located as follows:

1. **Travel Trailers and Tent Trailers:** On the A frame as close to the front of the trailer body as possible.
2. **Motor Homes, Vans, Fifth Wheel Trailers for Slide-in Chassis Mounted Units:** In a recessed compartment, gas tight to the interior of the vehicle, and accessible only from and ventilated to the outdoors. Pressure relief valves must be pointed away from the vehicle or toward the container compartment opening.

The compartments for all propane cylinders must be ventilated, both at the top and bottom, and completely sealed from the interior of your RV or camper.

Cylinders located on the rear of an RV or camper must be securely fastened and protected by substantial bumpers. Remember a propane cylinder must never be located underneath any part of the RV or camper.

REMEMBER

Propane cylinders should not be mounted on the roof, front or sides of a vehicle.

CONTAINER MAINTENANCE

Protect the outside of your container with light-colored, heat reflective paint (normally white). This will help reduce the increased pressure as temperatures rise, and protect against rust and corrosion.

REMEMBER

If your vehicle is involved in a collision or other accident, shut the gas supply off at the container and have the system checked by a qualified propane gas service person. Never use an open flame to check for leaks.

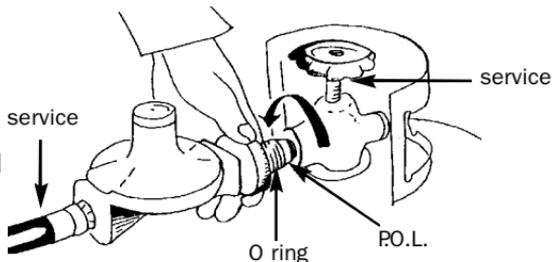
THE REGULATOR

Propane reacts to temperature changes. When the temperature drops, the pressure in the cylinder drops. When the temperature rises, the pressure increases. **A regulator assembly must be provided to maintain a constant delivery pressure to your appliances at all times.**

REMEMBER

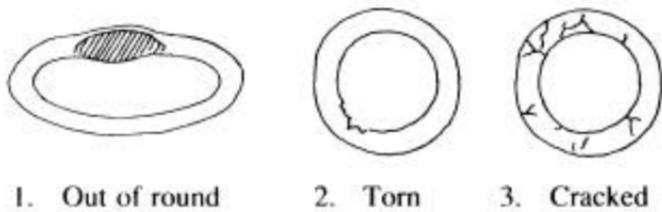
Do not attempt to install or repair a regulator - call your propane gas dealer if service is required.

The P.O.L. (Put On Left) that connects the cylinder hose to the cylinder has a left-hand thread. Turn it counter clockwise to tighten.



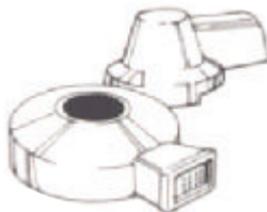
Use a correctly sized wrench and do not over tighten. Be careful not to damage or scratch the round nose of the P.O.L. seat.

Finally, your P.O.L. fitting requires an “O” ring, check it every time you connect the cylinder. It requires replacement if it’s:



PROTECTING YOUR REGULATOR

Propane regulators must be protected and installed to prevent the regulator’s vent from clogging due to rain, snow, sleet, ice, condensation or road spray.



REMEMBER

A blocked regulator vent could result in excessive gas pressure to appliances, or regulator failure, which could result in injury or property damage.

PREVENTING REGULATOR FREEZE-UPS

Moisture in propane may cause the regulator to freeze up. To help prevent freeze ups:

- Always keep the cylinder valve closed and P.O.L. plug in place when not in use.
- If you suspect there is moisture in the cylinder, have your propane dealer correct the problem before filling.

OPERATING APPLIANCES SAFELY

Appliances must be specifically approved for use in an RV. **A** Properly adjusted appliances are very important. Improper flame adjustment (which you can detect by a yellow flame at the burner tip) can produce dangerous amounts of carbon monoxide and may result in death. When operating your oven and/or range, open a vent or window to ensure an adequate supply of air for safe operation. Never use the top burners or oven for heating an RV or camper.

CARBON MONOXIDE

Carbon monoxide is a colourless and odourless gas, that can't be smelled. If you are exposed to carbon monoxide, you may experience any or all of these symptoms:

- Headaches, tightness across the forehead and temples
- Weariness, weakness, dizziness and vomiting
- Loss of muscular control
- Watering and smarting of the eyes

REMEMBER

If any of these symptoms should develop, get into the fresh air immediately, and have your propane appliances checked and repaired as needed.

HOW TO GUARD AGAINST CARBON MONOXIDE

1. Never use the oven or stove top burner to heat your Rv or camper.
2. Never use any camping or other portable heater that is not designed and approved for your vehicle or is not approved for use with propane gas.
3. Never take a barbecue grill (propane or charcoal) inside your vehicle to cook or heat with.
4. Have all appliances, including venting and burner systems, tested annually for proper operation by a qualified propane gas service person.
5. Always be sure your vehicle is properly ventilated.
6. There are commercial detectors available that can be easily installed inside a camper to warn of the presence of carbon monoxide.
7. Heaters used in RVs must be approved for RV use and be of a sealed combustion type or have other special vent systems.

REMEMBER

To ensure your safety, and the trouble free use of your propane gas system, we urge you to consult your propane dealer if you have any questions about the operation of your propane system or appliances.



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