

Liquid fuel Lantern Maintenance



Replacing the mantel

- ✓ Unscrew the ball nut on the top of the lantern, and remove the ventilator and glass globe.
- ✓ Remove the old mantel and strings holding it onto the burner.
- ✓ Tie mantle around groove in burner and cut off ends of string ¼” from knot.
- ✓ Light bottom of mantle evenly (move match back and forth) and leave to burn. Once mantle has been burned it is very fragile. Be careful not to touch it with your finger or with a match.
- ✓ Replace the glass globe, ventilator and ball nut.

Pumping

- ✓ Be sure the fuel valve is off and fuel cap is firmly closed.
- ✓ Open pump knob by turning 1 full turn to the left.
- ✓ Cover hole in pump knob with thumb and pump **30 to 35** full strokes.
- ✓ Close the pump knob.

Lighting the lantern

- ✓ Always light and use your lantern outdoors; never in house, camper, tent or other unventilated or enclosed areas.
- ✓ Push a lit match through lighting hole and turn fuel valve to high.
- ✓ Flames other than at mantles indicate flooding or a leak. Turn fuel valve off, allow flames to burn out and lantern to cool. Carefully review instructions and correct problem before relighting lantern.
- ✓ Allow lantern to heat up and light to steady. Adjust fuel valve to desired brightness.
- ✓ To clean the generator tip, turn fuel valve from high to off to high several times.

To turn off

- ✓ Turn the lantern off by turning the fuel valve to “OFF”.
- ✓ Light will dim and go out in 1 – 2 minutes.

Six Major Lantern Problems

1. Broken mantle
2. Low fuel level and/or poor pressure
3. Insufficient preheating.
4. Clogged jet.
5. Air leak in the system (seals and “O” rings).
6. Contaminated fuel.

Lantern Troubleshooting

Fuel Leakage:

- At fuel tank: Fuel cap (or pump) not tight.
- At pump: Pump valve or seals are damaged.
- At jet: Control valve is stripped.

Limited or No Fuel:

- No pressure: Pump up fuel tank.
- No fuel: Tank is empty; jet is clogged; fuel tube is clogged; and/or fuel is too cold.

Pump won't work:

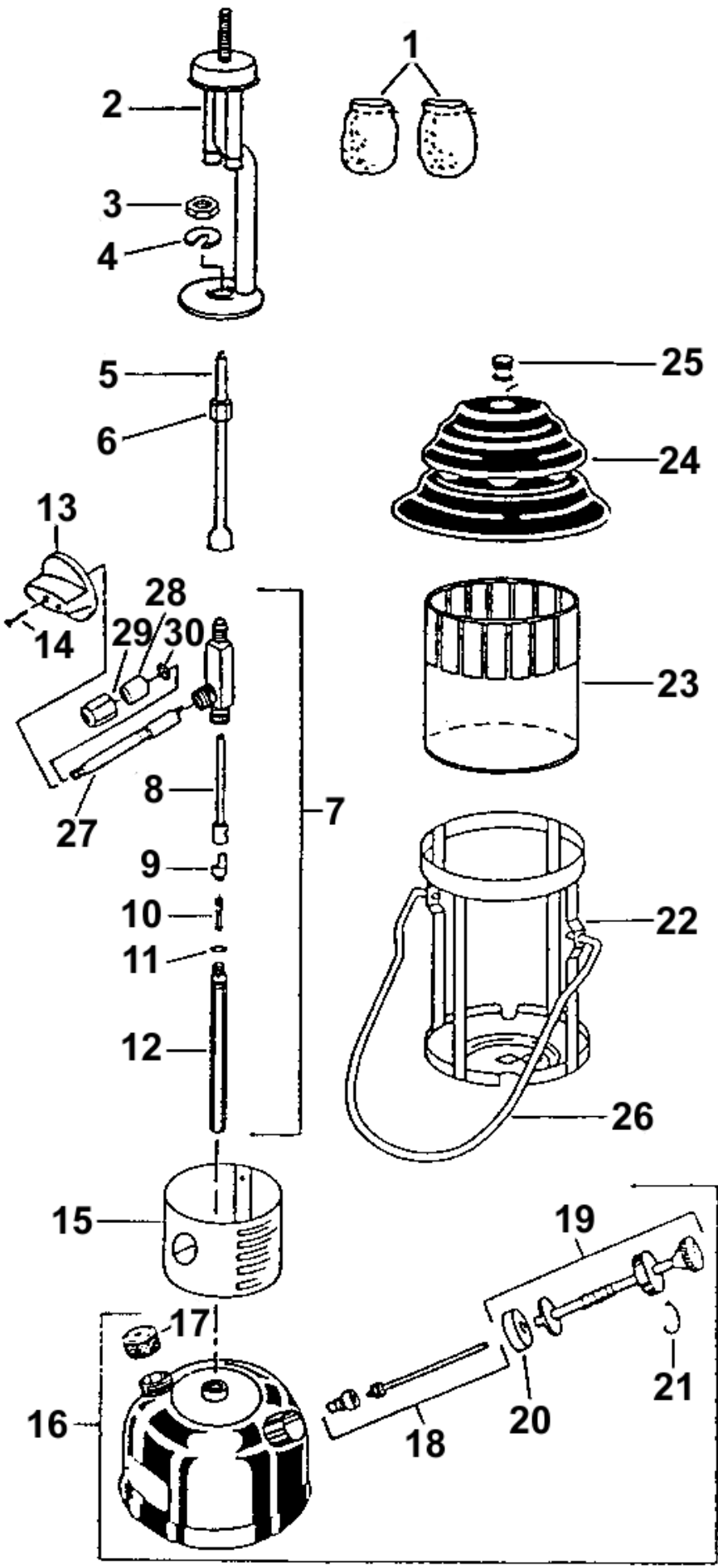
- Dry cup: Oil the pump cup.
- Dirty pump: Clogged check valve.

Reduced Performance through Jet:

- Lack of fuel: Check fuel level -- pump up pressure-tank.
- Obstructions: Clean jet. Improper jet.
- Too cold: Improperly insulated from snow -- warm fuel tank in sleeping bag.

Erratic Burning/Surging:

- Lack of fuel: Check fuel level -- pump up pressure-tank.
- Pressure too great: Control valve opened too far.
- Fuel is cold. Burner not adequately heated.



Parts List

- 1 MANTLES
- 2 BURNER ASSY
- 3 NUT
- 5 GENERATOR
- 6 JAMB NUT
- 7 VALVE ASSY
- 8 ECCENTRIC BLOCK A
- 9 VALVE BLOCK
- 10 VALVE CORE
- 11 O RING
- 12 FEED TUBE ASSY
- 13 VALVE KNOB
- 14 SCREW
- 15 COLLAR ASSY
- 16 FOUNT ASSY
- 17 FILLER CAP
- 18 CHECK VALVE & AIR STEM
- 19 PUMP PLUNGER
- 20 NEOPRENE PUMP CUP
- 20 LEATHER PUMP CUP
(ARTIC WEATHER PUMP KIT)
- 21 PUMP CLIP
- 22 FRAME ASSY
- 23 GLOBE
- 24 VENTILATOR
- 25 BALL NUT
- 26 BAIL
- 27 VALVE STEM
- 28 PACKING
- 29 PACKING NUT
- 30 RET RING

99 Pump Lube

Cleaning your Lantern

The benefits of regular cleanings include better fuel efficiency, flame control and no rust or corrosion.

- ✓ Although there isn't a set schedule for cleaning your lantern, you should clean it whenever it is dirty and before storing your lantern at the end of camping season.
- ✓ Under most conditions, lanterns can be wiped out with warm water and dishwashing soap and then dried before storing.
- ✓ With a liquid fuel lantern, transfer as much fuel as possible out of the fuel tank and back into the fuel can to prevent a lacquer build-up on the tank's fuel tube. Keep in mind that storing a liquid fuel appliance with fuel in the tank can eventually cause a build-up on the fuel tube, which restricts fuel flow to the generator and burner. Drain the fuel and vent the tank if it is to be stored for 2 weeks or longer.
- ✓ After cleaning, put it into a plastic bag, sealing with a twist tie to prevent spiders or other insects from crawling in the unit, which can block the fuel and airflow.

When it's time to take out your lantern, remember to oil the pump cup on the tank's pump plunger at least twice a year with light machine oil. This allows the cup to seal against the inside of the pump barrel and insures the pump will work smoothly and push air into the tank properly.

Things to remember

Carry a few spare sets of mantles. Once burned, a mantle is fragile and can be damaged if touched or dropped. Rinse tank occasionally with fresh fuel to remove sediment, gum formations and moisture accumulations.

Oil pump periodically to keep it working smoothly. An "Arctic weather" pump kit is available for use in winter conditions.

Part of the brightness control is located in the generator. If the lantern fails to adjust from high to low properly, replace the generator.

Remove fuel and vent the tank if not being used for 2 weeks or longer.

Store in a plastic bag, sealed with a rubber band or twist tie.

Unleaded gas should only be used in Coleman® appliances marked as "Dual Fuel™" or Unleaded Fuel" and only the lowest octane unleaded gas available should be used. Unleaded gas contains additives that are more difficult to vaporize than the gas itself and the higher the octane rating of the fuel, the more additives mixed with the gas. **Unleaded gas from Canada** should never be used in any Coleman® appliance, even the "Dual Fuel™" and "Unleaded", as there is an additive in the fuel which will damage the tank, valve, generator and burner assembly.

At lower temperatures (below 32° F/ 0°C), liquid fuel lanterns will need air pumped into the tank more often and, when started, will burn with a yellow flame for a longer time. Because the lantern and fuel are colder, it will take longer for the generator to heat to the point where the fuel will vaporize and the mantles glow. The performance of Propane Lanterns will not be affected by temperatures above 0° F. However, as the temperature drops below 0° F/ -18°C, there will be a gradual reduction of light output down to -20°F/ -29°C where the propane lantern may fail to function.

Pulsing / Surging

It is normal for a liquid fuel lantern to have a slight flicker while operating. Usually, this flicker is very fast and hard to notice. You would be more likely to notice it out of the corner of your eye or in a shadow cast by the lantern than by looking directly at the lantern. Propane lanterns might flicker if the surrounding temperature is very cold or if the propane cylinder is low on fuel. Under normal use, propane lanterns will not flicker.

The first thing to check with a pulsing liquid fuel lantern is that there is sufficient fuel in the tank and the tank has been pumped up at least 35 times. Low air pressure in the fuel tank can result in a slow flow of fuel to the mantles and can result in pulsing. Likewise, if the lantern's tank is less than half full of fuel, this can result in pulsing. Filling the tank at least three quarters full and pumping up the lantern at least 35 strokes will solve these problems. However, a liquid fuel lantern can flicker if there is a large carbon build-up inside the generator. This will cause an irregular flow of fuel through the generator and the fuel will reach the mantles in surges resulting in a noticeable pulsing in the lantern's light output. The only cure for this problem is to replace the generator.

A noticeable pulsing can also be caused by a build-up of lacquer on the lantern's fuel and air tube in the tank. If a lantern is stored for long periods with fuel in the tank, it can cause a coating of lacquer to build-up on the fuel and air tube. The tube has a small hole at the bottom that draws in the fuel. If it is obstructed, the fuel will pass into the generator and mantles in surges. You can sometimes clean the fuel and air tube by pouring out the fuel in the tank then filling it about halfway with denatured alcohol. Do not use rubbing alcohol as it has water in it and do not pump up the tank or open the valve while the alcohol is in the tank. Let the lantern sit for 24 hours then shake the tank and pour out the alcohol. Rinse the tank with clean Coleman Fuel and refill with fresh fuel. If the lantern's light still pulsates, you will need to replace the fuel and air tube.

We suggest that if you are storing your lantern for more than two weeks, pour the fuel in the tank back into the fuel can. This will eliminate the build-up of lacquer on the fuel and air tube.

“Camp” or Coleman fuel



New fuel bottles require warning labels and child-resistant caps to meet Health Canada regulations. Be aware that the new, aluminium water bottles may resemble older fuel bottles, and care must be taken not to get them confused.

Coleman® Fuel is basically petroleum naphtha with a bit of rust inhibitor. It has an octane rating of 50 to 55 and none of the additives found in gasoline. It has a lighter molecular weight than gasoline, kerosene and diesel fuel and cannot be used as a substitute for any of those fuels. The flammability of Coleman® Fuel is comparable to gasoline but it cannot be used in gasoline engines. It will burn out the valves.

An un-opened container of Coleman® Fuel stored in a dry area with no rapid extreme changes in temperature will remain viable for five to seven years. An opened container stored in the same area will remain viable for up to two years though will be at its best if used within a year.