

SECTION E: CAMP STOVES AND LANTERNS

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Knowing how to use a camp stove is essential for going to some camps such as SOAR or MOSAIC because cooking with wood fires is not allowed. This manual will focus only on propane gas and white gas, even though other fuels can be used in camp stoves and lanterns.

SAFETY PRECAUTIONS FOR ALL CAMP STOVES AND LANTERNS

Photocopy & laminate these pages. Keep with each camp stove.

- **Fuels are not interchangeable.** Use only the kind of fuel that is required for that stove.
- Test stoves and lanterns and become familiar with their operation before taking them to camp.
- Keep fuel supplies in a dry, shady place, especially when transporting them on a hot day. Store fuel away from food and sleeping areas.
- Never use a stove or lantern inside or near a tent. (Keep farther away on windy days.)
- Do not use a stove or lantern inside a building except in extreme weather conditions. Make sure there is adequate ventilation, because they consume a lot of oxygen and produce carbon monoxide.
- Make sure the stove or lantern is on a stable surface and will not tip over. When using it on snow, place it on an insulated support (e.g. a piece of board).
- Be aware of flare-ups during lighting and keep your head to one side.
- Don't leave a lighted stove or lantern unattended.
- Clean the stove frequently to avoid grease build-up which can cause a grease fire.
- Keep all the parts clean, and see that lines and burners are not clogged, cracked or cut. Check all points of connection, and make sure hoses are not cross-threaded.
- Check for leakage by brushing soapy water on all connections and then turning on the gas. Bubbles indicate leakage. Turn off fuel source, undo and then re-connect the line or tank. Repeat soapy water test.
- Never use water to put out a fire involving propane or white gas. Always keep a box of baking soda near the stove to smother the flames. You can also close the lid of the stove or turn off the fuel supply. STAY CALM.
- Make sure that hair is tied back and no loose pieces of clothing (e.g. scarves and ponchos) are dangling near the flames. Nylon clothing when overheated can melt right to the skin.
- Let stoves and lanterns cool off completely before transporting or storing.
- Dispose of empty fuel containers appropriately. DO NOT throw empty containers on fires, as they may explode.
 - Propane bottle – 1 lb bottles – take them to a recycling depot, or leave them in established campgrounds with a recycling program
 - Propane tanks – 10 lb tanks – take them to gas stations or stores (such as Canadian Tire) that sell propane tanks
 - White gas containers – garbage – not in recycling.

***Way to Camp!* This is the way we do it in Lions Area.**

ADDITIONAL SAFETY PRECAUTIONS FOR PROPANE STOVES AND LANTERNS

- Always use or store a propane cylinder in an upright position or on a proper bottle stand.
- Always remove the regulator assembly from the stove inlet.
- Always disconnect the propane bottle / tank from the regulator during storage.
- Make sure the stove has cooled off before putting the regulator assembly inside the stove.
- Re-insert the plastic safety plug on the tank.
- Leaking propane accumulates in low places and is DANGEROUS. Be sure all the connections are tight (not cross-threaded). The smell of gas indicates leakage. Check for leaks by brushing soapy water on all the connections and turning on the gas.
- If the stove has been turned on without the burner being lit or if there has been a leak, allow gas to dissipate at least 5 minutes before lighting the stove.
- If a propane bottle gets too hot, it can explode. Turn off the stove and allow it to cool.
- Single canister propane bottles may make a noise when they are almost empty, or they will develop a frost on the outside. This is nothing to be alarmed about but it is a reminder to have a replacement handy if you are in the middle of cooking.

ADDITIONAL SAFETY PRECAUTIONS FOR WHITE GAS STOVES AND LANTERNS

- Empty white gas tanks before transporting them.
- Make sure cans of gas are packed upright, secure and tightly closed.
- Avoid over-priming, over-pumping, or over-filling (maximum 75% of capacity).
- Never remove the fuel tank or re-fuel near very high heat, open flames, or smokers.
- Be sure the valve knobs are turned off before refuelling.
- Wait until the stove has cooled before refuelling, removing the tank, or storing it inside the stove.
- Always cook over a blue flame or your pots will blacken. If the flame is yellow, check the fit of the nozzle into the mixing chamber and pump the gas fully.

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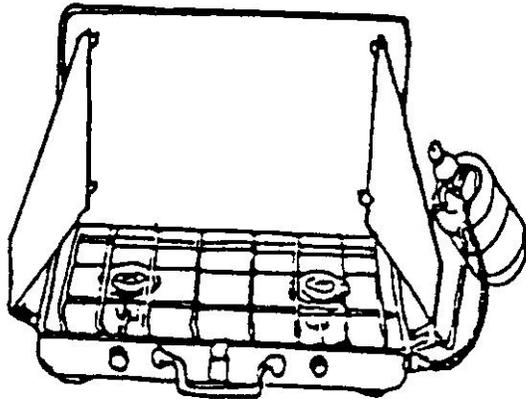
SELECTING A STOVE

- Both fuels are readily available.
- Both come in a range from small, light-weight back-packing models to large, heavy models.

PROPANE STOVES	WHITE GAS STOVES
<ul style="list-style-type: none">• Fewer instructions – easier for the first time user• Needs no pumping or priming• Pressure in tank is maintained until empty	<ul style="list-style-type: none">• Lots of instructions, but once you've learned the principles, it's not difficult• Stove is complex. Various mechanical malfunctions are possible.• Needs pumping to build and maintain air pressure.
<ul style="list-style-type: none">• Refuelling (or changing the bottle) is quick and easy.	<ul style="list-style-type: none">• Must let the stove cool before refuelling
<ul style="list-style-type: none">• May not work when the temperature drops below minus 10 or 15 degrees.	<ul style="list-style-type: none">• Burns hotter than propane. Excellent for cooking quickly and in large amounts.• Will work even when the temperature goes below minus 10 or 15 degrees.
<ul style="list-style-type: none">• 1 lb propane bottles are expensive and not refillable (bad for the environment).• 10 lb refillable tanks (BBQ size) are heavy to transport for short camps.	<ul style="list-style-type: none">• You can bring the appropriate size of fuel can, and it will be lighter to pack out empty.
<ul style="list-style-type: none">• Whether 1 lb bottle or 10 lb tank, propane doesn't need to be emptied for transportation because it can't spill.	<ul style="list-style-type: none">• You need to make sure the fuel can is tightly closed and ensure the can sits upright during transportation.

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PROPANE STOVES



1 pound or 10 pound fuel

Getting Ready

1. Set the stove on a flat surface.
2. Propane stove can be hooked up directly to a 1 lb propane bottle, or with an adaptor cable to a larger propane tank. For the small bottle, push regulator assembly into the stove inlet and tighten by hand. Then screw fuel bottle into the regulator, taking care not to cross thread.
3. For the larger tank, attach the extension hose to the regulator hose and tighten.
4. Attach the extension hose to stove inlet and tighten.
5. Just before using the stove, open the propane bottle valve one full turn. Any more is unnecessary and will make it confusing to cut off the fuel supply if it needs to be done quickly.
6. Put the wind baffles in on the sides of the stove.

To Light

1. Check to make sure the burner valves are off by turning to the right.
2. Hold a lighted match at burner and open the burner valve to the left.

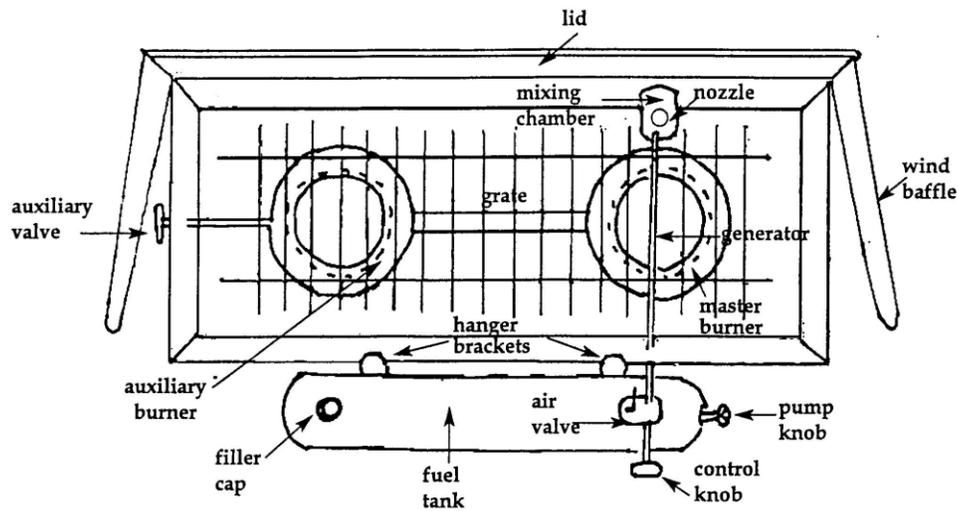
To Turn Off

1. Turn off the valve on the propane cylinder first to use up the gas in the line.
2. Don't turn the burner(s) off until the flames are gone – but don't forget to do it. Turn the burner valve to the right to turn off.

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WHITE GAS STOVES

Photocopy and laminate these pages. Keep with your camp stoves.



Getting Ready

1. Put the stove on a flat surface.
2. Remove the grate and take out the fuel tank.
3. Unscrew filler cap and pour fuel in with a special funnel. Never fill the tank while it is still attached to the stove.
4. Replace cap and tighten securely.
5. Don't remove the filler cap while the stove is being used.
6. Insert the generator into the large hole in the front of the stove, then into the opening in the mixing chamber. Engage the hanger brackets into slots taking care that the stove handle is out of the way, allowing the tank to fit tightly against the case.

To Pump up the Fuel Tank

1. Rotate the pump knob 3 times to the left.
2. Place thumb over the small hole in the knob, pull out the plunger and pump it vigorously with about 15 to 20 short strokes.
3. Keeping a finger over the hole, push the plunger in and rotate pump to the right until tight.

To Light the Stove

1. Turn air valve to "up" position.
2. Strike a match and hold the flame over the master burner, keeping your hands well to the right.
3. Be prepared for a flare-up so stand back a bit when lighting the stove.
4. Turn on the gas with the control knob. Remove match as soon as gas lights. (One person might light the match, while another turns on the gas.)
5. Turn on gas fully and then turn it down until a "good" flame is burning.
6. Flame should turn to a steady blue flame within a minute.
7. Turn down the air valve 1 minute after lighting. Put the grate back on.

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Auxiliary Burner

1. To light the auxiliary burner, hold a lighted match over the burner, pull out the valve and turn it away from you.
2. To turn it off, turn the valve towards you and push in.
3. If the flame goes out while you're cooking, you can pump the gas and relight without turning off the gas.

To Turn off Stove

1. Make sure the auxiliary burner is turned off.
2. Turn up the air valve during the last minute of burning.
3. Turn off the main control knob.
4. When flame is out, release pressure in the fuel tank to avoid leaking. Unscrew filler cap slowly. When pressure is released, screw cap tightly.
5. Clean the stove after each use to avoid flare-ups and clogging the gas line.

If Your Stove Will Not Light

1. Check the tank to see if there is enough gas.
2. Re-pump the fuel tank.
3. Check to see if the generator nozzle is fitting accurately into the mixing chamber.
4. Check the ring on the nozzle to make sure it is tight. Use a wrench to tighten.
5. Sometimes carbon gets in the mixing chamber. This can sometimes be cleared by removing the fuel tank, giving the mixing chamber a few taps with a wrench, turning the stove upside down and then shaking the carbon out. If this doesn't solve the problem, then a new generator may be needed.

If Fire Flares Up

Fire will flare up because:

- The gas was turned on before the match was lit.
 - There is a fuel leak.
 - Spilled grease or a dirty generator.
1. At the first sign of flare-up, turn off the gas completely.
 2. Remove cooking pot if possible.
 3. If a leak is suspected, remove the fuel tank by gently and calmly pulling it towards you and placing it on the ground. The tank cannot explode or catch on fire because the fuel tank is not under pressure. The excess gas will just burn off.
 4. If the fire is due to spilled grease, let it burn off if it is a small amount, smother the flame with a pot lid or extinguish it with baking soda, but try to avoid the gas holes on the burners as the soda will plug the holes. Clean the stove before restarting.

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CHANGING MANTELS ON ALL LANTERNS

1. Remove the top and glove from the lantern.
2. Take off all old parts remaining from the mantle.
3. Take the new mantle and tie it in place on the lantern. (It will look like it is way too big for the lantern.)
4. Light a match and hold it close to the mantle, but don't let the match touch the mantle. When finished burning, the mantle will be gray and look much smaller.
5. Carefully reassemble the lantern without touching the mantle.

ADDITIONAL SAFETY PRECAUTIONS FOR ALL LANTERNS

First read the fire precautions for propane and white gas stoves and lanterns on page D-1.

1. Operate a lantern in an upright position only.
2. Don't use a lantern if the mantle has a hole in it.
3. Set the lantern up on a flat surface away from all flammable items.
4. The wire hanger will get hot very quickly so if you're going to hang the lantern, it should be done right after lighting.

PROPANE LANTERNS:

1. Make sure the propane bottle is turned off.
2. Light a match then insert it up through the hole in the bottom metal plate just above the propane bottle.
3. Slowly turn on the fuel till the mantle ignites.
4. To turn off a lantern on a pole attached to a large tank, start by turning off the fuel at the tank, allowing the gas in the hose to burn off.

WHITE GAS LANTERNS

1. Gas lanterns have to be filled with fuel before each use because white gas cannot be left in the lantern during transportation. Use a fuel funnel to fill the lantern and make sure you do this well away from the area where you will be cooking or using the lantern, as any spilled fuel can cause a fire. Clean up any spills and wash your hands before you light the lantern.
2. Pump up the fuel with about 15 to 20 short strokes to build up pressure in the lantern. Lock off the valve in the closed position.
3. Light a match and place it up through the hole in the metal plate. Slowly turn on the fuel.