

## Trouble Shooting Guide: **Cook Partner Stoves**

### **Problem: Low Flame on Burner**

This problem is usually caused by a plugged, or partially plugged orifice. The orifice is very small and susceptible to almost any contamination. The orifice is located on the end of the brass valve body that the gas tube slides over.

- 1) Lift the grill out of the body of the stove.
- 2) You will see the orifice and the end of the valve body, just inside the heat shield where the burner tube has just come from.
- 3) Remove the orifice using a 5/16" socket or nut driver (found in our repair kit). Be careful not to turn the valve body, as it is connected to the thin manifold line. If the manifold line becomes damaged, the stove will need to be returned to Partner Steel Co., for replacement of the manifold. (this is the only part that we can not send out to have you replace due to insurance liability restrictions).
- 4) Hold the orifice up to the light and see if the hole is perfectly clear and round. Use a single wire from a wire brush to clear the hole and then scrape the inside of the orifice to be sure that nothing else is about to come loose. On a bad orifice, it may be better to replace the orifice – 2 are provided in our repair kits.
- 5) Blow out the manifold line and re-assemble.

### **Problem: Excessively High Flame**

This indicates either a missing orifice, a loose orifice or someone enlarged the hole in the orifice, thinking it might solve the above problem. The only solution is to replace the orifice.

### **Problem: The flame level does not adjust smoothly or does not completely turn off**

These problems are actually related and are caused by the same part. There is an o-ring on the needle valve that keeps the gas from escaping around the shaft, behind the knob. If the o-ring becomes dry, it will "catch" on the valve body and either Jump to the next position or the o-ring will just stretch a bit and act like a spring so when you let go of the control knob the needle valve will back up a bit.

- 1) Open the control knob fully. (with the gas disconnected)
- 2) Using the specially modified open-end wrench, (found in our "Emergency Repair Kit") reach behind the knob and loosen the stop-nut.
- 3) You can now unscrew the control knob all the way out.
- 4) Inspect the needle valve – be sure there are no signs of rust. If there is, it should be replaced.
- 5) Inspect the o-ring. It should be in good condition and no apparent "flat" spots. Flats are an indication of over-heating and will cause leaks. Replace if necessary.
- 6) Apply a light amount of Vaseline on the o-ring for lubrication.
- 7) Re-assemble, being careful not to cross-thread the stop nut.

**Problem: Flame behind the control knob, knob melted.**

This is caused by over heating. The stove must have ventilation to allow the excess heat to escape. A too large fry pan or griddle was used for too long a time, trapping the heat in. Even though there is a heat shield, there needs to be a ½" minimum gap along most of the edge of the stove to allow the heat to escape. We offer griddles that maximize the cooking area and still allow room for the heat to escape. If you insist on wanting to use your favorite fry pan that is too large, simply use a pair of ½" square rods to raise it above the stove edge and you will never have a problem. BTW, we can provide rods for your use.

Usually, when the damage occurs, there is no gas leak. However, the next time you use the stove, the o-rings will no longer be flexible and will allow the gas to get by.

- 1) To remove the needle valve and replace the o-ring, follow the directions in the previous discussion.
- 2) If the knob needs to be replaced, put the new knob in a pan of boiling water. This will soften it just a bit and make it easier to put on.
- 3) Use a large reaching vise grip pliers that can reach from the front (press on the knob face) around to the back of the heat shield and press against the orifice. This will give the operation a solid place to press against. Press the hot knob onto the needle valve shaft.

**Problem: Flame or gas leak at the end of the hose, where it plugs into the stove.**

Weather conditions will age the rubber o-rings on the hose ends. Any small cracks will allow gas to escape. In Arizona, the o-rings may need to be changed twice a year, in the Northwest, the o-rings may last several years.

The large o-ring on the regulator is easy to see. Pull on this o-ring and stretch it to see if any cracks have developed. Use this as an indicator as to the condition of the other o-rings. If the large o-ring needs to be changed, change the other o-rings at the other end of the hose.

There is a spare set of o-rings in the repair kit or call us for a replacement set. The size needed that is used on the stove-end of the hose is a bit unique and may not be found in your local hardware store. The wrong size may cause difficult attachment to the stove, or insufficient sealing. But, if you're adventurous, it has a .301" ID and .441" OD (.070" thickness). The large o-ring can be found at any propane supply depot.

A very light application of Vaseline will help extend the life of the o-ring, as well as make it easier to attach the connector to the stove.

**Problem: Flame or gas leak near the regulator.**

If the leak is at the connection to the gas bottle, check the o-ring. If there are any cracks, you can be sure that the o-rings on the other end of the hose should also be replaced.

If the gas leak is on the regulator: i.e., around the crimps or any of the holes on the regulator, the regulator is faulty and should be replaced. It cannot be repaired.

**Problem: Regulator failure.**

This is rare but does happen and as with most things, failures usually happen at the most inconvenient times.

Since our stoves are high-pressure systems, it is possible to run the stove without a regulator. However, this is not the recommended operating mode.

- 1) Remove the fitting that plugs into the bulk propane bottle (called a P.O.L. fitting) from the regulator.
- 2) Remove the regulator from the end of the hose.
- 3) You will need a short female-to-female 1/4" npt adaptor hose to connect between the P.O.L. fitting and the hose end.
- 4) Use pipe dope to assemble the parts and you're good to go.

The adjustment levels on the stove will be a little more sensitive, but manageable. We do recommend that you replace the regulator as soon as it is convenient to do so. If you need to find a regulator from a different source, you will need a High Pressure regulator set somewhere from 23 to 30 psi. A new regulator will come with another P.O.L. fitting, so all you will need to do is screw it onto the end of the hose.

The problem with this "fix" is that the hose is rated for working pressures of up to 125 psi and not at the high pressures found in a very warm propane bottle, which can be from 80 psi to 300 psi, depending on temperature. On very hot days, in the sun, the pressure release valve may activate, which is set at about 350 psi.

It would be necessary to keep the propane bottle as cool as possible in order to be assured the pressure is on the low end. The hoses should be in excellent condition before this is attempted, as new hoses will withstand pressures of twice the rated working pressures without problem