

Featherman Stainless Scalder

Owner's Manual

Featherman Equipment, LLC

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General Information

The scald is the critical operation in feather removal and you now have a machine designed to make it simple for you. To watch our YouTube videos of how to set up and use your scalder please visit us at: <u>https://www.feathermanequipment.com/how-to-videos/</u>

Set up

1. Locate your scalder in a draft free but well ventilated area. If it is cold outside move your processing operation into a warm room so you won't be fighting the elements.

2. Hook your rubber supply line hose to a propane tank. Do not over-tighten. Protect your gas hose from dirt between uses.

YOUR SCALDER WILL NOT WORK PROPERLY IF YOUR PROPANE TANK IS EMPTY OR NEAR EMPTY!

3. Put plumbers tape or putty on threads and hand tighten the PVC valve provided for your drain port. Make sure your scalder is level and sitting on a surface that can get extremely hot.

4. Attach a garden hose to the cold or hot water supply and fill tank to within 3" of the overflow port. Cold water will take approximately 2 hours to heat to 147; hot water less than an hour. Cover your scalder during warm up using our <u>Featherman Scalder Cover</u> to speed the process.

5. PLUG IN ELECTRIC CORD! Do not pass the cord under the scalder.

6. To start pilot light begin by, opening the gas valve on your propane tank, then turn the scalder gas valve control knob to Pilot and depress for approx 2 minutes.

7. Insert the included long lighter through the 3" peephole in your scalder base to ignite the pilot flame. The pilot assembly can be found by tracing the aluminum tube to its end. Ignite the pilot. If it doesn't ignite keep the gas control Pilot button depressed and try again.

8. When lit, keep the knob depressed for another 30 seconds. The thermocouple takes this long to warm up and send a signal to the gas valve. (The thermocouple is brass colored and has a tube to the gas control valve marked with 3 indentations).

9. Turn the gas control knob to "ON." You will hear and see the burner ignite. DO NOT HAVE YOUR FACE CLOSE TO THE 3" PEEPHOLE WHEN YOU TURN THE BURNER ON.

Operation

Your scalder's aquastat is preset to 147 degrees. This means the water temperature will cycle between about 145 and 150 degrees. This is just a good starting point, you may want to slightly adjust the temperature up, or down, depending on your situation. We recommend having two reliable thermometers on hand to tell you when the water is ready to begin scalding. (Not before 145!)

Add enough dish soap (we recommend <u>Dr. Bronner's Unscented Pure-Castile Soap</u>) to make the water bubbly on top (about 1/4 cup). This will help the scald water penetrate to loosen the feathers.

For higher volumes of birds we recommend a steady, small stream of water entering the scalder (preferably hot water) to keep the water level constant and the scald consistent. Attach a garden hose to the overflow port to direct any overflow water away from the work area.

Scald up to 50 pounds of birds at a time in your scalder. If manually dunking be sure to allow enough time out of the water to cool the skin between dunks. As a starting point, we suggest 8 to 10 dunks over the course of one minute. You may do this by hand or with a homemade lever and shackle or with the <u>Featherman Dunker/Shackles Combo</u>. If using the <u>Featherman Roto-dunker</u> the cycle is pre-set.

Too much time scalding with any method, or with water that is too hot, will result in torn skin. Learning to pull wing feathers will soon make you an expert on when the chickens are ready to be plucked. When feathers release with no resistance the birds are ready.

Cautions

Remember you are dealing with gas, water and electricity. **Think safety first** in the way you set up your equipment and during operation.

- 1. Keep electric cords and gas lines out of the way.
- 2. Keep any other electric appliances away from the scald water.
- 3. The built-in chimney improves airflow and retains more heat. Position your scalder so that the chimney cannot be touched accidentally.
 - THE CHIMNEY WILL GET VERY HOT AND CAN CAUSE SERIOUS BURNS.
- 4. Do not operate your scalder without water in the tank. If scalding in a small room, be sure to ventilate the room well.

Clean Up

To clean up, turn off gas, unplug electric cord and open the PVC drain valve and empty tank. Disconnect the propane tank and cover the hose end. Wash out and disinfect the tank. Don't spray the controls. Cover and store under shelter. Be sure to close the gas valve if you leave the tank attached.

Air Intake Adjustment

Your scalder has been tested and set to have a perfect flame. This flame is about 1 inch high and blue. If, for some reason, your flame has become yellow and less hot, you may need to adjust the airflow into the burner (see Fig 4 & 5). If operated for a length of time with too much airflow (yellow flame) and the burner is sooted, remove burner and clean compressed air and a stiff bristled brush. Cleaning of burner with compressed air is also recommended after periods of storage & is a good practice before each use.

Warranty

Your <u>Featherman Stainless Scalder</u> is designed to give you many years of reliable service. Should you encounter problems please follow the checklists on our Troubleshooting Guide [Page 6] to resolve the issue. If your problem persists **after** you've followed the checklists, please contact us. All Featherman equipment is fully guaranteed for one year as long as you do not alter or abuse the equipment in any way.

Good luck and happy scalding!

David Schafer, Owner & Founder, Featherman Equipment LLC

Featherman Scalder Parts List



Scalder Troubleshooting Guide

Important: Please check off each Numbered task before moving on to the next. Also test between each task, or new part, to see if the problem was fixed.

Basic Startup Checklist:

- □ Propane tank full?
- □ Has another propane tank been tried?
- □ Is the propane tank valve turned OPEN?
- □ Verified electrical power to the scalder? Checked circuit breaker, extension cords, etc.?

Problem: Pilot won't light or stay lit

- □ 1. Too windy?
- □ 2. Propane tank full?
- □ 3. Propane tank valve turned OPEN?
- □ 4. Is gas valve knob turned to PILOT setting?
- 5. Pilot light burning strong & aligned properly? (See Fig 1) If this is a Yes, skip to Question 7.
- □ 6. Clean pilot orifice per instructions on Page 8. This solves the problem 90%+ of the time. Replace pilot assembly if orifice is uncleanable or damaged.
- **7**. Replace thermocouple.
- **a** 8. Replace gas pressure regulator.
- □ 9. Replace gas valve.

Problem: Pilot lights but burner does not

- □ 1. Verified electrical power to scalder? Checked circuit breaker, extension cords, etc.?
- 2. Pilot light burning strong & aligned properly? (See Fig 1) If this is a NO, see pilot troubleshooting checklist (above).
- □ 3. Gas valve knob turned to ON setting?
- ❑ 4. Do a quick Aquastat/valve test by plugging-in the power cord, you should hear an audible *click* from the gas valve.
 - □ 4.1 Heard *click*? Move to Number 5.
 - □ 4.2 No *click*? Move to Number 6.
- **5**. Replace thermocouple.
- □ 6. With a voltage meter test the load side terminal of the Aquastat. Is there 110-120V of electrical power to the gas valve?

CAUTION: ELECTRICAL TEST. ONLY HAVE SOMEONE KNOWLEDGEABLE ABOUT ELECTRICAL SYSTEMS PERFORM THIS TEST.

- □ 6.1 Yes, proper voltage was tested. Replace gas valve.
- □ 6.2 No, low or no voltage was tested. Replace Aquastat.

Problem: Poor performance and/or low burner flame

- □ 1. Burner air intake disc adjusted properly? (See Fig 4 & 5)
- 2. Pilot light burning strong & aligned properly? (See Fig 1) If this is a Yes, skip to Number 3.
- □ 3. Clean pilot orifice per instructions on Page 8. This solves the problem 90%+ of the time. Replace pilot assembly if orifice is uncleanable or damaged.
- □ 4. Burner needs cleaning. (Typically compressed air will do)
- □ 5. Burner orifice isn't fully open/clean. (If cleaning doesn't help, by hand gently try to push a 1/16" drill bit through the orifice)
- □ 6. Replace thermocouple.
- **7**. Replace gas pressure regulator.
- 8. Replace gas valve.

Problem: Extreme temperature swings (too hot or too cold)

- □ Check the temperature setting on Aquastat adjust as needed. (See Fig 2)
- Check white dial at the back of Aquastat it should be set to 5. (See Fig 3) CAUTION: UNPLUG SCALDER BEFORE OPENING AQUASTAT COVER TO VERIFY DIAL SETTING. NOT DOING SO COULD RESULT IN AN ELECTRICAL SHOCK.
- □ Replace Scalder Aquastat.



Pilot Cleaning Instructions

Tools needed: 1/2" Wrench – Needle nose pliers – Toothbrush

Cleaning Steps:

- 1. Move the thermocouple out of the way, then use the wrench to remove brass nut (see Fig 6).
- **2**. Carefully remove the aluminum tubing (see Fig 7).
- □ 3. Use needle nose pliers to remove pilot orifice (see Fig 8 & 11).
- □ 4. After removing the pilot orifice (see Fig 9), clean thoroughly with soapy water and a soft bristled brush (toothbrush).
- **5**. When clean and dried, a tiny hole will be seen through the orifice (see Fig 10).





Fig 7







Fig 10



Fig 9



Fig 11