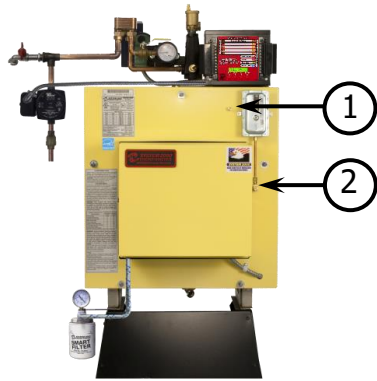


Please refer to owner installation manual for complete instructions.



Step 1 Initial Test (Draft Loss & CO₂)

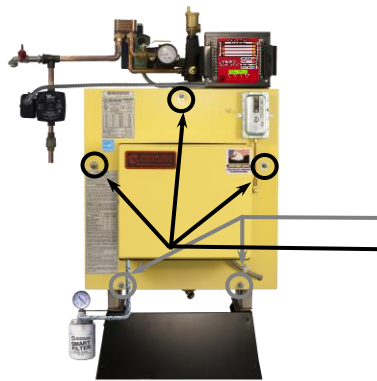
Make sure air box cover is in place before testing

1. Remove 1/8" brass plug from the "over fire" test port (2) next to the burner and the flue box (1) next to the puff switch. Check draft through the "over fire" test port (2) and at the flue box (1). Use a 12" long piece of 1/4" O.D. steel or copper tubing and insert it approximately 8" into the boiler. Connect this tube to your test probe using a piece of hose.

Clean boiler flue passage if the draft difference between the flue box (1) and "over fire" test port (2) is greater than .04" w.c.

2. Check CO₂ through the "over fire" test port (2). Insert the 12" long steel or copper tube approximately 8" in through the test port.

Check in test port must be: Max: 11% CO₂/ Min: 10% CO₂



Step 2 Open Front Cover

1. Loosen, but **DO NOT REMOVE** (2) lower nylock nuts on hinge bolts.
2. Remove (3) upper nuts and support cover while opening.
3. Inspect burner head/end cone condition



DO NOT remove or touch combustion chamber for inspection or when cleaning boiler!



Step 3 Inspect Flue Passage

If passage is clean, no scale, then close cover and tighten all hardware evenly.
Clean ONLY if dirty.

Step 4 Clean Boiler

Do Not Touch, Vacuum or Remove Chamber!

Note: If there is **heavy scale** in last pass:

1. Check for cold returns.
2. Open by-pass valve fully.
3. Set Display Manager Option Switch 1 to "ON".
4. If scaling persists, increase firing rate.

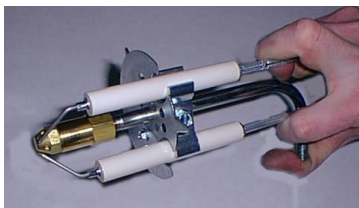
Step 5 Close Front Cover

1. Install (3) upper nuts and washers.
2. Tighten nuts (5) uniformly.
3. Check and tighten (6) rear cover nuts.
4. Check Flue Pipe.
5. Check chimney base and clean if necessary.



Step 6 Remove Drawer Assembly

1. Check Electrode Setting.
2. Check Porcelain Condition.
3. Check Nozzle for coking/heat.
4. Replace nozzle if necessary. *See installation manual for nozzle selection.*



Annual Tune Up & Inspection, Frontier Oilheat Boiler

Step 7 Check Burner

1. Check end cone through air tube opening with drawer assembly removed.
2. Check Fan/Air Inlet for dirt or lint.
3. Install drawer assembly and check ignitor.
4. Check Filter condition. Replace annually or if vacuum exceeds 7" for single pipe systems.
5. Check flexible oil line for leaks or corrosion. Gently bend hose along its length to check for hardening. Replace immediately if any of these conditions are present.



Note: All burners require "Amulet" retention head protector.

Step 8 Check Zone Valves

Open/Close zone valves several times to see that they move freely.

Step 9 Backflush Plate Heat Exchanger

1. Close the valve underneath the domestic hot water circulator.
2. Open drain valve to backflush the heat exchanger.
3. If domestic water supply is "hard" (lime), consider installing Scale Stopper (Item no. 10-0650).
4. Set temperature feeding hot water tank (above heat exchanger) by adjusting the ball valve below the bronze circulator. Adjust the ball valve with the burner running and a continuous flow of hot water from a fixture. You should just be able to hold your hand on the pipe.



Step 10 Start Burner & Check Safety Functions.

Check & Record: Make sure air box cover is in place before testing.

1. **Draft Loss:** A difference of .04" or less between flue box (1) and "over fire" test port (2).

Sidewall Vent: Draft over fire of -.10" to -.12"wc after 15 minutes of continuous burner operation.

Chimney: Draft over fire should be slightly negative (at least -.02"wc).

2. **Check CO₂** at "over fire" test port (2)
(Oil fired Burners, see manual for Gas Burners)

Max of 11% CO₂

Min of 10% CO₂

3. **Smoke Test: Must be zero smoke. A trace is not acceptable.**

4. **Stack Temp: 350°-450° F. (at stack or flue box port)**

5. **Verify DualGard to 205°/215° F.**

6. Test Safety High Limit operation:

- A. Remove all heat and hot water calls (No input lights on left side of manager).
- B. Turn System switch off, then remove red sensor lead from the left side quick connect.
- C. Restore power. The 100° light will flash on the manager's temperature display, and the burner should start momentarily.
- D. At approximately 205° F to 215° F, the high limit aquastat should shut off burner.

7. **Check safety lock-out:** Shut off fuel supply and operate burner to verify safety lock-out.

8. Sidewall Vent Only:

- A. Remove power from the inducer. (option switch 2 on a Display Manager)
- B. Start burner. Safety lock-out should occur in approximately 1 minute.
- C. Restore power to the inducer.

