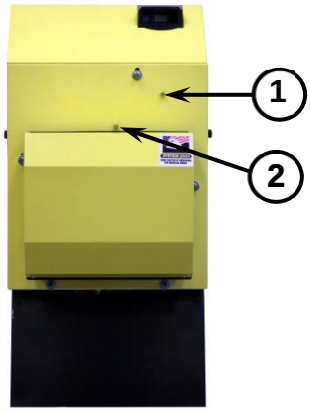
Annual Tune Up and Inspection Ascent Combi Oil Boiler

Please refer to owner and installation manual for complete details.



Step 1 Initial Test (Draft Loss & CO_2)

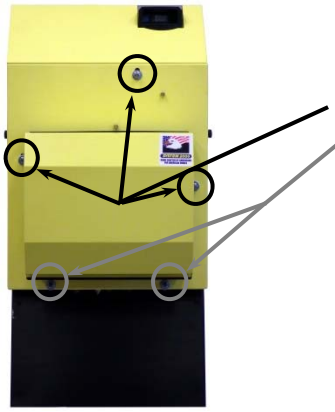
If there is an optional Silent Burner Cover, make sure it is in place before testing

1. Remove the 1/8" brass plugs from the "over fire" test port (2) above the burner and the flue box plug (1) in the top right corner of the front cover. Check draft through the "over fire" test port (2) and at the flue box (1). Use a 12" long piece of ¼" 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 .06" w.c.

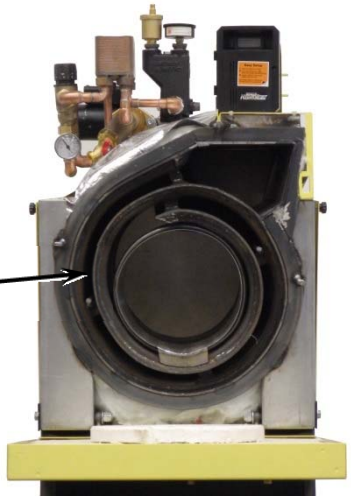
2. Check CO_2 through the "over fire" test port (2). Insert the 12" long steel or copper tube approximately 8" in through the test port.

   Recommended settings at the test port:
   Oil-fired: 10-11% CO_2



Step 2 Open Front Cover

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

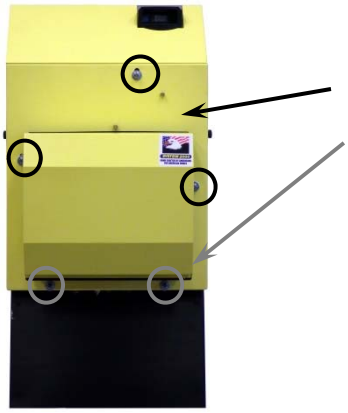


Step 3 Inspect Flue Passage

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

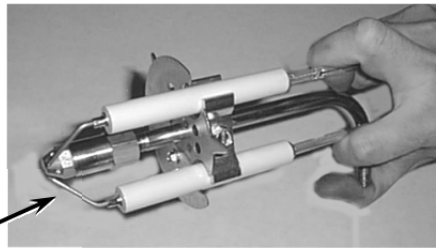
Step 4 Clean Boiler

Remove stainless steel alloy combustion chamber, using caution, it may be hot. Brush and vacuum the heat exchanger surface if needed.



Step 5 Close Front Cover

1. Clean studs if dust present.
2. Install (3) upper nuts and washers.
3. Tighten nuts (5) uniformly - **DO NOT overtighten**.
4. Check and tighten (6) rear cover nuts.
4. Check Flue Pipe. Clean and seal if necessary.
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.*

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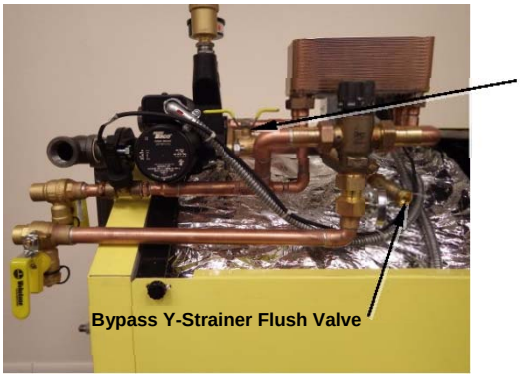
Step 7 Check Burner

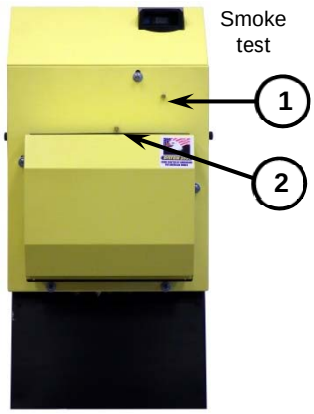
1. Check end cone through air tube opening with drawer assembly removed.
2. Check Fan/Air Inlet for dirt or lint.
3. Install drawer assembly and check ignitor.
4. Check Filter condition. Replace annually or if vacuum exceeds 7" for single pipe systems.
5. Check flexible oil line for leaks or corrosion. 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 Zone controls

Open/Close zone valves or operate zone circulators several times to see that all move freely.





Step 10 Start Burner & Check Safety Functions.

Check & Record:

1. Draft Loss: A difference of .06" w.c. or *less* between flue box (1) and "over fire" test port (2).
   Chimney: Draft at the breech should be slightly negative (at least -.02"wc).
2. Check CO_2 at "over fire" test port (2)
   Max of 11% CO_2
   Min of 10% CO_2
3. Smoke Test: Must be zero smoke (Port 1). A trace is not acceptable.
4. Stack Temp: 350º-550º F. (at stack or flue box port)
5. Test Ascent Hydrostat Safety High Limit operation:
   a. Remove all heat and hot water calls so there is no heating load on the system. Disable all zone controls and DHW flow switch.
   b. Turn System switch off, then jumper T-T on the Ascent Hydrostat control to simulate a thermostat call.
   c. Restore power. The burner should start shortly.
   d. At approximately 180º F, the Ascent Hydrostat control should shut off burner.
   e. Turn off power and disconnect the T-T jumper. Reconnect zone controls and DHW flow switch.
6. Check safety lockout: Shut off fuel supply and operate burner to verify safety lockout. Re-open fuel supply and purge air from pump.