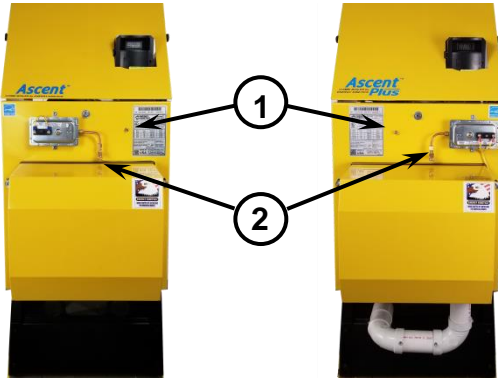


ANNUAL TUNE UP & INSPECTION

Please refer to owner and installation manual for complete details.

Step 1 Initial Test (Draft Check & CO₂)

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



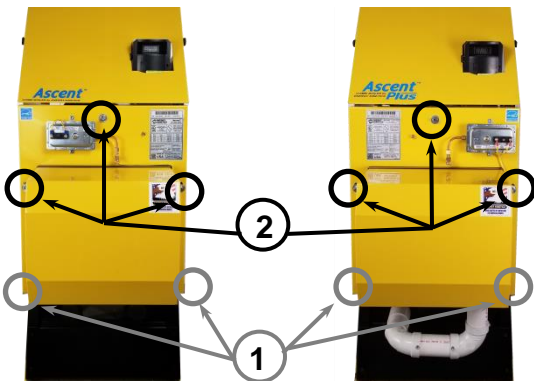
1. Remove the 1/8" brass plug from the flue box plug (1) in the top right corner of the front cover. Check draft at the flue box (1) using a 12" long piece of 1/4" O.D. steel or copper tubing inserted approximately 8" into the boiler. Connect this tube to your test probe using a piece of hose.

This must be negative for proper operation.

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.

Recommended settings at the test port:
Oil-fired: 10% to 11% CO₂

Step 2 Open Front Cover



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

Step 3 Inspect Flue Passage and Vent System

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

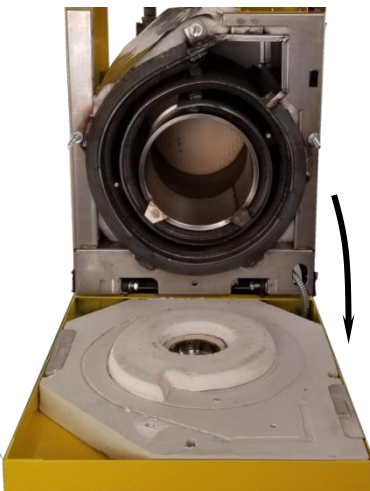
Clean ONLY if dirty.

Check vent system joints for proper connections, including Ascent Plus Combi flexible coupling clamps and condensate drain.



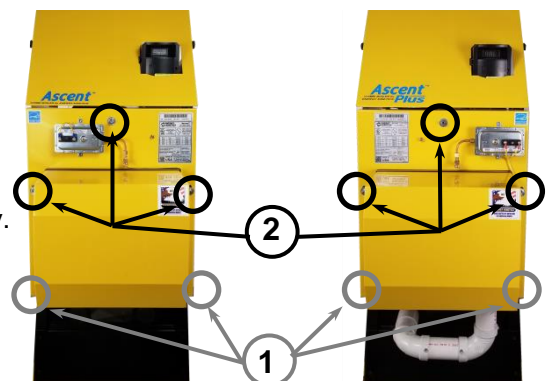
Step 4 Clean Boiler

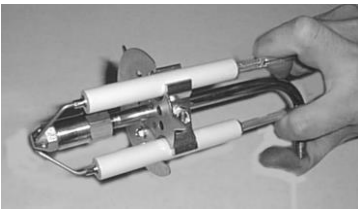
Remove stainless steel alloy combustion chamber using caution, it may be hot. Brush and vacuum the heat exchange surface if needed.



Step 5 Close Front Cover

4. Install (3) upper nuts and washers.
5. Tighten nuts (5) uniformly
- DO NOT overtighten.
6. Check and tighten (5) rear cover nuts.
4. Check Flue Pipe.
5. Check chimney base and clean if necessary.





Step 6 Remove Drawer Assembly

5. Check Electrode Setting.
6. Check Porcelain Condition.
7. Check Nozzle for coking/heat.
8. Replace nozzle if necessary. *See installation manual for nozzle selection.*

Step 7 Check Burner

6. Check end cone through air tube opening with drawer assembly removed.
7. Check Fan/Air Inlet for dirt or lint.
8. Install drawer assembly and check ignitor.
9. Check Filter condition. Replace annually and if vacuum exceeds 7" for single pipe systems.
10. 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 they move freely.



Step 9 Plate Heat Exchanger Maintenance

1. Close the isolating ball valve located on the bypass circ flange, connect a drain hose to the hydronic bypass y-strainer, open flush valve, and flush into a bucket to remove debris. Close flush valve, remove drain hose, open isolating ball valve on bypass circ flange, and confirm boiler pressure is adequate, adding makeup water if necessary.
3. Open a fixture and wait until hot water is continuously flowing. Turn the mixing valve up and down in temperature to ensure that it moves freely. Set the mixing valve temperature feeding the domestic hot water fixtures to the desired temperature of approximately 120°F using mixing valve.

Note: If the domestic water supply is "hard" with high mineral or lime content, clean and flush when necessary. Symptoms include poor hot water quality or low domestic hot water flow. See Hot Water Maintenance for mineral cleaning and flushing instructions. Consider installing Scale Stopper (EK P/N: 10-0650) or water softener in hard water conditions so recurring plate heat exchanger cleaning will no longer be necessary in most circumstances.



① Bypass Y-Strainer Flush Valve

Step 10 Start Burner & Check Safety Functions

Check & Record:

8. Draft must be negative at flue box port (1).

Ascent Combi Chimney: Draft at the breech should be slightly negative (at least $-.02''\text{wc}$).

Ascent Plus Combi: Draft at the breech should be negative (at least $-0.10''\text{wc}$ although it may be substantially higher depending on the vent system).

Check CO_2 at "over fire" test port (2) per oil burner operation section.

10 to 11% CO_2 Nominal

9. Smoke Test: Must be zero smoke (Port 1). A trace is not acceptable.

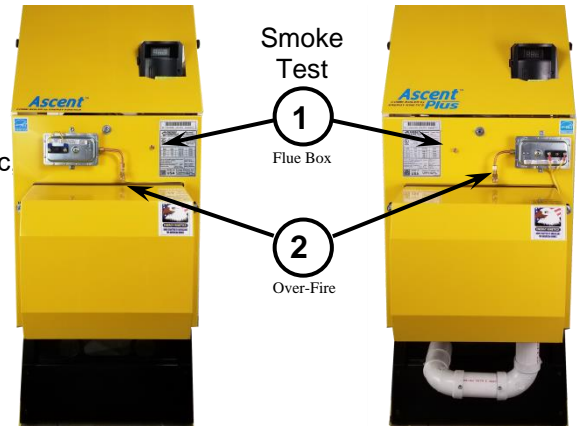
10. Stack Temp:

- Ascent Combi - 350°F - 550°F measured at stack or flue box port
- Ascent Plus Combi - 150°F - 300°F measured at the flue box port

11. Test Ascent Hydrostat Safety High Limit operation:

- Remove all heat and hot water calls so there is no heating load on the system. Disable all zone controls and DHW flow switch.
- Turn System switch off, then jumper T-T on the Ascent Hydrostat control to simulate a thermostat call.
- Restore power. The burner should start shortly.
- At approximately 180°F , the Ascent Hydrostat control should shut off burner.
- Turn off power and disconnect the T-T jumper. Reconnect zone controls and DHW flow switch.

12. Check safety lockout: Shut off fuel supply and operate burner to verify safety lockout.



For Ascent Plus Combi ONLY
See Troubleshooting Safety Pressure Switches Section for additional details

13. Check operation of blocked air intake detection switch, as follows:

- Block the air inlet piping to the burner, upstream of the dilution branch
- Start the burner. The blocked intake switch will open, interrupting the cad cell circuit. Safety lockout should occur after the primary control recycles operation.
- Unblock the air inlet piping and verify that the burner operates normally.

14. Check proper operation of the blocked air intake detection switch:

- Block air inlet to burner
- Attempt to start the burner. Safety lockout should occur in approximately 1 minute.