



Alta Residential Condensing Gas Boilers

Annual Servicing Guidelines & Information*

August, 2022



* For complete information, including all cautions and warnings for the installation, operations, maintenance, and servicing of Alta boilers, refer to the IO&S manual that was included with the boiler.

Annual Inspection and Servicing Guidelines for Alta Boilers

NOTE: In addition to the continuous and monthly inspections instructions provided with Alta boiler “Installation, Operating and Service Instructions” (IO&S) manuals, the following steps should be performed by a service technician annually. For complete information, including all cautions and warnings for the installation, operation, maintenance, and servicing of Alta boilers, refer to the IO&S manual that was included with the boiler.

Required Tool List

- Torx star bits and driver (T-20 And T-25)
- 10mm metric socket and drive (or wrench)
- Pipe wrenches (2) and/or pump pliers
- Phillips and blade-type screwdriver
- Small blade screwdriver (pocket type)
- Shop vacuum
- (2) spray bottles (1 water, 1 cleaning vinegar)
- Nylon soft bristle brush
- Steel wool
- Combustion analyzer
- Manometer
- HX cleaning tool (sold at distributor locations) - small metal spatula can be used as substitute if unavailable
- Cardboard - cut to approximate size/ shape of HX insulation disc

Inspection and Servicing Steps

Follow all steps, in order, as listed below

A. Low Water Cutoff

A.1 If a low water cutoff (LWCO) is installed, test the device by pressing the “Test” button located on the end of the LWCO.

- The yellow light should come on, a warning will display on the on the control screen.
- If the “Yellow Light” does not come on, determine why the LWCO is not working properly. Repair or replace the LWCO as required.



B. Boiler Wiring

WARNING:

Be sure to shut off all electricity to the boiler before proceeding.

B.1 Inspect all boiler and controls wiring to verify wires are in good condition and check to make sure all wire nuts and wire terminals are tight.

B.2 See wiring diagram (Alta IO&S manual) for a guide.

C. Gas Line

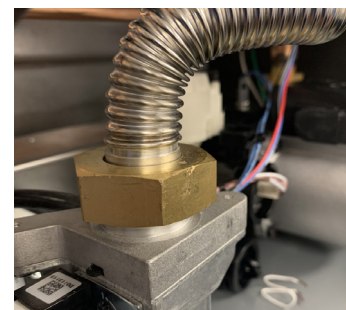
WARNING - EXPLOSION HAZARD:

Gas supply must be shut off prior to servicing boiler.

C.1 Verify that gas supply to the boiler has been shut off before proceeding.

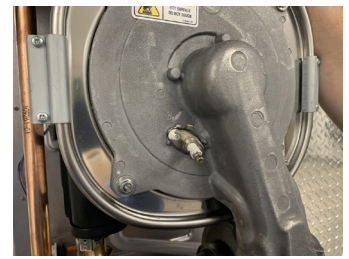
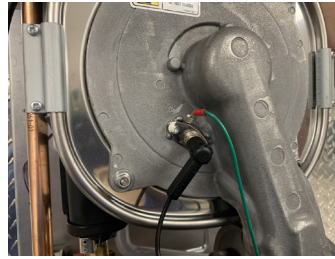
C.2 Break nut on gas valve. Be sure to use a back-up wrench to hold gas valve steady while breaking nut.

C.3 Disconnect gas line.



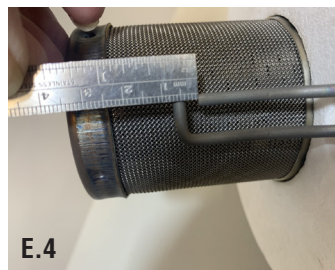
D. Wiring Connectors

- D.1 Unplug the two molex connectors from the fan assembly.
- D.2 Remove the wire boot and the green ground wire from the igniter/flame sensor.



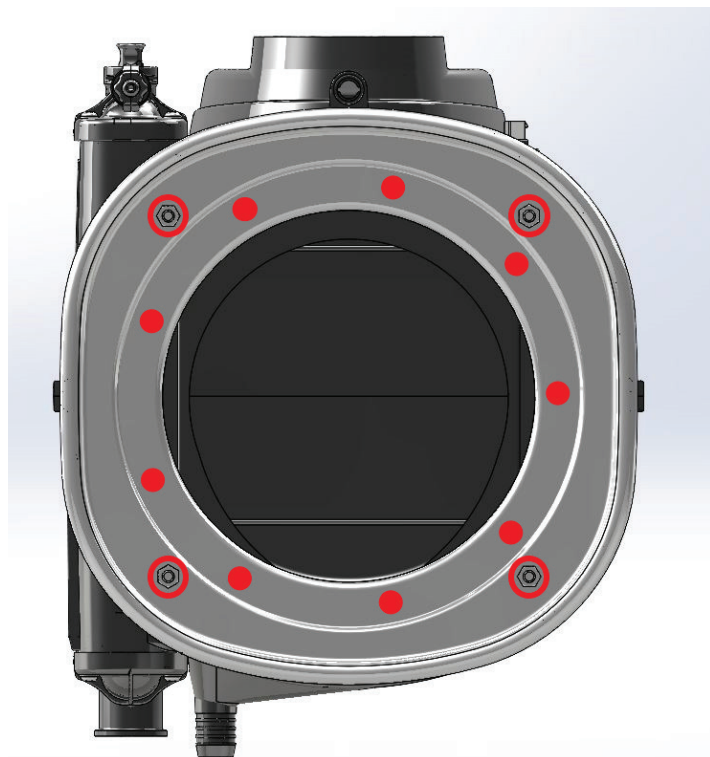
E. Burner Assembly

- E.1 Remove the four (4) 10mm nuts from the burner plate.
- E.2 Remove the burner plate, blower and venturi all as one piece.
- E.3. Clean the igniter/flame sensor combination with steel wool. Do not use sand paper or sand cloth. Check the porcelain for cracks or carbon buildup. Replace if needed. Igniter/flame sensor can be removed using Torx #20 bit for easier cleaning.
- E.4 Adjust the igniter electrode gap to .16" (4mm) - .19" (5mm). If adjustment is required, adjust only the ground rod as to not compromise the porcelain.
- E.5 Measure and if necessary adjust the gap from the burner to the igniter flame sensor. Gap should be .32" (8mm) - .52" (13mm).
- E.6 Inspect the venturi for cracks, pitting or any damage. E.9. Inspect the burner plate gasket for any damage and replace as necessary.
- E.7 Inspect burner plate for any warping.
- E.8 If needed, use compressed air to clean dust or debris from burner.



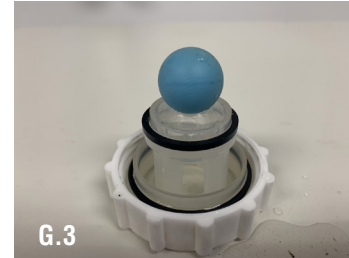
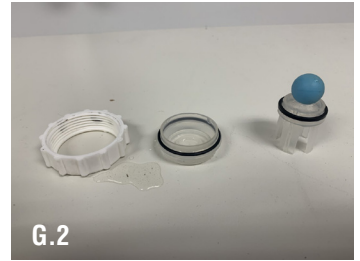
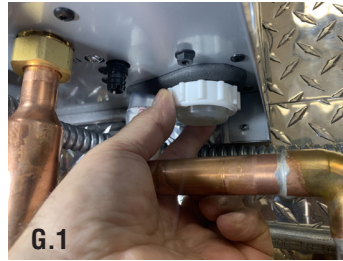
F. Heat Exchanger

- F.1 Inspect burner, electrode(s) and insulation.
- F.2 Carefully place cardboard disc cutout against insulation disc..
- F.3 Vacuum any loose debris from combustion chamber.
- F.4 Use hand-held nylon brush to gently clean the surface of the coils and vacuum again.
- F.6 Use spray bottle with cleaning vinegar to spray coils, let soak for 3-5 minutes. Be careful not to wet insulation disc.
- F.8 Using drill-mounted nylon brush (with extender, if needed), clean heat exchanger coils.
- F.9 Repeat step F.6
- F.10 Use HX cleaning tool to clean in between coils, front to back. NOTE: threaded rods and dimples (shown in diagram) hold coils together and will not provide clearance for the tool. Work around these areas.
- F.11 Use inspection mirror to check between coils for blockages.
- F.12 Use spray bottle with water to rinse coils. Be careful not to wet insulation disc.



G. Condensate Trap

- G.1 Flush and clean the trap assembly.
- G.2 Flush or blow out condensate line to allow the free flow of condensate.
- G.3 If a condensate pump is used, be sure to clean the float basin and check the float assembly for proper operation.
- G.4 If a condensate neutralizer is used, flush or replace the limestone chips and clean out the neutralizer if needed.



H. Final Re-Assembly & Inspection

- H.1 Inspect the inner and outer gaskets and insulation on the burner plate, replace if needed,.
- H.2 Re-install the gas valve/fan/burner plate assembly using the four 10mm nuts.
- H.3 Re-install the igniter/flame sensor assembly, using new gaskets if needed.
- H.4 Re-install the igniter/flame sensor boot along with the green ground wire.
- H.5 Re-connect the two (2) wire molex plugs onto the fan assembly.
- H.6 Confirm gasket is in place then re-attach the gas line to the gas valve.
- H.7 Verify that the vent and air intake pipes are clear of obstructions and are within specifications and have the proper pitch per the manufacturer's instructions.



I. Checking for Proper Operation

- I.1 Turn on the gas and check for leaks.
- I.2 Turn on the electricity to the boiler.
- I.3 Establish a demand by turning up the heat or running the hot water.
- I.4 Check to assure that the gas pressure is within spec and adjust if needed.
 - Natural Gas, minimum of 2.5" W.C. maximum of 14.0" W.C.
 - LP Gas, minimum of 8.0" W.C. Maximum of 14.0" W.C.

If you have changed the igniter and flame sensor combination or the gas valve, please follow the steps below

J. Perform (5) manual calibrations to synchronize control system

- J.1 Remove any call for heat.
- J.2 Press and hold the “**menu**” for 3 seconds.
- J.3 Press “**↑**” or “**↓**” buttons until PAS is visible and press “**enter**”.
- J.4 Press “**enter**” while PA1 is visible.
- J.5 Press “**+**” or “**-**” buttons until “86” is reached and press “**enter**”. Press and hold for 5 seconds to adjust by increments of 10.
- J.6 Press “**menu**” button until PAS is visible.
- J.7 Press “**↑**” or “**↓**” buttons until A is visible and press “**enter**”.
- J.8 Press “**↑**” or “**↓**” buttons until A08 is visible and press “**enter**”.
- J.9 Press “**+**” or “**-**” buttons to change “Off” to “On” and press “**enter**”.
- J.10 Give boiler call for heat.
- J.11 After boiler status returns to “8” remove call for heat, set A08 to “On” and repeat for a total of 5 times (see Figure J.11).

J.11



Status screen during calibration



Status screen after successful calibration

K. Perform Combustion Test

WARNING:

Use a combustion analyzer to verify proper operation by checking carbon monoxide (CO) levels. Failure to use a combustion analyzer could cause operation of boiler with elevated CO levels resulting in severe personal injury, death or substantial property damage.

- K.1 Boiler is equipped with a screw cap in vent adapter for combustion testing.
- K.2 Measure carbon monoxide (CO) level after 5 minutes of operation above 50% firing rate. Confirm running in status 8 before connecting analyzer. This can be done by providing DHW demand. Ensure door is sealed before taking combustion readings.
- K3. CO should not exceed 200 ppm air free
- K4. In the event of high CO, see troubleshooting section of manual.
- K5. Replace cap on vent adapter.

M. Final Verification

- M.1 Perform (3) light-offs to verify smooth ignition and operation. Do not cycle power, interrupt the DHW call, or central heat call. Cycling power will reset the calibration counter.