

HEAT EXCHANGER REPLACEMENT KIT INSTRUCTIONS

399 Kit #550003095

Kit installation shall be completed by qualified agency.

⚠ WARNING

Fire, explosion, asphyxiation and electrical shock hazard. Improper installation could result in death or serious injury. Read this instruction and understand all requirements, including requirements of authority having jurisdiction, before beginning installation. Installation not complete until appliance operation verified per Installation, Operation & Maintenance Manual provided with boiler.

Tools required:

- (2) Crescent Wrench
- 1 $1\frac{5}{16}$ " and 1 $1\frac{3}{16}$ " Open open end wrenches.
- Spring hose clamp pliers
- 11/32" Nut Driver, Wrench or Socket

Heat Exchanger Removal Procedure

1. Follow instructions TO TURN OFF GAS TO APPLIANCE found on Operating Instructions label on boiler or in Installation, Operation & Maintenance Manual. Verify all electrical power to boiler is turned off.

⚠ WARNING

Electrical shock hazard. Turn OFF electrical power supply at service panel.

2. Turn off gas at main shutoff valve.
3. Remove front jacket panel(s).

⚠ WARNING

Burn hazard. Verify heat exchanger has cooled or use appropriate personal protection equipment before removing heat exchanger.

4. Inspect combustion chamber through sight glass. Verify flame is not present. See figure 1.
5. Disconnect wire harness to User Interface. Remove User Interface mounting bracket from chassis.
6. Disconnect wiring connections:
 - ignition wire from spark igniter
 - 2 molex connections from blower
 - flame sense wire
 - gas valve connection
 - flue sensor connection
 - limit/water sensor connection
 - return sensor connection
 - lift control panel out of unit, set aside.

Figure 1 - Blower Assembly, Sight Glass, & Igniter

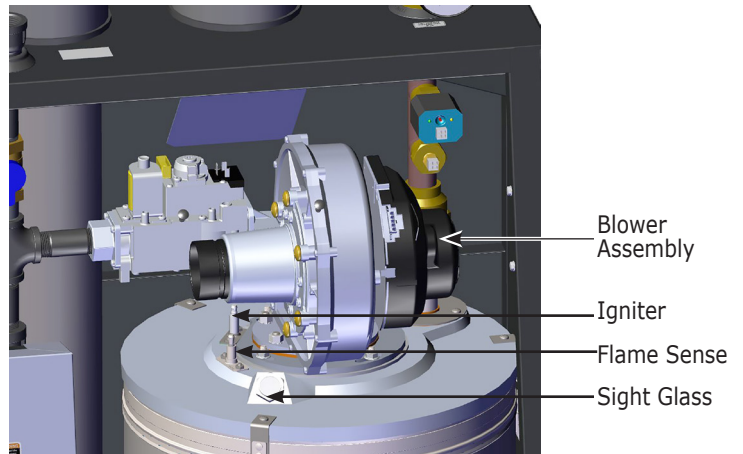
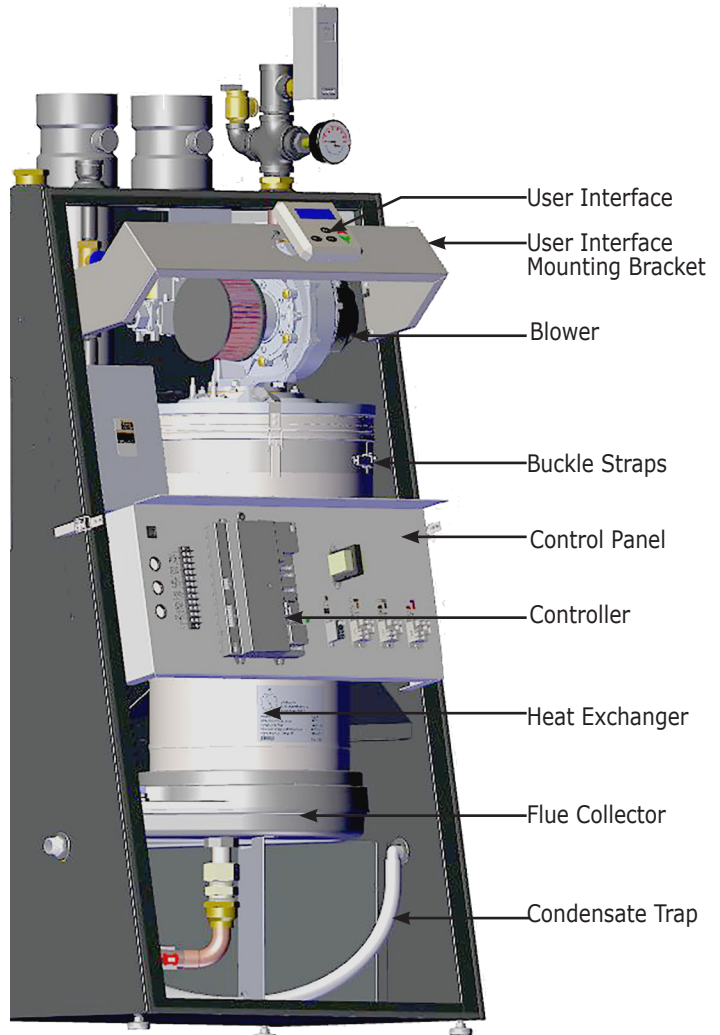


Figure 2 - Heat Exchanger, Burner, Air Inlet Disc



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7. Disconnect left hand flange from gas valve.
8. Remove four (4) nuts holding index plate to heat exchanger top. Disconnect plug to high temperature sensor. Remove electrical connection to gas valve. Rotate, lift and remove blower, venturi and gas valve from heat exchanger top. See Figure 4.
9. Disconnect vent pipe from vent connector. Lift and remove vent connector and flue pipe from boiler. See Figure 5.
10. Disconnect and remove condensate trap from flue collector. See Figure 5.
11. Isolate boiler from hydronic piping. Drain boiler.
12. Disconnect supply and return pipes from heat exchanger.
13. Unfasten three (3) heat exchanger buckle straps. See Figure 5.

CAUTION

Heat exchanger weight exceeds 75 pounds (34 kg). Do not lift heat exchanger without assistance. Failure to follow these instructions could result in minor to moderate injury.

14. Remove heat exchanger from boiler.

Figure 4 - Left Hand Gas Valve Flange Removed

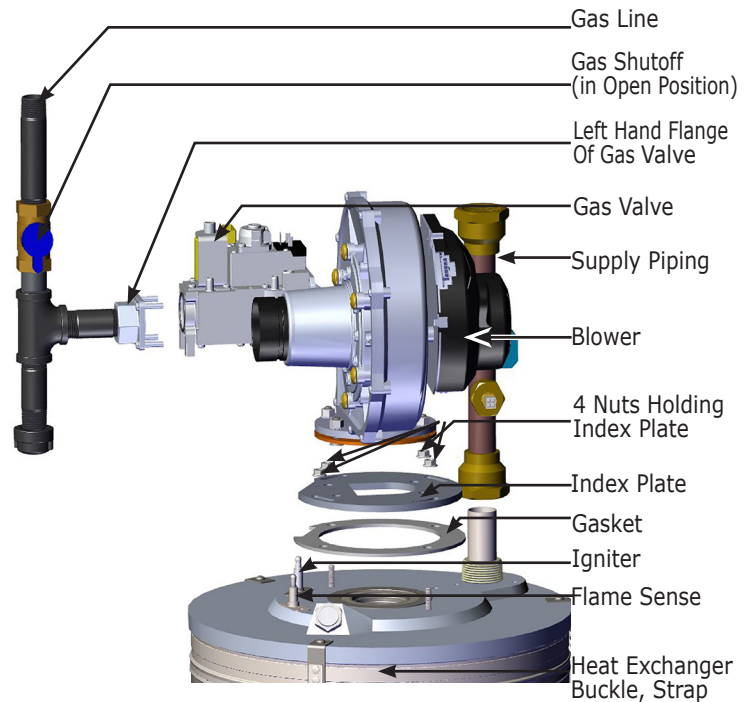
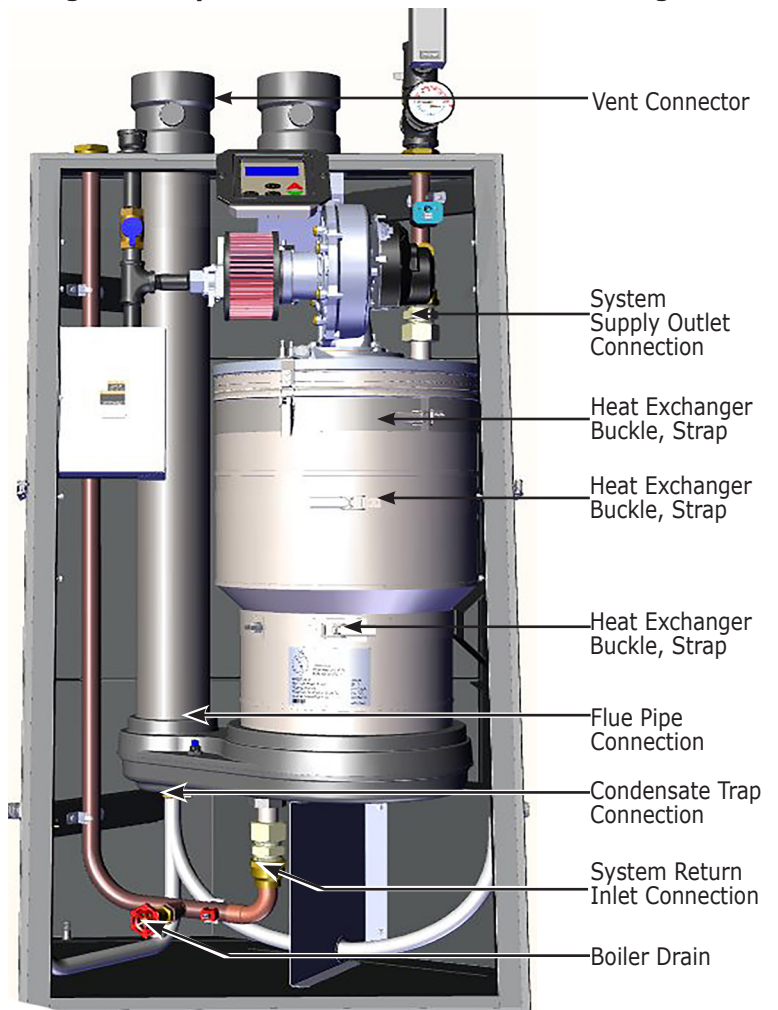


Figure 5 - Hydronic Connections to Heat Exchanger



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New Heat Exchanger Installation Procedure

1. Remove short nipple from compression fitting assembly at top and bottom of new heat exchanger and discard.
2. Insert heat exchanger into boiler.
3. Install flue pipe. See Figure 6.

Note Use two (2) wrenches when loosening and tightening heat exchanger compression fittings. Boiler components can be damaged if subjected to excessive torque.

4. Attach compression nuts on supply and return pipes to heat exchanger and tighten.
5. Connect condensate trap. See Figures 5 and 6.
 - Refill trap with approximately 1 cup of water if needed.
 - Expand collet clip and place over end of condensate hose. Insert condensate trap onto condensate collector barb. Secure with collet clip.
 - Connect boiler to hydronic piping system. Fill boiler with water.
 - Check for leaks.
 - Repair any leaks as required.
6. Replacement heat exchanger kit includes installed burner. Verify U-shaped notch on burner flange is seated into pin on heat exchanger top cap. Verify burner flange is flush against heat exchanger top. See Figure 7.
7. Install blower assembly. See Figure 4.
 - Install burner gasket provided with kit. Align gasket with studs in heat exchanger.
 - Verify nuts connecting blower to index plate are tight.
 - Place blower assembly onto heat exchanger. Secure finger tight with four (4) ¼-20 hex flange nuts.
8. Connect gas valve to gas valve flange and tighten. Tighten four (4) ¼-20 hex flange nuts securing blower to heat exchanger. See Figure 4.
9. Install control panel. Connect wiring connections:
 - ignition wire to igniter
 - flame sense wire to flame sense
 - flue sensor
 - return sensor
 - low water cutoff connection
 - limit water sensor connection
 - two molex connections to blower

Note Take care when tightening gas valve connection. If not seated correctly boiler will not operate.

- gas valve connection - if not tightened and seated correctly onto the gas valve boiler will not operate.

CAUTION

Heat exchanger weight exceeds 75 pounds (34 kg). Do not lift heat exchanger without assistance. Failure to follow these instructions could result in minor to moderate injury.

Figure 6 - Heat Exchanger

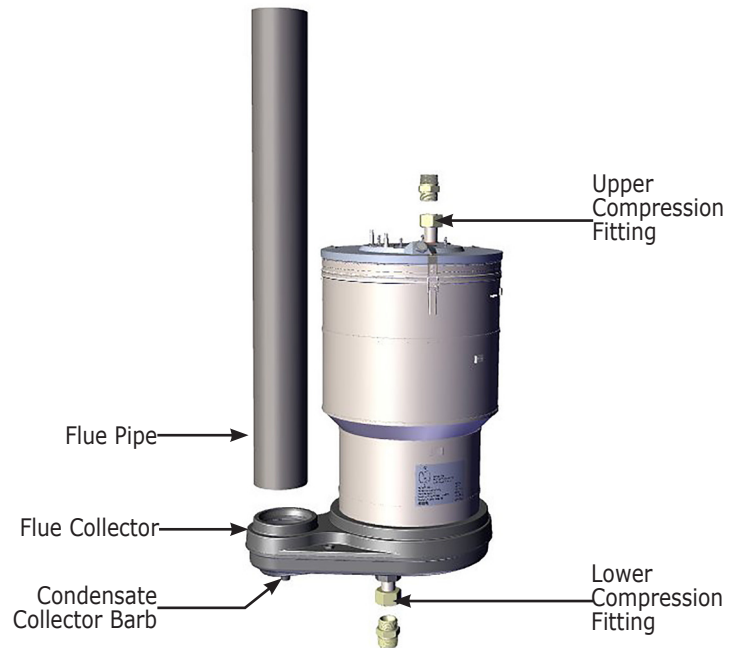


Figure 7 - Heat Exchanger Notch and Pin



10. Install User interface panel. Connect wire harness to User Interface.

 DANGER
<p>Fire hazard. Do not use matches, candles, open flames, or other methods providing ignition source. Failure to comply will result in death or serious injury.</p>

11. Gas Line Leak Test

- Turn on gas at manual main gas shutoff valve.
- Check for gas line leaks using gas detector, noncorrosive detection fluid, or other leak detection method acceptable to authority having jurisdiction. Correct leaks immediately and retest.

12. General Finish Instructions

- Resume operation using OPERATING INSTRUCTIONS found on Operating Instructions label on boiler or in Installation, Operation & Maintenance Manual.
- Operate boiler for 30 minutes. Check for water leaks at condensate collector and compression fittings. Repair any leaks.
- Verify proper operation by following START UP PROCEDURE in Installation, Operation & Maintenance Manual.
- Install front jacket panel(s).

399 Heat Exchanger Kit # 550003095		
<i>KIT INCLUDES ALL ITEMS LISTED BELOW</i>		
DESCRIPTION	PART #	QTY
Heat Exchanger Module (includes: Heat Exchanger Coil, Top Cap, Igniter, Flame Sensor with Flue Collector Installed)	-	1
Fitting, Compression 30mm X 1-1/4 NPT	-	2
Instructions	240011189	1
* Not Shown		

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