

PRESTIGE Excellence

HX Field Replacement Kit

| Quantity | Kit Part Number | Description | Model | | | |
|----------|-----------------|-------------------------|---|---|--|--|
| | | | PE 110 Natural Gas Stainless Steel Condensate Pan | PT 110 Natural Gas Polypropylene Condensate Pan | PE 110 LP Stainless Steel Condensate Pan | PT 110 LP Polypropylene Condensate Pan |
| 1 | PSRKIT01 | Heat Exchanger Assembly | X | | | |
| 1 | PTRKIT124 | Heat Exchanger Assembly | | X | | |
| 1 | PSRKIT76 | Heat Exchanger Assembly | | | X | |
| 1 | PTRKIT125 | Heat Exchanger Assembly | | | | X |

Each Heat Exchanger (HX) Replacement Kit includes the following items already installed on the heat exchanger:

- Combustion chamber insulation
- Burner head and gasket
- Sight glass assembly
- Burner mounting plate gasket

The following items are shipped in a PARTS BOX and must be installed as part of the HX replacement:

- Vent outlet gasket
- Blower gasket
- Boiler piping gaskets
- Igniter, igniter gasket, screws
- Temperature sensors and harness adapters

Recommended tools:

- Pipe wrenches
- Phillips and flat head screw drivers
- 10 mm socket and/or 10 mm wrench
- Adjustable wrench
- Needle nose pliers
- Diagonal cutting pliers
- Calibrated combustion analyzer
- Long handle phillips head screwdriver
- Long handle T-20 Torx screwdriver

WARNING

Indicates a potentially hazardous situation which, if ignored, can result in serious injury or substantial property damage.

NOTICE

Indicates special instructions on installation, operation or maintenance, which are important to equipment but not related to personal injury hazards.

WARNING

For your safety, turn off electrical power supply at service panel and allow unit to cool before proceeding to avoid possible electrical shock and scald hazard. Failure to do so can cause severe personal injury or death.

WARNING

Failure to follow instructions below can result in severe personal injury or damage if ignored.

- Instructions are for a qualified installer/service technician only.
- Read all instructions before proceeding.
- Follow instructions in proper order.

WARNING

Use a two wrench method when tightening piping onto the boiler piping connections. Use one wrench to prevent the boiler piping from turning / twisting. Failure to support the boiler piping and connections in this manner could cause damage to the boiler and its components.

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Preliminary Instructions

1. Verify that the heat exchanger kit is correct for the model of boiler. See table on page 1.
2. Turn off power to the unit at the main service panel and allow the unit to cool.

⚠ WARNING

ELECTRICAL SHOCK HAZARD!

Ensure power to the boiler has been switched off prior to servicing the unit.

3. Remove the front jacket panel of the boiler by removing the thumbscrew located on the upper edge of the unit. Lift the panel up and pull forward to remove the front panel from the unit.
4. Using a voltmeter verify there is no electrical power to the boiler by checking for power on the boiler's power supply terminals L and N
5. Shut off gas supply to the inlet of the unit at the external main manual shutoff valve.
6. Close external system isolation valves to the boiler supply and return piping and on the system make up / fill piping.
7. Attach a hose to external boiler drain. Place other end of this hose to a suitable drain.
8. Open external boiler drain valve and begin draining the boiler.

NOTICE

To assist in the draining of the boiler, remove the air vent at the top of the unit or manually lift open the pressure relief valve.

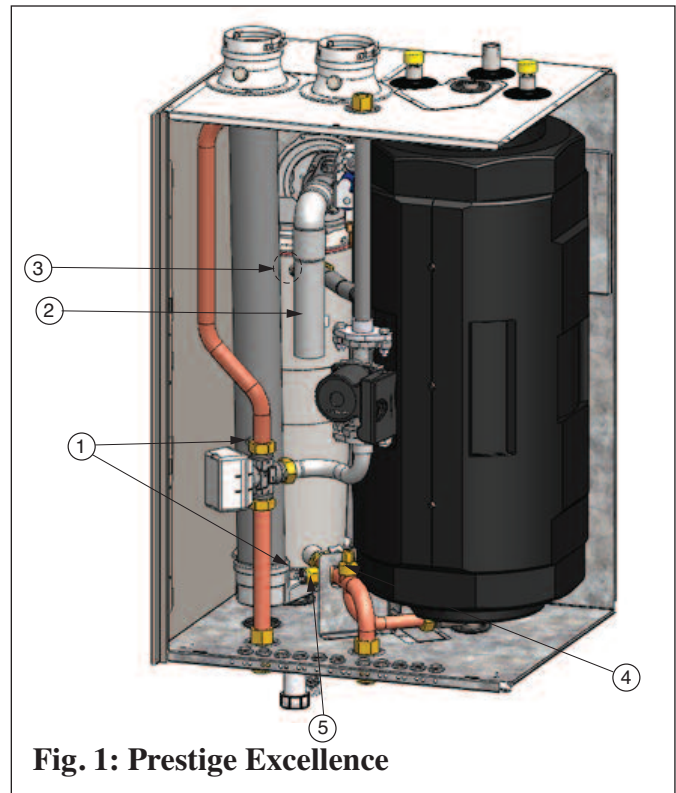


Fig. 1: Prestige Excellence

Removal of Venting Connection

1. Use a flat head screw driver to loosen the banding clamp located on the vent outlet adapter. (Fig. 2).
2. Remove vent piping from vent outlet adapter as the internal flue tube / vent outlet adapter must be removed.
3. Disconnect the yellow wire leads/Molex plug from the flue temperature sensor (shown as Item 1 in Fig. 1). The flue temperature sensor may be located in the vent pipe or the condensate pan depending on the model. Use care when disconnecting the wire leads as not to damage the sensor terminals or the wire leads.

NOTICE

Before disconnecting any wire connections mark and label all connections and location of the connections.

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Stainless Steel Vent Outlet Adapter Removal

1. Dismount the vent outlet adapter from top of boiler cabinet by removing the 4 mounting screws. Do not discard the mounting screws and vent outlet adapter as they will be reused. (Fig. 2)

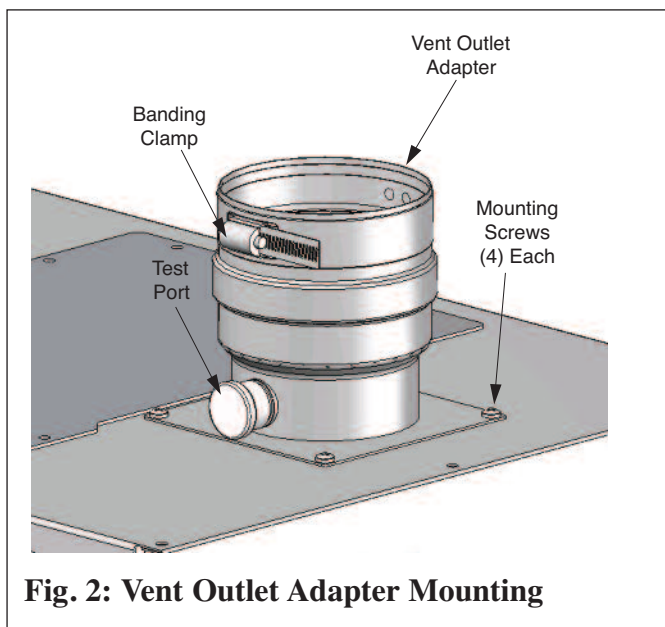


Fig. 2: Vent Outlet Adapter Mounting

2. Remove entire vent outlet adapter by lifting vertically upward and out of the boiler cabinet using a twisting / rocking motion (Fig. 3).

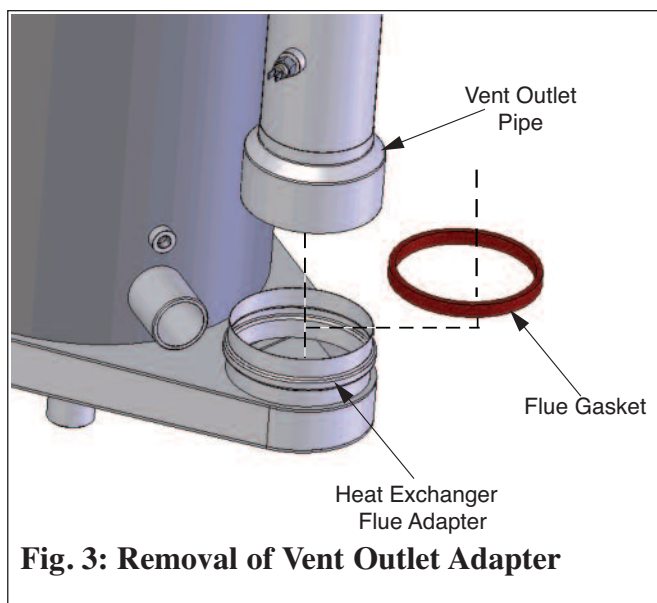


Fig. 3: Removal of Vent Outlet Adapter

3. In case of insufficient space above the boiler, remove combustion air inlet piping and boiler relief valve / air vent assembly from the top of the boiler. Close the DHW cold water supply isolation valve and open a hot water faucet to relieve water pressure in the water heater. Remove all DHW piping including T&P relief valve from the DHW connections on the top of the boiler. Remove all screws securing the top jacket panel from the side panels and remove vent outlet adapter and top jacket panel together from the boiler cabinet. Put all items in a safe place as they will all be reused.
4. Once the vent outlet adapter is removed from the boiler, it should be inspected for deformation damage or corrosion.



If there are any signs of deformation, damage or corrosion on the vent outlet adapter, replace it immediately. Check condition of flue sensor mounting, replace vent outlet adapter if necessary. Failure to comply could result in flue gas leakage resulting in severe personal injury or death.

Polypropylene Vent Outlet Adapter Removal

1. Dismount the vent outlet adapter from top of boiler cabinet by twisting the vent outlet adapter counter clockwise to disengage the retaining tabs. Remove the vent outlet adapter by lifting vertically to disengage it from the internal vent pipe.
2. Remove the internal vent pipe from the unit by lifting vertically upward and out of the boiler cabinet using a twisting / rocking motion.

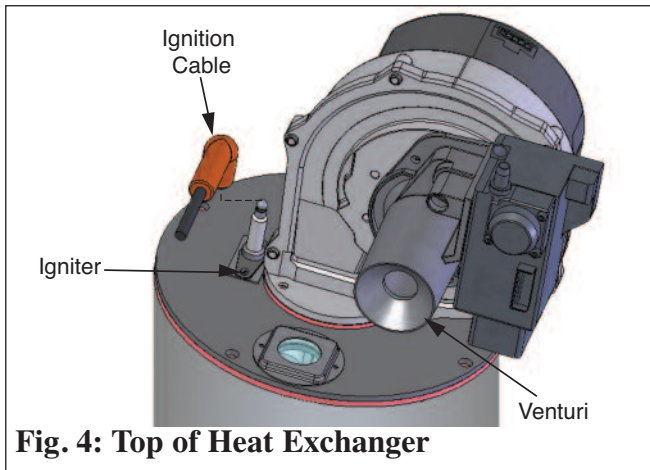
Removal of Electrical Connections (MCBA)



Before disconnecting any wire connections mark and label all connections and location of the connections.

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1. Remove both top access panels located above the heat exchanger and water heater on the top jacket panel.
2. Remove ignition cable and green ground wire from the igniter. (Fig. 4).



3. Disconnect the ignition cable from the MCBA control module and remove air intake pipe from venturi. (Shown as item 2 in Fig 1). Place the intake pipe and ignition cable aside, DO NOT discard as they will be re-used.
4. Disconnect the electrical connection(s) for the blower at the blower housing.
5. Remove the mounting screw and disconnect the black rectifier plug from the gas valve.
6. Disconnect the grey flat ribbon cable from the display board at the MCBA control module.
7. Disconnect the orange low voltage and high voltage wiring terminal strips by unplugging the bottom strips from the upper portion.
8. Remove the retaining screw for control mounting panel and swing open the control mounting panel. The high voltage and low voltage terminals should pass through the lower cutouts of the panel to allow movement of the panel.

9. Disconnect the red wire leads from supply temperature sensor (Shown as item 3 in Fig. 1) located at the top of the heat exchanger.
10. Disconnect the blue wire leads from return temperature sensor (Shown as item 4 in Fig. 1) located at the bottom of the heat exchanger.
11. Disconnect the orange wire leads from the Low Water Cut-Off (LWCO) pressure switch (Shown as item 5 in Fig. 1). Use care when disconnecting the wire leads as not to damage the LWCO terminals or the wire leads.

Removal of Electrical Connections (TriMax)

NOTICE

Before disconnecting any wire connections mark and label all connections and locations of the connections.

1. Remove both top access panels located above the heat exchanger and water heater on the top jacket panel.
2. Slide left and right tabs of control panel inward and lower control panel.
3. Pull the retaining tabs on top of the rear cover to remove the rear control box cover.
4. Remove green ground wire from the igniter and the ignition cable from the TriMax control module.
5. Remove air intake pipe (Shown as item 2 in Fig. 1) from venturi. Place the intake pipe aside, DO NOT discard as it will be re-used.
6. Disconnect the electrical connection(s) for the blower at the blower housing.
7. Disconnect the Molex plug from the gas valve.
8. Disconnect the Molex plug from supply temperature sensor (Shown as item 3 in Fig. 1) located at the top of the heat exchanger.

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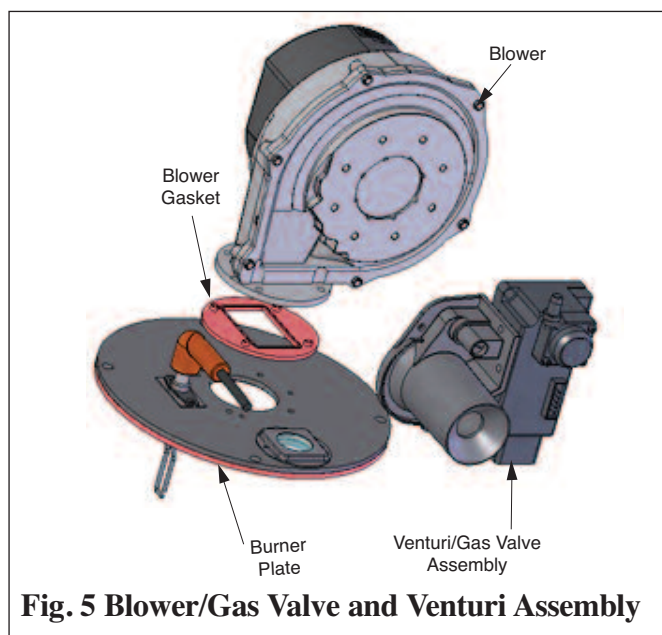
9. Disconnect the Molex plug from return temperature sensor (Shown as item 4 in Figs. 1-3) located at the bottom of the heat exchanger.
10. Disconnect the orange wire leads from the Low Water Cut-Off (LWCO) pressure switch (Shown as item 5 in Fig. 1). Use care when disconnecting the wire leads as not to damage the LWCO terminals or the wire leads.

Removal of Gas Connection

1. Disconnect the gas supply piping inside the boiler at the brass union located just below the gas valve using two wrenches.
2. The gas piping can remain inside the boiler or be removed for additional clearance / access.

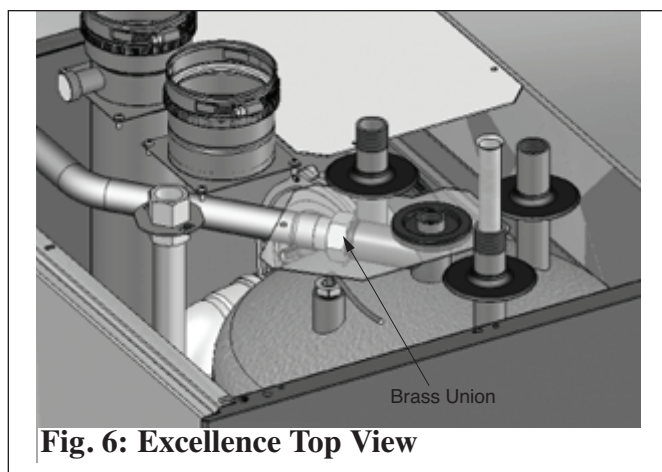
Removal of Blower/Gas Valve/Venturi Assembly

1. Remove 4 blower mounting screws from the burner plate using the extended Phillips/Torx head screw driver provided in the kit and remove the blower/gas valve/venturi. Gas valve and venturi assembly can remain connected to the blower housing. Discard old blower gasket. (Fig. 5).

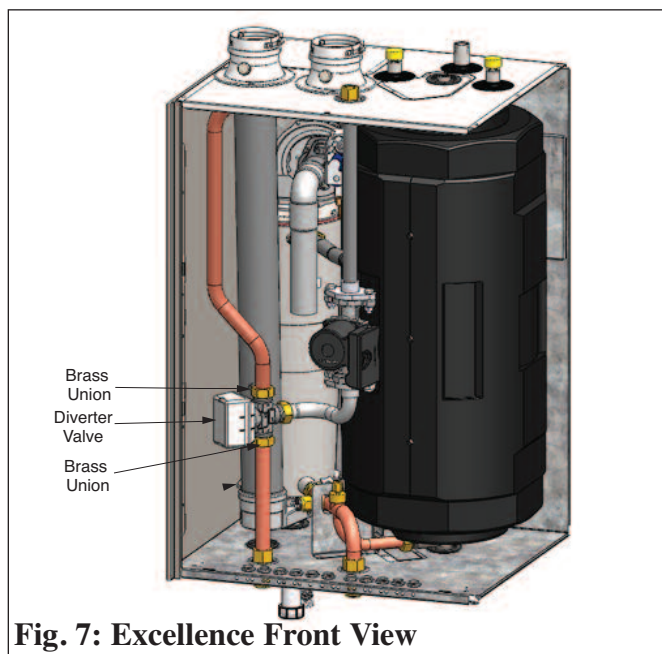


Removal of Water Connections

1. Remove condensate trap and cabinet gasket from the boiler. Do not discard, as they will be reused. Cut serrated washer on polypropylene condensate pan to remove retaining nut.
2. Remove electrical wiring from the internal circulator. Mark and label all wires. Disconnect the Molex plug from the diverter valve actuator.
3. Using a pipe or adjustable wrench, disconnect the brass union on the boiler piping at the top of the DHW tank. (Fig. 6)



4. Loosen brass union nuts located above and below the diverter valve body. (Fig. 7)



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5. Remove the DHW tank boiler piping from the boiler.
6. Disconnect the upper flange of the internal circulator. Remove the internal circulator and diverter valve assembly from the boiler.
7. Loosen the brass union nut located at the internal supply connection of the heat exchanger. The piping assembly can be rotated to allow access to the heat exchanger without removal of the relief valve / air vent assembly. Push the piping assembly up through the top of the boiler jacket to disengage the anti torque fitting and rotate out of the way. Discard boiler piping gasket.
8. Loosen the brass union nut located at the internal return connection of the heat exchanger. The piping assembly does not need to be removed to access the heat exchanger. Discard boiler piping gasket.
9. Cut tie strap holding the heat exchanger in place at the bottom of the unit (if present).
2. Lift the heat exchanger about 4” to 6” to disengage from the rear jacket panel and clear the condensate tube from the bottom panel. Tilt heat exchanger forward from the top and carefully rotate it forward in order to remove from the boiler cabinet.

Preparation of New Heat Exchanger

NOTICE

Do not damage or throw away shipping box, foam packs, and HX Tracking Form as all these items are used to return the old heat exchanger, if required for warranty evaluation.

1. Carefully open and unpack the PARTS BOX from its shipping carton.
2. Carefully remove heat exchanger from shipping box. Do not discard packing materials, as the shipping box should be reused to return the old heat exchanger back to Triangle Tube if required for warranty consideration.
3. Check new heat exchanger for any damage. Check position of the flue gasket in the new heat exchanger.
4. Install new temperature sensors with O-ring gaskets in return and supply sensing locations.
5. Install new temperature sensor with O-ring gasket in flue sensing location (PSRKIT01 & PSRKIT76 only)
6. Install the new igniter gasket and igniter in the burner plate using 2 screws provided. Tighten screws evenly. See Table 2, page 14 for torque specifications.

Removal of Heat Exchanger

NOTICE

Obtain assistance in lifting the heat exchanger from the cabinet as 2 people will be required.

1. Remove the sheet metal “anti-bounce” bracket insert (if present) from the upper mounting brackets located behind the heat exchanger (Fig. 8). This clip is used to avoid vertical motion of the heat exchanger during transport and is not required to be installed with the replacement heat exchanger.

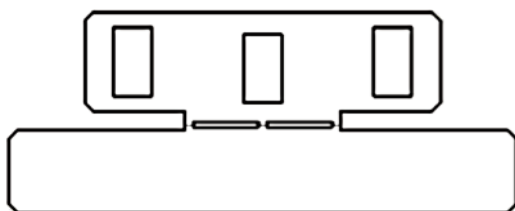


Fig. 8: Heat Exchanger “Anti-bounce” Bracket

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Installation of New Heat Exchanger

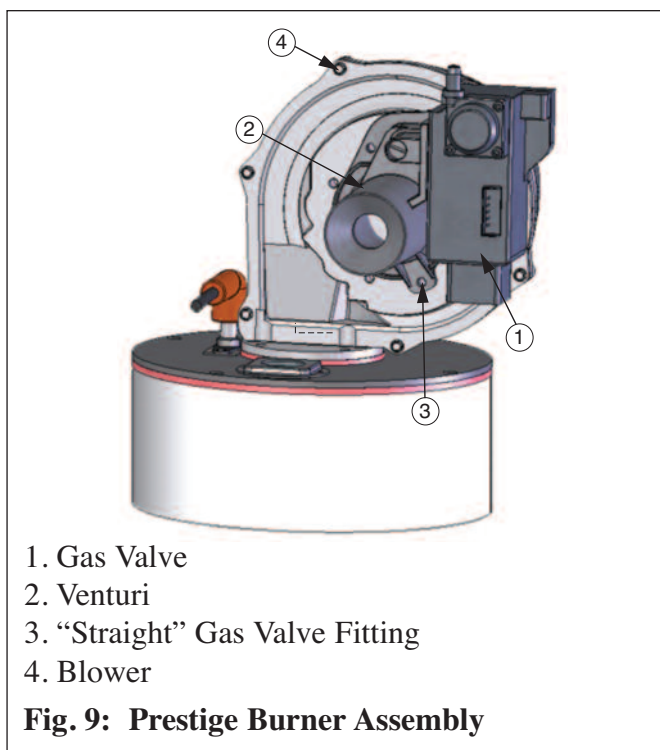
NOTICE

Prior to installation of the new heat exchanger, carefully check the interior of the boiler cabinet. Dry the cabinet / insulation when signs of moisture are present. Check integrity of all wiring. Repair / replace when necessary.

1. Lift new heat exchanger into place by engaging the rear HX brackets (top and bottom) into the rear boiler jacket panel provisions.

Installation of Blower/Gas Valve/Venturi Assembly

1. Mount the blower/gas valve/venturi assembly on top of the heat exchanger. Use the new blower gasket provided in the kit. Install 4 new blower mounting screws (M4 x 12) ensuring they are properly tightened and the blower is mounted securely to the burner plate (Fig. 9). See Table 2, page 14 for torque specifications.



Installation of Water Connection

1. Connect boiler return piping back to return connection of new heat exchanger. Use a new boiler piping gasket provided in the kit between heat exchanger and return pipe. Tighten the brass union nut ensuring a leak tight seal.
2. Rotate the boiler supply piping back into position and connect to the supply connection of the new heat exchanger. Use a new boiler piping gasket provided in the kit between heat exchanger and supply pipe. Tighten the brass union nut ensuring a leak tight seal.

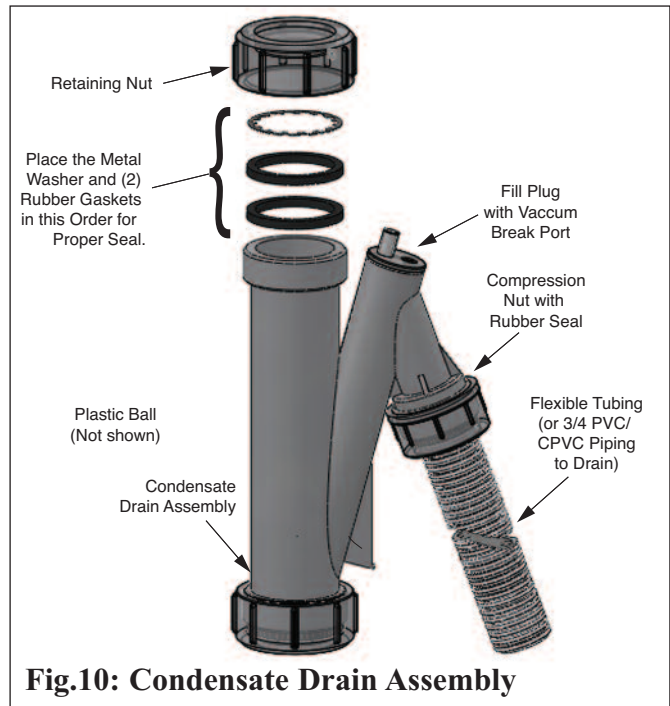
NOTICE

Use care when tightening the heat exchanger union nuts. If excessive torque is applied to the union nut, damage can occur to the boiler piping or the gasket seal resulting in leakage.

3. Install the internal circulator and diverter valve assembly in the boiler using a new flange gasket between the circulator flange and boiler piping flange. Tighten the flange nuts and bolts to secure the flange connection. Ensure the flange gasket is not pinched between the flanges.
4. Connect the CH supply pipe to the bottom of the diverter valve by tightening the brass union nut by hand.
5. Install the DHW tank boiler piping using a new boiler piping gasket provided in the kit between the piping and the DHW tank. Tighten the brass union on the boiler piping at the top of the DHW tank by hand. Tighten the brass union nut at the diverter valve by hand.
6. After all piping is connected, tighten all connections using the two wrench method.
7. Connect the Molex plug to the diverter valve actuator and the electrical wiring to the internal circulator.

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8. Install cabinet gasket where heat exchanger condensate drain nipple penetrates the cabinet.
9. Install the condensate drain assembly as shown in Fig. 10.
10. A new metal washer must be installed when installing the condensate drain assembly onto a polypropylene condensate pan. The new metal washer must first be cut using a pair of diagonal cutting pliers to make it into a split washer. Insert the split metal washer into the retaining nut and screw onto the condensate drain assembly without rubber gaskets. Use the condensate drain assembly as a tool to press the retaining nut with split metal washer onto the polypropylene condensate pan. Unscrew the condensate drain assembly and proceed to the next step.



! WARNING

Ensure the installation of the condensate drain assembly included the metal washer when attaching to a polypropylene condensate pan. Failure to comply could result in the trap assembly dislocating from the boiler.

11. Slide the retaining nut, and rubber seals from the condensate drain assembly over the heat exchanger condensate drain nipple. Connect the condensate drain assembly to the retaining nut and tighten.

! WARNING

Ensure the condensate drain assembly contains the plastic seated ball. Do not install the condensate drain assembly if the ball is lost or missing, replace the entire assembly.

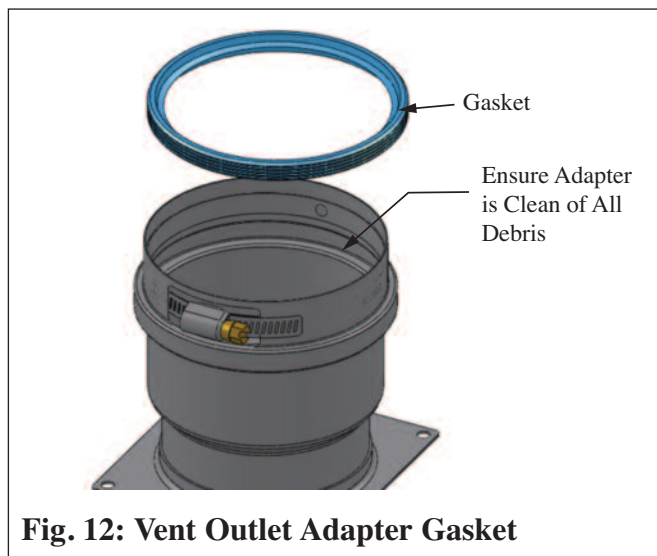
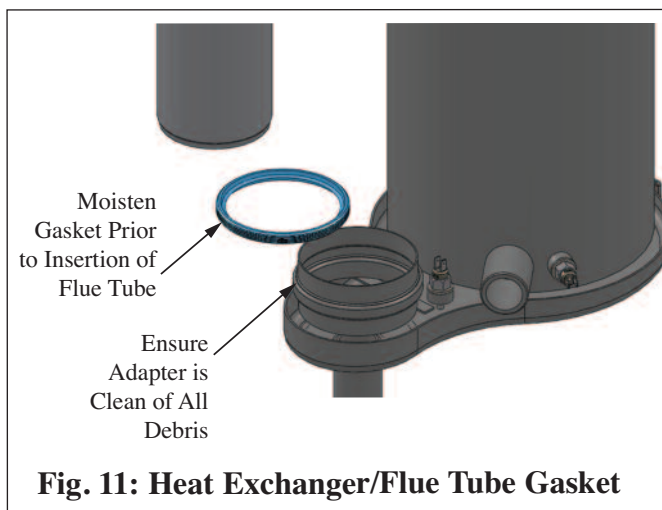
Installation of Gas Connection

1. Install the gas piping inside the unit if it was removed for additional clearance/access.
2. Connect gas piping to the gas valve at the brass union located just below the gas valve. Tighten the union using two wrenches. See Table 2, page 14 for torque specifications.

Installation of Stainless Steel Vent Outlet Adapter

1. Ensure flue gasket is seated properly in the heat exchanger adapter. Apply clean water to the bottom of the vent outlet adapter and flue gasket. (Fig. 11).
2. Insert vent outlet adapter through the top jacket panel into the heat exchanger adapter. (Fig. 11). Use a slight twist motion with a downward force as it is inserted into the adapter. Ensure the gasket remains seated in the heat exchanger adapter.

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3. In case of limited top boiler clearance, insert vent outlet adapter through the removed top jacket panel. Bring this entire assembly in place together on top of the boiler side panels. Use a slight twist motion with a downward force as the vent outlet adapter is inserted into the heat exchanger adapter. Ensure the gasket remains seated in the heat exchanger adapter. Secure the entire top jacket panel to the side panels with the original screws. Install all DHW piping including T&P relief valve to the DHW connections on the top of the boiler. Open the DHW cold water isolation valve and test for water leaks.
4. Install new vent outlet gasket provided in the kit in vent outlet adapter. Ensure the combustion test port of the vent outlet adapter is facing toward the front of the boiler. Re-use the existing 4 mounting screws and secure vent outlet adapter to top of boiler jacket panel. (Fig. 12).

WARNING

If during the install of the flue tube into the heat exchanger the flue gasket becomes dislodged, it is extremely important that the install is halted and the gasket is resealed in the adapter. Failure to comply could result in leakage of flue products into the surrounding area resulting in death or personal injury.

Installation of Polypropylene Vent Outlet Adapter

1. Ensure flue gasket is seated properly in the heat exchanger adapter. Apply clean water to the bottom of the internal vent pipe. (Fig. 11)
2. Insert the internal vent pipe into the heat exchanger adapter. Use a slight twist motion with a downward force as it is inserted into the adapter. Ensure the gasket remains seated in the heat exchanger adapter.
3. Ensure flue gasket is seated properly in the top of the internal vent pipe. Apply clean water to the bottom of the vent outlet adapter.
4. Install the vent outlet adapter on top of boiler cabinet by twisting the vent outlet adapter clockwise to engage the retaining tabs. Ensure the flue gasket remains seated in the internal vent pipe.
5. Install new vent outlet gasket provided in the kit in vent outlet adapter. Ensure the combustion test port of the vent outlet adapter is facing toward the front of the boiler. (Fig. 12)

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WARNING

If during the install of the internal vent pipe or vent outlet adapter the flue gasket becomes dislodged, it is extremely important that the install is halted and the gasket is resealed. Failure to comply could result in leakage of flue products into the surrounding area resulting in death or personal injury.

Installation of Electrical Connections (MCBA)

1. Connect the orange wire leads to the Low Water Cut-Off (LWCO) pressure switch.
2. Connect the Harness Adapter to the blue return temperature sensor wires of the boiler wiring harness using the included Wire Taps.

- Place the unstripped wire harness wire into the run channel of the Wire Tap and close the side cover (Fig. 13).
- Insert the Harness Adapter unstripped wire into the Wire Tap and use pliers to squeeze the U-Connection into the Wire Tap.
- Close the hinged cover and make sure it latches.
- Plug the Harness Adapter into the return temperature sensor

3. Connect the Harness Adapter to the red supply temperature sensor wires of the boiler wiring harness using the included Wire Taps. Follow the Harness Adapter instructions above then plug the Harness Adapter into the supply temperature sensor.

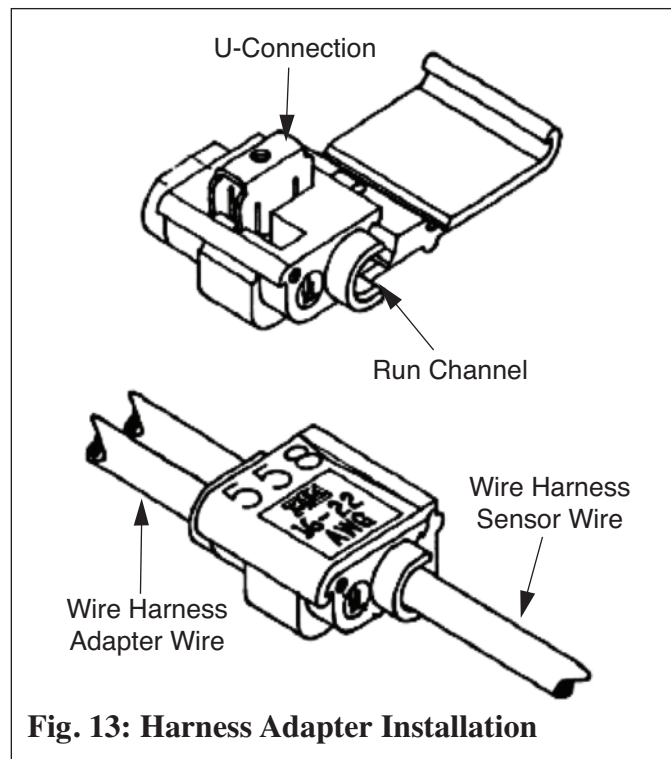


Fig. 13: Harness Adapter Installation

4. Reconnect the yellow flue temperature wires to the flue temperature sensor if the sensor was not replaced. If the flue temperature sensor was replaced, connect the Harness Adapter to the yellow flue temperature sensor wires of the boiler wiring harness using the included Wire Taps. Follow the Harness Adapter instructions above then plug the Harness Adapter into the flue temperature sensor.
5. Connect the black rectifier plug to the gas valve and secure with provided screw.
6. Connect the electrical connection(s) for the blower to the blower housing.
7. Connect the green ground wire to the igniter ground terminal.
8. Pass the orange low voltage and high voltage wiring terminal strips through the lower cutouts of the control mounting panel. Close the control mounting panel and secure with the retaining screw. Connect the orange low and high voltage wiring terminal strips to the upper portion.

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9. Connect the gray ribbon cable from the display board to the MCBA control module.
10. Connect the ignition cable to the igniter and the MCBA control module.
11. Install the air intake pipe back on the venturi air inlet connection. Make sure the ignition cable is secured with a cable tie to the air intake pipe. Also make sure the ignition cable is not in contact with any metal surfaces or routed over the sight glass.
12. Install both top access panels located above the heat exchanger and water heater on the top jacket panel.

Installation of Electrical Connections (TriMax)

1. Connect the orange wire leads to the Low Water Cut-Off (LWCO) pressure switch.
2. Connect the Molex plug to the return temperature sensor located at the bottom of the heat exchanger.
3. Connect the Molex plug to the supply temperature sensor located at the top of the heat exchanger.
4. Connect the Molex plug to the flue temperature sensor.
5. Connect the Molex plug to the gas valve.
6. Connect the electrical connections for the blower to the blower housing.
7. Connect the green ground wire to the igniter ground terminal.
8. Connect ignition cable to the TriMax control module and install rear control box cover.
9. Install the air intake pipe back on the venturi air inlet connection. Make sure the ignition cable is secured with a cable tie to the air intake pipe.

Also make sure the ignition cable is not in contact with any metal surfaces or routed over the sight glass.

10. Flip control panel up until retaining tabs lock into place.
11. Install both top access panels located above the heat exchanger and water heater on the top jacket panel.

Installation of Vent Connection

1. Ensure vent outlet gasket is seated properly in the vent outlet adapter.
2. Apply clean water to the insertion end of the pipe to ease insertion into the adapter.
3. Insert vent pipe into the adapter until it is fully seated.



Do not apply excessive force, twist or bend the adapter or vent pipe when inserting. The vent outlet gasket could be damaged resulting in possible flue gas leakage.

4. Secure the vent pipe by tightening the vent outlet adapter banding strap. Do not over tighten the strap. The seal is made with the gasket inside the adapter.

Start-Up Procedures



Ensure the domestic inner tank of the PRESTIGE Excellence water heater is properly filled and pressurized prior to filling the boiler system. Failure to comply could result in damage of the inner tank.

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1. Ensure the pressure relief valve / air vent is properly piped to the supply piping at the top of the boiler.
2. Fill boiler with water and purge all air from the system. Set boiler pressure between 12 and 15 psi. Test for water leaks. Repair any leaks.
3. Turn on gas supply to the inlet of the unit at the external main manual shutoff valve to the unit.
4. Check and test all gas connections for leaks. Repair leaks if found.



WARNING

Do not check for gas leaks with an open flame. Use a bubble test. Failure to check for gas leaks can cause severe personal injury, death or substantial property damage.

5. Turn on power to the unit. The unit is now ready to be placed back in service.

Combustion Test and Adjustments

1. The installer **MUST** perform a complete combustion check to ensure the following combustion levels are met at high and low input firing rates and the burner is operating at optimum conditions.

| | Natural Gas | Propane |
|----------|-------------|---------|
| O2 Min. | 2.30% | 2.70% |
| O2 Max. | 5.30% | 4.70% |
| CO2 Min. | 8.80% | 10.70% |
| CO2 Max. | 10.50% | 12.00% |
| CO Max. | 100 ppm | 100 ppm |

Table 1: Recommended Combustion Settings



WARNING

The combustion testing and adjustments must be performed by a qualified installer, service agency or the gas supplier. All combustion measurements must be performed with calibrated equipment to ensure proper readings and accuracy.



WARNING

Failure to perform a complete combustion test at both high and low input rates may result in incomplete combustion and the production of carbon monoxide, which can cause severe personal injury, death or substantial property damage.

MCBA Instructions

1. Manually place the boiler into high fire mode by pressing the “MODE” button with “+” button simultaneously on the control panel display while in the Standby (STBY) mode.

NOTICE

The control panel will display a H followed by the current boiler temperature when placed into high fire test mode.

2. If the combustion levels during high fire is outside the recommended combustion settings adjust the THROTTLE SCREW (see Fig. 14) using a flat-blade screwdriver as follows:

Counter-clockwise adjustment of the THROTTLE SCREW at High Fire:

O2 decreases and CO2 increases

Clockwise adjustment of the THROTTLE SCREW at High Fire:

O2 increases and CO2 decreases

3. Once the combustion level is set at high fire, manually place the boiler into low fire mode by pressing the “MODE” button with “-” button simultaneously on the control display while in the Standby (STBY) mode.

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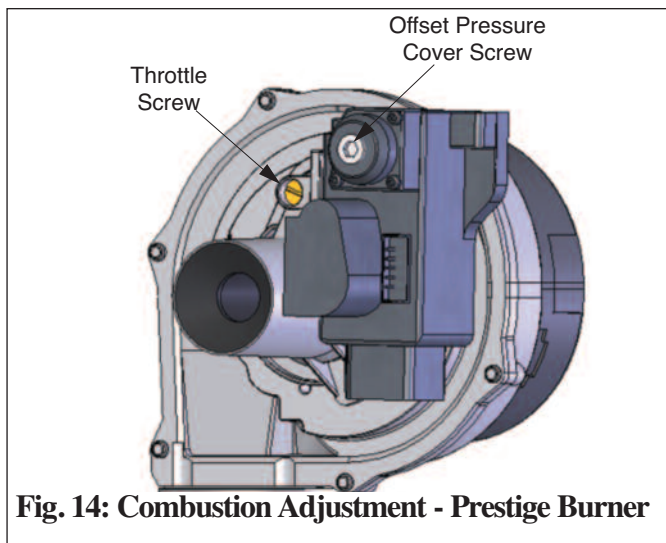


Fig. 14: Combustion Adjustment - Prestige Burner

NOTICE

The control panel will display a **L** followed by the current boiler temperature when placed into low fire test mode.

4. If the CO₂ combustion level during low fire is not within +/- 0.2 of the combustion level measured at high fire, remove the offset cover screw and adjust the plastic OFFSET SCREW (see Fig 14) using a T-40 Torx wrench as follows:

Counter-clockwise adjustment of the OFFSET SCREW at Low Fire:

O₂ increases and CO₂ decreases

Clockwise adjustment of the OFFSET SCREW at Low Fire:

O₂ decreases and CO₂ increases

TriMax Control Procedure

1. Press the round INSTALLER button. See Fig. 15.
2. Enter the installer access code “054” by using the **LEFT** and **RIGHT** buttons to select a digit and the **UP** and **DOWN** buttons to change the digit. Press the **OK** button to enter the access code.

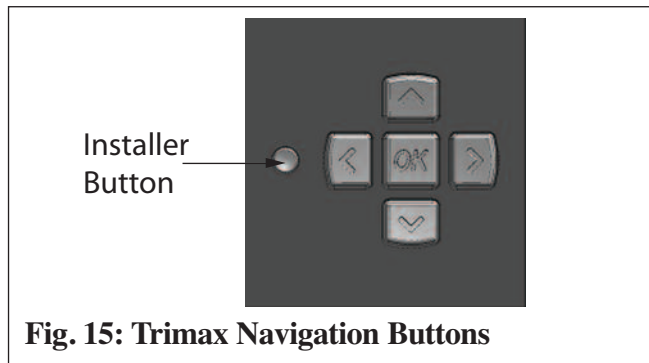
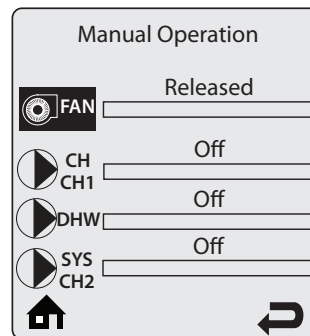


Fig. 15: Trimax Navigation Buttons

3. Press the **RIGHT** button to highlight the Manual Operation icon then press the **OK** button.
4. Press the **OK** button while the FAN icon is highlighted to manually fire the burner and power the CH circulator.



NOTICE

An adequate CH load must be present to dissipate the heat generated during the combustion test. If an adequate CH load is not available, an indirect water heater can be used to dissipate the heat by creating a DHW call which will enable the DHW circulator.

5. Press the **RIGHT** button to adjust the firing rate to 100% (high fire). Hold down the **RIGHT** button to rapidly increase the firing rate.
6. If the combustion levels during high fire are outside the recommended combustion settings adjust the THROTTLE SCREW (see Fig. 14) using a flat-blade screwdriver as follows:

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Counter-clockwise adjustment of the THROTTLE SCREW at High Fire (100% firing rate):

O₂ decreases and CO₂ increases

Clockwise adjustment of the THROTTLE SCREW at High Fire (100% firing rate):

O₂ increases and CO₂ decreases

7. Once the combustion level is set at high fire, manually place the boiler into low fire mode by pressing the **LEFT** button to adjust firing rate down to 1% (low fire).
8. If the CO₂ combustion level during low fire is not within +/-0.2 of the combustion level measured at high fire, remove the offset cover screw and adjust the plastic **OFFSET SCREW** (see Fig. 14) using a T-40 Torx wrench as follows:

Counter-clockwise adjustment of **OFFSET SCREW** at Low Fire (1% firing rate):

O₂ increases and CO₂ decreases

Clockwise adjustment of **OFFSET SCREW** at Low Fire (1% firing rate):

O₂ decreases and CO₂ increases


9. Press the **OK** button while the fan icon is highlighted to shutdown the burner.
10. Press the **DOWN** button to highlight the home screen icon  then press **OK** to return to the home screen.

Table 2: Torque Specifications

| Assembly Screws | Torque Specifications | |
|----------------------|-----------------------|----------------------|
| | Min. Inch- Pounds | Max. Inch- Pounds |
| Sight Glass | 11 | 13 |
| Burner Head | 27 | 31 |
| Igniter | 27 | 31 |
| Gas Valve Couplings | 27 | 31 |
| Blower - Outlet | 27 | 31 |
| Venturi to Gas Valve | 31 | 35 |
| Venturi to Blower | 31 | 35 |
| Burner Plate | 44 | 59 |