

PRESTIGE Solo 299/399 - CTRLMax Boilers Natural to Propane Instructions



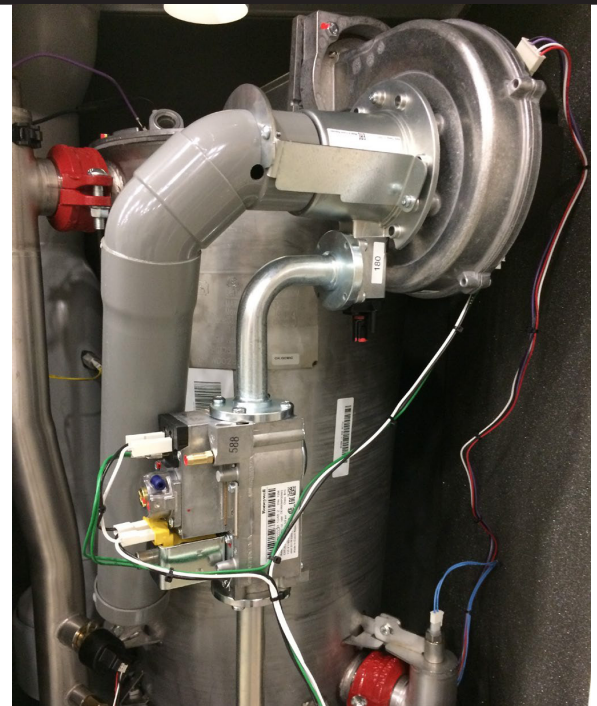
Kit Part Number: TCRKIT26

Tools Included:

- Rating Label
- Conversion Label
- (1) Propane Gas Orifice
- T-25 Torx Wrench

Recommended Tools:

- Phillips and flat head screwdrivers
- Adjustable wrench
- Calibrated combustion analyzer



WARNING

This conversion kit only applies to the PA 299 and 399 with the 2 piece blower & venturi, serial numbers after PA116181 (PA299 models) and PA116693 (PA399 models). If the boiler was converted and DOES NOT match the picture of the two piece blower/ventur shown here, DO NOT use this manual.

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

For your safety, the boiler may be extremely hot. Ensure the boiler has properly cool prior to servicing. Failure to do so can cause severe personal injury.

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1. Removal of Natural Gas Orifice

1. Turn off the electrical power supply to the boiler.
2. Close the manual gas shut off valve to the unit.
3. Remove the front panel of the Prestige by removing the screws along the bottom edge of the unit. Pull the bottom of the panel forward and then lift up to remove the front panel from the unit.
4. Disconnect the Molex plugs to the gas valve.
5. Remove the screws/nut securing the gas valve from the gas valve pipe elbow, see Fig. 1. Discard the gas valve gasket as a replacement is included in the kit.
6. Remove the four screws securing the gas valve from the piping to the venturi. Discard the gas valve gasket as a replacement is included in the kit.
7. Remove the old gas valve from the unit.

Table 1: Propane Gas Orifice

Model	Orifice Size
Solo 299/399	0.264" (6.7 mm)

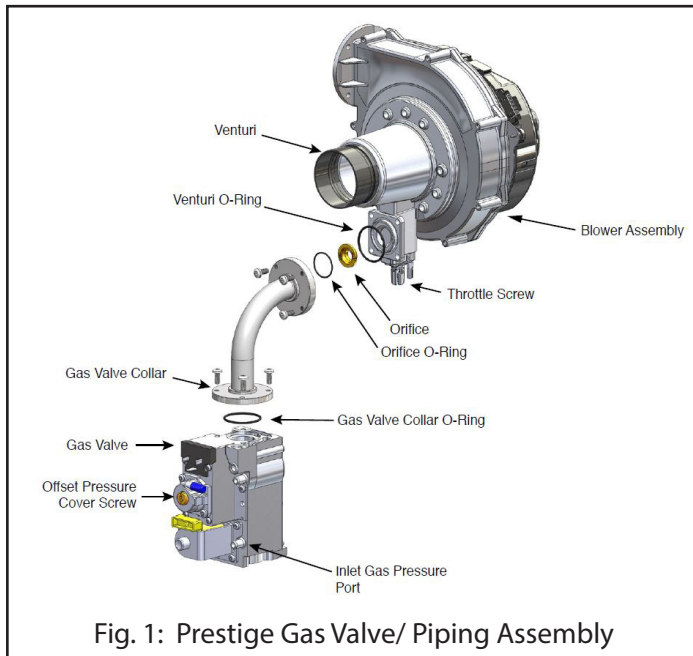


Fig. 1: Prestige Gas Valve/ Piping Assembly

2. Installation of Propane Orifice



WARNING
Ensure the orifice is installed with the gasket as previously installed. Installing the orifice incorrectly can result in improper combustion and can result in substantial property damage, serious injury, or death.

1. Insert a new o-ring between the venturi and gas piping. Tighten the four screws securing the gas valve to the venturi.
2. Insert a new gasket between the gas valve and gas piping. Tighten the screws/nut securing the gas valve from the gas valve piping.
3. Tighten the screws to 31-35 in-lbs of torque.



NOTICE
For the reassembly process do not use adhesive on any gasket surface.



WARNING
Ensure the o-ring/gasket are in place before reassembly. Failure to do so can result in death, serious injury or substantial property damage.



WARNING
Ensure the gas valve is properly sealed in order to prevent a gas leak. Gas leaks can result in death, serious injury or substantial property damage.

4. Reconnect the Molex plug to the gas valve.
5. Open the main shutoff valve to the gas supply piping. Before placing the boiler back into service check and test all gas piping connections for leaks. Repair leaks if found.

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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
Combustion Test and Adjustments

3. Combustion Test and Adjustments

1. The installer MUST perform a complete combustion check to ensure the following combustion levels in Tables 2 and 3 are met at high and low input firing rates and the burner is operating at optimum conditions.

Table 2: Recommended Propane Combustion Settings

		PA 299	PA 399
High Fire	CO ₂ Range	10.7 to 12.0%	10.4 to 11.4%
	CO ₂ Target	11.0%	
	O ₂ Range	2.7 to 4.7%	3.7 to 5.2%
	O ₂ Target	4.2%	
Low Fire	CO ₂ Range	"0.5 to 0.6% Lower than H.F. CO ₂ "	
	O ₂ Range	"0.8 to 0.9% Higher than H.F. O ₂ "	
	CO Max	150 ppm	



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.



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 result in substantial property damage, serious injury, or death.



The combustion levels should be measured at high firing rate. If the combustion levels are not within the range given in Table 2 for Low Fire after adjusting High Fire, shut the boiler down and contact Triangle Tube Technical Support Department. Failure to comply with this requirement can result in substantial property damage, serious injury, or death.



The gas valve outlet pressure is factory set to the correct value and does not require field adjustment or measurement. Measurement or adjustments could result in damage to the gas valve and can result in substantial property damage, serious injury, or death.

2. Press the round INSTALLER button. See Fig. 2.

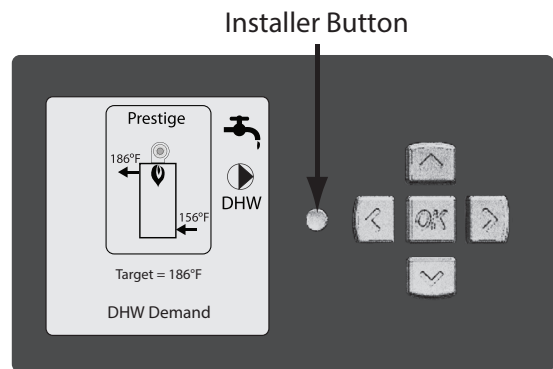


Fig. 2: CTRLMax Navigation Buttons

3. 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.
4. Press the RIGHT button to highlight the Manual Operation icon then press the OK button.
5. Press the OK button while the FAN icon is highlighted to manually fire the burner and power the CH1 circulator (see Fig. 5)

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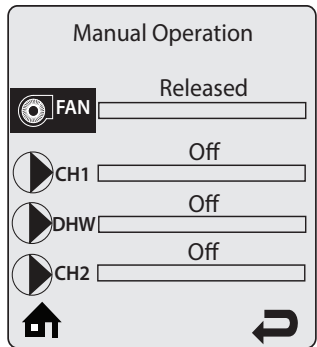


Fig. 3: ACVMax Manual Operation

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.

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

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

8. 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) to verify low fire combustion settings.
9. If the combustion levels (O₂ & CO₂) during low fire are

outside the recommended combustion settings in Tables 2 & 3, contact Triangle Tube Technical Support Department for assistance.

10. Press the OK button while the fan icon is highlighted to shutdown the burner.
11. Press the LEFT or RIGHT button to highlight the home screen icon to exit the service mode.