

Gas Valve Assembly

REPLACEMENT INSTRUCTIONS

Kit Name	Gas Valve Assembly Replacement Kit
Kit Part Number	106000269
Compatible Rinnai Products	For use with SENSEI RX/CX Condensing Tankless Water Heaters

⚠ WARNING Failure to correctly assemble the components according to these instructions may result in electric shock, injury, or death.

⚠ CAUTION

To protect yourself from harm, follow the steps below before proceeding:

- Turn off the electrical power supply by unplugging the power cord or by turning off the electricity at the circuit breaker. (The temperature controller does not control the electrical power.)
- Turn off the gas at the manual gas valve, usually located immediately below the water heater.
- Turn off the incoming water supply. This can be done at the isolation valve immediately below the water heater or by turning off the water supply to the building.

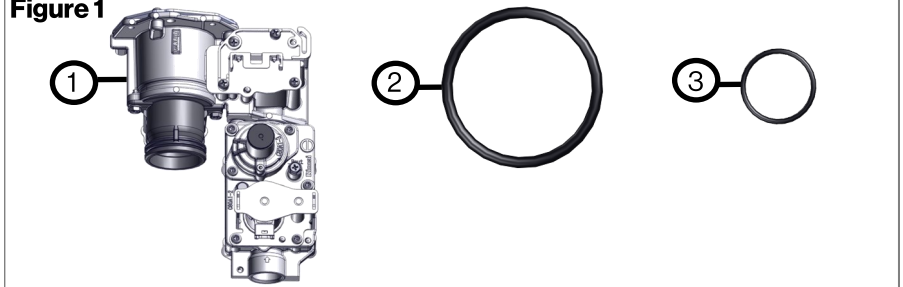
Items Inside Product Box

Before you begin, please make sure all parts are located inside the product box.

Table 1.

Item #	Item	Qty
1	Gas Valve Assembly	1
2	Large O-ring	1
3	Medium O-ring	1

Figure 1



TOOLS/MATERIALS REQUIRED

- Phillips head screwdriver
- Smart device (such as a smartphone)
- Gas analyzer

Instructions

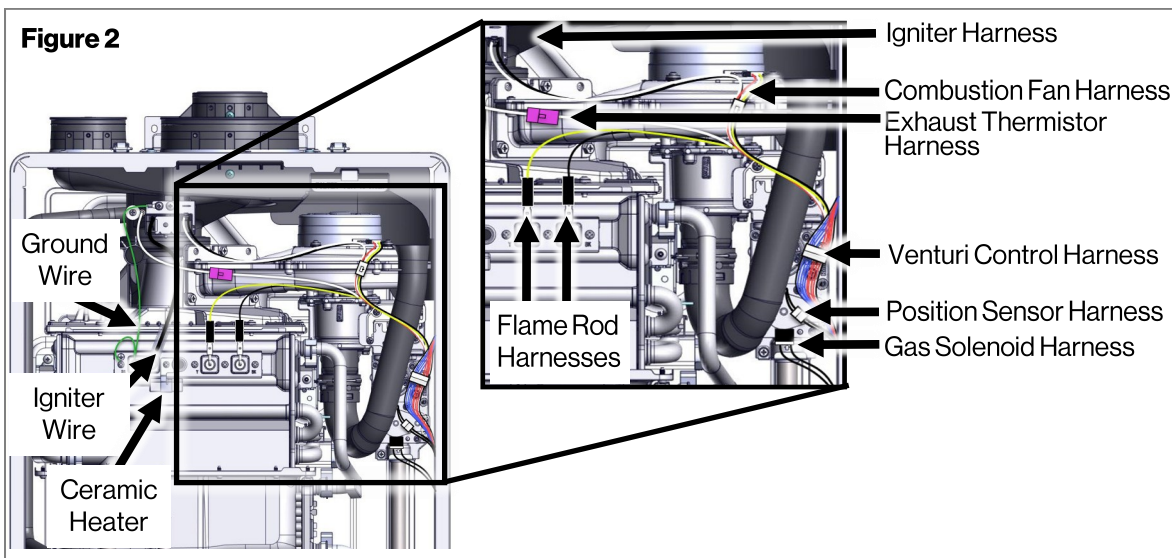
➔ IMPORTANT

When following the instructions in this document, inspect any existing O-rings carefully, taking care not to scratch, damage, or misplace the O-rings.

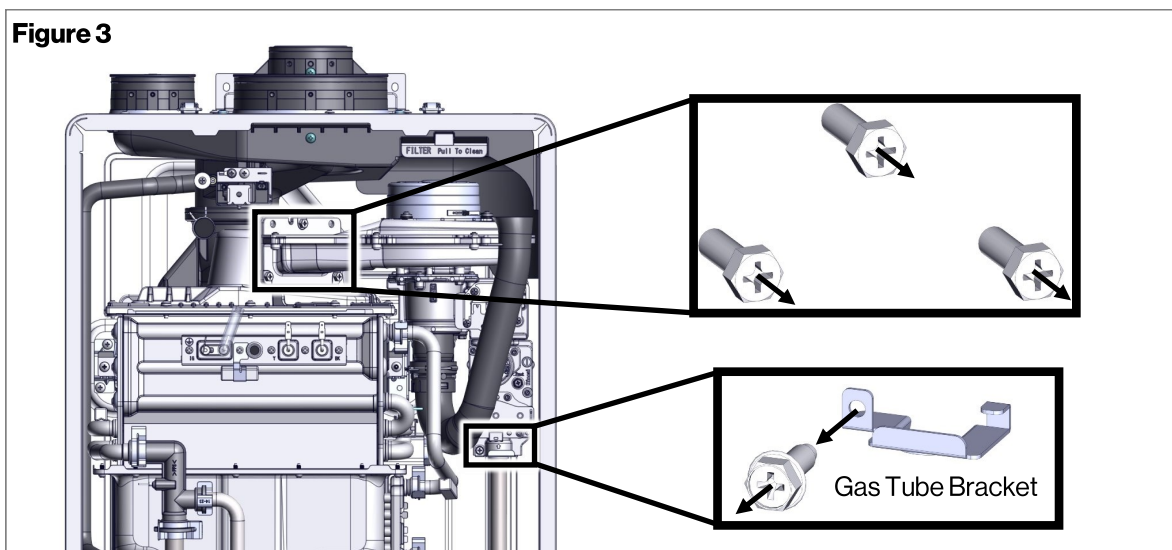
Step 1: Disassemble Unit and Replace Gas Valve

1. Turn off and disconnect 120 V power supply, water supply and gas supply.

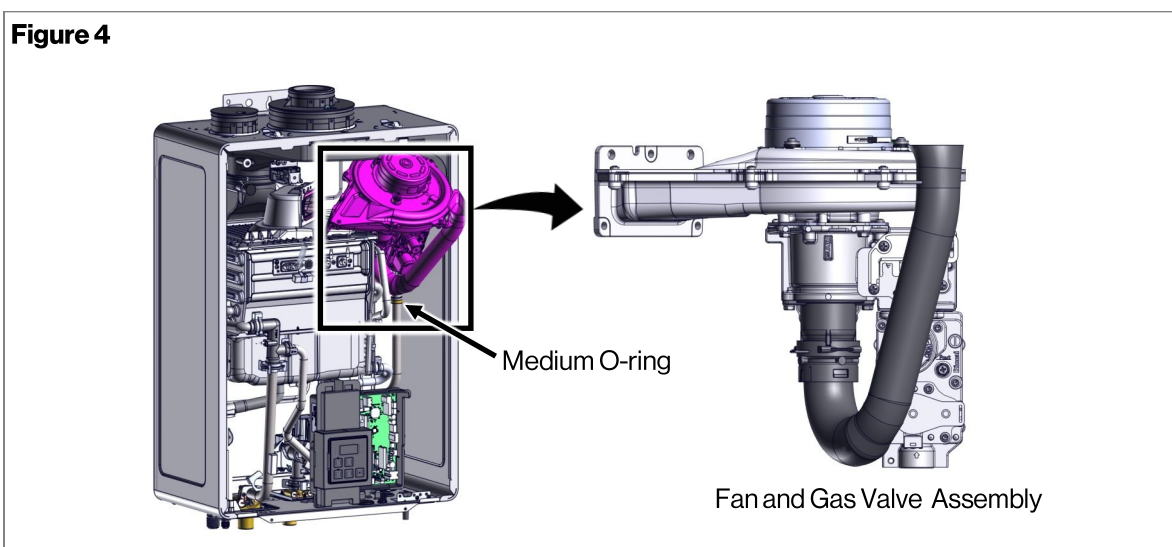
2. Remove front panel by removing two screws and releasing two latches (refer to Water Heater Installation and Operation Manual for detailed instructions).
3. Disconnect combustion fan harness, venturi control harness, position sensor harness, gas solenoid harness, exhaust thermistor harness, igniter harness, and flame rod harnesses (Figure 2).



4. Remove screw from gas tube bracket. Rotate and remove gas tube bracket from gas valve. Remove screws around perimeter of fan mounting flange. Remove two bottom screws first and top screw last (Figure 3). Hold the gas pipe and the gas valve assembly, and pull down the gas pipe so that the gas valve assembly is disconnected from the gas pipe.

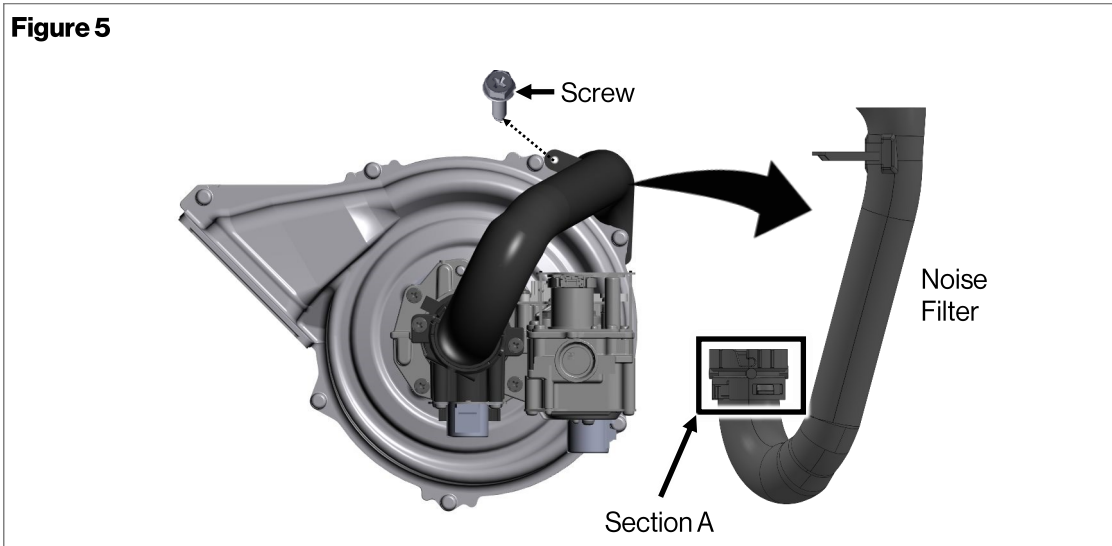


5. Lift fan and gas valve assembly upward, then rotate forward to remove fan and gas valve assembly. Replace medium O-ring located at end of the gas pipe with new medium O-ring provided in this kit (Figure 4). **Note: Noise filter is fragile. Do not hold the noise filter or apply strong force to the noise filter.**



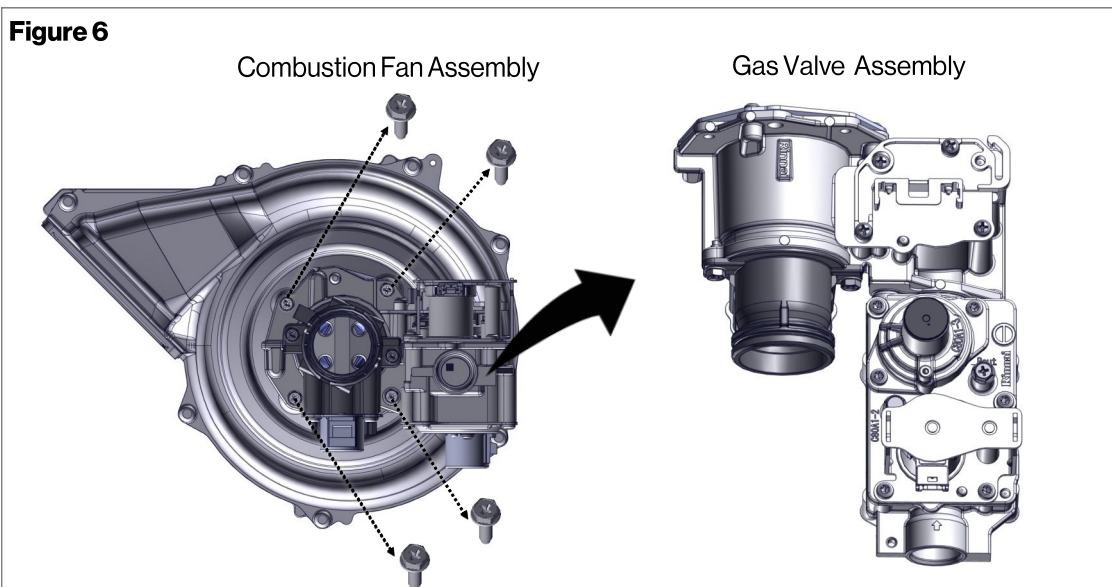
6. Remove screw from noise filter, rotate section A of noise filter clockwise and remove noise filter from gas valve assembly (Figure 5). **Note: Noise filter is fragile. Do not hold the noise filter or apply strong force to the noise filter.**

Figure 5



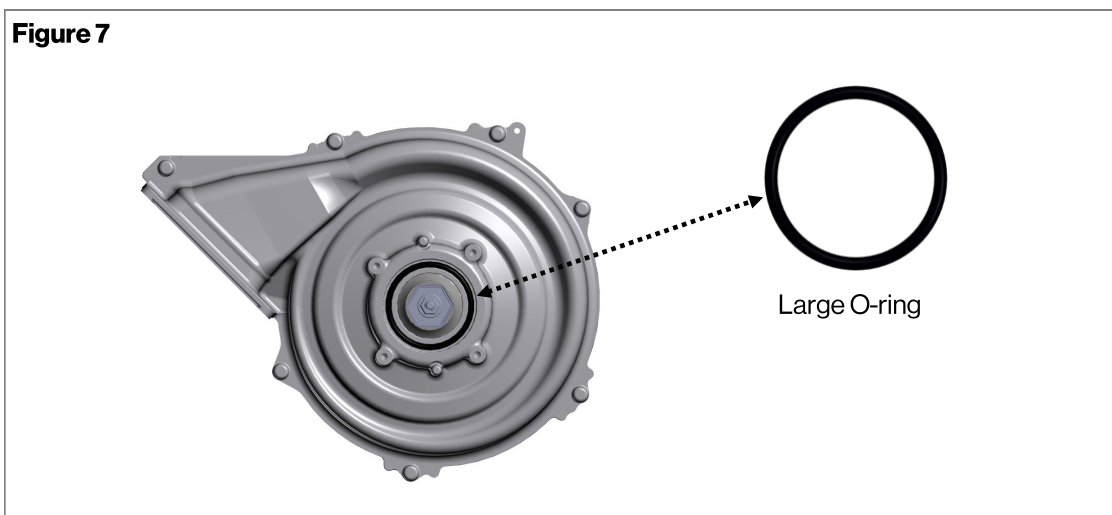
7. Remove four screws around perimeter of gas valve assembly from combustion fan assembly (Figure 6). **Note:** The screw removed at step 6 is different from the screws removed in this step.

Figure 6



8. Replace large O-ring from bottom of fan (gas valve connection location) with new large O-ring provided in this kit (Figure 7).

Figure 7



9. Continue with next section: "Step 2: Reassemble Unit."

Step 2: Reassemble Unit

1. Confirm the o-ring is properly installed, and install combustion fan assembly onto gas valve assembly using four screws removed at step 7 (Figure 6).
2. Install noise filter to gas valve assembly, rotate section A of noise filter counter clockwise and secure with screw removed in step 6 (Figure 5).
3. Install fan and gas valve assembly back into unit (Figure 4).
4. Hold the gas pipe and the gas valve assembly and push up the gas pipe so that the gas pipe and the gas valve assembly are connected. Insert three screws around perimeter of fan mounting flange. Secure two bottom screws first and top screw last. Install gas tube bracket to gas valve. Secure screw to gas tube bracket (Figure 3).
5. Reconnect combustion fan harness, venturi control harness, position sensor harness, gas solenoid harness, exhaust thermistor harness, igniter harness and flame rod harnesses (Figure 2).
6. Turn on and connect 120 V power supply. **Note:** Do not turn on water supply, gas supply, or reinstall front panel. You will perform these steps later in the process.

Step 3: Enter Gas Valve Parameters

IMPORTANT

The tankless water heater displays an error code until gas valve values are entered. Enter the gas valve values by following the steps below.

⚠ Caution!
Adjustments
required!

Enter gas valve values by choosing one of the following two options:

Option 1 (Recommended): Enter gas valve values using a Bluetooth®-capable Smart Device.

Option 2: Enter gas valve values from the tankless water heater integrated controller.

Option 1: Enter Gas Valve Values Using a Bluetooth-Capable Smart Device

Note: To utilize Bluetooth Low Energy (BLE), your connecting device (smartphone, tablet, computer, etc.) must have Bluetooth 4.0 or a newer version. Contact your connecting device manufacturer if you are not sure if your connecting device has Bluetooth 4.0 or a newer version.

1. Download the Rinnai Central app by scanning the QR code in Figure 8.

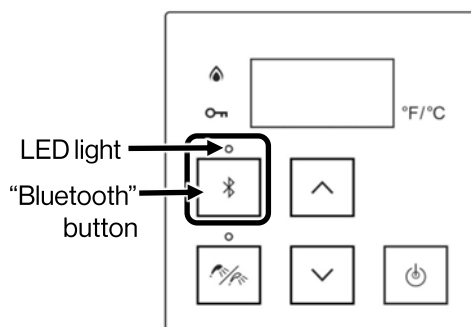
Figure 8

Scan this
Code:



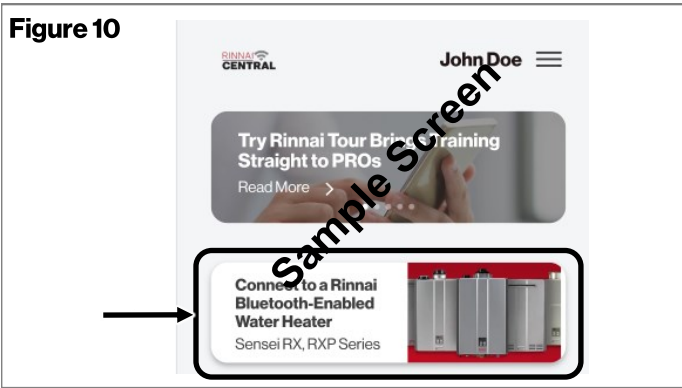
2. Open the Rinnai Central™ app from your smart device. Create an account and log in.
3. Push the Bluetooth button on the controller. The Bluetooth LED light turns solid (Figure 9).

Figure 9



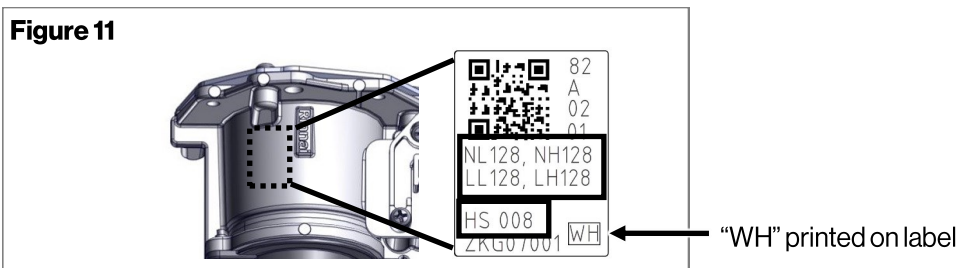
4. Tap "Connect to a Rinnai Appliance" on the Rinnai Central™ app (Figure 10). You will hear a beeping sound when pairing between the app and water heater is established.

Figure 10



5. Follow the steps in the Rinnai Central™ app to scan the QR code on the new gas valve and enter the gas valve values of your tankless water heater (Figure 11). **Note:** Verify “WH” is printed on the bottom, right of label (Figure 11). Otherwise, contact Rinnai at 1-800-621-9419.

Figure 11

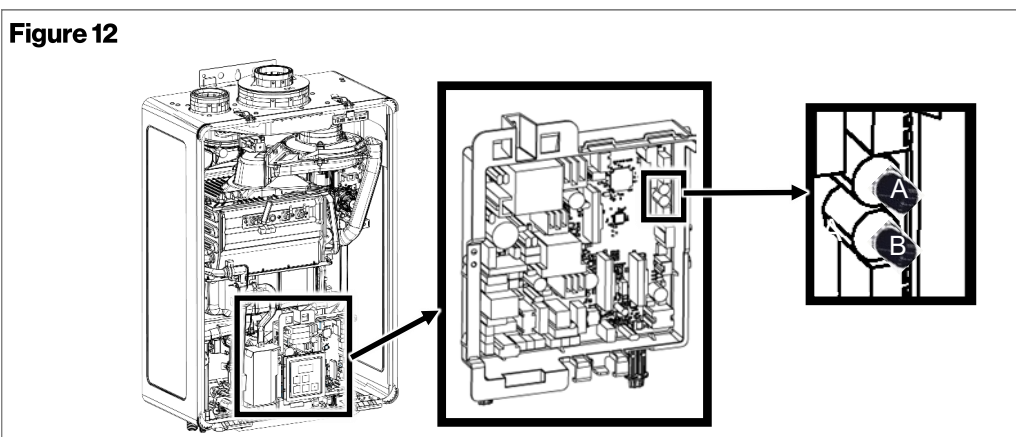


6. Restore water supply and gas supply.
7. Perform leak detection test for gas.
8. After all checks are successfully completed, reinstall the front panel using the two screws and two latches to secure it.
9. The gas valve replacement process is complete.

Option 2: Enter Gas Valve Values from Tankless Water Heater Integrated Controller

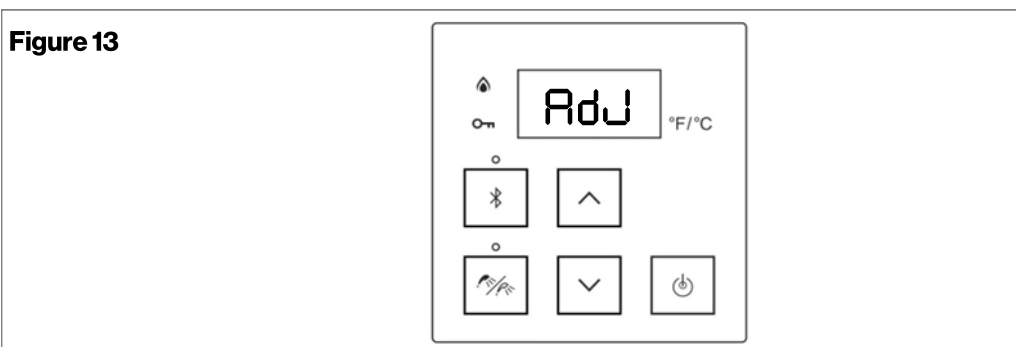
1. Locate the PC board (lower front of unit) (Figure 12).
2. Locate the two push buttons (“A” and “B”) on the PC board (Figure 12).
3. Press the “B” button for one second (Figure 12).

Figure 12



4. Press the “B” button twice to confirm the controller displays “Adj” (Adjustment) (Figure 13).

Figure 13



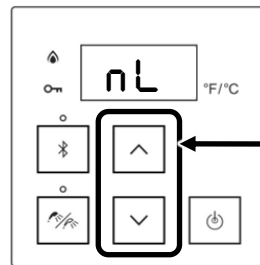
- Press the "A" button (Figure 12 above) to confirm the controller displays "nL" (natural gas low setting) or "LL" (liquid propane low setting) and "--", alternatively (Figure 14).

Figure 14



- Press the up and down arrow buttons on the controller until the displayed value matches the value on the label (Figures 11 and 15). Then, press the "A" button (Figure 12).

Figure 15



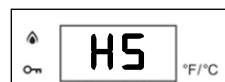
- The controller displays "nH" or "LH" and "--", alternatively. Press the up and down buttons on the controller until the displayed value of "nH" (natural gas high setting) or "LH" (liquid propane high setting) matches the value on the label (Figures 11 and 16). Then, press the "A" button (Figure 12).

Figure 16



- The controller displays "HS" and "--", alternatively. Press the up and down buttons on the controller until the displayed value of "HS" (Hysteresis setting) matches the value on the label (Figures 11 and 17).

Figure 17



- Press the "A" button to show the entered values (Figure 12). After you confirm all entered values are correct, press the "B" button (Figure 12) for 2 seconds to complete the process.
- Restore water supply and gas supply.

WARNING

Follow the label "For Your Safety Read Before Operating" located one side of your water heater before starting the steps below.

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. BEFORE OPERATING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in or turn the gas control valve. Never use tools. If the gas control valve will not turn by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

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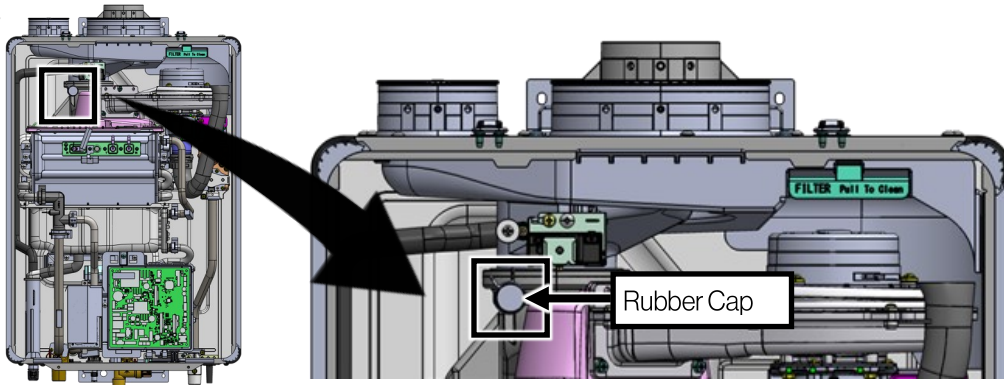
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Check operation of the tankless water heater by using a gas analyzer.

- Remove the rubber cap as shown in Figure 18 and insert a gas analyzer probe (field-supplied) into the opening.

WARNING Exhaust gas may leak from the opening while the burner is on. Exhaust gas contains carbon monoxide and other harmful gases, which can cause personal injury or death. Seal the opening with metal tape or other appropriate methods while the gas analyzer measures the exhaust gas. Also, sufficient ventilation is required to avoid a potential hazardous situation.

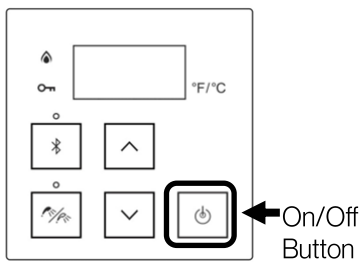
Figure 18



- Press the "On/Off" button on the controller to start the unit (Figure 19).

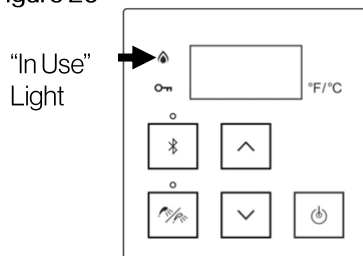
Set the water temperature to 120°F (49°C) or higher, and turn on two or three faucets or showers. Refer to the "Tankless Water Heater Installation and Operation Manual" for steps on adjusting water temperature.

Figure 19



- The combustion fan will begin to run if water is flowing, and the spark will ignite the main burner.
- This water heater has an automatic ignition system. When the main burner is lit, the "In Use" light (Figure 20) will glow red and the spark will stop.

Figure 20



- Let the water heater run for at least five minutes, and then measure the concentration of CO₂ or O₂ by the gas analyzer, as applicable, in the exhaust system.

If combustions exceed the values below:

- Ensure gas type is correct.
- Check exhaust and inlet air for blockage.
- Please call Rinnai Technical Support.

	CO ₂	O ₂
NG	7.0% - 11.0%	1.7% - 8.7%
LPG	7.9% - 11.9%	2.8% - 8.9%

16. If the measured CO₂ or O₂ is within the appropriate range, turn off the water faucets or showers.
17. Turn off the unit by pressing the "On/Off" button on the controller (Figure 19).
18. Reinstall the rubber cap.
19. Reinstall the front panel using the two screws and two latches to secure it.
20. The gas valve replacement process is complete.

**CAUTION**

Do not touch the areas at or near the heat exchanger or hot water lines; these areas become hot and could cause burns.

NOTICE:

Your water heater may give an error code 21 when you change gas setting from Natural to LPG or LPG to Natural. If that is the case, complete "Step 3. Enter Gas Valve Parameters".

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