

## Periodic Maintenance

If the unit becomes saturated with lime or scale build-up, the hot water may not run smoothly, or the unit may put out cold water. In addition, damage can occur resulting in failure of the unit if lime or scale deposits are left untreated within the unit. To remove these deposits from the unit, follow the procedure as explained below. To ensure full warranty coverage, hard, acidic, or otherwise impure water should be treated with approved methods.

*Note: Isolation valves will need to be installed in order to perform this procedure.*

1. If not already on, turn the unit on with the Power Button on the Remote Controller.
2. Close the gas supply valve.
3. Close both the hot and cold water valves with a quarter turn of the main valve wing handle.  
The handle will be perpendicular to the main valve body.
4. Ensure the drain valve lever handles are closed on both the hot and cold valves (the lever will be perpendicular to the drain portion of the body) and slowly remove drain caps. Be sure to retain the rubber washer inside of the drain cap.
5. Connect the pump outlet hose to the cold water drain valve of the isolation valve as shown in Figure 1.
6. Connect a drain hose to the hot water drain valve outlet of the isolation valve as shown in Figure 1.
7. Pour approximately 5 gallons of virgin food grade white vinegar or a solution of Lime Away (or CLR) and water (diluted 3 parts water to 1 part Lime Away or CLR) into a bucket.
8. Place both the pump inlet hose and the drain outlet hose into the pail.
9. Open both drain valve lever handles on the isolation valves.
10. Turn the pump on. The unit will attempt to ignite (make sure that the gas has been turned off) and a number "11" should flash on the remote controller after about 1 minute. Do not reset the unit. Allow the solution to circulate for 45 minutes.

*Note: It may take a few minutes to clear air out of the heater and hoses.*

11. Turn the pump off and close the cold water drain valve of the isolation valve.
12. Remove the hose from the cold water drain valve and replace cap and washer onto the drain valve outlet.
13. Remove the pump and hose from the bucket and empty the solution.
14. Put the hot water drain hose end back into the empty bucket and open the cold water main valve wing handle.  
This procedure will flush out the heater with fresh cold water.  
Flush for at least 5 minutes or until 20 gallons of water has passed through the heater.

*Note: For NRC/NCC/841/842 Series condensing models, carefully unscrew the water drain valve from the bottom of the water heater near the gas inlet to flush any residual solution from the system (see Figure 2). The system will be under pressure and the drain valve will only require a couple of turns to allow sufficient flow from the drain. Place a bucket under the unit and flush for about 10 seconds. Attempting to remove the drain valve completely could result in an excessive leak.*

15. Close the cold water main valve wing handle and clean the water inlet filter. Place the filter back into the unit.
16. Close the hot water drain valve lever handle, remove the drain hose and replace cap and washer onto the hot water drain valve outlet.
17. Open both the hot and cold water main valve wing handles. Wing handles should now be (OPEN) parallel to the main valve body and lever handles should be (CLOSED) perpendicular to the drain portion of the body, which is the normal operating position.
18. Open the gas supply valve and reset the unit by turning the power off and then on again using the Power Button on the Remote Controller. If no Remote Controller is installed, disconnect, then reconnect electrical power to the unit in order to reset the system.

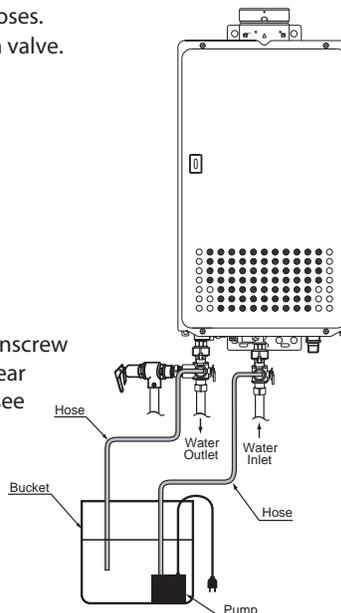


Figure 1. Flush Set-up

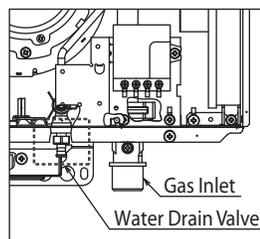


Figure 2. Water Drain Valve on Condensing Models