

## WATER VALVE REBUILD

MODELS: 125B, 125FX, 125HX, 125BO,  
425EF, 425HN, 425HNO



### WARNING

LP & NG ARE EXTREMELY FLAMMABLE SO  
TAKE EXTRA PRECAUTIONS WHEN  
PERFORMING ANY WORK TO THE HEATER

### Introduction

The water valve assembly requires periodic maintenance. Some of the components need to be replaced every two (2) to five (5) years. Exactly how often depends on water conditions and use. Failure to maintain this assembly could result in unsafe operation of the gas valve and costly damage to the rest of the heater.

### Indications That Your Water Valve Assembly Could Need Service:

- *Any signs of a white or greenish powdery substance where the plastic Water Valve Assembly joins the aluminum Gas Valve Housing.*
- *Water weeping from the weep hole located at the same joint.* An indication that water may be coming from the weep hole can be seen on the silver tray at the bottom of the heater.
- *Any instances of freeze damage.*
- *If the burners fail to go off immediately when the water is turned off, usually due to mineralization in the water valve on older heaters.* To test for this possibility run hot water at a faucet, then shut off the cold inlet supply and observe if the burners go off immediately. If they do not the heater will overheat and shut down on safety depending on the delay.

A complete kit to rebuild the 125B, HX, FX Plastic Water Valve Assembly consists of these parts:

- |                                      |                |
|--------------------------------------|----------------|
| a) Repair kit (pushrod, o ring, nut) | # 8700 306 114 |
| b) Water Connection Gasket (2)       | # 8710 103 043 |
| c) 125FX Volumetric Water Governor   | # 8705 705 021 |
| d) Lubricant pack                    | # DOWLUBE      |

### A. Preparation

Tools Needed:

- Philips head and flat screwdriver
- Medium sized adjustable wrench
- Container to catch water

**Shut off gas and water supply to heater and open a faucet to relieve pressure in water line**

1. Pull off flow knob and unscrew collar, then lift up and pull cover off.
2. Complete draining of the heater 125B and HX only, by removing bottom center drain screw (1), then disconnect the water fitting (12) at the back of water valve (older HX models have two fittings). Have container ready for remaining water. After draining, replace drain screw.
3. Disconnect cold water pipe (2) from right side of water valve, locate retaining pin (3) and remove to release cold water pipe from fitting. Gently pull pipe out of way.

### B. Removing the water valve assembly

1. Two set screws are now holding water valve up against gas valve. Locate set screws (see picture, page 2), access hole through the front control plate with a screwdriver on 125B. Support water valve with one hand and loosen both set screws, once loose the valve will drop downward.
- If Set screws do not unscrew easily **do not force them** you could damage the gas valve. Try a descaling solution (white vinegar, CLR® or other descaling solution) on screw threads. Let sit for 1 hour, try again to remove set screw(s) without forcing.
- If still unable to remove, Call 800-642-3111 for help.

### C. Removing old or worn parts

1. Remove the 5 screws from top of water valve and lift off metal retaining plate(4), separate the two halves. Remove and inspect diaphragm(5), clean if needed.
2. Remove pushrod assembly (6) from top of upper water valve by pulling and rotating. The o-ring should come with it.
3. Remove / clean filter screen (7).
4. Additionally on 125FX-remove microswitch (8) by loosening its 3 screws and gently pulling down to separate from volumetric governor (9). Remove volumetric governor from lower half of water valve by removing 3 screws, pull to separate.
5. If Needed:Soak the two halves of the water valve housing in white vinegar, CLR® or other descaling solution to remove any mineral deposits. Inspect venturi (10) passage for cleanliness when done.

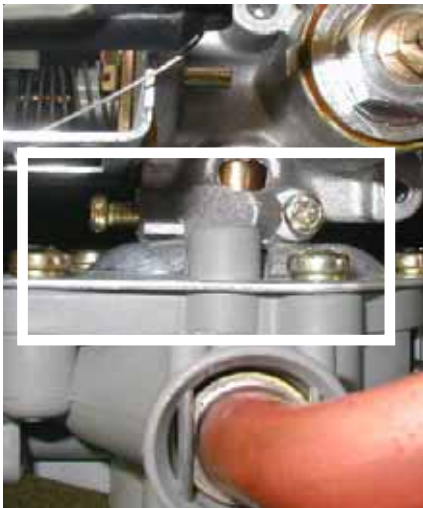
### D. Rebuilding water valve

1. Place diaphragm (5) on bottom half of water valve with flat side up. Note that the outer rim of the rubber diaphragm has a ring, it will need to go around the hollow tube facing up from the bottom water valve half. Ensure hollow tube is clear.
2. Liberally lubricate both ends of pushrod assembly with supplied lube, install new pushrod assembly (6) on the upper water valve half, insuring o-ring is in proper place.
3. Place upper water valve half on top of lower water valve half then place metal retaining plate and tighten down the 5 screws removed in step C1.
4. On 125FX lubricate and install new volumetric water governor according to diagram below, tighten 3 screws and reinstall microswitch and calibrate if necessary. See step F6.

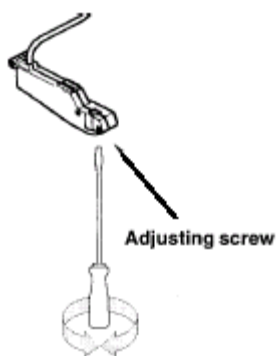
## WATER VALVE REBUILD

### E. Installing water valve

1. Place the water valve up into the under side of the gas valve, being sure the cold inlet port (11) faces the back.
2. Hold flush to gas valve and tighten both set screws evenly. We suggest use of an anti seize compound on screw threads.
3. Lubricate o-ring on cold water pipe (2) then reconnect cold water pipe to water valve



LOCATION OF TWO SET SCREWS AND  
 WEEP HOLE



#### IDENTIFICATION KEY

- 1- Drain Screw (125B and HX only)
- 2- Cold Water Pipe
- 3- Retaining Pin
- 4- Metal Retaining Plate
- 5- Diaphragm
- 6- Pushrod Assembly
- 7- Filter Screen
- 8- Microswitch (125 FX only)
- 9- Volumetric Water Governor (125 FX only)
- 10- Venturi
- 11- Cold Inlet Port
- 12- Cold Inlet Flex Pipe w/ gasket

### F. Testing operation

1. Important: Before firing the unit, run water through heater to test for water leaks and purge all air.
2. Shut water off at inlet supply. Replace front cover and the flow control collar and knob.
3. 125B: light pilot and position slide button to three flame setting.
4. Set flow dial all the way clockwise. Now slowly open inlet water supply until burners ignite. Stop there. Measure flow at open outlet to verify proper activation of a 1/2 gallon per minute flow rate (1/2 gpm = a quart in 30 seconds or a gallon in 120 seconds or less).
5. Shut water off and verify burners deactivate when water flow stops.
6. 125FX: If sparking mechanism does not spark with a sufficient flow rate then the microswitch needs to be adjusted:
  - a. Close water tap
  - b. Turn power off
  - c. Remove screw cap and turn adjusting screw in (clockwise) until it stops.
  - d. Turn power on
  - e. Turn adjusting screw out (counter clockwise) until sparking begins, stop;
  - f. Turn adjusting screw in (clockwise) one half turn (.5) to complete calibration.

