

Technical Data Sheet

Stowe 8323 High-Altitude NG Conversion Kit

Assembly 93-56232

KIT CONTENTS:

- 1 - main burner orifice, #44 (U.S.)
- 1 - conversion label 3300-587
- 1 - conversion label 3300-583
- 1 - warning label 3300-587
- 1 - installation manual

TOOLS REQUIRED:

- 5/32" (4mm) hex key
- Flat-head screwdriver, 5/64" bit
- Flat-head screwdriver, 3/32" bit
- #2 Phillips screwdriver
- 7/16" wrench
- 1/4" wrench
- Socket wrench w/6" extension
- 1/2" Socket
- Manometer

WARNING

This conversion kit must be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the Authority Having Jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer's instructions supplied with the kit.

This Natural Gas (NG) high altitude conversion kit is for use with the Hearthstone Stowe 8323 only. For natural gas installation at elevations between 2000 and 4500 feet, the Stowe 8323 must be re-orificed and adjusted to the high altitude input rate. For propane installations, adjustment is not necessary. If your Stowe 8323 was previously converted for use with Propane (LP), use kit 93-56230 to convert it to NG before making high-altitude adjustment.

Specification	NG	LP
INPUT RATING (Btu/hr) 0-2000 ft	22,400	22,400
INPUT RATING (Btu/hr) 2000-4500 ft	21,000	22,400
ORIFICE SIZE (DMS) 0-2000 ft	43	55
ORIFICE SIZE (DMS) 2000-4500 ft	44	55
MANIFOLD PRESSURE - LO SETTING (in.w.c./kPa)	1.2/0.30	4.1/1.02
MANIFOLD PRESSURE - HI SETTING (in.w.c./kPa)	3.4/0.85	10.4/2.59
INLET PRESSURE - MINIMUM (in.w.c./kPa)	5.0/1.25	12.0/2.99
INLET PRESSURE - MAXIMUM (in.w.c./kPa)	11.0/2.74	13.8/3.45
MINIMUM INPUT RATING LO SETTING (Btu/hr)	13,000	14,000

Instructions

CAUTION: THE GAS SUPPLY SHALL BE SHUT OFF PRIOR TO DISCONNECTING THE ELECTRICAL POWER, BEFORE PROCEEDING WITH THE CONVERSION.

NG conversion orifices are identified by size stamped on side of part. Ensure that orifice sizes are correct before installation.

*Note: High-altitude conversion requires adjustment of components marked with tamper-resistant paint. This adjustment should **only** be performed by an authorized service technician.*



Figure 1 – Orifice Marking Location

CAUTION: OUTLET PRESSURE ADJUSTMENT REQUIRES THE USE OF A MANOMETER. DO NOT ATTEMPT TO ADJUST OUTLET PRESSURE WITHOUT A MANOMETER.

CAUTION: VALVE OUTLET PRESSURE SHOULD ONLY BE ADJUSTED BY AN AUTHORIZED SERVICE TECHNICIAN.

To Replace Main Burner Orifice:

Locate the orifice mounting location at the rear of the firebox (see Figure 2). Using a 1/2" socket and extension, grasp orifice spud and turn counter-clockwise until loose. Remove and replace with #44 high-altitude NG orifice spud, turning clockwise until snug.

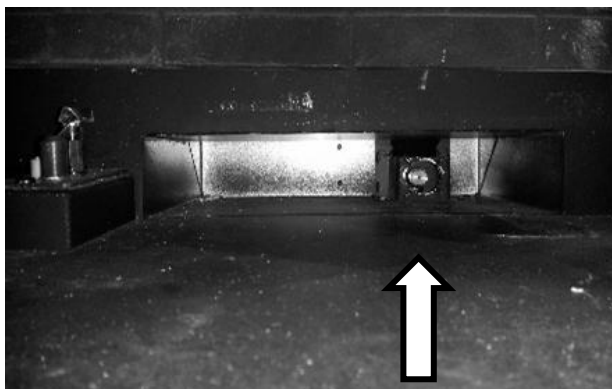


Figure 2 – Main Orifice Location

Reinstall burner, pilot shield, and logs. Ensure that pilot, pilot shield and burner are properly positioned (see Figure 3). Reinstall front glass, and front and top cast.

Perform leak check and confirm inlet pressure, then proceed to valve adjustment. **Conversion is not complete until valve has been adjusted.**



Figure 3 – Pilot, Shield, and Burner Position

To perform initial gas leak test:

1. Check carefully for gas leaks immediately after the conversion has been performed. **Do this before attempting to operate the appliance or other gas burning device.**
2. Use an approved non-corrosive leak detection fluid, or other approved leak detection method, around the diaphragm flanges, pipe connections, seal cap, and all other joints. Bubbles indicate a leak.
3. If no leakage is detected, proceed with the instructions listed below to light the main burner and perform a secondary leak check of the appliance gas supply system.
4. If a leak is detected, tighten pipe connections (including adapters) and retest.

To perform secondary leak test:

1. Light stove. With the main burner in operation, apply an approved leak test solution to all tubing, pipe connections, and adapters, and the valve inlet and outlet. Bubbles indicate a leak.
2. If no leak is detected, appliance is safe to use.
3. If a leak is detected, tighten pipe connections (including adapters) and retest.

WARNING

Absolutely no leakage should occur, otherwise there is a danger of fire or explosion depending upon conditions. Never use if leakage is detected.

Checking inlet pressures:

When orifice installation is complete, verify that inlet pressures are correct. Pressure taps are located on the side of the valve body as shown in the Owner's Manual.

- 1) Remove the stove front access panel to expose valve system.
- 2) Loosen the front valve bracket screws with a 1/4" wrench, one per side (Figure 4).
- 3) By pushing down on the front of the valve and control system assembly, swing the system down to expose the top of the valve.
- 4) Locate the inlet pressure test port (Figure 6). With 3/32" screwdriver, loosen test port plug and connect manometer.
- 5) With stove in operation, adjust gas supply pressure as necessary to achieve correct inlet pressure (see table, page 1).
- 6) Retighten test port when finished.



Figure 4 – Front Valve Mounting Bracket Screw (from left side of stove)

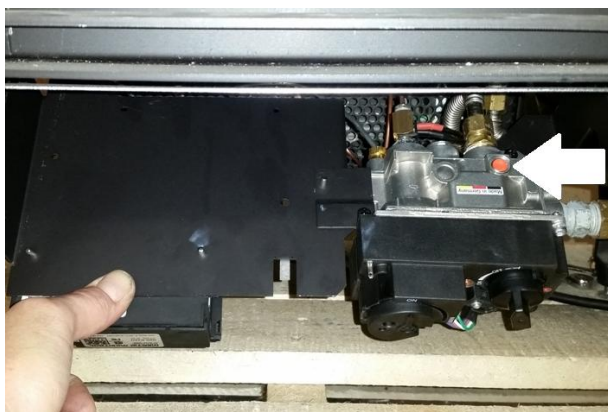


Figure 5 – Valve System Tilted Down

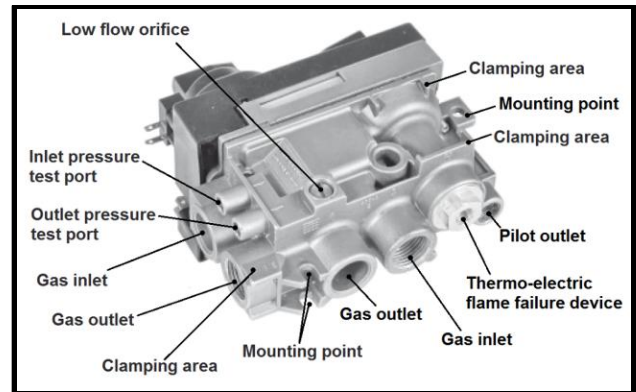


Figure 6 – GV60 Valve Configuration (Side)

If pilot adjustment is necessary, refer to the appropriate section of the Owner's Manual.

To Adjust Valve Pressure For High Altitude:

- 1) Locate the outlet pressure test port. With 3/32" screwdriver, loosen test port plug and connect manometer.
- 2) Light stove. If remote is used, stove automatically lights at maximum burn rate. If lit manually, turn stove up to maximum.
- 3) Locate outlet pressure screw (see Figure 7). Screw will be marked with tamper-resistant paint.
- 4) Using 5/64" screwdriver, pierce tamper-resistant paint and twist to engage bit of center adjustment screw.
- 5) Turn center adjustment screw until manometer registers correct manifold pressure (see table, page 1). Be careful not to engage larger slot of screw housing.



Figure 7 – Outlet Pressure Screw

The low flow orifice must also be adjusted following the steps below.

- 6) Locate the low pressure orifice screw.
- 7) Turn stove down to minimum burn rate.
- 8) Using 5/32" (8mm) hex wrench, adjust low flow orifice until manometer registers correct pressure (see table, page 1).
- 9) Turn off stove. Remove manometer tube. **Ensure that pressure tap is closed.** Swing bracket into place and tighten screws to secure.



Figure 8 – Adjusting Low Pressure Orifice

To verify input rate:

The approximate input rate of the converted Stowe may be checked as follows:

1. Ensure that no other gas appliances are in operation.
2. Place Stowe in operation on high, and allow to burn for 15 minutes.
3. Using residential gas meter, measure the time in seconds required for the Stowe to consume 1 cubic foot of gas.
4. The gas consumption of the Stowe in BTU per hour may be calculated as (3,600 x heating value of gas) ÷ seconds to consume 1 cubic foot. Use local gas supplier's heating value, or use 2,500 for LP or 1,012 for NG.

EXAMPLE: Using NG with a heating value of 1012, and a time of 162 seconds (2 minutes 42 seconds):

$$(3,600 \times 1,012) \div 162 = 3,643,200 \div 162 = 22,489 \text{ BTU per hour}$$

Note: *Stowe may operate safely up to 105% of its rated input, or 23,520 BTU per hour. If Stowe input is incorrect, it is necessary to adjust the gas pressure as above. All gas pressure adjustments must be performed by qualified service personnel. Do not attempt to complete any part of the installation or adjustment of this unit unless technically qualified to do so.*

Conversion label placement:

When high-altitude adjustment is complete, fill out and apply included marking labels to the appliance as shown. Fill out all fields on large rating plate conversion label 3300-589 (number in lower right corner) and place over field provided on stove lighting instruction tag (see Figure 9).

Fill out all fields on smaller conversion label 3300-583 and place on upper surface of valve bracket (see Figure 10).

Place small valve warning label 3300-587 on or near valve body (see Figure 15).



Figure 9 – Rating Plate Conversion Label Location



Figure 10 –Valve Conversion Label Location



Figure 15 – Valve Warning Label Location