

ACCESSORY KIT INSTALLATION INSTRUCTIONS

**Natural Gas High Altitude Conversion Accessory Model 1HA0451
for Single Package Gas/Electric Air Conditioners
3 and 4 Ton with 60Mbh Input Gas Heat Section
Unit Model Numbers: ZH/ZJ037, ZH/ZJ049, ZU/ZW-A3, ZU/ZW-A4,
JA3ZH/ZJ and JA4ZH/ZJ**



⚠ WARNING

This conversion kit shall 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.

For U.S. units, installation must be made in accordance with American National Standard National Fuel Gas Code, ANSI Z223.1 – latest edition, unless superseded by local codes. For Canadian installations, the conversion shall be carried out in accordance with the requirements of the provisional authorities having jurisdiction and in accordance with the CAN1-B149.1 and .2 installation codes.

GENERAL

This accessory provides the parts to operate a natural gas furnace between 2,000 and 6,000 feet for U.S. installation. In Canada, this kit is certified for installations from 2,000 to 4,500 feet (610 TO 1829 meters). The installation instruction supplied with the unit is to be used for all other aspects of the installation including setting the input rate.

TABLE 1: PARTS IN KIT 1HA0451

ITEM	QTY.	PART NO.	DESCRIPTION
1	4	9598	Burner Orifice, #50
2	4	526958	Burner Orifice, #51
3	1	534237	Conversion Label
4	1	526946	Accessory Instruction
5	1	11005	Overlay, Laminate
6	2	7315	Wire Tie

⚠ WARNING

Improper installation, adjustment, service or maintenance can cause injury or property damage. Therefore, only a qualified installer or qualified service personnel should perform this conversion.

⚠ WARNING

If the unit is connected to power sources, make sure that all electrical power to the unit has been disconnected and the gas supply to the unit has been shut off before proceeding.

1. Open the access door to the gas heat section after shutting off power and gas supply.
2. Disconnect the piping to the inlet side of the gas valve.
3. Disconnect the wiring from the gas valve as well as the wiring to the spark igniter and flame sensor.

4. Remove the four screws (two on each side of the gas manifold) holding the manifold to the burner tray.
5. Carefully remove the manifold assembly from the unit.
6. Remove the main burner orifices from the manifold and discard them. If your unit does not have eight burners, the manifold may have plugs in the orifice holes on each side of the manifold.

⚠ WARNING

Do not remove the plugs! Gas will be released into unit and may result in damage to unit, installer and property.

TABLE 2: ORIFICE SIZES FOR SPECIFIED ELEVATIONS

ORIFICE NUMBER	ELEVATION (ft.)
#50	2,000-5,000
#51	5,000-7,000

NOTE: In Canada, all conversions of units between 2,000 and 4,500 feet of elevation should use the #50 orifice.

7. From Table 2, select the orifice size necessary for your elevation.
8. Remove the appropriate orifices from the kit and install them in the gas manifold. Make sure they are very tight. The kit contains eight of each size orifice. If your unit has four or six burners, you will have orifices left over. These should be discarded along with the remaining orifices in the kit, which were not needed.
9. Replace the manifold in the unit securing the assembly to the burner tray with the four screws removed earlier. The burner orifices should fit inside the orifice retention ring in the back of each burner. If the orifices are not seated deeply enough, the manifold will not secure properly and burner misalignment may result.
10. Reconnect the gas piping to the inlet of the gas valve.
11. Reattach the wiring to the gas valve. In addition, reconnect the wires to the spark igniter and flame sensor.
12. Mark the appropriate data (burner orifice size, manifold pressure and input capacity) on the conversion label provided in the kit and install it adjacent to the unit nameplate.
13. Apply the laminate overlay included in the kit over the conversion label.
14. Turn on the gas supply.
15. Check for leaks at all gas fittings. Repair all leaks and recheck for leaks.

⚠ WARNING

Do not check for leaks with an open flame! Damage to unit, building and installer could result.

TESTS AND ADJUSTMENTS

All adjustments and testing must be performed at the time of conversion.

1. Connect a manometer to the manifold side of the gas valve in order to measure manifold pressure.
2. Turn the gas valve to the ON position. Make sure the electrical disconnect is in the OFF position.
3. Connect a jumper between terminal "R" and "W1" on the circuit board and another jumper from "R" to "W2" on the circuit board to simulate a call for heat on high fire on a two stage furnace.

⚠ WARNING

If the unit is connected to power sources, make sure that all electrical power to the unit has been disconnected and the gas supply to the unit has been shut off before proceeding.

4. Energize the power supply to the disconnect switch.
5. The combustion blower should start and, after the pre-purge cycle, the igniter should begin sparking. Because there may still be some air in the gas supply line, the unit may require several attempts to light.
6. Once the unit lights, adjust the manifold pressure to 3.5 IWC by turning the adjustment screw on the valve adjacent to the "HI" marking on the valve. Always adjust the high fire setting prior to adjusting the low fire setting on a two stage furnace.
7. Check for gas leaks, especially in the following locations: gas valve inlet and outlet, gas supply union, and main burner orifices where they screw into the manifold using a soap and water leak detection solution.

⚠ WARNING

Do not check for leaks with an open flame! Damage to unit, building and installer could result.

8. Observe several ignition cycles. The burners should light without delayed ignition or flashback and there should be no impingement of the flame on the metal panel surrounding the entrance to the heat exchanger tubes.

9. Turn off electrical power to the unit.
Single stage furnace skip to Step 14.
 10. Remove the jumper between "R" and "W2". This will simulate a call for first stage heat.
 11. Restore electrical power to the unit.
 12. At the end of the pre-purge period, The unit should light on high fire. It will stay on high fire for approximately one minute. At the end of this time period the unit will switch to low fire.
 13. Set the low fire manifold pressure to 2.0 I.W.C. by turning the screw adjacent to the "LO" marking on the valve.
 14. Shut off the gas supply and electrical supply to the unit.
 15. Turn the gas valve knob to "OFF".
 16. Remove the pressure tap on the outlet side of the valve and replace the plug.
 17. Remove the jumper and secure all access panels.
- NOTE:** The manifold pressures listed above should not be used as a substitute for properly rating the unit. To set the rate on the unit, consult the installation instructions supplied with the unit.

Subject to change without notice. Printed in U.S.A.
Copyright © 2009 by Johnson Controls, Inc. All rights reserved.

526946-UAI-A-0709
Supersedes: Nothing

Johnson Controls Unitary Products
5005 York Drive
Norman, OK 73069