



JXi™ Gas-Fired Pool & Spa Heater Parts Kit Installation Instructions



JXi Gas Conversion and Fuel Orifice Replacement Kit

These instructions are to be used with the following Jandy Pro Series kits:

R0591601	Fuel Orifice Kit, Model 200, <i>Propane to Natural</i>
R0591602	Fuel Orifice Kit, Model 260, <i>Propane to Natural</i>
R0591604	Fuel Orifice Kit, Model 400, <i>Propane to Natural</i>
R0591605	Fuel Orifice Kit, Model 200, <i>Natural to Propane</i>
R0591606	Fuel Orifice Kit, Model 260, <i>Natural to Propane</i>
R0591608	Fuel Orifice Kit, Model 400, <i>Natural to Propane</i>

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. The information in these instructions must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death. 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.

THE CONVERSION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROVINCIAL OR LOCAL AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL GAS AND PROPANE INSTALLATION CODE, CSA-B149.1 IN CANADA. IN THE US, FOLLOW THE REQUIREMENTS OF THE NATIONAL FUEL GAS CODE (NFPA® 54) OR THE LIQUEFIED PETROLEUM GAS CODE (NFPA 58).

 **WARNING**

FOR YOUR SAFETY: This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such state or local requirements exist. In the event no such state or local requirement exists, the installer or maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death. For indoor installations, as an additional measure of safety, Zodiac Pool Systems, Inc. strongly recommends installation of suitable carbon monoxide detectors in the vicinity of this appliance and in any adjacent occupied spaces. Improper installation and/or operation will void the warranty.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Immediately switch off main gas supply.
- Do not try to light any appliance.
- Do not touch any electrical 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.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Before starting the installation, check Table 1 to identify each of the parts required for this installation. If any parts are missing from the kit, please call your local distributor for assistance.

 **WARNING/SHOCK HAZARD**

Turn off all switches and the main breaker in the pool/spa heater electrical circuit before starting the replacement procedure. Failure to comply may cause a shock or hazard resulting in severe personal injury or death.

While disconnecting and/or connecting any electrical wiring in the appliance, be careful not to damage or abrade any of the wiring.

List of Parts

KIT PART NO. (BTU/Fuel Type) (N-Natural, LP-Propane)	EACH R-KIT LISTED (at left) INCLUDES ALL COMPONENTS BELOW. NOTE: EACH PART WILL BE SPECIFIC TO THE MODEL AND FUEL TYPE ORDERED (see Table 2)	QTY
R0591601 (200/ P to N),	Air Orifice (LP or NAT)	1
R0591602 (260/ P to N),	Gas Orifice (LP or NAT)	1
R0591604 (400/ P to N),	Converted Fuel Type Rating plate Sticker (LP or NAT)	1
R0591605 (200/ N to LP),	Gas Train Label (LP or NAT)	1
R0591606 (260/ N to LP),	Conversion Mail-in Card	1
R0591608 (400/ N to LP)	Screw, #10 Hex Head	2
	Intake Screen	1
	Sealing Grommet (LP or NAT)	1
	O-Ring, BUNA-N	1

Table 1. List of Parts in the Kit

WARNING

Replacement/conversion kits listed in Table 1 are to be used only with the JXi™ pool and spa heater, and only with specified heater models associated with the listed kit part number. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death.

IMPORTANT

Order by replacement kit number only (Table 1). See Table 2 for cross-reference and verification of kit contents.

FUEL ORIFICE REPLACEMENT KITS FOR JXI HEATERS						
PROPANE (LP) TO NATURAL GAS (NAT)						
BTU Capacity of Heater	Fuel Orifice Kit Part Number	Gas Orifice Markings (1)	Air Orifice Label Color/Markings (2)	Fuel Line Sealing Grommet Color/Markings (3)	Data Rating plate P/N (4)	Gas Valve Label Color/Markings (5)
200,000	R0591601	200 NG	Black/A0217401, NG	Blue, Natural	H0489500	Blue, Natural, H0230100
260,000	R0591602	260 NG	Black/A0217402, NG	Blue, Natural	H0489500	Blue, Natural, H0230100
400,000	R0591604	400 NG	Black/A0217404, NG	Blue, Natural	H0489500	Blue, Natural, H0230100
NATURAL GAS (N) TO PROPANE (LP)						
BTU Capacity of Heater	Fuel Orifice Kit Part Number	Gas Orifice Markings (1)	Air Orifice Label Color/Markings (2)	Fuel Line Sealing Grommet Color/Markings (3)	Data Rating plate P/N (4)	Gas Valve Label Color/Markings (5)
200,000	R0591605	200 LP	White/A0217405, LP	Orange, Propane	H0489700	Orange, Propane, H0230200
260,000	R0591606	260 LP	White/A0217406, LP	Orange, Propane	H0489700	Orange, Propane, H0230200
400,000	R0591608	400 LP	White/A0217408, LP	Orange, Propane	H0489700	Orange, Propane, H0230200

Table 2. Gas Orifice Kits, Contents by Part Number

NOTE: The five critical parts are not available individually but only as part of the complete Fuel Orifice kit listed. Select the correct fuel type and heater BTU Capacity from Table 2. The Orifice Kit listed will come with the five (5) critical components as indicated (1) - (5). Always ensure that all five critical components are correct for the heater fuel type and BTU model. Use the identifying color and markings listed in the chart for each component to verify they are correct before installing, repairing, or operating the heater.

High Altitude: Derating for high elevation is not necessary with the JXi heater because of its venturi-type combustion system which self-compensates for changes in barometric pressure. Air flow through the blower inlet pulls the correct flow of gas into the burner regardless of air density. Proper combustion and high efficiency are assured without special adjustment or changes to the heater.

STOP!

If you are only replacing a defective fuel orifice and not doing a fuel conversion, see Section 2: FUEL ORIFICE REPLACEMENT Instructions (page 27).

If you are doing a fuel type conversion, see Section 1: GAS CONVERSION Instructions (page 5).

Section 1: GAS CONVERSION Instructions

Required Tools

You will need the following tools for CONVERSION:

- Permanent Marker (black)
- Digital Differential Pressure Manometer
- Manometer Accessories (hoses, tee, fittings)
- 3/16" Hex Key
- 5/16" Nut Driver
- 7/16" Hollow Shaft Nut Driver
- Barbed Fittings (1/8" NPT to 1/16")
- Blunt Tool (Key or Phillips Head Screwdriver)
- Pipe Wrench
- Second Pipe Wrench for Removing Gas Union

IMPORTANT: READ BEFORE YOU START

WARNING

The gas fuel orifice kit contains critical components required to ensure safe reliable operation of the JXi™ model heater. It is critical that each of the five (5) components included in this kit are installed correctly and used with no substitutions for the fuel type specified (either Natural Gas or Liquid Propane), see Table 2 and Table 2 NOTE (page 4).

NOTE: The design of the JXi heater allows the same gas valve to be used for both natural gas and propane models.

Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death.

IMPORTANT: READ BEFORE YOU START

1. Gas Orifice

The orifice is specific for each BTU and for fuel type. Ensure you have the correct gas orifice for the BTU and fuel type required by checking the part number factory-stamped on the gas orifice against Gas Orifice Markings column, Table 2. It is also critical that the O-ring used is the one provided by Zodiac® in this kit and is BUNA-N type (no substitutions).

2. Air Orifice

The air orifice is specific for each BTU and fuel type. Ensure you have the correct air orifice for the BTU size and fuel type required by checking the part number factory-molded on the air orifice and its color against Air Orifice Color/Markings column, Table 2.

3. Fuel Line Sealing Grommet

The inlet fuel grommets are color coded to provide a visual indication of the heater's pre-conversion fuel type. Ensure you have the correct gas supply sealing grommet for the fuel type by checking the color and fuel type factory-molded on the grommet against Gas Supply Sealing Grommet Color/Markings column, Table 2.

4. Rating Plate Sticker and Prepaid Mail-In Card

The rating plate sticker is factory-applied to the heater on the outside of the combustion chamber (see Figure 1). It is critical that the rating plate matches the gas and air orifices installed in the heater and accurately reflects the BTU size and fuel type. If the heater is being converted, the new rating plate (included in this kit) **MUST** be placed on the combustion chamber **over the original rating plate with the heater model number and serial number visible** (see Figure 2).

- Specific instructions for placement of the new rating plate are outlined in **STEP 9: Affix Conversion Rating Plate to the Heater**.
- Specific instructions for returning the prepaid mail-in card to Zodiac Pool Systems are outlined in **STEP 10: Complete and Send the Mail-In Card to Zodiac**.

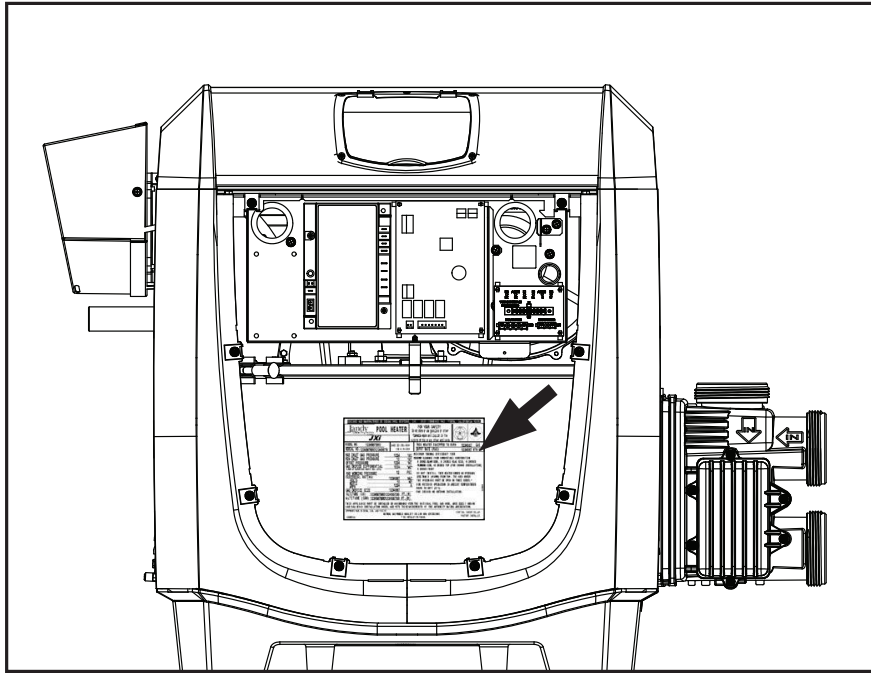


Figure 1. Rating Plate Located on Outside of Combustion Chamber

Place conversion sticker over original rating plate sticker as shown, directly below the **Model No and Serial No.** DO NOT COVER UP OR HIDE THE MODEL NO. AND SERIAL NO.

Fill out top section with permanent marker before affixing to the heater

DESIGNED AND MANUFACTURED BY KOOTAC POOL SYSTEMS, INC. 2620 COMMERCE WAY, VISTA, CALIFORNIA 92081		FOR YOUR SAFETY Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.	
Jandy POOL HEATER Pro Series JXi		THIS HEATER EQUIPPED TO BURN 1234567 GAS	
MODEL NO. 1234567890	AHSI 21.56b-2004 CSA 4.7b-2004	INPUT RATE (MAX) 1234567 BTU/HR	
SERIAL NO. 123456789012345678		MINIMUM THERMAL EFFICIENCY 1234	
MAX INLET GAS PRESSURE 1234 "WC		MINIMUM CLEARANCE FROM COMBUSTIBLE CONSTRUCTION	
MIN INLET GAS PRESSURE 12 "WC		4 INCHES BLANK SIDE, 4 INCHES REAR SIDE, 6 INCHES PLUMBING SIDE, 48 INCHES TOP (FOR INDOOR INSTALLATION)	
OFFSET PRESSURE 1234 "WC*		6 INCHES FRONT	
GAS ORIFICE DIFFERENTIAL 1234 "WC*		DO NOT INSTALL THIS HEATER UNDER AN OVERHANG LESS THAN 3' (914MM) FROM TOP. THE AREA UNDER THE OVERHANG MUST BE OPEN ON THREE SIDES.*	
MAX WORKING PRESSURE 12 PSI		FOR OUTDOOR OPERATION IN AMBIENT TEMPERATURES DOWN TO 40°F (4°C)	
ELECTRICAL RATING:		FOR INDOOR OR OUTDOOR INSTALLATION.	
VOLTS 1234567 VAC			
HERTZ 12 HZ			
AMPS 1234 A			
GAS ORIFICE SIZE 1234567			
<p>ATTENTION This Heater Has Been Converted To Burn NATURAL Gas.</p> <p>Part Number of the Kit used in this Conversion: <u>R059103</u></p> <p>Modification Performed On (Date): <u>9/12/2014</u></p> <p>By (Technician and Company Name): <u>Bob Majors JOHNSON POOL SERVICES</u></p> <p>Address: <u>1804 CHERRY LN, BIGTOWN, NC 140054</u></p> <p>Who Accepts Responsibility for Correctness of the Conversion.</p>			
<p>MANUFACTURER'S CERTIFIED EFFICIENCY 83%</p> <p>MINIMUM THERMAL EFFICIENCY 78%</p> <p>MINIMUM CLEARANCE FROM COMBUSTIBLE CONSTRUCTION</p> <p>4 INCHES BLANK SIDE, 4 INCHES REAR SIDE, 6 INCHES PLUMBING SIDE, 48 INCHES TOP (FOR INDOOR INSTALLATION)</p> <p>6 INCHES FRONT</p> <p>DO NOT INSTALL THIS HEATER UNDER AN OVERHANG LESS THAN 3' (914MM) FROM TOP. THE AREA UNDER THE OVERHANG MUST BE OPEN ON THREE SIDES.*</p> <p>FOR OUTDOOR OPERATION IN AMBIENT TEMPERATURES DOWN TO 40°F (4°C)</p> <p>FOR INDOOR OR OUTDOOR INSTALLATION.</p>		<p>12345678901234</p>	
<p>THIS APPLIANCE MUST BE INSTALLED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION AND THE LP FUEL GAS CODE (NFPA 58) OR IN CANADA THE NATURAL GAS AND PROPANE INSTALLATION CODE (CSA B149.1).</p> <p>COMPONENTS FROM USA, MEXICO, AND CHINA</p> <p>NATURAL GAS MODELS QUALIFY AS LOW NOX EMISSIONS * SEE INSTALLATION MANUAL</p> <p>INDOOR FLUE COLLAR FACTORY INSTALLED</p>			

Figure 2. Correct Placement of the Converted Fuel Type Data Rating Plate Sticker

5. Installation Steps

There are nine (9) steps to complete to ensure correct installation and implementation of the gas conversion procedure. Failure to follow steps exactly and in the consecutive order listed in this instruction booklet (as well as all warnings, cautions, and notes associated with each step) may result in improper operation of the heater and possible property damage, personal injury, or death. Installation steps are as follows:

- Step 1: Before You Start
- Step 2: Install the Gas Orifice
- Step 3: Install the Air Intake Orifice
- Step 4: Install the Fuel Line Sealing Grommet
- Step 5: Perform Gas Leak Test
- Step 6: Test the Inlet Pressure
- Step 7: Test the Gas Orifice Differential Offset Pressure
- Step 8: Check Normal Operating Sequence
- Step 9: Affix the Conversion Rating Plate to Heater
- Step 10: Complete and Send Mail-In Card

STEP 1: Before You Start

1. Verify you have all of the necessary parts (see Table 1).
2. Verify the parts in your kit are specific for the model/BTU conversion (see Table 2).
3. Turn off the electrical power to the heater.
4. Turn off the main gas supply to the heater at the meter or the manual gas cock outside the heater.
5. Make sure the filter pump is off and will remain off for the duration of the installation procedure.
6. If the heater is below the surface level of the water in the pool or spa, close all shut-off valves between the heater and the pool.

STEP 2: Install the Gas Orifice

1. Remove eight (8) screws to take off the heater front panel.
2. Confirm the fuel type for the heater you are converting by checking the rating plate on the front of the combustion chamber (Figure 1).
3. Remove four (4) screws to take off the heater top panel (Figure 3). Take care not to damage or abrade any of the wiring.

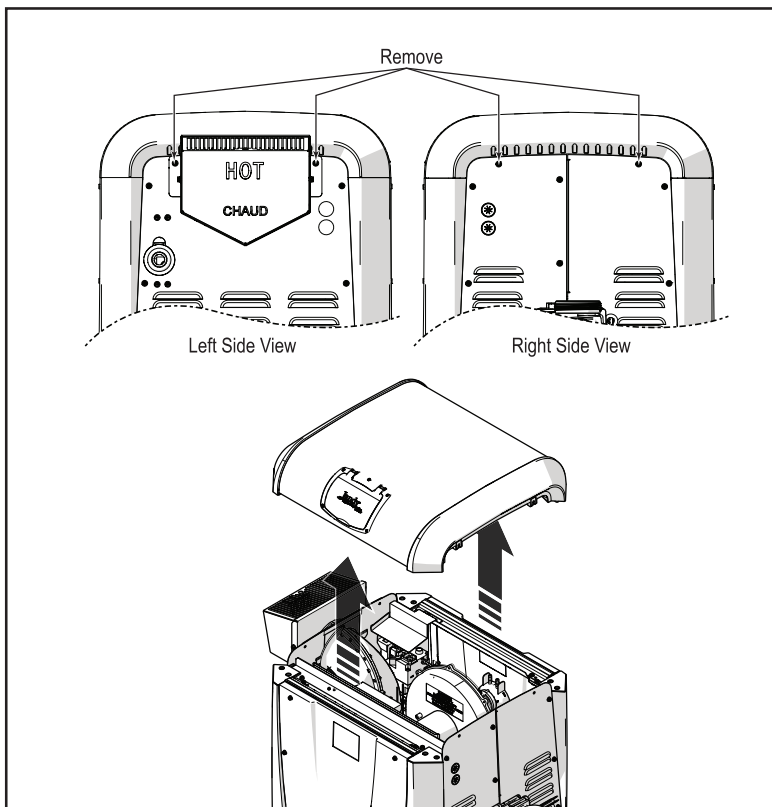


Figure 3. Remove Top Panel

4. Remove one screw to take off gas valve bracket (Figure 4).

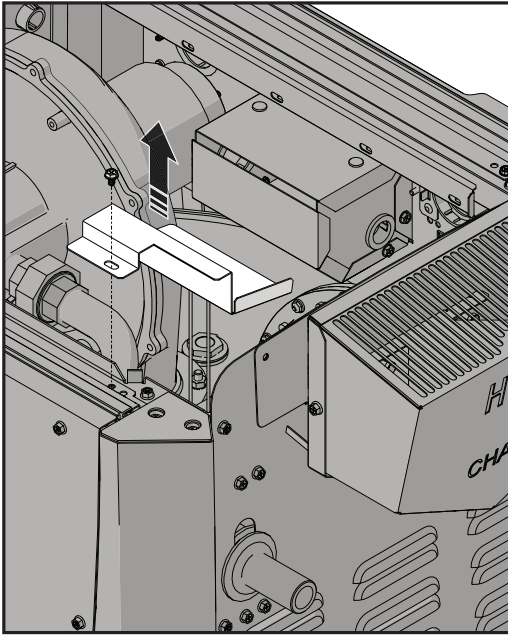


Figure 4. Remove Gas Valve Bracket

5. Remove one screw to take off the gasket retainer bracket (Figure 5).

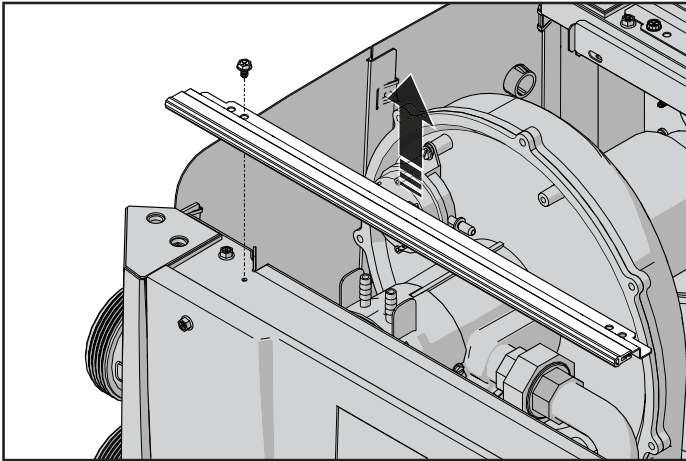


Figure 5. Remove Gasket Retainer Bracket

6. Remove eight (8) screws to take off heater rear panel (Figure 6).

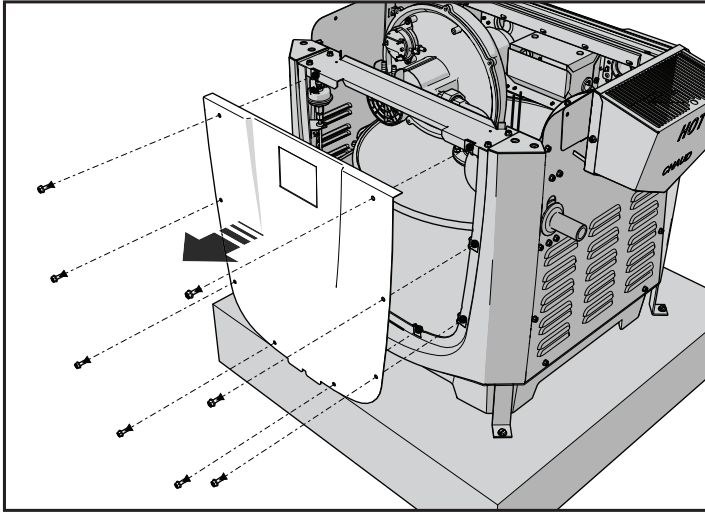


Figure 6. Remove Rear Panel

7. Unscrew four (4) hex head screws and remove the rear brace bar for easier access to the gas train (Figure 7).

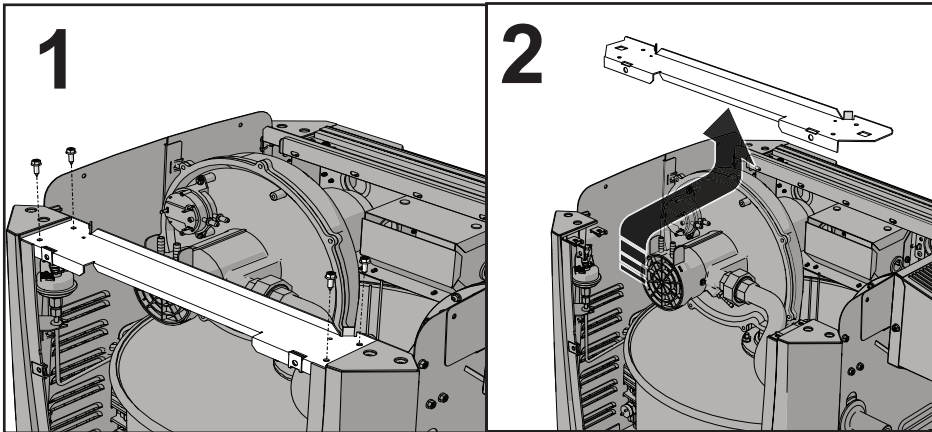


Figure 7. Remove Rear Brace Bar

- Using a pipe wrench, loosen the gas union. Rotate the gas train upward to allow access to the orifice.

NOTE: It may be helpful to use a second pipe wrench to hold one of the joints in place while loosening the gas union (see Figure 8).

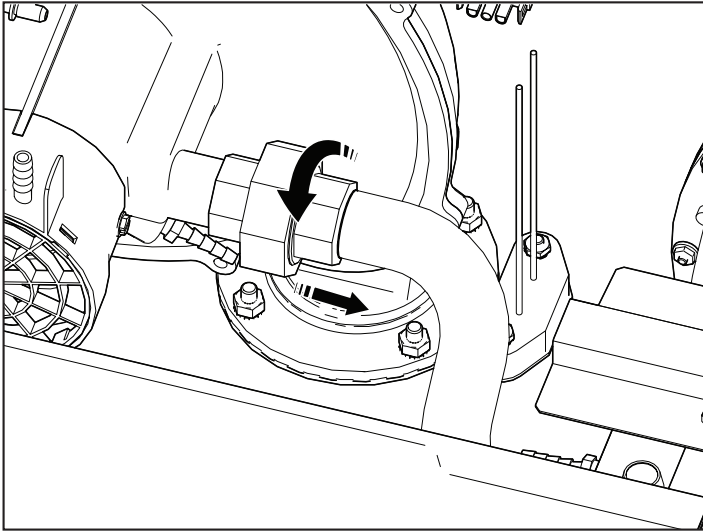


Figure 8. Unscrew the Union

- Use a blunt tool, such as a key or a Phillips head screwdriver, to pry the original gas orifice and O-ring out of the union (see Figure 9). Discard the original gas orifice.

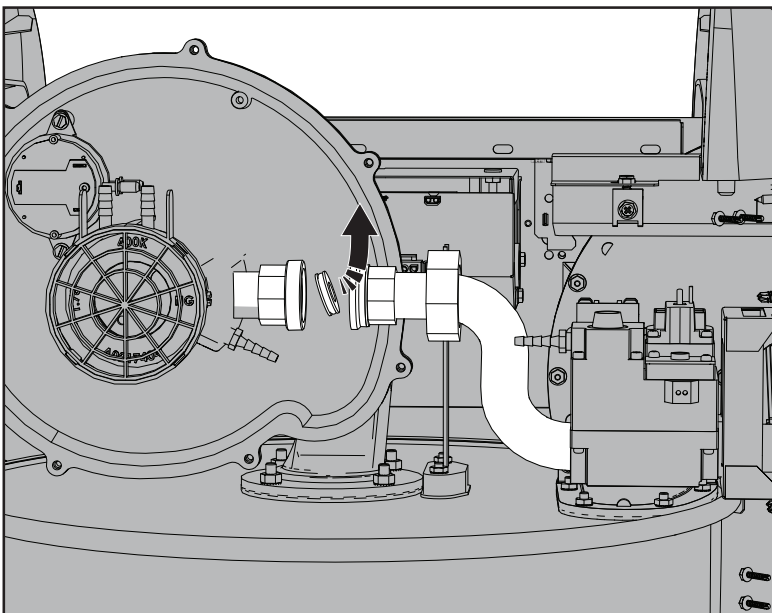


Figure 9. Remove the Gas Orifice

- Pressing firmly, seat the new gas orifice and O-ring firmly in the middle of the union. Use only your fingers so as not to damage the O-ring or the orifice. Ensure it is fully inserted and flat against the orifice seat with the etched surface facing outward for easier identification of the orifice type and size (see Figure 10).

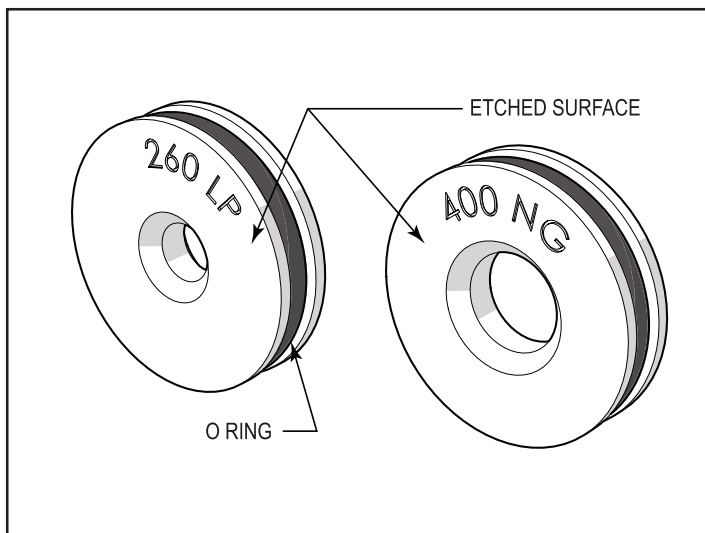


Figure 10. Etched Surface of Gas Orifice

⚠ WARNING

To avoid the risk of a gas leak, which can lead to fire or explosion resulting in property damage and serious injury, including loss of life, do not replace the O-ring with anything but a genuine Zodiac® custom part included in this kit. No substitution should be made for the O-ring. Always replace the gas orifice and O-ring as one assembly and use ONLY Zodiac original equipment parts.

- Reposition and reconnect the gas train to the blower by tightening the union.
- There is a sticker on the gas valve indicating the original gas. Remove this fuel type sticker from the gas valve and discard.

13. Place the new fuel type sticker (included in this kit) onto the gas train near the union (see Figure 11) so that it can be easily seen indicating the heater fuel type has been converted.

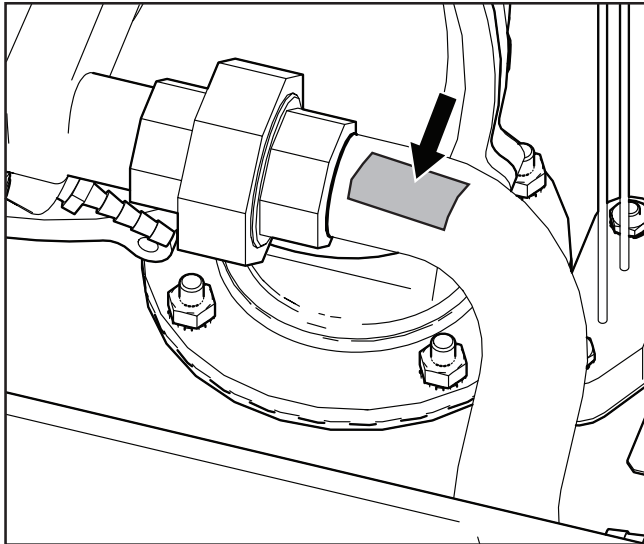


Figure 11. Affix Converted Fuel Type Sticker onto the Gas Train

STEP 3: Install the Air Intake Orifice

1. Using a short-handled screwdriver, slightly loosen the two (2) screws from the air intake orifice.
2. Gently remove the original air intake orifice and screen from the blower air intake (Figure 12).

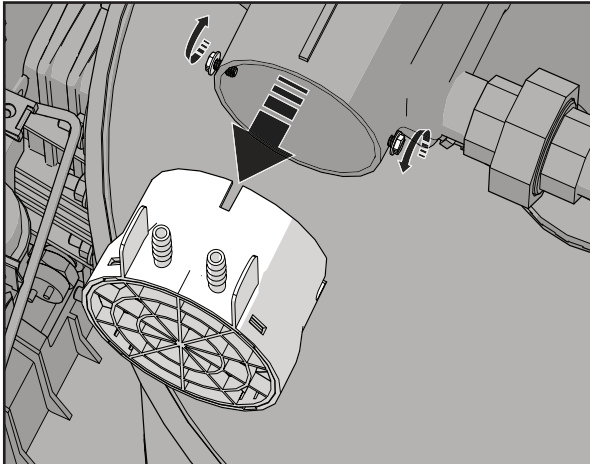


Figure 12. Remove Air Intake Orifice

3. Note the exact position of the intake hoses on the old air intake orifice. Remove the intake hoses from the old air intake orifice and install them on the new air intake orifice in exactly the same positions as they were found on the old air intake orifice.
4. Replace the new air intake orifice onto the blower and tighten two (2) screws.

STEP 4: Install the Fuel Line Sealing Grommet

1. Disconnect the gas inlet line.
2. Using a wrench, remove and discard the fuel line sealing grommet indicating the original fuel type.
3. Insert the new fuel type sealing grommet into gas inlet port (Figure 13).
4. Seat the grommet securely in the port so that the lip is smooth on both edges. Orient the grommet so that the tab lines up with the gas pressure tap port (Figure 13).

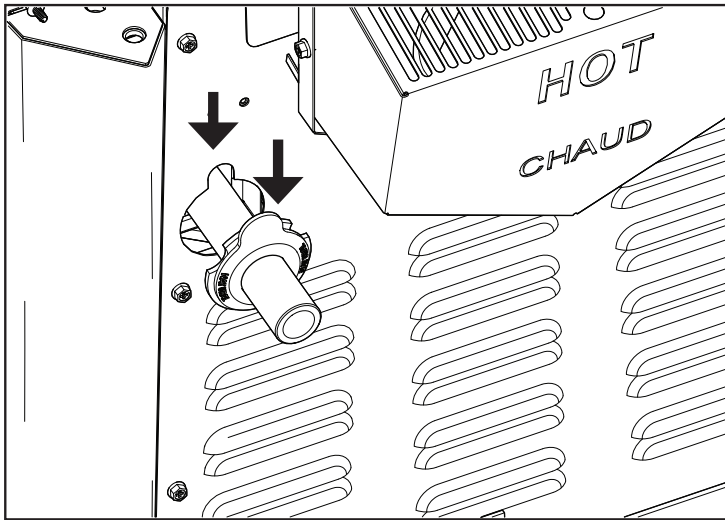


Figure 13. Line Up Tab with Gas Pressure Tap Port

5. Rotate the sealing grommet 90° right to expose the inlet pressure port plug (Figure 14).
6. Reconnect the gas supply.

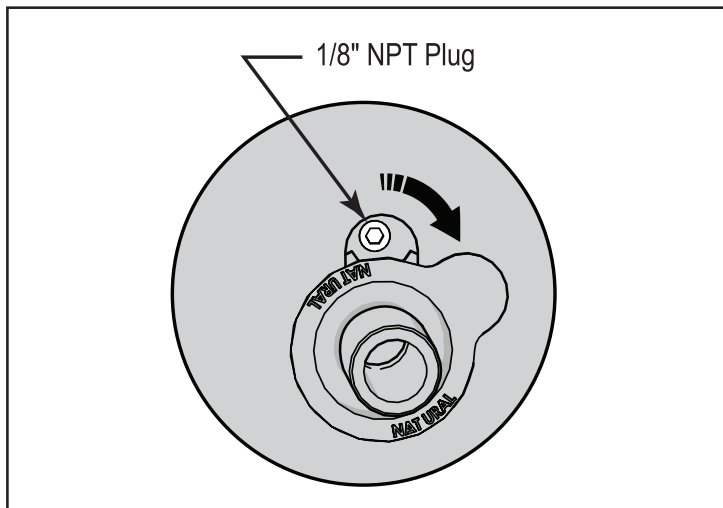


Figure 14. Rotate the Sealing Grommet to Expose the NPT Plug

STEP 5: Perform Gas Leak Test & Check Heater Operation

1. Reopen the gas supply valve.
2. Test the complete gas supply system and all connections for leaks using a soap solution (Figure 15).

Do not use an open flame to test for leaks.

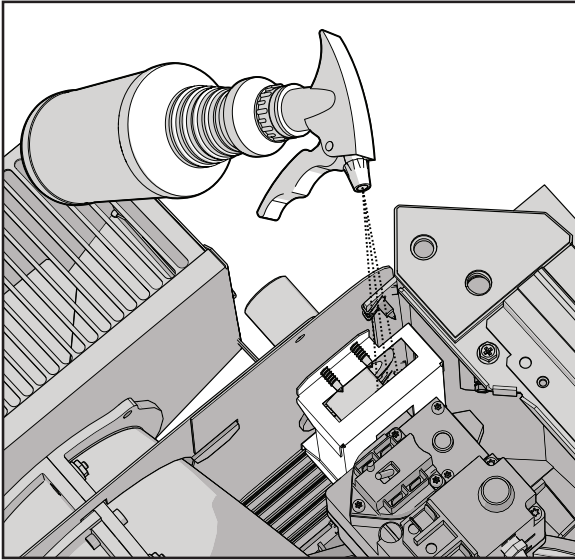


Figure 15. Spray Soap Solution for Leak Test

CAUTION

Some leak test solutions (including soap and water) may cause corrosion or stress cracking. Rinse the piping with water after testing.

3. Turn on the heater in Pool or Spa mode via the user interface.
4. Verify current water temperature reading on the user interface, then configure the set point so it is higher than the current temperature. This will prompt the ignition sequence.
5. Verify the blower starts (this signifies the ignition sequence has begun).
6. Verify that the igniter powers up after a 15-second pre-purge.
7. Verify that the heater begins normal operation once flame is sensed at the burner.
8. Turn off the heater via the user interface.

STEP 6: Test the Inlet Pressure

NOTE: Test the gas inlet pressure with the heater running using a digital differential pressure manometer.

1. Shut off the gas supply.
2. Remove the 1/8" NPT plug from the gas valve (Figure 16) using a 3/16" hex key.

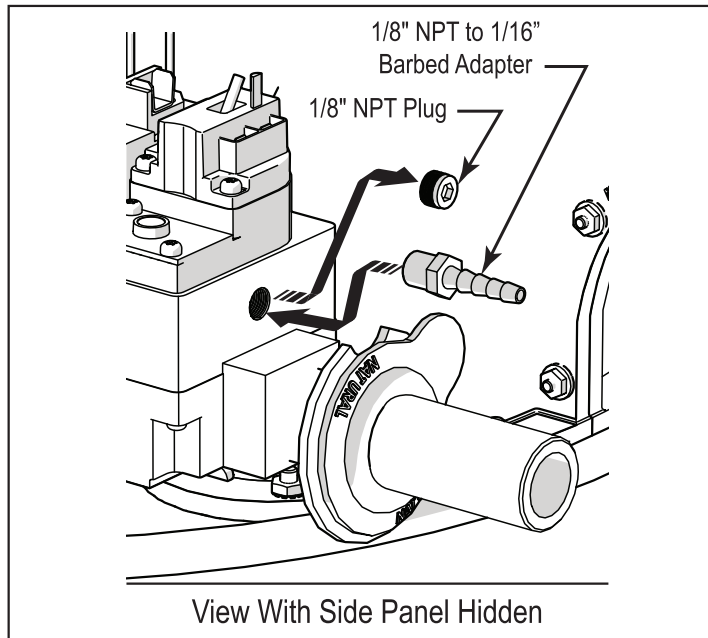


Figure 16. Remove NPT Plug and Insert Barbed Adapter

NOTE: Take care not to drop the plug down into the heater body, or it will be extremely difficult to retrieve.

3. Apply pipe joint compound over the fitting threads of 7/16" male barbed adapter.
4. Thread the male barbed adapter into the gas inlet port (see Figure 16) using a 7/16" hollow shaft nut driver.

5. Verify the gas valve control switch is in the ON position.
6. Connect a hose to the adapter at the gas inlet port (see Figure 17).

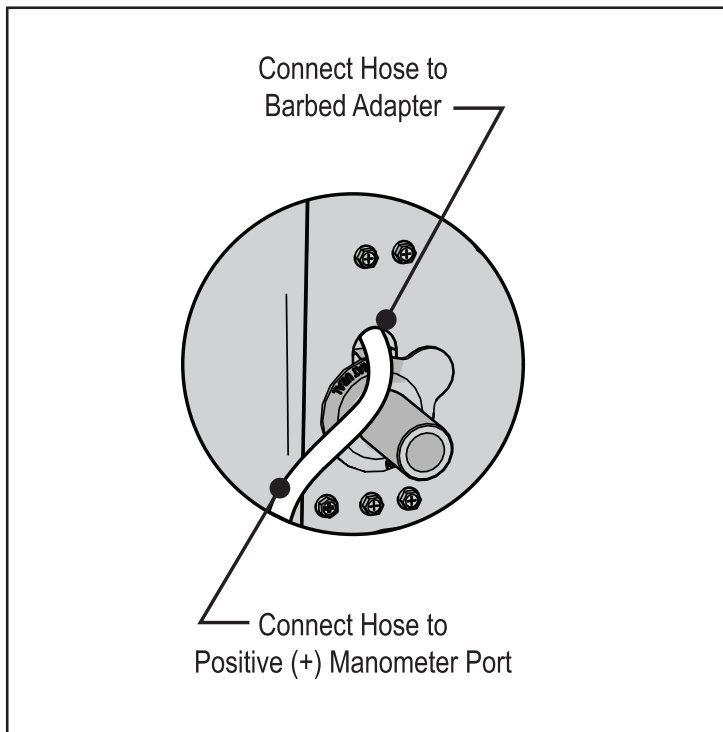


Figure 17. Rotate the Sealing Grommet to Expose the NPT Plug

7. The manometer has a positive (high pressure) port and a negative (low pressure) port. Connect the other end of the hose to the positive (high pressure) side of the manometer (Figure 18).

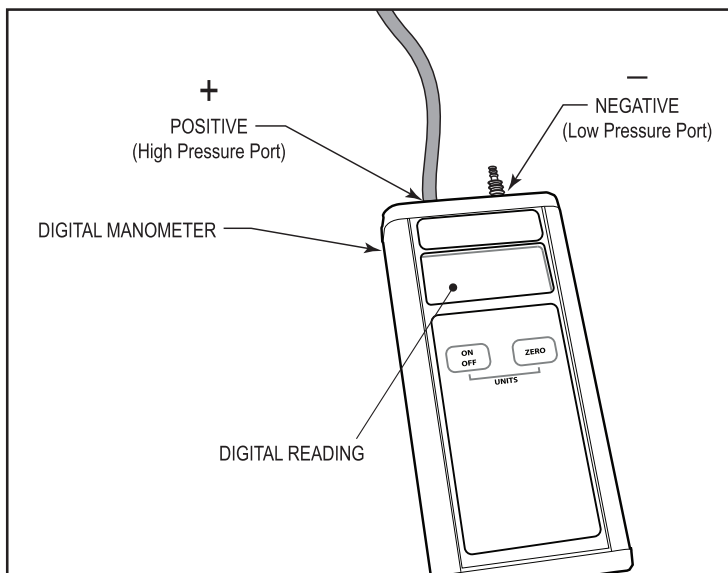


Figure 18. Test the Gas Inlet Pressure

8. Turn on the gas supply.
9. Start the heater and record the maximum and minimum inlet pressure with the heater running.
10. **For conversions from Propane to NATURAL GAS:**
Minimum inlet pressure should be **4.0" WC**
Maximum inlet pressure should be **10.5" WC**
For conversions from Natural Gas to PROPANE:
Minimum inlet pressure should be **4.0" WC**
Maximum inlet pressure should be **14.0" WC**
11. If the gas inlet pressure is not within the minimum to maximum range, contact the local gas utility company for assistance.
12. Shut off the gas.
13. Remove the manometer and hoses and the barbed adapter from the gas valve.
14. Apply joint compound to the NPT plug and reinstall.
15. Rotate the fuel line sealing grommet so the tab lines up with the gas pressure tap port (Figure 19).

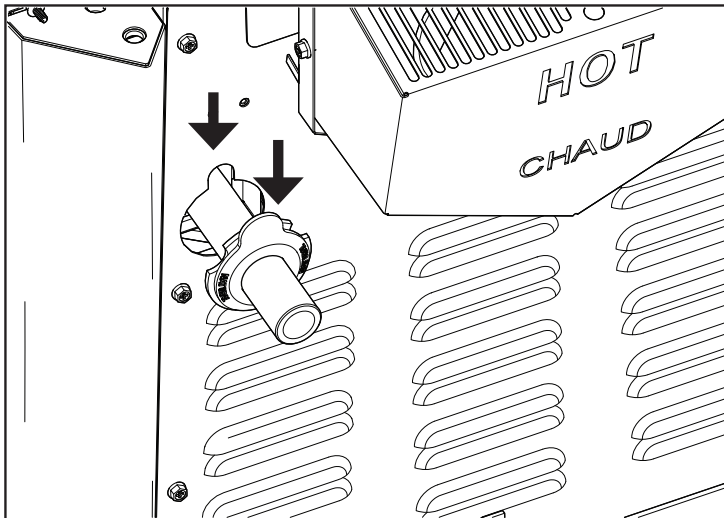


Figure 19. Line Up Tab with Gas Pressure Tap Port

STEP 7: Test Gas Orifice Offset Pressure

NOTE: Test the gas orifice offset pressure with the heater running using a digital differential pressure manometer.

1. Reopen the gas shut-off valve.
2. Test the offset pressure with the heater running using a digital differential pressure manometer. Connect a tee to the hose from the fan inlet port (see Figure 20) on the blower.
3. Connect a shorter hose from the gas valve vent port to the opposite side of the tee (see Figure 20).
4. The manometer has a positive (high pressure) port and a negative (low pressure) port. Connect a hose on the third joint of the tee to the positive (high pressure) side of the manometer (see Figure 20).
5. Remove the NPT plug from the gas valve manifold port (labeled “PRESS” “TAP”) and screw in the barbed adapter.

6. Connect one end of a hose to the gas valve manifold port and the other end to the negative (low pressure) side of the manometer (see Figure 20).

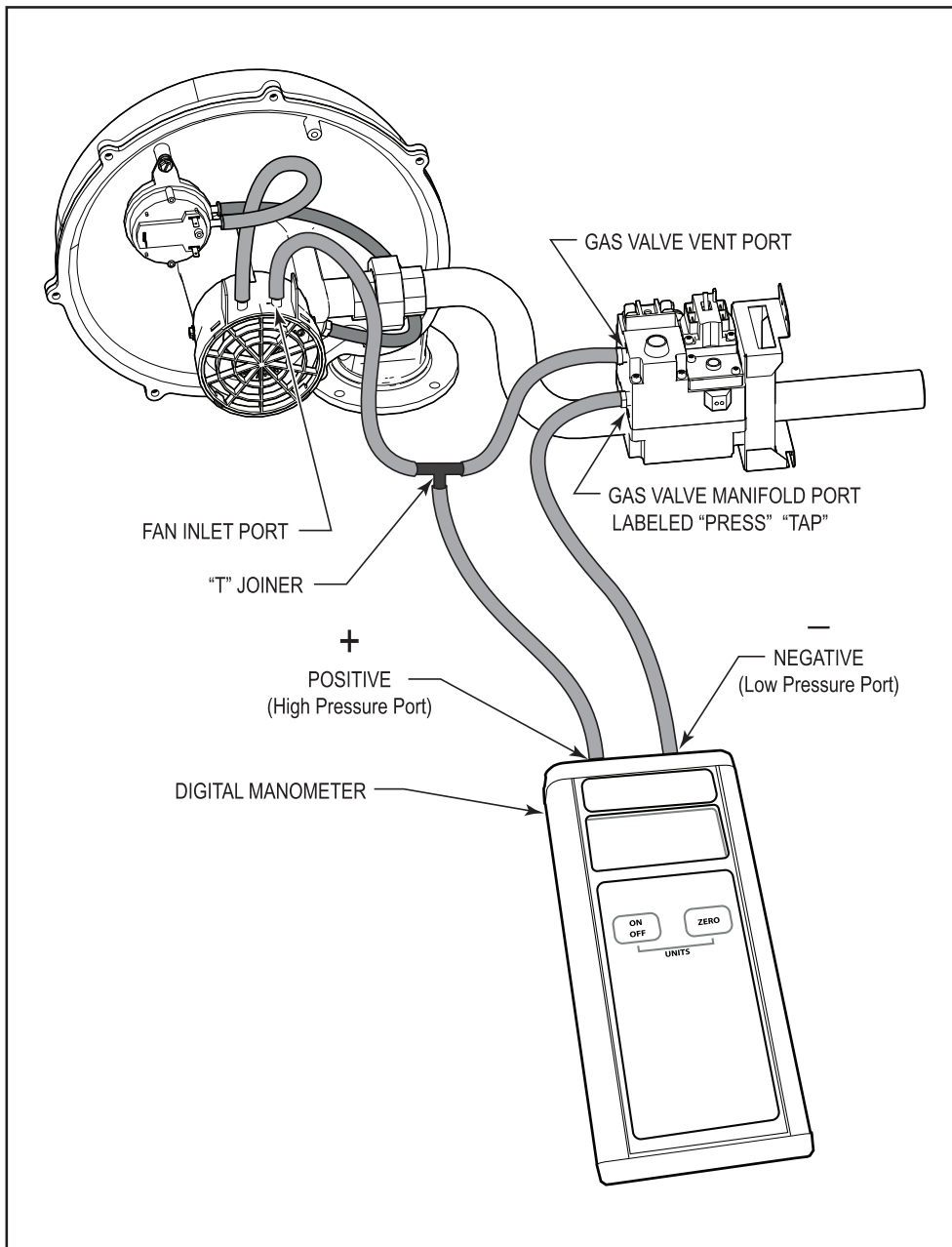


Figure 20. Testing Gas Offset Pressure

7. Start the heater and record the gas offset pressure with the heater running and the gas valve sealing cap firmly in place.
8. Read offset pressure at the manometer.
Measurement should be **-0.2 " WC** +/- 0.1 " WC

- If the offset pressure is incorrect, adjust pressure by removing the gas valve sealing cap and rotating the plastic screw using a blunt tool, such as a flat head screwdriver (see Figure 21). To make an adjustment, rotate 1/4 turn in either direction.

To Increase offset pressure:

Turn the plastic screw clockwise.

To Decrease offset pressure:

Turn the plastic screw counter-clockwise.

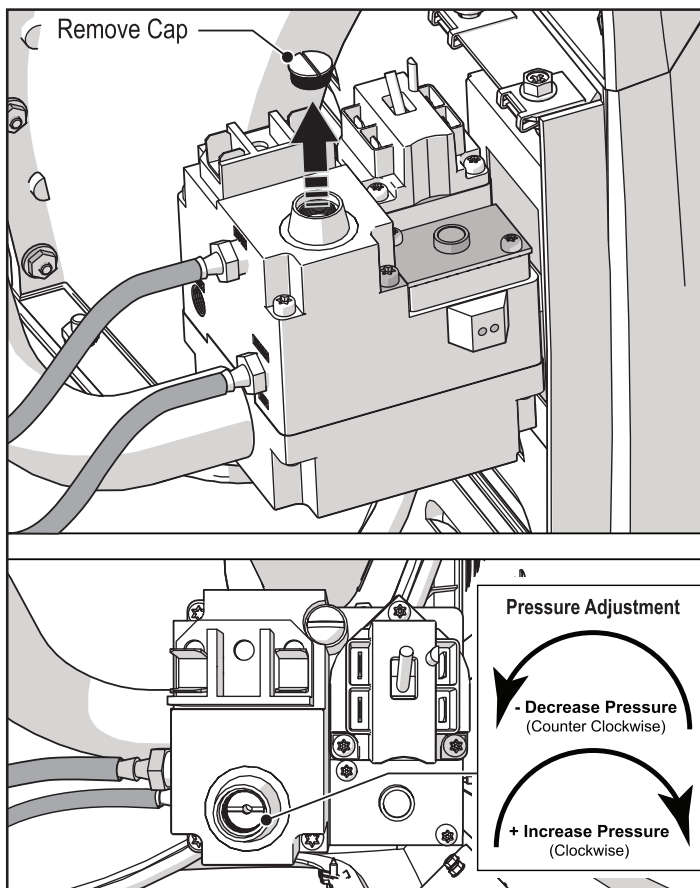


Figure 21. Adjust Differential Offset Pressure

- Shut down the heater at the user interface.
- Remove the tee and replace the hoses on the top vent port.
- Remove the barbed adapter. Apply joint compound to the NPT plug and replace to seal the vent port.

STEP 8: Check Normal Operating Sequence

1. Turn on the heater in Pool or Spa mode via the user interface.
2. Verify current water temperature reading on the user interface, then configure the set point so it is higher than the current temperature. This will prompt the ignition sequence.
3. Verify the blower starts (this signifies the ignition sequence has begun).
4. Verify that the igniter powers up after a 15-second pre-purge.
5. Verify that the heater begins normal operation once flame is sensed at the burner.
6. Turn off the heater via the user interface.

STEP 9: Affix Conversion Rating Plate to the Heater

WARNING

Failure to follow this STEP and all warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death.

1. Reinstall the brace bar and gasket retainer bracket.
2. Reinstall the heater rear panel and the gas valve shield.
3. Reinstall the heater top panel. Take care not to damage or abrade any wiring.
4. Using a permanent marker, fill out the top section of the new fuel type data rating plate sticker. **BE SURE TO PRINT LEGIBLY.**
 - Date of Modification
 - Company Name and Technician performing the conversion
 - Company Address

CAUTION

Heater combustion chamber may be hot. Wait until the heater cools and is cool to the touch before applying the sticker.

- Attach the conversion rating plate sticker onto the combustion chamber. Overlap the new rating plate sticker over the original rating plate sticker so that the **model type and serial number are still visible** (see Figure 22).
- Reinstall the heater front panel.

Place conversion sticker over original rating plate sticker as shown, directly below the **Model No and Serial No.** DO NOT COVER UP OR HIDE THE MODEL NO. AND SERIAL NO.

Fill out top section with permanent marker before affixing to the heater

<small>DESIGNED AND MANUFACTURED BY SOUTAC POOL SYSTEMS, INC. 2520 COMBURY WAY, MISTA, CALIFORNIA 92081</small>			
Jandy Pro Series		POOL HEATER	
JXi		<small>FOR YOUR SAFETY Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.</small>	
MODEL NO.	1234567890	AHJ1 21.56b-2004	THIS HEATER EQUIPPED TO BURN 1234567 GAS
SERIAL NO.	123456789012345678	CSA 4.7b-2004	INPUT RATE (MAX) 1234567 BTU/HR
MAX INLET GAS PRESSURE	1234	"WC	MINIMUM THERMAL EFFICIENCY 1234
MIN INLET GAS PRESSURE	12	"WC	MINIMUM CLEARANCE FROM COMBUSTIBLE CONSTRUCTION
OFFSET PRESSURE	1234	"WC	4 INCHES BLANK SIDE, 6 INCHES REAR SIDE, 6 INCHES PLUMBING SIDE, 48 INCHES TOP (FOR INDOOR INSTALLATION)

ATTENTION This Heater Has Been Converted To Burn NATURAL Gas. Part Number of the Kit used in this Conversion: R059103

Modification Performed On (Date): 9/12/2014

By (Technician and Company Name): Bob Majors JOHNSON POOL SERVICES

Address: 1804 CHERRY LN, BIGTOWN, NC 14054

Who Accepts Responsibility for Correctness of the Conversion.

MAX INLET GAS PRESSURE	1234	"WC	MANUFACTURER'S CERTIFIED EFFICIENCY 83%
MIN INLET GAS PRESSURE	12	"WC	MINIMUM THERMAL EFFICIENCY 78%
OFFSET PRESSURE	1234	"WC	MINIMUM CLEARANCE FROM COMBUSTIBLE CONSTRUCTION
GAS ORIFICE DIFFERENTIAL	1234	"WC*	4 INCHES BLANK SIDE, 4 INCHES REAR SIDE, 6 INCHES PLUMBING SIDE, 48 INCHES TOP (FOR INDOOR INSTALLATION)
MAX WORKING PRESSURE	12	PSI	6 INCHES FRONT
ELECTRICAL RATING:			DO NOT INSTALL THIS HEATER UNDER AN OVERHANG LESS THAN 6' (914MM) FROM TOP. THE AREA UNDER THE OVERHANG MUST BE OPEN ON THREE SIDES.*
VOLTS	1234567	VAC	FOR OUTDOOR OPERATION IN AMBIENT TEMPERATURES DOWN TO 40°F (4°C)
HERTZ	12	HZ	FOR INDOOR OR OUTDOOR INSTALLATION.
AMPS	1234	A	
GAS ORIFICE SIZE	1234567		

THIS APPLIANCE MUST BE INSTALLED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION AND THE LP FUEL GAS CODE (NFPA 58) OR IN CANADA THE NATURAL GAS AND PROPANE INSTALLATION CODE (CSA B149.1).

COMPONENTS FROM USA, MEXICO, AND CHINA

NATURAL GAS MODELS QUALIFY AS LOW NOX EMISSIONS * SEE INSTALLATION MANUAL

INDOOR FLUE COLLAR FACTORY INSTALLED

Figure 22. Correct Placement of the Converted Fuel Type Data Rating Plate Sticker

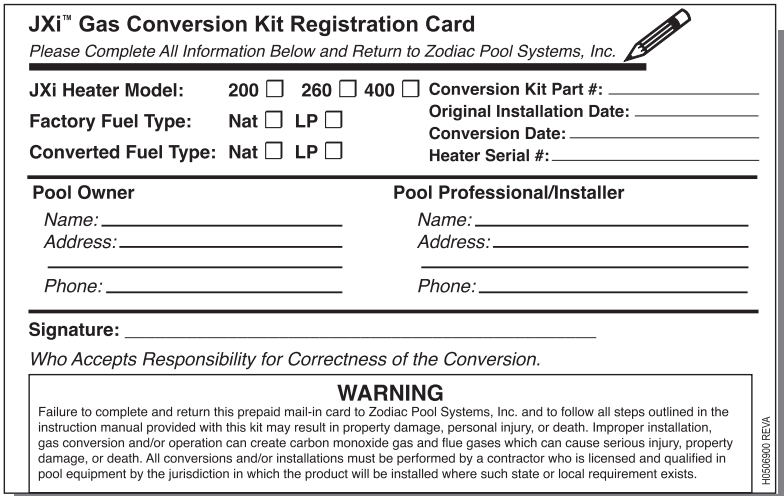
STEP 10: Complete and Send the Mail-In Card to Zodiac

WARNING

Failure to follow this STEP and all warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death.

1. Complete and provide all of the information requested on the Fuel Type Conversion mail-in card (Figure 23, colored yellow card included in this kit).
2. Send to Zodiac® Pool Systems at the return address shown on the card. Drop the postage-paid card into the mail as soon as possible.

NOTE: It is extremely important to register the heater with the manufacturer as having been converted for future service and warranty purposes.



JXi™ Gas Conversion Kit Registration Card

Please Complete All Information Below and Return to Zodiac Pool Systems, Inc.

JXi Heater Model: 200 260 400 Conversion Kit Part #: _____

Factory Fuel Type: Nat LP Original Installation Date: _____

Converted Fuel Type: Nat LP Conversion Date: _____

Heater Serial #: _____

Pool Owner **Pool Professional/Installer**

Name: _____ Name: _____

Address: _____ Address: _____

Phone: _____ Phone: _____

Signature: _____

Who Accepts Responsibility for Correctness of the Conversion.

WARNING

Failure to complete and return this prepaid mail-in card to Zodiac Pool Systems, Inc. and to follow all steps outlined in the instruction manual provided with this kit may result in property damage, personal injury, or death. Improper installation, gas conversion and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death. All conversions and/or installations must be performed by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such state or local requirement exists.

FIG26B00/REV.A

Figure 23. Postage-Paid Mail-In Card to Register Fuel Conversion

Section 2: ORIFICE REPLACEMENT

Instructions

These instructions are for replacing parts with identical BTU and fuel type:

- Gas Orifice
- Air Intake Orifice

You will need the following tools for REPLACEMENT:

- Digital Differential Pressure Manometer
- Manometer Accessories (hoses, tee, fittings)
- Blunt Tool (Key or Phillips Head Screwdriver)
- Pipe Wrench
- Second Pipe Wrench for Removing Gas Union

IMPORTANT: READ BEFORE YOU START

The fuel orifice kit contains critical replacement parts required to ensure safe reliable operation of the JXi™ model heater for either fuel orifice replacement or fuel type conversion. Please note that not all parts included in the kit will be used for orifice replacement. Some of the items are used only for the conversion procedure. It is critical that the parts used for orifice replacement are for the fuel type specified (either natural gas or propane) and are installed correctly according to the instructions in this manual.

NOTE: The design of the JXi heater allows the same gas valve to be used for both natural gas and propane models.

1. Gas Orifice

The orifice is specific for each BTU and for fuel type. Ensure you have the correct gas orifice for the BTU and fuel type required by checking the part number factory-stamped on the gas orifice against Gas Orifice Markings column, Table 2. In addition, it is critical that the O-ring used is the one provided by Zodiac® in this kit and is BUNA-N type (no substitutions).

2. Air Orifice

The air orifice is specific for each BTU and for fuel type. Ensure you have the correct air orifice for the BTU size and fuel type required by checking the part number factory-molded on the air orifice and its color against Air Orifice Color/Markings column, Table 2.

Replace the Gas Orifice

WARNING

It is critical to verify you are installing exactly the same gas orifice as you are removing. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death. **The gas orifice is stamped with the heater model number and fuel type.** Refer to the rating plate on the heater (see Figure 1) to verify the BTU and fuel type then confirm you have ordered the correct replacement kit for the BTU and fuel type (see Table 1).

1. Turn off the electrical power to the heater.
2. Turn off the main gas supply to the heater at the meter or the manual gas cock outside the heater.
3. Make sure the filter pump is off and will remain off for the duration of the installation procedure.
4. If the heater is below the surface level of the water in the pool or spa, close all shut-off valves between the heater and the pool.
5. Disconnect the gas inlet line.
6. Remove four (4) screws to take off the heater top panel (Figure 24). Take care not to damage or abrade any of the wiring.

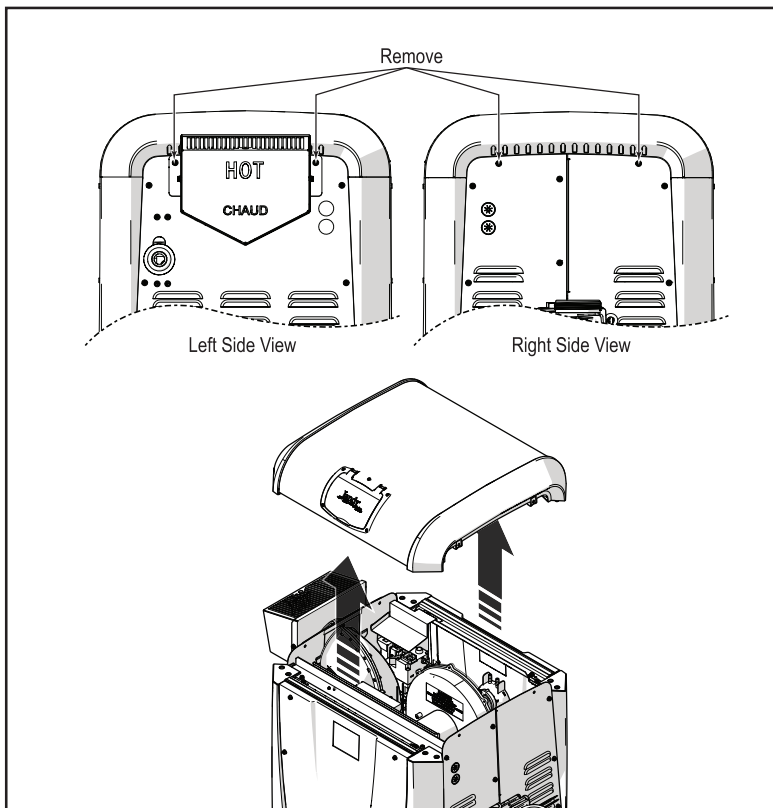


Figure 24. Remove Top Panel

7. Remove one screw to take off gas valve bracket (Figure 25).

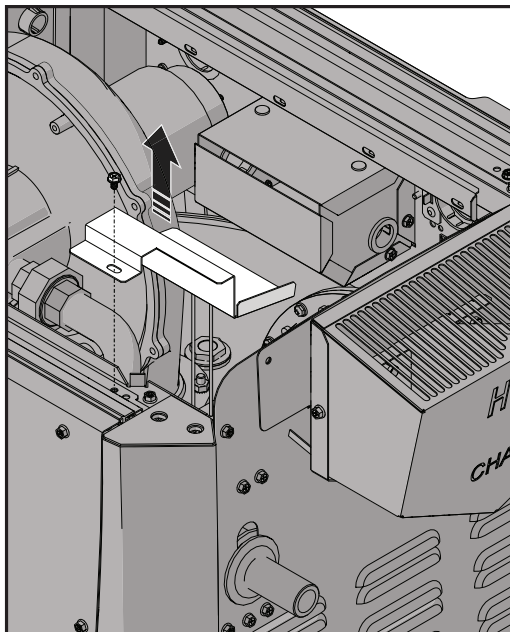


Figure 25. Remove Gas Valve Bracket

8. Remove one screw to take off the gasket retainer bracket (Figure 26).

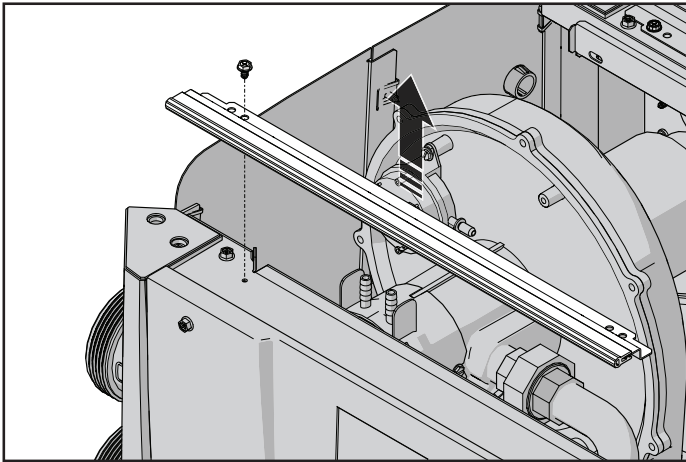


Figure 26. Remove Gasket Retainer Bracket

9. Remove eight (8) screws to take off heater rear panel (Figure 27).

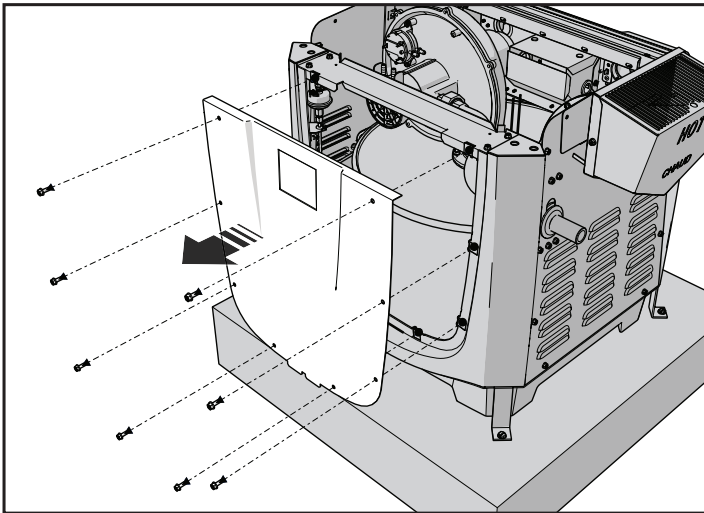


Figure 27. Remove Rear Panel

10. Unscrew four (4) hex head screws and remove the rear brace bar for easier access to the gas train (Figure 28).

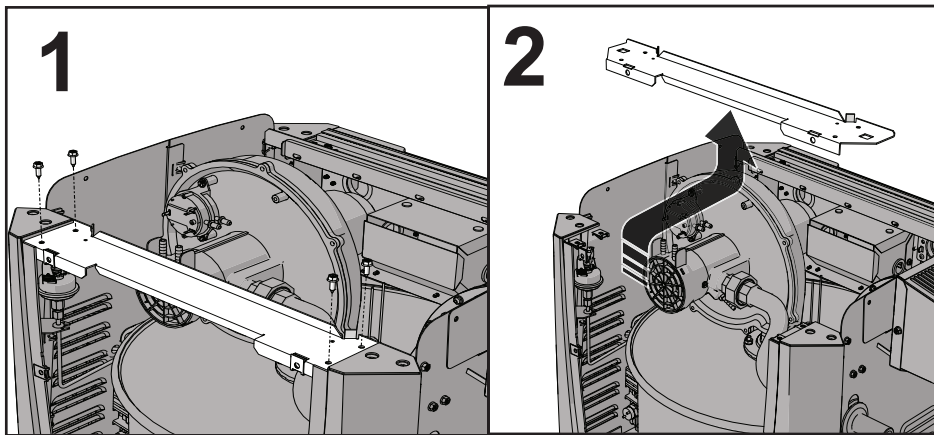


Figure 28. Remove Rear Brace Bar

11. Using a pipe wrench, loosen the gas union. Rotate the gas train upward to allow access to the orifice.

NOTE: It may be helpful to use a second pipe wrench to hold one of the joints in place while loosening the gas union (see Figure 29).

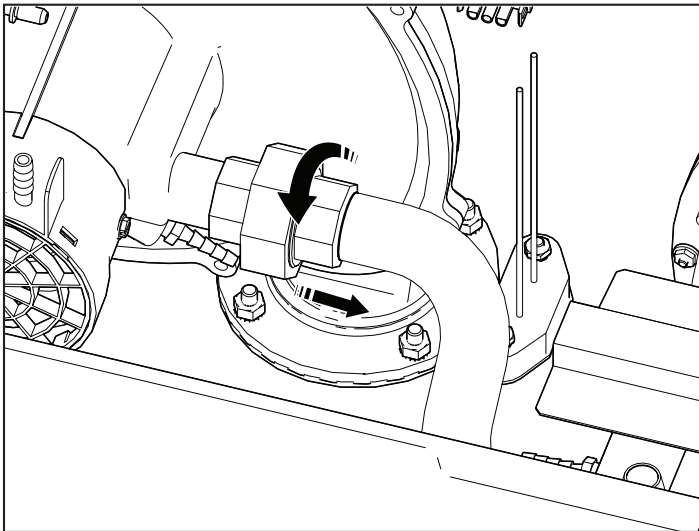


Figure 29. Unscrew the Union

12. Use a blunt tool, such as a key or a Phillips head screwdriver, to pry the gas orifice and O-ring out of the union (see Figure 30).

Discard the original gas orifice.

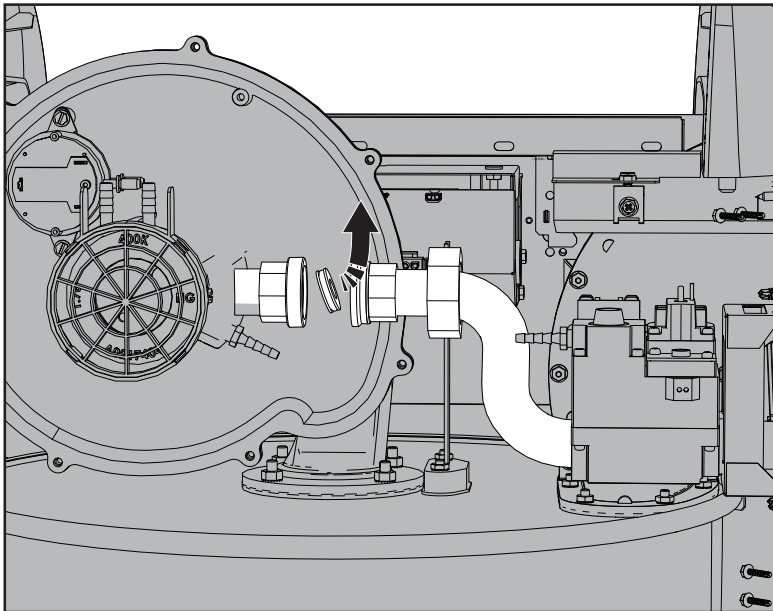


Figure 30. Remove the Gas Orifice

13. Pressing firmly, seat the new gas orifice and O-ring firmly in the middle of the union. Use only your fingers so as not to damage the O-ring or the orifice. Ensure it is fully inserted and flat against the orifice seat with the etched surface facing outward for easier identification of the orifice type and size (see Figure 31).

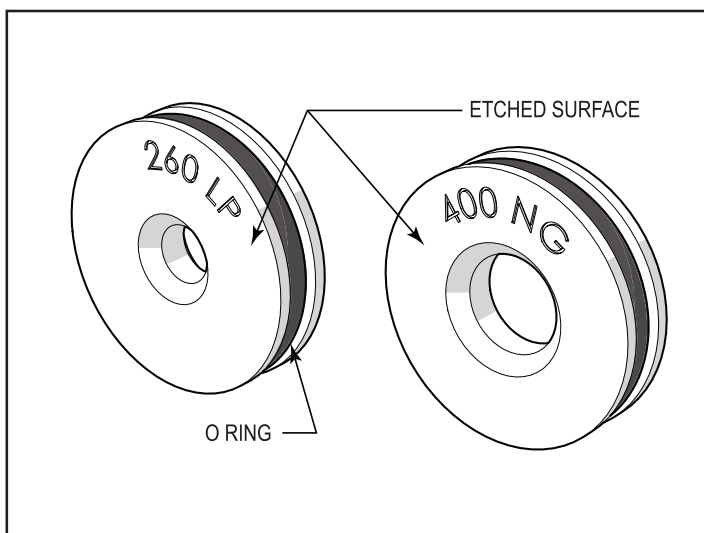


Figure 31. Etched Surface of Gas Orifice

WARNING

To avoid the risk of a gas leak, which can lead to fire or explosion resulting in property damage and serious injury, including loss of life, do not replace the O-ring with anything but a genuine Zodiac® custom part included in this kit. No substitution should be made for the O-ring. Always replace the gas orifice and O-ring as one assembly and use ONLY Zodiac original equipment parts.

14. Reposition and reconnect the gas train to the blower by tightening the union.
15. Reinstall the brace bar and gasket retainer bracket.
16. Reinstall the heater rear panel and the gas valve shield.
17. Reinstall the heater top panel. Take care not to damage or abrade any wiring.
18. Test the gas offset pressure (following).

Test Gas Orifice Offset Pressure

NOTE: Test the gas orifice pressure with the heater running using a digital differential pressure manometer.

1. Verify the gas valve control switch is in the ON position.
2. Verify the gas shut-off valve is open.
3. Test the offset pressure with the heater running using a digital differential pressure manometer. Connect a tee to the hose from the fan inlet port (see Figure 32) on the blower.
4. Connect a shorter hose from the gas valve vent port to the opposite side of the tee (see Figure 32).
5. The manometer has a positive (high pressure) port and a negative (low pressure) port. Connect a hose on the third joint of the tee to the positive (high pressure) side of the manometer (see Figure 32).
6. Remove the NPT plug from the gas valve manifold port (labeled “PRESS” “TAP”) and screw in the barbed adapter.
7. Connect one end of a hose to the gas valve manifold port and the other end to the negative (low pressure) side of the manometer (see Figure 32).

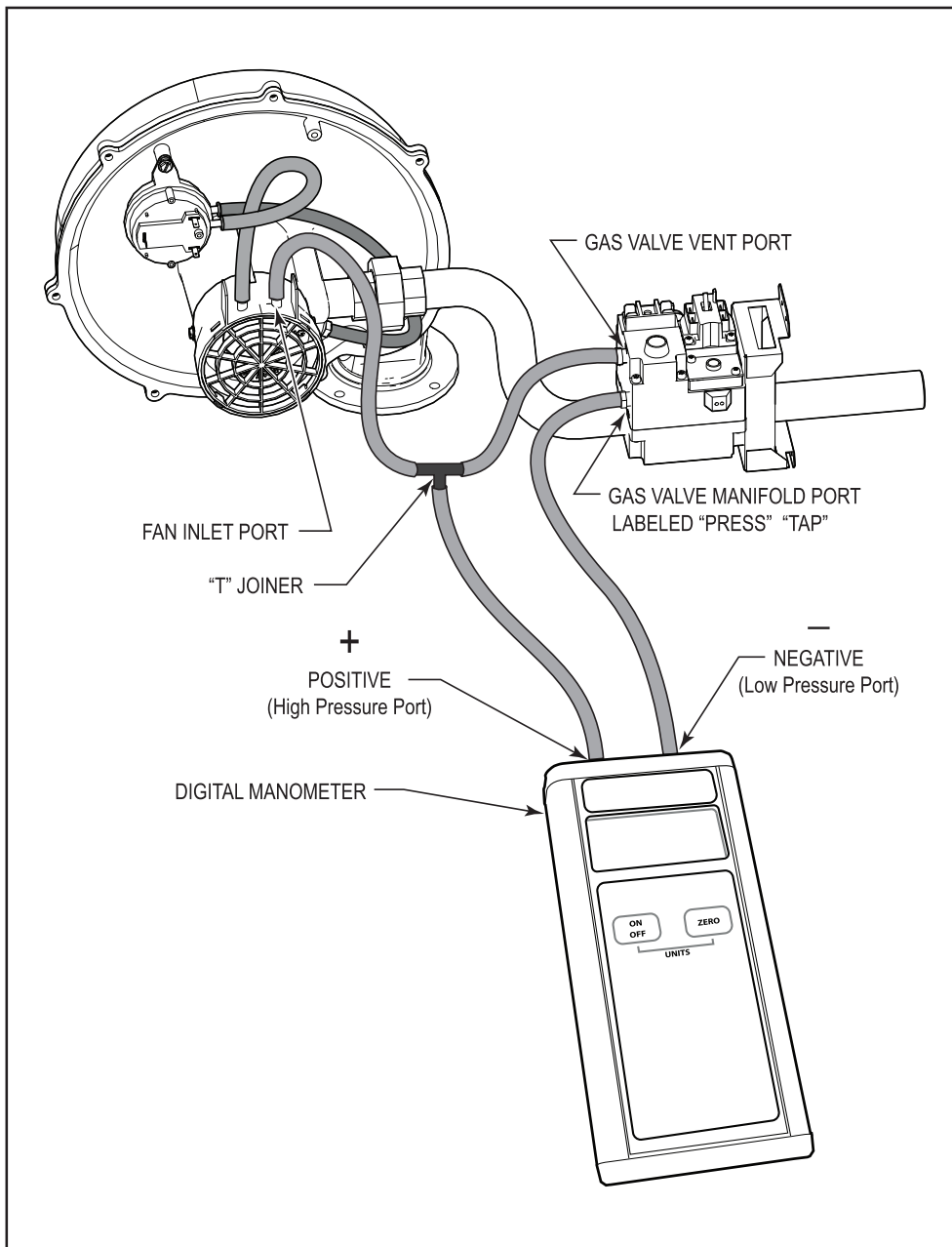


Figure 32. Testing Gas Offset Pressure

8. Start the heater and record the gas offset pressure with the heater running and the gas valve sealing cap firmly in place.
9. Read offset pressure at the manometer.
Measurement should be **-0.2 " WC** +/- 0.1 " WC

- If the offset pressure is incorrect, adjust pressure by removing the gas valve sealing cap and rotating the plastic screw using a blunt tool, such as a flat head screwdriver (see Figure 33).
To make an adjustment, rotate 1/4 turn in either direction.

To Increase offset pressure:

Turn the plastic screw clockwise.

To Decrease offset pressure:

Turn the plastic screw counter-clockwise.

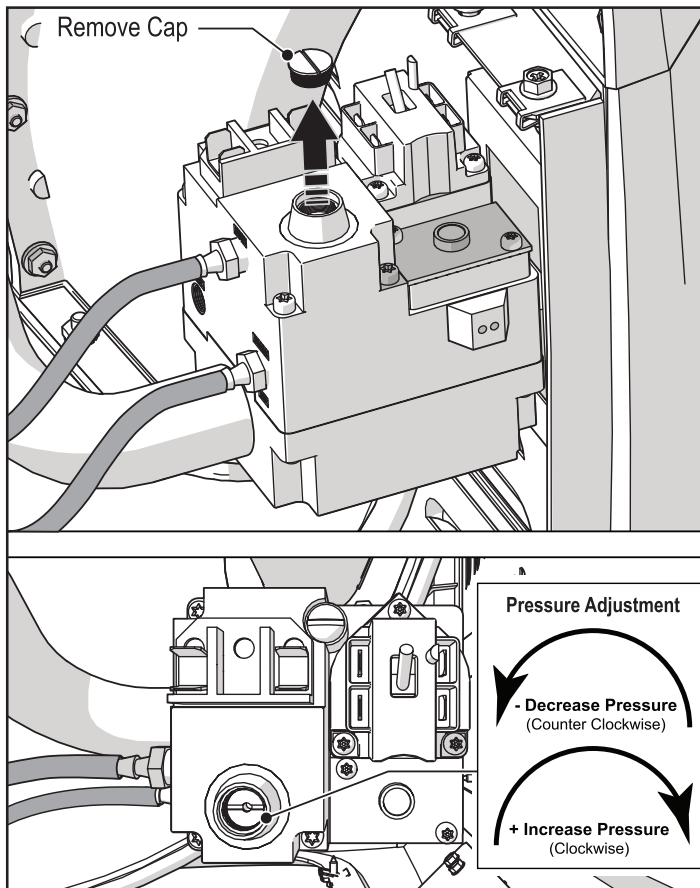


Figure 33. Adjust Offset Pressure

- Shut down the heater at the user interface.
- Remove the tee and replace the hoses on the top vent port.
- Remove the barbed adapter. Apply joint compound to the NPT plug and replace to seal the vent port.
- Reconnect the gas supply and electrical supply.

Replace the Air Intake Orifice

IMPORTANT:

Refer to the rating plate on the heater to verify the BTU and fuel type and confirm you are installing the correct air intake orifice for the heater. The rating plate is located on the outside of the combustion chamber can (see Figure 1).

1. Turn off the electrical power to the heater.
2. Turn off the main gas supply to the heater at the meter or the manual gas cock outside the heater.
3. Make sure the filter pump is off and will remain off for the duration of the installation procedure.
4. If the heater is below the surface level of the water in the pool or spa, close all shut-off valves between the heater and the pool.
5. Disconnect the gas inlet line.
6. Remove four (4) screws to take off the heater top panel (Figure 34). Take care not to damage or abrade any of the wiring.

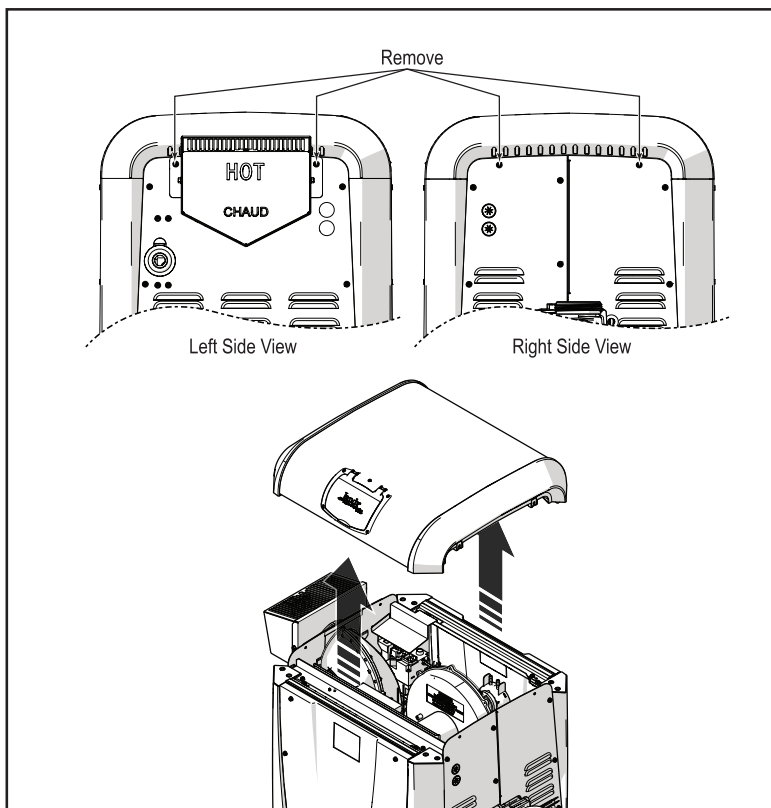


Figure 34. Remove Top Panel

7. Remove one screw to take off gas valve bracket (Figure 35).

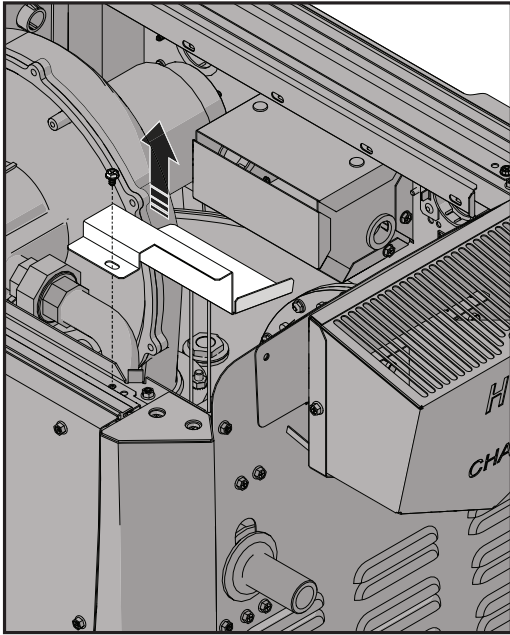


Figure 35. Remove Gas Valve Bracket

8. Remove one screw to take off the gasket retainer bracket (Figure 36).

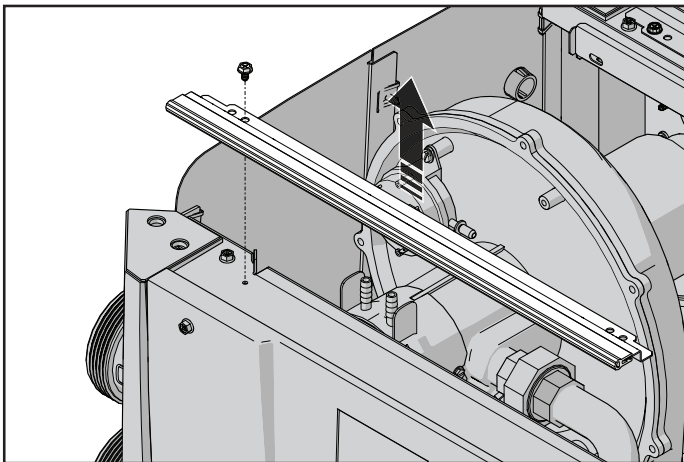


Figure 36. Remove Gasket Retainer Bracket

9. Remove eight (8) screws to take off heater rear panel (Figure 37).

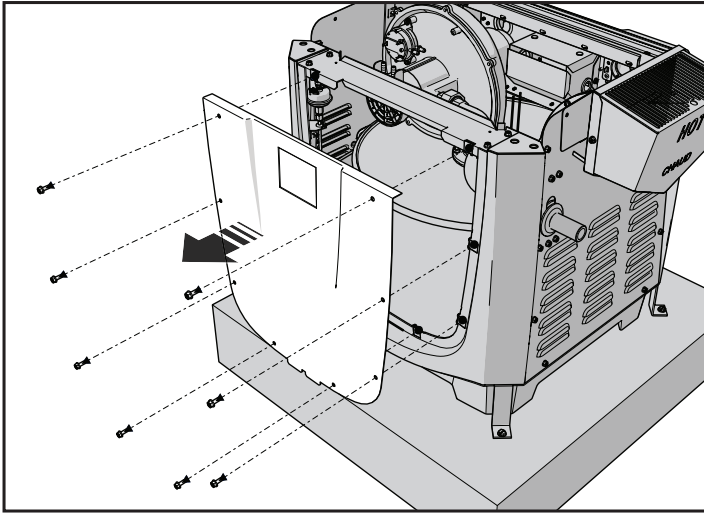


Figure 37. Remove Rear Panel

10. Unscrew four (4) hex head screws and remove the rear brace bar for easier access to the gas train (Figure 38).

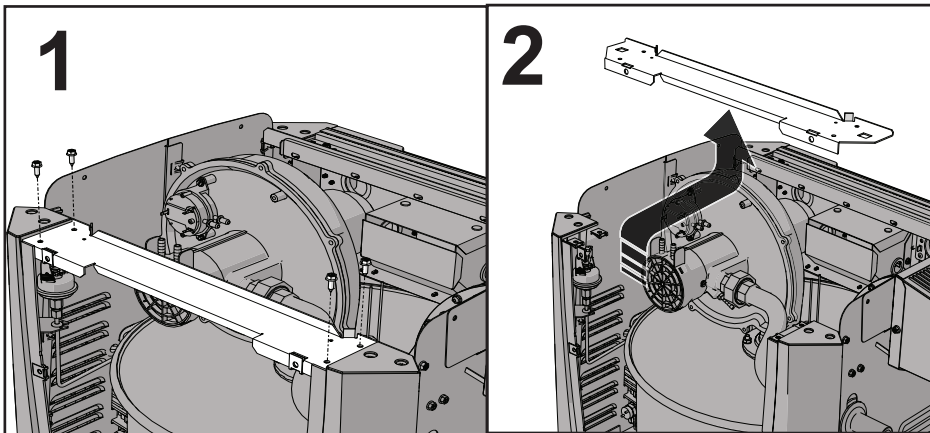


Figure 38. Remove Rear Brace Bar

11. Using a short-handled screwdriver, slightly loosen two (2) screws from the air intake orifice.
12. Gently remove the original air intake orifice and screen from the blower air intake (Figure 39).

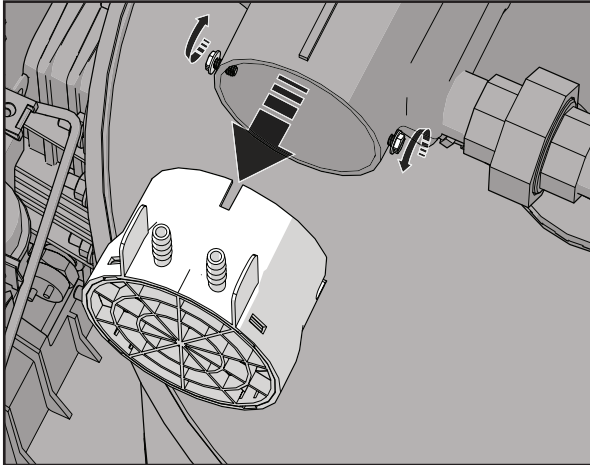


Figure 39. Replace the Air Intake Orifice

13. Note the exact position of the intake hoses on the old air intake orifice. Remove the intake hoses from the old air intake orifice and install them on the new air intake orifice in exactly the same positions as they were found on the old air intake orifice.
14. Replace the new air intake orifice onto the blower and tighten two (2) screws.
15. Reinstall the brace bar and gasket retainer bracket.
16. Reinstall the heater rear panel and the gas valve shield.
17. Reinstall the heater top panel. Take care not to damage or abrade any wiring.

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