IMPORTANT SAFETY INSTRUCTIONS

The information contained in this technical guide is intended for Zodiac trained service personnel only. Electrical installation and repairs should only be performed by a certified electrician or Zodiac trained professional, and must comply with all national electric codes (NEC, Canadian, etc.), state and local law, ordinances, codes and regulations.

If you have not received training, do not attempt any of the electrical repairs presented in this document. Contact Zodiac Pool Care, Inc. at 1-800-822-7933 for assistance.

Read and follow all instructions carefully.

When servicing equipment, basic safety precautions should always be followed including those listed below.

⚠️ WARNING

Failure to heed the following warnings could result in property damage, permanent injury or death.

TO REDUCE THE RISK OF ELECTRICAL SHOCK:

- Disconnect main power to pool equipment area prior to any service or repairs.
- Keep all electrical equipment at least 10 feet (3 m) from inside wall of pool or spa.
- Connect equipment only to a receptacle (cord models) or circuit (hardwired) protected by a ground fault circuit interrupter (GFCI).
- Use only copper conductors and supply wires suitable for the specific device.
- Replace damaged power cord(s) immediately and use only identical replacement parts.
- Do not bury power cord(s). Position cord(s) to minimize abuse from lawn mowers, hedge trimmers and other equipment.
- Do not install or service equipment if precipitation is present or imminent.

TO REDUCE EQUIPMENT WATER PRESSURE HAZARD:

- Always turn pump off to release pressure prior to removing or installing in-line equipment.
- To avoid equipment damage, do not exceed water pressure (psi) specifications for the device.

To reduce the risk of injury, do not permit children to operate, handle or play on equipment.
**Introduction**

The Jandy Pro Series JXi pool/spa heater is a blower assisted, internal combustion chamber, residential heater.

**Available Model Sizes:**
200, 260 & 400K BTU's


**General**

All gas fired appliances require correct installation to assure safe operation.

The requirements for this pool heater include the following:

Indoor vent adapter required for indoor installation.

Must be vented with Type B Double wall for Category 1 venting or stainless steel vent pipe for Category 3.

Water piping can be Schedule 40 PVC.

Can be wired 120VAC or 240 VAC

The JXi CAN be installed on combustable surfaces.

**Field Assembly**

- Properly size gas pipe to supply gas from the meter to the heater.
- Gas shut-off valve (ball-cock) must be installed in-line outside of the heater jacket.
- Suitable gas union must be installed to connect gas line to heater outside of the heater jacket.
- Gas sediment trap (drip leg) in gas line between shut-off valve and heater.
- Supplied power 120VAC or 240VAC (as local code requires)

**Proper Gas Pipe Sizing**

For LP gas, reduce pipe diameter by one size, but maintain a minimum 3/4 inch diameter.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>BTU's</th>
<th>Gas Type N= Natural P = Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>JXI 400 N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Distance from Gas Meter**

<table>
<thead>
<tr>
<th>Heater Size</th>
<th>0-50 feet (0-15 m)</th>
<th>50-100 feet (15-30 m)</th>
<th>100-200 feet (30-60 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
</tr>
<tr>
<td>200</td>
<td>1</td>
<td>25</td>
<td>1-1/4</td>
</tr>
<tr>
<td>260</td>
<td>1-1/4</td>
<td>32</td>
<td>1-1/4</td>
</tr>
<tr>
<td>330</td>
<td>1-1/4</td>
<td>32</td>
<td>1-1/4</td>
</tr>
<tr>
<td>400</td>
<td>1-1/4</td>
<td>32</td>
<td>1-1/2</td>
</tr>
</tbody>
</table>
Installation Requirements (Field Assembly)

Supplied power 120VAC or 240VAC

Electrical wiring must be in accordance with the latest edition of the National Electric Code® (NEC®), ANSI®/National Fire Protection Association® (NFPA®) 70, or in Canada, the Canadian Electrical Code (CSA® C22.1) unless local code requirements indicate otherwise.

The heater comes factory-wired intended for use with 240 VAC, 60 Hz AC field electrical supply. To use 120 VAC, 60 Hz AC requires changing the position of the voltage selector board on the power distribution board. This must be done by a certified electrician.
Installation Requirements

PLUMBING
Heater must be plumbed down steam of filter.
Heater must be installed so that when the filter pump is off so to is the heater.
All electrical equipment must be grounded and bonded.

The JXi heater is Versa Plumb ready.

The Versa Plumb System reduces hydraulic resistance by up to 50% versus other equipment sets in its class.

The Versa Plumb System’s increased hydraulic efficiency allows for up to a 1/2 HP smaller pump to achieve the same level of flow, resulting in greater energy savings.

Faster installation with our pre-assembled plumbing kits, which enable quick and consistent equipment plumbing design to reduce installation costs.

Innovatively designed system requires less plumbing pipe and fittings, while increasing hydraulic efficiency.
Installation Requirements

Appropriate site location

Clearances/ Combustable surfaces

In both indoor installations (US) and outdoor shelter installations (Canada), the heater must be placed to provide clearances on all sides for maintenance and inspection, as well as maintain minimum distances from combustible surfaces.

The following minimum clearances must be maintained from combustible surfaces during operation.

Minimum Clearances for combustible surfaces

<table>
<thead>
<tr>
<th>Side</th>
<th>Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP</td>
<td>6 inches (15 cm)</td>
</tr>
<tr>
<td>EXHAUST SIDE</td>
<td>6 inches (15 cm) from surface of the exhaust vent</td>
</tr>
<tr>
<td>HEADER SIDE</td>
<td>6 inches (15 cm)</td>
</tr>
<tr>
<td>DOOR PANELS</td>
<td>6 inches (15 cm)</td>
</tr>
</tbody>
</table>

Combustion and Ventilation requirements.

Clearances

Minimum vertical clearance = 36 inches
Minimum clearance to at least one door panel = 18 inches

Water Flow

<table>
<thead>
<tr>
<th>Model</th>
<th>Min gpm (lpm)</th>
<th>Max gpm (lpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>30 (114)</td>
<td>120 (454)</td>
</tr>
<tr>
<td>260</td>
<td>30 (114)</td>
<td>120 (454)</td>
</tr>
<tr>
<td>330</td>
<td>30 (114)</td>
<td>120 (454)</td>
</tr>
<tr>
<td>400</td>
<td>30 (114)</td>
<td>120 (454)</td>
</tr>
</tbody>
</table>
Clearances to Openings
Distance from heater to door, window or other opening to living structure.
Dimension “A” – 4’ minimum

Distance from heater to forced air inlet or other vented opening.
Dimension “B” – May be any distance if dimension “C” is 3’ or more.
Dimension “B” – Must be at least 10’ if dimension “C” is less than 3’.
Vent Cap
2'
10'
1/4 inch minimum pitch per foot of horizontal pipe.

Type B Double Wall Vent Pipe.

Adequate air into room
See next slide

12 inches from ceiling
12 inches from floor

Minimum Net Free Open Area* for Combustion Openings (square inches/centimeters)
*Area indicated is for one of two openings:
one 12 inches from floor level, one 12 inches from ceiling level.

<table>
<thead>
<tr>
<th>Model</th>
<th>Direct from outside</th>
<th>Duct from outside</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in²</td>
<td>cm²</td>
</tr>
<tr>
<td></td>
<td>in²</td>
<td>cm²</td>
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<tr>
<td>200</td>
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<td>323</td>
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<td>260</td>
<td>65</td>
<td>419</td>
</tr>
<tr>
<td>330</td>
<td>83</td>
<td>535</td>
</tr>
<tr>
<td>400</td>
<td>100</td>
<td>645</td>
</tr>
</tbody>
</table>

Table 1. Air Openings to Outside

**Vertical or Horizontal Venting (Category III)**

When the installation requires horizontal venting in excess of what is allowed for Category I installations or calls for horizontal discharge, the JXi may be installed with a Category III venting system.

See Table 3 for recommended vent size and run lengths without elbows. For each elbow installed, reduce the run length by 12 feet (3.7m).

<table>
<thead>
<tr>
<th>Heater Size</th>
<th>Vent Size</th>
<th>Special Gas Vent Length (vertical or horizontal) in feet (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>4” (10cm)</td>
<td>TBD (m)</td>
</tr>
<tr>
<td>260</td>
<td>4” (10cm)</td>
<td>50’ (15m)</td>
</tr>
<tr>
<td>330</td>
<td>4” (10cm)</td>
<td>TBD (m)</td>
</tr>
<tr>
<td>400</td>
<td>4” (10cm)</td>
<td>50’ (15m)</td>
</tr>
</tbody>
</table>

Table 2. Category I Vent Pipe Sizing Table

Table 3. Category III Vent Pipe Sizing Table
Vent Connection and Pipe Sizing

**Vent Pipe or Elbow Increaser Installation**  
*(Category I and Category III)*

1. Remove the exhaust body.
2. Remove the exhaust rain shield. (Figure 1)

**Figure 2. Remove Exhaust Body and Rain Shield**

3. **Category I:**  
   Install a draft hood connector and an increaser to meet the vent size requirements per Table 2. (See Figure 2.)

4. **Category III:**  
   Install vent connector or elbow to the flue collar according to the specific installation instructions from the vent connector or elbow component manufacturer.

5. Wipe the socket of the vent body with rubbing alcohol using a clean cloth or paper towel, then dry with a different clean cloth.

6. Connect the vent connector to the flue collar and fasten with three (3) sheet metal screws, as shown in Figure (3).

**Figure 3. Correct positioning of screws on vent collar**

6. Apply high temperature silicone RTV at the connection to seal, as shown in Figure 4.

**Figure 4. Seal Connection with RTV**

**NOTE:** Use a minimum 600°F (315°C) temperature rated RTV.
Connection to Controls

**JXi CONNECTED TO AQUALINK RS AT RS 485 LINE**

There are two ways of connecting a Jandy JXi heater to the AquaLink RS. One way is to connect at the Pool and Common terminals of the Power Interface Board. This type of connection is shown on the next page. The other way is to connect to the RS 485 line (red terminal bar) as shown here. When connected at the RS 485 line, the JXi and AquaLink RS become “smart” in that the control knows if the heater is malfunctioning. *When connecting to the RS 485 line, the AquaLink RS firmware must be Rev N or newer.*

To establish communication between the LXi and AquaLink RS do either of the following:

- After making connection turn power off then on to the AquaLink RS.
- Hold the MENU button down for 5 seconds, then simply follow the screen prompts.

Connection to Jandy Control - RS 485
JXi HEATER CONNECTION AT “FIREMAN’S SWITCH”

At the JXi Power Interface Board connect one end of two wires to terminals POOL and COMMON (J6). Connect the other end of these two wires to terminals 1 and 2 of the AquaLink RS Green terminal bar. Set pool thermostat to maximum (104 F). Set the JXi to recognize this type of connection by holding down MENU, POOL, and SPA buttons together for 7 to 10 seconds at the JXi’s User Interface. Set REMOTE to T-Stat. Press POOL button to exit.
End User Menu, Universal Control, JXi

Hold down the Menu Button for 5 to 10 Seconds

- **Language**
  - English
  - Spanish
  - French

- **Temperature Scale**
  - Fahrenheit
  - Celsius

- **Spa Timer**
  - Continuous
  - 0:15 to 23:00 Hours
  - On
  - Off
  - 2 Minute Delay

- **Display Light**
  - On
  - Off

Installer/Technician Menu, Universal Control, JXi

Hold down the Pool, Menu, & Spa Button for 5 to 10 Seconds

- **Maintain Temp**
  - Disable
  - Enable

- **Maintain Temp Delay**
  - 0:00 to 2:00 Hours

- **Remote**
  - Off
  - Hi-Lo-Com
  - Remote T-Stat

- **Freeze Protect**
  - Off
  - On (34° - 42°)

- **Louver**
  - Disable
  - Enable

- **Load Defaults**
  - No
  - Yes

- **Air Temp Cal**
  - F = + or - 4°
  - C = + or - 4°

- **Water Temp Cal**
  - F = + or - 4°
  - C = + or - 2°

- **Water Temp Diff**
  - F & C = +1° to +5°

- **Statistics**
  - Gas Valve on time (# of hours).
  - Cycles (# of times heater fires).

- **Last Fault**
  - "**********"
As with all pool heaters, water velocity and flow through the heat exchanger are controlled by an automatic bypass. The automatic bypass consists of a disk and spring and is located between the Inlet/Outlet header.

A thermal regulator valve is also incorporated into this heater in the Inlet/Outlet header. Its purpose is to hold water in the exchanger during initial heat up to reduce the amount of condensate created at the heat exchanger.

Components - Water Flow

**Heat Exchanger**
- Model 200 = 3 tubes
- Model 260 = 4 tubes
- Model 330 = 5 tubes
- Model 400 = 6 tubes

**Thermal Regulator Valve (TRV)**
- R0589700

**Bypass Kit with Shaft, C-Clip and Poppet**
- R0589800
Components - Electrical

Raceway Release Button
Power Distribution Circuit Board
P/N = R0458100
To covert from 240 VAC to 120 VAC wiring, snip the wire tie holding the conversion board in place. Remove the conversion board, flip it over and reinsert.

Power Interface Board (PIB)
R0458200
Ignition Control
R0456900

Pre-Purge: 15 Sec.  Ignition: 7 Sec.
Interpurge: 15 Sec.  Heat-Up: 40 Sec.
Input: 24 VAC 50/60 Hz 300 mA
Valve: 24 VAC, 2.0 A max.
Inducer: 120/240 VAC, 3.0 A, ¼ HP
Ignitor: 120 VAC, 5.0 A max. 50/60 Hz

Blower ON
Pre-Purge
15 seconds

To Gas Valve
From Thermostat
From Air Pressure Switch
To HSI
out of phase with
120 VAC
Transformer  
P/N = R0456300  
This transformer is a center tap primary. When connected to the Power Distribution Board, this transformer provides 120 VAC to terminals L1 and L2 of the Ignition Control, whether the incoming power is 120 or 240 VAC. The secondary (24 VAC) of the transformer provides power to the Power Interface Board and the Ignition Control.

In-Line Fuse - 2 amp  
P/N = R0337100  
Fuse and Harness  
P/N = R0457700

Water Temperature Sensor  
R0456500  
10 K Ohms thermistor

Water Pressure Switch  
R0013200
High Limit Temperature Sensors Kit
R0592300

High Limit – 135 °F  High Limit – 150 °F

High Limit – 150 °F

High Limit – 135 °F
Fuel Components
### BLOWER INTAKE ORIFACE KIT

<table>
<thead>
<tr>
<th>BTU</th>
<th>NATURAL</th>
<th>LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>R0591302</td>
<td>R0591312</td>
</tr>
<tr>
<td>260</td>
<td>R0591303</td>
<td>R0591313</td>
</tr>
<tr>
<td>330</td>
<td>R0591304</td>
<td>R0591314</td>
</tr>
<tr>
<td>400</td>
<td>R0591305</td>
<td>R0591315</td>
</tr>
</tbody>
</table>

### FUEL ORIFACE KIT

<table>
<thead>
<tr>
<th>BTU</th>
<th>NATURAL</th>
<th>LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>R0591601</td>
<td>R0591605</td>
</tr>
<tr>
<td>260</td>
<td>R0591602</td>
<td>R0591606</td>
</tr>
<tr>
<td>330</td>
<td>R0591603</td>
<td>R0591607</td>
</tr>
<tr>
<td>400</td>
<td>R0591604</td>
<td>R0591608</td>
</tr>
</tbody>
</table>
Air Pressure Switch
R0456400

Gas Valve
R0591400

Hot Surface Igniter (HSI)
R0457500
Range 50 to 500 Ohms
Burner
R0591700

Exhaust Temperature Switch
R0524300
**NOTE: If Blower is on Go to Step 13**

**STEP 1- Check Power at Dist. Brd. (make certain filter pump motor is on)**

- **YES**
  - Make certain filter pump is on. Correct wiring

- **NO**
  - If wired 240 VAC check voltage between Black (E) wire and Blue (F) wire. If wired 120 VAC check voltage between Black (E) and White (D) wires. If the correct voltage is present, replace Transformer, if not check Conversion Board position

**STEP 2- Check Transformer**

- **YES**
  - 24 VAC between Red (2) wire and Yellow (1) wire on Transformer?

- **NO**
  - Replace both High Limits. Do a Temp. Rise Test.

**STEP 3- Check Fuse**

- **YES**
  - 24 VAC between Black (8) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Check voltage between F2 terminal of Ignition Control and ground (A). Is voltage 105 VAC or higher?

**STEP 4- Check power to Water Press. Sw.**

- **YES**
  - 24 VAC between Purple (4) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Replace both High Limits. Do a Temp. Rise Test.

**STEP 5- Check Water Pressure Switch**

- **YES**
  - 24 VAC between Gray (5) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Correct problem with Black/Yellow wire or its connectors.

**STEP 6- Check power to Fusible Link**

- **YES**
  - 24 VAC between Orange (6) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Replace both High Limits. Do a Temp. Rise Test.

**STEP 7- Check Fusible Link**

- **YES**
  - 24 VAC between Blue (7) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Correct incoming power problem.

**STEP 8- Check Power to High Limits**

- **YES**
  - 24 VAC between Black (8) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Recheck at Blue (7) wire. If 24 VAC at Blue but not Black, replace PIB.

**STEP 9- Check High Limits**

- **YES**
  - 24 VAC between Black (9) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Recheck at Blue (7) wire. If 24 VAC at Blue but not Black, replace PIB.

**STEP 10- Check Power to Ignition Control**

- **YES**
  - 24 VAC between Black/Yellow (10) wire on PIB and Yellow (1) wire on Transformer?

- **NO**
  - Recheck at Blue (7) wire. If 24 VAC at Blue but not Black, replace PIB.

**STEP 11- Check Power at Ignition Control**

- **YES**
  - 24 VAC between Black/Yellow (11) at W terminal of Ignition Control and Yellow of Transformer?

- **NO**
  - Correct problem with Black/Yellow wire or its connectors.

**STEP 12- Check Blower**

- **YES**
  - Is Blower ON?

- **NO**
  - Check voltage between F2 terminal of Ignition Control and ground (A). Is voltage 105 VAC or higher?

**STEP 13- Check Air Pressure Switch**

- **YES**
  - Check voltage between F1 terminal of Ignition Control and ground (A). If voltage 105 VAC or higher? If no, replace Ignition Control, if yes check voltage between Black (L) to Blower PDB and white wire. Wired 120, voltage range is 105 to 130, when wired 240 range is 210 to 250. If voltage is correct replace Blower. If not check PDB and wires.
### JXi Troubleshooting Guide

**Blower is ON – Start on Step 13**

**STEP 13- Check Air Pressure Switch**

- 24 VAC between Orange (NO) wire at the Air Pressure Switch and Yellow (1) wire on Transformer?
  - **YES**
  - **NO**

**STEP 14- Check Power to PSW**

- 24 VAC between Orange (12) wire at the Ignition Control and Yellow (1) wire on Transformer?
  - **YES**
  - **NO**

**STEP 15- Check Hot Surface Igniter**

- After Blower comes on wait at least 15 seconds (pre-Purge). Is Igniter glowing?
  - **YES**
  - **NO**

**STEP 16- Check for Ignition**

- After the HIS begins to glow, wait approximately 40 seconds. Did the burners ignite?
  - **YES**
  - **NO**

**STEP 17- Check Burners operation**

- Do burners stay on beyond 7 seconds?
  - **YES**
  - **NO**

**Step 18 – Verify heating**

- Heater is operating properly.

### Service Codes

<table>
<thead>
<tr>
<th>DISPLAY FAULT</th>
<th>CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault- Pump</td>
<td>1. Pump is not running</td>
<td>1. This is a normal display when the control is in Maintain Temp mode. NO SERVICE REQUIRED.</td>
</tr>
<tr>
<td>NO FLOW</td>
<td>1. Pump is not running</td>
<td>1. Check breakers and power source, recheck wiring, set time clock and current time.</td>
</tr>
<tr>
<td>2. Low pump pressure.</td>
<td>2. Clean filter, clear blockages, check position of all valves in plumbing system.</td>
<td></td>
</tr>
<tr>
<td>3. Pressure switch fault</td>
<td>3. Adjust or replace pressure switch. Refer to qualified service personnel.</td>
<td></td>
</tr>
<tr>
<td>2. Limit switch fault.</td>
<td>2. Identify loose connections or replace switches. Refer to qualified Service Personnel.</td>
<td></td>
</tr>
<tr>
<td>FAULT- FUSELINK/FIEL</td>
<td>1. Vent Limit fault.</td>
<td>1. Identify loose connections or replace Vent Limit. Refer to qualified Service Personnel.</td>
</tr>
<tr>
<td>FAULT- CHECK IGN CONTROL</td>
<td>1. Broken, split, pinched or disconnected fan/sswitch tubing.</td>
<td>1. Check tubing and replace if necessary.</td>
</tr>
<tr>
<td>2. Fan not operating.</td>
<td>2. Correct fault or replace fan. Refer to qualified service personnel.</td>
<td></td>
</tr>
<tr>
<td>3. Fan running slow or premature fan failure.</td>
<td>3. Verify proper wiring for 120 or 240 VAC. Refer to qualified service personnel.</td>
<td></td>
</tr>
<tr>
<td>4. Air flow restricted at intake or discharge.</td>
<td>4. Check for proper clearances around heater and for adequate room ventilation if enclosed. Inspect for blockages or restriction at discharge of flue. Refer to qualified service personnel.</td>
<td></td>
</tr>
<tr>
<td>5. Oscillating pump pressure.</td>
<td>5. Clean filter or identify and repair cause of pump oscillation.</td>
<td></td>
</tr>
<tr>
<td>6. Low gas supply pressure.</td>
<td>6. Identify and correct loose wiring connections, or problems with igniter, flame sensor, gas valve, or ignition control. Refer to qualified service personnel.</td>
<td></td>
</tr>
<tr>
<td>7. No flame at burners.</td>
<td>7. Inspect sensor wiring. Ensure sensor is connected into Power Interface Board.</td>
<td></td>
</tr>
</tbody>
</table>

### GAS PRESSURE

**Inches of Water Column**

<table>
<thead>
<tr>
<th>Natural</th>
<th>LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Inlet</td>
<td>10.5</td>
</tr>
<tr>
<td>Min Inlet</td>
<td>4</td>
</tr>
<tr>
<td>Gas Offset</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

### Flow Rates (gpm)

<table>
<thead>
<tr>
<th>BTUs</th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>20</td>
<td>120</td>
</tr>
<tr>
<td>260</td>
<td>25</td>
<td>120</td>
</tr>
<tr>
<td>330</td>
<td>30</td>
<td>120</td>
</tr>
<tr>
<td>400</td>
<td>40</td>
<td>120</td>
</tr>
</tbody>
</table>