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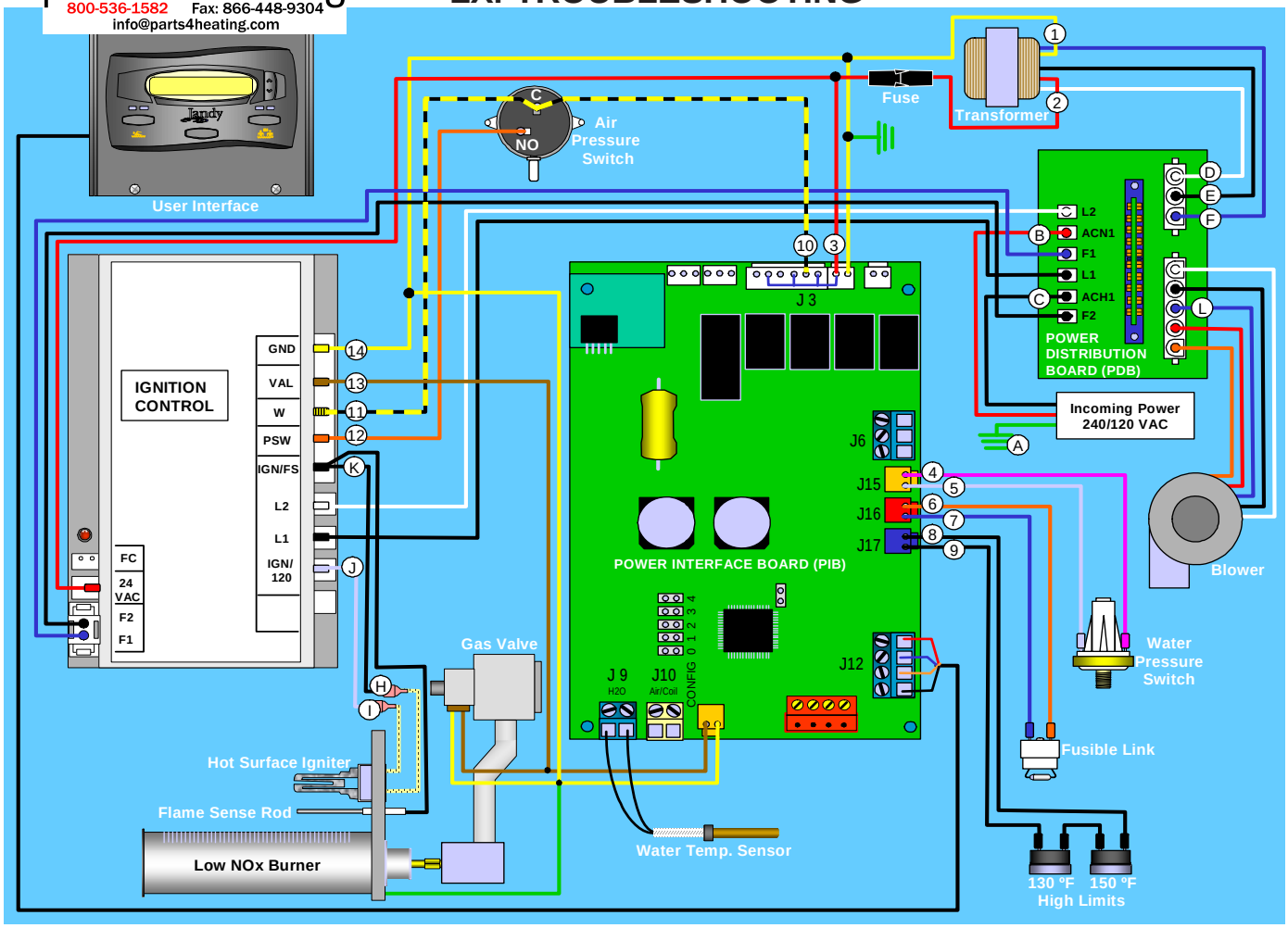
LXi TROUBLESHOOTING



Note: If Blower is ON, go to Step 13 on back page.

STEP 1 – Check Power at Dist. Brd. (make certain filter pump motor is ON).

240 or 120 VAC between Black (C) wire and Red (B) wire on Power Dist. Brd.?

NO → Make certain filter pump is on. Correct wiring.

YES ↓

STEP 2 – Check Transformer

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

NO → If wired 240 VAC check voltage between White (D) 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.

YES ↓

STEP 3 – Check Fuse

24 VAC between Red (3) wire on PIB and Yellow (1) wire on Transformer?

NO → Locate and correct short circuit, replace Fuse.

YES ↓

STEP 4 – Check power to Water Press. Sw.

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

NO → Recheck voltage at Red (3) wire. If voltage is 24 VAC replace PIB.

YES ↓

STEP 5 – Check Water Pressure Switch

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

NO → Do a Back Pressure Test. If pressure is higher than 2 PSI, replace Water Pressure Switch. If less, clean filter, baskets or repair pressure problem.

YES ↓

STEP 6 – Check power to Fusible Link

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

NO → Recheck voltage at Gray (5) wire, if voltage is 24 VAC replace PIB.

YES ↓

STEP 7 – Check Fusible Link

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

NO → Check wires to Fusible Link, replace Fusible Link. Correct excessive heat problem in cabinet.

YES ↓

YES ↓

STEP 8 – Check power to High Limits

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

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

YES ↓

STEP 9 – Check High Limits

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

NO → Replace both High Limits. Do a Temp. Rise Test.

YES ↓

STEP 10 – Check power to Ignition Control

Make certain control is calling for heat. 24 VAC between Black/Yellow (10) wire on PIB and Yellow (1) wire on Transformer?

NO → Recheck power at Black (9) wire. If 24 VAC at Black, but not Black/Yellow (10), replace PIB.

YES ↓

STEP 11 – Check power at Ignition Control

24 VAC between Black/Yellow (11) at W terminal of Ignition Control and Yellow (1) wire of Transformer?

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

YES ↓

STEP 12 – Check Blower

Is Blower ON?

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

NO → Correct incoming power problem.

YES → Check voltage between F1 terminal of Ignition Control and ground (A). Is voltage 105 VAC or higher? If no, replace Ignition Control. If yes check voltage between Blue (L) wire to Blower on PDB and ground (A). If voltage is 105 VAC or higher replace Blower. If lower check wires, replace PDB.

YES ↓

STEP 13 – Go to back page →

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Blower is ON – See Note below.

STEP 13 – Check Air Pressure Switch

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

NO ⇨ Make certain Blower is on and combustion chamber is sealed. Check air tubes for kinks or holes. Make certain front air tube is connected to the positive (+) side and back/lower air tube is connected to negative (-) side of the Air Pressure Switch. If all are OK replace the Air Pressure Switch.

⇩YES

STEP 14 – Check Power to PSW of the Ignition Control

24 VAC between Orange (12) wire at the Ignition Control and Yellow (1) wire on Transformer?

NO ⇨ Check wire connections. Replace Orange wire.

⇩YES

STEP 15 – Check Hot Surface Igniter (Igniter)

After Blower comes on wait at least 15 seconds (Pre-Purge). Is Igniter glowing?

NO ⇨ Check voltage between K and J of the Ignition Control. If 105 to 130 VAC, check wires and connectors to the Igniter. If OK, replace Igniter. If voltage is less than 105 VAC check incoming voltage between L1 and L2 at Ignition Control. If voltage is 105 to 130 VAC replace Ignition Control.

⇩YES

STEP 16 – Check for Ignition

After the Igniter begins to glow, wait approximately 40 seconds. Did the burners ignite?

NO ⇨ Check voltage between Brown (13) wire at terminal VAL of the Ignition Control and Yellow (1) wire of transformer. Is there 24 VAC at VAL?

⇩NO ⇩YES

Replace Ignition Control. | Check supply gas pressure. If OK, replace Gas Valve.

⇩YES

STEP 17 – Check Burners operation

Do Burners stay on beyond 7 seconds?

NO ⇨ Heater is not recognizing the flame (flame rectification). Any of the following can prevent flame rectification:
- Low gas pressure.
- Poorly connected or missing ground wire.
- Corroded or dirty Flame Sense Rod.
- Ignition Control not sending flame sense signal.

Or there is insufficient current when the gas valve is powered. Current loss can be caused by any of the following:
- Excessive corrosion on wire terminals.
- Frayed or over heated wires.
- Pitting of contact points of the Water Pressure Switch or corrosion on connectors of the High Limits.

To determine whether the problem is lack of rectification or loss of current, check voltage at the Black/Yellow (11) wire at the Ignition Control. Keep the meter probe at this location and watch the reading. If, after the gas valve receives power, the voltage slowly drops until the gas valve shuts off, then returns to normal, the problem is due to loss of current.

⇩YES

Heater is operating.

Note: If the blower runs continuously, unplug F1/F2 connector from the Ignition Control. If the blower goes off, replace the Ignition Control. If the blower stays on, check for shorted wires between the Ignition Control and PDB or from the PDB and the Blower.

SERVICE CODES

DISPLAY FAULT	CAUSE	REMEDY
Display shows **PUMP OFF**	1. Pump is not running. 2. Low pump pressure. 3. Pressure switch fault.	1. This is a normal display when the pump is **OFF**. **No Service Required**. 2. Clean filter or clear blockage, check position of valve in plumbing system. 3. Adjust or replace pressure switch. Refer to qualified service personnel.
FAULT- HIGH LIMIT	1. Water temperature in heater exceeds the internal limit. 2. Limit switch fault.	1. Perform temperature rise test. Identify and correct cause of overheating. Refer to qualified service personnel. 2. Identify and correct loose connections or replace switches. Refer to qualified service personnel.
FAULT- FUSELINK/FIELD	1. Fusible link fault.	1. Identify and correct loose connections or replace fusable link. Refer to qualified service personnel.
CHECK IGN CONTROL	1. Broken, split, pinched or disconnected fan/switch tubing. 2. Fan not operating. 3. Fan running slow or premature fan failure. 4. Air flow restricted at intake or discharge. 5. Oscillating pump pressure. 6. Low gas supply pressure. 7. No flame at burners.	1. Check tubing and replace if necessary. 2. Correct fault or replace fan. Refer to qualified service personnel. 3. Verify proper wiring for 120 VAC or 240 VAC. Refer to qualified service personnel. 4. Check for proper clearances around heater and for adequate room ventilation if enclosed. Inspect for blockage or restriction at discharge of flue. Refer to qualified service personnel. 5. Clean filter or identify and repair cause of pump oscillation. 6. Identify and repair incorrect supply pipe size or pipe line blockage. 7. Identify and correct loose wiring connections, or problems with igniter, flame sensor, gas valve, or ignition control. Refer to qualified service personnel.
FAULT- SHORTED H2O SENSOR or **FAULT- OPEN WATER SENSOR**	1. Faulty wiring or connection. 2. Failed sensor.	1. Inspect sensor wiring. Ensure sensor is connected into back of control panel. 2. Replace temperature sensor. Refer to qualified service personnel.

Note: A FAULT message will continue to be displayed even after the fault condition is no longer present. To clear the FAULT message after the fault condition has gone away, put the control in the OFF mode (not POOL or SPA) and then return to POOL or SPA mode.

TEMEPERATURE RISE	MODEL 250	MIN.	MAX.	MODEL 300	MIN.	MAX.	MODEL 400	MIN.	MAX.
Serial # A & B		7 F	10 F		8 F	11 F		13 F	17 F
Serial # C & Newer		8 F	12 F		11 F	18 F		14 F	21 F