Tool Box 2

Quick Reference Guide

Raypak/Rheem Digital Gas Pool Heaters

WATER CHEMISTRY

(Corrosive water voids all warranties)

For your health and the protection of your pool equipment, it is essential that your water be chemically balanced. The following levels must be used as a guide for balanced water.

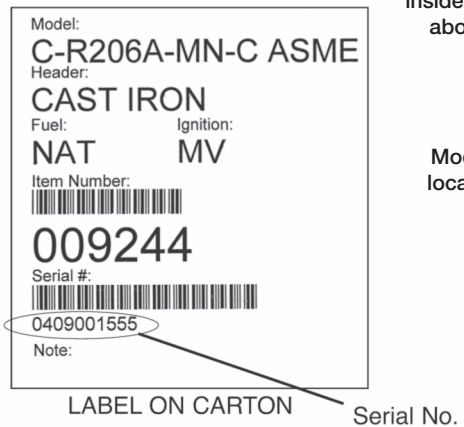
Recommended Levels	Fiberglass Pools	Fiberglass Spas	Other Pool & Spa Types
Water Temp. (Deg. F)	68 to 88	89 to 104	68 to 104
pH	7.3 to 7.4	7.3 to 7.4	7.6 to 7.8
Total Alkalinity (PPM)	120 to 150	120 to 150	80 to 120
Calcium Hardness (PPM)	200 to 300	150 to 200	200 to 400
Salt (PPM)	**4500 MAXIMUM**	**4500 MAXIMUM**	**4500 MAXIMUM**
Free Chlorine (PPM)*	2 to 3	2 to 3	2 to 3
Total Dissolved Solids (PPM)	**3000 MAXIMUM****	**3000 MAXIMUM****	**3000 MAXIMUM****

*Free Chlorine MUST NOT EXCEED 5PPM

** In salt water chlorinated pools, the total TDS can be as high as 6000PPM.

- Occasional chemical shock dosing of the pool or spa water should not damage the heater providing the water is balanced.
- Automatic chemical dosing devices and salt chlorinators are usually more efficient in heated water, unless controlled, they can lead to excessive chlorine level which can damage your heater.
- Further advice should be obtained from your pool or spa builder, accredited pool shop, or chemical supplier for the correct levels for your water
- Warning: Electrolytic Corrosion and PH instability may be present with salt chlorinated pools.

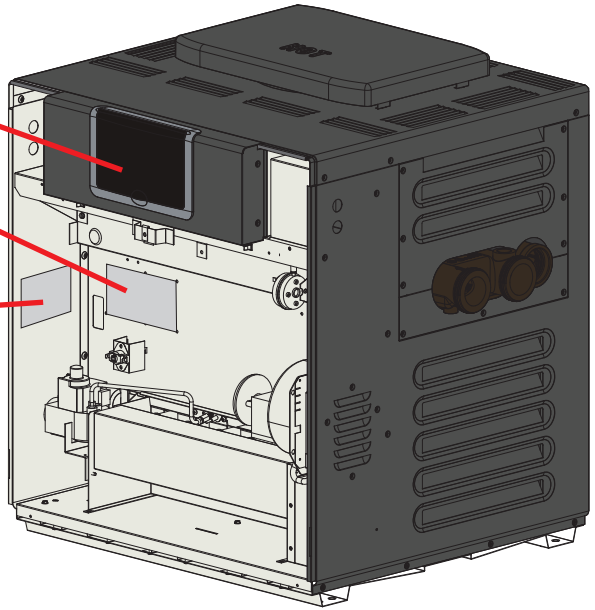
Model Number and Serial Number Location



Model & Serial number can also be found inside the control panel above digital display.

Model & Serial number located on rating plate.

Alternate location



Before you call Raypak service, make sure you have the MODEL NUMBER and SERIAL NUMBER.

Clearances - General

INDOOR

TOP: Drafthood - 30”
RIGHT SIDE: 12”
LEFT SIDE: 6”
FRONT: Alcove (Open)
BACK: 6”
FLOOR: 0”

OUTDOOR

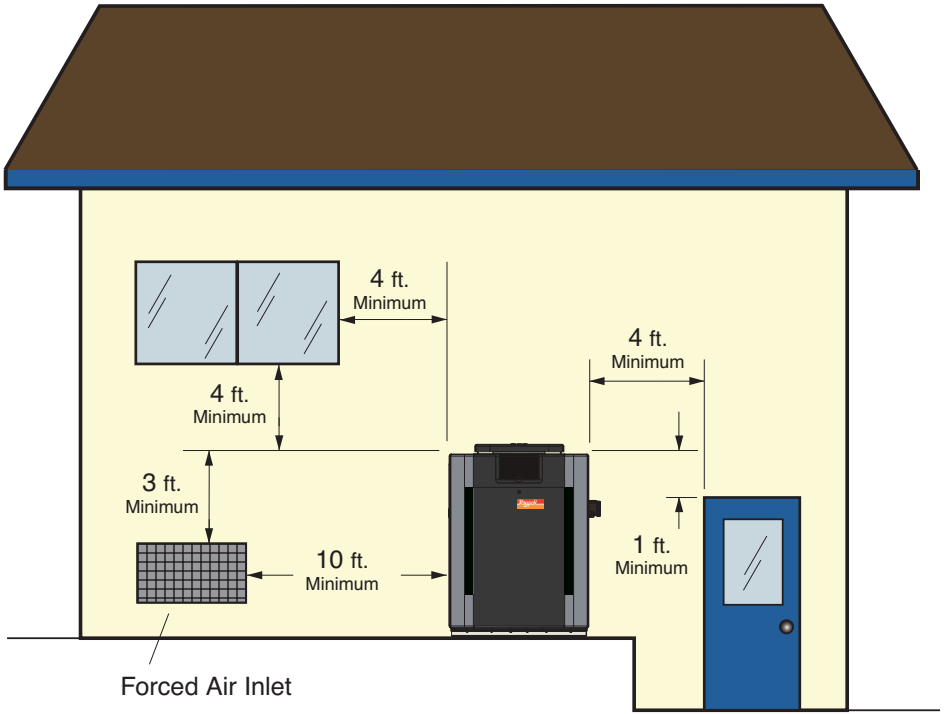
TOP: 36” (Stackless)
BACK: 6”
LEFT SIDE: 6”
RIGHT SIDE: 12”
FLOOR: 0”

FLOORING: THIS UNIT **CAN** BE INSTALLED ON COMBUSTIBLE FLOORING. DO NOT INSTALL ON CARPET.

Clearances - Outdoor

Do not install near sprinklers.

Do not install within 3 feet of a heat pump pool heater or air conditioning condensing unit.



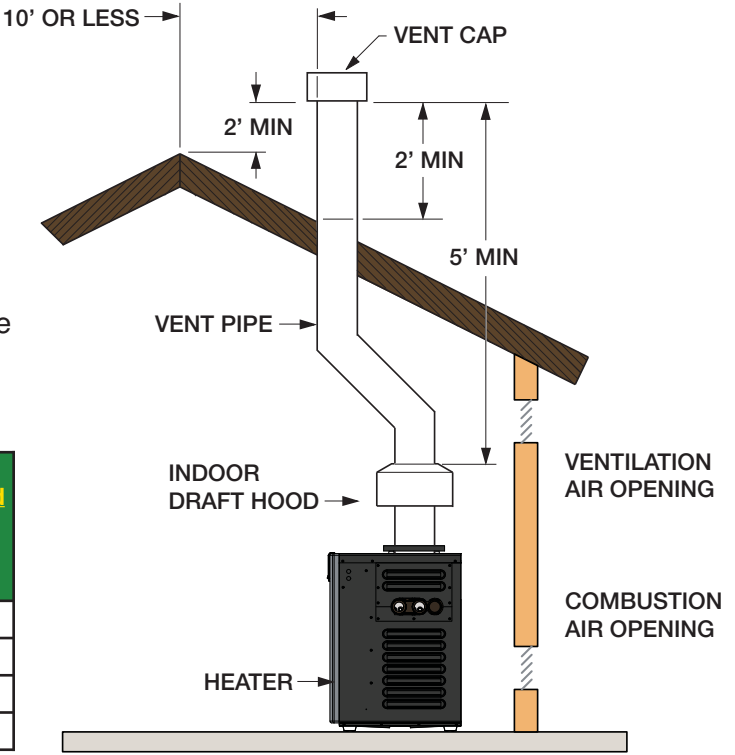
Clearances -Indoor

The heater must have **both** combustion air and ventilation air.

- Ventilation air opening 12” from the ceiling
- Combustion air opening 12” from the floor

All air from outdoors, each opening shall have a net free area* as shown in table.

Model	Unrestricted opening Sq. In. *	Typical Screened or Louvered opening Sq. In.	Typical Screened and Louvered opening Sq. In.
206/207	50	75	100
266/267	67	101	134
336/337	84	126	168
406/407	100	150	200



Check state and local codes before proceeding. Some states do not recognize the NFGC and require larger openings.

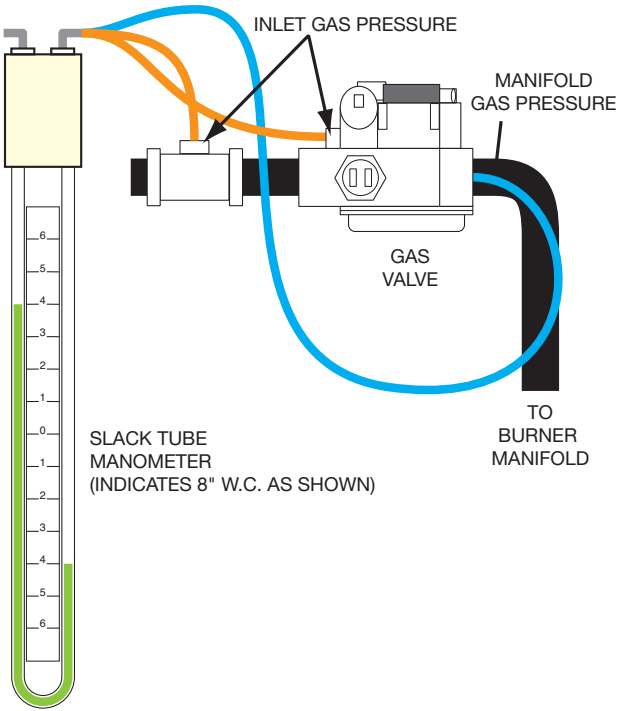
Gas Line Sizing

Maximum Equivalent Pipe Length									
Natural Gas 1000 BTU/FT^3 0.60 Specific Gravity @ 0.5 in. WC Pressure Drop									
Propane Gas 2500 BTU/FT^3 1.53 Specific Gravity @ 0.5 in. WC Pressure Drop									
	Input	3/4"		1"		1-1/4"		1-1/2"	
Model	(KBTU)	N	P	N	P	N	P	N	P
206/207	199.5	25	60	90	215	360			
266/267	266.0	15	35	50	125	210	480	445	
336/337	332.5	10	20	30	80	140	320	290	
406/407	399.0		15	20	55	95	225	215	480

Effects of low gas pressure:

Pulsating burner flame • Delay Ignition/Hard light off • Pilot won't light
Exposure to condensation • Emissions not at compliance levels
Damage to Low NO_X burners

Gas Pressure Test



Gas	Unit Type	Supply Press		Man Press
		Min.	Max.	
Nat	ATM	6”	14”	4.0”
	NOx	5”	14”	3.1”
Pro	ATM	11”	14”	10.5”

•Supply pressures given are under load (dynamic)

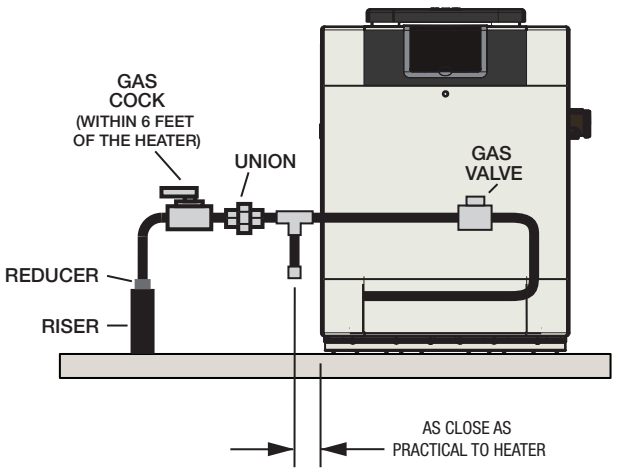
• 1 PSI = 27.7” Water Column

• Propane requires an external “pounds to inches regulator”

Gas Line Sediment Trap

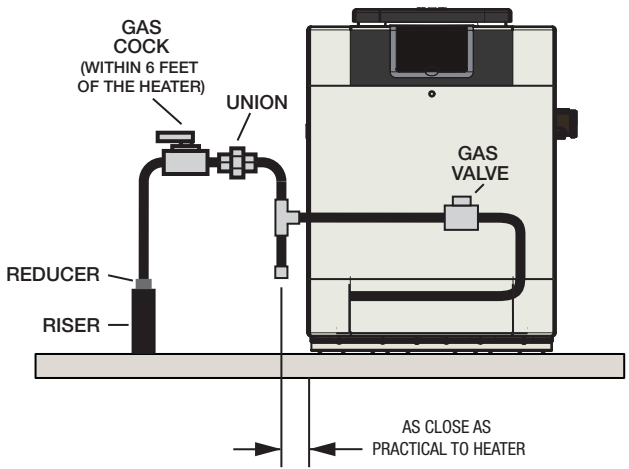
Sediment Trap should be located as close to the inlet of the appliance as practical.

INCORRECT



CORRECT

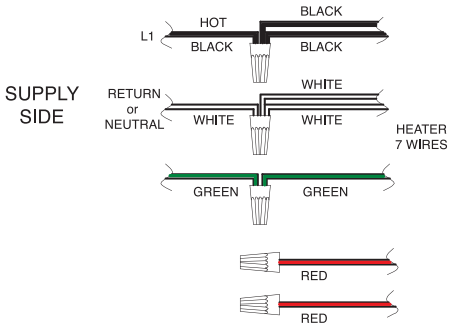
PROVIDE CHANGE OF DIRECTION IN GAS FLOW



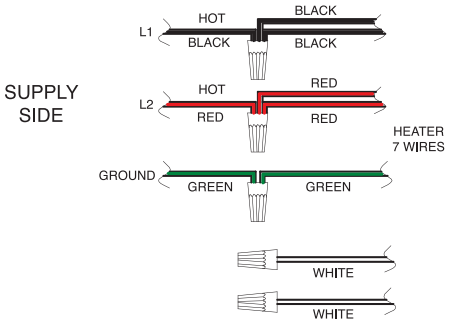
Check state and local codes before proceeding. Some states do not recognize the NFGC.

Power Connections

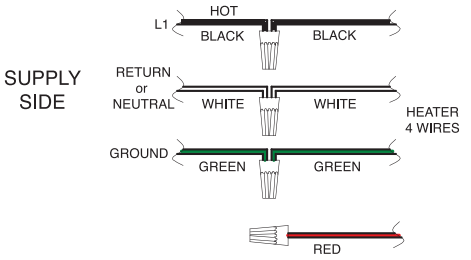
120V Lo NO_X HEATER



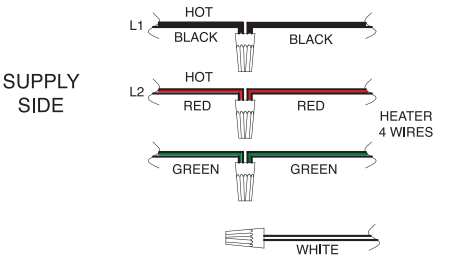
240V Lo NO_X HEATER



120V ATMOSPHERIC HEATER

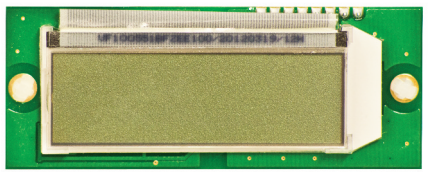


240V ATMOSPHERIC HEATER

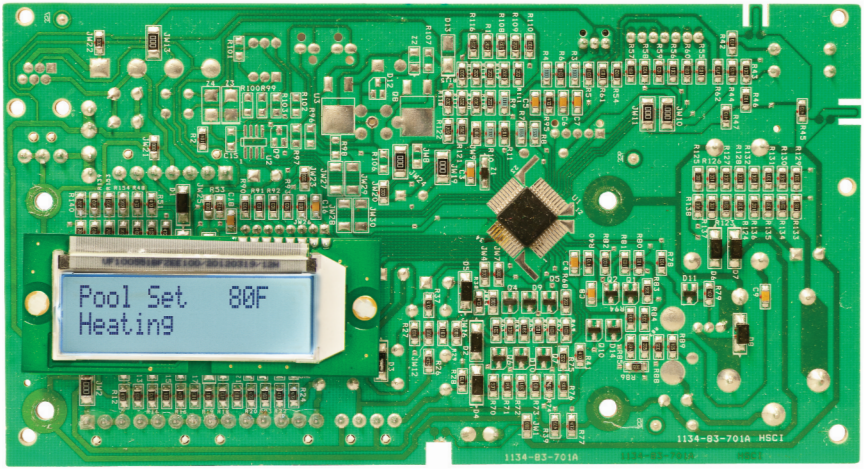


Note: Heater will not work properly if wired to a 208VAC power source.

AFT Circuit Board



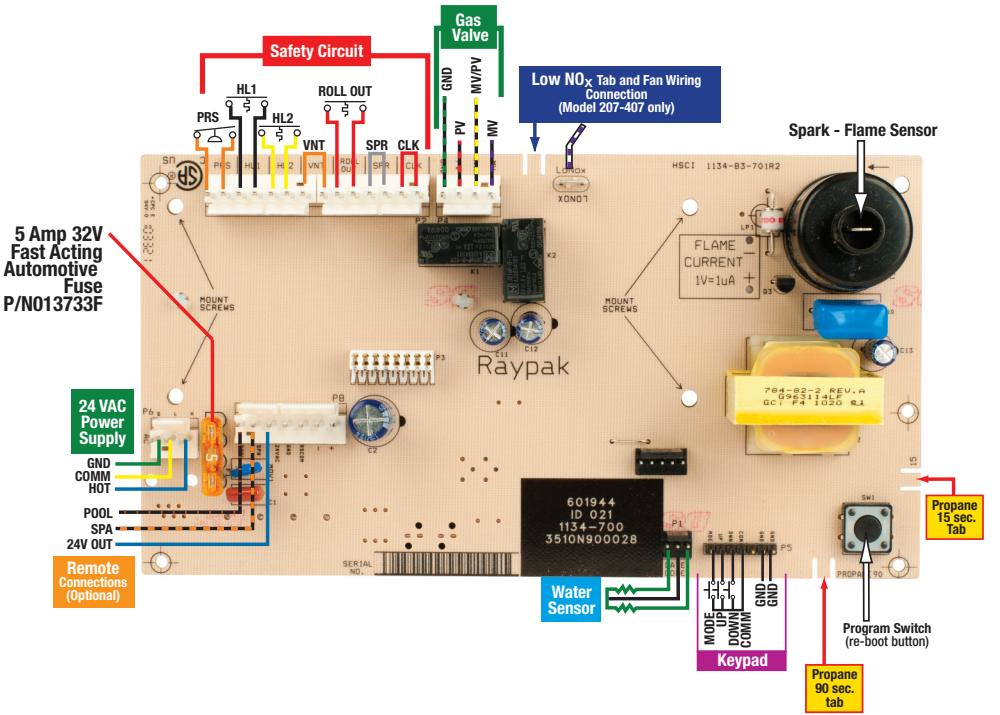
LCD Display is removable and serviceable.
The LCD P/N is 013640F



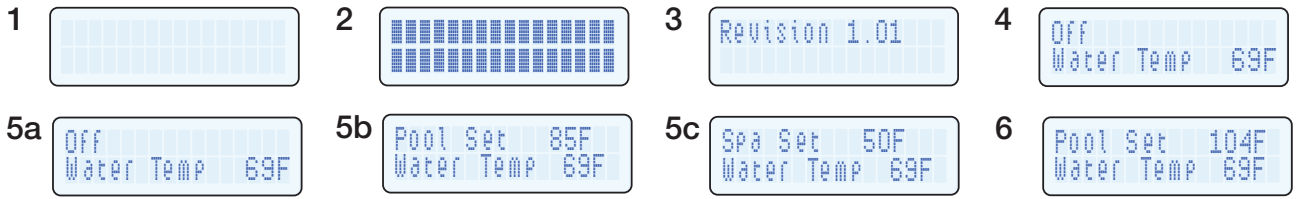
Advanced Flame Technology (AFT) printed circuit board. Fully updated and backwards compatible to all digital heaters manufactured since 2004

Ignition and Temperature Control

AFT-Circuit Board



Start-Up Operating Displays



1.) Backlit L.C.D. Display indicates power to PC Board (Microcontroller)

2.) All Digits display 1 Second,

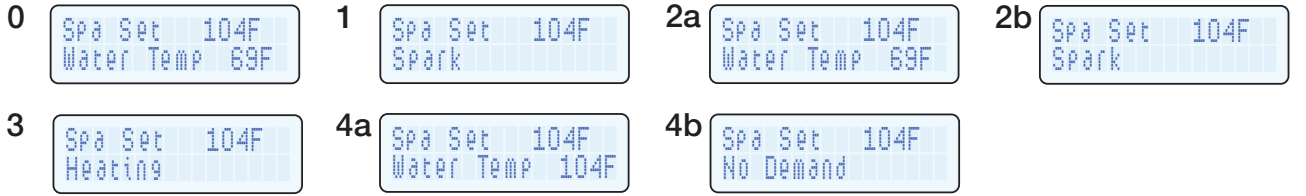
3.) Software Revision Displays 1.5 Seconds

4.) Normal Display Indicates Mode of Operation and Inlet Water Temperature from Pool or Spa

5.) Press MODE button to Select OFF, SPA or POOL

6.) Press Up and DOWN to adjust Temp Set between 50° minimum and 104° maximum

Operating Displays



1.) "Spark" confirms Heat Demand (CFH) and all Safeties CLOSED. Power applied to Ignition Controller which produces 3 Pulses of Spark and PV (Pilot Voltage).

2.) Operating Status (2b) & Water Temp (2a) alternate every two seconds.

3.) Heater continues to Spark until Pilot lights, Flame Sensing occurs and MV (Main Voltage) is supplied. Heater fires..... After 1.5 Seconds Spark STOPs. If flame is present after 8 more seconds, steady "Heating" begins.

4.) When Pool/Spa SET temperature is satisfied "No Demand" will display.

Sequence of Operations

SUPPLY (Power to Heater)

1. 120/240 VAC from circuit breaker/time clock
2. 24 VAC out of transformer, toggle switch ON
3. 24VAC to PC board, fuse, interface controller
4. LCD display ON.

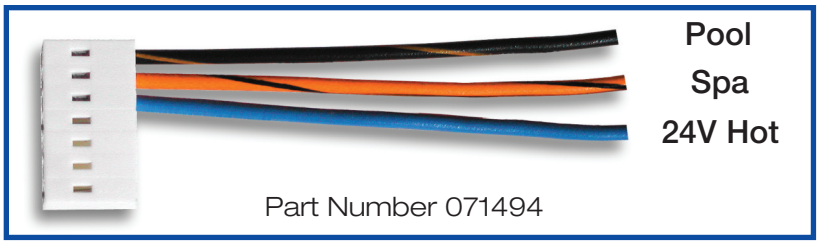
APPLY 24 VAC to Ignition/GAS CONTROL

1. Heat Demand… Pool/Spa selected, TEMP Set, T-Stat closed
2. ALL SAFETIES CLOSED
   (Pressure Switch , High Limit Switch 1, High Limit Switch 2, Rollout Sensor)
3. 24 VAC APPLIED to Ignition Controller, “Spark” displayed

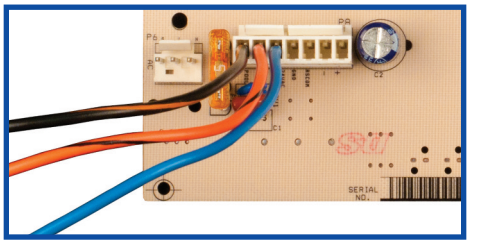
REPLY (Spark & 24VAC to Gas Valve)

1. Ignition Controller produces SPARK and PILOT VOLTAGE
2. Pilot Valve energized, Gas supplied to PILOT, Pilot LIGHTS
3. FLAME SENSING (Rectification) OCCURS
4. Ignition Controller Supplies MAIN VOLTAGE to Gas Valve (and Low NO_X Fan Relay). Main Valve energized, heater fires, spark stops after 1 ½ seconds
5. “Heating” Displayed with steady Heating after 8 more seconds of Flame Sensing

Remote Wiring Connections & Setup



7-Pin Remote Wire Harness



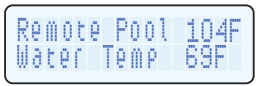
Wire Harness Connection

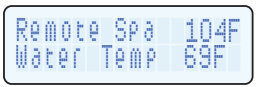
A remote may be wired to provide an “On-Off” switching function or as a three-way “Pool-Off-Spa” selector switch. If the remote is On-Off only (no temperature adjustment), it heats to the pre-set temperature of the Mode (Pool or Spa) that it selects on the heater. If the remote uses its own independent thermostat it may select operation in either Pool or Spa Mode, which should be set to the maximum safe temperature to allow remote temperature adjustment up to that range.

Remote Operation

1 

3 

4a 

4b 

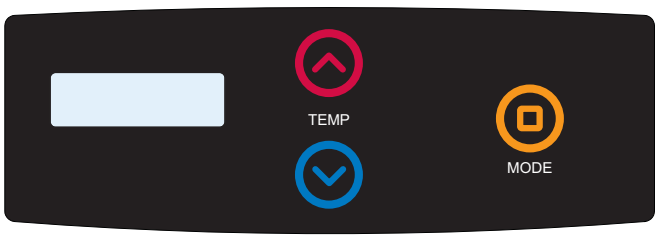
1.) Pre-set Pool/Spa Set temperature (Set at 104°F if Remote has independent thermostat).

2.) Turn **Power OFF**, wire **REMOTE** to 7-pin/3-wire pigtail, turn **Power ON**.

3.) Press UP and DOWN buttons for 3 seconds until **REMOTE** displays on LCD.

* This will **ENABLE** remote operation and **DISABLE** the touchpad.

4.) **Remote Pool** or **Remote Spa** Displays when remote is activated.



DOWN ARROW BUTTON

UP ARROW BUTTON

MODE BUTTON

Remote Error Displays

1 Spa Set 104F
Remote Error

2 Exit Remote Mode
To Adjust Temp

3 Spa Set 104F
Water Temp 69F

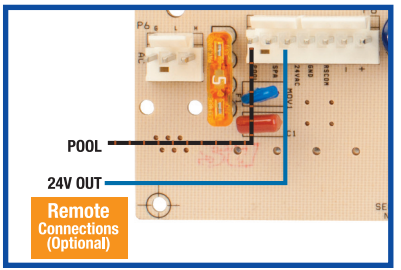
1.) **Remote Error** - Remote is wired improperly. Orange/black (Spa) and black/orange (Pool) are connected together.

2.) Remote operation has been initiated and touchpad is disabled

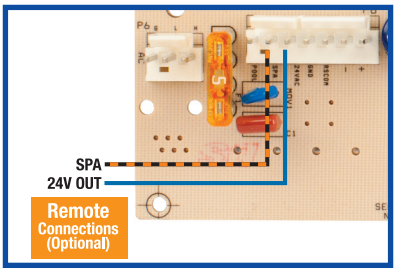
3.) To Adjust Pool/Spa set temperature exit Remote operation. Press UP and DOWN buttons for 3 seconds until normal display appears.

Correct ways to connect remote wiring

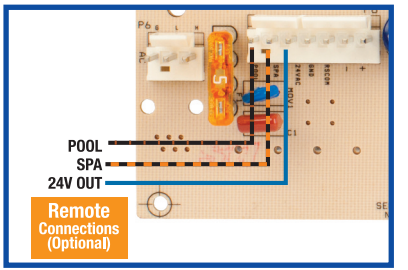
POOL



SPA



POOL/OFF/SPA



Microcontroller
SELF- DIAGNOSTICS

1 

2 

3 

Can Be Displayed in Pool, Spa, Remote & EOL Modes

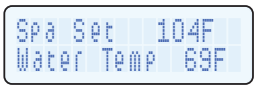
1.) **Low Voltage** - Self Test indicates power supply from transformer is below 20 VAC. 24-28 VAC required for reliable operation! Verify correct 120/240 VAC power supply to heater. 208VAC IS NOT ACCEPTABLE.

2.) **Internal Fault** - Self Test of Internal Communication and Processor Functions - Turn Heater off and on, replace the control if the fault doesn't clear.

3.) **EEPROM Fault** - Controller Memory Error. Reset Pool Set and Spa Set temperatures. Turn heater off and on. Replace control if fault re-occurs.

Temperature Sensor

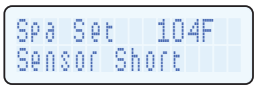
1



3a

3b

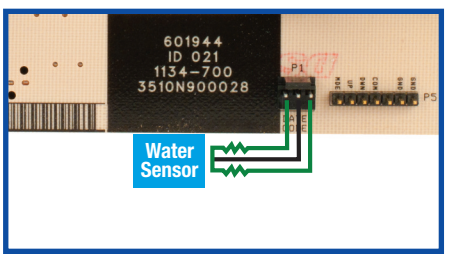
3c



1.) Heat Demand is when water temperature is 1°F or more below Pool/Spa SET Temperature

2.) Temperature display accurate within 1/2°F

3.) **Sensor Failure**
Temperature readings more than 2°F different from each sensor see (3a)
Sensor Open (cut wire/bad connection) see (3b)
Sensor Short (bare wire touching cabinet) see (3c)



SENSOR CONNECTION

100,000 OHM DUAL THERMISTOR

Temperature Sensor Evaluation

TEMPERATURE SENSOR IS ACCURATE WITHIN 1/2°F

TEMPERATURE	RESISTANCE (OHMS)
41°F	253.95
50°F	199.04
59°F	157.15
68°F	129.44
77°F	100.00
86°F	80.57
95°F	65.31
104°F	53.26
113°F	43.68

Heat Demand exists whenever the average of the two internal sensors contained in the thermostat bulb is more than 1°F below Pool/Spa Set temperature

Temp Sensor - Lockout

1 

2 

1.) **Low Temp Lockout** - Inlet Water Temperature below 36°F. Heater will not operate (Prolonged operation with inlet temperatures below 50°F will create condensation that will damage the heater).

2.) If cold weather operation is desired adjust “Pool/Spa Set” to the lowest available temperature that will not produce condensation. For convenience, a remote switch may be connected to allow selecting a low temperature maintenance Set Temp or normal swimming Set Temp with a three-way switch located inside house.

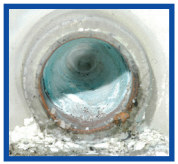
Safety Circuit

1 Spa Set 104F
Water Sw Open

2 Spa Set 104F
Hi Limit 1 Fault

2 Spa Set 104F
Hi Limit 2 Fault

3 Spa Set 104F
Roll Out Sw Open



Limed Tube

1.) WATER PRESSURE SWITCH - verify adequate water flow and pressure (CLEAN POOL FILTER / STRAINER BASKET)

2.) HIGH LIMIT SWITCHES 1 and 2 Fault - Verify adequate water flow. Adjust (close) external bypass. Check Unitherm Governor and internal bypass. Inspect for scale, restricted flow.

3.) ROLLOUT SWITCH - verify gas pressure, combustion air, blocked heat exchanger, proper vent size/connections, high wind conditions.

Part #006719F

Unitherm Governor

Part #006715F

Bypass Assy

Part #005899F

ATM Rollout Fuse

Part #006035F

Lo NO_X Rollout Switch

Part #006725F

Limit Switch

Safety Circuit

Optional External Controls

1 

2 

3 

1.) Fireman's Switch (Time Clock) wired to CLK (red) loop on 14 pin connector, P2, is open. Connection is used in order to turn heater OFF 10-20 minutes prior to turning Pump OFF. Cool-down cycle.

2.) Vent Switch (Sail Switch, Air Pressure Switch) wired to VNT (orange) loop on 14 pin connector, P2, is open Indicates Draft Inducer/Power Vent is Off or reduced Vent Pressure.

3.) Flow Switch (ASME Code Kit) wired to SPR (WHITE) loop on 14 pin Connector, P2, is open Indicates Pump OFF or restricted flow to heater.

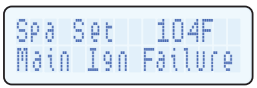
Ignition Sequence
Natural Gas

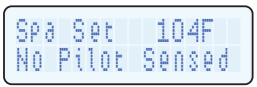
1a 

1b 

(1a & 1b Displays alternate every two seconds)

1.) Ignition Failure – NATURAL GAS. No pilot flame detected within first 90 seconds. natural gas heaters continue to spark indefinitely – or until pilot lights / flame sensing occurs. Probable cause: no gas to heater, gas valve off, obstructed pilot, bad gas valve, flame sensing fail.

2a 

2b 

(2a & 2b Display alternate every two seconds)

2.) Main Ignition Failure – NATURAL GAS. Pilot Initially lit but flame signal lost within 8 second trial ignition (after Main Voltage). Natural gas heaters will re-start spark sequence. Probable cause: weak/distorted pilot flame, windy conditions.

3a 

3b 

(3a & 3b Display alternate every two seconds)

3.) Ignition 6min Lockout – NATURAL GAS. Flame signal lost within 8 second main trial for ignition 4 times in one heat demand. Probable cause: extreme wind conditions.

Ignition Sequence
Propane

1a 

1b 

(1a & 1b Displays alternate every two seconds)

1.) Ignition Lockout – PROPANE. No pilot flame within first 15/90 seconds (which Tab is broken). The control will not attempt another ignition trial until power is cycled (24V Rocker Switch). Probable cause: empty propane tank, gas valve off, obstructed pilot, flame sensing fail.

2a 

2b 

(2a & 2b Display alternate every two seconds)

2.) Ignition Lockout – PROPANE. Main ignition failure. Pilot initially lit but flame signal lost within 8 second trial ignition (after Main Voltage). Propane heaters will not re-start spark sequence. Probable cause: Weak/distorted pilot flame, windy conditions.

3.) If flame is lost during steady heating (main valve has been powered for more than 8 seconds), main valve is shut off and pilot lighting process begins again. Natural gas or propane (15 OR 90 TAB broken).

Ignition Microcontroller
Diagnostics

1 

2 

or 

1.) **Flame w/o CFH** - Pilot flame detected with no Heat Demand. Control Remains locked out until flame is not present. Gas valve (pilot) may be stuck open.

2.) **PV/MV Output Fault** -
Cause A - Power detected to Pilot Valve and/or Main Valve when not commanded.

Cause B - NO Power detected to Pilot Valve and/or Main Valve with commanded.

* All outputs shut off for one hour “soft” lockout.
* If no power is detected after one hour, normal operation resumes.

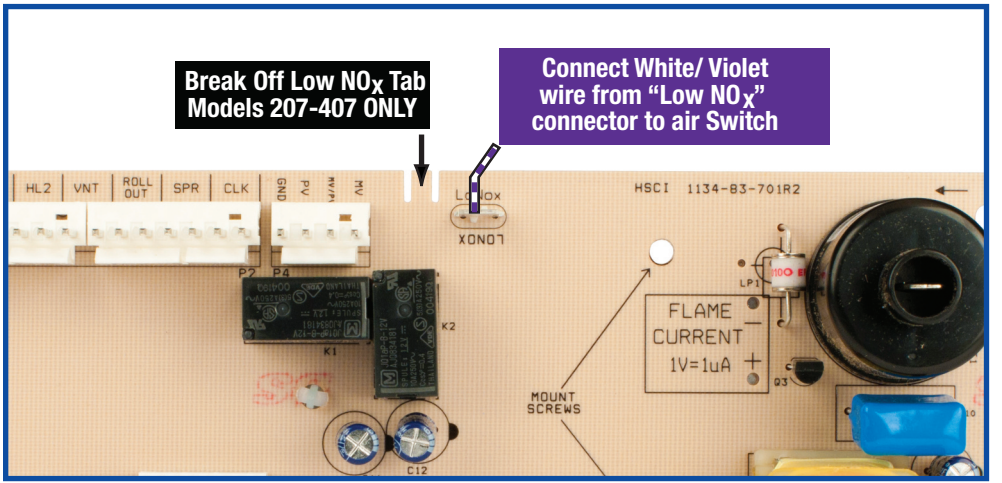
Probable cause:

1. 24Volt power wired directly to gas valve.
2. Pilot valve or main valve relay (circuit board) failed open or closed. Replace PC board

Low NOx PC Board
TAB Configuration

1

NOTE: If TAB is NOT broken and the board detects power at Low NO_X connector, Low NO_X Tab Fault is displayed and the heater will not operate.

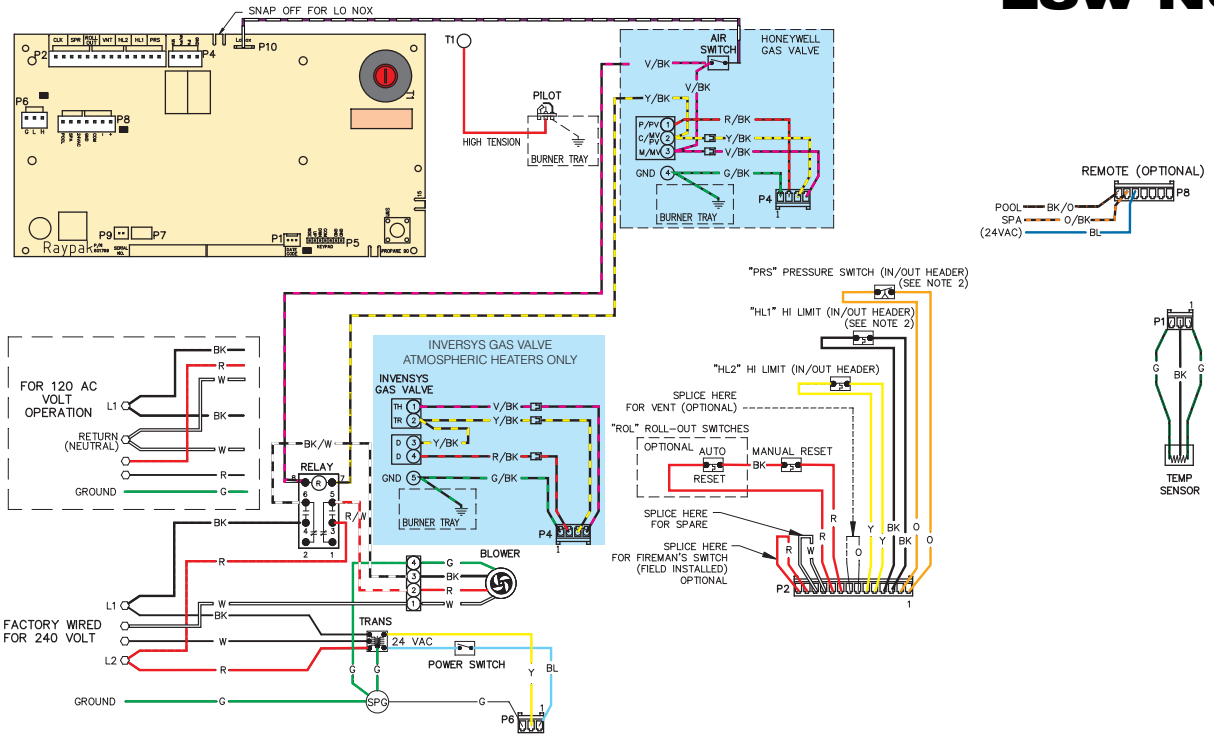


Break TAB 207-407

DON'T Break TAB 185-405

Break Low NOx TAB for model 207-407 only. Do not break TAB for RP2100 Low NOx models 185-405.

Wiring diagram
Low NOx



Low NOx PC Board
Configuration

1 

2 

1.) Low NO_X Air Switch not closed within 20 seconds of supplying main voltage. Control provides 5 minute soft “lock out”, then re-starts Pilot Ignition.

2.) If three (3) Lockouts occur in one heat demand, control goes into “Hard Lockout” and power must be removed and re-applied to reset.

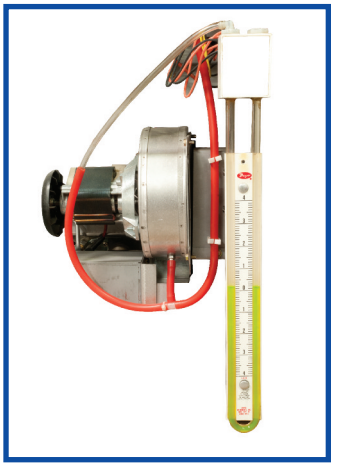
Possible Cause:

- Air Switch Fail / Disconnected Tube
- Fan Motor Fail / Blocked Air Intake vent
- Fan Relay Fail / Incorrect Power Supply to Relay/Fan
  Note: Fan will not run on correct speed if wired 208VAC

	207	267	337	407
Activation Pressure W.C	-1.50+/-.08	-1.05+/-.06	-0.75+/-.08	-0.25±.05

Note: Pressure is negative, not positive.

Note: See page 44 for air pressure switch information



How to read pressure on Low NOx Fan.

Service Displays

1a

1b

2

3

4

Service Displays provide critical performance data on the operation of the heater. This information can be viewed from Off, Pool, Spa and Remote Modes by pressing the UP button and the mode button for 3 seconds.

DOWN ARROW BUTTON

UP ARROW BUTTON

MODE BUTTON

1.) Flame (Pilot Signal) Strength. 5 Bars and above GOOD(1a). 4 Bars and below WEAK(1b). Check Gas Pressure, Pilot Flame, loose/disconnected/corroded ground wire connections.

2.) Supply Voltage from transformer. Ideal range 24-29 VAC – verify correct power supply to heater. 208VAC IS NOT ACCEPTABLE.

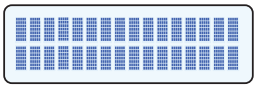
3.) Run time is the cumulative time the main valve has been energized. Cycle count records the number of times the pilot valve has been cycled on and off.

4) The order of the faults starts with “Fault Last” which is the most recent fault. If not the most recent fault, numerical order (2–10) of fault is displayed with the higher digits being older faults. The second line of the display shows the fault message.

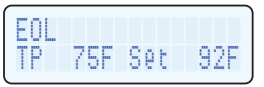
5.) To exit Service Mode and return to previous display press MODE button or wait 15 seconds.

Service Display - EOL

1

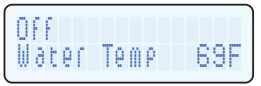


3a



3b

4



DOWN ARROW BUTTON

UP ARROW BUTTON

MODE BUTTON

"End-Of-Line" is a test conducted by Raypak before the heater is shipped. We connect water, gas and power to every heater and every heater is fired and functional.

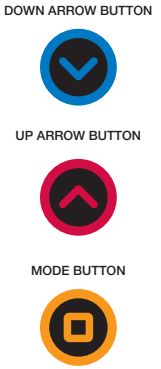
1.) To initiate the EOL Test press and hold the MODE button at power-up. This Initiates a self-test of the Microprocessor Control and all digits display while button is pressed.

2.) Release, all break-off tab configurations, all safeties and ignition functions are checked and displayed.

3.) Set Temp of 92°F is displayed and will toggle to 54°F by pressing UP/DOWN Button. Heater will fire if Heat Demand is present.

4.) To exit EOL test and select OFF press MODE Button.

Touchpad Evaluation



If EOL Self-Test was NOT Initiated by a service technician, display may indicate a STUCK MODE button.

1.) Disconnect blue ribbon connector, P5 from touchpad. Cycle heater on and off (power switch).

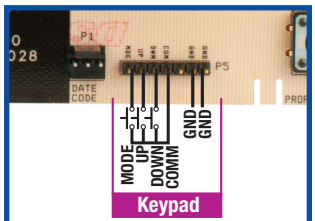
2.) To select MODE, jump COM to MDE, each touch alternates MODE, OFF - Spa - OFF - Pool. (See pins in box lower right)

If the Set Temp goes to 50°F or 104°F when not prompted, this may indicate a stuck UP or DOWN button

1.) To Lower Temp Set, jump COM to DOWN. 1 touch = 1 degree

2.) To Raise Temp Set, jump COM to UP. 1 touch = 1 degree

Note: Once MODE is selected and TEMP is SET heater will permanently retain programming information. If POWER is ON heater will operate even with Touchpad disconnected (unplugged).



P5 Connector Pins

Service Display - Fault History

1 

2 

3 

5 

The ability to recall the MOST RECENT Service Displays. Can be read ANY TIME heater is operational in Off, Pool, Spa and Remote modes by pressing the UP button and the mode button for 3 seconds. Press UP or DOWN buttons to scroll through displays until you see Faults Last.

DOWN ARROW BUTTON

UP ARROW BUTTON

MODE BUTTON

1.) First Line displays the actual fault that occurred, followed by numerical listing in the order they occurred: Last, 2,3,4,5,6,7,8,9,10 (oldest)

2.) Second line displays the fault. Press UP button to scroll through operating history of heater.

3.) Helps identify chronic cycling problems that may not be evident when servicing heater.

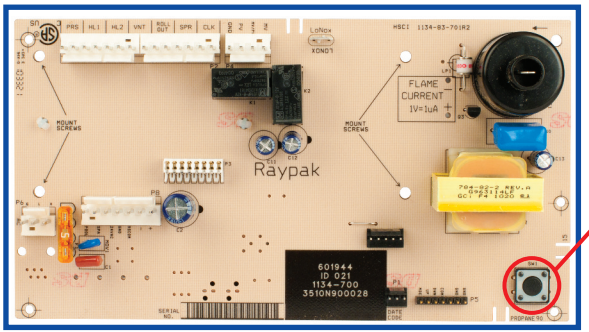
4.) To EXIT Service Mode and return to previous display press MODE button or wait 15 seconds.

5.) To CLEAR Fault History see page 36.

FAULT HISTORY

Helps to identify chronic/repeat problems that may not be evident while servicing heater.

Program Mode



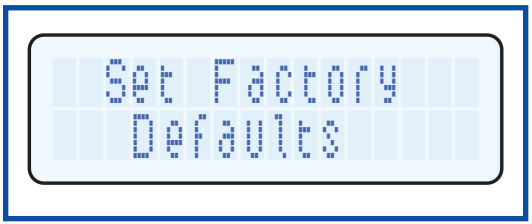
Program Button

Allows Customizing SOFTWARE Program

1.) Set Factory Defaults
2.) Clear Service Faults
3.) Fahrenheit/Celsius
4.) Maximum Spa Set
5.) Maximum Pool Set

To Initiate Programming Mode:

1.) Select OFF mode of operation
2.) Hold PROGRAM BUTTON for 5 seconds until “Set Factory Defaults” appears
3.) Press MODE button to select items



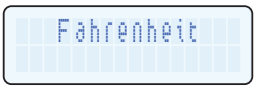
Program Mode

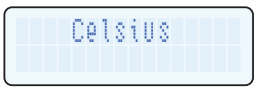
Select Program Item with MODE Button

1a 

1b 

1.) To CLEAR all stored faults press both UP and DOWN buttons for 5 seconds until “Faults Cleared” appears on display.

2a 

2b 

2.) To Select Fahrenheit or Celsius temperature display push UP or DOWN button. (Fahrenheit is the default setting).

3.) To Exit Program Mode press PROGRAM BUTTON or wait 15 seconds.

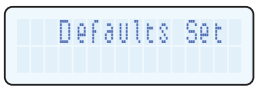
DOWN ARROW BUTTON

UP ARROW BUTTON

MODE BUTTON

Program Mode
Max Temperatures

1.) Displays MAXIMUM available Temp Set temperatures (Pool or Spa) and allows adjustment from 50°F (lowest) up to 107°F (highest) by pressing UP or DOWN Buttons.



2.) Resets all adjustable settings back to original factory default. Press and hold UP and DOWN buttons for 5 Seconds until Defaults Set is displayed.

DOWN ARROW BUTTON

UP ARROW BUTTON

MODE BUTTON

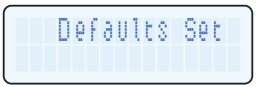
Control Lockout

Lock Box Backdoor

Lockbox override

Touch any button to display “PIN.”

* Enter “101” to override Lock Box until power is reset.



Set factory defaults

Initiate PROGRAM MODE, Set Factory Defaults.

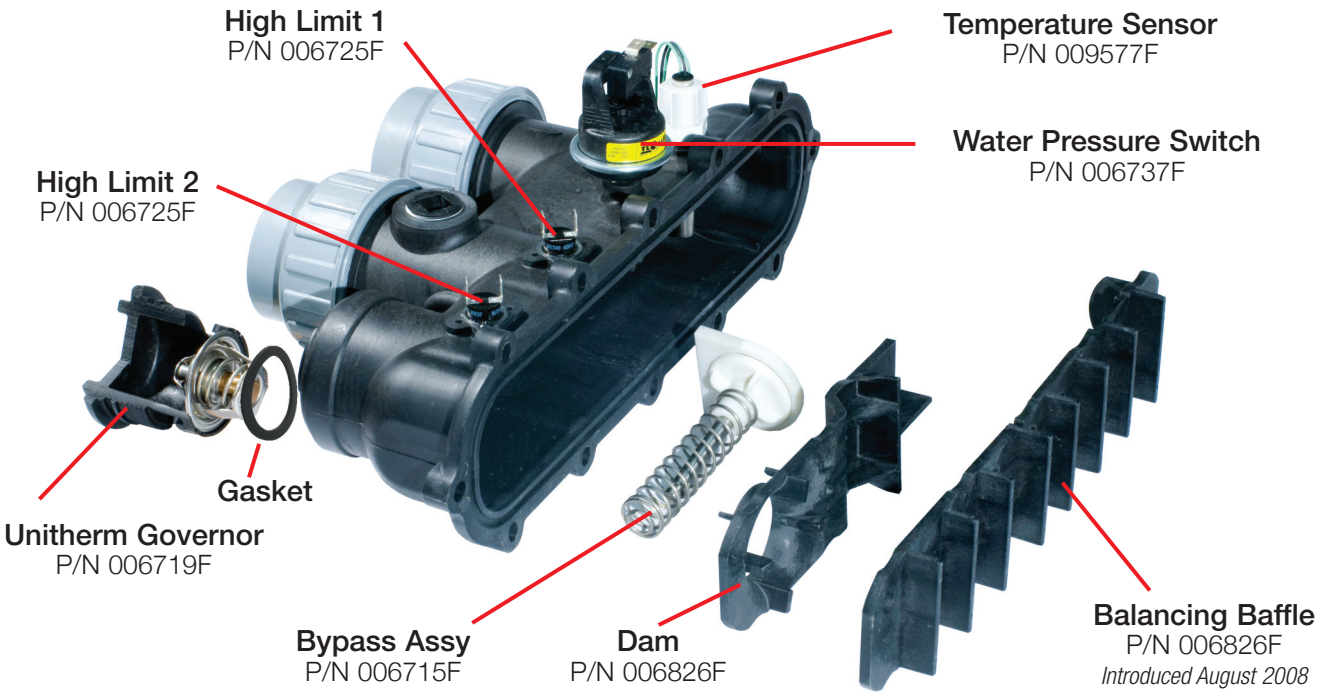
* Press UP and DOWN BUTTON for 5 seconds until “Defaults Set” is displayed.

DOWN ARROW BUTTON

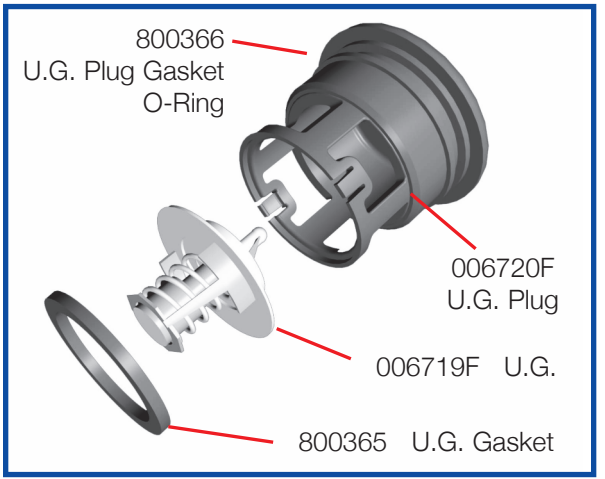
UP ARROW BUTTON

MODE BUTTON

Inlet-Outlet Header



Unitherm Governor



Tech Tip: Test a U.G by placing it in a bowl of hot water. If working properly, it will open as it warms up.

The UNITHERM GOVERNOR helps prevent condensation and scale. It is a thermostatic mixing valve used to control and regulate the water temperature in the heat exchanger.

Low temperatures in the exchanger can cause condensation.

This indicates that the heat exchanger is running cool. This may be caused by too much flow. Make sure the pump is not supplying more than 125GPM. Also check the U.G. to make sure it is working properly and not damaged from chemical corrosion or stuck.

Flow Rates and Pressure Drops

Polymer Header (Standard Models)				
Plastic Internal Baffle - Manufactured after 11/08				
Flow GPM	Pressure Drop (Ft of Head)			
	206/207	266/267	336/337	406/407
20	4.0			
25	4.0	4.6		
30	4.0	5.2		
35	4.0	5.8	5.2	
40	4.6	5.8	5.2	5.2
50	4.6	6.3	6.9	6.9
60	4.6	6.9	6.9	6.9
70	4.6	8.1	9.2	9.2
80	4.6	9.2	9.8	9.8
90	6.9	10.4	10.4	10.4
100	8.1	11.0	12.1	12.1
110	10.4	11.5	13.3	13.3
120	11.0	12.7	17.9	17.9
125	11.5	13.8	20.2	20.2

Cast Iron Header (ASME Models)				
Flow GPM	Pressure Drop (Ft of Head)			
	206/207	266/267	336/337	406/407
20	1.8			
30	2.2	8.0		
40	2.5	9.0	9.0	9.0
50	2.7	9.8	9.8	9.8
60	3.3	10.5	10.5	10.5
70	4.3	11.0	11.0	11.0
80	5.5	11.5	11.5	11.5
90	6.8	14.0	14.0	14.0
100	8.2	17.0	17.0	17.0

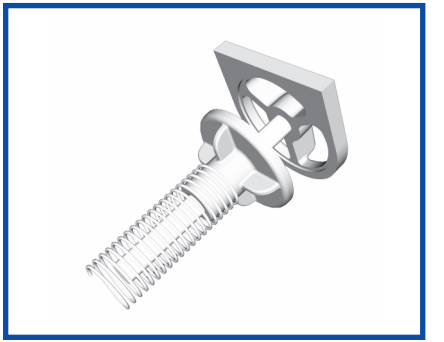
Flow Rates		
Model	Min GPM	Max GPM
206/207	20	125
266/267	25	125
336/337	35	125
406/407	40	125

Internal Bypass Valve

The Automatic Bypass Assembly allows the heater to be connected to a wide variety of pumps.

With every job site having different flow rates, the Bypass automatically adjusts to provide the proper flow rate to the heater, up to 125GPM max. If the flow rate exceeds 125GPM condensation may form and erosion of the copper tubes may occur. It is then recommended that an external bypass be installed before the heater.

If the heater is making a knocking noise or cycling the high limits, it may be that the Bypass is missing, stuck open or damaged. It is also possible that the wrong Bypass spring is installed. See table for correct bypass spring assignment.



Tech Tip:
You can feel the Bypass by placing your fingers down into the inlet of the header. You can feel the Bypass spring back as you push on it.

Polymer	206/207	266/267	336/337	406/407
Color	Red	Red	Silver	Silver
Part Number	006718F	006718F	006718F	006718F

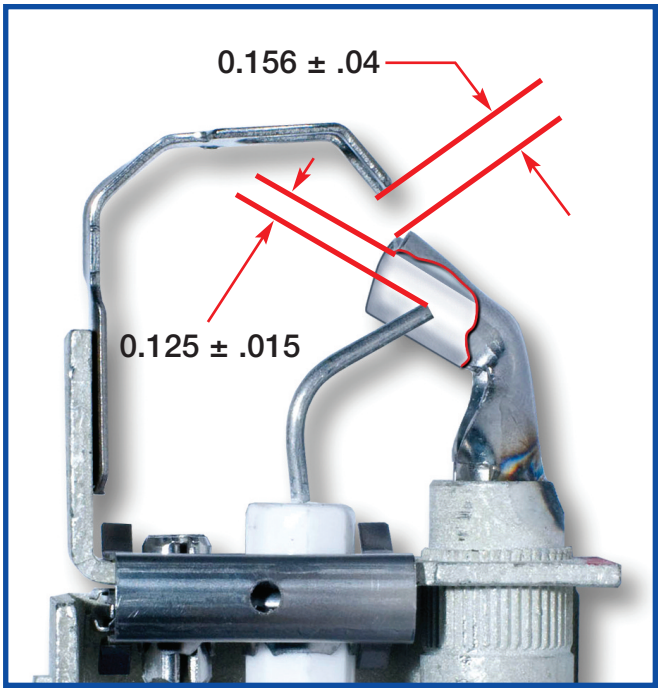
Cast Iron	206-207	266-407
Color	Silver	Black
Part Number	016196F	016196F

PRV Installation

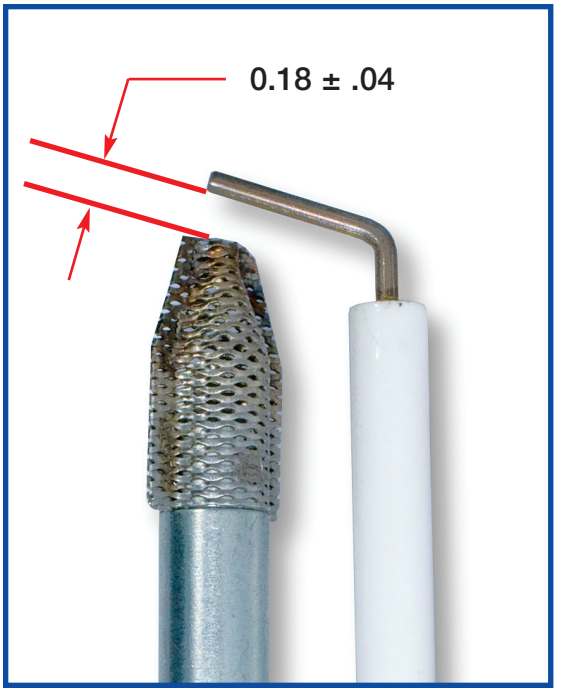
This photo illustrates the correct installation of a PRV on the larger models.

Two street elbows are used to move the larger PRV's away from the access panels. Smaller PRV's can be mounted directly into the header.

Pilot Assemblies - Spark Gap



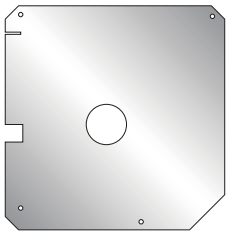
Atmospheric Pilot



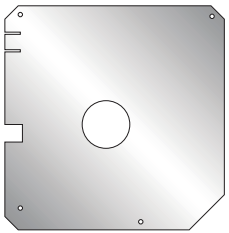
Low NO_X Pilot

Blower Location and
Combustion Air Orifice Plate

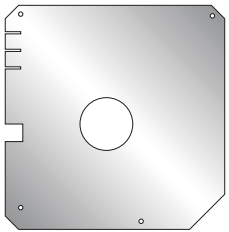
Notches Indicate Heater Model Size:



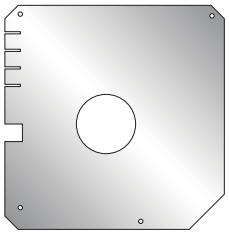
207



267



337



407

Low NO_x Air Pressure Switch

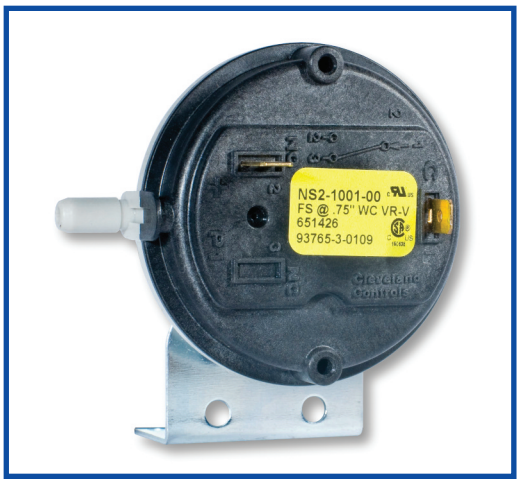
There are 4 different air pressure switches for the Low NO_x heaters. None of the switches are interchangeable.

Each switch has a colored decal to help identify the switch. See chart below for proper switch choice.

	207	267	337	407
Color	Blue	Red	Yellow	Green
Part Number	008062F	008135F	010354F	010355F
Activation Pressure W.C	-1.50+/-.08	-1.05+/-.06	-0.75+/-.08	-0.25±.05

Tech Tip: The air pressure switch senses negative pressure (suction). Testing the air switch by blowing on it will not work. You need to apply light suction. Also to measure the air pressure while the unit is running, you must install a tee fitting in the air hose and connect it to your manometer. See page 30 every switch has a different activation pressure, see chart.

Note: See page 30 for blower pressure measurement.



Notes

Tool Box 2
Quick Reference Guide

WWW.RAYPAK.COM

Check our FAQ section on our website for answers to common problems.
EMAIL us with technical questions, we pride ourselves on quick answers.

BEFORE YOU CALL

What is the incoming power 120 or 240VAC? 208 will not work properly.
What is the power at the circuit board?
What is the incoming gas pressure?
If the unit can fire, what is the pressure at the manifold (burner pressure)?
Is the gas line rigid or flex-line?

THIS IS NOT A SUBSTITUTE FOR THE INSTALLATION AND OPERATION MANUAL.
THIS MANUAL IS INTENDED TO HELP THE SERVICE TECHNICIAN WITH BASIC TROUBLESHOOTING.

Raypak, Inc. 2151 Eastman Avenue • Oxnard, CA 93030 • 805-278-5300

12/15/2018