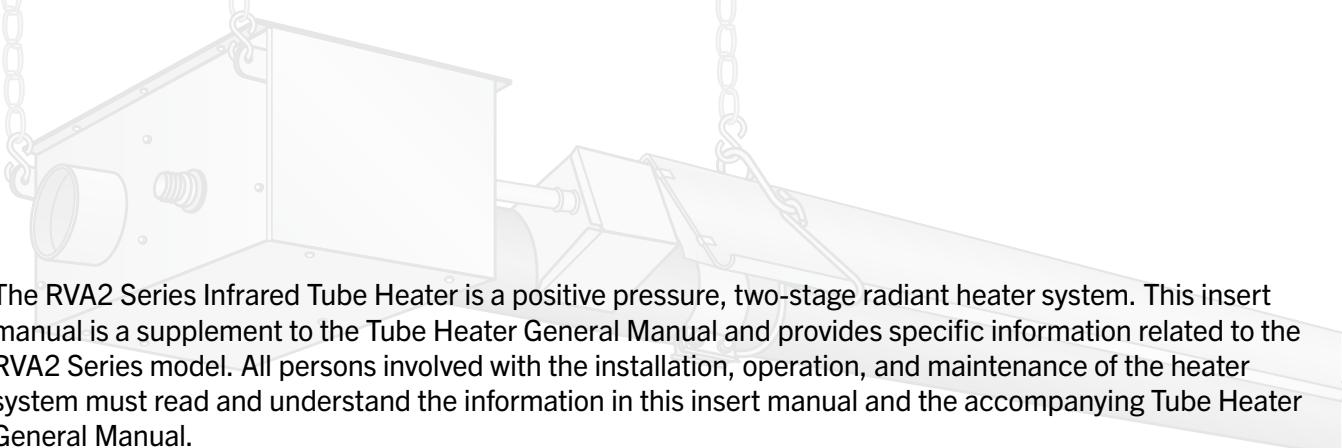


# RVA2 Series

# Insert Manual



For complete installation instructions, see the **Tube Heater General Manual** that accompanies this Series Insert Manual.



The RVA2 Series Infrared Tube Heater is a positive pressure, two-stage radiant heater system. This insert manual is a supplement to the Tube Heater General Manual and provides specific information related to the RVA2 Series model. All persons involved with the installation, operation, and maintenance of the heater system must read and understand the information in this insert manual and the accompanying Tube Heater General Manual.

## ! WARNING



Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

This heater must be installed and serviced by trained gas installation and service personnel only. Failure to comply could result in personal injury, asphyxiation, death, fire, or property damage.



In locations used for the storage of combustible materials, signs must be posted to specify the maximum permissible stacking height to maintain the required clearances from the heater to the combustibles. Signs must either be posted adjacent to the heater thermostats or, in the absence of such thermostats, in a conspicuous location.



**Not for residential use!** Do not use this heater in the home, sleeping quarters, attached garages, etc. **Installation of a commercial tube heater system in residential indoor spaces may result in property damage, serious injury, asphyxiation, or death.**

## For Your Safety

### If you smell gas:

- 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.

### INSTALLER: Present this manual to the end user.

Keep these instructions in a clean and dry place for future reference.

Model#: \_\_\_\_\_ Serial #: \_\_\_\_\_  
(located on rating label)

LIORVA2a-Rev. 01426  
Print: XM-01/26 (XXX)

Replaces: LIORVA2a-Rev. 24414-1M-06/21 (CDS)

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**NOTE:** See page 10 for a list of available models and specifications.

## ⚠ WARNING

### California Proposition 65

This product can expose you to chemicals including lead and carbon monoxide, which are known to the State of California to cause birth defects or other reproductive harm.

For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# 1.0 Safety

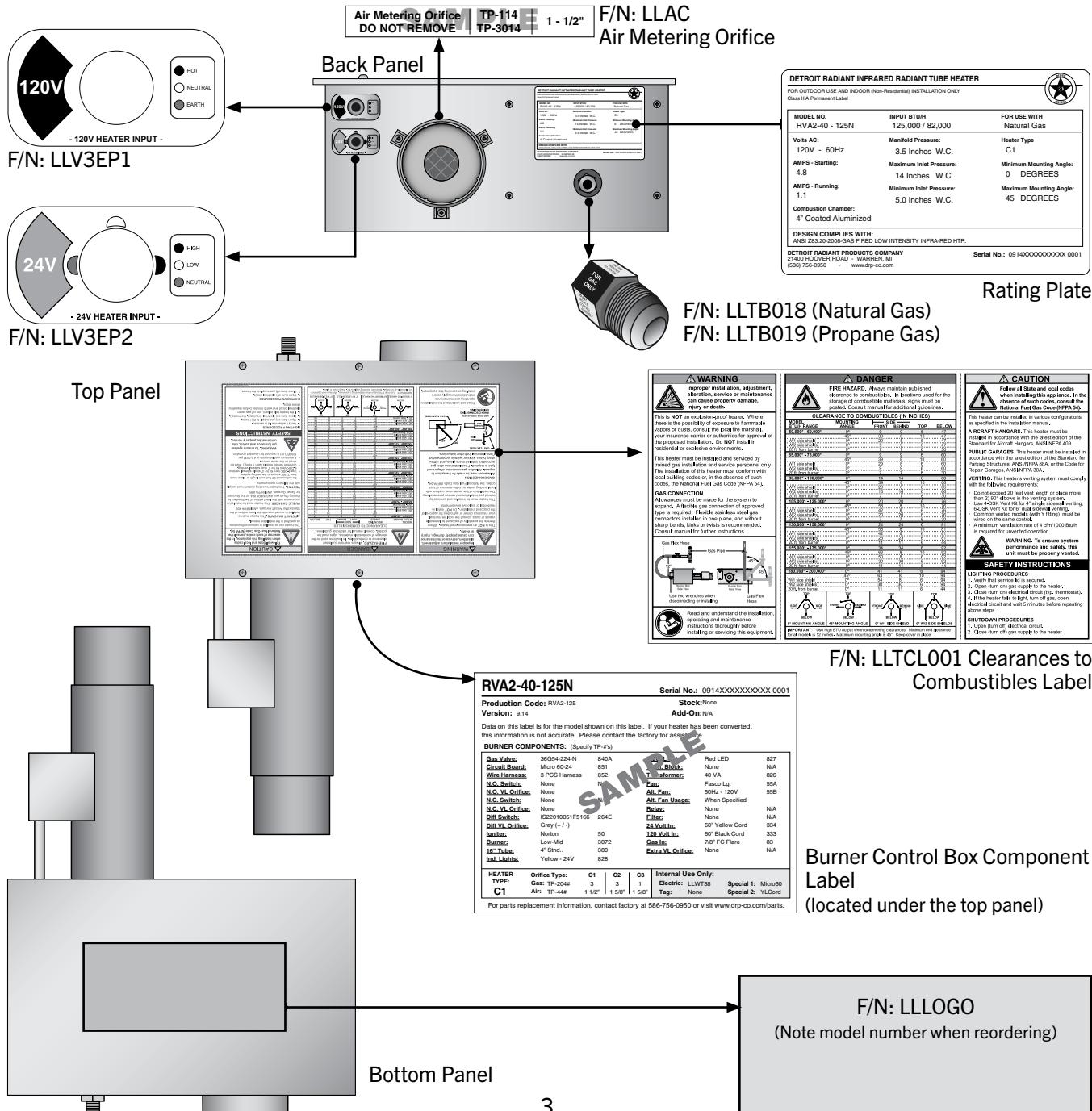
## ⚠ WARNING



Read and understand all safety information and warnings in this manual before installation, operation, and maintenance of the radiant tube heater system.

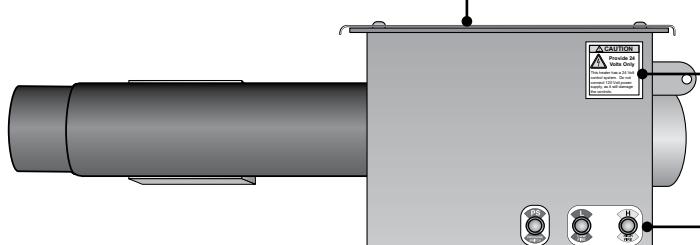
### Safety Labels and Their Locations

Product safety signs or labels should be replaced by the product user when they no longer are legible. Contact either your local distributor or the product manufacturer for obtaining replacement signs or labels.

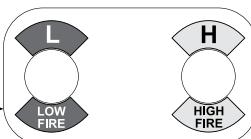


LED CODE	FAULT STATUS	FAULT CODE DELAY
Initial flash on power up, then steady off	Normal operation	Immediate
Steady on	Module failure / Internal fault	Immediate
1 flash	Ignition failure	30-32 minutes
2 or 3 flashes	APS - Note: fan / intake / exhaust	10-12 minutes
4 flashes	Solenoid valve fault / Leaky valve / Flame amplifier fault	Immediate
No flash on 117V start up	Transformer fault	Immediate

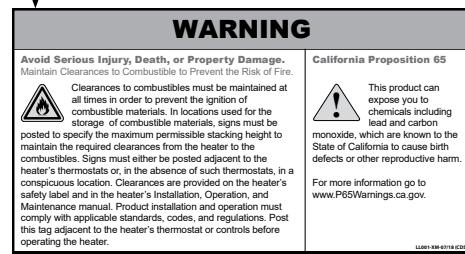
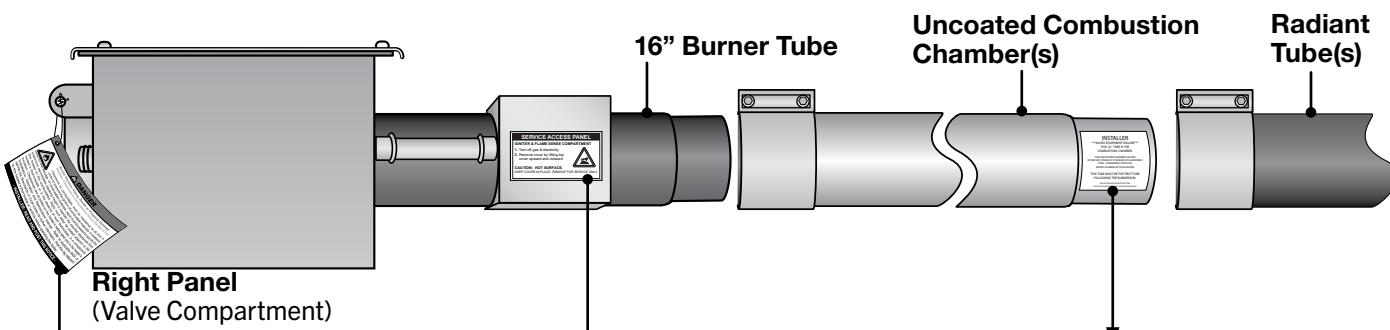
F/N: LLTB007(2)  
Located in control box



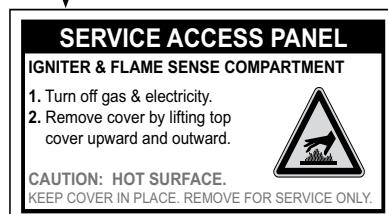
F/N: LLDR003  
(This label is located on models with a relay board installed only.)



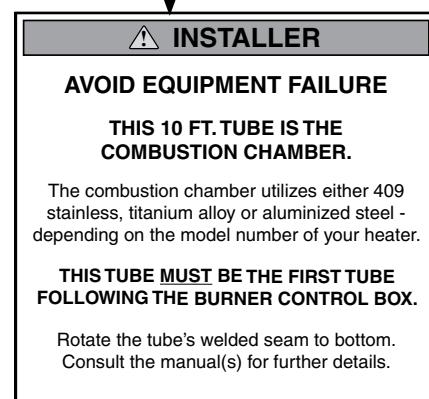
F/N: LLV2EP9



F/N: LL001 - Clearance Safety Tag  
(Affix adjacent to heater's thermostat)



F/N: LLTB026



F/N: LLTB004 (orange)

## Clearances to Combustibles

### ⚠ WARNING



Placement of explosive objects, flammable objects, liquids, and vapors close to the heater may result in explosion, fire, property damage, serious injury, or death. Do not store or use explosive objects, liquids, or vapors in the vicinity of the heater.

**Clearance to combustibles** is defined as *the minimum distance that must exist between the tube surface, or reflector, and any combustible items* (see Figure 1.1). It also pertains to the distance that must be maintained from moving objects around the tube heater. When installing the tube heater system, clearances to combustibles for the Series tube heater and configuration must be maintained.

**Chart 1.1 • Clearances to Combustibles in Inches** (see Figure 1.1 for Mounting Angles)

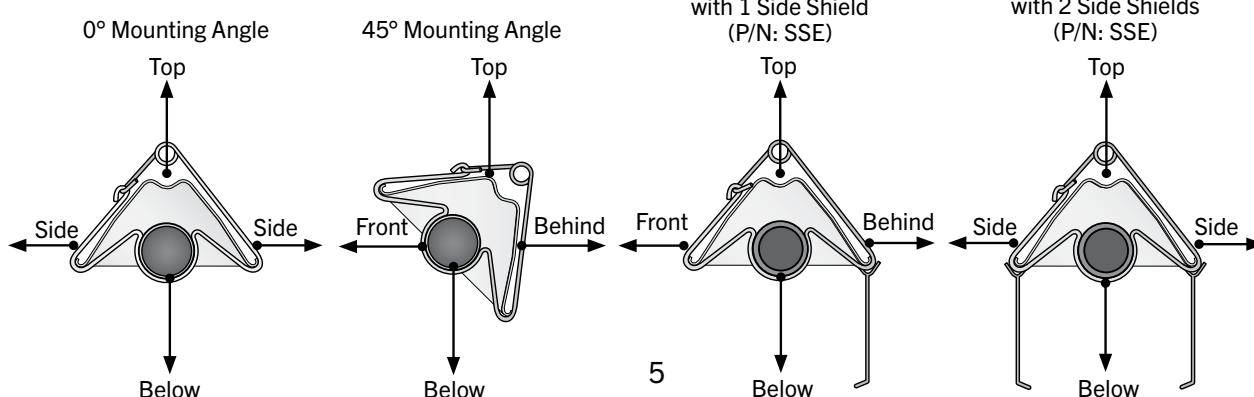
Model Number	Mounting Angle*	Sides			Top**	Below
		Front	Behind	Top**		
RVA2 (20, 30, 40) - (65, 75) [N, P]	0°	9	9	6	60	
	45°	39	8	10	60	
	0°	29	8	6	60	
	0°	9	9	6	60	
	0°	7	7	6	30	
RVA2 (20, 30, 40, 50) - (80, 100) [N, P]	0°	14	14	6	66	
	45°	39	8	10	66	
	0°	29	8	6	66	
	0°	16	16	6	66	
	0°	7	7	6	30	
RVA2 (40, 50) - 125 [N, P]	0°	20	20	6	76	
	45°	58	8	10	76	
	0°	42	8	6	76	
	0°	20	20	6	76	
	0°	7	7	6	30	
RVA2 (40, 50) - 150 [N, P]	0°	24	24	6	81	
	45°	58	8	10	81	
	0°	42	8	6	81	
	0°	23	23	6	81	
	0°	11	11	6	44	

\* Heaters mounted on an angle between 0° and 45° must maintain clearances posted for 0° or 45°, whichever is greater.

\*\* Maintain a 10 in. (0° mounting angle) or 12 in (1°-45° mounting angle) clearance from ceilings constructed of tri-ply plastic or plastic fogger lines.

The stated clearances to combustibles represent a surface temperature of 90°F (50°C) above room temperature. Building materials with a low heat tolerance (such as plastics, PVC conduit/pipe, vinyl siding, canvas, tri-ply, etc.) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.

**Figure 1.1 • Mounting Angles**



## 2.0 Installation

### ⚠ WARNING



Improper installation, adjustment, alteration, service, or maintenance can cause property damage, serious injury, or death. Read and understand the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment. Only trained, qualified gas installation and service personnel may install or service this equipment.

**Not for residential use!** Do not use this heater in the home, sleeping quarters, attached garages, etc. **Installation of a commercial tube heater system in residential indoor spaces may result in property damage, serious injury, or death.**

Instructions for the following are detailed in the Tube Heater General Manual:

- Design considerations.
- Hanger suspension and placement.
- Tube layout and assembly.
- Burner control box suspension.
- Reflectors (and accessories).
- Venting and combustion air intake.
- Gas requirements.
- Baffle assembly.

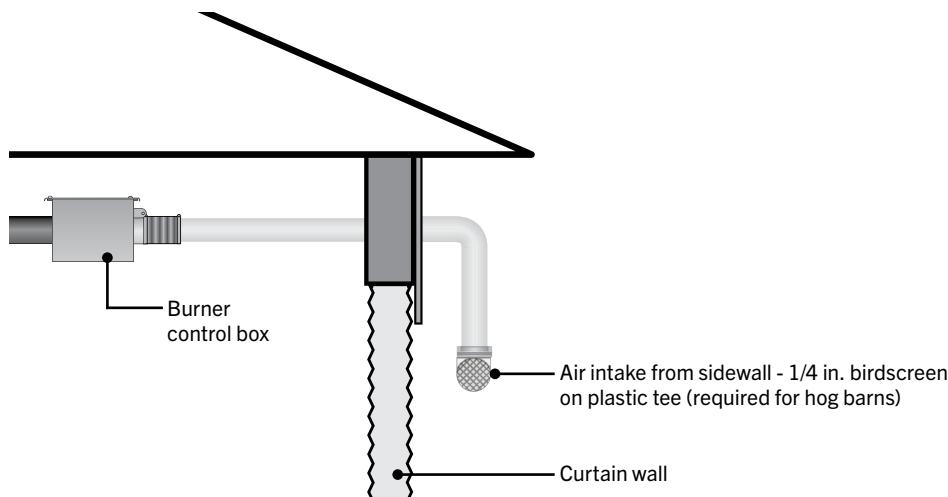
**NOTE:** Electronic versions of all manuals are available at [www.detroitradiant.com](http://www.detroitradiant.com).

### Combustion Air

The combustion air intake collar is also a factory preset air orifice. Non-contaminated air for combustion **must** be ducted to the heater in all agricultural applications. **Do not** take combustion air from pressurized attic spaces, with the exception of broiler houses.

Locate the air intake away from any steam source. Use caution when locating air intake above curtain walls, as they can leak. When curtain walls are present, use 4" light gauge PVC air intake material from curtain sidewall to the heater; do not exceed 25 feet. With an elbow, drop intake one foot below the top of the curtain wall. Cap intake with a 1/4-inch birdscreen. Figure 2.1.

**Figure 2.1 • Combustion Air Intake (Hog Barn)**



## Electrical Requirements

Connecting the thermostat with a voltage other than 24 V may damage the heater. The RVA2 series requires a 24 V connection to the thermostat. This is supplied by an external transformer (field supplied). See below.

- 120 V - 60 Hz GRD, 3-wire
- 24 V control connection, 3-wire
- Starting current 4.8 amps
- Running current 1.1 amps

The RVA2 series is equipped standard with an internal relay board. 24 V must be supplied to each heater's yellow control cord. 120 V is supplied to the heater's black cord; observe polarity.

Confirm proper two-stage electrical wiring by cycling heater between stages. Confirm proper operation of high fire, low fire and off cycles.

## Wiring

### ⚠ WARNING

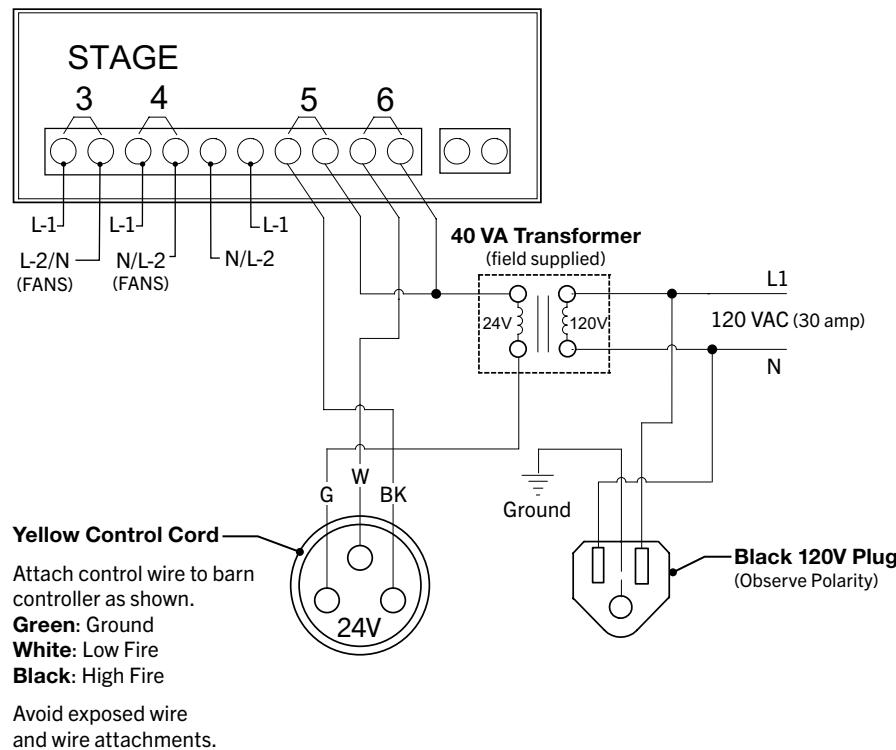


#### Electric Shock

Field wiring to the tube heater must be connected and grounded according to the guidelines in the Tube Heater General Manual and Series Insert Manual and in accordance with national, state, provincial, and local codes. In the United States refer to the most current revisions to the ANSI/NFPA 70 Standard and in Canada refer to the most current revisions to the CSA C22.1 Part I Standard.

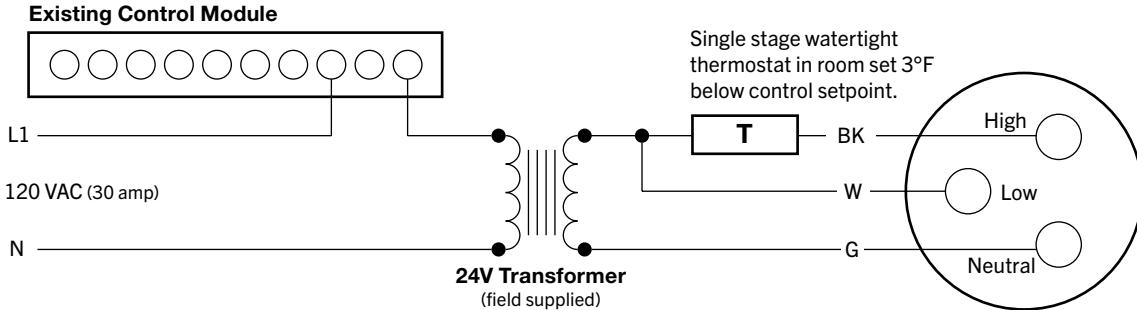
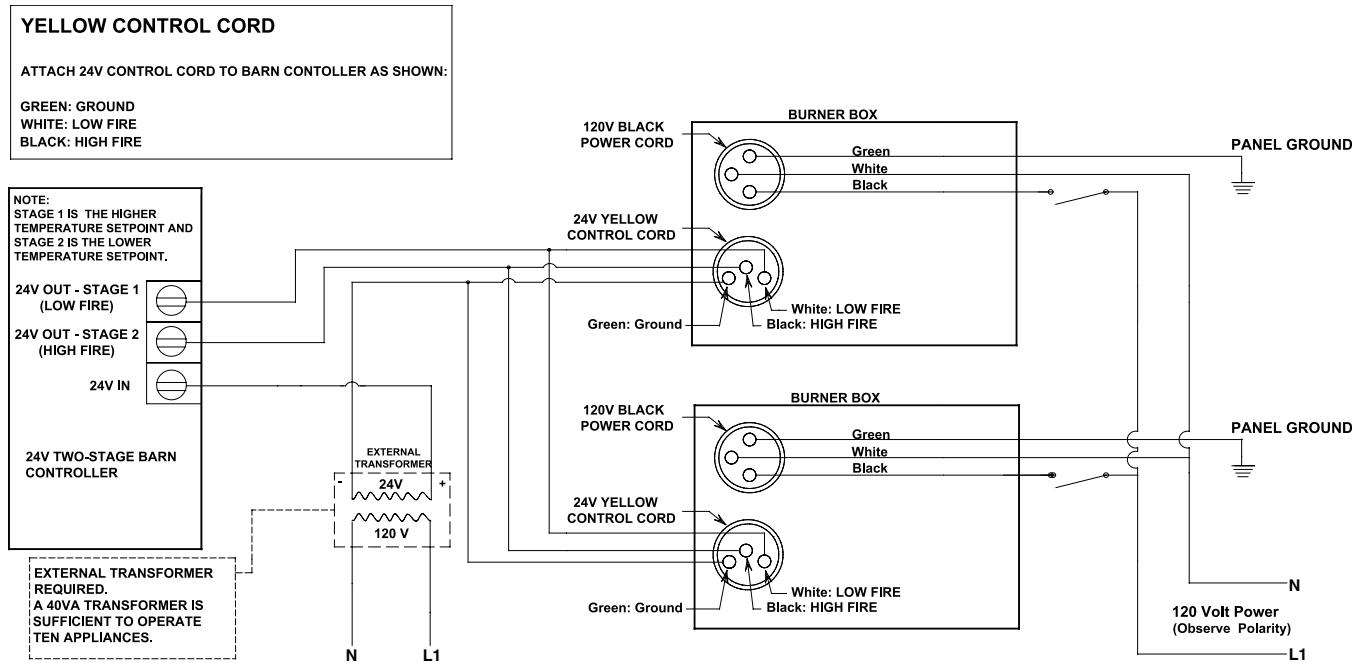
**Figure 2.2 • Field Wiring Diagrams**

#### A. Typical wiring to a barn controller



**Figure 2.2 • Field Wiring Diagrams****B. Two-stage control wiring with a single stage barn controller**

**Note:** This wiring diagram may be used if a two stage thermostat is not available.

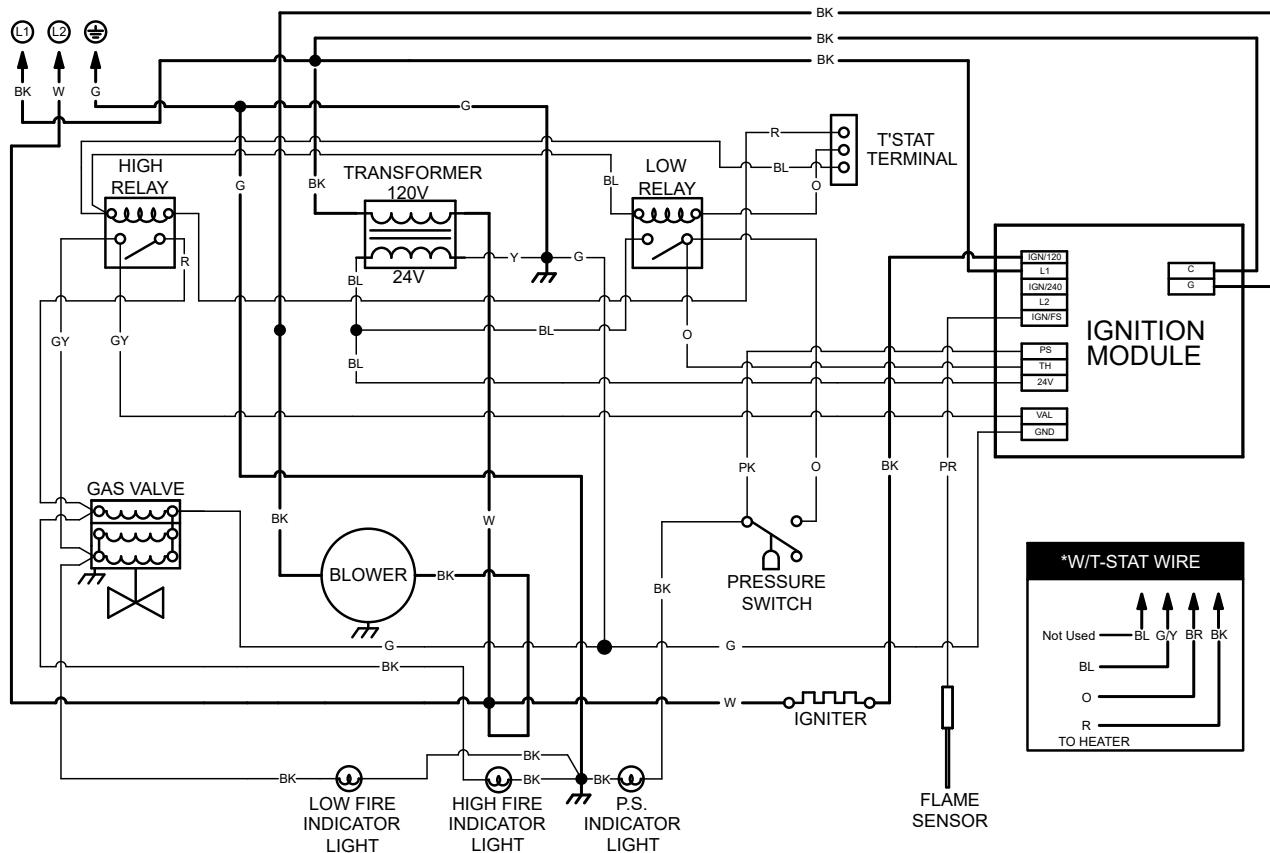
**C. Multiple Heaters, Single Control. With Relay Board**
**⚠ CAUTION**

When utilizing PVC conduit and/or pipe, all clearances to combustibles must be maintained (see pg. 5). Some materials, including many types of plastic, are subject to degradation at lower temperatures. It is the installer's responsibility to ensure that materials adjacent to the heater are protected from degradation. If you are unsure of the proposed installation, please contact the factory.

**Before field wiring this appliance** - Check existing wiring; replace if necessary.

**Note:** If any of the original wire as supplied with the appliance must be replaced, it must be replaced with wiring material having a rating of at least 600 V, 105° C.

**Figure 2.3 • Internal Wiring Diagram**



#### WIRING INFORMATION:

##### LOW VOLTAGE:

FACTORY STANDARD \_\_\_\_\_  
 FACTORY OPTION \_\_\_\_\_  
 FIELD INSTALLED \_\_\_\_\_

##### LINE VOLTAGE:

FACTORY STANDARD \_\_\_\_\_  
 FACTORY OPTION \_\_\_\_\_  
 FIELD INSTALLED \_\_\_\_\_

## Specifications

### Chart 2.1 • Specifications

Model Number	Gas Type (select one)	BTU/h (High Fire)	BTU/h (Low Fire)	Straight Length	U-Tube Length	Standard Weight (lbs.)	Recommended Mounting Height Above Animals	Combustion Chamber (uncoated)	Secondary Combustion Tube (uncoated)	Radiant Emitter Tube(s) (black coated)	36" Baffle Sections
<b>RVA2-20-65<sup>†</sup></b>	Nat. or Prop.	65,000	50,000	21'-7"	13'-0"	120	6' to 9'	409 Stainless	Alum	Alum	5
<b>RVA2-20-75</b>	Nat. or Prop.	75,000	50,000	21'-7"	13'-0"	120	7' to 10'	409 Stainless	Alum	Alum	5
<b>RVA2-20-80</b>	Nat. or Prop.	80,000	52,000	21'-7"	13'-0"	120	8' to 14'	409 Stainless	Alum	Alum	5
<b>RVA2-30-65</b>	Nat. or Prop.	65,000	50,000	31'-3"	*17'-8"	160	6' to 9'	409 Stainless	Alum	Alum	5
<b>RVA2-30-75</b>	Nat. or Prop.	75,000	50,000	31'-3"	*17'-8"	160	7' to 10'	409 Stainless	Alum	Alum	5
<b>RVA2-30-80</b>	Nat. or Prop.	80,000	52,000	31'-3"	*17'-8"	160	8' to 14'	409 Stainless	Alum	Alum	5
<b>RVA2-30-100</b>	Nat. or Prop.	100,000	65,000	31'-3"	*17'-8"	160	8' to 14'	409 Stainless	Alum	Alum	6
<b>RVA2-40-65</b>	Nat. or Prop.	65,000	50,000	40'-11"	22'-8"	190	6' to 9'	409 Stainless	Alum	Alum	5
<b>RVA2-40-75</b>	Nat. or Prop.	75,000	50,000	40'-11"	22'-8"	190	7' to 10'	409 Stainless	Alum	Alum	5
<b>RVA2-40-80</b>	Nat. or Prop.	80,000	52,000	40'-11"	22'-8"	190	8' to 14'	409 Stainless	Alum	Alum	5
<b>RVA2-40-100</b>	Nat. or Prop.	100,000	65,000	40'-11"	22'-8"	190	7' to 11'	409 Stainless	Alum	Alum	5
<b>RVA2-40-125<sup>^</sup></b>	Nat. or Prop.	125,000	82,000	40'-11"	22'-8"	190	9' to 14'	409 Stainless	Alum	Alum	5
<b>RVA2-40-150<sup>^</sup></b>	Nat. or Prop.	150,000	100,000	40'-11"	22'-8"	190	10' to 14'	409 Stainless	Alum	Alum	5
<b>RVA2-50-100</b>	Nat. or Prop.	100,000	65,000	50'-7"	*27'-4"	235	8' to 11'	409 Stainless	Alum	Alum	5
<b>RVA2-50-125<sup>^</sup></b>	Nat. or Prop.	125,000	82,000	50'-7"	*27'-4"	235	9' to 14'	409 Stainless	Alum	Alum	5
<b>RVA2-50-150<sup>^</sup></b>	Nat. or Prop.	150,000	100,000	50'-7"	*27'-4"	235	10' to 14'	409 Stainless	Alum	Alum	5

\* Model requires 5EA-SUB accessory package when installing in a 'U' configuration (P/N: TF1B).

<sup>^</sup> Not recommended for use in a swine application.

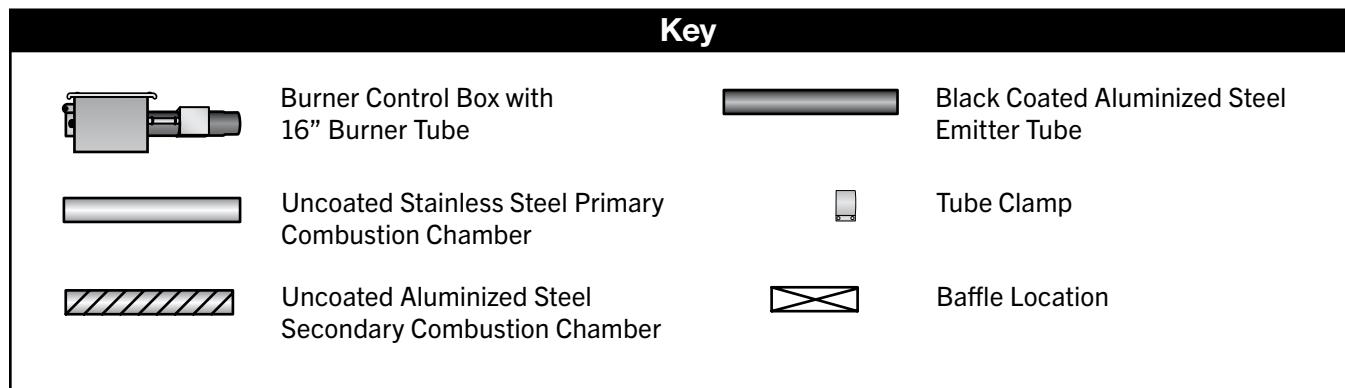
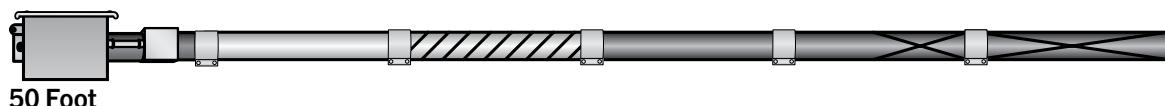
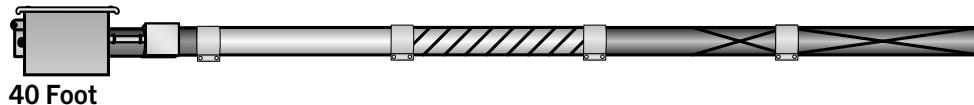
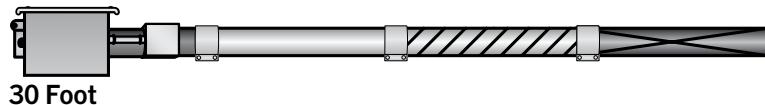
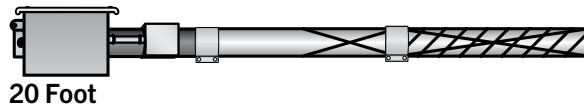
<sup>†</sup> Not recommended for use in a dairy or poultry application.

AGAO-SS: Upgrade burner control box from coated steel to 304 series stainless steel.

## Tube Installation Sequence

**Figure 2.5 • Tube Installation Sequence**

**Important!** The combustion chamber and radiant tube sections must be installed in the following order.



**NOTE:** Refer to the Tube Heater General Manual (LIOGTA), Chart 3.6 (page 23) for secured reflector joints.

# 3.0 Operation

## ⚠ WARNING



This heater must be installed and serviced by trained gas installation and service personnel only.

Do not bypass any safety features or the heater's built in safety mechanisms will be compromised.

**NOTE:** Reference the Tube Heater General Manual for installation requirements.

## Sequence of Operation

**Standby:** The circuit board continually checks for internal faults, circuit integrity, and relay contact positioning.

**Starting Circuit:** Upon a call for heat, the control verifies that the differential switch is in the proper position (open). The control energizes the fan. Once operational static pressure is achieved, the differential switch will close initiating the ignition sequence. The glo-bar is powered and the gas valve opens after 45 seconds. If the flame is not sensed, the heater will attempt to re-ignite for a total of three (3) trials for ignition before proceeding to soft lockout (see diagnostics).

**Single Stage Running Circuit:** After ignition, the flame rod monitors burner flame. If sense of flame is lost, the control closes the gas valve within one second and a new trial sequence (identical to the starting sequence) is initiated. If flame sense is not established within 8.5 seconds, the heater will attempt two (2) additional ignition sequences before proceeding to soft lockout. The control can be reset by briefly interrupting the power source.

**Two Stage Running Circuit:** The second stage on the gas valve is powered directly from the second stage of the building controller (thermostat). In order for the high fire stage to flow, the low fire stage must be energized simultaneously. The building control (thermostat) determines which stage will maintain the desired temperature.

**Shut Down:** When the thermostat is satisfied, the fan will enter a two (2) minute post-purge cycle. Then go to diagnostics; soft & hard lockout.

## Thermostat

**NOTE:** Different thermostats operate according to their particular features. Refer to thermostat specifications for details.

RVA2 series heaters require either a 24 V, two-stage thermostat to operate or two relays on the building controller. The burner control box is equipped with a 36" yellow 24 V control wire. Do not supply 120 V to the 24 V connection.

**Theoretical Example:** The thermostat is set to 65°F. The thermostat's preset differential for high fire mode is 3°F.

When the temperature drops below the setpoint of the thermostat (65°F), low fire will activate. If the temperature continues to drop below the setpoint by another 3°F (62°F), high fire will activate bringing the temperature back up to the thermostat's setpoint quickly.

## Diagnostics

### Lockout:

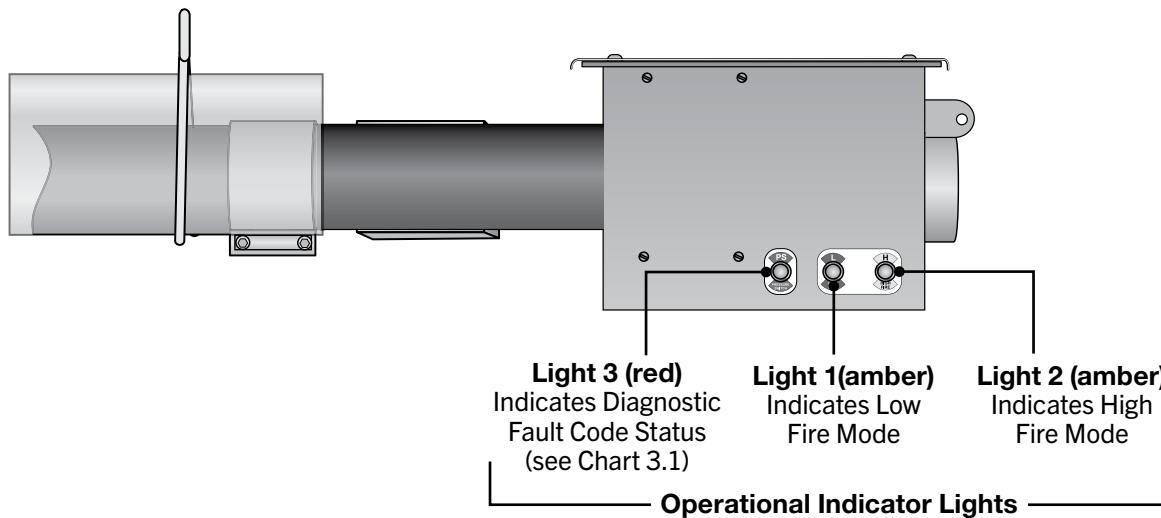
The controls will automatically lockout the heater system when an external or system fault occurs. There are two types of lockout:

**Soft Lockout:** The heater will attempt to light three times. In the event of a failed attempt to light, (gas pressure, valve, no flame sense, etc.), the heater will enter Soft Lockout mode for 30 minutes and then attempt to light three more times before entering Hard Lockout mode.

**Hard Lockout:** If proof of flame is not established, a component failure occurs or blockages are evident, the heater will enter Hard Lockout mode. If lockout occurs, the control can be reset by briefly interrupting the power source. Refer to Chart 3.1 below for a description of LED codes.

**Figure 3.1 • LED Operation Indicator Lights**

**NOTE:** Hard lockout LED CODE will appear upon completion of the soft lockout sequence of operation.

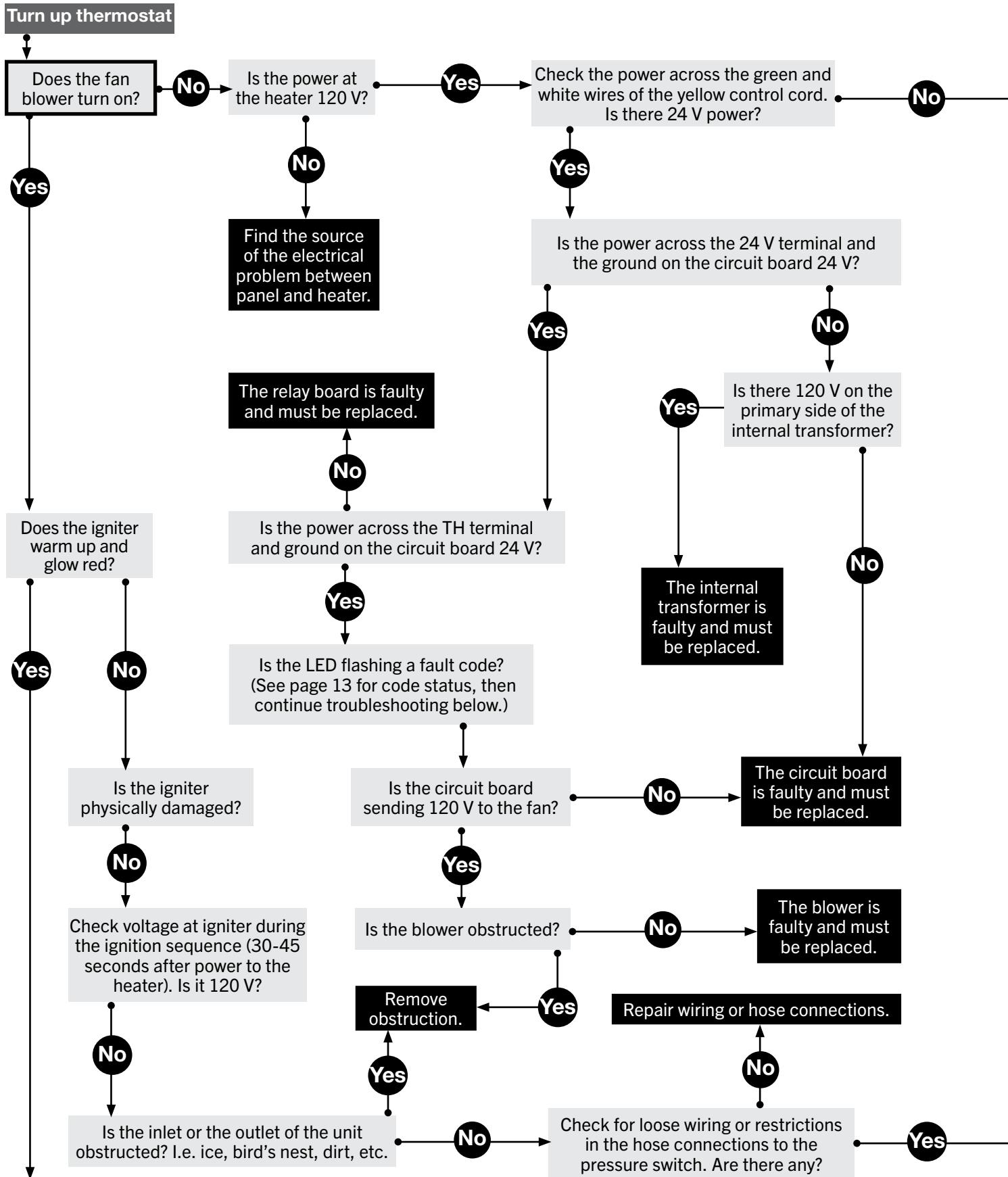


**Chart 3.1 • Micro 60U-24 LED Fault Code Status**

LED Code	Fault Status	Fault Code Delay*
Initial flash on power up, then steady off	No fault, normal operation	No Delay
Steady ON	Module failure / Internal fault	No Delay
1 flash	Ignition failure	30 – 32 minutes
2 or 3 flashes	APS (Air Proving Switch) (Fan / Intake / Exhaust)	10 – 12 minutes
4 flashes	Solenoid valve fault Leaky valve Flame amplifier fault	No Delay
No flash on 117 V startup	Transformer Fault	No Delay

\*Some LED codes have a time delay before the LED will flash.

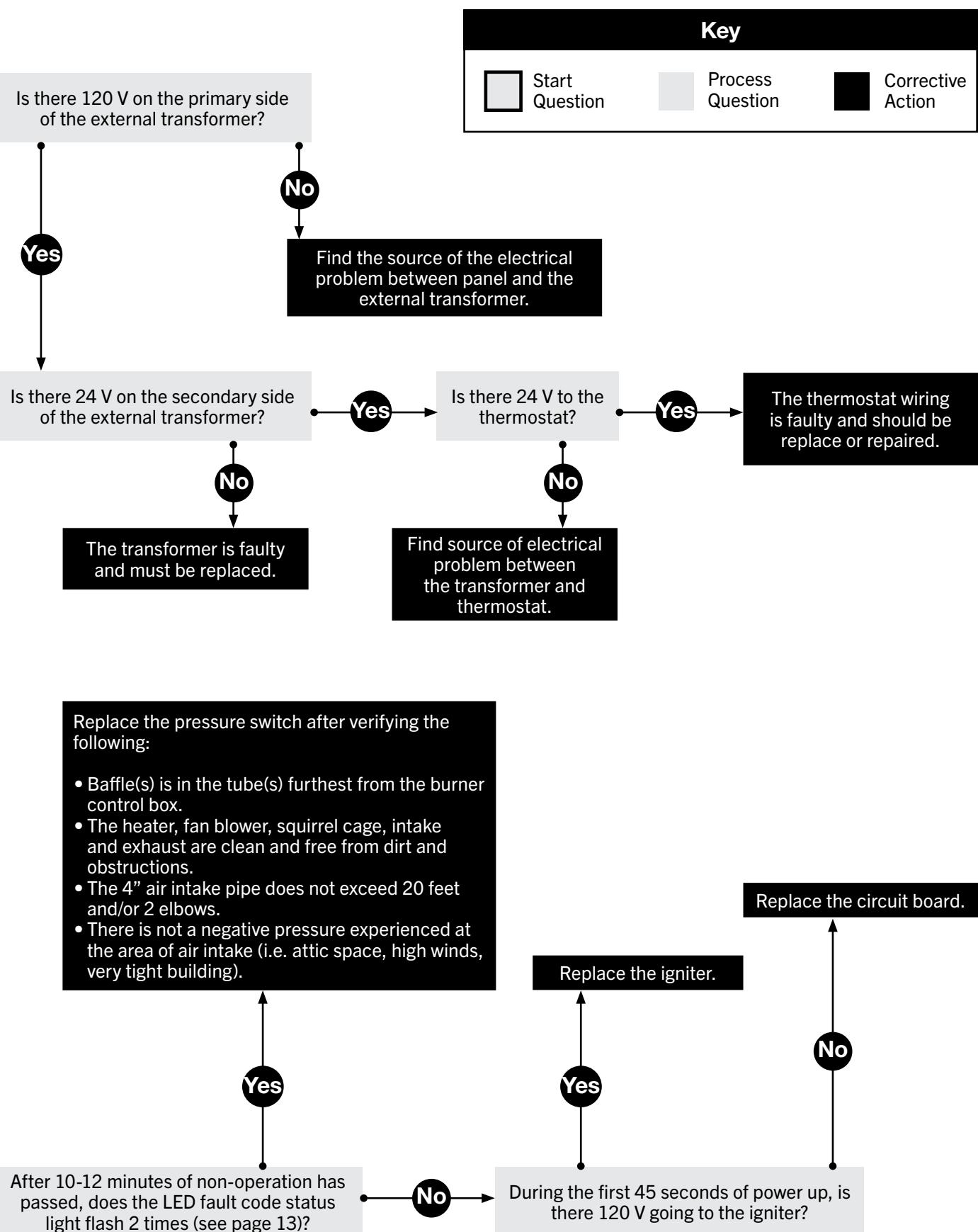
# 4.0 Troubleshooting Guide



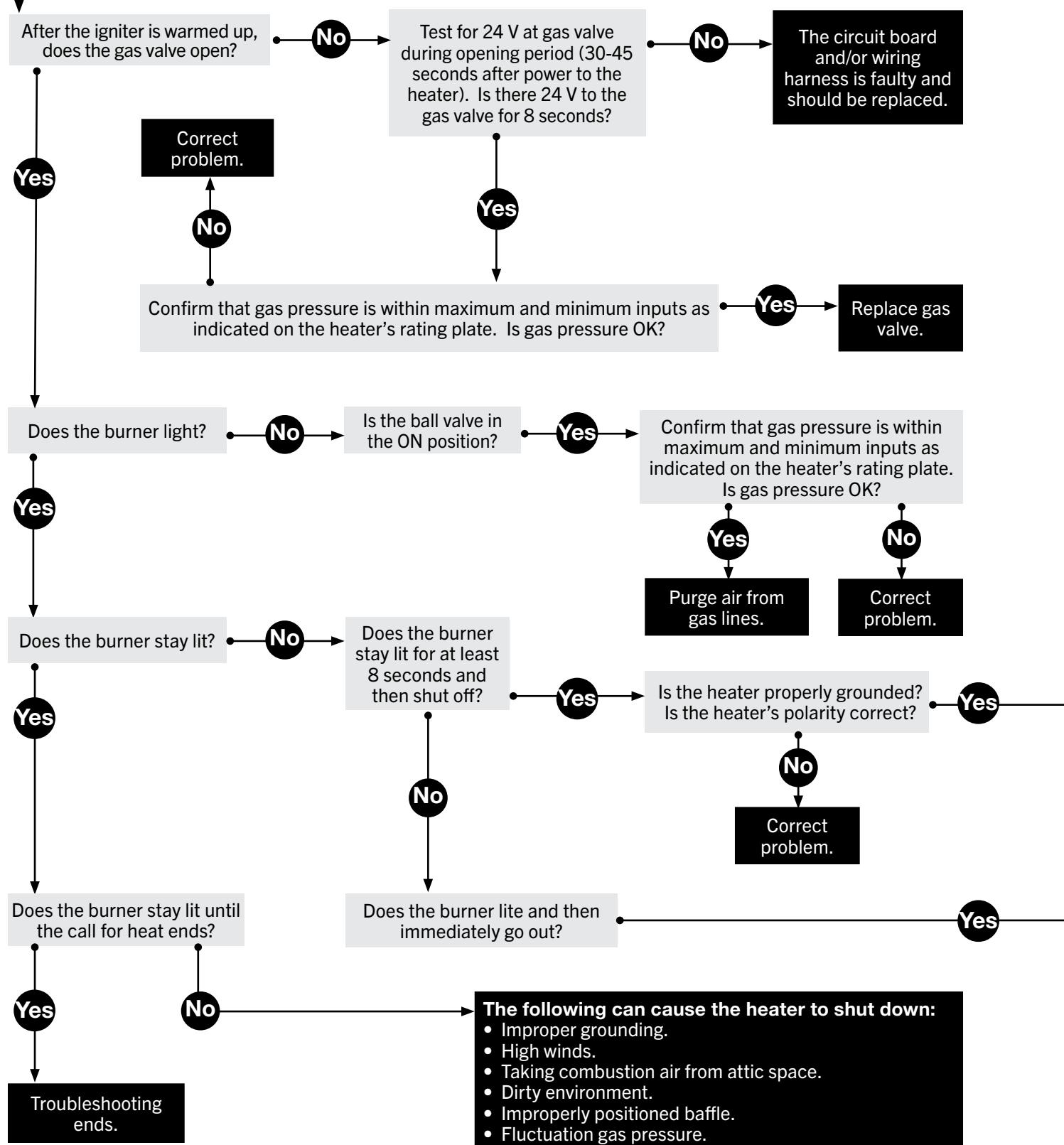
Continued on page 16.

**NOTICE**

Bypassing any switch is intended for testing purposes only. Do not leave switch bypassed during normal operation or the heater's built-in safety mechanisms will be compromised.



Continued from page 14.



**NOTICE**

Bypassing any switch is intended for testing purposes only. Do not leave switch bypassed during normal operation or the heater's built-in safety mechanisms will be compromised.

**If the heater does not enter High Fire mode, check the following:**

Check the power across the green and black wires of the yellow control cord. Is there 24 V?

Yes

Measure the voltage across the red wire on the relay board and ground on the circuit board. Is there 24 V?

No

Repair or replace the faulty wiring or thermostat.

Yes

The valve is faulty and must be replaced.

The relay board is faulty and must be replaced.

**NOTE:** To confirm that the heater is not in high fire mode, check the manifold pressure. If it is 3.5" (natural gas) or 10" (propane), the indicator light is faulty and should be replaced. If approximately 2.0" to 2.5" (natural gas) or 5.0" to 6.5" (propane), the heater is in low fire mode and the troubleshooting steps described here should be followed.

Sensing rod is faulty or the flame is too weak. Confirm that the heater is operating at the proper gas pressure as indicated on the heater's rating plate. Replace the sensing rod if necessary.

No

With a micrometer, check DC voltage at the flame rod. Is it greater than 0.7  $\mu$ A?

Yes

Confirm that the flame rod sensor wire is okay; if so, replace the circuit board.

Confirm that gas pressure is within maximum and minimum inputs as indicated on the heater's rating plate. Is gas pressure OK?

Yes

Either there is a restriction in the exhaust or the pressure switch is faulty.

No

Correct problem.

# 5.0 Parts

Figure 5.1 • Burner Assembly Components

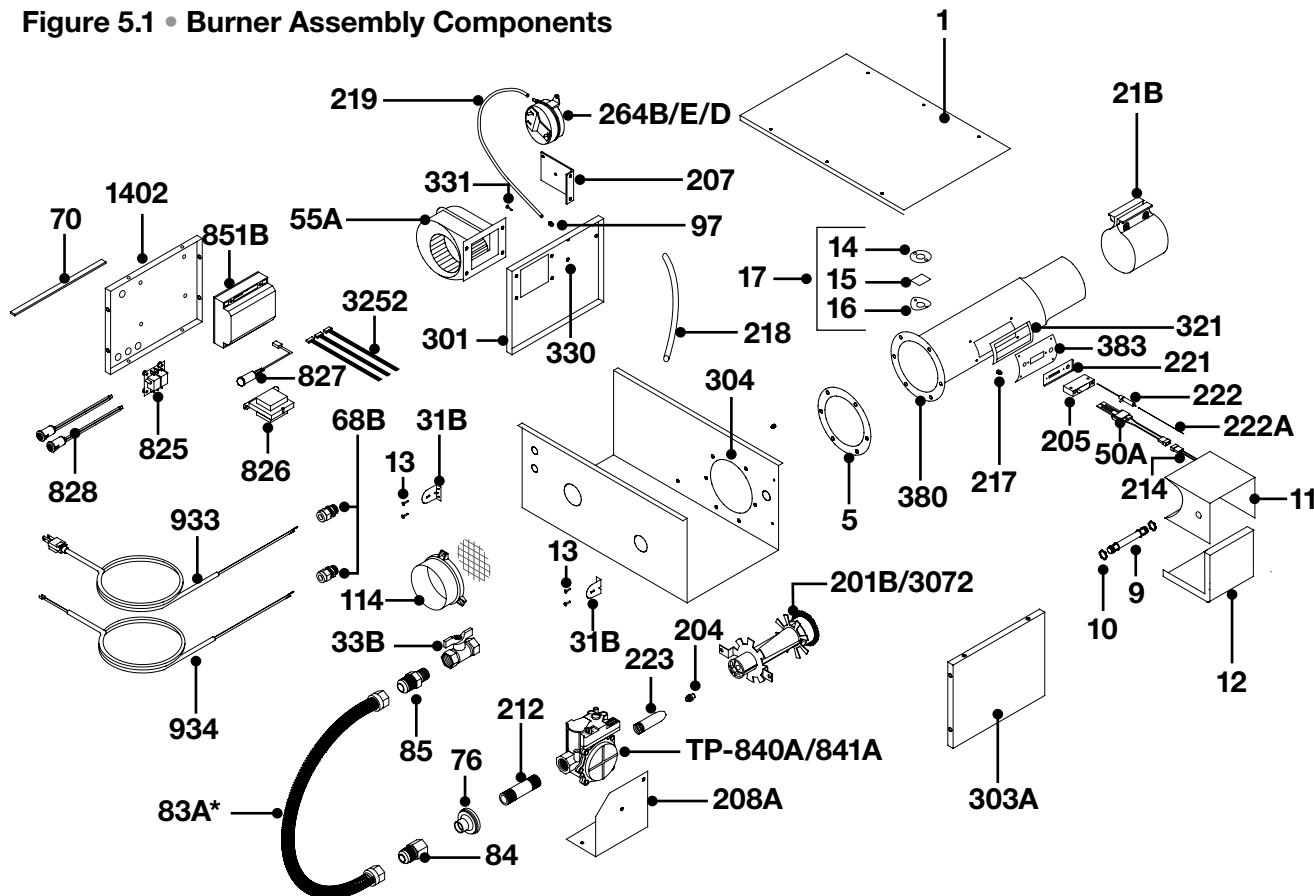
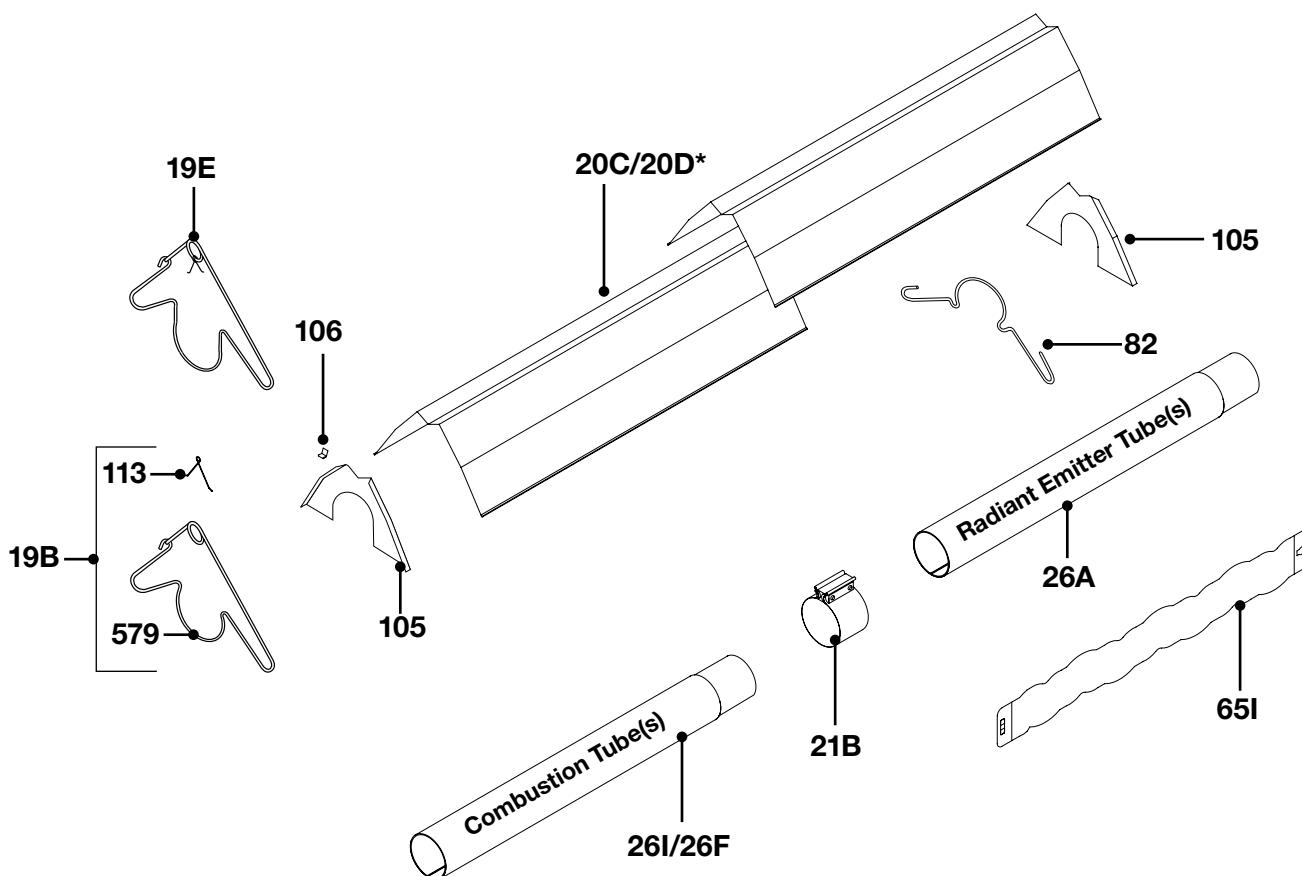


Chart 5.1 • Parts List

Part No.	Description	Part No.	Description
TP-1	Control Box Cover	TP-31B	Control Box Mounting Bracket (Qty. 2)
TP-5	Flange Gasket	TP-33B	1/2" Shut-Off Ball Valve / Inlet Tap
TP-9	Conduit Coupling	TP-50A	Glo-Bar™ Igniter
TP-10	Conduit 4" x 1/2"	TP-55A	Fan Blower
TP-11	Glo-Bar™ Igniter Box	TP-68B	36" Interlocking Turbulator Baffle
TP-12	Glo-Bar™ Igniter Box Cover	TP-65I	Large Strain Relief Bushing with Lock Nut
TP-13	8 x 1/2" Self-Drilling Screw (Qty. 4)	TP-70	Control Box Cover Gasket (per foot**)
TP-14	Sight Glass Gasket	TP-76	Rubber Grommet
TP-15	Sight Glass	TP-82	Reflector Center Support (RCS)
TP-16	Sight Glass Washer	TP-83A*	24" PVC Coated S.S. Flexible Gas Connector*
TP-17	Sight Glass Kit	TP-84	1/2" Female / Male Flare Fitting
TP-19B	4" Wire Hanger with Tension Spring	TP-85	1/2" Male / Male End Fitting
TP-19E	Optional 4" Elongated Wire Hanger	TP-97	1/4" x 1/4" Brass Int./Ext. Atmos. Barb Fitting
TP-20C	120" Aluminum Reflector	TP-105	Aluminum Reflector End Cap
TP-20D*	120" Stainless Steel Reflector*	TP-106	Reflector End Cap Clips (8 pcs.)
TP-21B	4" Standard Tube Clamp	TP-113	Reflector Tension Spring
TP-26A	10 ft. Black Coated (ALUM) Radiant Tube	TP-114	Plastic Air Orifice with Screen
TP-26F	10 ft. Uncoated (ALUM) Combustion Tube	TP-201B	Burner (Tan) - consult factory
TP-26I	10 ft. Uncoated (409 SS) Combustion Tube	TP-204	Gas Orifice (consult factory)

\*May be used with stainless steel upgrades. \*\* 6 feet total required to cover outer edges of the burner control box.

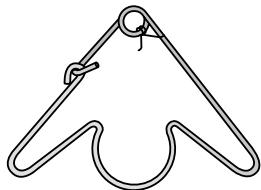
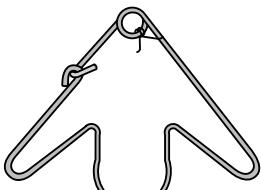
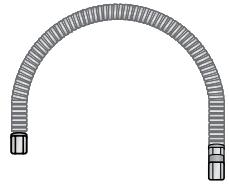
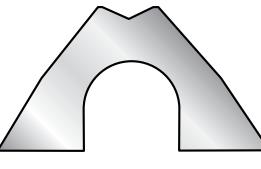
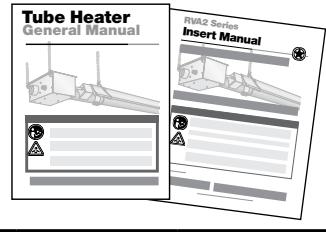
Figure 5.2 • Tube and Reflector Components



Part No.	Description	Part No.	Description
TP-205	Glo-Bar™ Holder	TP-321	Ignition Plate Gasket
TP-207	Pressure Switch Mounting Bracket	TP-330	Divider Grommet
TP-208A	Gas Valve Mounting Bracket	TP-331	Green Self Tap Ground Screw
TP-212	1/2" x 3" Pipe Nipple	TP-380	16" Burner Tube with Flange
TP-214	Glo-Bar™ Wiring Harness	TP-383	Glo-Bar™ Igniter Plate
TP-217	Pressure Switch Barb	TP-579	4 in. Wire Hanger
TP-218	Differential Vinyl Sensing Tube (exhaust)	TP-825	HLRB Relay Board
TP-219	Differential Vinyl Sensing Tube (burner)	TP-826	40 VA Transformer
TP-220*	Stainless Steel Tube Clamp (175 & 200 MBH)*	TP-827	Red LED Display Diagnostic Light
TP-221	Glo-Bar™ Holder Gasket	TP-828	Amber Operational Indicator Light
TP-222	Flame Rod	TP-840A	Natural Gas Valve Assembly
TP-222A	Flame Rod Wire	TP-841A	Propane Gas Valve Assembly
TP-223	Gas Manifold	TP-851B	35-66 Diagnostic Circuit Board
TP-264B	Differential Pressure Switch, 65 to 75 MBH	TP-933	Black 120 V 3-Prong Plug
TP-264E	Differential Pressure Switch, 100 & 125 MBH	TP-934	Yellow 24 V Control Wire
TP-264D	Differential Pressure Switch, 150 MBH	TP-1402	End Panel, Left
TP-301	Center Divider Panel	TP-3072	Burner (Green) - consult factory
TP-303A	End Panel, Right	TP-3252	4-Piece Wire Harness Set
TP-304	Burner Control Box Outer Shell		

## Kit Contents Check List

Chart 5.2 • Kit Contents for RVA2 Series - Reference the length column for your model.

RVA2 Series Kit Contents					
<b>TP-19B</b> 4" Hanger with Reflector Tension Spring  *TP-19C	<b>TP-19E</b> Optional 4" Elongated Hanger with Reflector Tension Spring 	<b>TP-33B</b> 1/2" Shut-Off Valve (Ball Valve & Inlet Tap) 	<b>TP-106</b> Reflector End Cap Clips 	<b>TP-82</b> 4" Reflector Center Support (RCS)  *TP-829	
<b>TP-83A</b> 24" PVC Coated Stainless Steel Flexible Gas Connector 	<b>TP-21B</b> 4" Tube Clamp  *TP-220	<b>TP-105</b> Reflector End Cap  *TP-105A		Tube Heater General and RVA2 Series Insert Manuals <b>F/N: LIOGta &amp; LIORVA2a</b> 	
Part No.	Description	20 Ft.	30 ft.	40 ft.	50 ft.
TP-19B	4" Hanger w/ Tension Spring	3	4	5	6
TP-19E	4" Elongated Hanger w/ Tension Spring**	Optional (4)	Optional (5)	Optional (6)	Optional (7)
TP-21B	4" Tube Clamp	2	3	4	5
TP-33B	1/2" Shut-Off Ball Valve & Inlet Tap	1	1	1	1
TP-82	4" Reflector Center Support	2	3	4	5
TP-83A	24" PVC Coated S.S. Flexible Gas Connector	1	1	1	1
TP-105	Reflector End Cap	2	2	2	2
TP-106	Reflector End Cap Clips	8	8	8	8
LIOGta	General Tube Heater Manual	1	1	1	1
LIORVA2a	RVA2 Series Insert Manual	1	1	1	1
Filled By:					

\* Part number for models upgraded with stainless steel options.

\*\* Reflector center supports (RCS) not applicable.

### Approvals

- CSA
- Indoor/outdoor approval
- Commercial/agricultural approval

### Limited Warranty

- 1 year - Burner box components
- 3 years - Combustion and radiant tubes
- 5 years - Stainless steel burner
- See page 40 of the General Tube Heater Manual for terms and conditions.



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