# SV Series
# Insert Manual

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

The SV Series Infrared Tube Heater is a negative pressure, single-stage radiant heater system. This insert manual is a supplement to the Tube Heater General Manual and provides specific information related to the SV 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.

**Keep these instructions for future reference.**

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Replaces: LIOSVa-1M-2/13 (DRP)

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

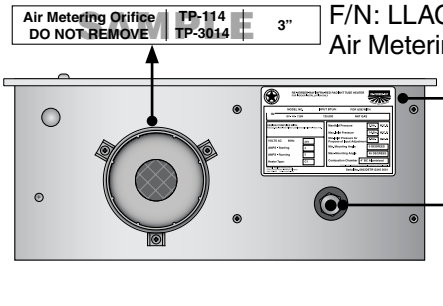
# 1.0 Safety

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

## Safety Labels and Their Locations

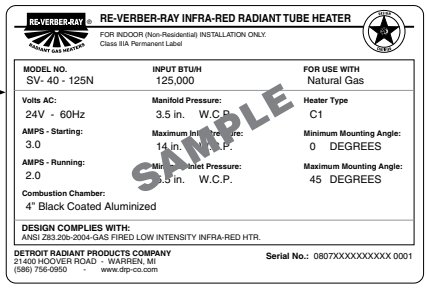
Product safety signs or labels should be replaced by the product user when they no longer are legible. Contact either your local distributor or the product manufacturer for obtaining replacement signs or labels.

Back Panel



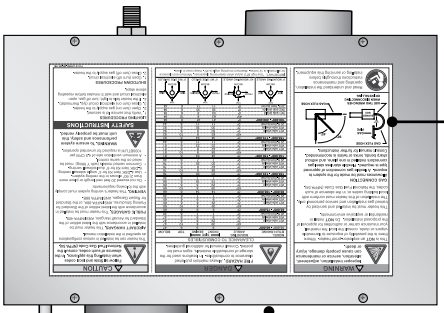

F/N: LLAC
Air Metering Orifice

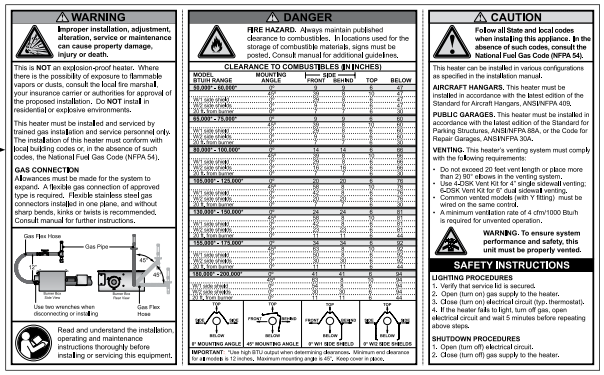
F/N: LLTB018 (Natural Gas)
F/N: LLTB019 (LP Gas)




Rating Plate

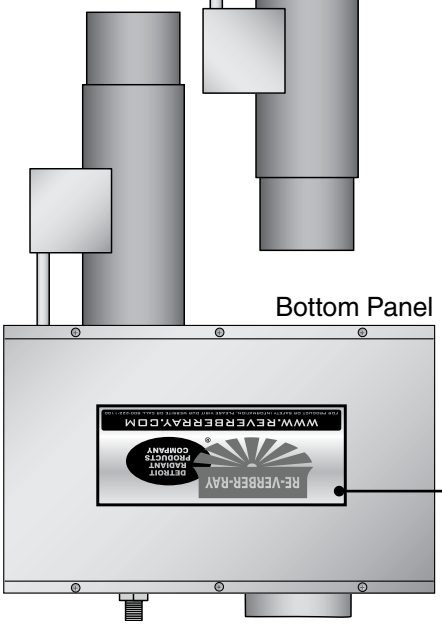
Top Panel

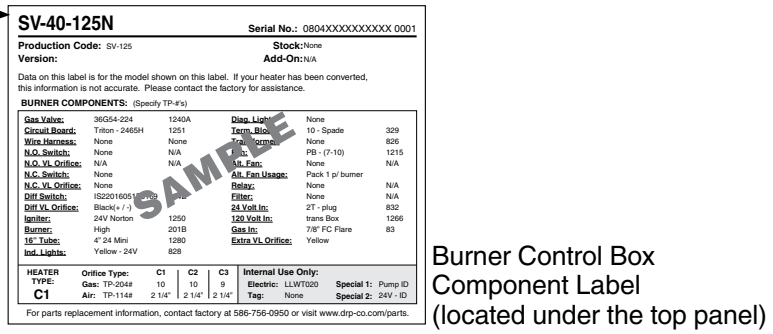




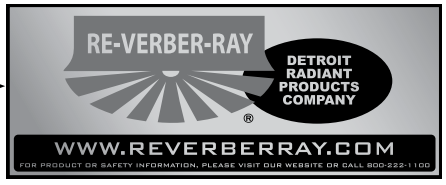

F/N: LLTCL001
Clearance to Combustibles Label.

Bottom Panel

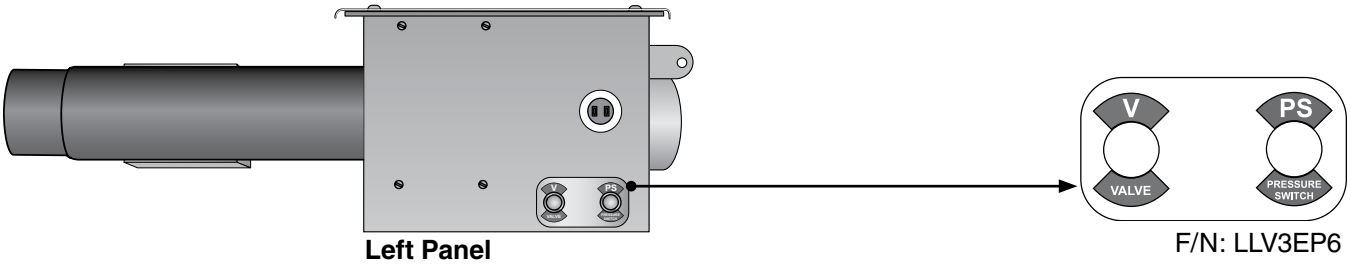



Burner Control Box
Component Label
(located under the top panel)

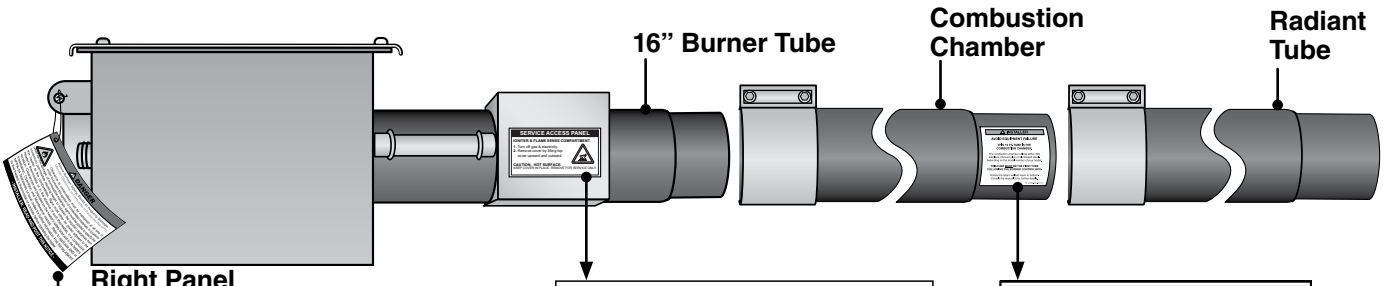



F/N: LLLOGO1




**Left Panel**

F/N: LLV3EP6




**Right Panel**
(Valve Compartment)

**⚠ DANGER**

**Avoid Serious Injury, Death or Property Damage.**
Maintain Clearances to Combustible to Prevent the Risk of Fire.

Clearance to combustibles must be maintained at all times in order to prevent the ignition of combustible materials. 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's thermostats or in the absence of such thermostats, in a conspicuous location. Clearances are provided on the heater's safety label and in the heater's Installation, Operation and Maintenance manual. Product installation and operation must comply with applicable standards, codes and regulations. Post this tag adjacent to the heater's thermostat or controls before operating the heater.

**- INSTALLER: READ AND POST THIS NOTICE -**

F/N: LL01 - Clearance Safety Tag
(Affix adjacent to heater's thermostat).

**SERVICE ACCESS PANEL**

**IGNITER & FLAME SENSE COMPARTMENT**

1. Turn off gas & electricity.
2. Remove cover by lifting top cover upward and outward.

**CAUTION: HOT SURFACE.**
KEEP COVER IN PLACE. REMOVE FOR SERVICE ONLY.

F/N: LLTB026

**⚠ INSTALLER**

**AVOID EQUIPMENT FAILURE**

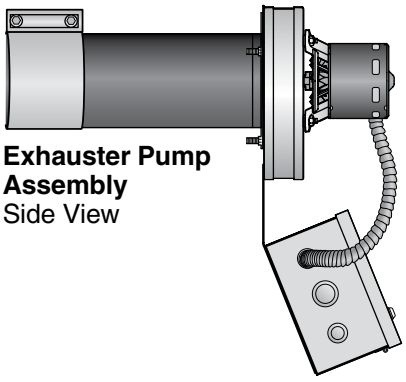
**THIS 10 FT. TUBE IS THE COMBUSTION CHAMBER.**

The combustion chamber utilizes either 409 stainless, titanium alloy or aluminized steel - depending on the model number of your heater.

**THIS TUBE MUST BE THE FIRST TUBE FOLLOWING THE BURNER CONTROL BOX.**

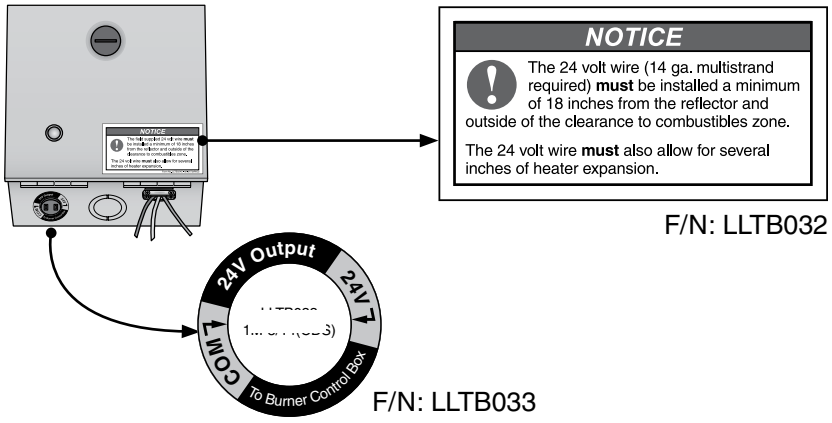
Rotate the tube's welded seam to bottom. Consult the manual(s) for further details.

F/N: LLTB004 (orange)
*Applicable on 150-200 MBH models only*



**Exhauster Pump Assembly**
Side View

**Power Box**
Front View




F/N: LLTB032

F/N: LLTB033

## Clearance 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 vapor in the vicinity of the heater.

Clearance to combustibles is defined as the minimum distance that must be maintained 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. Refer to Chart 1.1 to determine the required distances for your model.

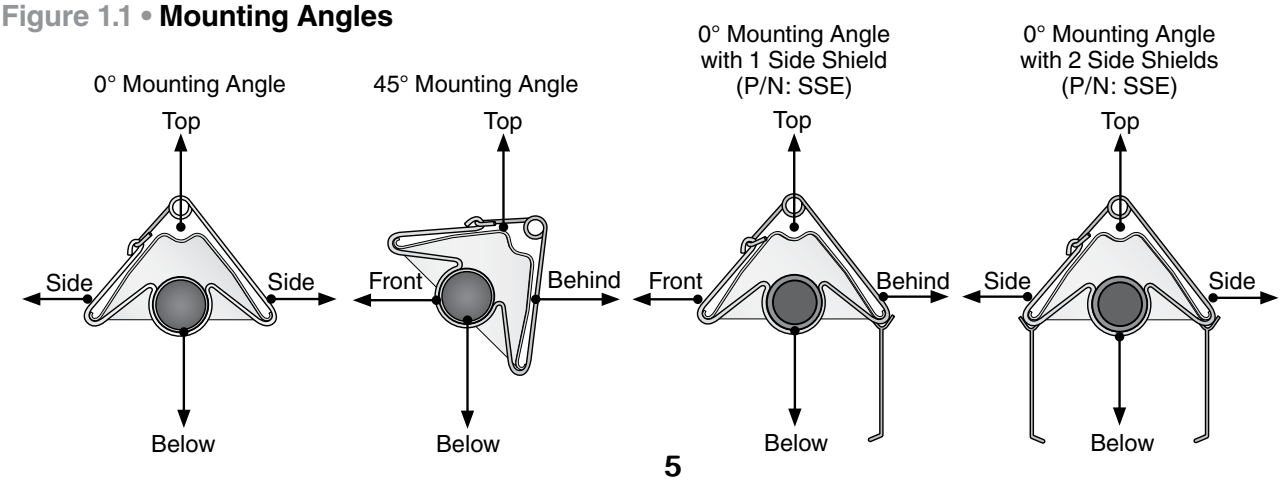
Chart 1.1 • **Clearance to Combustibles in Inches** (see Figure 1.1 for Mounting Angles)

| Model Number | Mounting Angle* | Side | | Top | Below |
|---|---|---|---|---|---|
| | | Front | Behind | | |
| **SV (20, 30, 40) - 50, 60 [N, P]** | 0° | 9 | 9 | 6 | 47 |
| | 45° | 39 | 8 | 10 | 47 |
| with 1 side shield | 0° | 29 | 8 | 6 | 47 |
| with 2 side shields | 0° | 9 | 9 | 6 | 47 |
| 20 ft. from burner | 0° | 7 | 7 | 6 | 30 |
| **SV (20, 30, 40) - 75 [N, P]** | 0° | 9 | 9 | 6 | 60 |
| | 45° | 39 | 8 | 10 | 60 |
| with 1 side shield | 0° | 29 | 8 | 6 | 60 |
| with 2 side shields | 0° | 9 | 9 | 6 | 60 |
| 20 ft. from burner | 0° | 7 | 7 | 6 | 30 |
| **SV (30, 40, 50) - 100 [N, P]** | 0° | 14 | 14 | 6 | 66 |
| | 45° | 39 | 8 | 10 | 66 |
| with 1 side shield | 0° | 29 | 8 | 6 | 66 |
| with 2 side shields | 0° | 16 | 16 | 6 | 66 |
| 20 ft. from burner | 0° | 7 | 7 | 6 | 30 |
| **SV (30, 40, 50) - 125 [N, P]** | 0° | 20 | 20 | 6 | 76 |
| | 45° | 58 | 8 | 10 | 76 |
| with 1 side shield | 0° | 42 | 8 | 6 | 76 |
| with 2 side shields | 0° | 20 | 20 | 6 | 76 |
| 20 ft. from burner | 0° | 7 | 7 | 6 | 30 |
| **SV (40, 50, 60) - 150 [N, P]** | 0° | 24 | 24 | 6 | 81 |
| | 45° | 58 | 8 | 10 | 81 |
| with 1 side shield | 0° | 42 | 8 | 6 | 81 |
| with 2 side shields | 0° | 23 | 23 | 6 | 81 |
| 20 ft. from burner | 0° | 11 | 11 | 6 | 44 |
| **SV (40, 50, 60, 70) - 175 [N, P]** | 0° | 34 | 34 | 6 | 92 |
| | 45° | 63 | 8 | 10 | 92 |
| with 1 side shield | 0° | 50 | 8 | 6 | 92 |
| with 2 side shields | 0° | 30 | 30 | 6 | 92 |
| 20 ft. from burner | 0° | 11 | 11 | 6 | 44 |
| **SV (50, 60, 70, 80) - 200 [N, P]** | 0° | 41 | 41 | 6 | 94 |
| | 45° | 63 | 8 | 10 | 94 |
| with 1 side shield | 0° | 54 | 8 | 6 | 94 |
| with 2 side shields | 0° | 30 | 30 | 6 | 94 |
| 20 ft. from burner | 0° | 11 | 11 | 6 | 44 |

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

The stated clearance to combustibles represents a surface temperature of 90°F (50°C) above room temperature. Building materials with a low heat tolerance (such as plastics, 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



**Not for residential use!** 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.

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

## Gas Requirements

| Type of Gas | Required Manifold Pressure | Minimum Inlet Pressure | Maximum Inlet Pressure |
|---|---|---|---|
| Natural | 3.5 Inches W.C. | 5.0 Inches W.C. | 14.0 Inches W.C. |
| Liquefied Petroleum | 10.0 Inches W.C. | 11.0 inches W.C. | 14.0 Inches W.C. |

**NOTE:** Check manifold pressure at the tap on the gas valve. Small variations in manifold pressure (actual vs. published) may exist due to changing atmospheric conditions. Readings will be above atmospheric pressure.



**IMPORTANT:** Consult the Tube Heater General Manual for gas connection requirements.

## Electrical Requirements

## ⚠ WARNING



**Electric Shock**

Field wiring to the tube heater must be connected and grounded in accordance with national, state, provincial, local codes and to the guidelines in the Tube Heater General Manual and Series Insert Manual. 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.

Power to the exhauster assembly is supplied via a 120VAC-60Hz. connection and controlled via a thermostat or switch. The burner control box is powered by 24VAC via the terminal plug connection from the exhauster power box assembly. See Figures 2.1-2.2.

- 120 Volt - 60 Hz GRD, 3-wire.
- Starting current 3.0 amps
- Running current 2.0 amps

The use of 14 ga. minimum multi strand wire (field supplied) is required to connect the exhauster assembly to the burner control box. A round terminal plug accepts two (2) 1/4" insulated female spade terminals (field supplied).

**IMPORTANT:** The wire (field supplied) connecting the exhauster power box assembly to the burner control box **must** be mounted a minimum of 18 inches from the top of the reflector and outside of any other clearance requirements. The span of wire **must** allow for several inches of heater expansion.

## Thermostat

SV Series heaters require a 120VAC thermostat to operate. **NOTE:** Different thermostats operate according to their particular features. Refer to thermostat specifications for details.

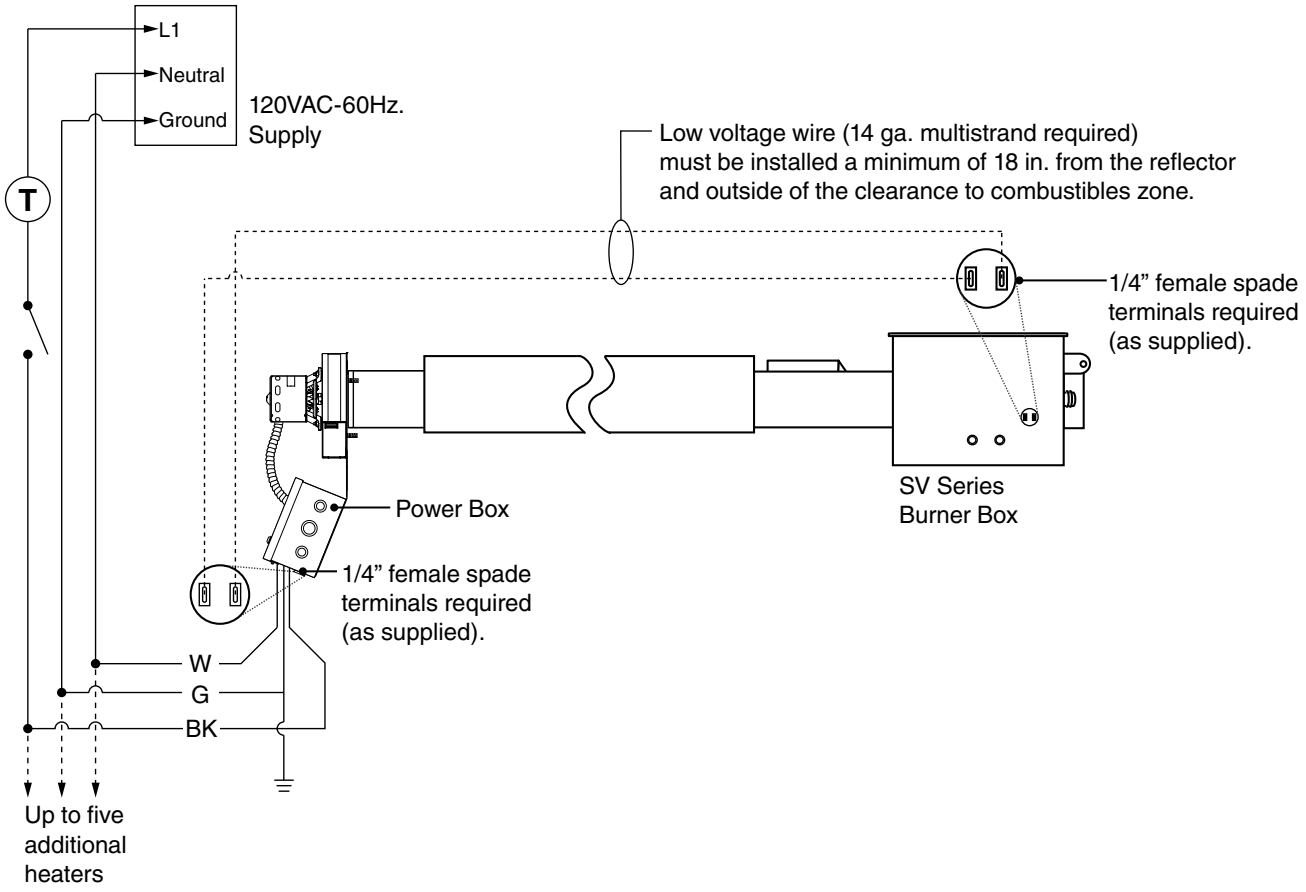
**NOTE:** The wire (field supplied) is **not** where the thermostat is tied into. The thermostat switches the 120VAC supply voltage. Refer to field wiring diagrams (Figures 2.1A & 2.1B).

## Wiring

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

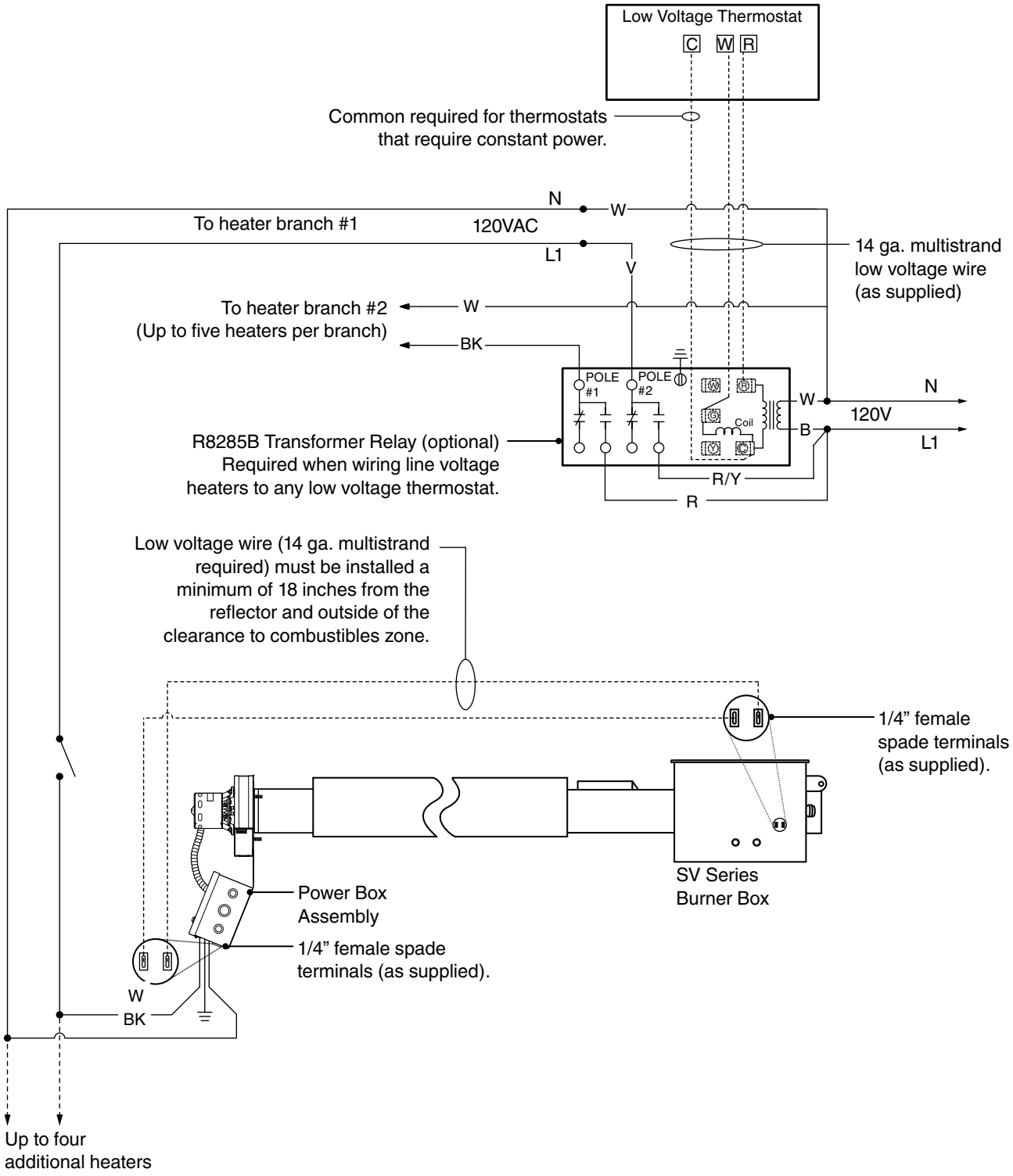
**Figure 2.1 • Field Wiring Diagrams**

**A.** Line Voltage Thermostat Wiring - Single thermostat (20 amp), up to six heaters.



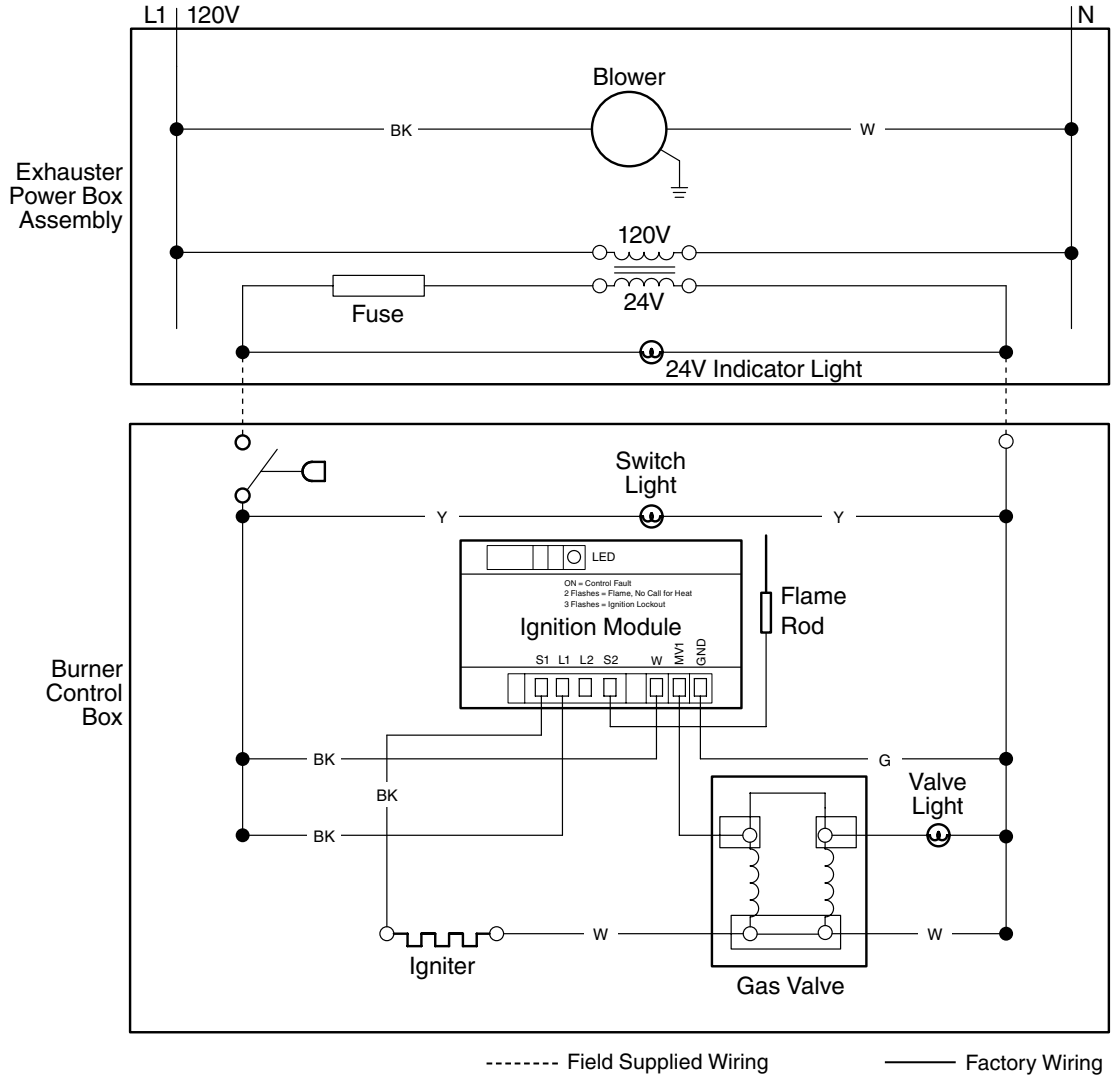
## Figure 2.1 • Field Wiring Diagrams

**B.** Low Voltage Thermostat Wiring (with optional R8285B transformer relay) - Up to Five Heaters per branch.

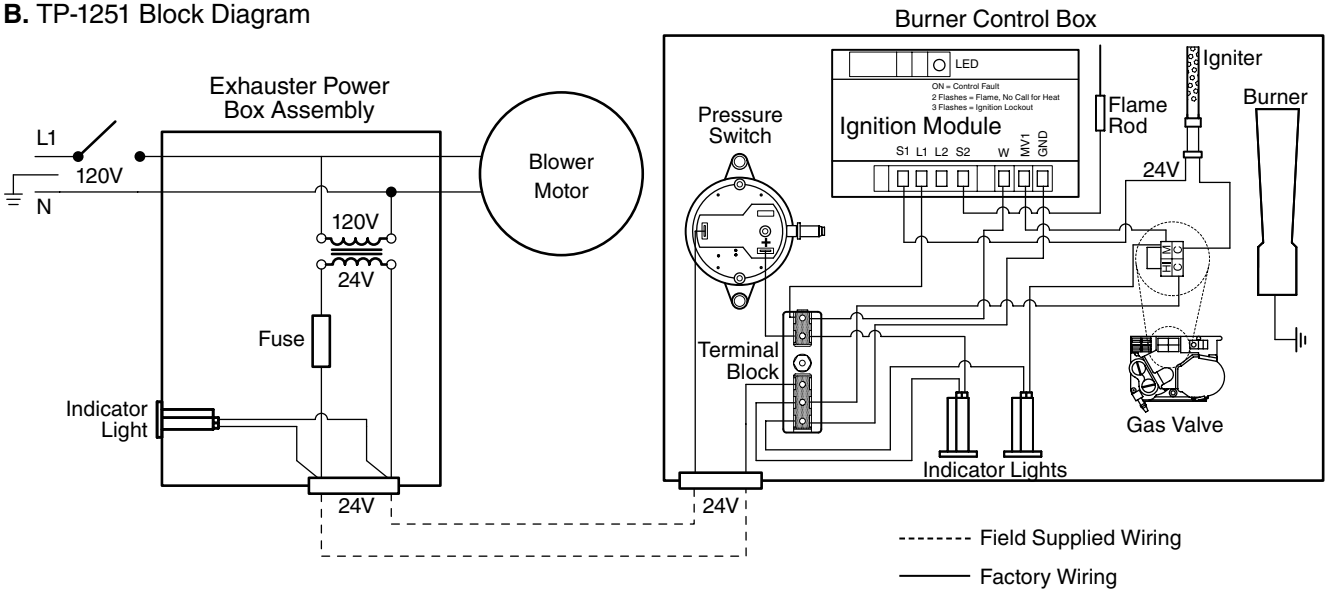


## Figure 2.2 • Internal Wiring Diagrams

**A.** TP-1251 Ladder Diagram




**B.** TP-1251 Block Diagram



# Specifications

## Chart 2.1 • Specifications

| Model Number | Gas Type (select one) | BTU/h | Straight Length | U-Tube Length | Standard Weight (lbs.) | Recommended Mounting Height | Combustion Chamber | Radiant Emitter Tube(s) (Black Coated) | Radiant Surface Area (sq. ft.) | 36" Baffle Sections | Maximum Vent Length (ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SV-20-50** | N or LP | 50,000 | 22'-7" | 13'-0" | 140 | 9' to 14' | Alum | Alum | 20.2 | 5 | 25 |
| **SV-20-60** | N or LP | 60,000 | 22'-7" | 13'-0" | 140 | 10' to 15' | Alum | Alum | 20.2 | 5 | 25 |
| **SV-20-75** | N or LP | 75,000 | 22'-7" | 13'-0" | 140 | 10' to 15' | Alum | Alum | 20.2 | 5 | 30 |
| **SV-30-50** | N or LP | 50,000 | 32'-3" | **17'-8" | 180 | 10' to 15' | Alum | Alum | 30.4 | 4 | 20 |
| **SV-30-60** | N or LP | 60,000 | 32'-3" | **17'-8" | 180 | 11' to 18' | Alum | Alum | 30.4 | 4 | 20 |
| **SV-30-75** | N or LP | 75,000 | 32'-3" | **17'-8" | 180 | 12' to 20' | Alum | Alum | 30.4 | 4 | 25 |
| **SV-30-100** | N or LP | 100,000 | 32'-3" | **17'-8" | 180 | 13' to 23' | Alum | Alum | 30.4 | 3 | 30 |
| **SV-30-125** | N or LP | 125,000 | 32'-3" | **17'-8" | 180 | 14' to 25' | Alum | Alum | 30.4 | 5 | 35 |
| **SV-40-50** | N or LP | 50,000 | 41'-11" | 22'-8" | 210 | 11' to 18' | Alum | Alum | 40.5 | 3 | 20 |
| **SV-40-60** | N or LP | 60,000 | 41'-11" | 22'-8" | 210 | 11' to 18' | Alum | Alum | 40.5 | 3 | 20 |
| **SV-40-75** | N or LP | 75,000 | 41'-11" | 22'-8" | 210 | 12' to 20' | Alum | Alum | 40.5 | 3 | 25 |
| **SV-40-100** | N or LP | 100,000 | 41'-11" | 22'-8" | 210 | 13' to 23' | Alum | Alum | 40.5 | 2 | 25 |
| **SV-40-125** | N or LP | 125,000 | 41'-11" | 22'-8" | 210 | 14' to 25' | Alum | Alum | 40.5 | 4 | 30 |
| **SV-40-150** | N or LP | 150,000 | 41'-11" | 22'-8" | 210 | 15' to 27' | Titan | Alum | 40.5 | 4 | 35 |
| **SV-40-175** | N or LP | 175,000 | 41'-11" | 22'-8" | 210 | 16' to 30' | Titan | Alum | 40.5 | 4 | 35 |
| **SV-50-100** | N or LP | 100,000 | 51'-7" | **27'-4" | 255 | 15' to 27' | Alum | Alum | 50.6 | 1 | 25 |
| **SV-50-125** | N or LP | 125,000 | 51'-7" | **27'-4" | 255 | 15' to 27' | Alum | Alum | 50.6 | 3 | 30 |
| **SV-50-150** | N or LP | 150,000 | 51'-7" | **27'-4" | 255 | 16' to 30' | Titan | Alum | 50.6 | 3 | 30 |
| **SV-50-175** | N or LP | * 175,000 | 51'-7" | **27'-4" | 255 | 17' to 35' | Titan | Alum | 50.6 | 3 | 35 |
| **SV-50-200** | N or LP | * 200,000 | 51'-7" | **27'-4" | 255 | 18' to 40' | Titan | Alum | 50.6 | 4 | 35 |
| **SV-60-150** | N or LP | 150,000 | 61'-3" | 32'-4" | 285 | 17' to 35' | Titan | Alum | 60.7 | 2 | 25 |
| **SV-60-175** | N or LP | * 175,000 | 61'-3" | 32'-4" | 285 | 17' to 35' | Titan | Alum | 60.7 | 2 | 30 |
| **SV-60-200** | N or LP | * 200,000 | 61'-3" | 32'-4" | 285 | 18' to 40' | Titan | Alum | 60.7 | 3 | 30 |
| **SV-70-175** | N or LP | * 175,000 | 70'-11" | **37'-0" | 320 | 19' to 42' | Titan | Alum | 70.9 | 1 | 25 |
| **SV-70-200** | N or LP | * 200,000 | 70'-11" | **37'-0" | 320 | 19' to 42' | Titan | Alum | 70.9 | 2 | 30 |
| **SV-80-200** | N or LP | * 200,000 | 80'-7" | 42'-0" | 350 | 20' to 45' | Titan | Alum | 80.1 | 1 | 25 |

See Figure 2.6 for exhauster assembly dimensions.

* Model requires stainless steel tube clamp (P/N: TP-220) to be located at the seam between the first and second 10 ft. tube sections downstream of the burner control box.

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

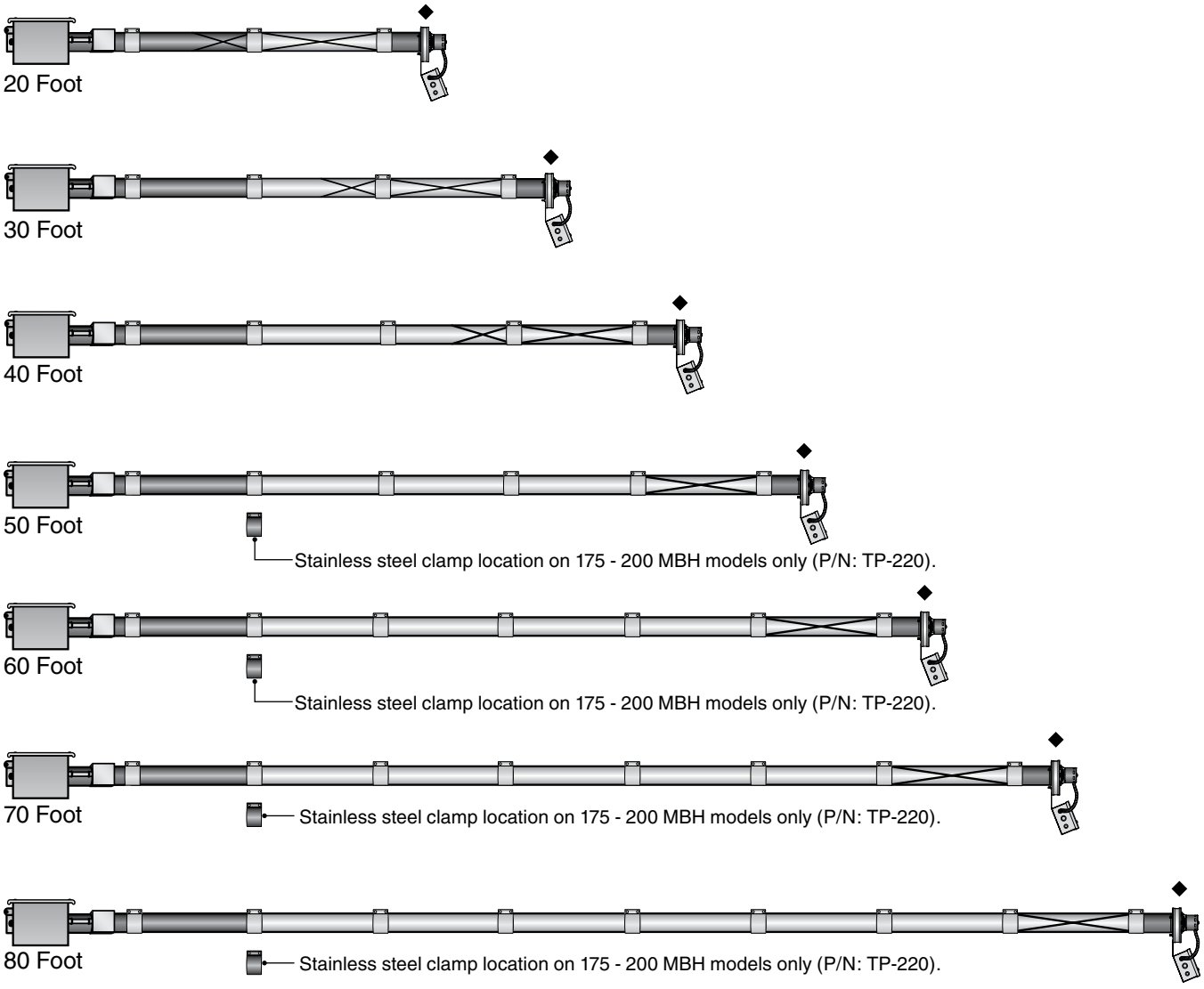
Titan = Black coated titanium stabilized aluminized steel.

Alum = Black coated aluminized treated steel.

## Tube Installation Sequence

**Figure 2.4 • Tube Installation Sequence**

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




**Key**

- Burner Control Box with 16” Burner Tube
- Combustion Chamber
- Coated Aluminized Radiant Emitter Tube
- Baffle Location
- Standard Tube Clamp
- Stainless Steel Tube Clamp (P/N: TP-220)
  *175-200 MBH models only - Located between 1st and 2nd 10 ft. tube sections.*
- Exhauster Pump Assembly
- Security Chain Location (P/N: THCS)

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

## Exhauster Mounting Details

When installing this heater in a U-shaped configuration, the exhauster assembly and the burner control box must not interfere with each other. When looking at the U-shaped configuration from behind, the burner control box is on the left and the exhauster assembly is on the right. See Figure 2.5.

**Figure 2.5 • Exhauster Assembly Mounting Details - U-Shaped Configuration**

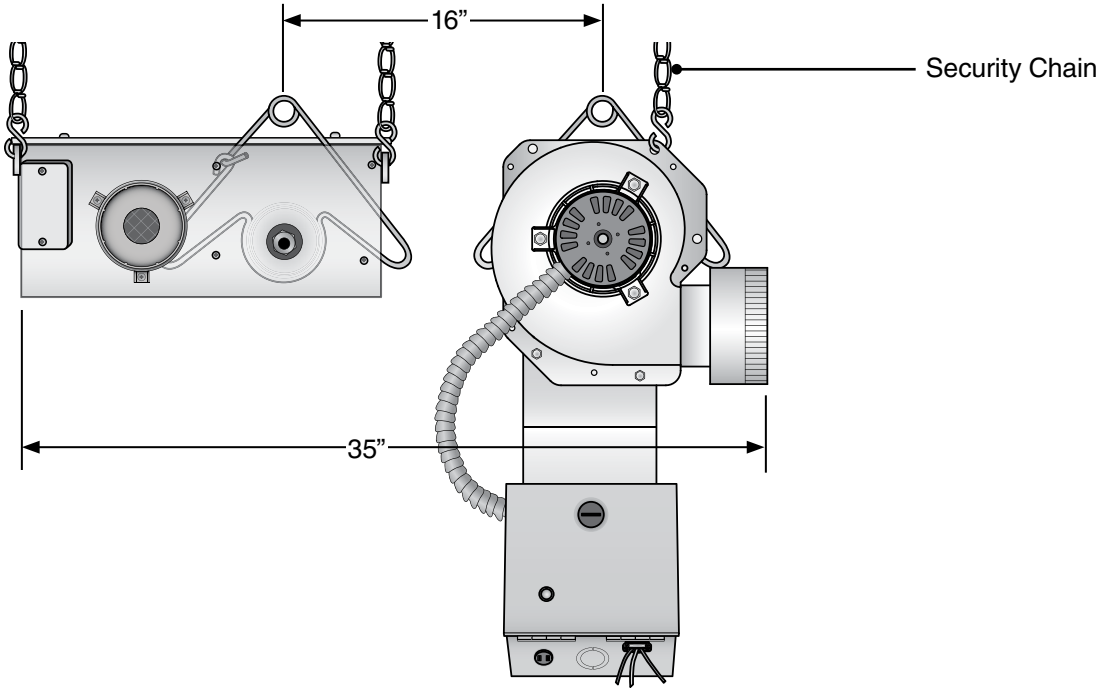
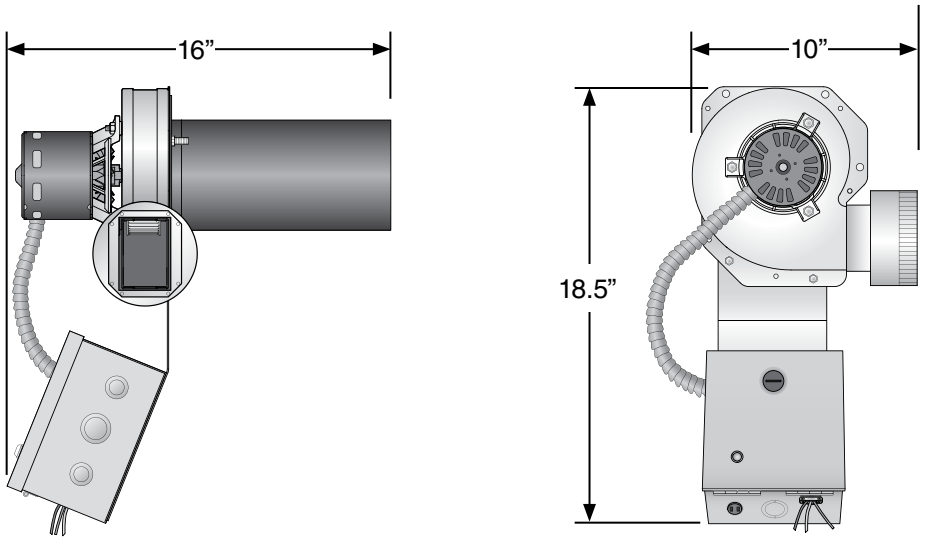



**Figure 2.6 • Exhauster Assembly Dimensions**




**SIDE VIEW** **END VIEW**

# 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 (F/N: LIOGTa) for installation requirements.

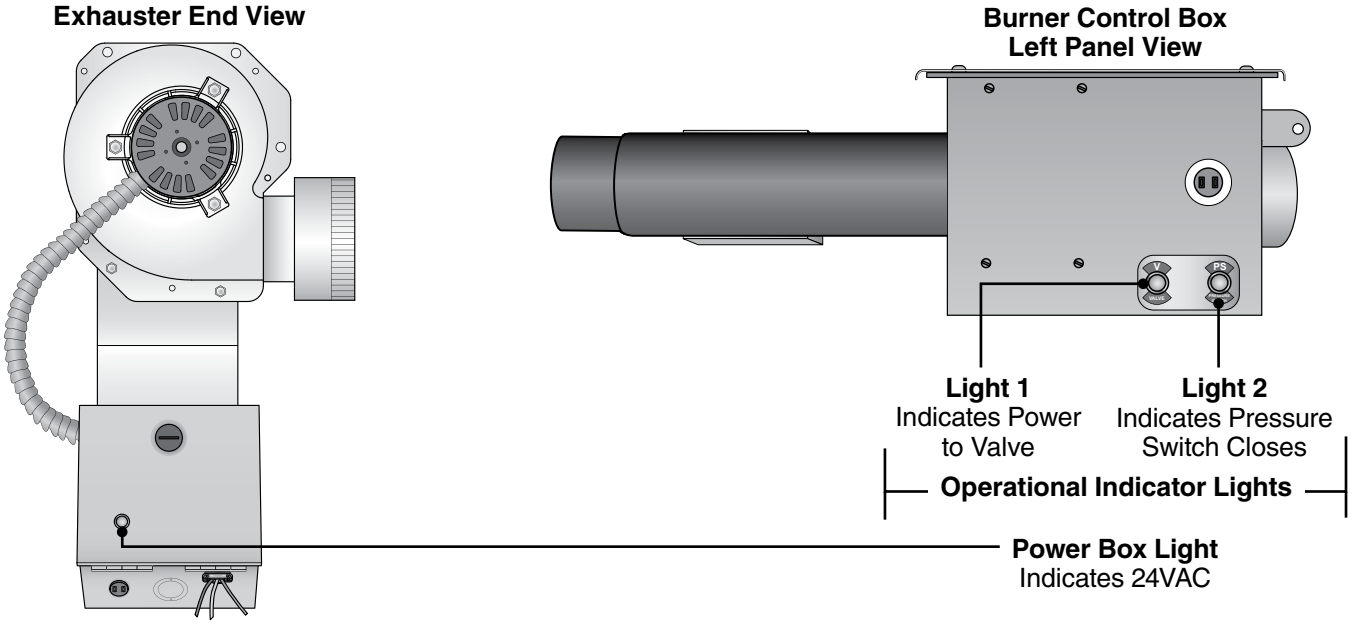
## Sequence of Operation

**Starting Circuit:** Upon a call for heat, the exhauster fan energizes creating a negative air pressure allowing the differential pressure switch to close. A low voltage circuit is completed from the secondary side of the transformer to the ignition module. After a five (5) second delay, the igniter is powered. After seven (7) seconds, gas valve opens initiating the ignition trial. If flame is not sensed after 15 seconds, the heater will attempt to re-ignite for a total of three (3) trials for ignition before entering lockout mode.

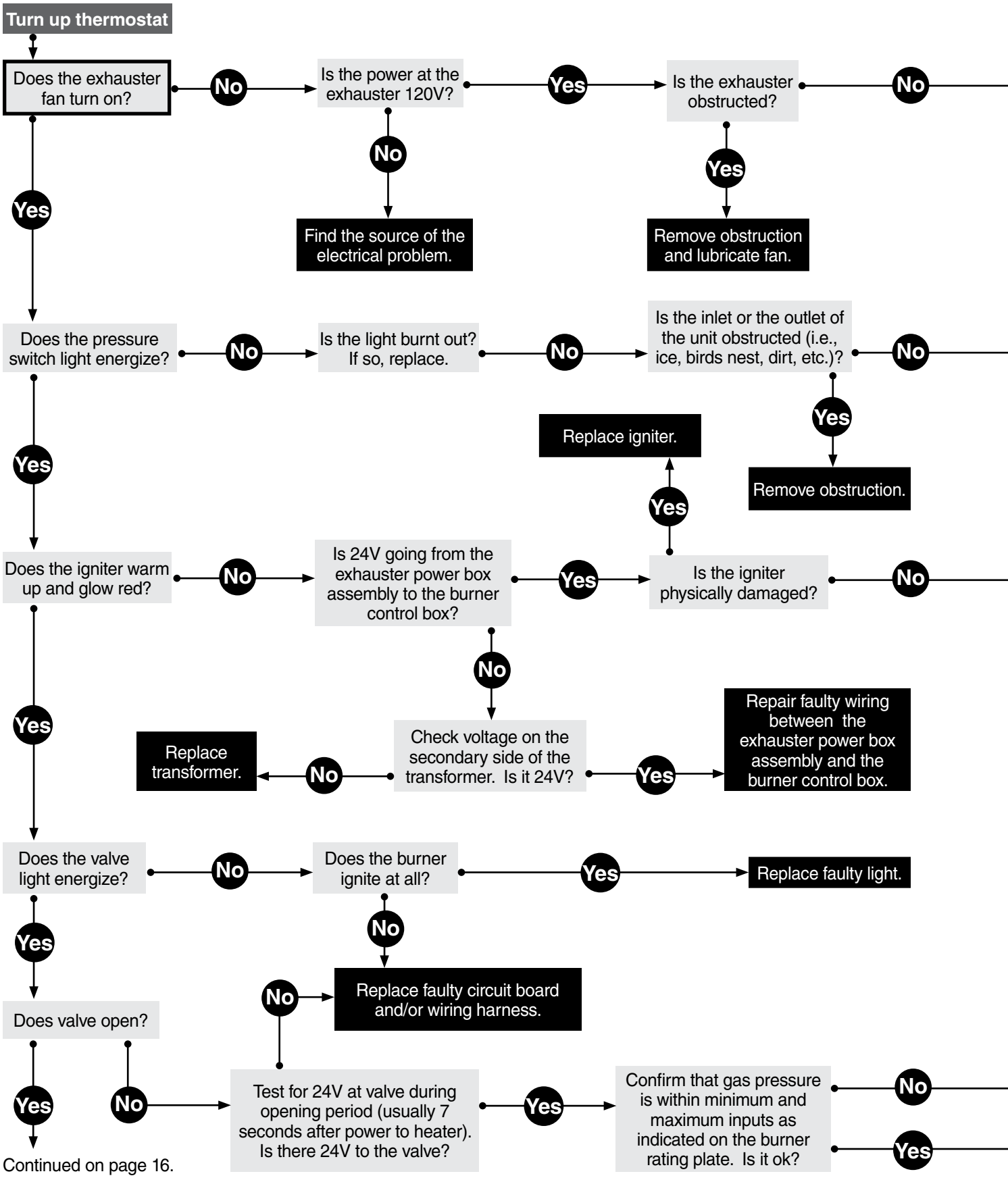
**Running Circuit:** After ignition, the flame rod monitors burner flame. If sense of flame is lost, the control closes the gas valve within one second and a new trial sequence (identical to the starting sequence) is initiated. If flame sense is not established within 15 seconds, the heater will attempt two (2) additional ignition sequences before entering lockout mode. The control can be reset by briefly interrupting the power source.

## Operational Indicator Lights

**Figure 3.1 • Operational Indicator Lights**

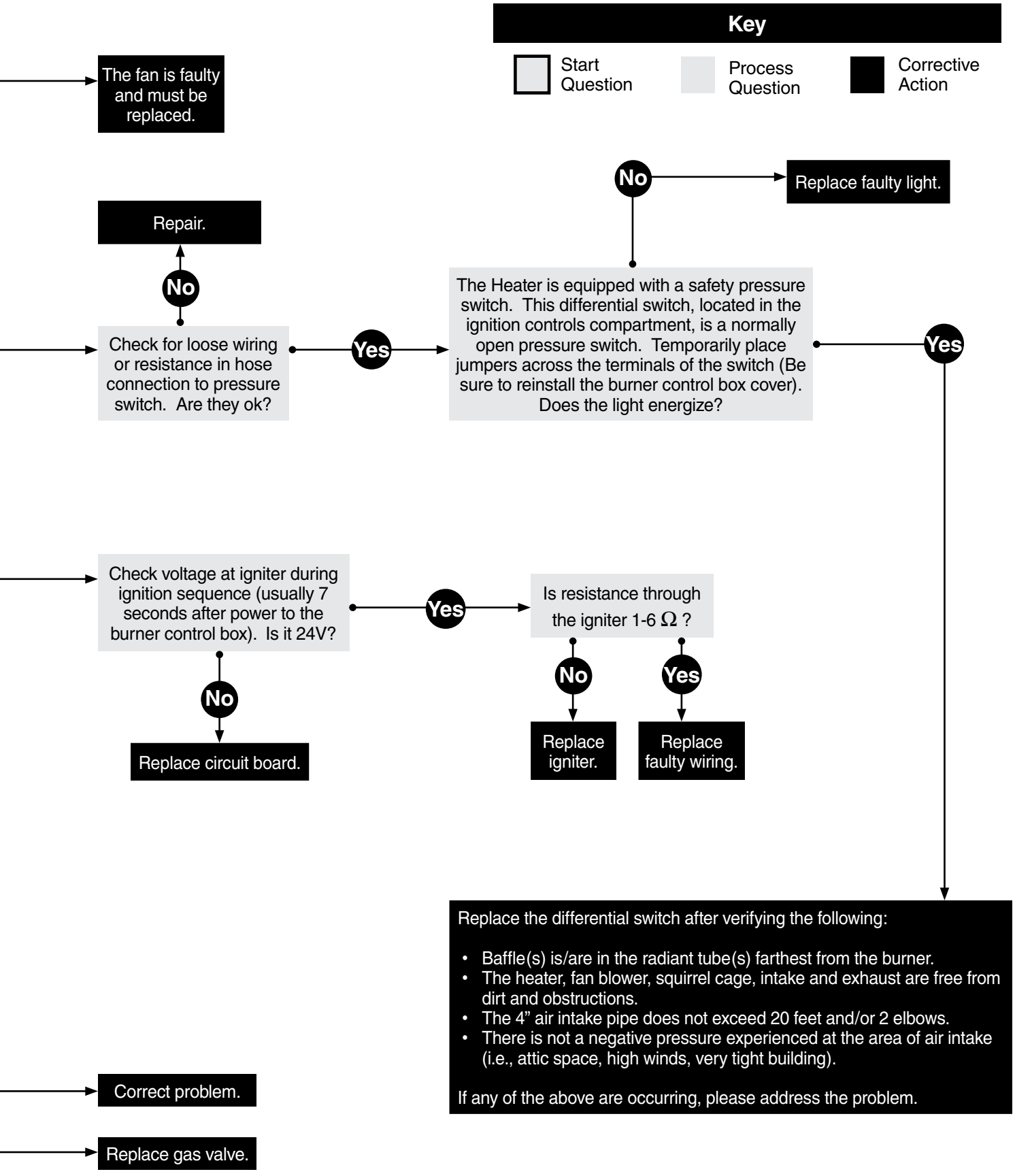


# 4.0 Troubleshooting Guide

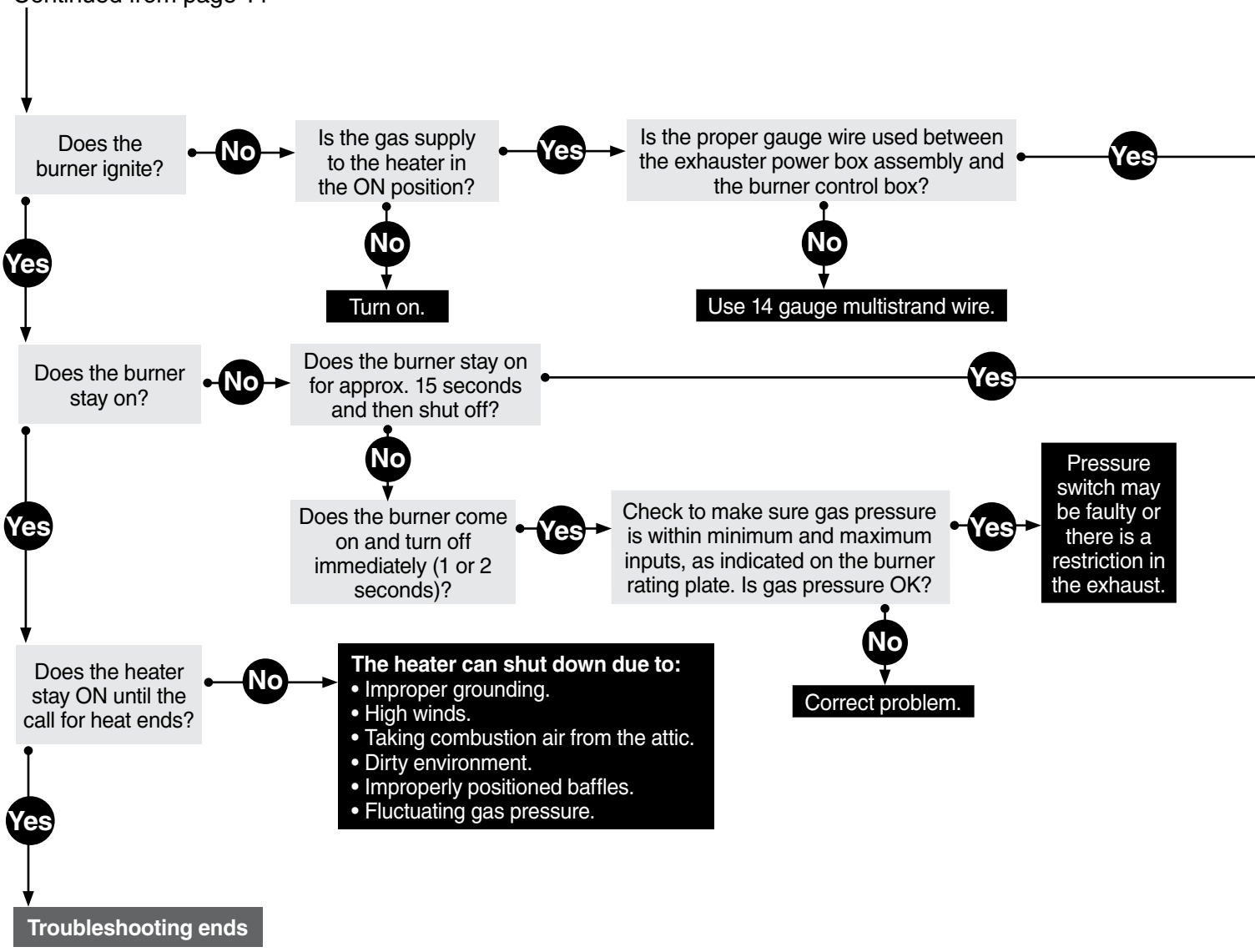


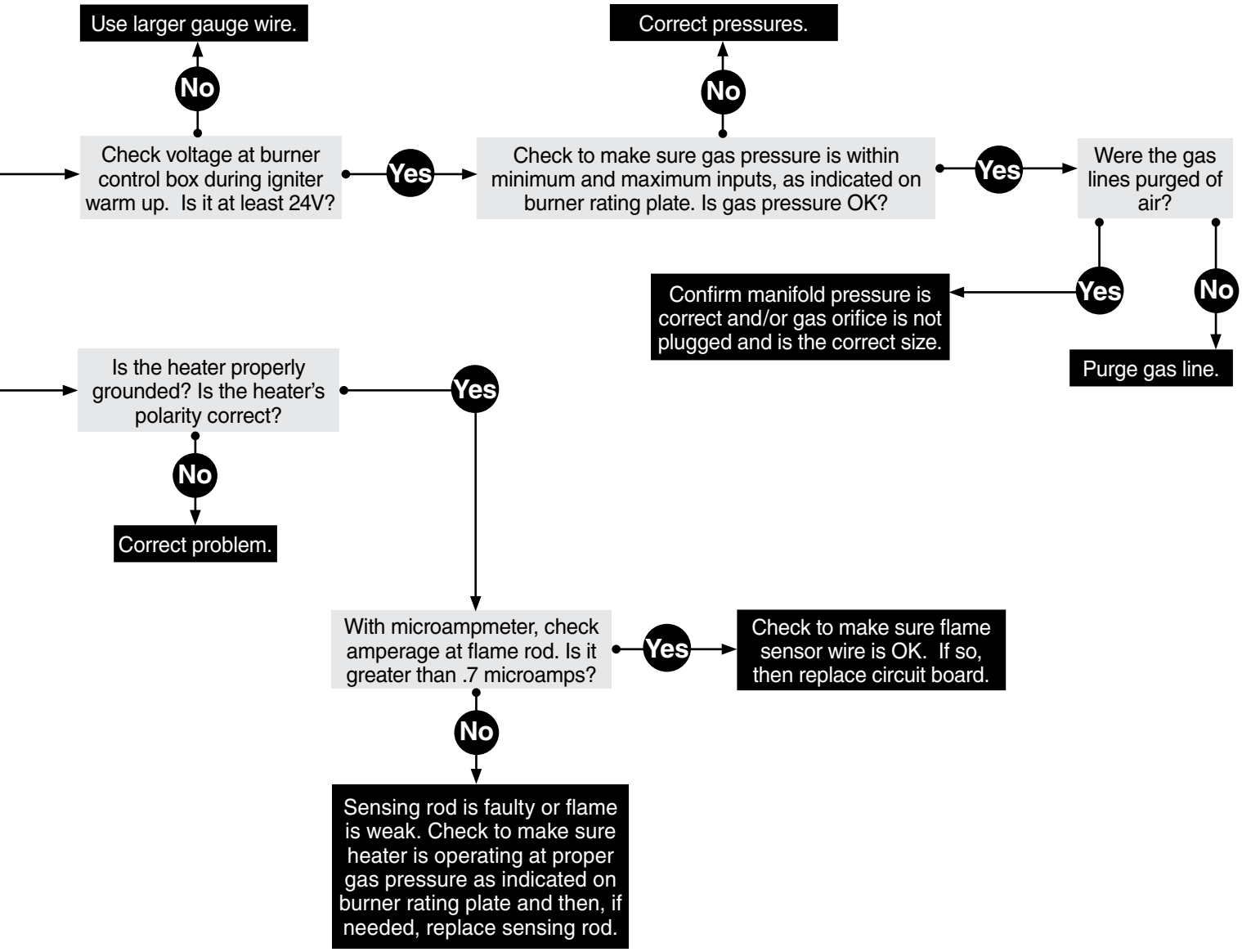

Continued on page 16.

**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




Use larger gauge wire.
No
Check voltage at burner control box during igniter warm up. Is it at least 24V?
Yes
Correct pressures.
No
Check to make sure gas pressure is within minimum and maximum inputs, as indicated on burner rating plate. Is gas pressure OK?
Yes
Were the gas lines purged of air?
Yes
Confirm manifold pressure is correct and/or gas orifice is not plugged and is the correct size.
No
Purge gas line.
Is the heater properly grounded? Is the heater's polarity correct?
Yes
No
Correct problem.
With microampmeter, check amperage at flame rod. Is it greater than .7 microamps?
Yes
Check to make sure flame sensor wire is OK. If so, then replace circuit board.
No
Sensing rod is faulty or flame is weak. Check to make sure heater is operating at proper gas pressure as indicated on burner rating plate and then, if needed, replace sensing rod.

# 5.0 Parts

**Figure 5.1 • Burner Assembly Components**

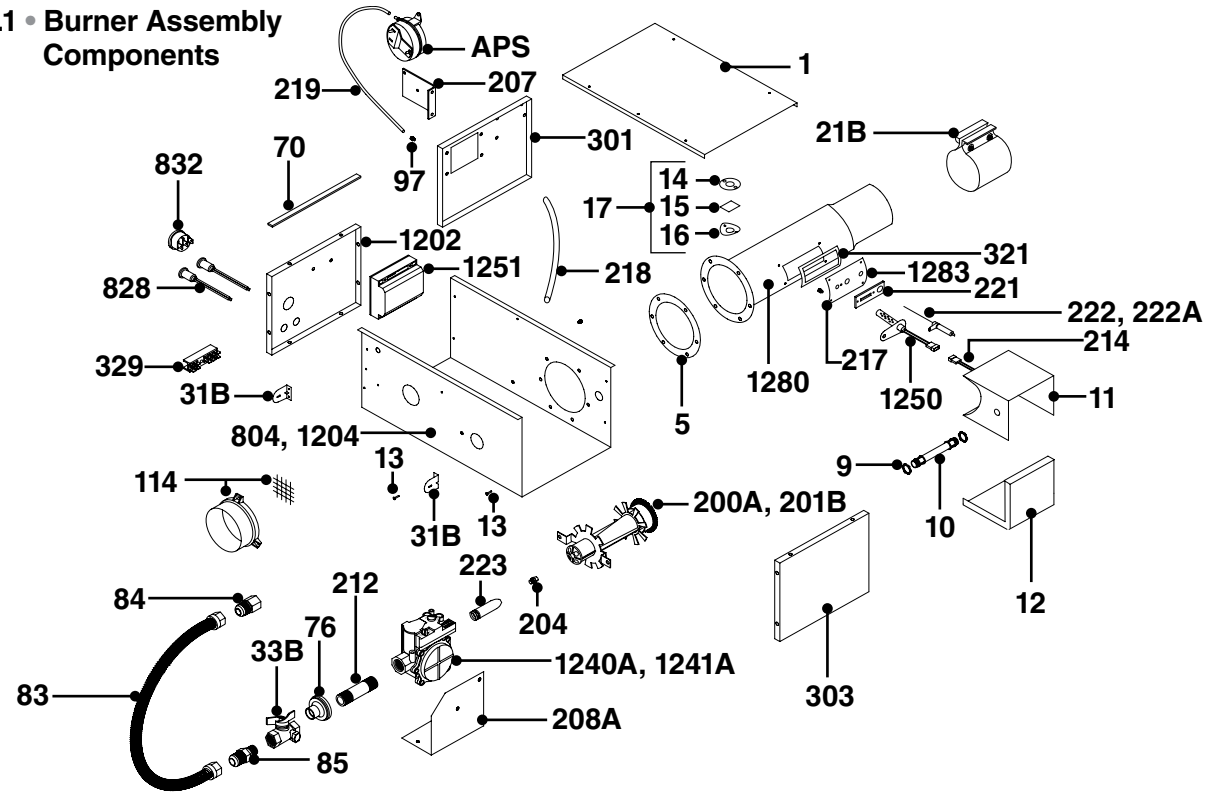
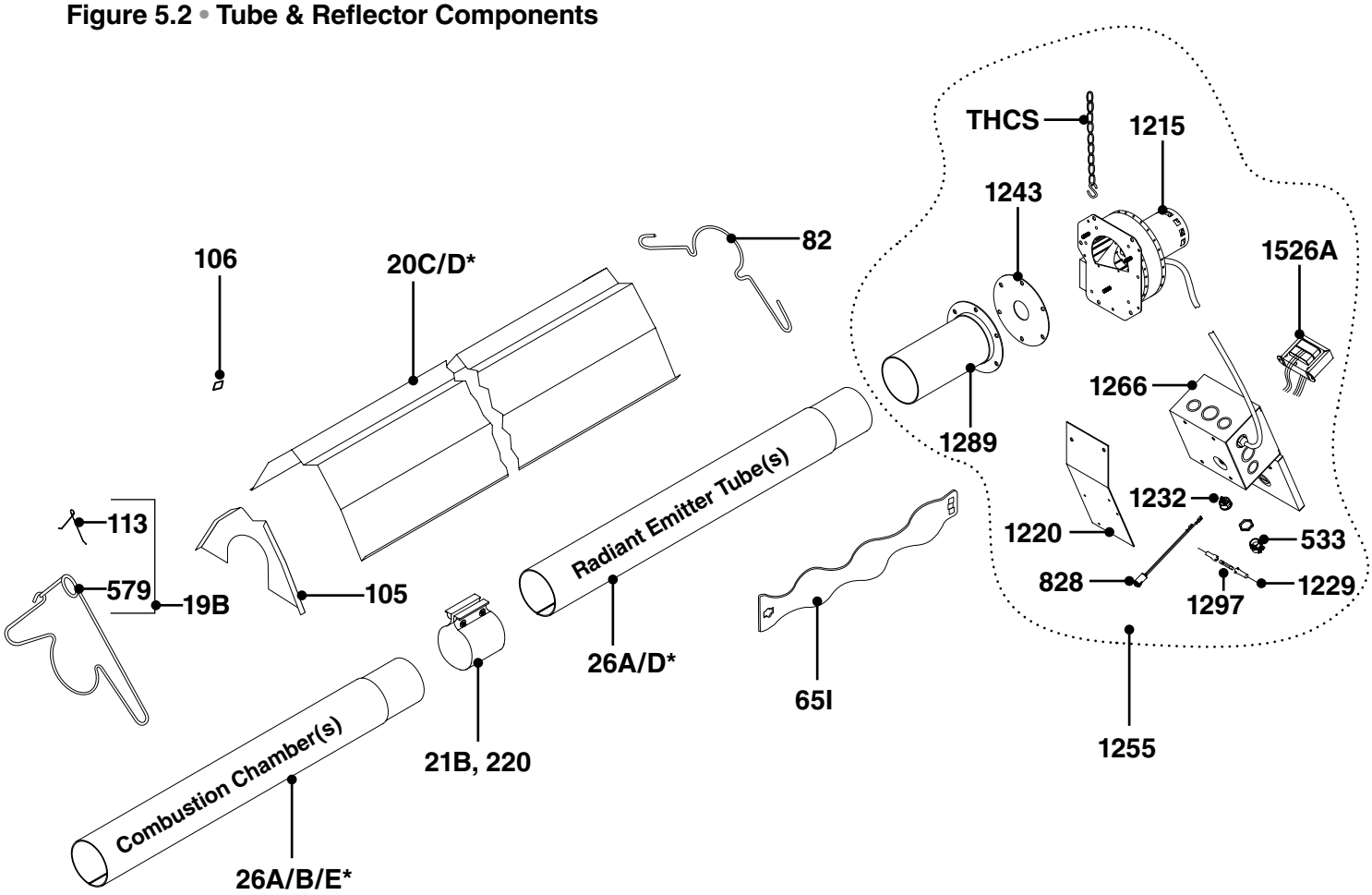



**Chart 5.1 • Parts List**

| Part No. | Description | Part No. | Description |
|---|---|---|---|
| TP-1 | Control Box Cover | TP-65I | 36 in. Interlocking Turbulator Baffle |
| TP-5 | Flange Gasket | TP-70 | Control Box Cover Gasket (per foot**) |
| TP-9 | Conduit Coupling | TP-76 | Rubber Grommet |
| TP-10 | Conduit 4 in. x 1/2 in. | TP-82 | Reflector Center Support (RCS) |
| TP-11 | Hot Surface Igniter Box | TP-83 | 24 in. Stainless Steel Flexible Gas Connector |
| TP-12 | Hot Surface Igniter Box Cover | TP-84 | 1/2 in. Female / Male Flare Fitting |
| TP-13 | 8 x 1/2" Self-Drilling Screw (Qty. 2) | TP-85 | 1/2 in. Male / Male Flare Fitting |
| TP-14 | Sight Glass Gasket | TP-97 | 1/4 in. x 1/4 in. Brass Barb Fitting (Qty. 2) |
| TP-15 | Sight Glass | TP-105 | Aluminum Reflector End Cap |
| TP-16 | Sight Glass Washer | TP-106 | Reflector End Cap Clips (Qty. 8) |
| TP-17 | Sight Glass Kit | TP-113 | Reflector Tension Spring |
| TP-19B | 4 in. Wire Hanger with Tension Spring | TP-114 | Plastic Air Orifice w/ Screen (Consult factory) |
| TP-20C | 120 in. Aluminum Reflector | TP-200A | Low BTU Burner (Blue) - consult factory |
| TP-20D* | 120 in. Stainless Steel Reflector | TP-201B | Mid BTU Burner (Tan) - consult factory |
| TP-21B | 4 in. Standard Tube Clamp | TP-204 | Gas Orifice (consult factory) |
| TP-26A | 10 ft. Aluminized Radiant / Combustion Tube | TP-207 | Pressure Switch Mounting Bracket |
| TP-26B | 10 ft. Titanium Coated Combustion Tube | TP-208A | Gas Valve Mounting Bracket |
| TP-26D* | 10 ft. 304 Stainless Steel Radiant Tube | TP-212 | 1/2 in. x 3 in. Pipe Nipple |
| TP-26E* | 10 ft. 409 Stainless Steel Combustion Tube | TP-214 | Glo-Bar Wiring Harness |
| TP-31B | Control Box Mounting Bracket (Qty. 2) | TP-217 | Pressure Switch Barb Fitting |
| TP-33B | 1/2 in. Shut-Off Ball Valve / Inlet Tap | TP-218 | Differential Switch Vinyl Sensing Tube (exhaust) |

* Optional upgrade or add-on item. **6 feet total required to cover outer edges of the burner control box.

**Figure 5.2 • Tube & Reflector Components**




| Part No. | Description | Part No. | Description |
|---|---|---|---|
| TP-219 | Differential Vinyl Sensing Tube (burner) | TP-1250 | 24V Mini Igniter |
| TP-220 | Stainless Steel Tube Clamp (175 & 200 MBH) | TP-1251 | Self Diagnostic Ignition Module |
| TP-221 | Mini Igniter Gasket | TP-1255 | Full Exhauster Assembly (TP-1215, TP-1266, TP-1243) |
| TP-222 | Flame Rod | TP-1266 | Power Box Assembly (individual parts below) |
| TP-222A | Flame Rod Wire | TP-533 | 120V Conduit Connector |
| TP-223 | Gas Manifold | TP-828 | Power Box 24V Yellow Indicator Light |
| TP-301 | Center Panel | TP-1220 | Power Box Mounting Bracket |
| TP-303 | End Panel, Right | TP-1229 | Fuse Holder |
| TP-321 | Ignition Plate Gasket | TP-1232 | Terminal Plug |
| TP-329 | Terminal Block | TP-1289 | Exhauster Mounting Tube |
| TP-579 | 4 in. Wire Hanger w/o Tension Spring | TP-1297 | Fuse |
| TP-804 | Burner Control Box Outer Shell (50-175 MBH) | TP-1526A | 75VA Transformer with Foot Mounts |
| TP-828 | Yellow Operational Ind. Light (Qty. 2) | TP-1280 | 16” Burner Tube with Flange |
| TP-832 | Thermostat Terminal Strip | TP-1283 | Mini Igniter Plate |
| TP-1202 | End Panel, Left | TP-APS | Atmospheric Pressure Switch (see below) |
| TP-1204 | Burner Control Box Outer Shell (200 MBH) | TP-264B | Differential Pressure Switch, 50 to 75 MBH |
| TP-1215 | Exhauster Pump | TP-264E | Differential Pressure Switch, 100 to 125 MBH |
| TP-1240A | 24V Gas Valve - Natural Gas Assembly | TP-1264A | Differential Pressure Switch, 150 to 175 MBH |
| TP-1241A | 24V Gas Valve - LP Gas Assembly | TP-264F | Differential Pressure Switch, 200 MBH |
| TP-1243 | Blower Restrictor Plate - Specify Model | THCS | Exhauster Assembly Security Chain |

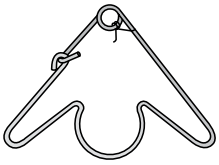
* Optional upgrade or add-on item.

## Kit Contents Check List

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

**SV Series Kit Contents**

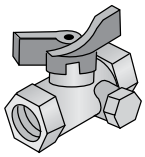
**TP-19B** 4" Hanger with Reflector Tension Spring



**TP-82** 4" Reflector Center Support (RCS)



**TP-33B** 1/2" Shut-Off Ball Valve / Inlet Tap



**TP-106** Reflector End Cap Clips



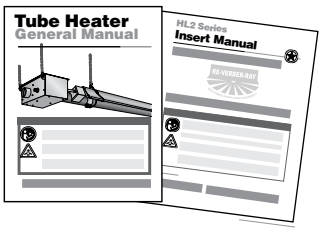
**TP-25** 1/4" Female Spade Terminal



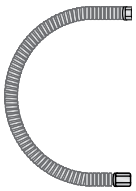
**THCS** 60 in. Security Chain



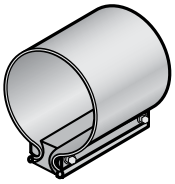
**F/N: LIOGTa & LIOSVa** Tube Heater General Manual and SV Series Insert Manual



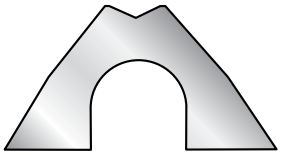

**TP-83** 24" Stainless Steel Flexible Gas Connector



**TP-21B** 4" Tube Clamp



**TP-105** Reflector End Cap



| Part No. | Description | 20 ft. | 30 ft. | 40 ft. | 50 ft. | 60 ft. | 70 ft. | 80 ft. |
|---|---|---|---|---|---|---|---|---|
| TP-19B | 4" Hanger w/ Tension Spring | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| TP-21B | 4" Tube Clamp | 3 | 4 | 5 | 6* | 7* | 8* | 9* |
| TP-25 | 1/4" Female Spade Terminal | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| TP-33B | 1/2" Shut-Off Valve & Inlet Tap | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| TP-82 | 4" Reflector Center Support | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| TP-83 | 24" S.S. Flexible Gas Connector | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| TP-105 | Reflector End Cap | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| TP-106 | Reflector End Cap Clips | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| THCS | 60 in. Security Chain | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| LIOGTa | General Tube Heater Manual | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| LIOSVa | SV Series Insert Manual | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Filled By: | | | | | | | | |

* One 4" stainless steel tube clamp (P/N: TP-220) is provided for each 175,000 - 200,000 BTU model. Place as shown on page 11.

## Approvals

- CSA
- Indoor approval.
- Commercial approval.

## Limited Warranty

- 1 year - Burner box components.
- 3 years - Combustion and radiant tubes.
- 5 years - Stainless steel burner.
- See page 36 of the General Tube Heater Manual for terms and conditions.

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