

# AG1 Series Insert Manual



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

The AG1 Series Infrared Tube Heater is a positive 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 AG1 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)

LIOAG1a-Rev. 18111  
Print: 3M-3/13(DRP)  
Replaces: LIOAG1a-3M-4/11(CDS)

# Contents

---

<b>1.0 Safety</b> .....	<b>3</b>
Safety Labels and Locations .....	3
Clearance to Combustibles .....	4
<b>2.0 Installation</b> .....	<b>6</b>
Combustion Air .....	6
Electrical Requirements .....	7
Wiring .....	7
Installation Diagrams .....	9
Specifications .....	14
Tube Installation Sequence .....	15
<b>3.0 Operation</b> .....	<b>16</b>
Sequence of Operation .....	16
Thermostat .....	16
Operational Indicator Lights .....	17
<b>4.0 Troubleshooting Guide</b> .....	<b>18</b>
<b>5.0 Parts</b> .....	<b>22</b>
Heater Components .....	22
Parts List .....	22
Kit Contents Check List .....	24
Approvals .....	24
Limited Warranty .....	24

**NOTE:** See page 14 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**

- Air Metering Orifice: TP-114, TP-3014, 1 - 1/2" F/N: LLAC, Air Metering Orifice
- 120V HEATER INPUT: F/N: LLV3EP1
- Rating Plate: F/N: LLTB018 (Natural Gas), F/N: LLTB019 (LP Gas)

MODEL NO.	INPUT BTU/Hr	FOR USE WITH
AG1-40-125N	125,000	Natural Gas
		Heater Type
		C1
		Minimum Mounting Angle:
		0 DEGREES
		Maximum Mounting Angle:
		45 DEGREES

DETROIT RADIANT PRODUCTS COMPANY  
2140 HOOPER ROAD • WARREN, MI 48090-2050

**Top Panel**

- WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.
- CAUTION: Follow all flame and lead wires when installing this appliance.
- SAFETY INSTRUCTIONS: LIGHTING PROCEDURES, SHUTDOWN PROCEDURES.

**Bottom Panel**

**AG1-40-125N** Serial No.: 0804XXXXXXXX 0001

Production Code: AG1-125 Stock/None  
Version: 516 Add-On: N/A

DATA ON THIS LABEL IS FOR THE MODEL SHOWN ON THIS LABEL. IF YOUR HEATER HAS BEEN CONVERTED, THIS INFORMATION IS NOT ACCURATE. PLEASE CONTACT THE FACTORY FOR ASSISTANCE.

Part Name	Part No.	Part Name	Part No.
Gas Valve	30196-224 F1	Diode/Led	Heat LED 827
Circuit Board	Micro60-24 851	Filter/Block	None N/A
Wire Harness	3 PCS Harness 882	Transformer	40 VA 826
N.C. Switch	None N/A	Flame Log	55A
N.O. V.L. Orifice	N/A N/A	Air Fan	50Hz - 120V 558
N.C. Switch	None	Air Fan Usage	When Specified
N.C. V.L. Orifice	None	Relay	None N/A
Diff Switch	IS201091P1P1 264E	Relay	None N/A
Diff V.L. Orifice	Gray (1-1/2)	120 Volt In.	3T - plug 832
Knob	None	120 Volt In.	2-Port 66
Knob	None	Gas In.	7/8" FC Flare 683
Burner	High 201	Extra V.L. Orifice	None
1E. Tube	4" Std. 202		
Hot Leads	Yellow - 24V 828		

HEATER Orifice Type: C1 C2 C3 Internal Use Only:  
TYPE: Gas: TP-2048 10 10 9 Electric: LLWT000 Special 1: Micro 60  
C1 Air: TP-1148 2 1/4" 2 1/4" Tag: None Special 2: Plug Wh

For parts replacement information, contact factory at 586-756-0950 or visit www.dip-co.com/parts.

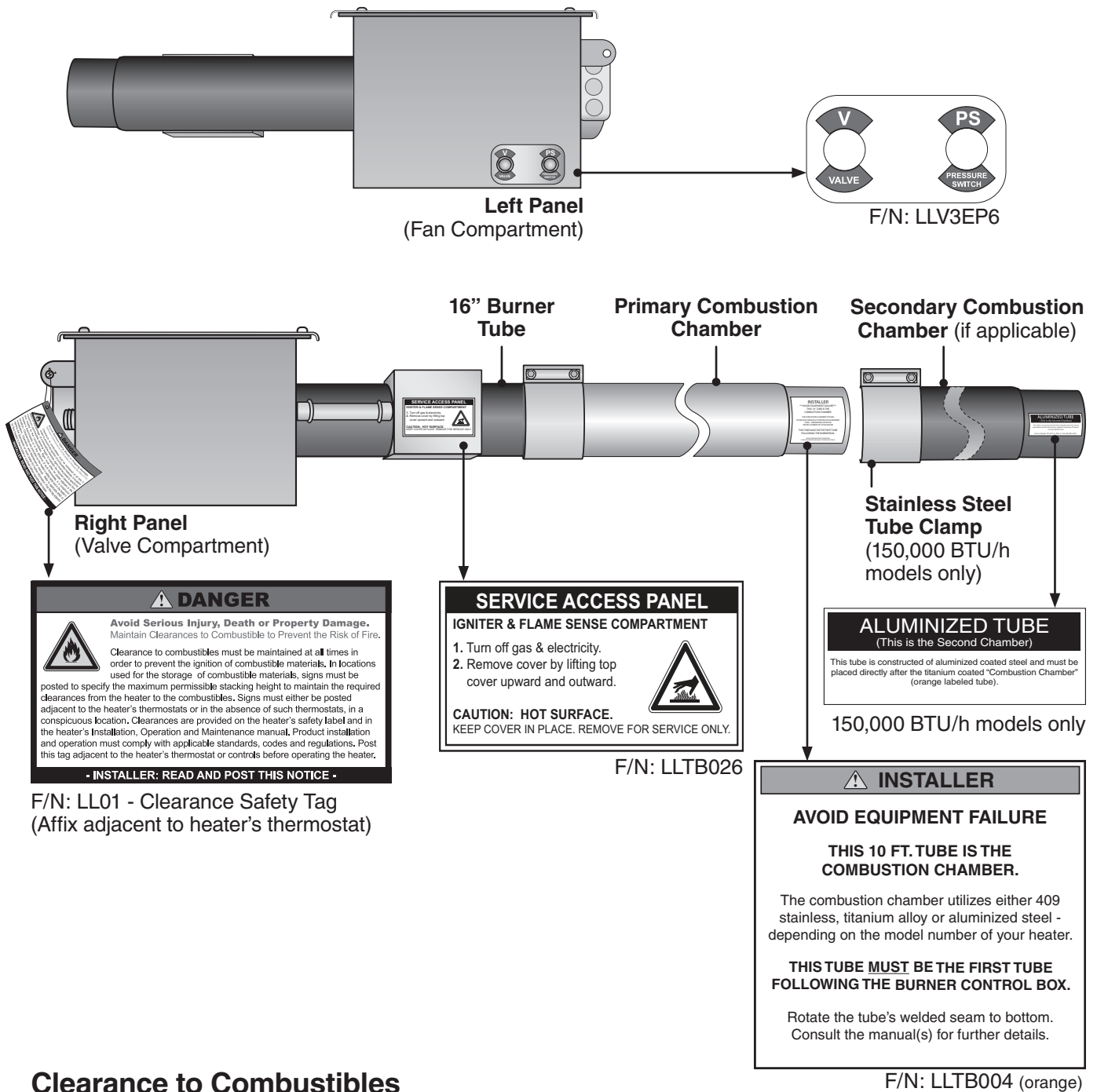
Bottom Panel Label (located under the top panel): F/N: LLTCL001 Clearance to Combustibles Label.

**Bottom Panel**

RE-VERBER-RAY  
DETROIT RADIANT PRODUCTS COMPANY  
WWW.REVERBERRAY.COM

F/N: LLLGO1

RE-VERBER-RAY  
DETROIT RADIANT PRODUCTS COMPANY  
WWW.REVERBERRAY.COM  
FOR PRODUCT OR SAFETY INFORMATION, PLEASE VISIT OUR WEBSITE OR CALL 800-522-1100



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

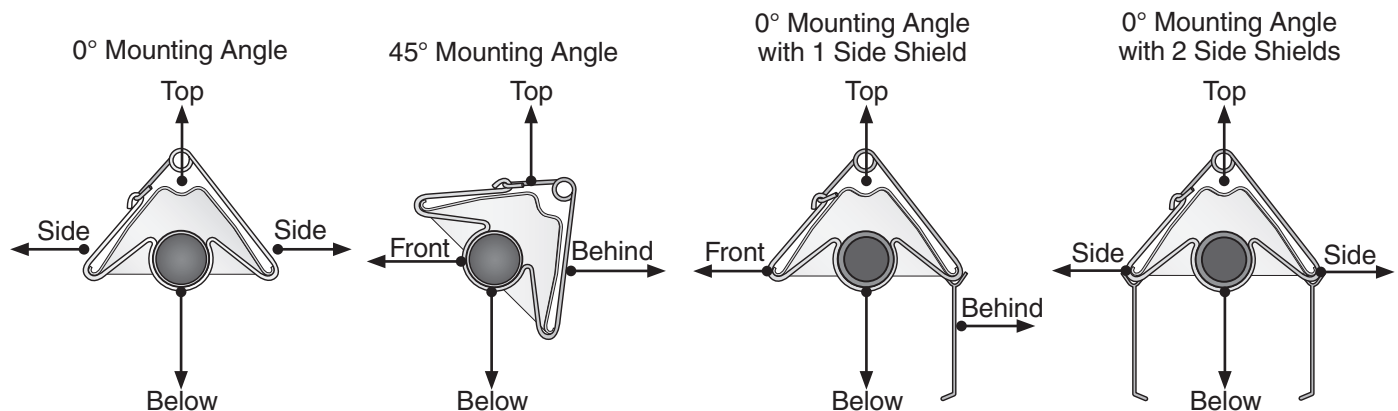
Model Number	Mounting Angle*	Sides		Top**	Below
		Front	Behind		
AG1 (20, 30, 40) - 50 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	0°	9	9	6	47
	45°	39	8	10	47
	0°	29	8	6	47
	0°	9	9	6	47
	0°	7	7	6	30
AG1 (20, 30, 40) - 60 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	0°	9	9	6	47
	45°	39	8	10	47
	0°	29	8	6	47
	0°	9	9	6	47
	0°	7	7	6	30
AG1 (20, 30, 40) - 75 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	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
AG1 (30, 40, 50) - 100 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	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
AG1 (40, 50) - 125 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	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
AG1 (40, 50, 60) - 150 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	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

The stated clearance to combustibles represents a surface temperature of 90°F (32°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.

\* Heaters mounted on an angle between 0° to 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.

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 (**Note:** Placement for poultry facilities on page 9).
- Tube layout and assembly
- Burner control box suspension
- Reflectors (and accessories)
- Venting and combustion air intake
- Gas requirements
- Baffle assembly

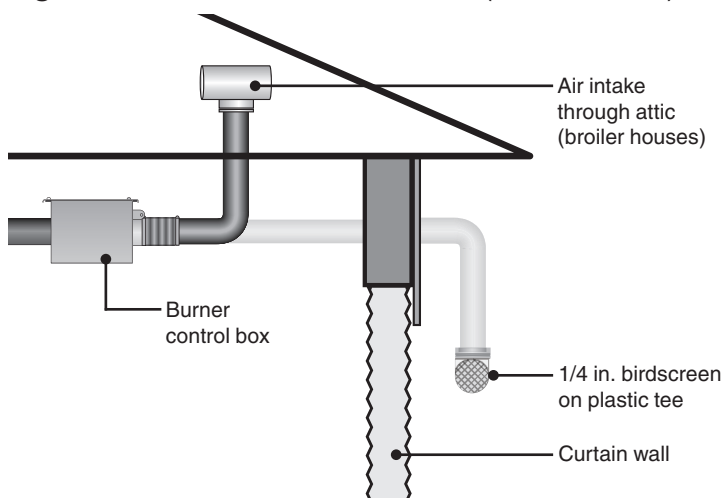
**NOTE:** Electronic versions of all manuals are available at [www.detroitradiant.com](http://www.detroitradiant.com).

## 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-inch 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 (Broiler House)**



## Electrical Requirements

- 120 Volt - 60 Hz GRD, 3-wire.
- Starting current 4.8 amps.
- Running current 1.1 amps.
- 120 Volt control voltage.

## Wiring

### ⚠ WARNING

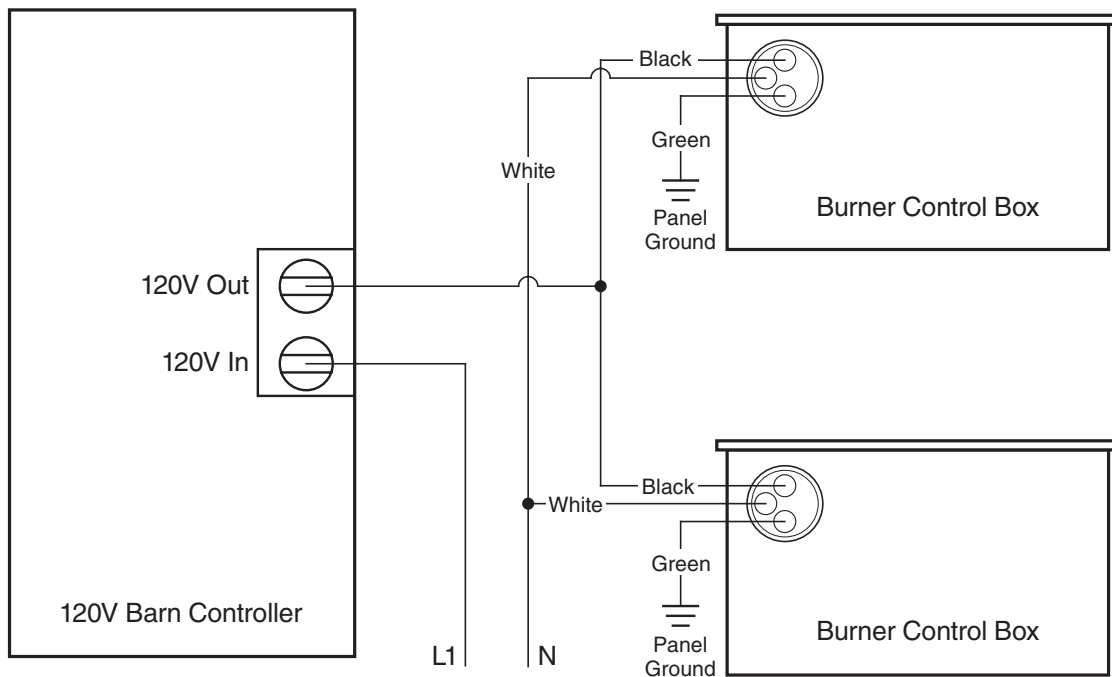


#### Electric Shock

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.

**Figure 2.2 • Field Wiring Diagrams**

**A. Multiple Heaters, Single Control.**

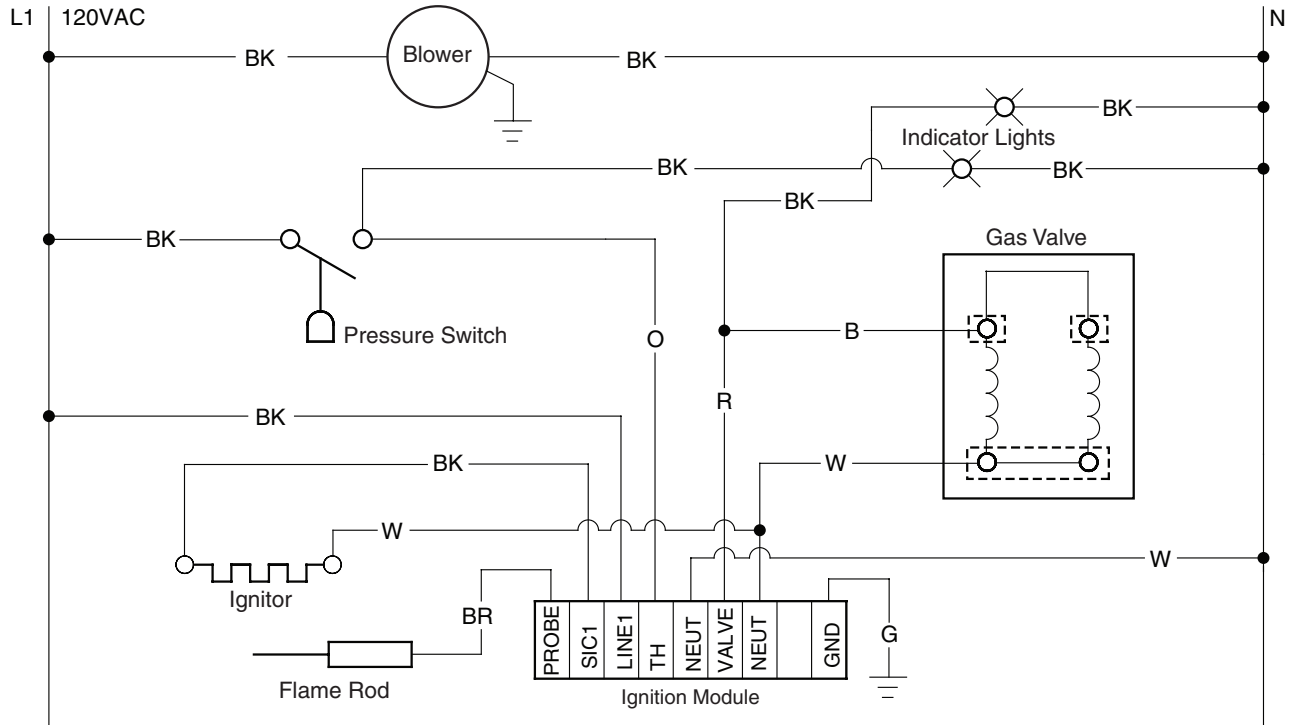


**Before field wiring this appliance - Check existing wiring; replace if necessary.**

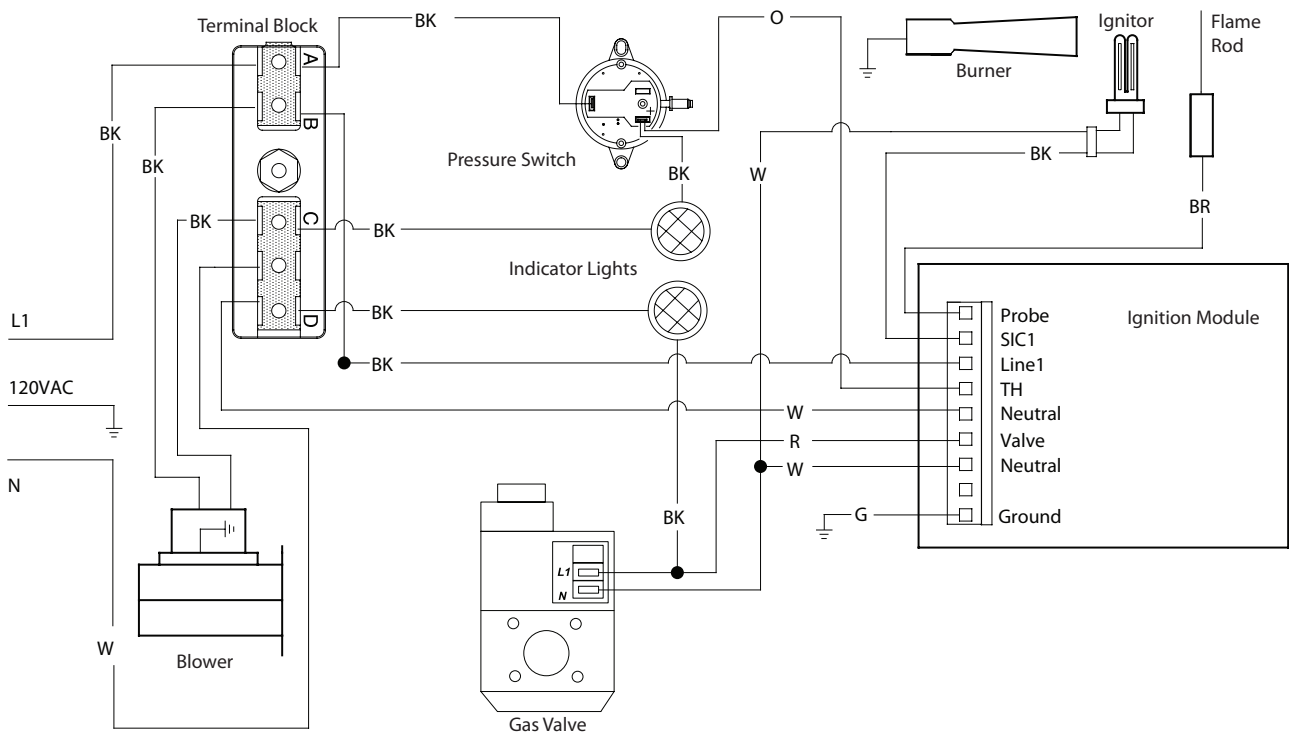
**Note:** If any of the original wire as supplied with the appliance must be replaced, it must be replaced with wiring material having a temperature rating of at least 105° C.

**Figure 2.3 • Internal Wiring Diagrams**

**A. TP-351A Ladder Diagram**



**B. TP-351A Block Diagram**

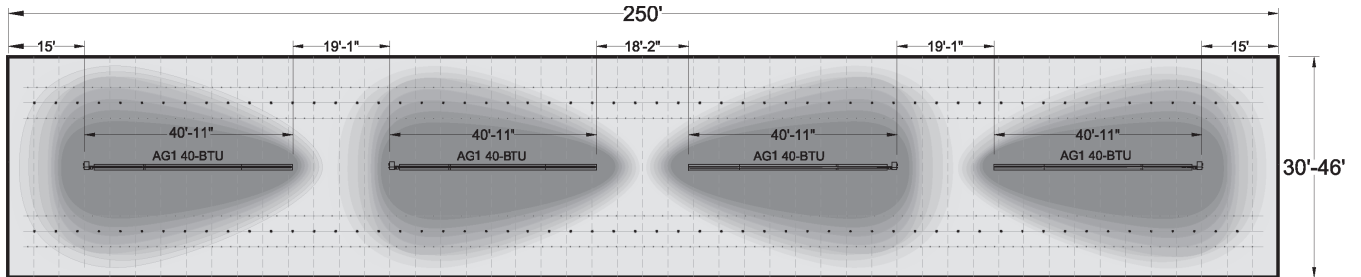




# Installation Diagrams

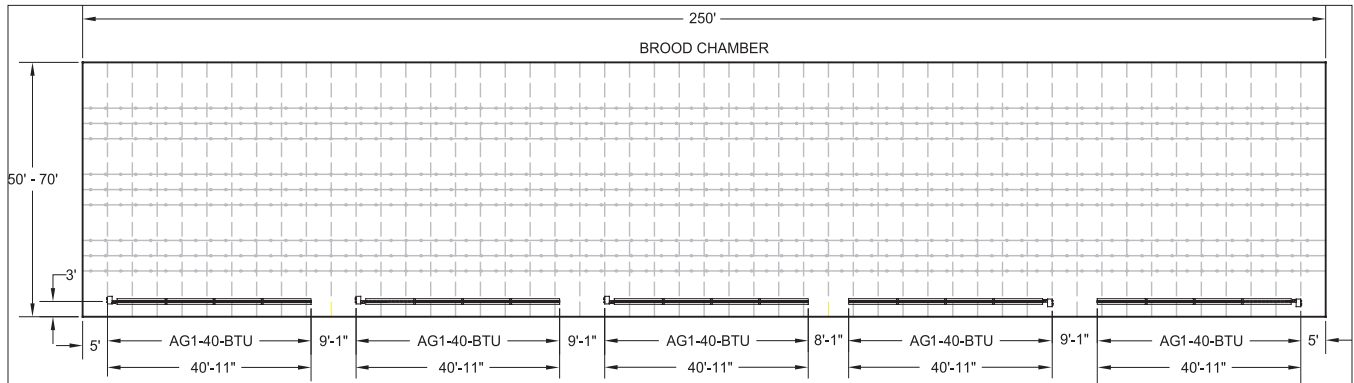
Figure 2.4 • Sample Brooder Installation Diagrams

## A. Center House Installation



**NOTE:** Utilize elongated hangers (TP-19E) on houses 50 feet or more with center house mounting to allow for a wider throw pattern.

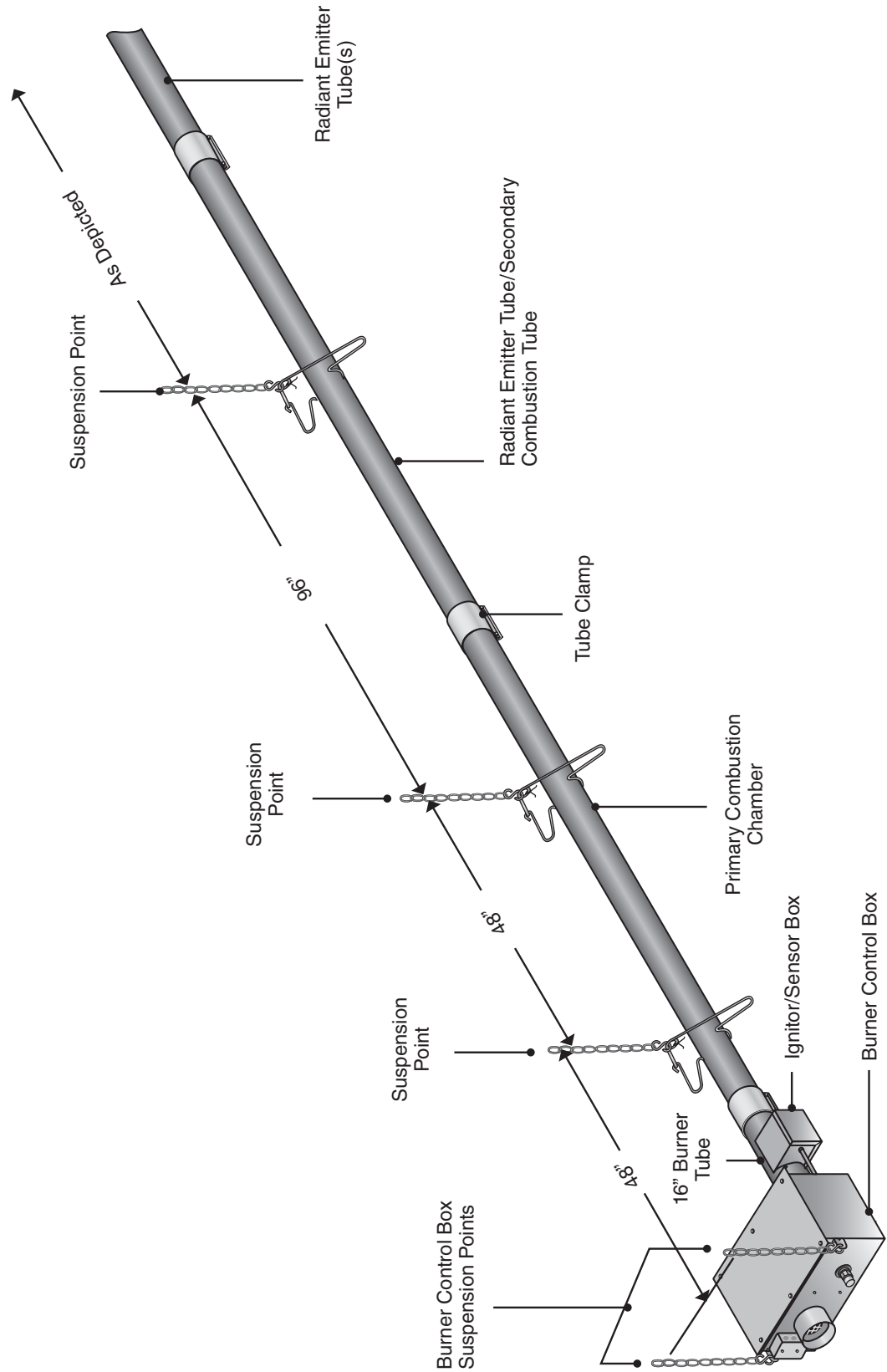
## B. Sidewall Installation



**NOTE:** Mount Reflector at a 45° angle toward center. **NOTE:** Standard hangers (TP-19B) can only be used when sidewall mounting. Elongated hangers (TP-19E) are not to be used.

Figure 2.5 • Heater Suspension Layout • Four (4) Foot Truss Mounts

NOTE: Figure depicts the use of standard TP-19B hangers.



**Legend**

- TP-82 RCS (TP-82E Elongated hanger is used when installing optional TP-19EAO)
- ▲ TP-19B Hanger
- ▲ TP-19EAO Hanger (optional)
- ⋯ AG-CS 7-Link Hanging Chain
- 🔗 TP-21B 4" Tube Clamp (one TP-220 stainless steel tube clamp included with 150,000 BTU/h models)
- ◆ 2" to 4" Secured Reflector Joint
- ◇ 4" to 6" Non-Secured Reflector Expansion Joint
- | Truss
- ▬ Radiant Tube
- ▬ Reflector

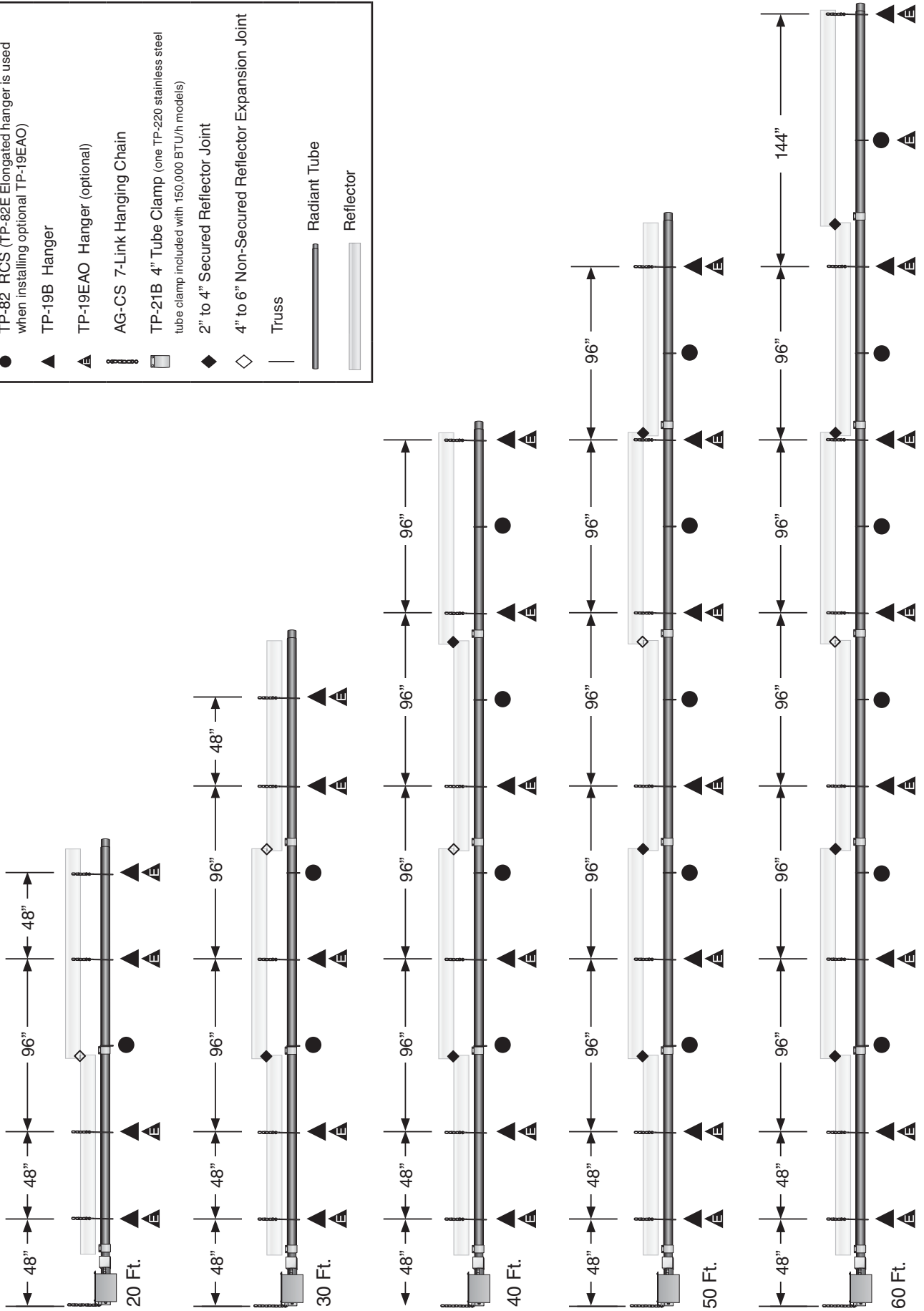
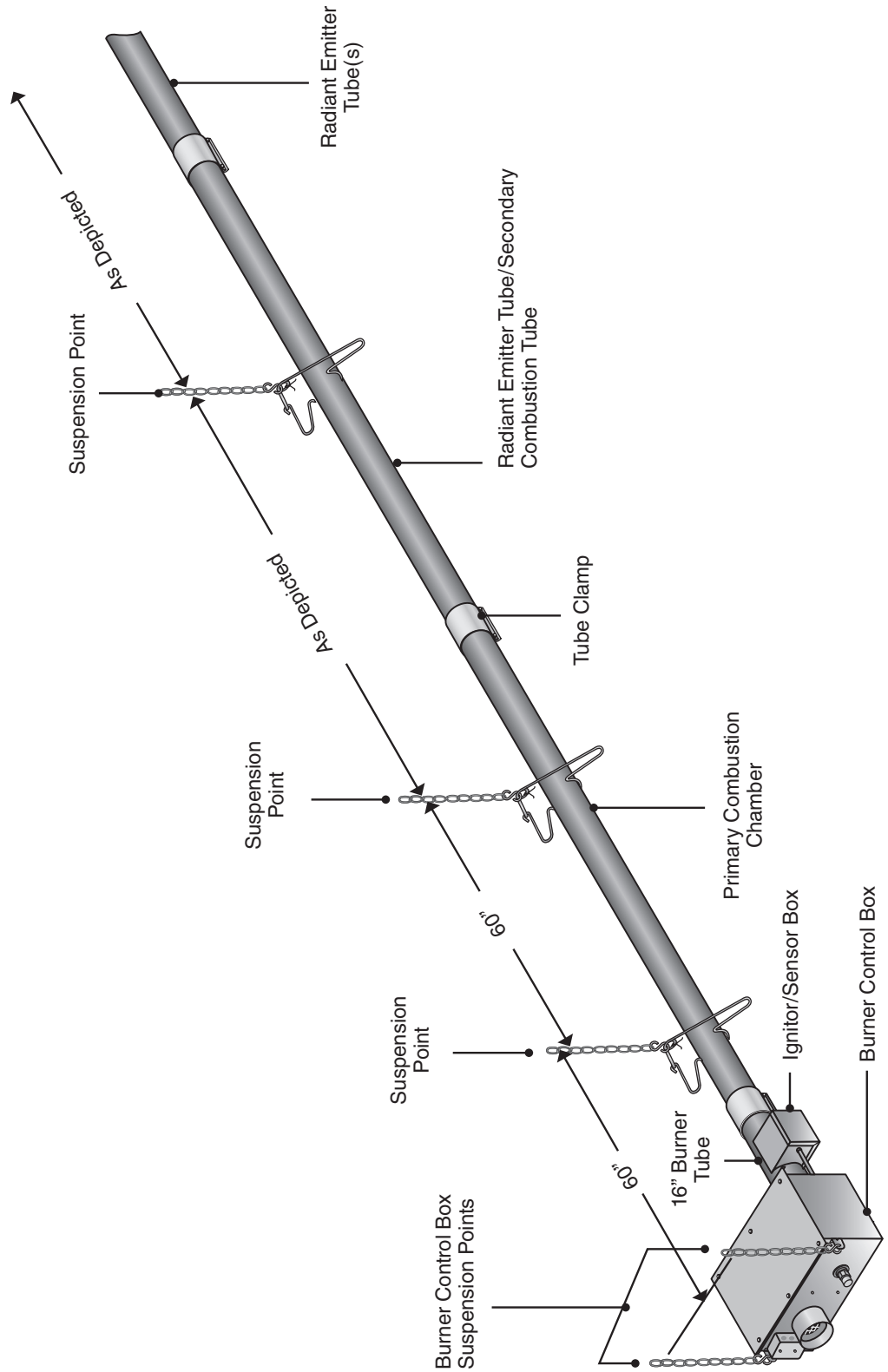


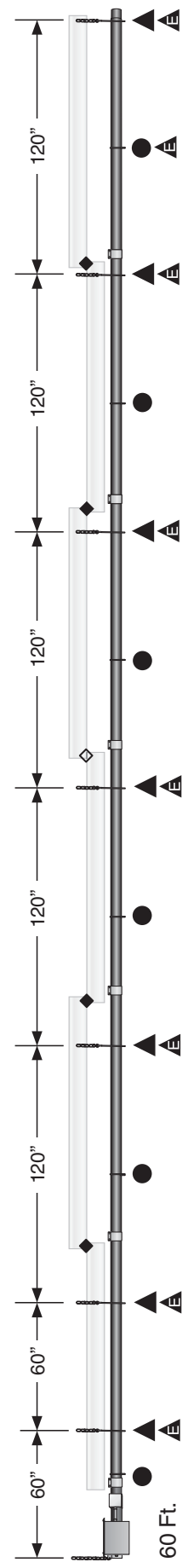
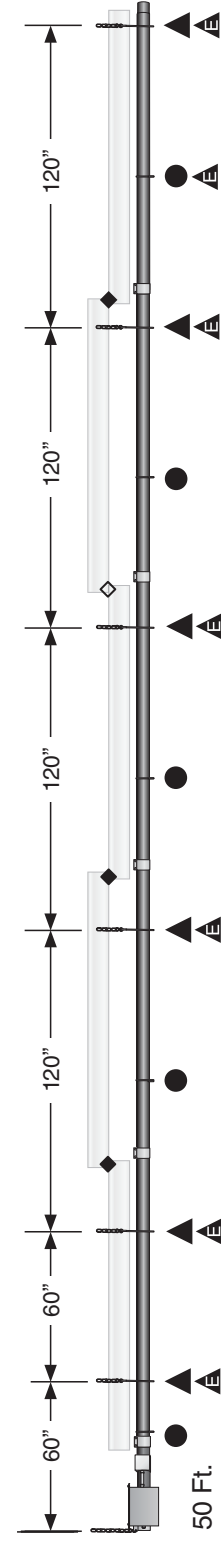
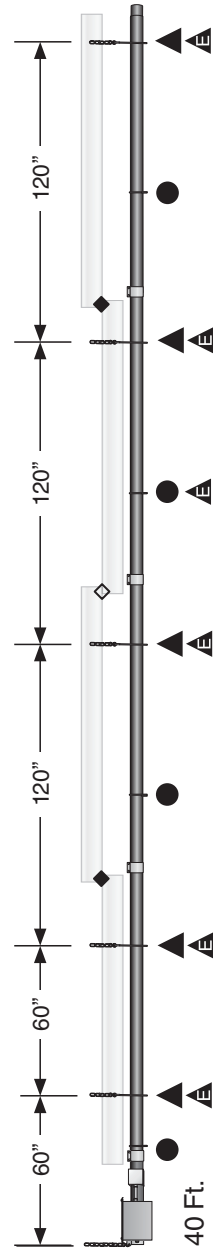
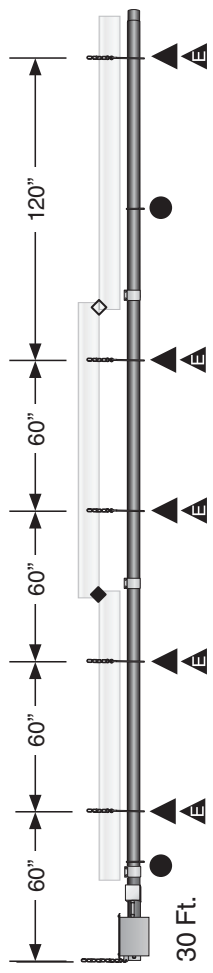
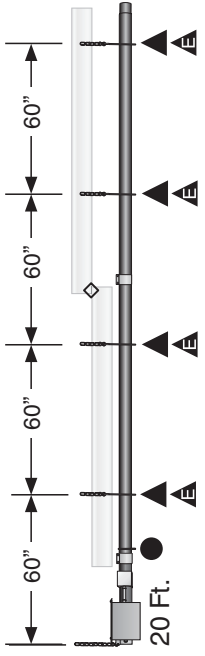
Figure 2.6 • Heater Suspension Layout • Five (5) Foot Truss Mounts

NOTE: Figure depicts the use of standard TP-19B hangers.



**Legend**

- TP-82 RCS (TP-82E Elongated hanger is used when installing optional TP-19EAO)
- ▲ TP-19B Hanger
- ▲ TP-19EAO Hanger (optional)
- ⋯ AG-CS 7-Link Hanging Chain
- ▢ TP-21B 4" Tube Clamp (one TP-220 stainless steel tube clamp included with 150,000 BTU/h models)
- ◆ 2" to 4" Secured Reflector Joint
- ◇ 4" to 6" Non-Secured Reflector Expansion Joint
- | Truss
- ▬ Radiant Tube
- ▭ Reflector



## Specifications

Chart 2.1 • Specifications

Model Number	Gas Type (select one)	BTU/H (High Fire)	Straight Length	U-Tube Length	Standard Weight (lbs.)	Recommended Mounting Height Above Animals	Combustion Chamber (uncoated)	Radiant Emitter Tube(s) (uncoated) <sup>^</sup>	Radiant Surface Area (sq. ft.)	36" Baffle Sections	Optional Alum-AO Quantity
AG1-20-50	N or LP	50,000	21'-7"	13'-0"	120	6' to 9'	Alum	HRT	20.2	5	1
AG1-20-60	N or LP	60,000	21'-7"	13'-0"	120	6' to 9'	Alum	HRT	20.2	5	1
AG1-20-75	N or LP	75,000	21'-7"	13'-0"	120	7' to 10'	Alum	HRT	20.2	5	1
AG1-30-50	N or LP	50,000	31'-3"	**17'-8"	160	7' to 10'	Alum	HRT	30.4	5	2
AG1-30-60	N or LP	60,000	31'-3"	**17'-8"	160	7' to 10'	Alum	HRT	30.4	5	2
AG1-30-75	N or LP	75,000	31'-3"	**17'-8"	160	7' to 10'	Alum	HRT	30.4	5	2
AG1-30-100	N or LP	100,000	31'-3"	**17'-8"	160	8' to 14'	Alum	HRT	30.4	6	2
AG1-40-50	N or LP	50,000	40'-11"	22'-8"	190	7' to 10'	Alum	HRT	40.5	5	3
AG1-40-60	N or LP	60,000	40'-11"	22'-8"	190	7' to 10'	Alum	HRT	40.5	5	3
AG1-40-75	N or LP	75,000	40'-11"	22'-8"	190	7' to 10'	Alum	HRT	40.5	5	3
AG1-40-100	N or LP	100,000	40'-11"	22'-8"	190	7' to 11'	Alum	HRT	40.5	5	3
AG1-40-125	N or LP	125,000	40'-11"	22'-8"	190	9' to 14'	Alum	HRT	40.5	5	3
AG1-40-150*	N or LP	150,000	40'-11"	22'-8"	190	10' to 14'	Ti-AL	HRT	40.5	5	3
AG1-50-100	N or LP	100,000	50'-7"	**27'-4"	235	8' to 12'	Alum	HRT	50.6	5	4
AG1-50-125	N or LP	125,000	50'-7"	**27'-4"	235	9' to 14'	Alum	HRT	50.6	5	4
AG1-50-150*	N or LP	150,000	50'-7"	**27'-4"	235	10' to 14'	Ti-AL	HRT	50.6	5	4
AG1-60-150*	N or LP	150,000	60'-3"	32'-4"	265	10' to 14'	Ti-AL	HRT	60.7	5	5

\* Model requires stainless steel tube clamp (P/N: TP-220) to be located at the seam between the primary combustion chamber and the secondary combustion tube downstream of the burner control box.

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

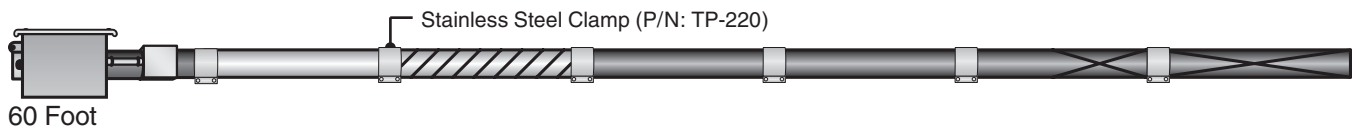
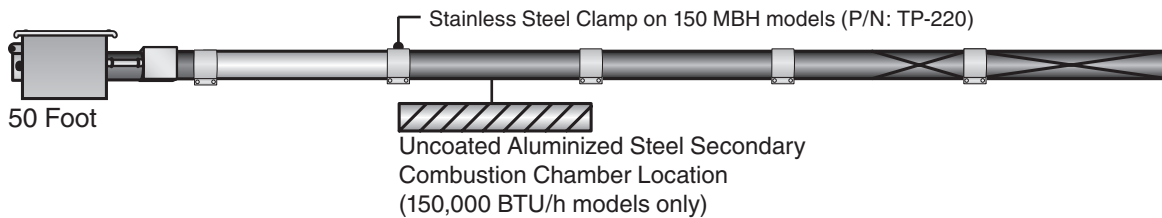
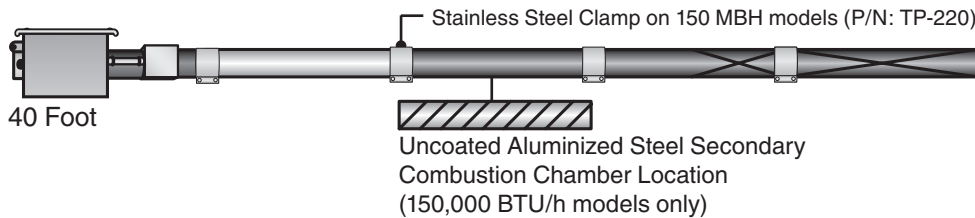
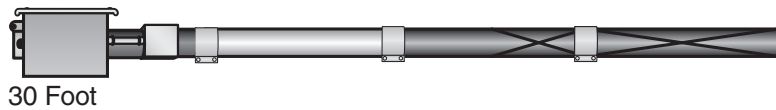
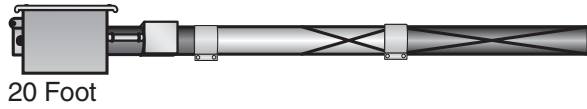
<sup>^</sup> ALUM-AO: Upgrade hot-rolled steel (HRT) radiant tubes to 16 gauge, black coated, aluminized steel for maximum efficiency and longevity. **NOTE:** This option is highly recommended in contaminated or moisture laden environments (i.e. poultry applications). See Chart 2.1 for quantity needed per heater.

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

## Tube Installation Sequence

**Figure 2.7 • 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
	Uncoated Steel Primary Combustion Chamber
	Uncoated Aluminized Steel Secondary Combustion Chamber (150,000 BTU/h models only)
	Hot-Rolled Steel Radiant Emitter Tube or ALUM-AO
	Tube Clamp
	Baffle Location

**NOTE:** Refer to the Tube Heater General Manual, 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

---

**Starting Circuit:** Upon a call for heat, the fan is energized. Once operational static pressure is achieved, the differential switch will close initiating the ignition sequence. After a 5-second delay, the glo-bar is energized for 45 seconds and the control allows the gas valve to open.

The trial for ignition is 8 seconds. If flame sense is not established within 8.5 seconds, the heater will attempt two (2) additional ignition sequences before proceeding to soft lockout. Soft lockout automatically retries after one (1) hour or the control can be reset by briefly interrupting the power source.

**Running Circuit:** After ignition, the flame rod monitors burner flame. If sense of flame is lost, the control immediately acts to reignite the gas-air mixture (identical to the starting sequence). 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.

## Thermostat

---

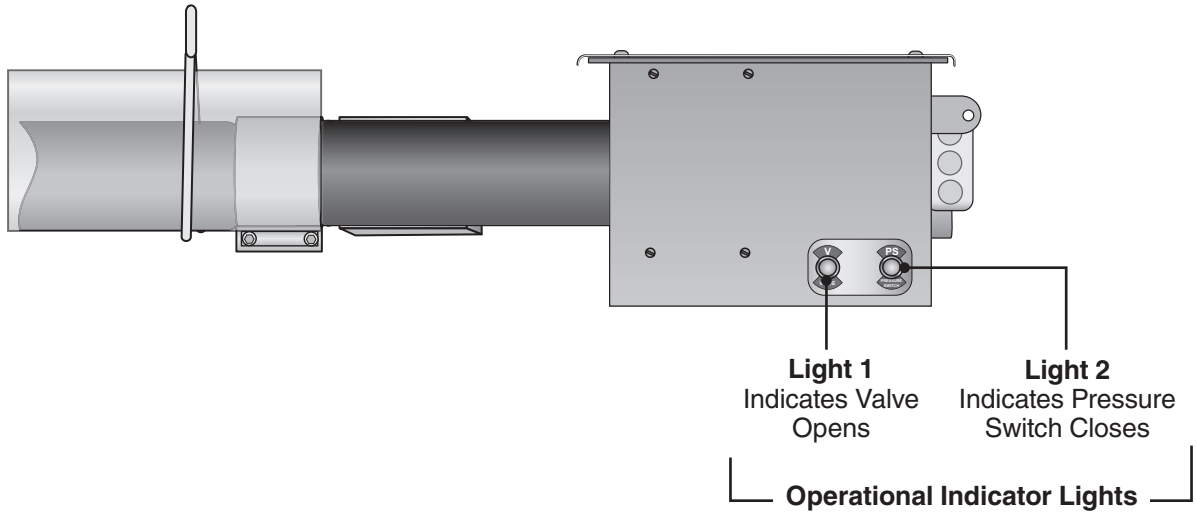
**Note:** Different thermostats operate according to their particular features. Refer to thermostat specifications for details.



## Operational Indicator Lights

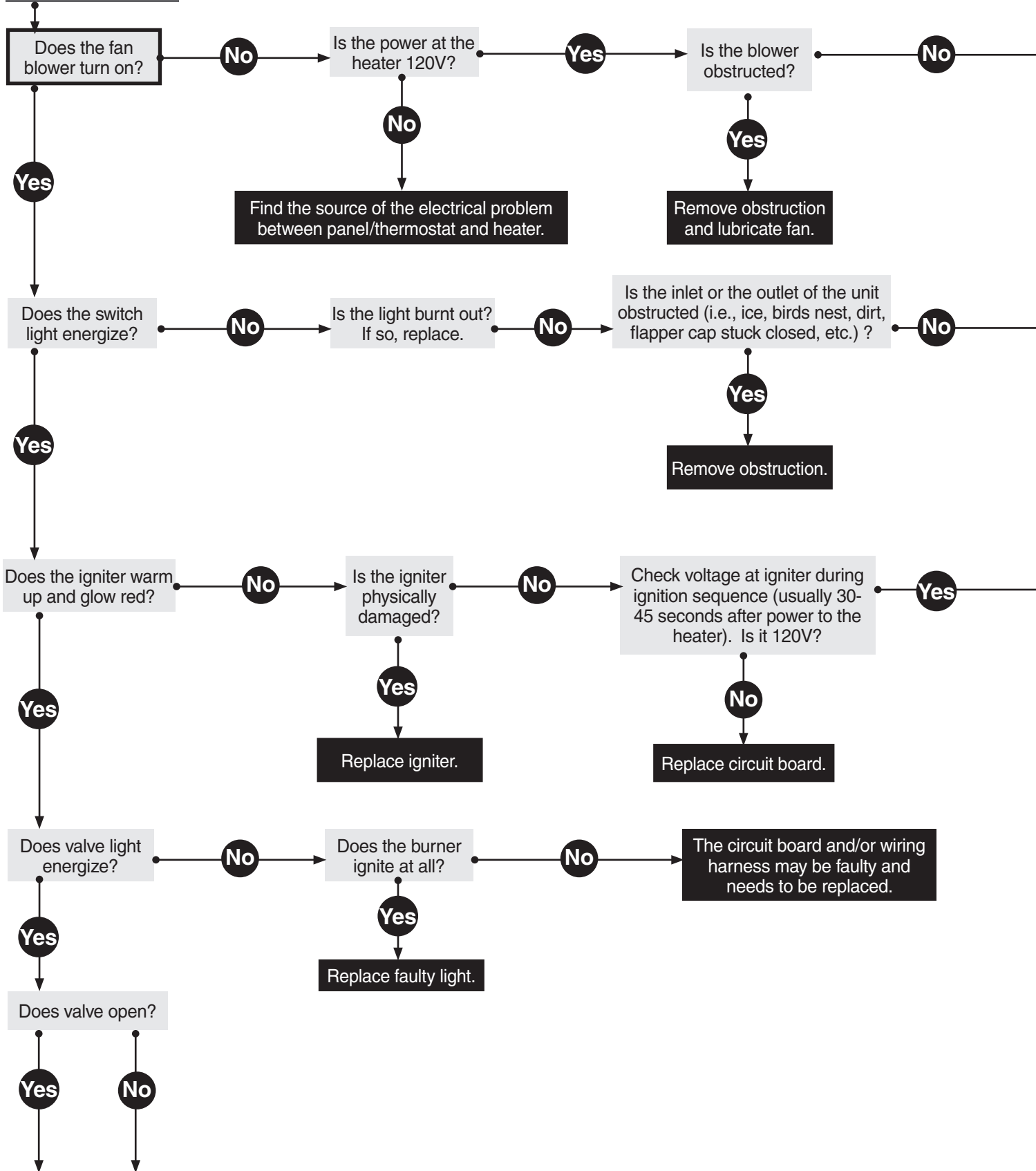
The externally located operational indicator lights are provided to assist in troubleshooting the heater. Refer to the following pages for additional troubleshooting information.

**Figure 3.1 • Operational Indicator Lights**



# 4.0 Troubleshooting Guide

## Turn up thermostat



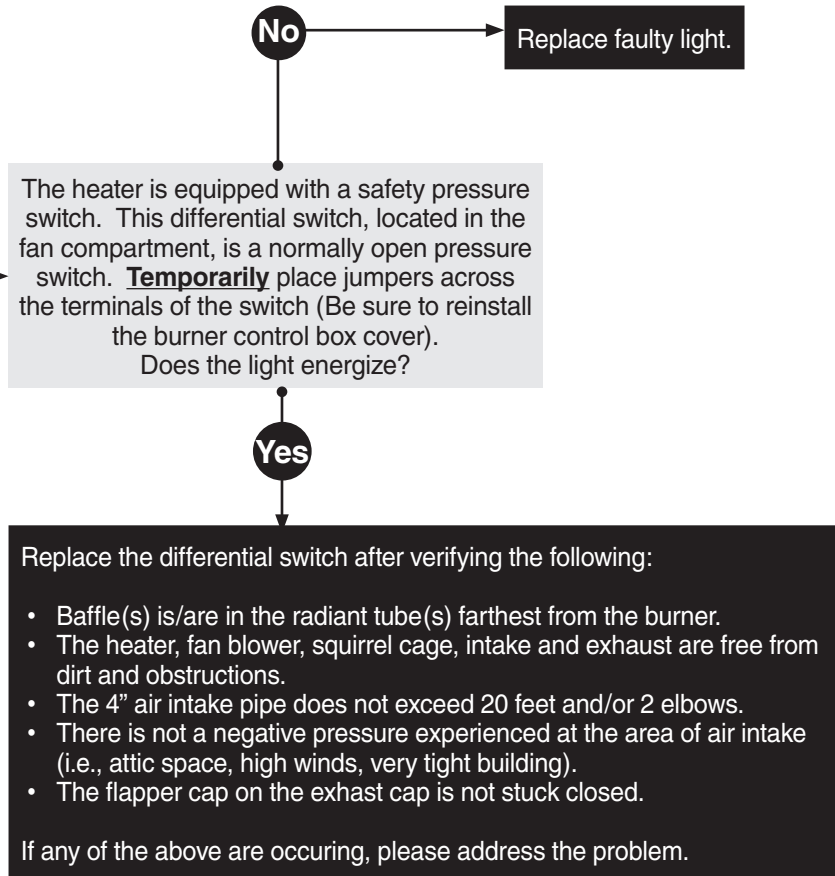
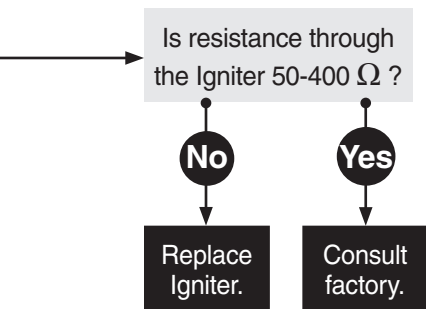
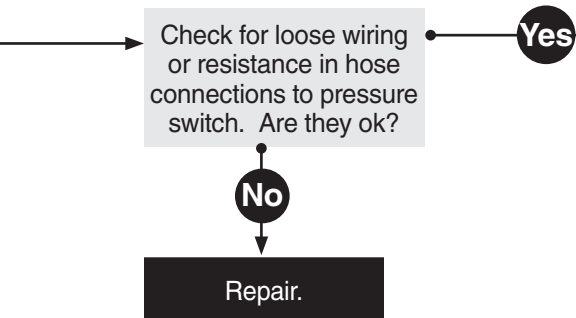
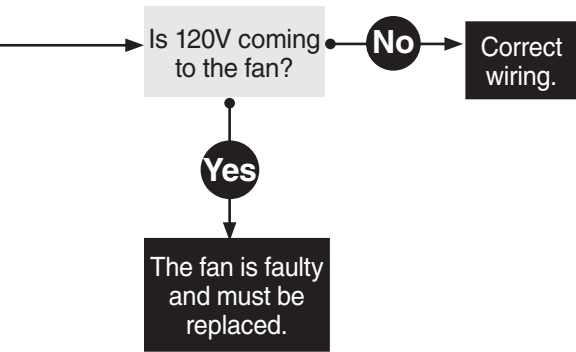
Continued on page 20.

**NOTICE**

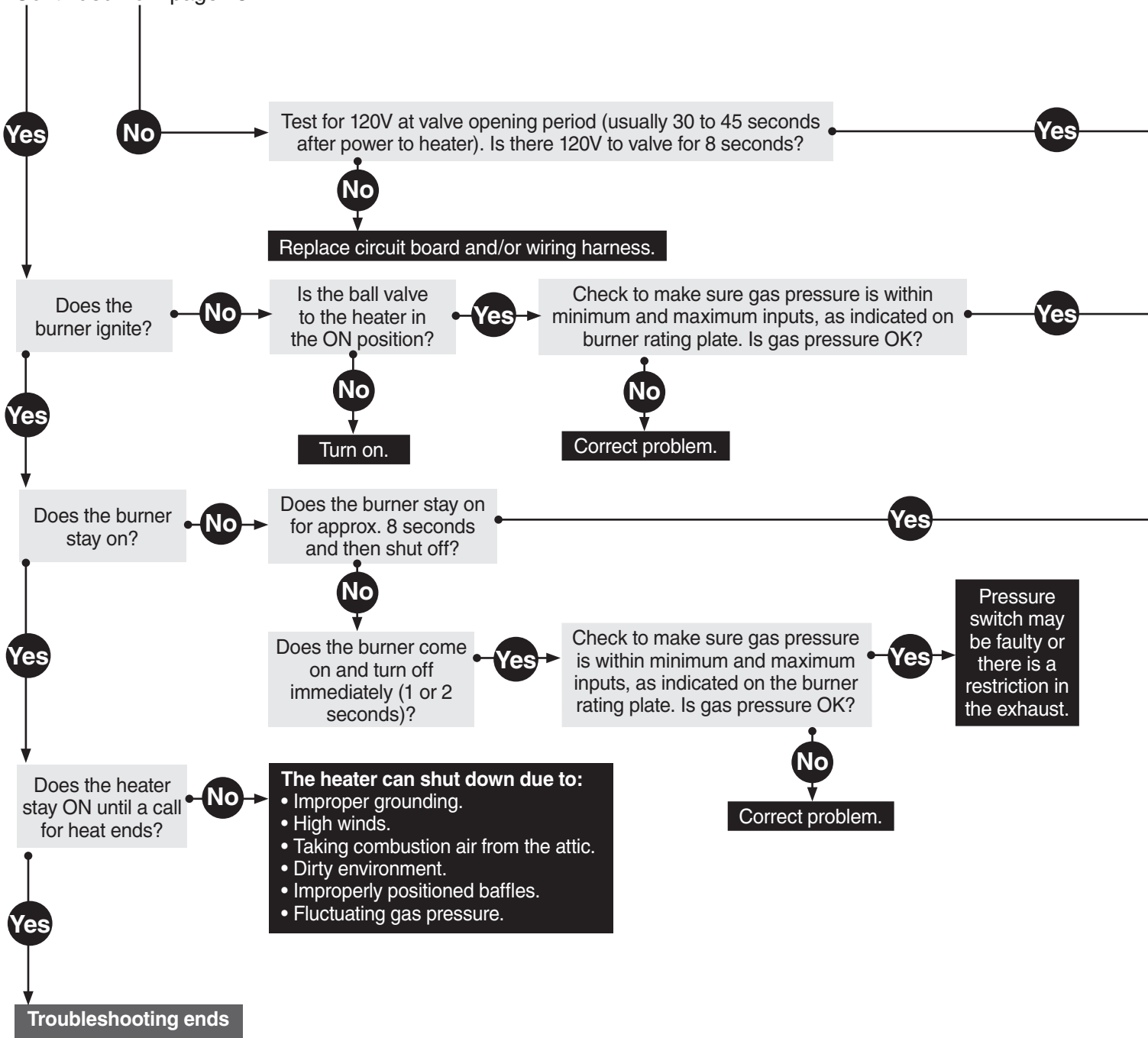
Bypassing any switch is intended for testing purposes only. Do not leave switch bypassed during normal operation or the heater's built-in safety mechanisms will be compromised.

**Key**

- Start Question
- Process Question
- Corrective Action

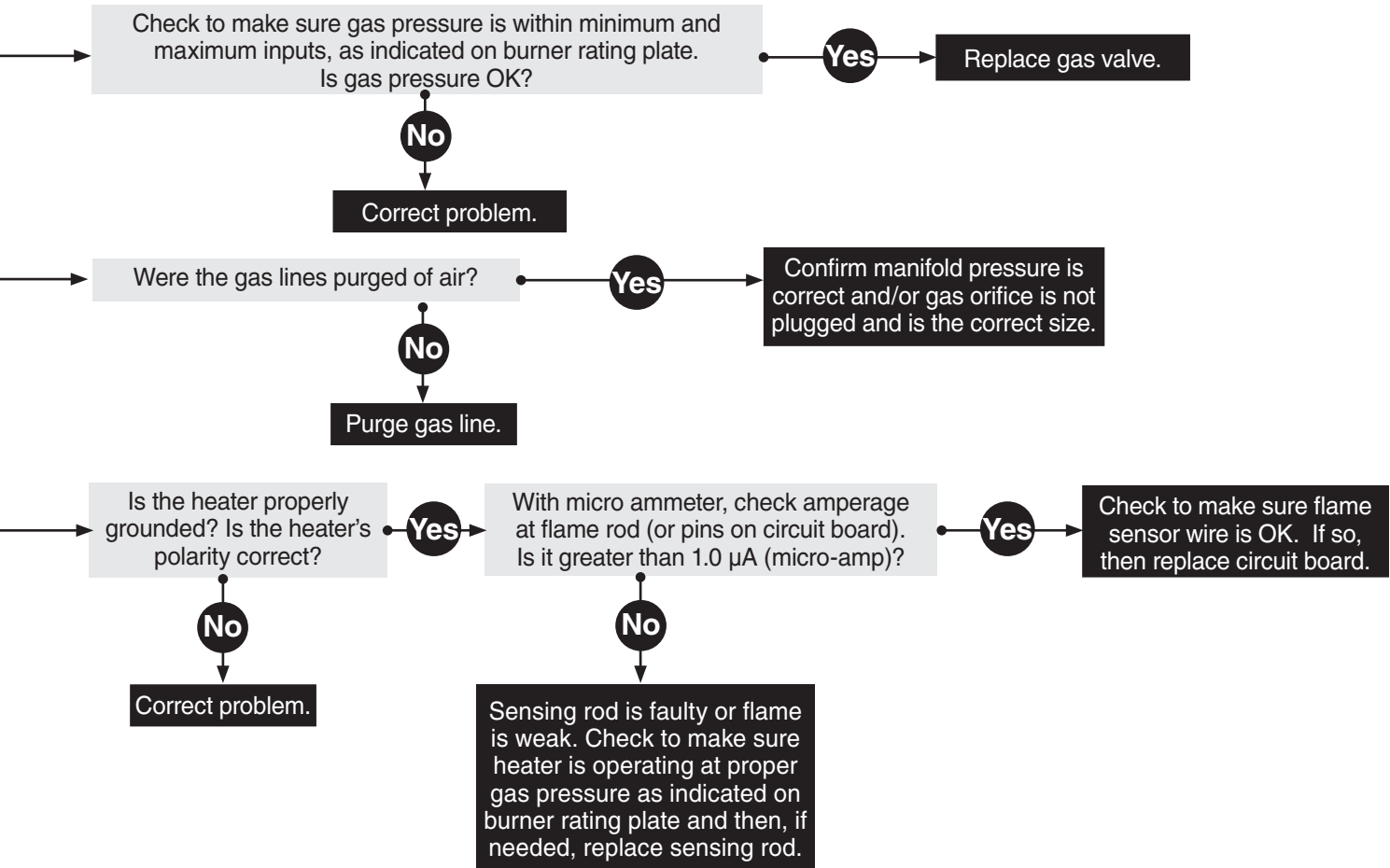


Continued from page 18.



**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.



# 5.0 Parts

Figure 5.1 • Burner Assembly Components

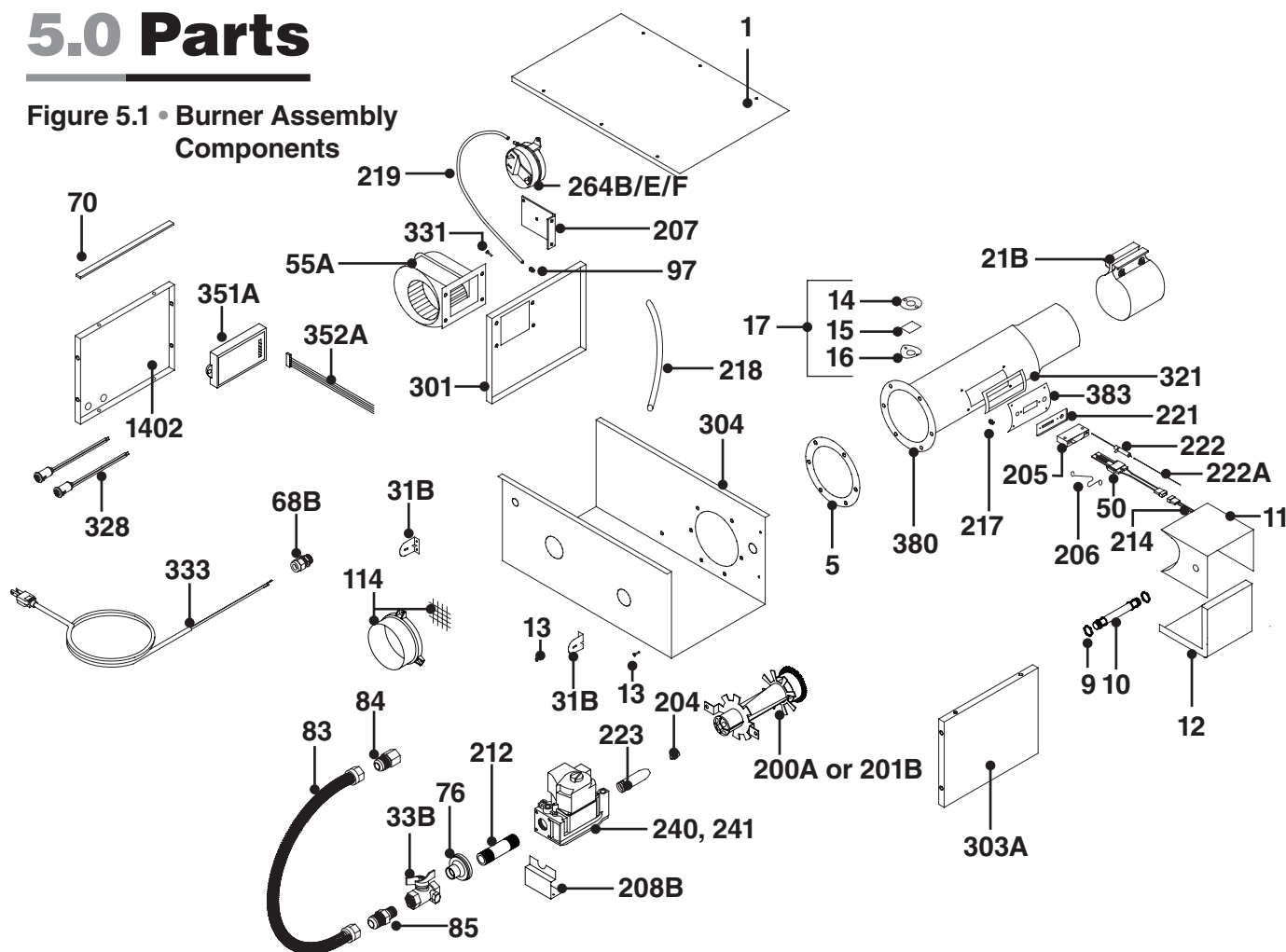
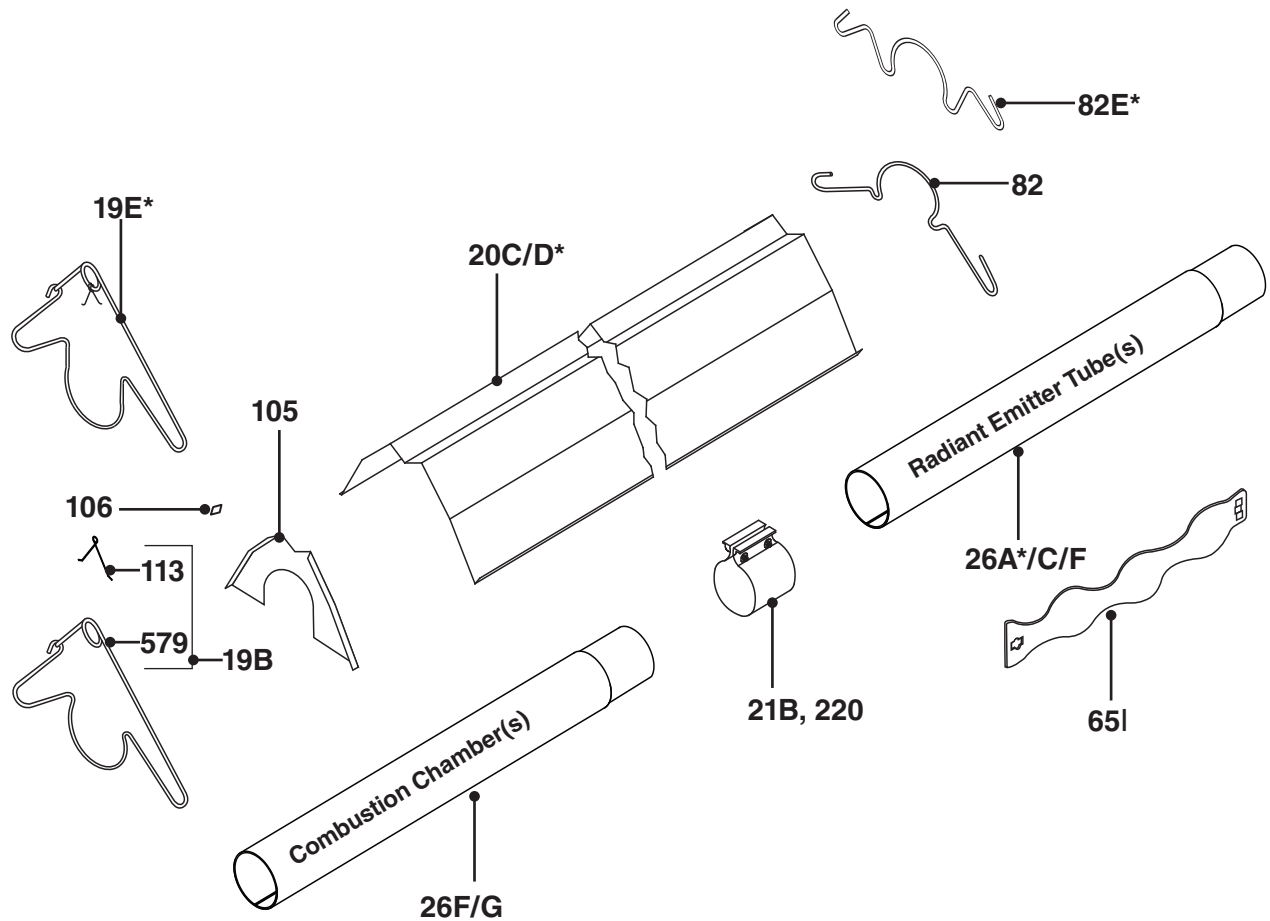


Chart 5.1 • Parts List

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

\* 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

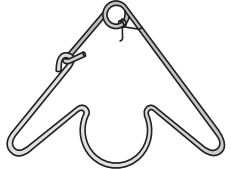

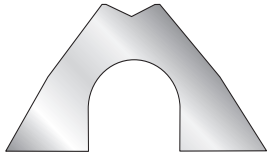
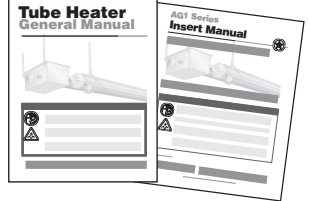


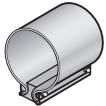



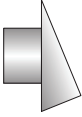
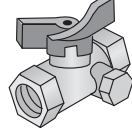




Part No.	Description	Part No.	Description
TP-113	Reflector Tension Spring	TP-240	Gas Valve Assembly - Natural Gas
TP-114	Plastic Air Orifice w/ Screen (consult factory)	TP-241	Gas Valve Assembly - Propane Gas
TP-200A	Low BTU Burner (Blue) - consult factory	TP-264B	Atmospheric Pressure Switch, 50-75 MBH
TP-201B	Mid BTU Burner (Tan) - consult factory	TP-264E	Atmospheric Pressure Switch, 100-125 MBH
TP-204	Gas Orifice (consult factory)	TP-264F	Atmospheric Pressure Switch, 150 MBH
TP-205	Glo-Bar Holder	TP-301	Center Divider Panel
TP-206	Glo-Bar Holder Spring Clip	TP-303A	End Panel, Right
TP-207	Pressure Switch Mounting Bracket	TP-304	Burner Control Box Outer Shell
TP-208B	Gas Valve Mounting Bracket	TP-321	Ignition Plate Gasket
TP-212	1/2 in. x 3 in. Pipe Nipple	TP-328	Amber Operational Indicator Light (Qty. 2)
TP-214	Glo-Bar Wiring Harness	TP-331	Green Self Tap Ground Screw
TP-217	Pressure Switch Barb	TP-333	36 in. Black 120 Volt Plug
TP-218	Differential Vinyl Sensing Tube (exhaust)	TP-351A	Mark17DU-117 Potted Circuit Board
TP-219	Differential Vinyl Sensing Tube (burner)	TP-352A	Circuit Board Wiring Harness for TP-351A
TP-220	4" Stainless Steel Tube Clamp	TP-380	16 in. Burner Tube with Flange
TP-221	Glo-Bar Holder Gasket	TP-383	Glo-Bar Igniter Plate
TP-222	Flame Rod	TP-579	4 in. Wire Hanger w/o Tension Spring
TP-222A	Flame Rod Wire	TP-1402	End Panel, Left
TP-223	Gas Manifold		

\* Optional upgrade or add-on item.

## Kit Contents Check List

Chart 5.2 • Kit Contents for AG1 Series - Reference the length column for your model.

AG1 Series Kit Contents						
<p><b>TP-19B</b> 4 in. Hanger with Reflector Tension Spring</p> 	<p><b>TP-83</b> 24 in. Stainless Steel Flexible Gas Connector</p> 	<p><b>TP-105</b> Reflector End Cap</p> 	<p>Tube Heater General and AG1 Series Insert Manuals F/N: LIOGTa &amp; LIOAG1</p> 			
<p><b>TP-19EAO*</b> Optional 4 in. Elongated Hanger</p> 	<p><b>TP-82</b> 4 in. Reflector Center Support (RCS)</p> 	<p><b>TP-21B**</b> 4 in. Tube Clamp</p> 	<p><b>AG-CS</b> 7-Link Chain</p> 			
<p><b>TP-106</b> Reflector End Cap Clips</p> 	<p><b>TP-82E*</b> 4 in. Elongated Refl. Center Support (RCS)</p> 	<p><b>WVE-GALV</b> 4 in. Galvanized Steel Vent Cap</p> 	<p><b>TP-33B</b> 1/2 in. Shut-Off Valve/Inlet Tap</p> 			
		<p><b>TP-13</b> Self-Tap Screw</p> 	<p><b>S-Hook</b></p> 			
Part No.	Description	20 Ft.	30 ft.	40 ft.	50 ft.	60 ft.
AG-CS	7-Link Burner Box Hanging Chain	6	7	8	9	10
AK-SR4	Agricultural Attic Intake Kit	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)
S-Hook	2 in. S-Hook	6	7	8	9	10
LIOGTa	General Tube Heater Manual	1	1	1	1	1
LIOAG1	AG1 Series Insert Manual	1	1	1	1	1
TP-13	Self-Tapping Screw	4	8	12	16	20
TP-19B	4 in. Hanger w/ Tension Spring	4	5	6	7	8
TP-19EAO	4 in. Elongated Hanger w/ Tension Spring	Opt. (4)*	Opt. (5)*	Opt. (6)*	Opt. (7)*	Opt. (9)*
TP-21B**	4 in. Tube Clamp	2	3	4	5	6
TP-33B	1/2 in. Shut-Off Valve & Inlet Tap	1	1	1	1	1
TP-82	4 in. Reflector Center Support	1	2	4	5	6
TP-82E	4 in. Elongated Reflector Center Support	Opt (1)*	Opt ( 2)*	Opt. (4)*	Opt (5)*	Opt. (6)*
TP-83	24 in. Stainless Steel Flexible Gas Connector	1	1	1	1	1
TP-105	Reflector End Cap	2	2	2	2	2
TP-106	Reflector End Cap Clips	8	8	8	8	8
WVE-GALV	4 in. Galvanized Steel Vent Cap w/ Flapper	1	1	1	1	1

Filled By: \_\_\_\_\_

\* Elongated Reflector Center Supports (TP-82E) are included in kit when the TP-19EAO option is selected (replaces TP-19B).

\*\* One 4" stainless steel tube clamp (P/N: TP-220) is provided for each 150,000 BTU/h model. Place as shown on page 15.

### Approvals

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

### Limited Warranty

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

