

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)

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NOTE: See page 14 for a list of available models and specifications.

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.

120V
- 120V HEATER INPUT -

F/N: LLV3EP1

Back Panel

Air Metering Orifice
DO NOT REMOVE TP-114 TP-3014 3" F/N: LLAC Air Metering Orifice

Rating Plate

DETROIT RADIANT INFRARED RADIANT TUBE HEATER
FOR OUTDOOR USE AND INDOOR (Non-Residential) INSTALLATION ONLY
Class IIA Permanent Label

MODEL NO. AG1-40 - 125N	INPUT BTU/H 125,000	FOR USE WITH Natural Gas
Volts AC 120V - 60Hz	Manifold Pressure 3.5 Inches W.C.	Heater Type C1
AMPS - Starting 4.8	Maximum Inlet Pressure 14 Inches W.C.	Minimum Mounting Angle 0 DEGREES
AMPS - Running 1.1	Maximum Inlet Pressure 5.0 Inches W.C.	Maximum Mounting Angle 45 DEGREES

DESIGN COMPLIES WITH:
ANSI Z89.20-2003 GAS-FIRED LOW INTENSITY INFRARED RTR.

DETROIT RADIANT PRODUCTS COMPANY
2140 HOOVER ROAD WARREN, MI 48090
(586) 756-0550 www.drp-co.com

Serial No.: 0914XXXXXXXXXXXX 0001

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

Top Panel

WARNING
Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.

DANGER
FIRE HAZARD. Always maintain sufficient clearance to combustibles. In locations used for the storage of combustibles, materials, signs must be posted. Consult manual for additional guidelines.

CAUTION
Follow all State and local codes when installing this appliance. In the absence of such codes, consult the National Fuel Gas Code (NFPA 54).

F/N: LLTCL001 Clearance to Combustibles Label.

AG1-40-125N Serial No.: 0914XXXXXXXXXXXX 0001

Production Code: AG1-125 Stock: None

Version: 014 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.

BURNER COMPONENTS: (Specify TP-F#s)

Gas Valve	36E96-224-N	840	Flame LED	827
Control Board	Micro60-24	851	Temp. Probe	None
Wire Harness	2 PCD Harness	853	Thermistor	40 VA
I/O Switch	None	N/A	Flue	Fasco Lp
I/O - 1/8 Orifice	N/A	N/A	Air Fan	50Hz - 120V
I/O - 3/16 Orifice	None	N/A	Air Fan Storage	When Specified
I/O - 1/2 Orifice	None	N/A	Blower	None
Igniter	IS2201-099P199	264E	Filter	None
Igniter	Norton	50	24 Volt	822
Igniter	Low Mid	3072	Gas In	66
Igniter	4" Stud	202	Gas In	7/8" FC Flare
Igniter	1/2" Stud	202	Gas In	None
Igniter	Yellow - 24V	828	Excess 1/8 Orifice	None

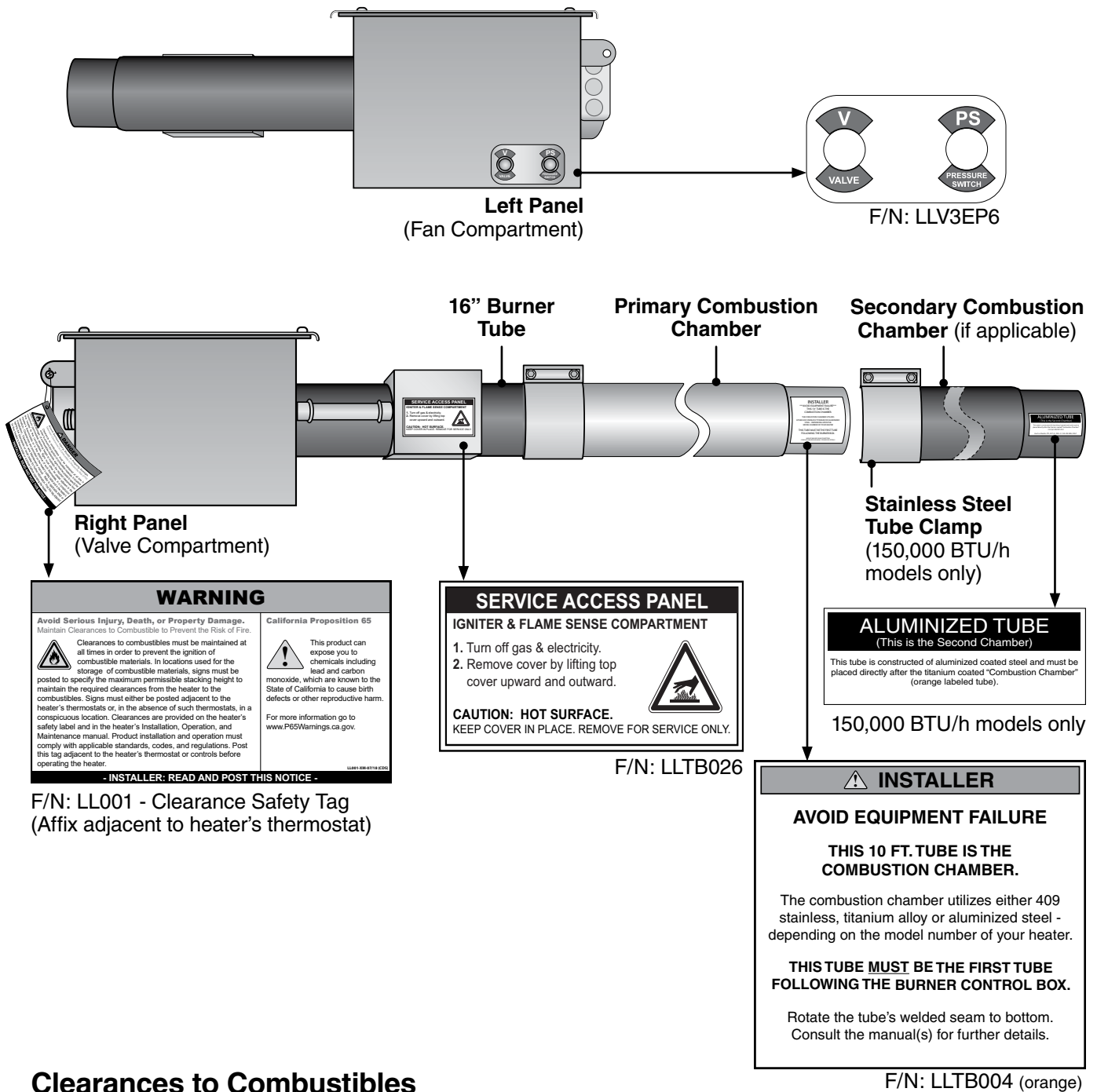
HEATER TYPE: C1

Gas: TP-2048	10	10	9	Electric: LLV7000	Special: Micro 60
Air: TP-1148	2 1/4"	2 1/4"	2 1/4"	Tag: None	Special 2: Plug-Wh

For parts replacement information, contact factory at 586-756-0550 or visit www.drp-co.com/parts.

Bottom Panel

F/N: LLLOGO
(Note model number when reordering)



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

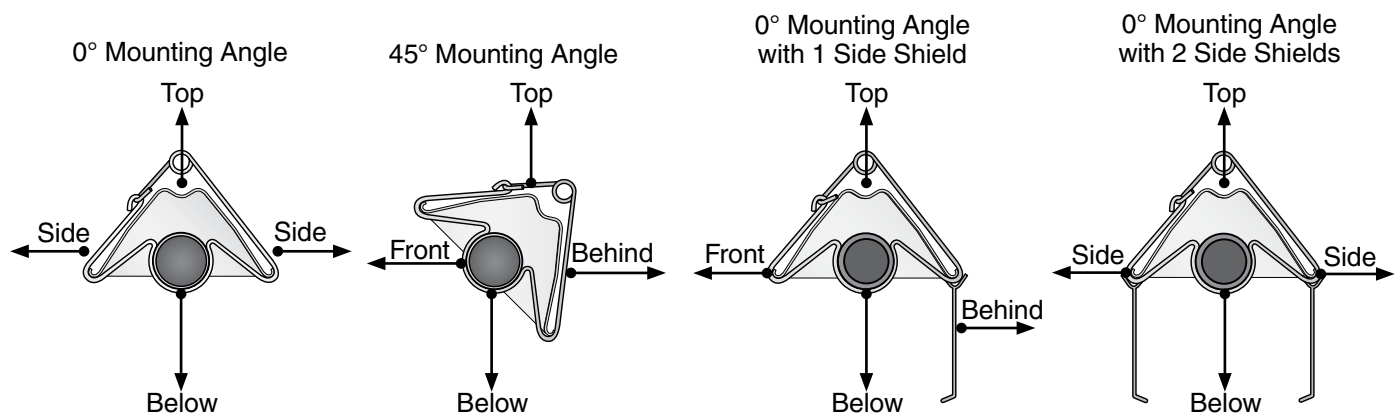
Model Number	Mounting Angle*	Sides		Top**	Below
		Front	Behind		
AG1 (20, 30, 40) - 50 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	0°	9	9	6	47
	45°	39	8	10	47
	0°	29	8	6	47
	0°	9	9	6	47
	0°	7	7	6	30
AG1 (20, 30, 40) - 60 [N, P] with 1 side shield with 2 side shields 20 ft. from burner	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 (20, 30, 40, 50) - (80, 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 (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.

* Heaters mounted on an angle between 1° to 29° must maintain clearances posted for 0° or 30°; 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

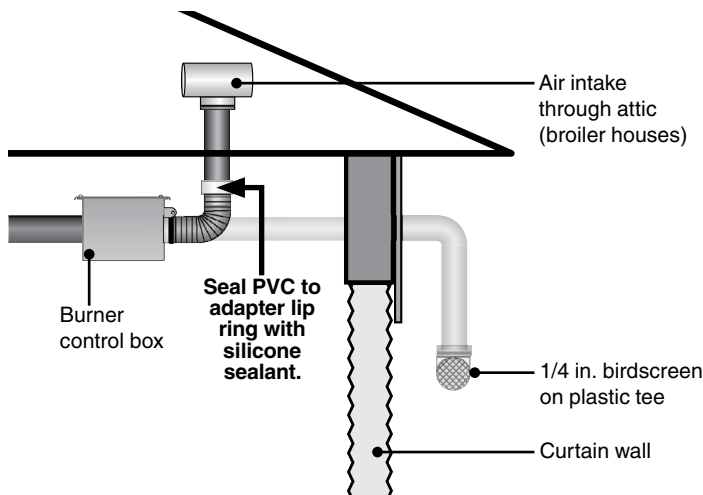
NOTE: Electronic versions of all manuals are available at www.detroitradiant.com.

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

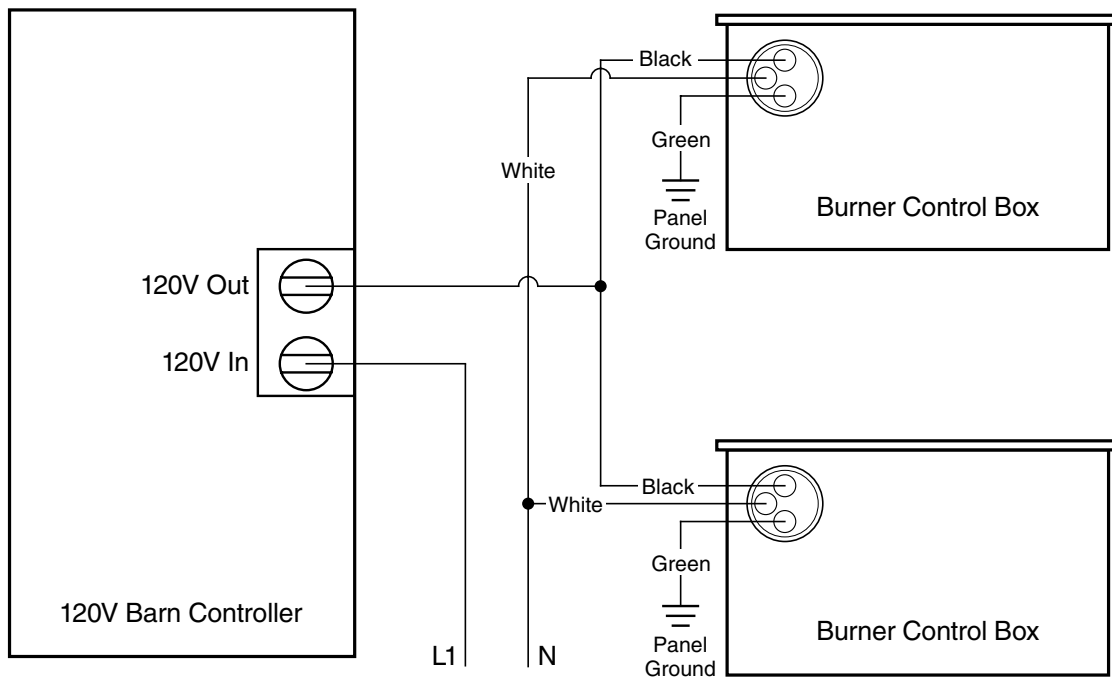


Electric Shock

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.



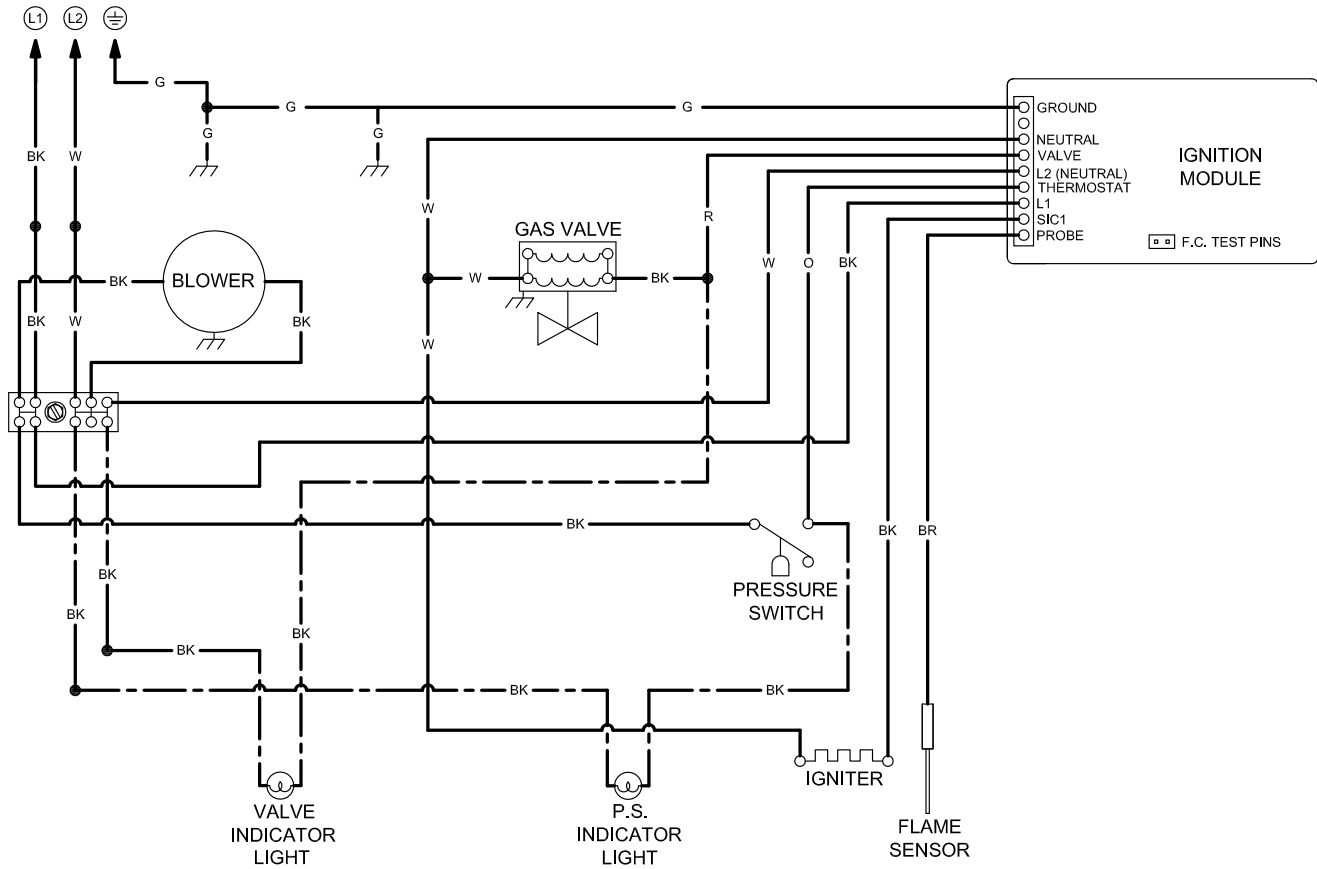
⚠ CAUTION

When utilizing PVC conduit and/or pipe, all clearances to combustibles must be maintained (see pgs. 4-5). 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 temperature rating of at least 105° C.

Figure 2.3 • Internal Wiring Diagrams



WIRING INFORMATION:

LINE VOLTAGE:

- FACTORY STANDARD —————
- FACTORY OPTION - - - - -
- FIELD INSTALLED - - - - -

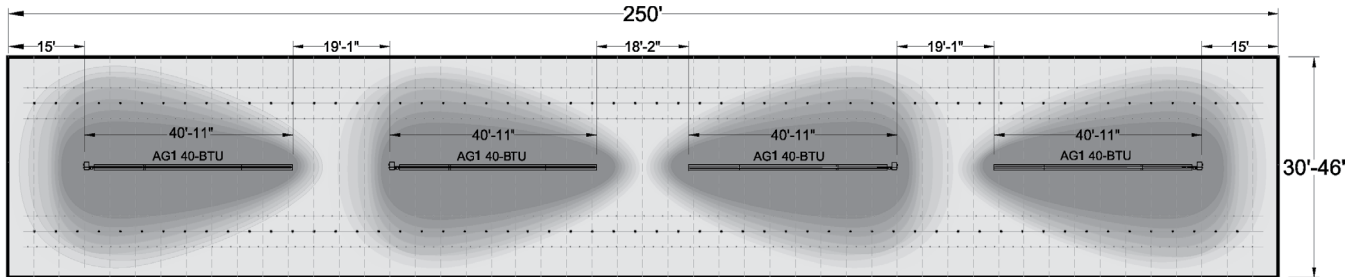
LOW VOLTAGE:

- FACTORY STANDARD —————
- FACTORY OPTION - - - - -
- FIELD INSTALLED - - - - -

Installation Diagrams

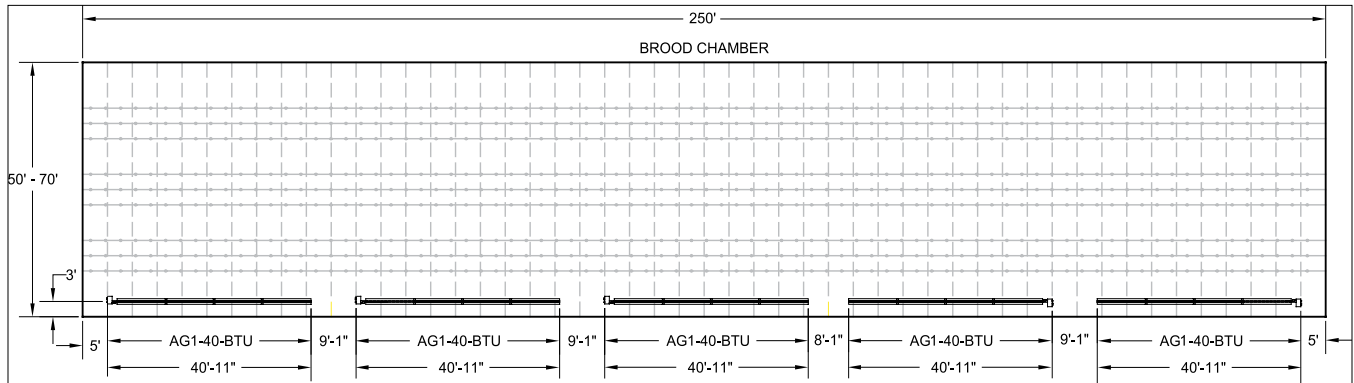
Figure 2.4 • Sample Brooder Installation Diagrams

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.

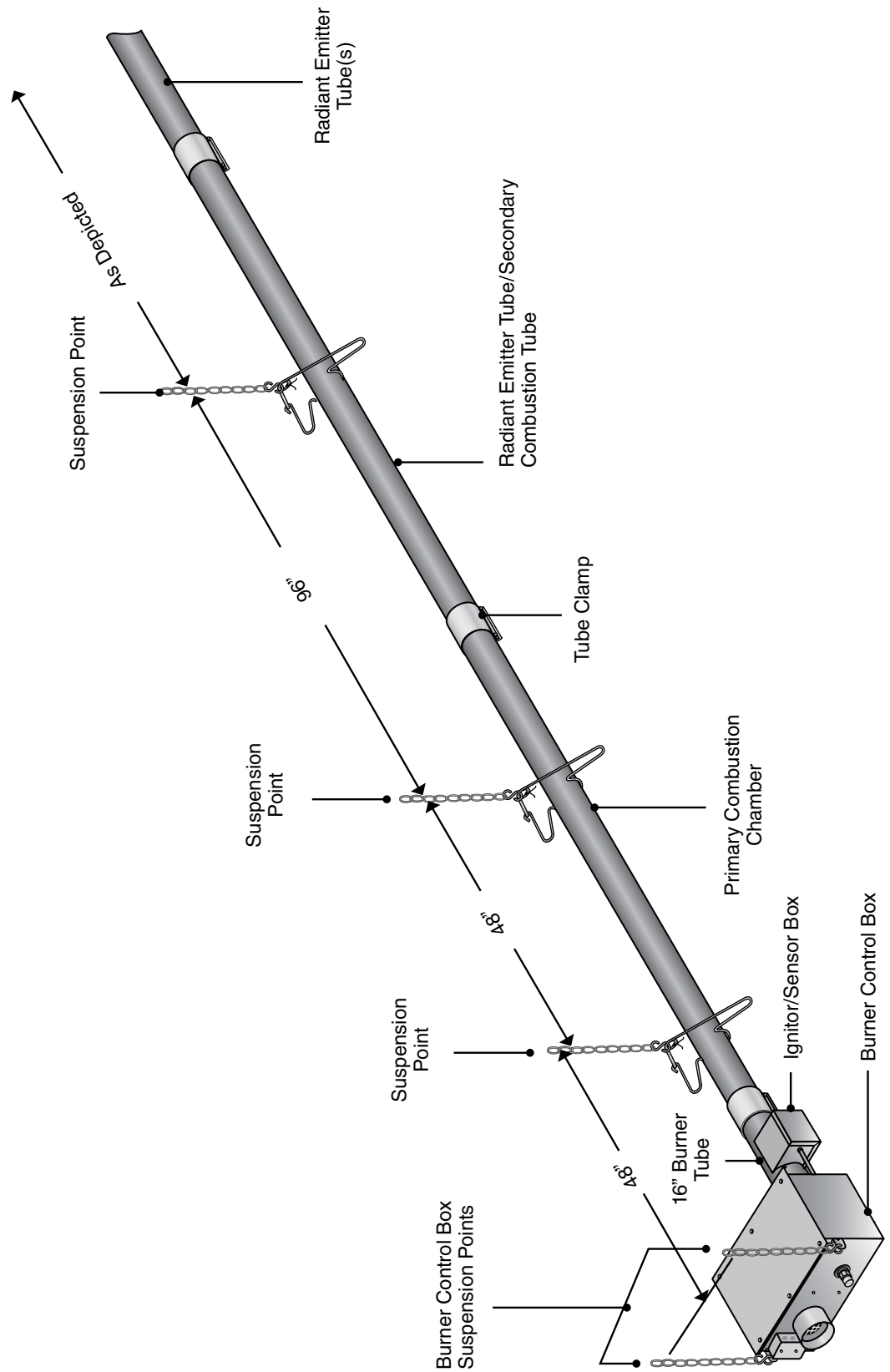
B. Sidewall Installation



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

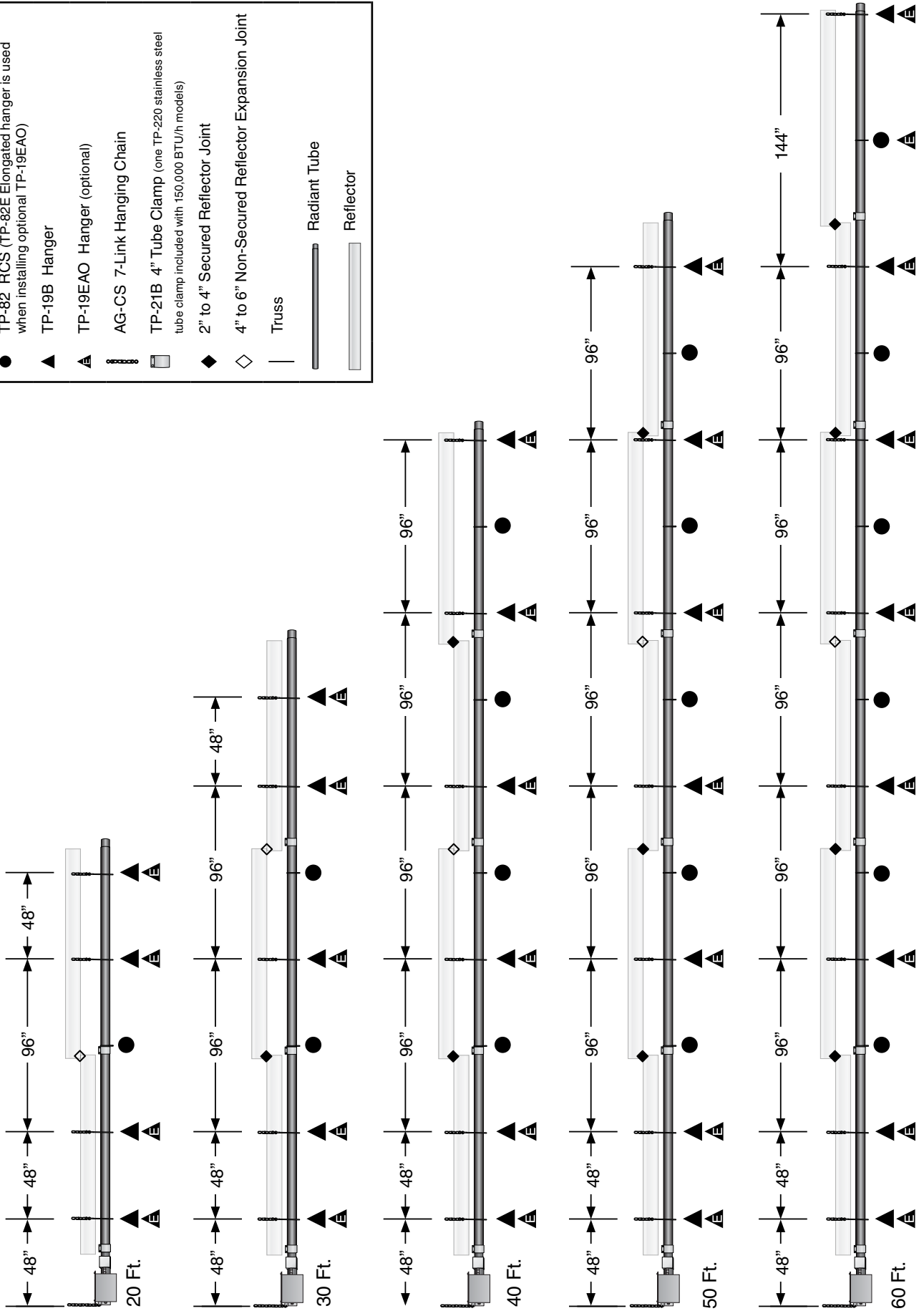
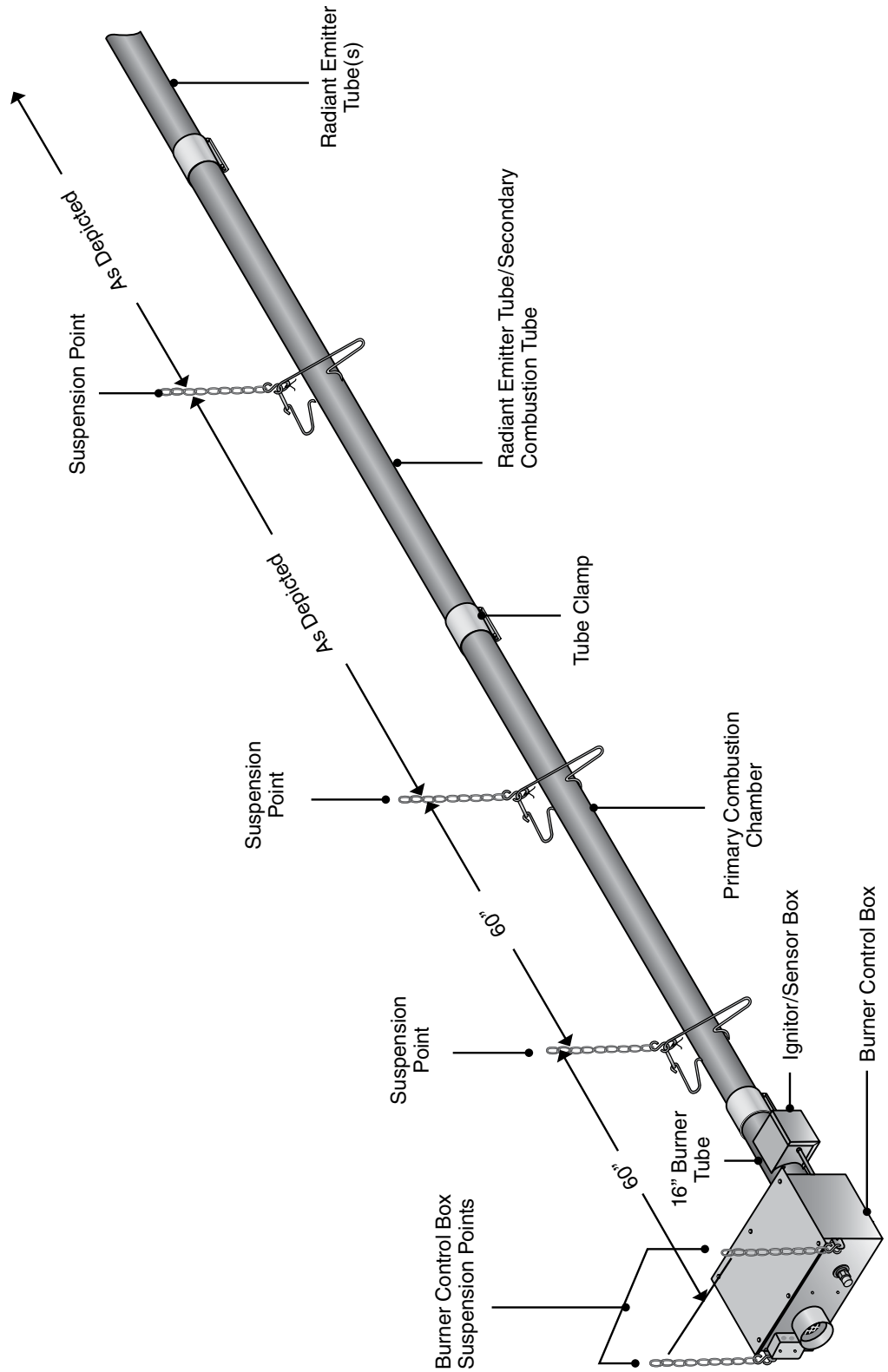


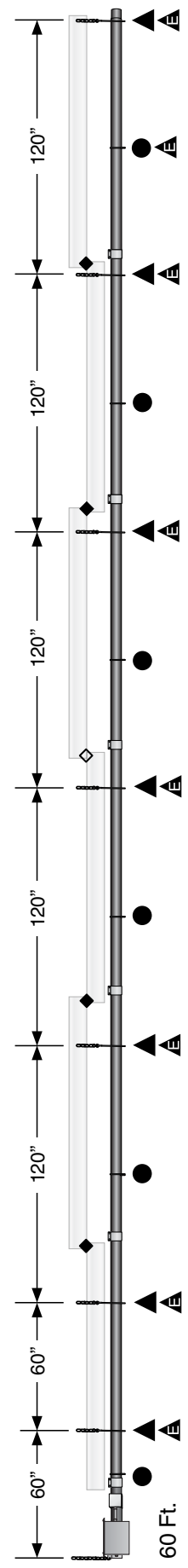
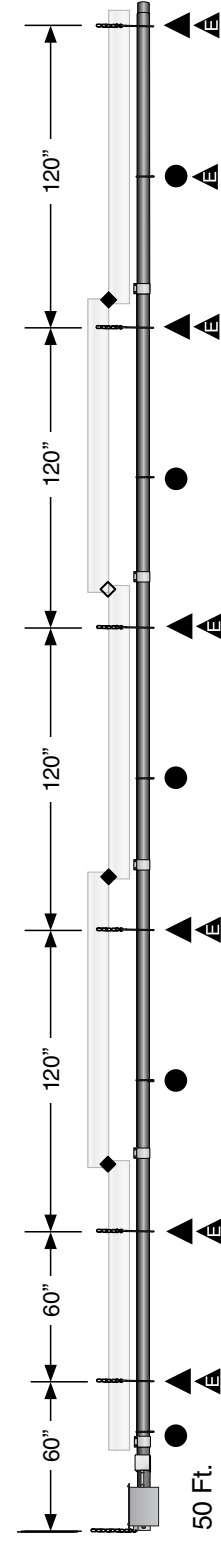
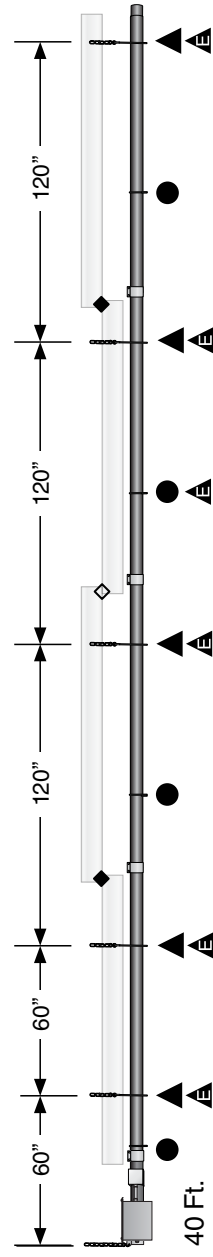
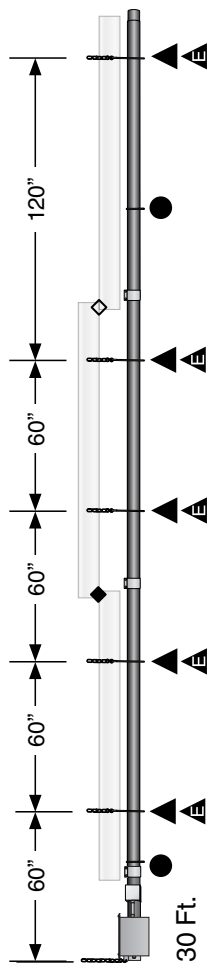
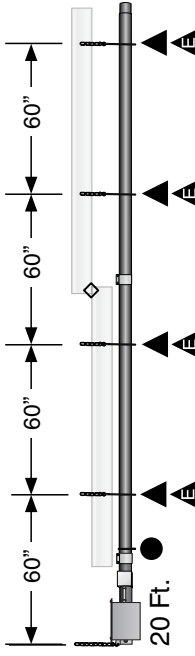
Figure 2.6 • Heater Suspension Layout • Five (5) Foot Truss Mounts

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) [^]	Radiant Surface Area (sq. ft.)	36" Baffle Sections	Optional Alum-AO Quantity
AG1-20-50	Nat. or Prop.	50,000	21'-7"	13'-0"	120	6' to 9'	Alum	HRT	20.2	5	1
AG1-20-60	Nat. or Prop.	60,000	21'-7"	13'-0"	120	6' to 9'	Alum	HRT	20.2	5	1
AG1-20-75	Nat. or Prop.	75,000	21'-7"	13'-0"	120	7' to 10'	Alum	HRT	20.2	5	1
AG1-20-80	Nat. or Prop.	80,000	21'-7"	13'-0"	120	8' to 14'	Alum	HRT	20.2	5	1
AG1-30-50	Nat. or Prop.	50,000	31'-3"	**17'-8"	160	7' to 10'	Alum	HRT	30.4	5	2
AG1-30-60	Nat. or Prop.	60,000	31'-3"	**17'-8"	160	7' to 10'	Alum	HRT	30.4	5	2
AG1-30-75	Nat. or Prop.	75,000	31'-3"	**17'-8"	160	7' to 10'	Alum	HRT	30.4	5	2
AG1-30-80	Nat. or Prop.	80,000	31'-3"	**17'-8"	160	8' to 14'	Alum	HRT	30.4	5	2
AG1-30-100	Nat. or Prop.	100,000	31'-3"	**17'-8"	160	8' to 14'	Alum	HRT	30.4	6	2
AG1-40-50	Nat. or Prop.	50,000	40'-11"	22'-8"	190	7' to 10'	Alum	HRT	40.5	5	3
AG1-40-60	Nat. or Prop.	60,000	40'-11"	22'-8"	190	7' to 10'	Alum	HRT	40.5	5	3
AG1-40-75	Nat. or Prop.	75,000	40'-11"	22'-8"	190	7' to 10'	Alum	HRT	40.5	5	3
AG1-40-80	Nat. or Prop.	80,000	40'-11"	22'-8"	190	8' to 14'	Alum	HRT	40.5	5	3
AG1-40-100	Nat. or Prop.	100,000	40'-11"	22'-8"	190	7' to 11'	Alum	HRT	40.5	5	3
AG1-40-125	Nat. or Prop.	125,000	40'-11"	22'-8"	190	9' to 14'	Alum	HRT	40.5	5	3
AG1-40-150*	Nat. or Prop.	150,000	40'-11"	22'-8"	190	10' to 14'	Ti-AL	HRT	40.5	5	3
AG1-50-100	Nat. or Prop.	100,000	50'-7"	**27'-4"	235	8' to 12'	Alum	HRT	50.6	5	4
AG1-50-125	Nat. or Prop.	125,000	50'-7"	**27'-4"	235	9' to 14'	Alum	HRT	50.6	5	4
AG1-50-150*	Nat. or Prop.	150,000	50'-7"	**27'-4"	235	10' to 14'	Ti-AL	HRT	50.6	5	4
AG1-60-150*	Nat. or Prop.	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).

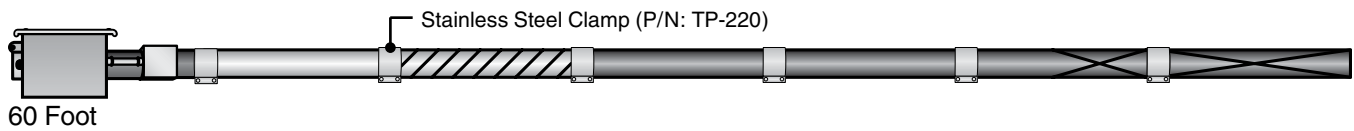
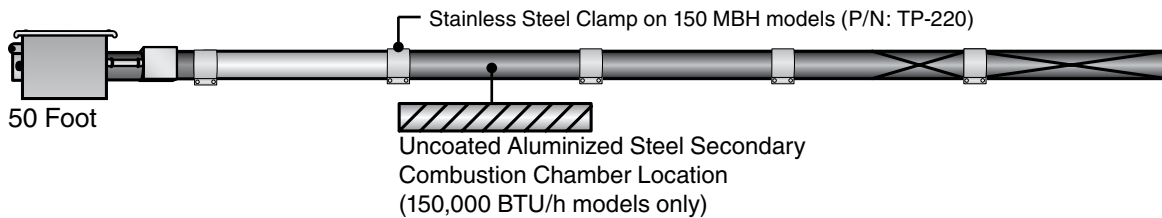
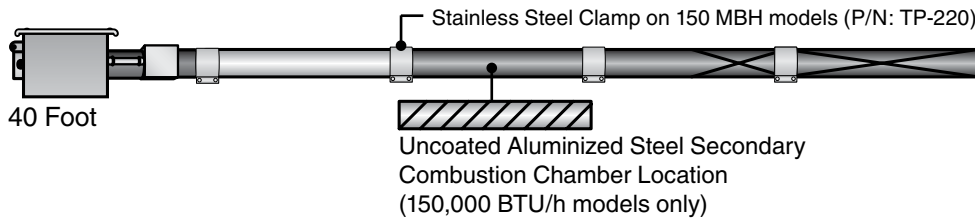
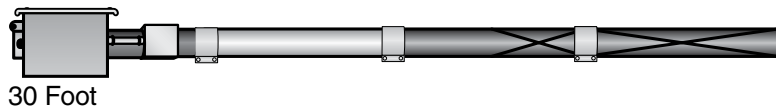
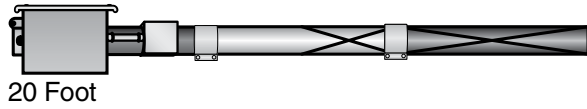
[^] ALUM-AO: Upgrade hot-rolled steel (HRT) radiant tubes to 16 gauge, black coated, aluminized steel for maximum efficiency and longevity. **NOTE:** This option is highly recommended in contaminated or moisture laden environments (i.e. poultry applications). See Chart 2.1 for quantity needed per heater.

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 and 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.

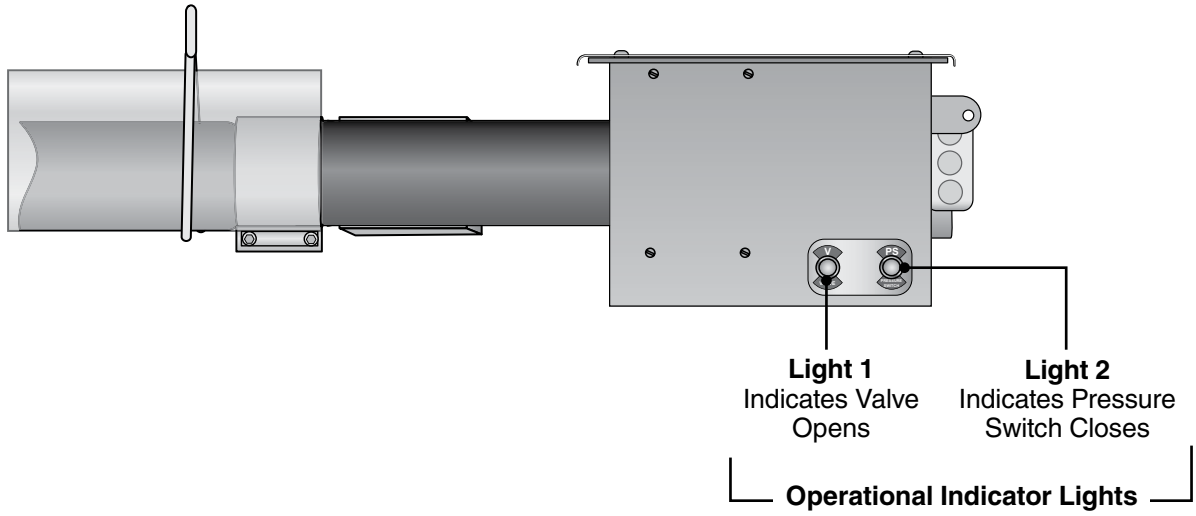
Thermostat

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

Operational Indicator Lights

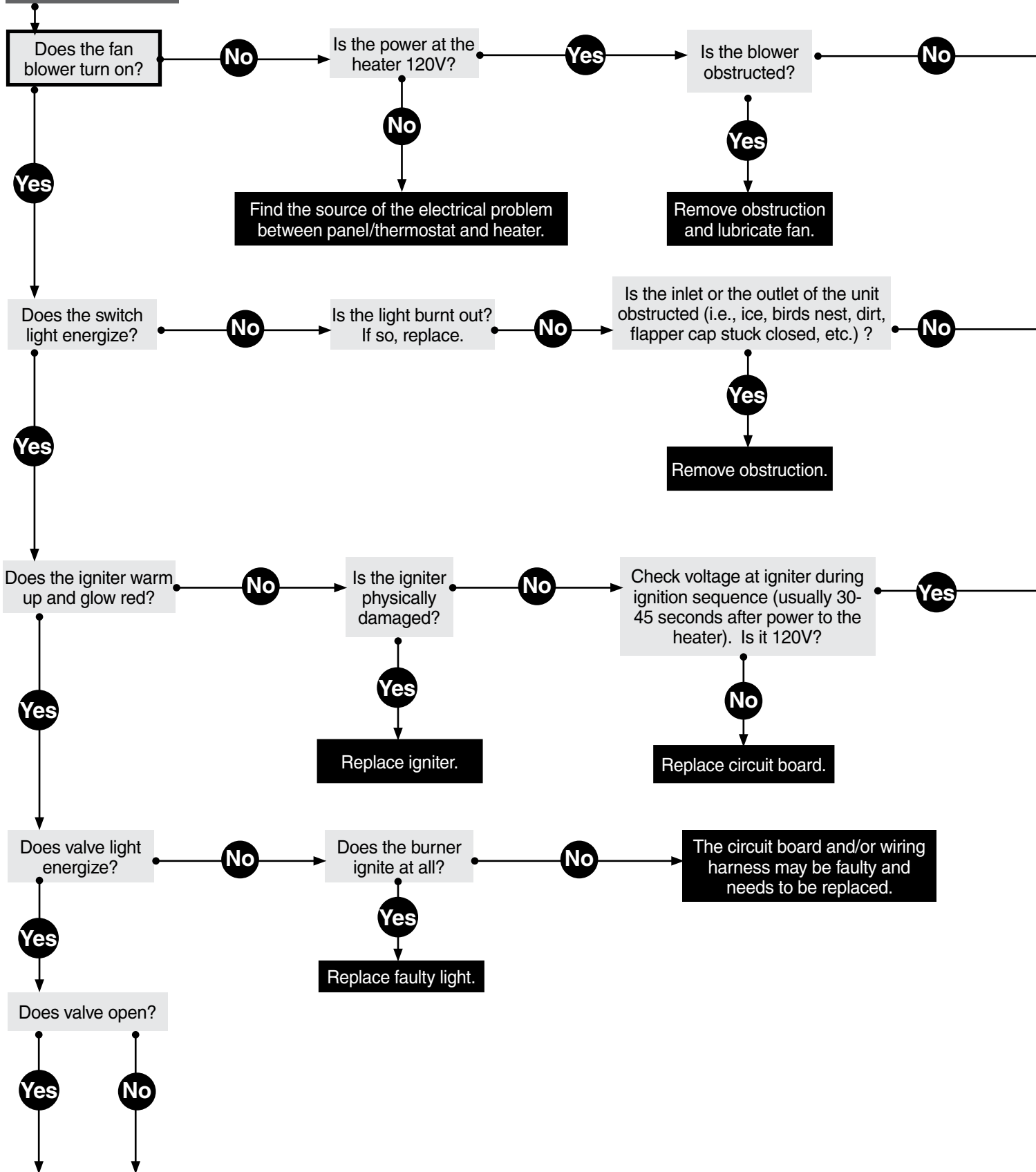
The externally located operational indicator lights are provided to assist in troubleshooting the heater. Refer to the following pages for additional troubleshooting information.

Figure 3.1 • Operational Indicator Lights



4.0 Troubleshooting Guide

Turn up thermostat



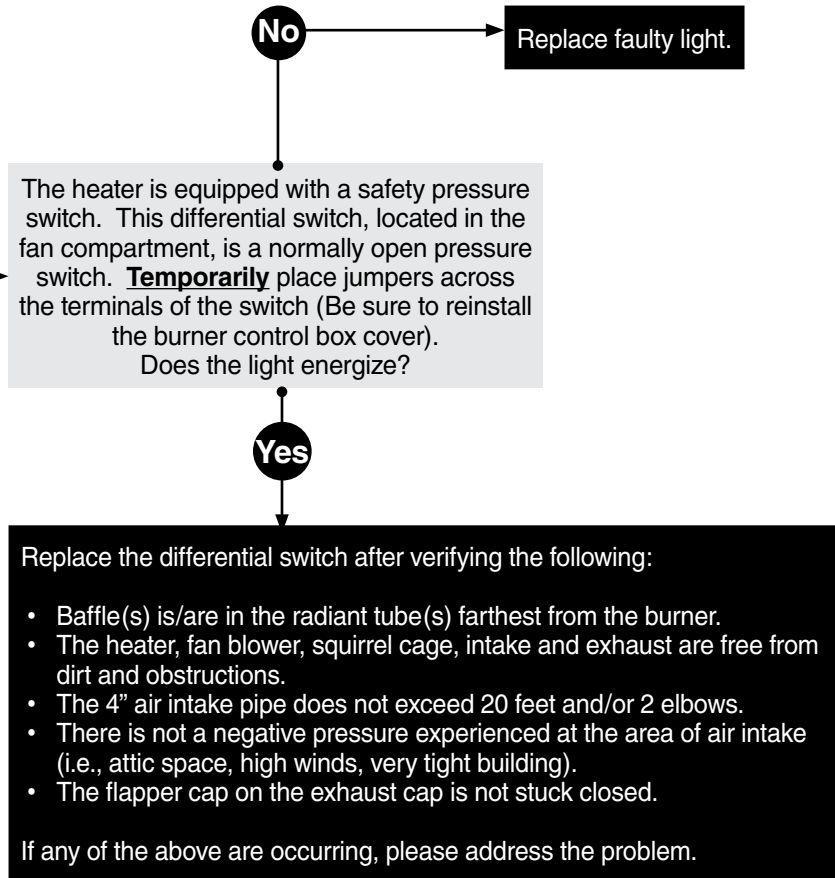
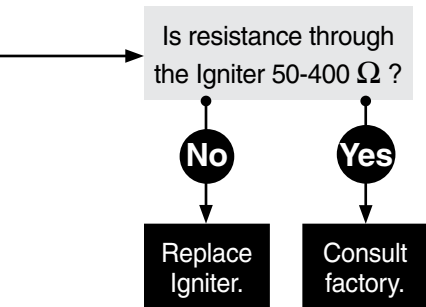
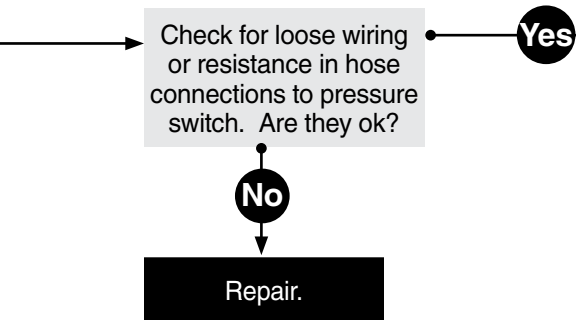
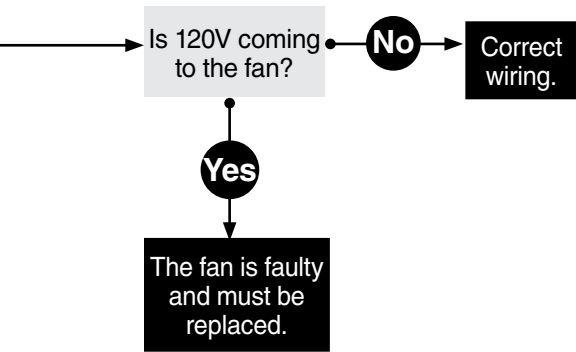
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NOTICE

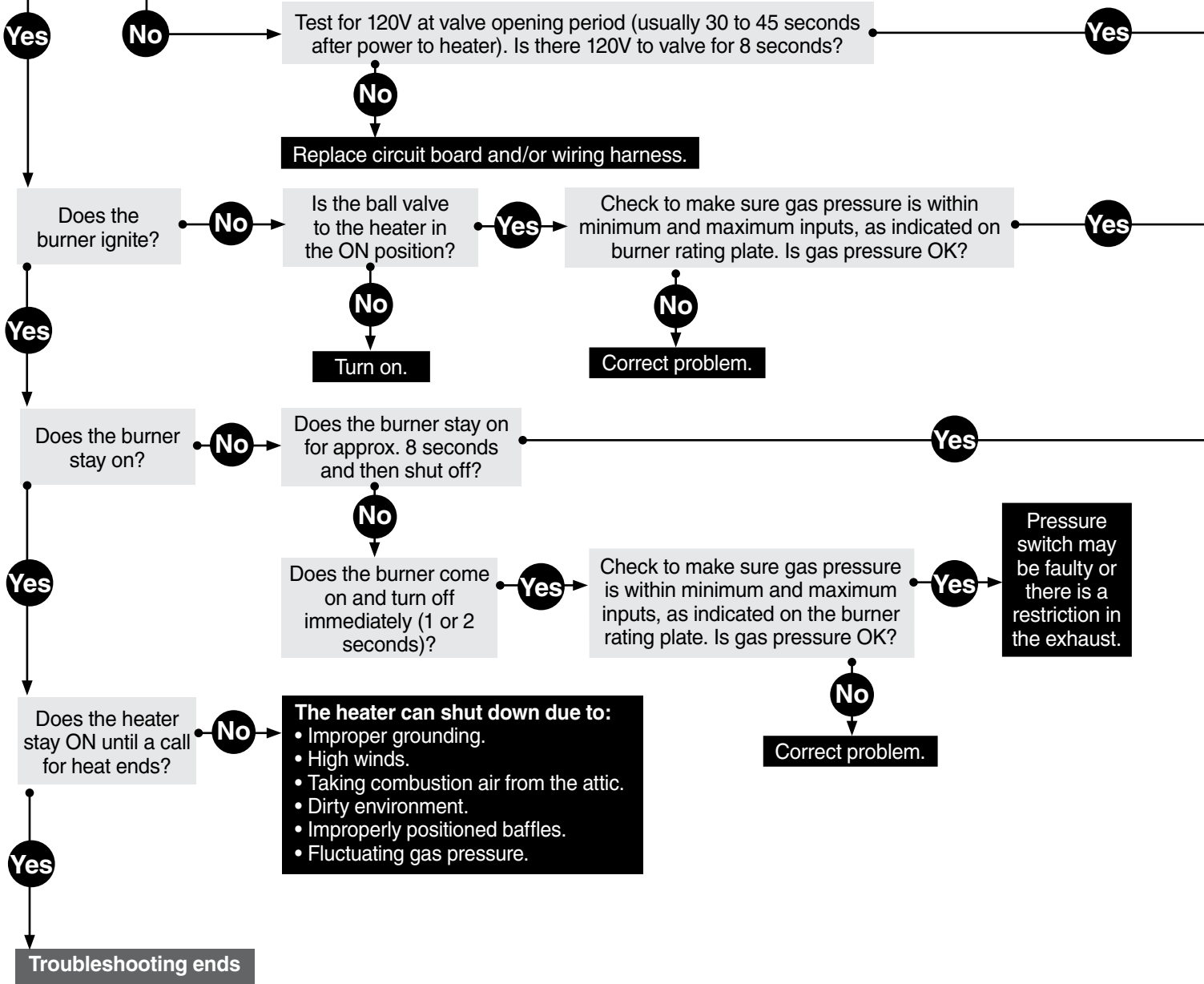
Bypassing any switch is intended for testing purposes only. Do not leave switch bypassed during normal operation or the heater's built-in safety mechanisms will be compromised.

Key

- Start Question
- Process Question
- Corrective Action

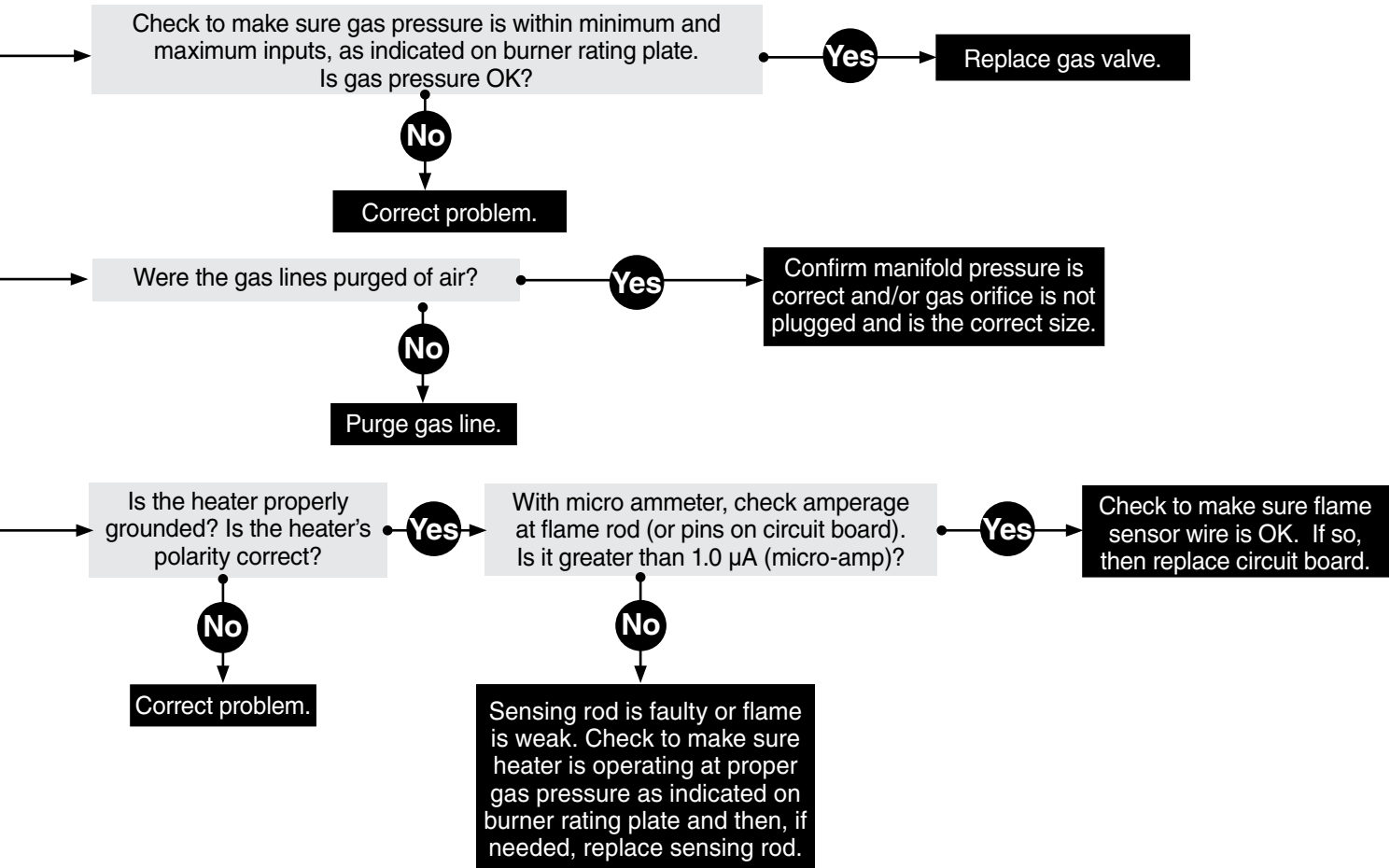


Continued from page 18.



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

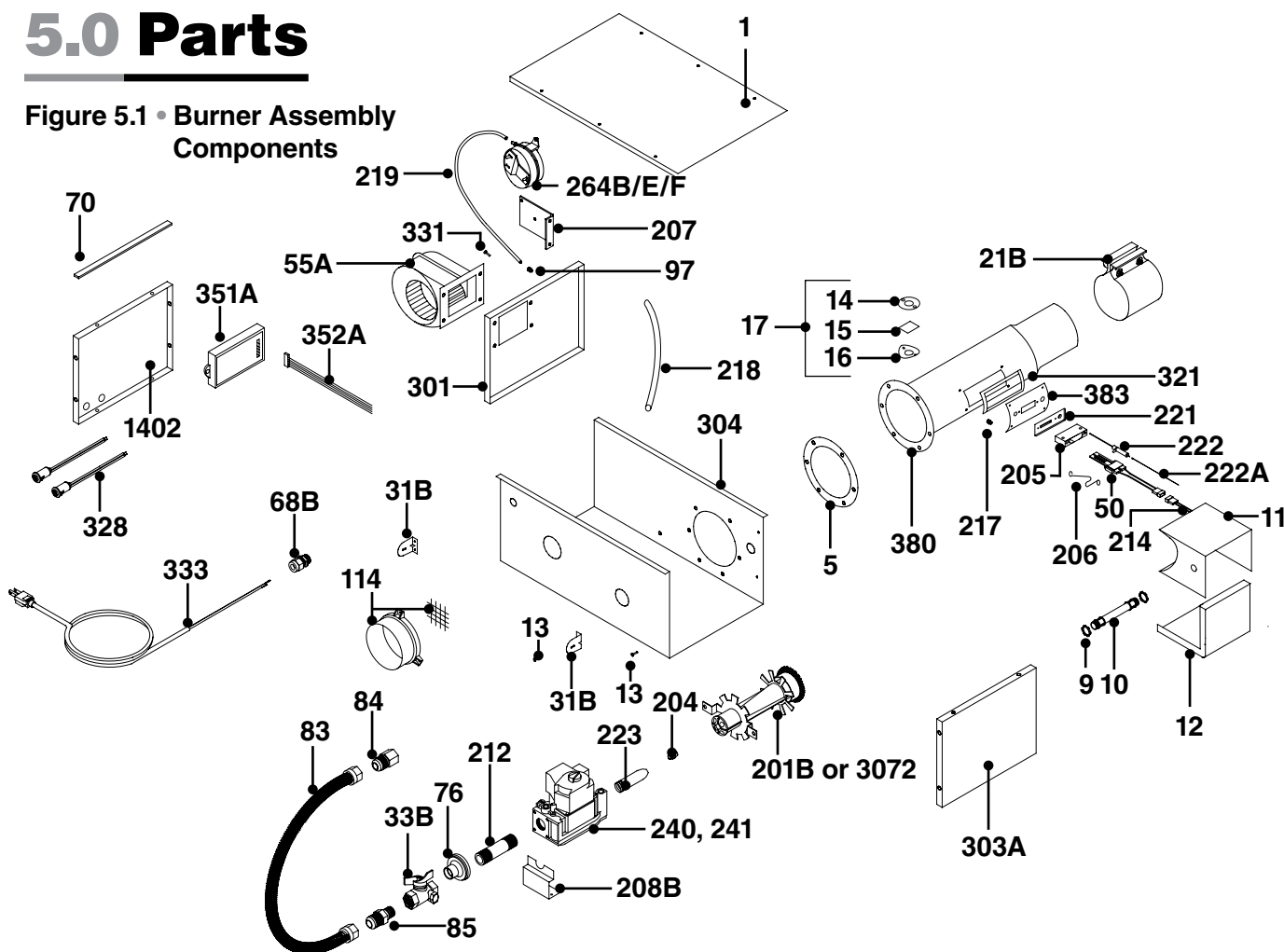
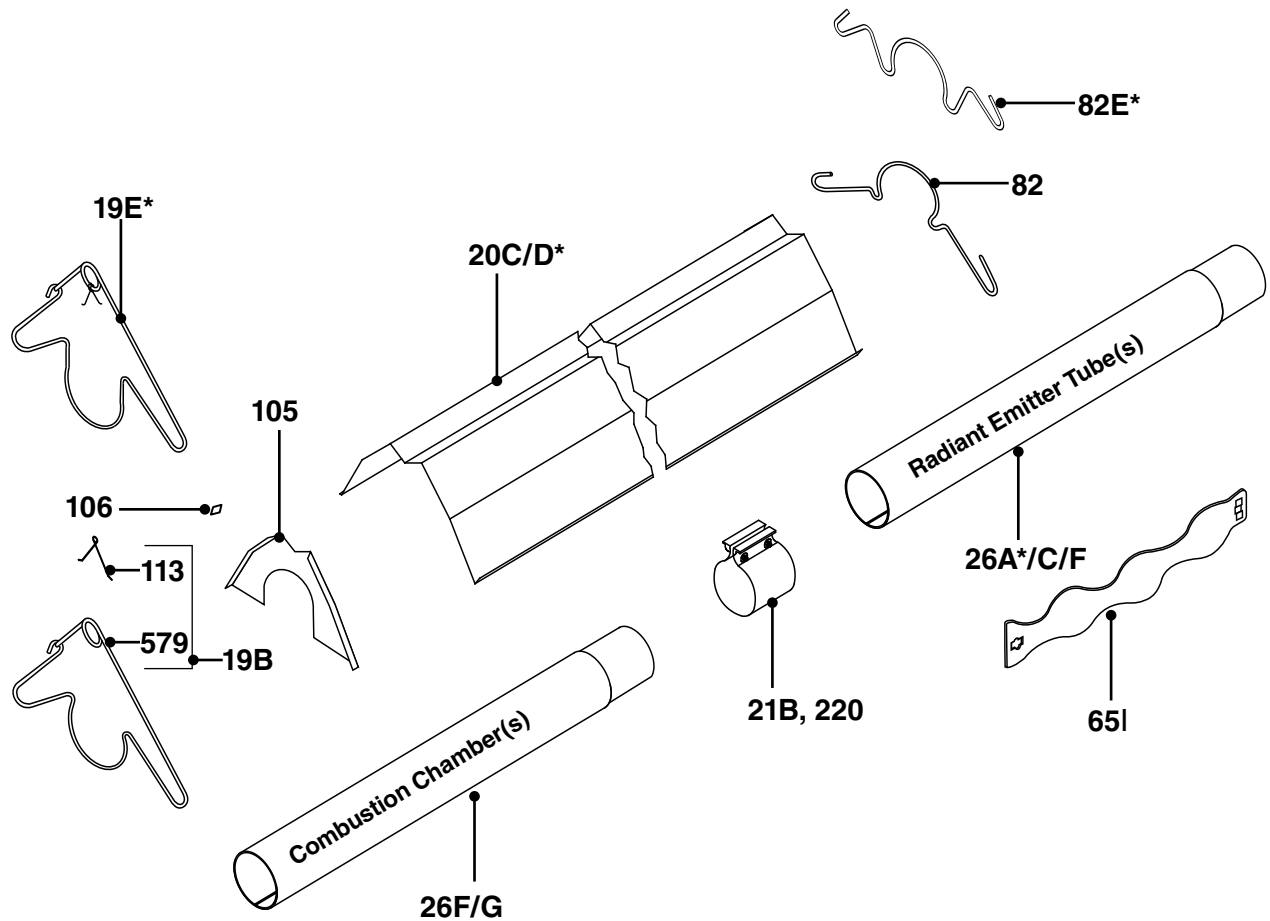


Chart 5.1 • Parts List

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 and Reflector Components

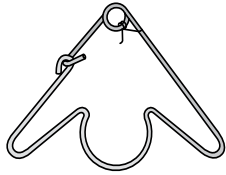
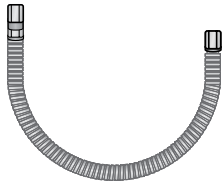
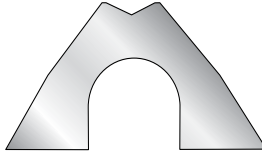
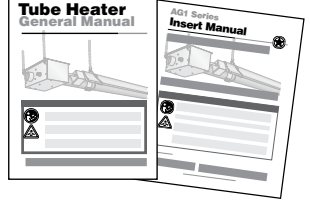
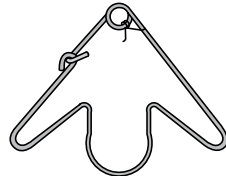

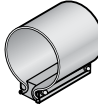



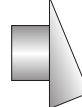
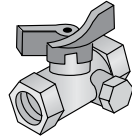




Part No.	Description	Part No.	Description
TP-113	Reflector Tension Spring	TP-241	Gas Valve Assembly - Propane Gas
TP-114	Plastic Air Orifice w/ Screen (consult factory)	TP-264B	Atmospheric Pressure Switch, 50-75 MBH
TP-201B	Burner (Tan) - consult factory	TP-264E	Atmospheric Pressure Switch, 100-125 MBH
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 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	TP-3072	Burner (Green) - consult factory
TP-240	Gas Valve Assembly - Natural Gas		

* 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						
TP-19B 4 in. Hanger with Reflector Tension Spring 	TP-83 24 in. Stainless Steel Flexible Gas Connector 	TP-105 Reflector End Cap 	Tube Heater General and AG1 Series Insert Manuals F/N: LIOGTa & LIOAG1 			
TP-19EAO* Optional 4 in. Elongated Hanger 	TP-82 4 in. Reflector Center Support (RCS) 	TP-21B** 4 in. Tube Clamp 	AG-CS 7-Link Chain 			
TP-106 Reflector End Cap Clips 	TP-82E* 4 in. Elongated Refl. Center Support (RCS) 	WVE-GALV 4 in. Galvanized Steel Vent Cap 	TP-33B 1/2 in. Shut-Off Valve/Inlet Tap 			
	TP-13 Self-Tap Screw 	S-Hook 				
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



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