Owner's Manual and Instructions

Guardian Agricultural Animal Confinement Building Heaters

MODELS	OUTPUT	FUEL
AD250	73.3 KW	Available in either L.P. Gas Vapor Withdrawal or Natural Gas Configurations.

MADE IN THE U.S.A.

CE

Congratulations!

You have purchased the finest agricultural building heater available.

Your new L.B. White heater incorporates the benefits from the most experienced manufacturer of heating products using state-of-the-art technology.

We, at L.B. White, **thank you** for your confidence in our products and welcome any suggestions or comments you may have...call us at 608-783-5691.

ATTENTION ALL USERS

This heater has been designed and developed specifically for use as a direct-fired circulating heater for agricultural animal confinement buildings. The heater has been evaluated by Advantica and found to conform to essential health and safety requirements as required by the Gas Appliance Directive, Low Voltage Directive, and Electromagnetic directive. The heater is approved for indoor and outdoor use. If you are considering using this product for any application other than its intended use, then please contact your fuel gas supplier, or the L.B. White Co., Inc.

Quality heaters you can count on.

W6636 L.B. White Rd., Onalaska, WI 54650 ■ (800) 345-7200 ■ (608) 783-5691 ■ (608) 783-6115, fax ■ info@lbwhite.com

150-21730-C

⚠ GENERAL HAZARD WARNING

- Failure to comply with the precautions and instructions provided with this heater, can result in:
  - — Death
  - — Serious bodily injury or burns
  - — Property damage or loss from fire or explosion
  - — Asphyxiation due to lack of adequate air supply or carbon monoxide poisoning
  - — Electrical shock
- Read this Owner's Manual before installing or using this product.
- Only properly-trained service people should repair or install this heater.
- Save this Owner's Manual for future use and reference.
- Owner's Manuals and replacement labels are available at no charge. For assistance, contact L.B. White at 608-783-5691.

⚠ WARNING

- Proper gas supply pressure must be provided to the inlet of the heater.
- Refer to rating plate for proper gas supply pressure.
- Gas pressure in excess of the maximum inlet pressure specified at the heater inlet can cause fires or explosions.
- Fires or explosions can lead to serious injury, death, building damage or loss of livestock.
- Gas pressure below the minimum inlet pressure specified at the heater inlet may cause improper combustion.
- Improper combustion can lead to asphyxiation or carbon monoxide poisoning and therefore serious injury or death to humans and livestock.

⚠ WARNING
Fire and Explosion Hazard

- Not for home or recreational vehicle use.
- Installation of this heater in a home or recreational vehicle may result in a fire or explosion.
- Fire or explosions can cause property damage or loss of life.

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

⚠ WARNING
Fire and Explosion Hazard

- Keep solid combustibles a safe distance away from the heater.
- Solid combustibles include wood or paper products, feathers, straw, and dust.
- Do not use the heater in spaces which contain or may contain volatile or airborne combustibles.
- Volatile or airborne combustibles include gasoline, solvents, paint thinner, dust particles or unknown chemicals.
- Failure to follow these instructions may result in a fire or explosion.
- Fire or explosions can lead to property damage, personal injury or loss of life.

Table of Contents

General Information

This Owner's Manual includes all options and accessories commonly used on this heater. However, depending on the configuration purchased, some options and accessories may not be included.

When calling for technical service assistance, or for other specific information, always have model number, configuration number and serial number available. This information is contained on the dataplate. The dataplate is located on the exterior of the burner end door.

This manual will instruct you in the operation and care of your unit. Have your qualified installer review this manual with you so that you fully understand the heater and how it functions.

The gas supply line installation, installation of the heater, and repair and servicing of the heater requires continuing expert training and knowledge of gas heaters and should not be attempted by anyone who is not so qualified. See page 6 for definition of the necessary qualifications.

Contact your local L.B. White distributor or the L.B. White Co., Inc. for assistance, or if you have any questions about the use of the equipment or its application.

The L.B. White Co., Inc. has a policy of continuous product improvement. It reserves the right to change specifications and design without notice.

Heater Specifications

SPECIFICATIONS		Model AD250		
Fuel Type		**L.P. Gas**	**Butane Gas**	**Natural Gas**
Maximum Input per Hour		73.3 KW		
Minimum Input per Hour		46.9 KW		
Ventilation Air Required to Support Combustion		1,885 Cubic Meters per Hour		
Burner Manifold Pressure Relative to Gas Category (For Regulated Units)		25 mbar I_{3P}	20 mbar I_{3BP}	10 mbar I_{2H} 10 mbar I_{2E} 12 mbar I_{2L} 10/12 mbar I_{2Er}
Motor Characteristics		Ball Bearing		
		249 Watts 1150 RPM		
Electrical Supply (Volts/Hz/Phase)		220-240/50/1		
Amp Draw (Starting Amps Includes Igniter)	**STARTING**	3.9		
	CONTINUOUS OPERATION	2.6		
Dimensions L x W x H		78 cm x 46 cm x 72 cm		
Minimum Safe Distances From Nearest Combustible Materials	**TOP**	.3 m		
	SIDES	.3 m		
	BACK	.3 m		
	BLOWER OUTLET	3 m		
	GAS SUPPLY	L.P. Gas Supply — 1.83 m Natural Gas Supply — N/A		

FUEL INFORMATION FOR COUNTRY OF DESTINATION

	Gas Type	Appliance Category	Supply Pressure	Gas Rate AD250
Great Britain	L.P. Gas	I_{3P}	37 mbar	5.25 kg/hr.
	Nat. Gas	I_{2H}	20 mbar	7.14 m^3/hr.
Germany	L.P. Gas	I_{3P}	50 mbar	5.25 kg/hr.
	Nat. Gas	I_{2E}	20 mbar	7.14 m^3/hr.
Denmark	L.P. Gas	$I_{3B/P}$	30 mbar	(propane) 5.25 kg/hr. (butane) 5.36 kg/hr.
	Nat. Gas	I_{2H}	20 mbar	7.14 m^3/hr.
France	L.P. Gas	I_{3P}	37 and 50 mbar	5.25 kg/hr.
	Nat. Gas	I_{2Er}	20 and 25 mbar	(G-20) 7.14 m^3/hr. (G-25) 8.28 m^3/hr.
Holland	L.P. Gas	I_{3P}	30 and 50 mbar	5.25 kg/hr.
	Nat. Gas	I_{2L}	25 mbar	8.29 m^3/hr.
Spain	L.P. Gas	I_{3P}	37 mbar	(propane) 5.25 kg/hr.
	Nat. Gas	I_{2H}	20 mbar	7.14 m^3/hr.
Italy	L.P. Gas	$I_{3B/P}$	28-30 or 30 mbar	(propane) 5.25 kg/hr. (butane) 5.36 kg/hr.
	Nat. Gas	I_{2H}	20 mbar	7.14 m^3/hr.
Belgium	L.P. Gas	I_{3P}	37 and 50 mbar	5.25 kg/hr.
	Nat. Gas	$I_{2E(S)B}$	20 and 25 mbar	(G-20) 7.14 m^3/hr. (G-25) 8.28 m^3/hr.

Safety Precautions

⚠ WARNING
Asphyxiation Hazard

- Do not use this heater for heating human living quarters.
- Do not use in unventilated areas.
- The flow of combustion and ventilation air must not be obstructed.
- Proper ventilation air must be provided to support the combustion air requirements of the heater being used.
- Refer to the specification section of the heater's Owner's Manual, heater dataplate, or contact the L.B. White Company to determine combustion air ventilation requirements of the heater.
- Lack of proper ventilation air will lead to improper combustion.
- Improper combustion can lead to carbon monoxide poisoning in humans leading to serious injury or death. Symptoms of carbon monoxide poisoning can include headaches, dizziness and difficulty in breathing.
- Symptoms of improper combustion affecting livestock can be disease, lower feed conversion, or death.

FUEL GAS ODOR

LP gas and natural gas have man-made odorants added specifically for detection of fuel gas leaks.
If a gas leak occurs, you should be able to smell the fuel gas.
THAT'S YOUR SIGNAL TO GO INTO IMMEDIATE ACTION!

- Do not take any action that could ignite the fuel gas. Do not operate any electrical switches. Do not pull any power supply or extension cords. Do not light matches or any other source of flame. Do not use your telephone.
- Get everyone out of the building and away from the area immediately.
- Close all propane (LP) gas tank or cylinder fuel supply valves, or the main fuel supply valve located at the meter if you use natural gas.
- Propane (LP) gas is heavier than air and may settle in low areas. When you have reason to suspect a propane leak, keep out of all low areas.
- Natural gas is lighter than air and can collect around rafters or ceilings.
- Use your neighbor's phone and call your fuel gas supplier and your fire department. Do not re-enter the building or area.
- Stay out of the building and away from the area until declared safe by the firefighters and your fuel gas supplier.
- **FINALLY,** let the fuel gas service person and the firefighters check for escaped gas. Have them air out the building and area before you return. Properly trained service people must repair the leak, check for further leakages, and then relight the appliance for you.

ODOR FADING -- NO ODOR DETECTED

- **Some people cannot smell well. Some people cannot smell the odor of the man-made chemical added to propane (LP) or natural gas. You must determine if you can smell the odorant in these fuel gases.**
- Learn to recognize the odor of propane (LP) gas and natural gas. Local propane (LP) gas dealers and your local natural gas supplier (utility) will be more than happy to give you a "scratch and sniff" pamphlet. Use it to become familiar with the fuel gas odor.
- Smoking can decrease your ability to smell. Being around an odor for a period of time can affect your sensitivity to that particular odor. Odors present in animal confinement buildings can mask fuel gas odor.
- **The odorant in propane (LP) gas and natural gas is colorless and the intensity of its odor can fade under some circumstances.**
- If there is an underground leak, the movement of gas through the soil can filter the odorant.
- Propane (LP) gas odor may differ in intensity at different levels. Since propane (LP) gas is heavier than air, there may be more odor at lower levels.
- **Always be sensitive to the slightest gas odor.** If you continue to detect any gas odor, no matter how small, treat it as a serious leak. Immediately go into action as discussed previously.

ATTENTION -- CRITICAL POINTS TO REMEMBER!

- Propane (LP) gas and natural gas have a distinctive odor. Learn to recognize these odors. (Reference Fuel Gas Odor and Odor Fading sections above.
- If you have not been properly trained in repair and service of propane (LP) gas and natural gas fueled heaters, then do not attempt to light heater, perform service or repairs, or make any adjustments to the heater on propane (LP) gas or natural gas fuel system.
- Even if you are not properly trained in the service and repair of the heater, ALWAYS be consciously aware of the odors of propane (LP) gas and natural gas.
- A periodic "sniff test" around the heater or at the heater's joints; i.e. hose, connections, etc., is a good safety practice under any conditions. If you smell even a small amount of gas, CONTACT YOUR FUEL GAS SUPPLIER IMMEDIATELY. DO NOT WAIT!

1. Do not attempt to install, repair, or service this heater or the gas supply line unless you have continuing expert training and knowledge of gas heaters.

   Qualifications for service and installation of this equipment are as follows:

   a. To be a qualified gas heater service person, you must have sufficient training and experience to handle all aspects of gas-fired heater installation, service and repair. This includes the task of installation, troubleshooting, replacement of defective parts and testing of the heater. You must be able to place the heater into a continuing safe and normal operating condition. You must completely familiarize yourself with each model heater by reading and complying with the safety instructions, labels, Owner's Manual, etc., that is provided with each heater.

   b. To be a qualified gas installation person, you must have sufficient training and experience to handle all aspects of installing, repairing and altering gas lines, including selecting and installing the proper equipment, and selecting proper pipe and tank size to be used. This must be done in accordance with all local, state and national codes as well as the manufacturer's requirements.

2. All installations and applications of L.B. White heaters must meet all relevant local, state, regional and national codes. Included are L.P. gas, natural gas, electrical, and safety codes. Your local fuel gas supplier, a local licensed electrician, the local fire department or similar government agencies, or your insurance agent can help you determine code requirements.

3. Do not move, handle, or service heater while in operation or connected to a power or fuel supply.

4. This heater may be installed in areas subject to washdown. This heater may only be washed on the external case assembly—see Cleaning Instructions. Do not wash the interior of the heater. Use only compressed air, soft brush or dry cloth to clean the interior of the heater and it's components. After external washdown, do not operate this heater until it is completely dry. In any event, do not operate the heater for at least one hour after external washdown.

5. For safety, this heater is equipped with a manual reset high-limit switch and an air flow switch. Never operate this heater with any safety device that has been bypassed. Do not operate this heater unless all of these features are fully functioning.

6. Do not operate the heater with its door open or panel removed.

7. Do not locate fuel gas containers or fuel supply hoses anywhere near the blower outlet of the heater.

8. Do not block air intakes or discharge outlets of the heater. Doing so may cause improper combustion or damage to heater components leading to property damage or animal loss.

9. The hose assembly (if provided) shall be visually inspected on an annual basis. If it is evident there is excessive abrasion or wear, or if the hose is cut, it must be replaced prior to the heater being put into operation. The hose assembly shall be protected from animals, building materials, and contact with hot surfaces during use. The hose assembly shall be that specified by the manufacturer. See parts list.

10. Check for gas leaks and proper function upon heater installation, before building repopulation or when relocating.

11. This heater should be inspected for proper operation by a qualified service person before building repopulation and at least annually.

12. Always turn off the gas supply to the appliance if the appliance is not going to be used in the heating of livestock.

13. This heater is wired for a three-wire electrical system. There is a hot lead, neutral lead, and a ground lead. The heater may or may not incorporate a plug in the power cord on the heater and the plug may or may not incorporate a pin for the ground wire. In any case, the heater must be properly connected into a grounded electrical supply using the ground lead in the power cord. Failure to use a properly grounded electrical supply can result in electrical shock, personal injury, or death.

14. Direct spark ignition heaters will make up to three trials for ignition. If ignition is not achieved after the third trial, the control system will "lock out" the gas control valve. If gas is smelled after system lock out has occurred, immediately close all fuel supply valves. Do not relight until you are sure that all gas that may have accumulated has cleared away. In any event, do not relight for at least 5 minutes.

15. In a hanging type installation, rigid pipe or copper tubing coupled directly to the heater may cause gas leaks during movement, and therefore must not be used. Use only gas hose assemblies that are rated and approved for L.P. gas and natural gas in a hanging type of installation.

16. Installations not using the gas hose supplied with this appliance must connect dimensionally using BS1387 Medium Duty Galvanized Steel Tube. (Aluminum piping or tubing shall not be used.) Copper tubing when used for conveying natural gas, shall be internally tinned or equivalently treated to resist sulphur.

Installation Instructions

GENERAL

⚠ WARNING

Fire or Explosion Hazard.

Can cause property damage, severe injury or death.

1. Disconnect power supply before wiring to prevent electrical shock or equipment damage.
2. To avoid dangerous accumulation of fuel gas, turn off gas supply at the appliance service valve before starting installation, and perform gas leak test after completion of installation.
3. Do not force the gas control knob. Use only your hand to turn the gas control knob. Never use any tools. If the knob will not operate by hand, the control should be replaced by a qualified service technician. Force or attempted repair may result in fire or explosion.

1. Read all safety precautions and follow L. B. White recommendations when installing this heater. If during the installation or relocating of heater, you suspect that a part is damaged or defective, call a qualified service agency for repair or replacement.

2. Make sure the heater is properly positioned before use and is hung level. Observe and obey all minimum safe distances of the heater to the nearest combustible materials. Minimum safe distances are given on the heater nameplate and on page 4 of this manual.

3. The heater is approved for either indoor or outdoor use. When the heater is mounted outdoors, use only the ductwork supplied in the outdoor mounting kit.

4. For heaters intended for outdoor installation, the heater is to be installed at least 50 cm above the ground or to a height that would prevent snow blockage of heater's air inlet.

5. Local, state, regional and national codes always apply to regulator installation. Typically, the unit's gas regulator, with pressure relief valve, should be installed outside of the building. Any regulators inside the building must be properly vented to the outside. Natural gas regulators with vent limiting device may be mounted indoors without venting to outdoors.

6. Insure that all accessories that ship within the heater have been removed from inside of heater and installed. This pertains to air diverters, hose, regulators, etc.

7. Make certain that a sediment trap is installed at the gas valve inlet to prevent foreign materials (pipe compound, pipe chips and scale) from entering the gas valve. Debris blown into the gas valve may cause that valve to malfunction resulting in a serious gas leak that could result in a possible fire or explosion causing loss of products, building or even life. A properly installed sediment trap will keep foreign materials from entering the gas valve and protect the safe functioning of that important safety component.

8. Any heater connected to a piping system must have an accessible, approved manual shut off valve installed within 1.83 meters of the heater it serves.

9. Check all connections for gas leaks using approved gas leak detectors. Gas leak testing is performed as follows: Check all pipe connections, hose connections, fittings and adapters upstream of the gas control with approved gas leak detectors. In the event a gas leak is detected, check the components involved for cleanliness and proper application of pipe compound before further tightening. Further tighten the gas connections as necessary to stop the leak. After all connections are checked and any leaks are stopped, turn on the main burner. Stand clear while the main burner ignites to prevent injury caused from hidden leaks that could cause flashback. With the main burner in operation, check all connections, hose connections, fittings and joints as well as the gas control valve inlet and outlet connections with approved gas leak detectors. If a leak is detected, check the components involved for cleanliness in the thread areas and proper application of pipe compound before further tightening. Further tighten the gas connection as necessary to stop the leak. If necessary, replace the parts or components involved if the leak cannot be stopped. Ensure all gas leaks have been identified and repaired before proceeding.

⚠ WARNING

Fire and Explosion Hazard

- Do not use open flame (matches, torches, candles, etc.) in checking for gas leaks.
- Use only approved leak detectors.
- Failure to follow this warning can lead to fires or explosions.
- Fires or explosions can lead to property damage, personal injury or loss of life.

10. A qualified service agency must check for proper operating gas pressure upon installation of the heater.

11. Light according to instructions on heater or within owner's manual.

12. It is extremely important to use the proper size and type of gas supply line to assure proper functioning of the heater. Contact your fuel gas supplier for proper line sizing and installation.

13. Make sure the heater has the proper gas regulator for the application. A regulator must be connected to the gas supply so that gas pressure at the inlet to the gas valve is regulated within the range specified on the dataplate at all times. Contact your gas supplier, or the L.B. White Co., Inc. if you have any questions.

14. This heater can be configured for use with either L.P. gas vapor withdrawal or natural gas. Consult the dataplate, located on interior of the burner end or motor end door, for the gas configuration of the specific heater. Do not use the heater in an L.P. gas liquid withdrawal system or application. If you are in doubt, contact the L.B. White Co., Inc.

15. Eventually, like all electrical/mechanical devices, the thermostat can fail. Thermostat failure may result in either an underheating or overheating condition which may damage critical products and/or cause animal injury or death. Critical products and/or animals should be protected by a separate back-up control system that limits high and low temperatures and also activates appropriate alarms.

16. Take time to understand how to operate and maintain the heater by using this Owner's Manual. Make sure you know how to shut off the gas supply to the building and also to the individual heater. Contact your fuel gas supplier if you have any questions.

17. Any defects found in performing any of the service or maintenance procedures must be eliminated and defective parts replaced immediately. The heater must be retested by properly qualified service personnel before placing the heater back into use.

AIR DIVERTER INSTALLATION INSTRUCTIONS

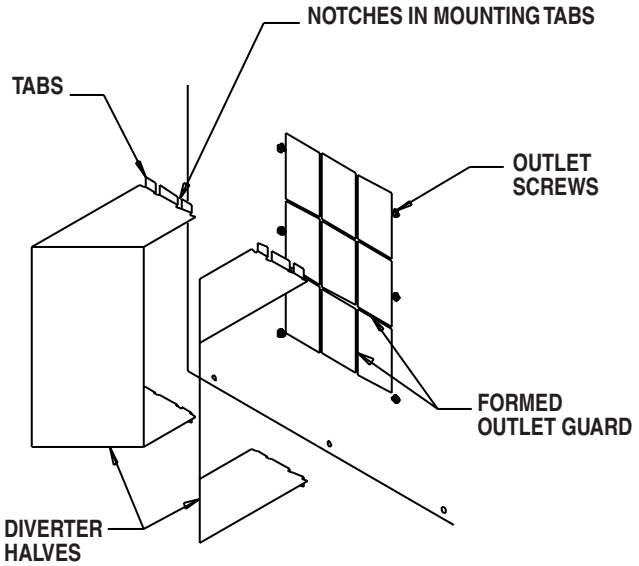
(Optional accessory on some models.)
(Appearance of the outlet on heater may vary from model to model.)

1. Optional air diverters can be installed in the heater outlet to provide direction to the heated air as it exits the heater. Installation options include installing the diverters in such a way as to broadly distribute the air in two 45 degree paths or to focus the air flow in one 45 degree direction.

2. The air diverter's tabs on each half will pop into the blower outlet between the inside of the case assembly and the blower housing outlet. If the notched tabs do not pop into the blower outlet, loosen (do not remove) the blower outlet screws. Doing this provides a gap into which you can insert the tabs. Retighten the screws after installation.

3. The air diverters require hand forming prior to installation. Make 90 degree bends utilizing the perforations provided. The diverter halves should then have the shape as shown in Fig. 1.

FIG. 1 (Typical installation allowing two directions of air movement.)

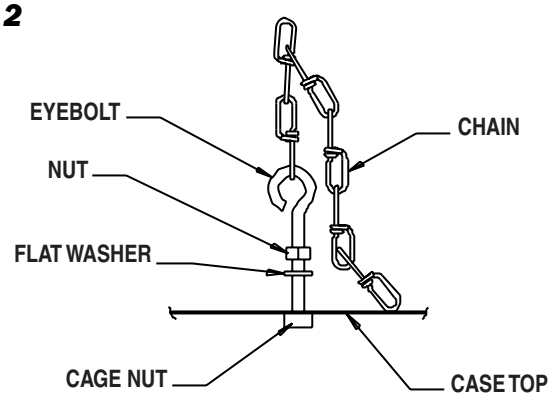


Alternate Air Diverter Installations

HANGING INSTRUCTIONS

1. Assemble according to the illustration and tighten all eyebolts securely.

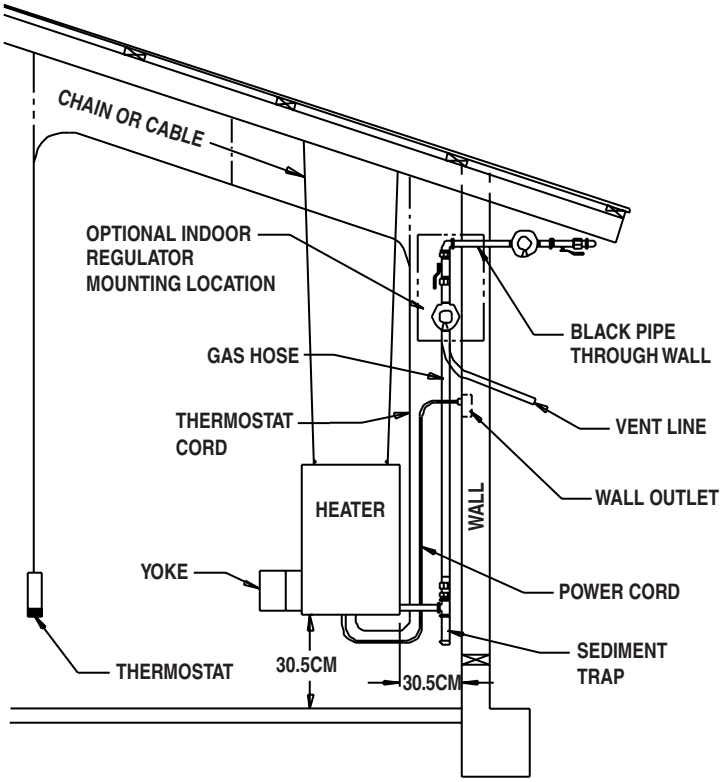
FIG. 2



2. Be sure heater is securely fastened and is hanging level. (Check crosswise and lengthwise.)

3. See Fig. 3 for typical indoor installation. In any animal confinement building, consideration must be given to making sure the heater is located away from the livestock so that livestock cannot knock the heater, tear it loose from its mounting, or damage the heater or its gas supply line in any way. Make sure you observe and obey minimum clearance distances to combustible materials as stated in the specification section of this owner's manual and on the heater itself.

FIG. 3

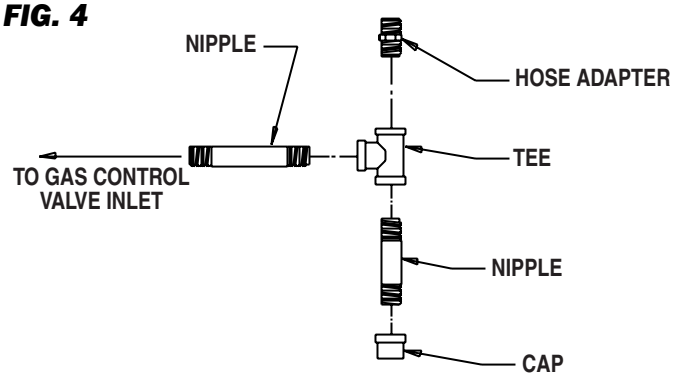


SEDIMENT TRAP ASSEMBLY

(Optional Accessory)

Assemble the tee, nipples and cap together and tighten securely. The sediment trap assembly must always be mounted in a vertical position. Make sure pipe thread compound that is resistant to both L.P. gas and natural gas is used in making all connections. **Check all connections for gas leaks using approved gas leak detectors.**

FIG. 4



THERMOSTAT INSTALLATION

⚠ WARNING
Electrical Shock Hazard

- Disconnect the electrical supply before connecting the thermostat to the heater.
- Failure to follow this warning can result in electrical shock, leading to personal injury or death.

To Connect the Direct Wired Thermostat Kit to the Control Box on the Heater:

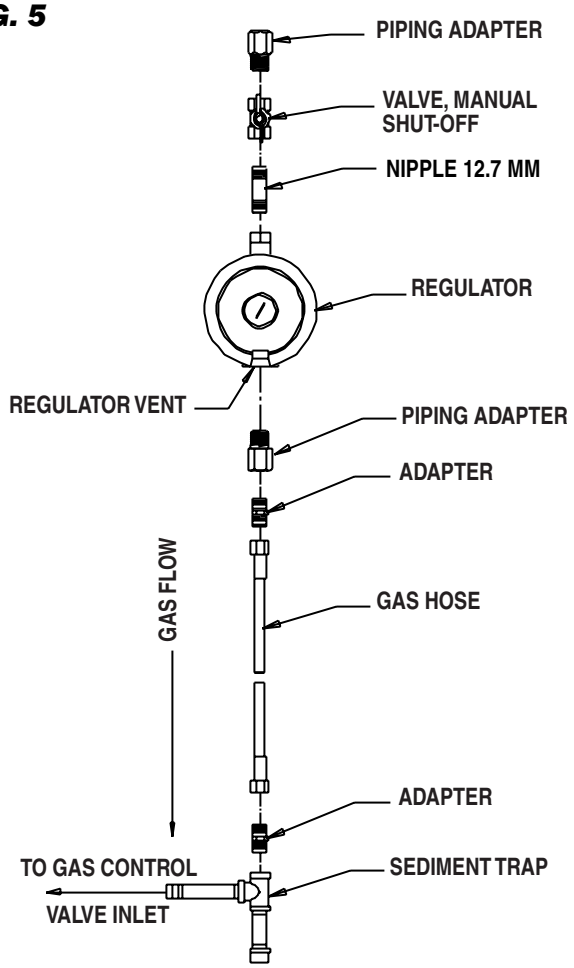
1. The installation and wiring of a thermostat must be done by an electrician or someone properly qualified.
2. The thermostat cordset must use a minimum of 18 gauge wire consisting of a hot lead, neutral lead, and a ground lead.
3. Follow all instructions provided with the thermostat kit.
4. The heater must be tested for proper operation after the thermostat has been connected.

MANUAL SHUT-OFF VALVE, HOSE AND REGULATOR ASSEMBLY

(Optional Accessories)

1. Always use approved pipe thread compound suitable for use with L.P. gas or natural gas on the threaded connections.
2. Assemble the components together according to the figure. This view is to show general assembly of the components only. The regulator must always be mounted so its vent, regardless of location on the regulator, is always pointed downward.
3. Tighten all connections securely.
4. **Check all connections for gas leaks using approved gas leak detectors.**

FIG. 5



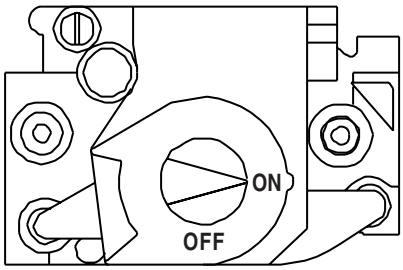
Start-Up Instructions

Follow steps 1 - 7 on initial start-up after heater installation by a qualified service person. For normal start-up, simply set the thermostat to a setting above room temperature.

1. Open all manual fuel supply valves and check for gas leaks using approved leak detectors.

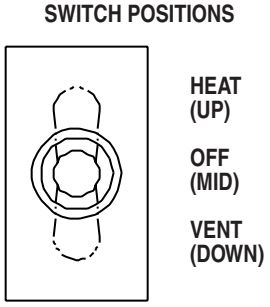
2. The gas control valve has a manual shut-off feature incorporated into the valve assembly. Make sure the indicator on the control valve is positioned to On.

FIG. 6



3. The heater also has a selector switch located on the control box at the motor end of the heater. The selector switch allows you to heat or ventilate (no heat). The switch positions are:

FIG. 7



When the selector switch is set to HEAT the heater will cycle on and off based upon setpoint of the thermostat. To use the heater for ventilating, position the selector switch to VENT. With the switch in this position, the thermostat will not cycle the heater. The burner will not ignite but the fan motor will operate continually.

4. This heater includes a direct spark ignition (DSI) control module for purposes of controlling the timing of the ignition process of the heater as well as monitoring of the safety functions. The DSI module is located in a control box assembly at the motor end of the heater. On the DSI is a red light emitting diode (LED). This LED indicates the status of the heater. A consistent flashing from the LED is an indicator that the heater is functioning correctly. Any other light pattern, steady on or flashing, given by the LED is indicative that there is a problem in the operation of the heater. Refer to the troubleshooting decal on the access panel at the burner end of the heater for assistance in troubleshooting or refer to the troubleshooting guide within this Owner's Manual. Only qualified and properly-trained personnel shall service or repair the heater.

5. On a call for heat, the motor will start up and run for five (5) seconds prior to ignition trial. This pre-purge is a safety feature and a normal operational characteristic. After five (5) seconds the igniter will spark until burner flame is detected by the control module.

   NOTE: It is normal for air to be trapped in the gas hose on new installations. You may have to attempt more than one trial for ignition before the air is finally purged from the line and ignition takes place.

6. If ignition is not achieved during the ignition trial, the ignition control module will lock-out and a two-flash pattern will be indicated by the LED. To reset the ignition control module, remove the screw located within the viewing lens of the control box. Using a small tool, fully depress the reset button located directly above the red L.E.D. for 1 - 3 seconds until fan motor starts.

7. Do not exceed the input rating stamped on the dataplate of the heater. Do not exceed the burner manifold pressure stated on the dataplate. Do not use an orifice size different than specified for the specific input rating of this heater, fuel type configuration and altitude.

Shut-Down Instructions

If the heater is to be shut down for cleaning, maintenance or repair, follow steps 1 - 6. Otherwise, simply turn thermostat to "Off" or "No Heat" for standard shut down.

1. Close all manual fuel supply valves.

2. With the heater lit, allow heater to burn off excess fuel in gas supply hose.

3. Move the selector switch to the Off position.

4. Turn the indicator on the gas control to Off.

5. Turn thermostat to Off or No Heat position.

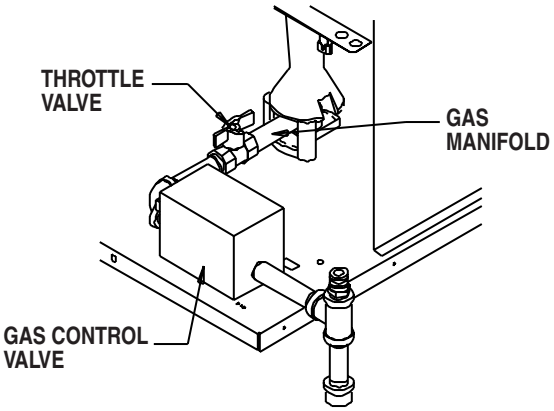
6. Disconnect the heater from the electrical supply.

Variable Heat Output

1. This heater is equipped with a throttle valve for varying heat output located between the gas control valve and gas manifold assemblies. THIS IS NOT A MANUAL GAS SHUT OFF VALVE.

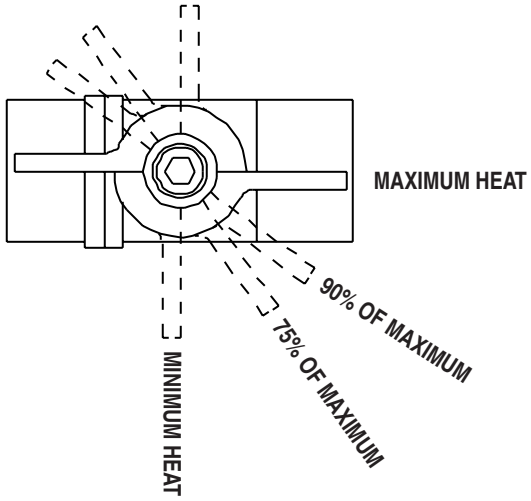
2. The throttle valve can be adjusted to deliver either minimum heat or maximum heat. When the throttle valve handle is parallel to the gas flow, the valve is completely open to deliver maximum heat output. (Refer to Fig. 8)

FIG. 8



The throttle valve may be adjusted to minimum heat output by turning the handle 90° to gas flow or any position between maximum and minimum settings. (Refer to Fig. 9)

FIG. 9



Cleaning Instructions

⚠ WARNING
Fire, Burn, and Explosion Hazard

- This heater contains electrical and mechanical components in the gas management, safety and airflow systems.
- Such components may become inoperative or fail due to dust, dirt, wear, aging, or the corrosive atmosphere of an animal confinement building.
- Periodic cleaning and inspection as well as proper maintenance are essential to avoid serious injury or property damage.

1. Before cleaning, shut off all gas supply valves and disconnect electrical supply.

2. The heater should have dirt or dust removed periodically:

   a. After each flock or between building re-population, give the heater a general cleaning using compressed air or a soft brush on its interior and exterior. At this time, dust off the motor case to prevent the motor from over-heating and shutting the heater down.

   b. At least once a year, give the heater a thorough cleaning. At this time, remove the fan and motor assembly and brush or blow off the fan wheel, giving attention to the individual fan blades. Make sure the burner air inlet venturi ports and the "throat" of the casting are free of dust accumulation and the area between the heat chamber top and inside case is also free of dust. Additionally, the igniter and flame sensor assembly should be removed and cleaned in accordance to the service instructions within this Owner's Manual.

   c. When washing with water, observe and obey the Warning within these Cleaning Instructions. This same Warning is also supplied on the heater.

⚠ WARNING

This heater may be washed only on the external case assembly provided:

A. The heater is disconnected from the electrical supply.

B. All access panels are securely closed.

C. Water spray nozzle shall not discharge within 1.83 m of the heater.

D. The water pressure does not exceed 3.1 BAR for 10 seconds on each side of heater.

E. The heater is not reconnected to electrical supply for a minimum of 1 hour or until the heater is thoroughly dry.

Improper cleaning of the heater can cause severe personal injury or property damage due to water and/or cleaning solution:

1. In electrical components, connections and wires causing electrical shock or component failure.
2. On gas control components causing corrosion which can result in gas leaks and fire or explosion from the leak.

Clean internal components of the heater with a soft, dry brush or cloth, or compressed air.

Maintenance Instructions

1. Have your gas supplier check all gas piping annually for leaks or restrictions in gas lines. Also, at this time have your gas supplier clean out the sediment trap of any debris that may have accumulated.

2. **The appliance area shall be kept clear and free from combustible materials, gasoline, and other flammable vapors and liquids.**

3. Review all heater markings prior to use. Markings constitute information relating to warnings, start-up, shut-down instructions, etc. Make sure all markings are legible and not cut, torn, or otherwise damaged. Any damaged markings should be replaced immediately. Markings are available at no cost by contacting the L.B. White Company.

4. Regulators can wear out and function improperly. Have your gas supplier check the date codes on all regulators installed and check delivery pressures to the appliance to make sure that the regulator is reliable.

5. Regulators must be periodically inspected to make sure the regulator vents are not blocked. Debris, insects, insect nests, snow, or ice on a regulator can block vents and cause excess pressure at the appliance.

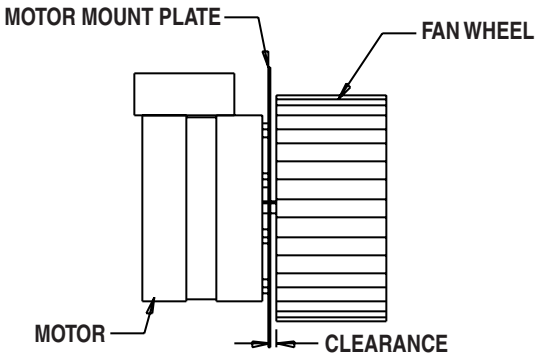
MOTOR AND FAN WHEEL ASSEMBLY

1. Shut off the gas supply to the heater.
2. Disconnect the heater from its electrical supply.
3. Open the case fan access panel on the control box end of the heater.
4. Disconnect the motor leads.
5. Remove the screws securing the motor mounting plate to the fan housing.
6. Pull the fan and motor assembly from the housing.
7. Loosen the square head set screw(s) on the fan wheel with a wrench.
8. Pull the fan wheel from the motor shaft. Use a wheel puller if necessary.
9. Remove the four (4) nuts securing the motor to the mounting plate.
10. To replace the motor and fan, reverse the above procedures.

NOTES: a. Fan wheel to motor mount plate spacing must be adjusted to 3.2 mm clearance before tightening the fan wheel to the motor shaft.

b. Make sure that set screw(s) of the fan are on the flats of motor shaft when tightening.

FIG. 10



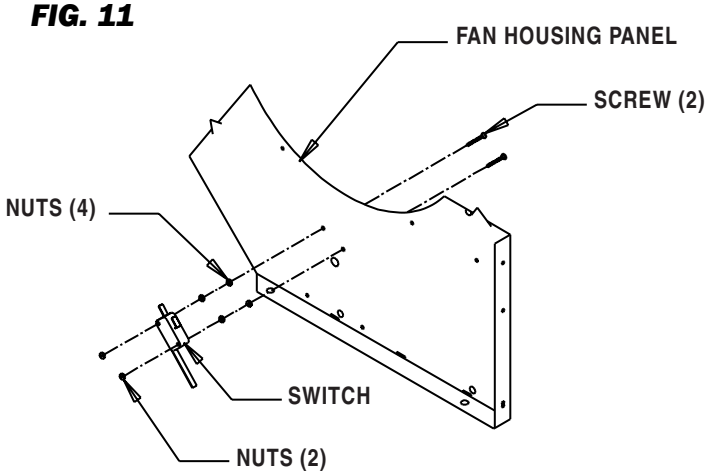
AIR PROVING SWITCH

1. Close the fuel supply valves to the heater and disconnect the heater from its electrical supply.
2. Open the motor end access panel.
3. Disconnect the air-proving switch leads.
4. Remove the air flow switch mounting nuts.
5. Remove the switch from the fan housing panel.
6. The replacement switch includes appropriate quantity of mounting screws and nuts. Slide the switch onto the screws and secure in place with the two nuts.
7. Reconnect the heater to its electrical supply and open the fuel supply valves to the heater.
8. Close and latch the access panel.
9. Start the heater and check for proper operation.

IMPORTANT

When replacing the switch, make sure the switch arm is located above the flapper arm.

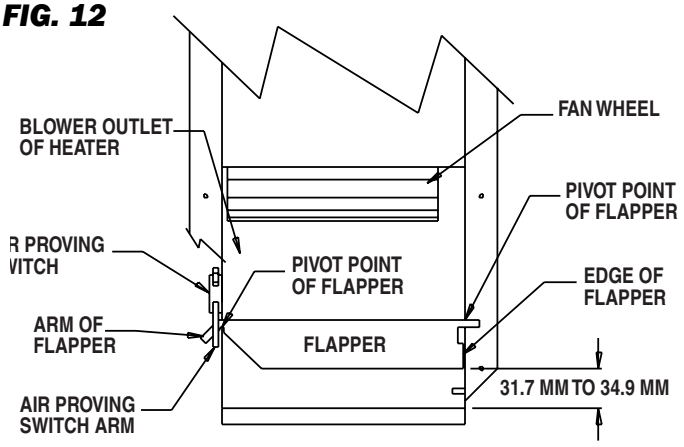
FIG. 11



FLAPPER ADJUSTMENT

1. Shut off the gas supply to the heater.
2. Disconnect the heater from its electrical supply.
3. Make sure there is not any dust, dirt, etc. that may cause binding on the pivot points of the flapper as it rides within the blower housing. If debris is found, use a soft brush, or compressed air, to clean the area as necessary.
4. The arm of the flapper should engage the arm of the airflow switch when the trailing edge of the flapper body is lifted and is approximately 31.7 mm to 34.9 mm off the blower housing bottom. At this distance you will hear a click which are the contacts closing within the switch mechanism.
5. If the switch contacts do not close within this distance, then manually push in the arm in the switch to make sure the switch is not defective. If a click is heard, the switch is good and the flapper arm then needs to be adjusted to engage the switch arm.
6. Using a needle nose pliers, gently bend up the arm of the flapper **(NOT THE SWITCH ARM)** in increments until the flapper arm engages the switch arm, closing the contacts of the switch when the flapper body trailing edge is 31.7 mm to 34.9 mm of housing bottom.

FIG. 12



TESTING THE MANUAL RESET HIGH LIMIT SWITCH

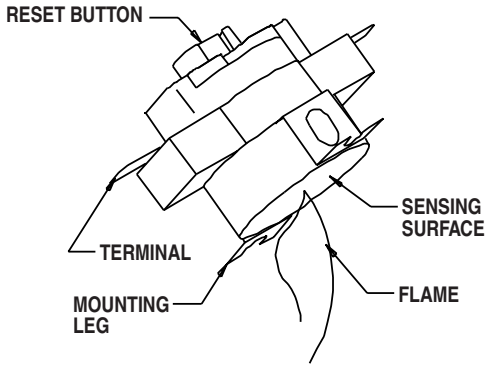
⚠ WARNING
Fire Hazard

- Do not operate the heater with the high limit switch bypassed.
- Operating the heater a bypass high limit switch may lead to overheating, possibly resulting in a fire, with subsequent damage to the heater, building damage, or loss of livestock.

The high limit switches should be tested a minimum of once per year when the heater is given a thorough cleaning.

1. Disconnect the heater from its electrical supply.
2. Remove the high limit switch.
3. Holding the switch by one of its mounting legs, apply a small flame only to the sensing portion on the back of the switch. **Be careful not to melt the plastic housing of the switch when conducting this test.**
4. Within a minute, you should hear a pop coming from the switch, which indicates the contacts of the switch have opened. Check for lack of electrical continuity across the switch terminals to verify contacts have opened.
5. Allow the switch cool down for about a minute before firmly pressing the reset button on the switch.
6. Check for electrical continuity across the switch terminals to make sure the contacts have closed.
7. Reinstall the switch back into the heater. Reconnect the heater to its electrical supply. Start the heater and check for proper operation.

FIG. 13



WARNING

Fire and Explosion Hazard

- Do not disassemble the gas control valve.
- Do not attempt to replace any components on the gas control valve.
- The gas control valve must be replaced if any physical damage occurs to the control valve assembly.
- Failure to follow this warning will result in fire or explosions, leading to injury or death to humans and livestock, and building damage.

ATTENTION

- The following explains a typical procedure to be followed in checking gas pressures.
- The gas pressures will vary depending upon country, gas category and fuel type.
- Consult the dataplate on the heater or pages 4 - 5 in this manual for specific pressures to be used in conjunction with this procedure.
- Gas pressure measured at the inlet to the gas valve is Inlet Pressure and gas pressure measured at the outlet of the gas valve is Burner Manifold Pressure.

A. Preparation

1. Obtain two pressure gauges capable of reading up to 65 mbar.
2. Disconnect the heater from the electrical supply and close the fuel supply valve to the heater inlet.
3. Open the burner access panel.
4. Brush or blow off any dust and dirt on or in the vicinity of the gas control valve.

B. Gauge Installation

1. Locate the inlet and outlet pressure taps, see Fig. 14. Turn screws internal to the pressure taps at least one full turn counterclockwise.
2. Securely connect a pressure gauge to each pressure tap.
3. Open the fuel supply valves to the heater and reconnect the heater electrical supply.
4. Start the heater.

C. Reading Pressures

1. With the heater operating, the pressure gauges should read the pressures specified on the dataplate.
2. Do the readings at the inlet and outlet pressure gauges agree with that specified on the dataplate? If so, then no further checking or adjustment is required. Proceed to Section D.
3. If the inlet pressures do not agree with that specified on the dataplate, then the building system regulator controlling gas pressure to the heaters requires adjustment.
4. If the inlet pressures are correct and the burner manifold pressure does not agree with that specified on the dataplate, then the gas control valve's internal pressure regulator requires adjustment. See Fig. 15 for regulator location.

D. Completion

1. Once inlet and burner manifold pressures have been confirmed and/or properly set, close the fuel supply valve to the heater and allow the heater to burn off any gas remaining in the gas supply line.
2. Disconnect the heater from its electrical supply.
3. Remove the gauges and connecting hoses.
4. Tighten the pressure tap screws by turning clockwise. Check for gas leaks to insure the tap screws have seated properly.

FIG. 14

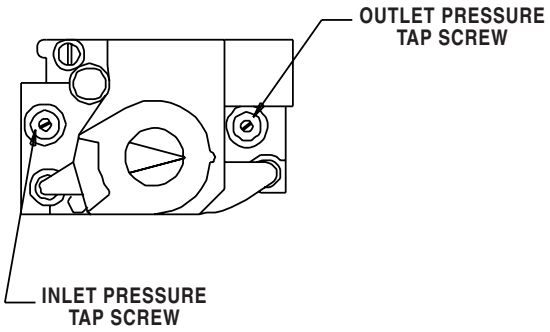
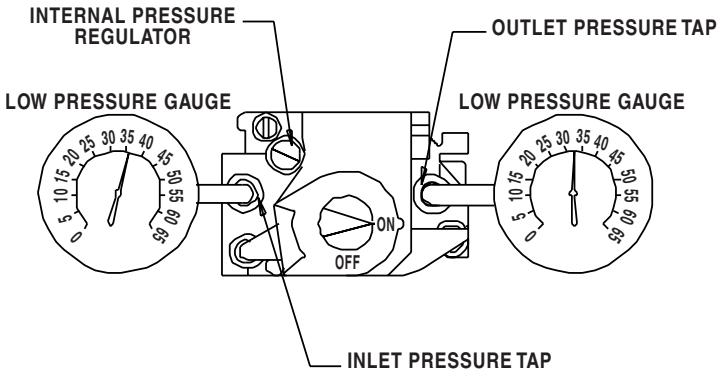


FIG. 15



IGNITER AND FLAME SENSOR

1. Close the fuel supply valves to the heater and disconnect the heater from its electrical supply.

2. The igniter and sensor assembly is located within a metal enclosure mounted to the heat chamber above the burner.

3. To replace only the igniter/sensor, use a standard screwdriver to pop out the bottom of the enclosure. Slide it down the igniter and sensor leads to expose the igniter/sensor and its mounting screws. Remove the screws. See Fig. 16.

4. The igniter/sensor with its enclosure can be removed in its entirety. Remove the screw that secures this assembly to the heat chamber. Lift the assembly from its mounting slots. See Fig. 17.

5. To reassemble, reverse these procedures.

6. Reconnect the heater to its electrical supply. Open the fuel supply valves to the heater.

7. Start the heater and test for proper operation.

IMPORTANT

- The igniter/sensor assembly may require cleaning due to accumulations of dust and dirt over a period of time, thereby affecting its ability to ignite fuel gas and sense burner flame. Cleaning will require igniter/sensor removal.

  -- If spark appears to be weak, briskly rub the igniter electrode with emery cloth or steel wool to remove any buildup. Recycle the heater.

  --- If the spark appears strong but the heater cycles off, briskly rub the sensor rod with emery cloth or steel wool to remove any build-up. Recycle the heater.

- Make sure that the igniter gap is 4 mm and the igniter tip is positioned over the burner port according to the illustration below. See Fig. 17.

FIG. 16

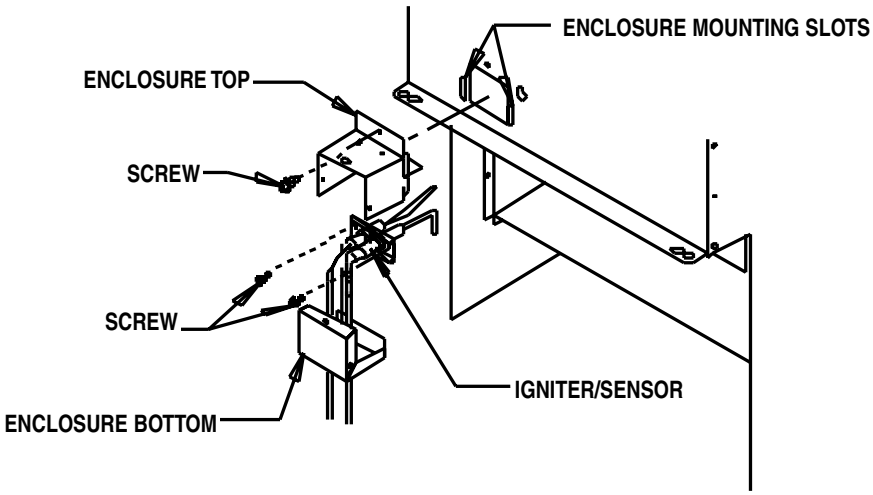
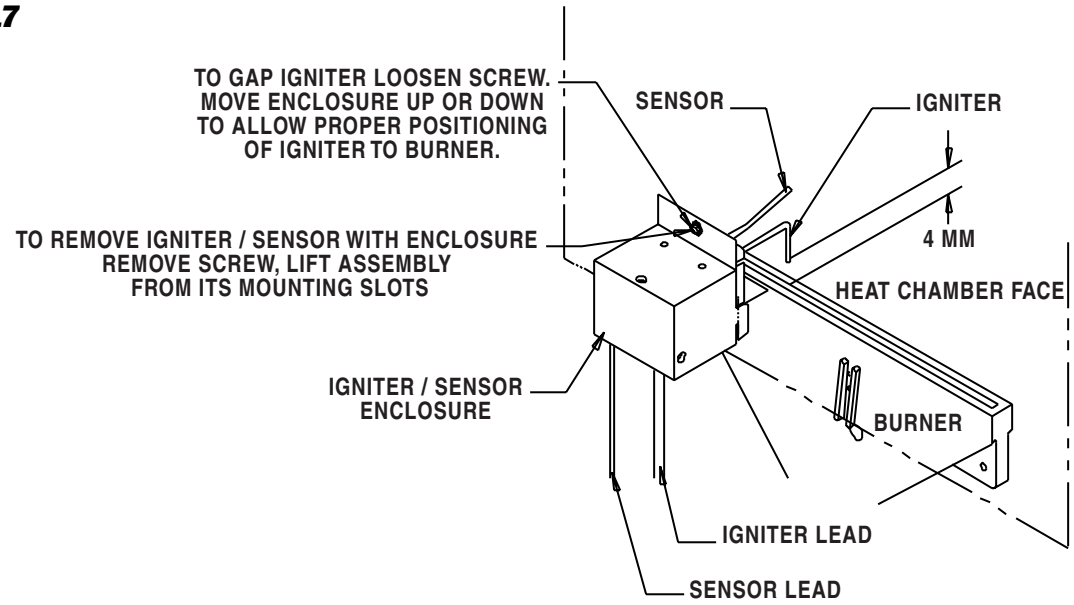


FIG. 17



READ THIS ENTIRE SECTION BEFORE BEGINNING TO TROUBLESHOOT PROBLEMS.

⚠ WARNING

Electrical Shock and Burn Hazard

- Troubleshooting this system may require operating the unit with line voltage present and gas on. Use extreme caution when working on the heater.
- Failure to follow this warning may result in property damage, personal injury or death.

The following troubleshooting flow charts provide systematic procedures for isolating equipment problems. The charts are intended for use by a QUALIFIED GAS HEATER SERVICE PERSON. **DO NOT SERVICE THESE HEATERS UNLESS YOU HAVE BEEN PROPERLY TRAINED.**

TEST EQUIPMENT REQUIRED

The following pieces of test equipment will be required to troubleshoot this system with minimal time and effort.

- **Digital Multimeter** - for measuring AC and DC voltage and resistance.
- **Low Pressure Gauge** - for checking inlet and outlet pressures of the gas control valve against dataplate rating.

INITIAL PREPARATION

- Visually inspect equipment for apparent damage.
- Check all wiring for loose connections and worn insulation.

Refer to the system operation sequence in this section to gain an understanding as to how the equipment operates during a call for heat.

Understanding the sequence of operation of the ignition module and related components is essential as it will relate directly to problem solving provided by the flow charts.

The ignition control module is self-diagnostic. The red light on the module will flash a specific light pattern depending upon the problem which is diagnosed. To effectively use the flow charts, you must first identify what the problem is by the light pattern of the L.E.D. (light emitting diode) diagnostic light. If the light is flashing, the flash pattern will be followed by a pause and then a repeat of the flash pattern until the problem is corrected. Refer to the tables below to identify what page to refer to when troubleshooting any problems.

The L.E.D. light will only be on when the selector switch is positioned to HEAT and the thermostat is set above room temperature. The light will not be on when the selector switch is positioned to VENT.

Components should be replaced only after each step has been completed and replacement is suggested in the flow chart. Refer to the Servicing sections as necessary to obtain information on disassembly and replacement procedures of the component once the problem is identified by the flow chart.

DIRECT IGNITION OPERATION SEQUENCE:

- Line Voltage is Sent to Selector Switch
- Selector Switch Sends Line Voltage to the Transformer
- Transformer Reduces Line Voltage to 24 Volts
- A Call for Heat Occurs from the Thermostat
- Thermostat Sends 24 Volts to the Fuse and to the Ignition Control
- Red L.E.D. on Control Module is Illuminated
- Ignition Control Module Performs Self Safety Check
  - -- Internal Components are Tested
  - -- Air Proving Circuit is Checked
- Ignition Control Module Begins Ignition Trial Sequence
- Ignition Control Module Sends 24 Volts to Air Proving Switch
  - -- Fan Motor Starts
  - -- Air Proving Switch Closes and 24 Volts is Returned to the Ignition Control Module
- Ignition Control Module Sends High Voltage to the Igniter Electrode
  - -- Igniter Sparks
- Ignition Control Module Sends 24 Volts to the Gas Control Valve through the High Limit Switches
  - -- Gas Control Valve Opens
- Ignition Occurs
  - -- Igniter Continues to Spark until Flame Proving Occurs
  - -- Ignition Spark is Shut Off
  - -- Gas Valve Stays Open
- Room Warms to Desired Temperature
  - -- Thermostat is Satisfied
  - -- Heater Shuts Down
- Process Starts Again on a Call for Heat

IGNITION FAILURE SEQUENCE:

- Trial for Ignition Takes Approximately 15 Seconds
- If Ignition Module Does Not Sense a flame Within the Ignition Trial, the Module goes into Safety Lockout (2 Flash Pattern)
  - -- Gas Valve Closes
  - -- Ignition Spark Shuts Off
  - -- Fan Motor Stops
- To Retry for Ignition, the System Must be Manually Reset
  - -- Remove the Screw From the Lens in the Control Box of Heater. Using a Small Tool, Fully Depress the Reset button Located Directly Above the Red L.E.D. for 1 - 3 Seconds Until the Fan Motor Starts.

HEATING MODE

LED Flashing → Normal Operation

LED is Not On, But Heater is Operating Properly During a Call for Heat. → Defective LED in Control Module. → Replace Ignition Control Module.

LED is Steady On. No Flash Pattern. → Ignition Control Lock-Out Due to:

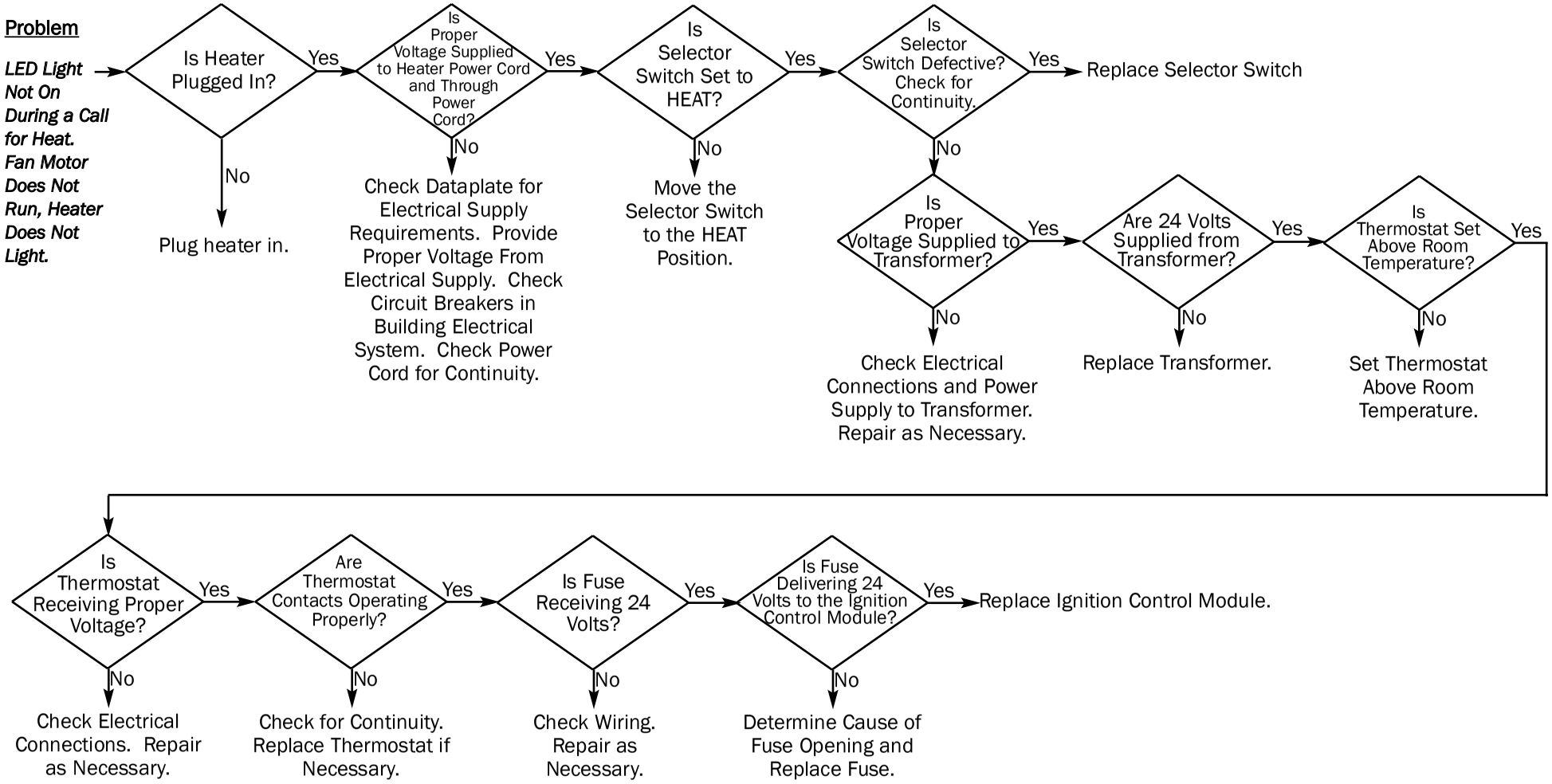
(A) Ignition Control Module Failure.

(B) Poor Electrical Quality: Frequency Line Noise, Line Spikes.

→ Reset Ignition Control Module By Depressing Reset Button with a Small Tool:

(A) If Control Module Does Not Reset, Replace Ignition Control Module.

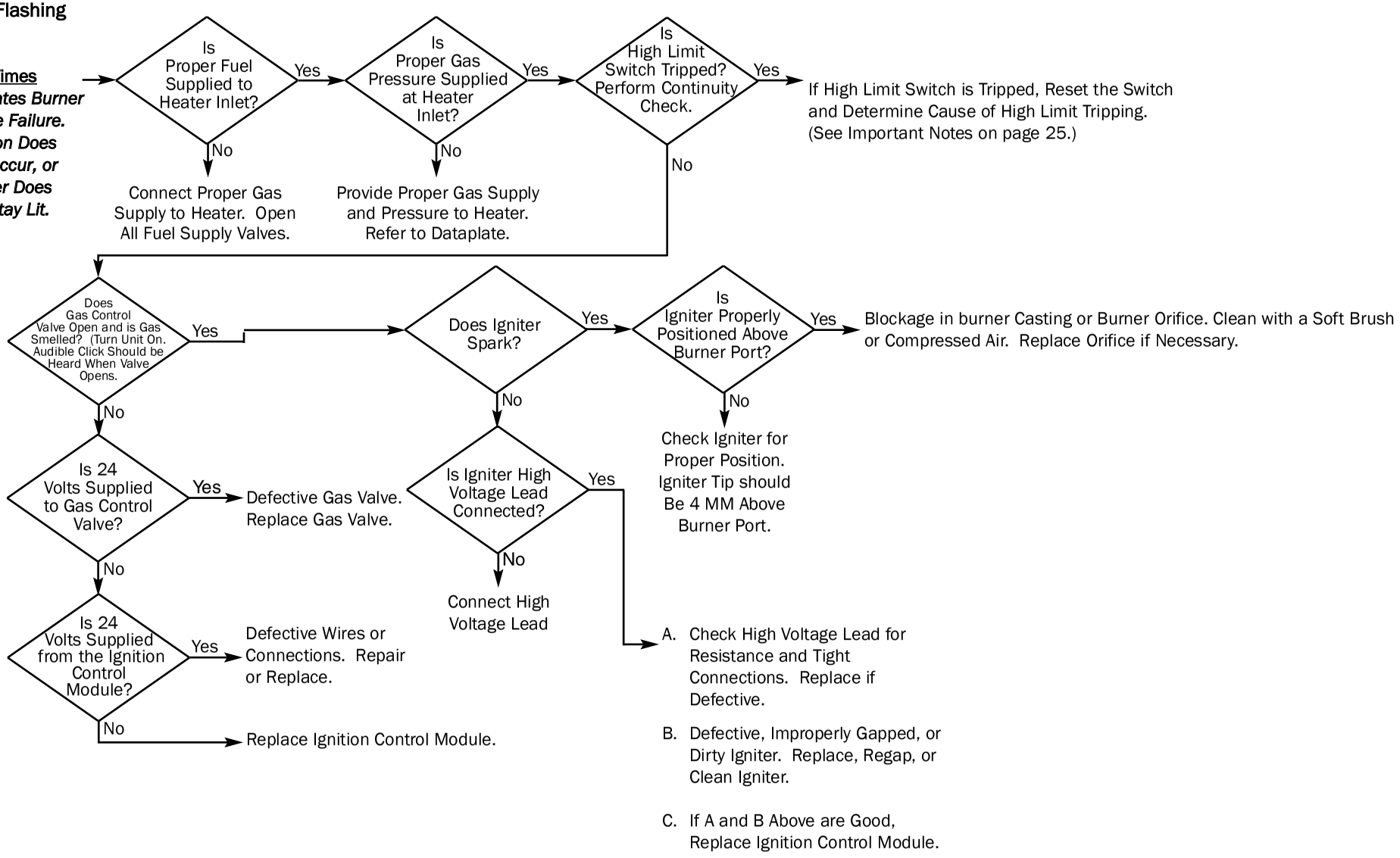
(B) Have Qualified Electrician Check the Power Supply.

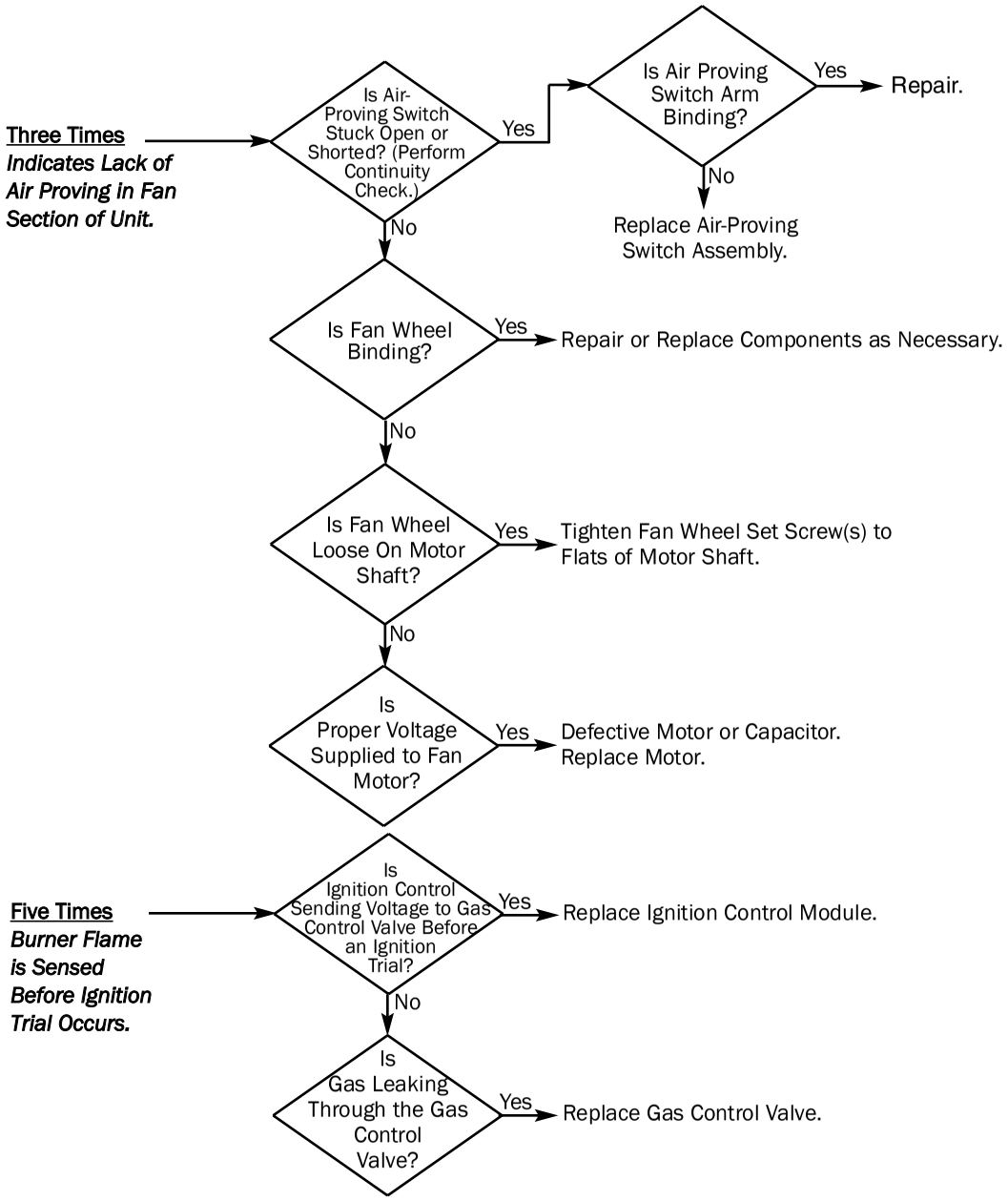


Problem

LED Flashing

Two Times
Indicates Burner Flame Failure. Ignition Does Not Occur, or Heater Does Not Stay Lit.





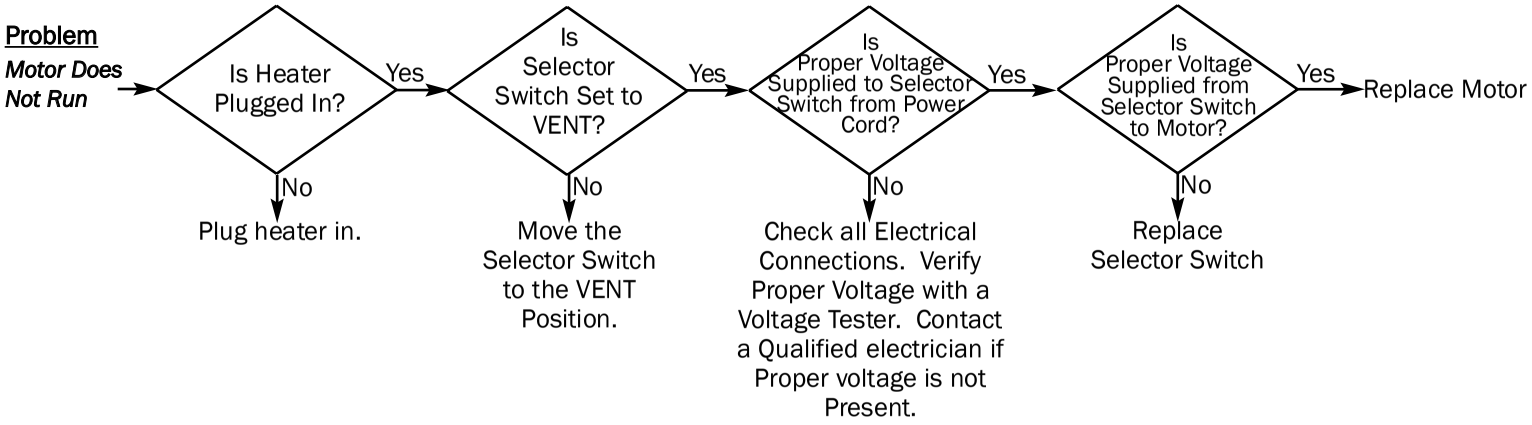
IMPORTANT NOTES:

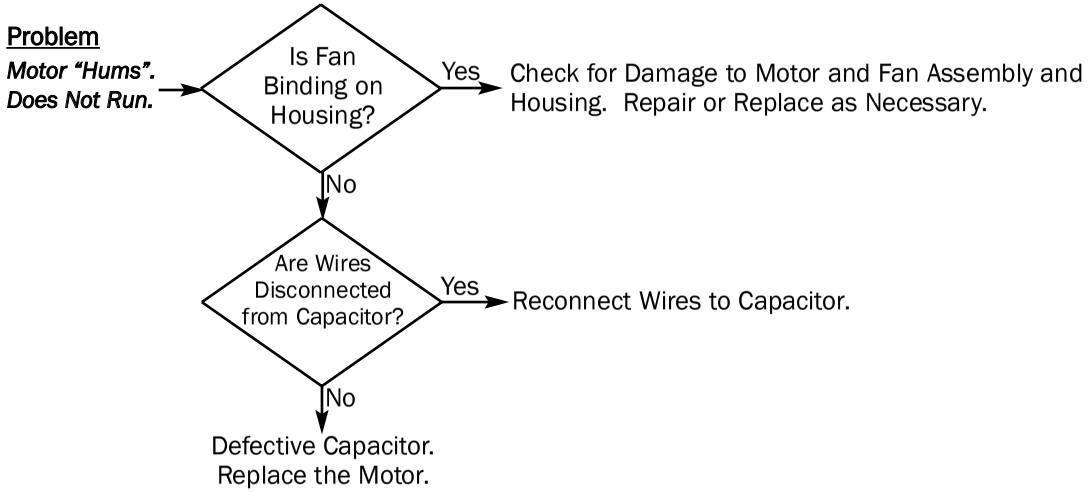
(1) With any electrical problem, all wiring should be checked for good connections and proper voltage.

(2) The ignition control module sends and receives voltages throughout the entire operation sequence. The ignition control module terminals should also be checked for delivering proper voltages in addition to the individual components as indicated by the respective flash pattern to make sure the board itself is working properly.

(3) The high limit switch will activate for a number of reasons. Common problems associated with this are high gas pressure, low voltage, loose or dirty fans, restrictions/blockages at air inlets or outlets, or excessive dust and dirt accumulations in the heater.

VENTILATION MODE



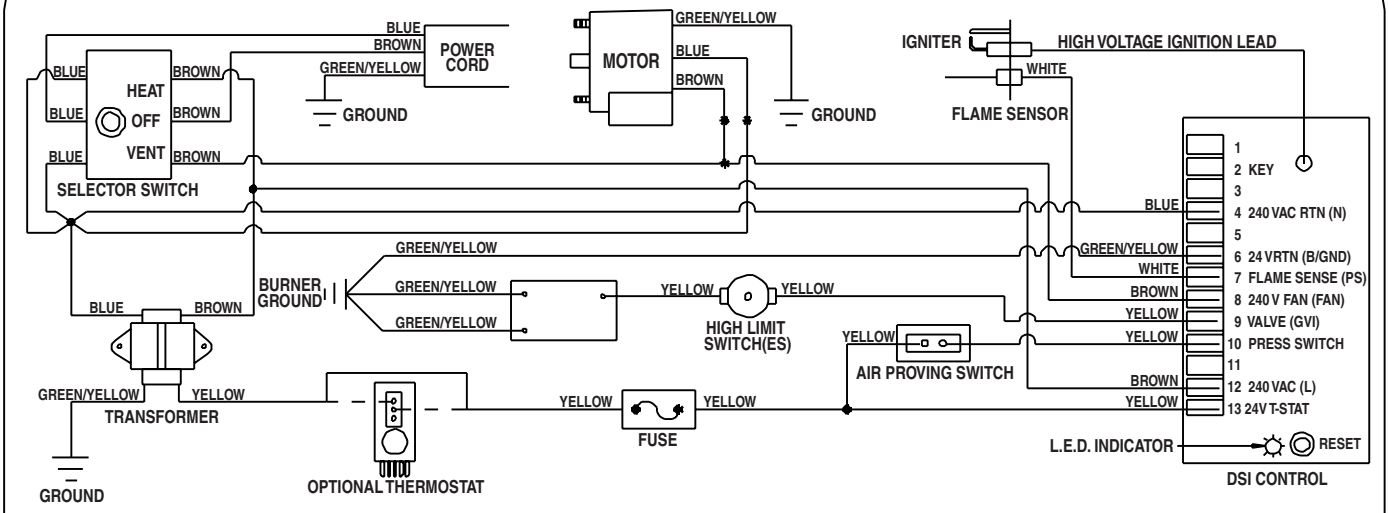


Electrical Connection and Ladder Diagram

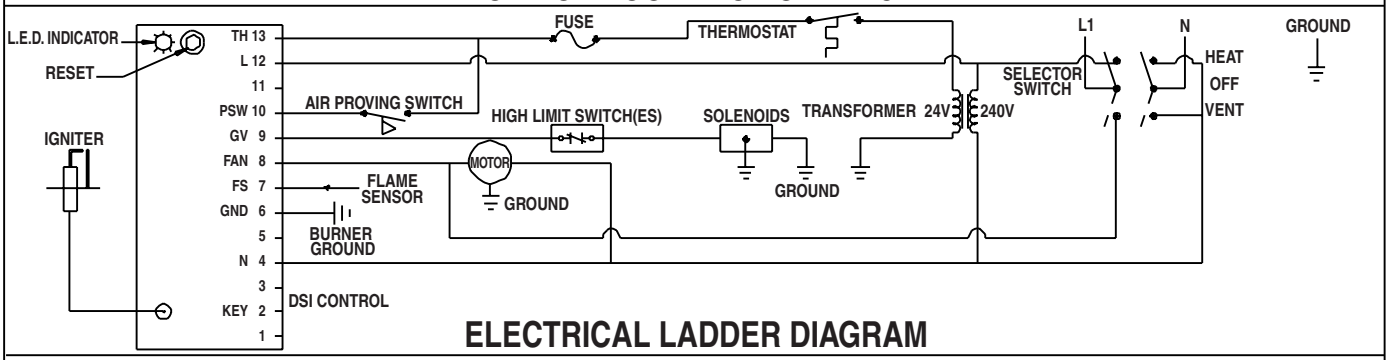
CAUTION

Always refer to the heater's electrical connection diagram when servicing to avoid wiring errors and heater malfunction. Check for proper operation after servicing.

WARNING: THIS HEATER MAY START AT ANY TIME



ELECTRICAL CONNECTION DIAGRAM



ELECTRICAL LADDER DIAGRAM

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 150º C.

Heater Component Function

Air Proving Switch
Safety device used to insure that the proper air flow is being achieved before the gas valve is opened.

Burner
Cast iron component used to mix air and gas and provide an area at which the fuel may ignite.

Burner Orifice
Brass metering device used to supply gas to burner at a specific rate.

Direct Spark Ignition Control Module
Electronic printed circuit board which sends and receives voltages to various controls in an automatic ignition system. An important safety feature of the control board is that it will shut down the entire heater, thereby stopping the flow of fuel gas if burner flame goes out.

Fan Housing
Chamber used for delivering air for efficient air movement.

Fan Wheel
Component used in conjunction with the motor and fan housing to pull the hot air from heater and blow it into room for heating (also known as a squirrel cage).

Flapper (Sail)
A formed piece of stainless steel located in the blower outlet of the heater that pivots up with an increase in air pressure, thereby engaging air flow switch.

Fuse
Safety device which is used to protect against an over amperage condition which results from a direct electrical short or an overload condition within the 24 volt circuit.

Gas Control Valve
Electrical device consisting of a low pressure regulator and electrical solenoids used for the control of gas flow to the burner assembly. A feature of the control valve is a built-in gas shut off which may be used to isolate the heater from its gas supply when servicing.

Gas Hose
Flexible connector used to deliver gas from supply line in building to heater.

Heat Chamber
Metal “fire box” within the appliance that provides an area where burner flame mixes with combustion air thereby providing heat.

High Limit Switch
Safety device wired into the control system which is used to break an electrical circuit to the gas control valve in event of overheat situation.

Igniter
Ignition device used on automatic direct spark ignition control systems. Ignites gas by spark.

Motor
Electric device used to drive a fan to pull preheated air through the heater and to circulate heat within a certain area. Converts electrical energy into mechanical energy.

Regulator
Mechanical device used in L.P. and natural gas distribution systems to reduce a higher inlet pressure to a preset lower pressure. The regulator is responsible to supply a steady outlet pressure to the heater(s) despite changes in inlet pressure, heater demand and weather conditions.

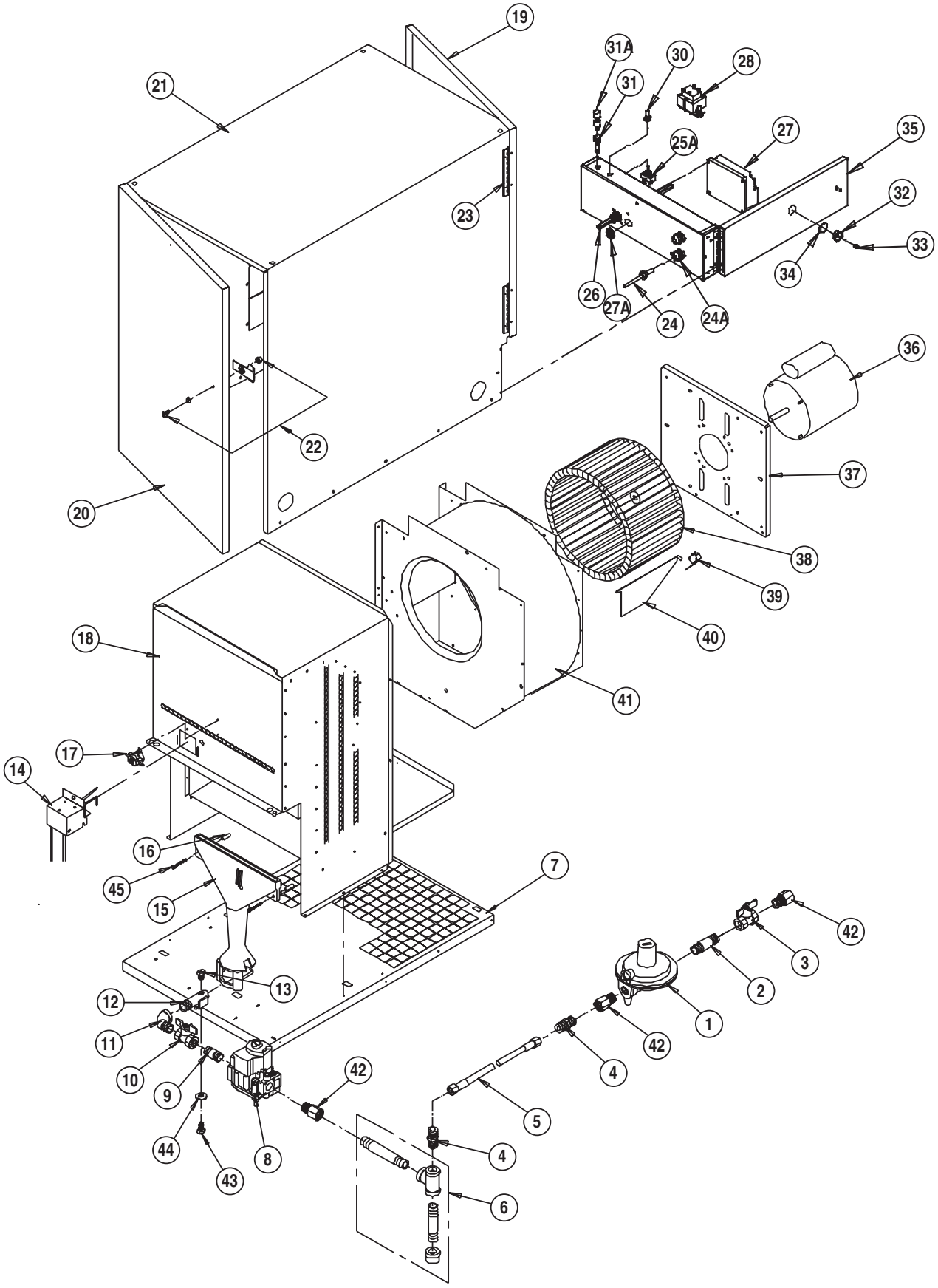
Selector Switch
Electrical device which is used to allow the end user to use the heater in either a heating or ventilation application.

Thermostat
Electrical device used as an automatic on/off switch which will respond to changes in temperature in a certain area. Can be wired so contacts in the thermostat open or close on temperature increase or decrease.

Transformer
Electrical control used to accept line power supply primary voltage and reduce it to lower secondary voltage to operate certain control systems.

Parts Identification

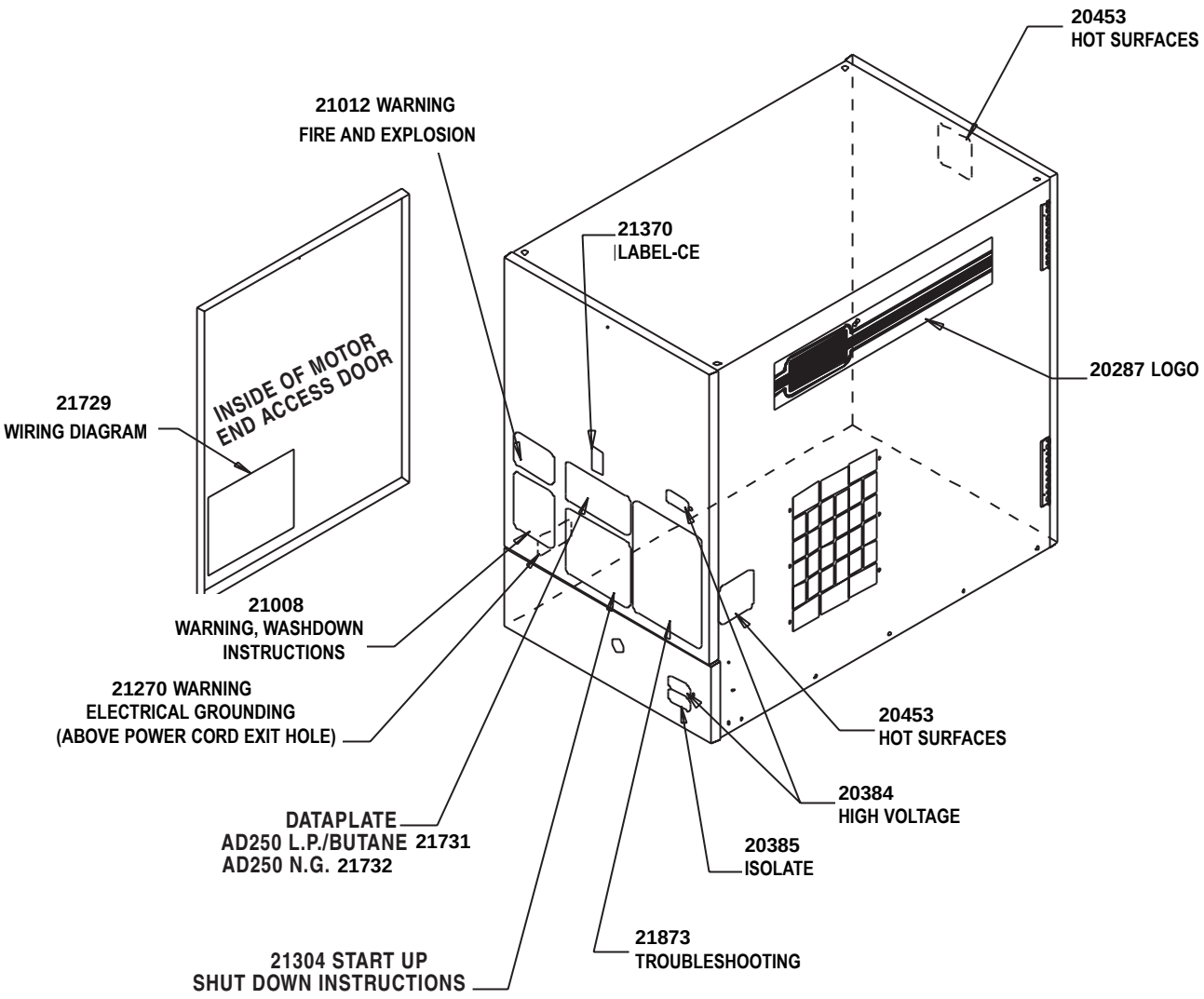
PARTS SCHEMATIC



Item	Description	Part Number
1	Regulator with Gas Shut-Off Adapters (L.P. Gas/Butane)	21554*
	Regulator with Gas Shut-Off Adapters (Natural Gas)	21569*
2	Nipple	07148*
3	Valve, Manual Shut-Off	05548*
4	Adapter, Hose	80858*
5	Hose, 12.7 mm ID x 3 Meter	21555*
6	Kit, Sediment Trap	21520
7	Base	20136
8	Valve, Gas Control (L.P. Gas/Butane)	22420
	Valve, Gas Control (Natural Gas)	22421
9	Nipple	07148
10	Valve, Throttle (L.P. Gas/Butane)	20143
	Valve, Throttle (Natural Gas)	20144
11	Ell, Street	01426
12	Manifold	09291
13	Orifice, Burner (L.P. Gas/Butane)	20049
	Orifice, Burner (Natural Gas)	21459
14	Igniter and Sensor Assembly	21783
15	Burner	21781
16	Spacer	02687
17	Switch, High Limit	05566
18	Chamber, Heat	21734
19	Door, Left	20756
20	Door, Right	20757
21	Case, Assembly with Doors and Latches	22516
22	Latch Assembly	20959
23	Hinge	05868
24	Cord, Power	20359
24A	Connector Assembly, Powercord and Thermostat	22571
25A	Switch, Selector	09915
26	Harness,Wire	23823
27	Control, Direct Spark Ignition	21725
27A	Grommet Ignition Cable	21851
28	Transformer	20659
29	Flange Gasket	22564
30	Boot	09916
31	Fuse Holder Assembly with Fuse	21681
31A	Fuse	21654
32	Lens with Hole	21754
33	Screw, Lens	21784
34	O-Ring	08347
35	Cover, Control Box	21738
36	Motor	21073
37	Mount, Motor	08647
38	Fan, Wheel	09050
39	Switch, Air Proving with Screws and Nuts	02680
40	Flapper, Air Proving	21035
41	Housing Fan, with Air Flow Switch and Motor Mount	20250
42	Adapter, Piping	80860
43	Bolt	02692
44	Washer	01589
45	Screw	02688

* Optional Accessory

Marking Identification



NOTE:
WHEN ORDERING REPLACEMENT MARKINGS, SPECIFY LANGUAGE AND/OR COUNTRY WHERE HEATER IS INSTALLED.

WIRE SELECTION TABLE

Description	Color	Length	Part Number
Transformer to Fuse	Yellow	14 cm	21679
Transformer to Ground	Green/Yellow	11 cm	21753
High Limit to Gas Control Valve	Yellow	56 cm	20570
Motor to Ground	Green/Yellow	36 cm	21194
Gas Control Valve Body to Ground	Green/Yellow	36 cm	21722
Solenoid to Ground	Green/Yellow	36 cm	21773

FASTENER SELECTION TABLE

Description	Application	Part Number
Nut, Cage	Case Top (for Hanging)	07708
Nut, Hex, Locking	Transformer Mounting	83172
Screw	Transformer Mounting and Grounding	05552
Screw	Burner Grounding	01213
Screw	High Limit Switch Mounting	06658
Screw	Electrode Mounting	03027
Screw	Case	07288

Warranty Policy

EQUIPMENT

L.B. White Co., Inc. warrants that the component parts of its equipment are free from defects in material and workmanship, when properly installed, operated, and maintained in accordance with the Installation and Maintenance Instructions, safety guides and labels contained with each unit. If, **within 12 months from the date of purchase by the end user**, any component is found to be defective, L.B. White Co., Inc. will at its option, repair or replace the defective part or equipment, with a new part or equipment, F.O.B., Onalaska, Wisconsin.

A warranty card on file at L.B. White will automatically qualify a unit and its component parts for warranty consideration. If a warranty card is not on file, a copy of the bill of sale will be required to establish warranty qualification. If neither is available, the warranty period will be 12 months from date of shipment from L B. White.

PARTS

L.B. White Co., Inc. warrants that replacement parts purchased from the company and used on the appropriate L. B. White equipment are free from defects both in material and workmanship for **12 months from the date of purchase by the end user**. Warranty is automatic if a component is found defective within 12 months of the date code marked on the part. If the defect occurs more than 12 months later than the date code but within 12 months from the date of purchase by the end user, a copy of a bill of sale will be required to establish warranty qualification.

The warranty set forth above is the exclusive warranty provided by L.B. White, and all other warranties, including any implied warranties or merchantability or fitness for a particular purpose, are expressly disclaimed. In the event any implied warranty is not hereby effectively disclaimed due to operation of law, such implied warranty is limited in duration to the duration of the applicable warranty stated above. The remedies set forth above are the sole and exclusive remedies available hereunder. L.B. White will not be liable for any incidental or consequential damages directly or indirectly related to the sale, handling or use of the equipment, and in any event L.B. White's liability in connection with the equipment, including for claims based on negligence or strict liability, is limited to the purchase price.

Some regions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some regions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from region to region.

Replacement Parts and Service

Contact your local L.B. White dealer for replacement parts and service or call the L.B. White Company, Inc. at 1-608-783-5691 for assistance. Be sure that you have your heater model number and configuration number when calling.

L.B. White Co., Inc.
W6636 L.B. White Rd.
Onalaska, WI USA 54650

Agricultural, Construction and Tent Heaters

(800) 345-7200 ■ (608) 783-5691 ■ Fax: (608) 783-6115 ■ mail@lbwhite.com

EC Declaration of Conformity

Manufacturer: L.B. White Co., Inc.
W6636 L.B. White Road
Onalaska, WI 54650
U.S.A.

Tel. 608-783-5691
Fax. 608-783-6115

Declaration of Conformity:
We declare that the equipment designated below meets the requirements of the EC Gas Appliance Directive, Annex I and Annex II, on the basis of type evaluation of design and manufacture. In addition, we declare that the equipment designated below meets the requirements of the Low Voltage Directive, Annex I, and Electromagnetic Compatibility Directive based on assessment.

Designated Equipment:
Model AD250 direct fired, gaseous fueled, circulating heaters for indoor application in agricultural animal confinement buildings. This model is approved for outdoor installation when utilizing the L.B. White outdoor mounting kit(s).

Directive this equipment complies with:
90/396/EEC Gas Appliance Directive
73/23/EEC Low Voltage Directive
89/336/EEC Electromagnetic Compatibility

Basis of Conformity:
Gas Appliance Directive by Type Examination: Product Identification No. 87AU60, Certificate No. BG/EC-87/99/60. Applied Standard: prEN12669 dated November 1997.

Low Voltage Directive by assessment; BG Technology, Notified Body 0087, Certificate BG/TC/98/68/M1. Applied Standard: Relevant requirements of EN60335-1:1994.

Electromagnetic Compatibility Directive by assessment; BG Technology, Notified Body 0087, Certificate BG/TC/99/32. Applied Standard: Relevant requirements of EN50165:1997, clause 19.101 and EN50081-1:1992.

Manufacturing Surveillance: BG Technology Notified Body 0087, Certificate ECS-00153a

Manufacturer: Date of Issue: 1 Feb 2004

John L. Tomlinson
Director of Engineering