



Owner's Manual and Instructions

Agricultural Animal Confinement Building Heaters



MODELS	OUTPUT	FUEL
AB060	17.6 KW	All Models are available in either L.P. Gas Vapor Withdrawal or Natural Gas Configurations.
AB100	29.3 KW	
AB250	73.3 KW	



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 use only. 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

 **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.



<u>SECTION</u>	<u>PAGE</u>
General Information	3
Heater Specifications	4
Fuel Information for Country of Destination	5
Safety Precautions	6
Installation Instructions	
General	8
Air Diverter Installation Instructions	9
Hanging Instructions	10
Sediment Trap Assembly	10
Thermostat Installation	11
Manual Shut-Off Valve, Hose and Regulator Assembly	11
Start-Up Instructions	12
Shut-Down Instructions	12
Variable Heat Output	13
Cleaning Instructions	14
Maintenance Instructions	14
Service Instructions	
Motor and Fan Wheel Assembly	15
Air Proving Switch with Paddle Models AB060 and AB100	15
Air Proving Switch with Sail (Flapper) Model AB250	16
Pilot Light Assembly	16
Thermocouple	17
Gas Control Valve	18
Testing the Manual Reset High Limit Switch	18
Troubleshooting Guide	19
Electrical Connection and Ladder Diagram	28
Heater Component Function	29
Parts Identification	
Parts Schematic	30
Parts List	31
Label Identification AB060/AB100	32
Label Identification AB250	32
Wire Selection Table	33
Fastener Selection Table	33
Warranty Policy	34
Replacement Parts and Service	34

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					
		AB060		AB100		AB250	
Fuel	L.P. Gas	Natural Gas	L.P. Gas	Natural Gas	L.P. Gas	Natural Gas	
Maximum Input	17.6 KW		29.3 KW		73.27 KW		
Minimum Input	8.8 KW		14.7 KW		46.9 KW		
Ventilation Air Required to Support Combustion	428 Cubic Meters per Hour		686 Cubic Meters per Hour		1,885 Cubic Meters per Hour		
Burner Manifold Pressure Relative to Gas Category (For Regulated Units)	25 mbar I _{3P} 20 mbar I _{3B/P}	10 mbar I _{2H} 10 mbar I _{2E} 12 mbar I _{2L} 10/12 mbar I _{2Er}	25 mbar I _{3P} 20 mbar I _{3B/P}	10 mbar I _{2H} 10 mbar I _{2E} 12 mbar I _{2L} 10/12 mbar I _{2Er}	25 mbar I _{3P} 20 mbar I _{3B/P}	10 mbar I _{2H} 10 mbar I _{2E} 12 mbar I _{2L} 10/12 mbar I _{2Er}	
Ball Bearing							
Motor Characteristics	49.7 Watts 1450 RPM		149 Watts 1360 RPM		249 Watts 1150 RPM		
Electrical Supply (Volts/Hz/Phase)	220-240/50/1						
Amp Draw	STARTING	1.2	3.6		3.9		
	CONTINUOUS OPERATION	.4	1.2		1.3		
Dimensions L x W x H	54 cm x 36 cm x 46 cm		75 cm x 36 cm x 46 cm		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	1.83 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	AB060	Gas Rate AB100	AB250
Great Britain	L.P. Gas	I _{3P}	37 mbar	1.26 kg/hr.	2.1 kg/hr.	5.25 kg/hr.
	Nat. Gas	I _{2H}	20 mbar	1.74 m ³ /hr.	2.8 m ³ /hr.	7.14 m ³ /hr.
Germany	L.P. Gas	I _{3P}	50 mbar	1.26 kg/hr.	2.1 kg/hr.	5.25 kg/hr.
	Nat. Gas	I _{2E}	20 mbar	1.74 m ³ /hr.	2.8 m ³ /hr.	7.14 m ³ /hr.
Denmark	L.P. Gas	I _{3B/P}	30 mbar	(propane) 1.26 kg/hr. (butane) 1.28 kg/hr.	(propane) 2.1 kg./hr. (butane) 2.14 kg/hr.	(propane) 5.25 kg/hr. (butane) 5.36 kg/hr.
	Nat. Gas	I _{2H}	20 mbar	1.74 m ³ /hr.	2.8 m ³ /hr.	7.14 m ³ /hr.
France	L.P. Gas	I _{3P}	37 and 50 mbar	1.26 kg/hr.	2.1 kg/hr.	5.25 kg/hr.
	Nat. Gas	I _{2Er}	20 and 25 mbar	(G-20) 1.74 m ³ /hr. (G-25) 2.02 m ³ /hr.	(G-20) 2.8 m ³ /hr. (G-25) 3.24 m ³ /hr.	(G-20) 7.14 m ³ /hr. (G-25) 8.28 m ³ /hr.
Holland	L.P. Gas	I _{3P}	30 and 50 mbar	1.26 kg/hr.	2.1 kg/hr.	5.25 kg/hr.
	Nat. Gas	I _{2L}	25 mbar	2.02 m ³ /hr.	3.25 m ³ /hr.	8.29 m ³ /hr.
Spain	L.P. Gas	I _{3P}	37 mbar	(propane) 1.26 kg/hr.	(propane) 2.1 kg/hr.	(propane) 5.25 kg/hr.
	Nat. Gas	I _{2H}	20 mbar	1.74 m ³ /hr.	2.8 m ³ /hr.	7.14 m ³ /hr.
Italy	L.P. Gas	I _{3B/P}	30 mbar	(propane) 1.26 kg/hr. (butane) 1.28 kg/hr.	(propane) 2.1 kg./hr. (butane) 2.14 kg/hr.	(propane) 5.25 kg/hr. (butane) 5.36 kg/hr.
	Nat. Gas	I _{2H}	20 mbar	1.74 m ³ /hr.	2.8 m ³ /hr.	7.14 m ³ /hr.
Belgium	L.P. Gas	I _{3P}	37 and 50 mbar	1.26 kg/hr.	2.1 kg/hr.	5.25 kg/hr.
	Nat. Gas	I _{2E(S)B}	20 and 25 mbar	(G-20) 1.74 m ³ /hr. (G-25) 2.02 m ³ /hr.	(G-20) 2.8 m ³ /hr. (G-25) 3.24 m ³ /hr.	(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 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 its 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 appliance. 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. If gas flow is interrupted and the flame goes out, do not relight the heater until you are sure that all gas that may have accumulated has cleared away. In any event, do not relight the heater 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 unit's gas regulator (with pressure relief valve) should be installed outside of building. Any regulators inside the buildings must be properly vented to the outside. Local, state and national codes always apply to regulator installation. Natural gas regulators with vent limiting device may be mounted indoors without venting to outdoors.
 4. 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.
 5. 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.
 6. 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.
7. 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.

8. A qualified service agency must check for proper operating gas pressure upon installation of the heater.
9. Light according to instructions on heater or within owner's manual.
10. 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.
11. 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.
12. 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.

- 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.

- 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.
- 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.

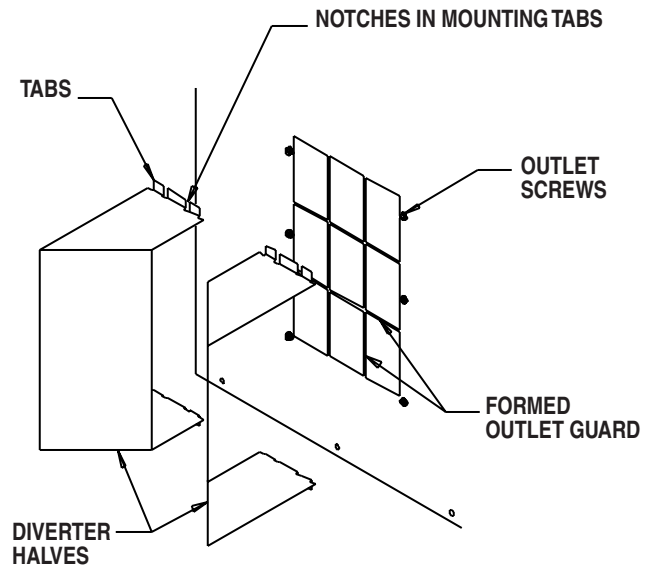
AIR DIVERTER INSTALLATION INSTRUCTIONS

(Optional accessory on some models.)

(Appearance of the outlet on heater may vary from model to model.)

- 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.
- 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.
- 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.)



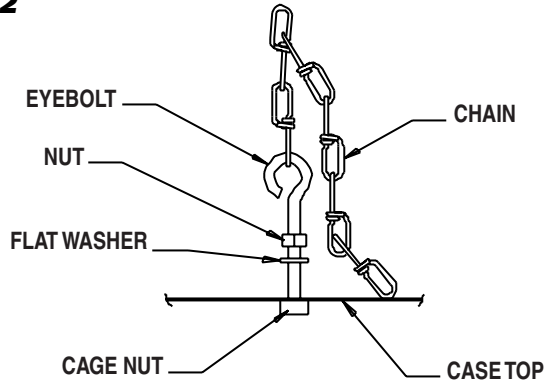
Alternate Air Diverter Installations



HANGING INSTRUCTIONS

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

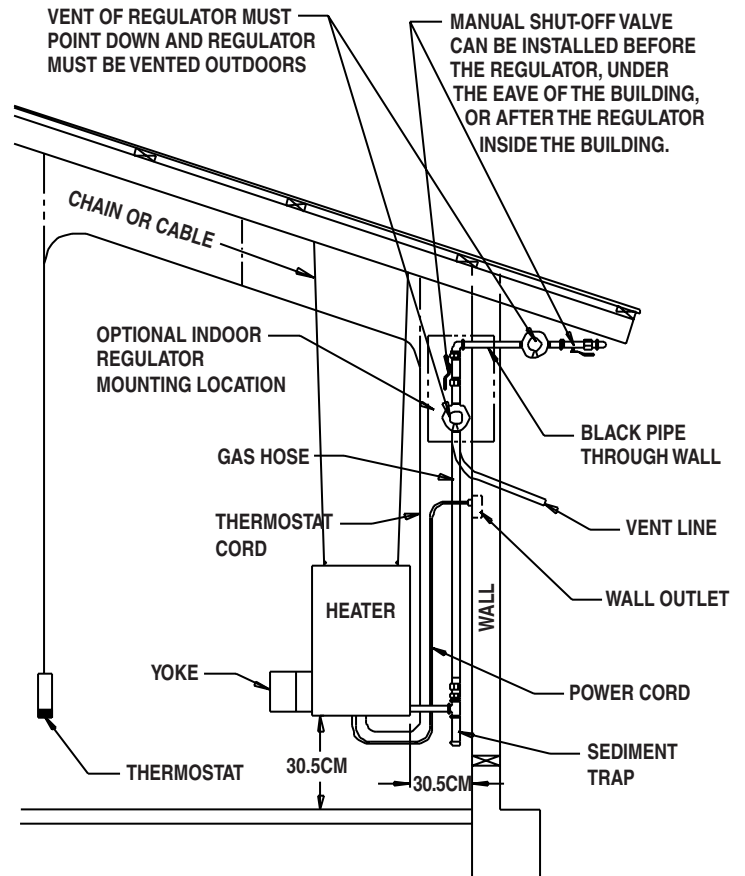
FIG. 2



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

NOTE: REGULATORS SHOULD ALWAYS BE MOUNTED OUTDOORS. IF CIRCUMSTANCES FORCE INSTALLING THE REGULATOR INDOORS, THE REGULATOR'S VENT MUST BE VENTED OUTDOORS USING VENT LINE NO SMALLER THAN VENT OPENING.

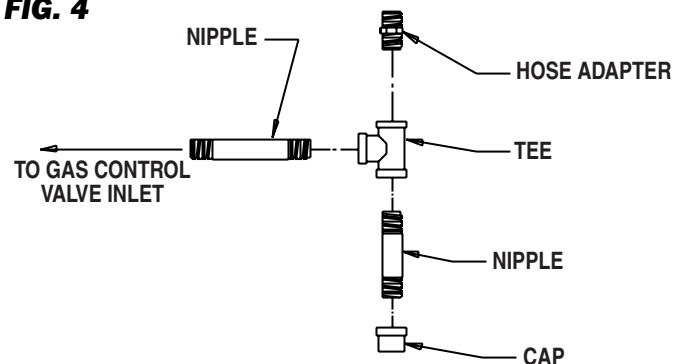


SEDIMENT TRAP ASSEMBLY

(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.

1. To Connect the Series Tap Plug Thermostat Kit:

- a. Connect the power cord of the heater to the female side of the plug on the end of the thermostat cord.
- b. Plug the male side of the series tap plug on the thermostat cord into a three-wire (grounded) electrical outlet within the building.

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

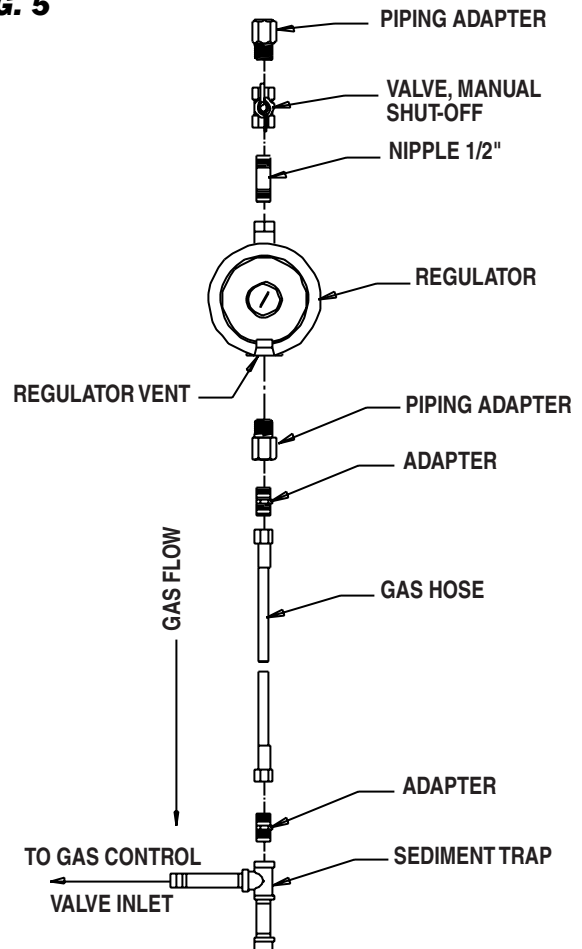
- a. The installation and wiring of a thermostat must be done by an electrician or someone properly qualified.
- b. The thermostat cordset must use a minimum of 18 gauge wire consisting of a hot lead, neutral lead, and a ground lead.
- c. Follow all instructions provided with the thermostat kit.
- d. 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 - 5 on initial start-up after heater installation by a qualified gas heater service person. For normal start-up, simply turn thermostat above room temperature. The heater will start.

1. Open all manual fuel supply valves and check for gas leaks using approved leak detectors.
2. Fully depress the pilot button located on the gas control valve while applying flame to the pilot light. Keep the button depressed for about 30 seconds to allow the thermocouple to warm up so the pilot stays lit after you release the button.

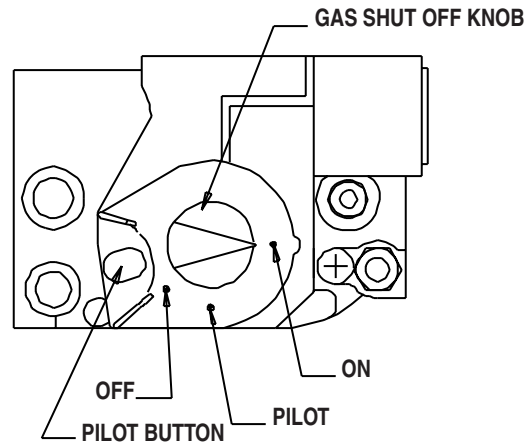
ATTENTION

On new installations it may take a short period of time for the gas to purge out any air in the pilot line before the pilot stays lit.

3. Connect the electrical cord to an approved electrical outlet.
4. Set the thermostat to a point above room temperature. The heater will light. Turn the thermostat to desired setting.

5. 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.

FIG. 6



Shut-Down Instructions

If the heater is to be shut down for cleaning, maintenance or repair, follow steps 1 - 4. 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. Turn thermostat to "off" or "no heat" position.
4. Disconnect the heater from the electrical supply.

Variable Heat Output

1. Some models of propane (LP) gas or natural gas heaters have 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. 7.)

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. 8.)

FIG. 7

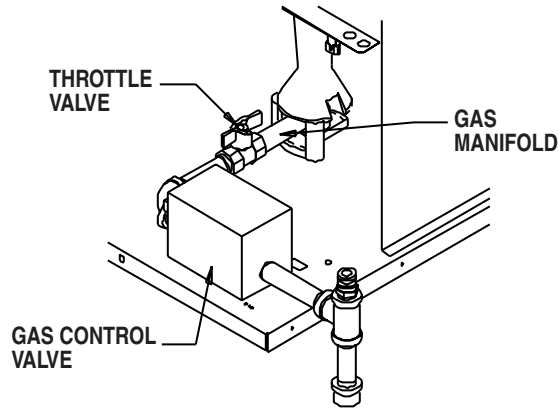
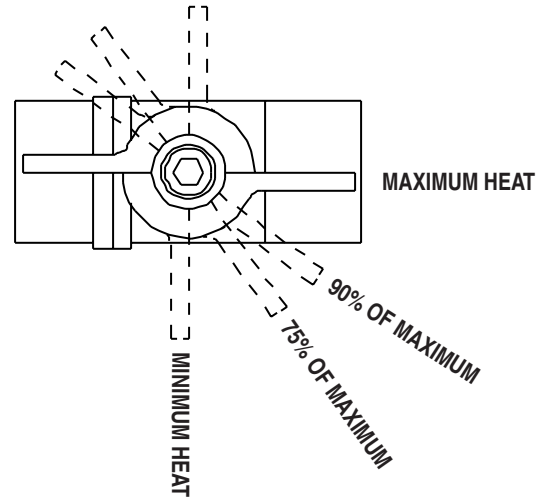


FIG. 8



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. Additionally, 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.
 - 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. 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.
4. 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.

Service Instructions

MOTOR AND FAN WHEEL ASSEMBLY

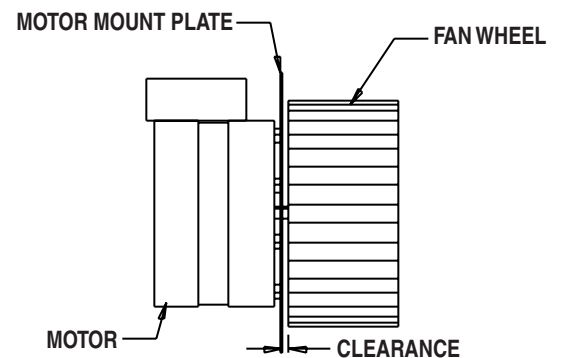
1. Shut off the gas supply to the heater.
2. Disconnect the heater from its electrical supply.
3. Open the case access panel on the control box end of the heater.
4. Disconnect the motor leads.
5. Remove the screws securing the motor mounting plate to the fan housing.
6. Pull the fan and motor assembly 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 the clearances specified in the table below 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.

AB060/AB100	6.4 mm
AB250	3.2 mm

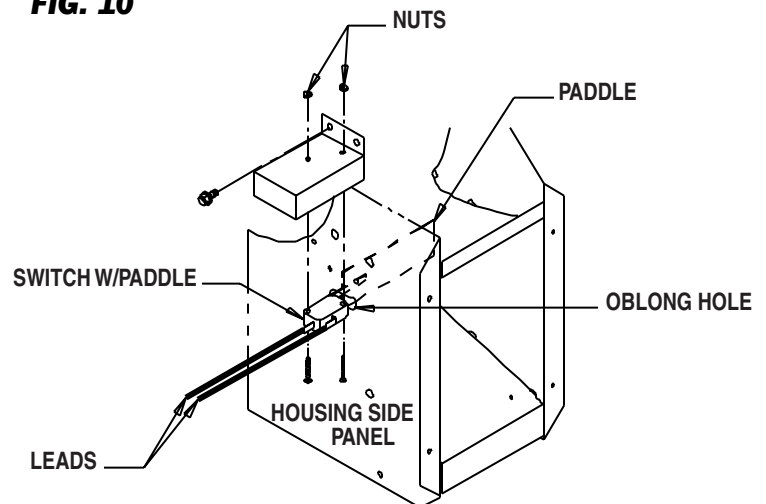
FIG. 9



AIR PROVING SWITCH WITH PADDLE MODELS AB060 AND AB100

1. Shut off the gas supply to the heater.
2. Disconnect the heater from its electrical supply.
3. Open the case access panel on the control box end of the heater.
4. Remove the two (2) sheet metal screws holding the switch with bracket to blower housing. Remove the assembly by turning the switch assembly 90° so the paddle on the switch arm can be pulled through the oblong hole on side of fan housing.
5. Disconnect the leads from the air proving switch.
6. To replace the switch, reverse the above procedure. The replacement switch will be pre-assembled to its mounting bracket.

FIG. 10



IMPORTANT

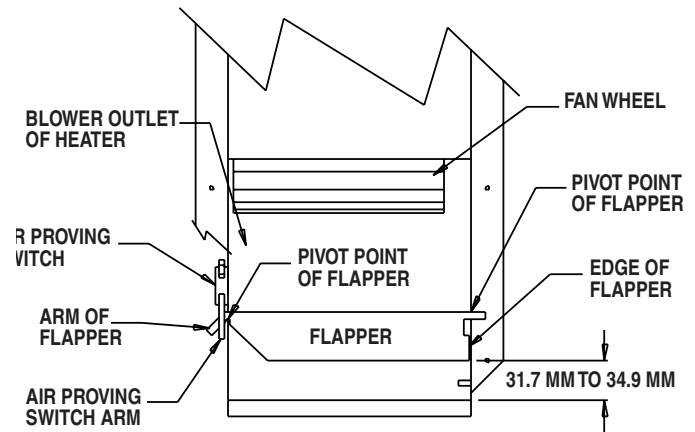
Make sure you don't bend the switch arm when installing the replacement switch. Bending the switch arm may create ignition problems later.

AIR PROVING SWITCH WITH SAIL (FLAPPER) MODEL AB250

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 sail 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 sail should engage the arm of the airflow switch when the trailing edge of the sail 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. You may also check for continuity within this circuit.
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 sail arm then needs to be adjusted to engage the switch arm.

6. Using a needle nose pliers, gently bend up the arm of the sail (**NOT THE SWITCH ARM**) in increments until the sail arm engages the switch arm, closing the contacts of the switch when the sail body trailing edge is 31.7 mm to 34.9 mm of housing bottom.

FIG. 11



PILOT LIGHT ASSEMBLY

See Fig. 12

IMPORTANT

On heaters so equipped, make sure you don't tear or destroy the foil face fiber gasket located between pilot bracket and burner casting face. Doing so will cause pilot outages. Always make sure that if you must remove it for cleaning the burner area that it is replaced and properly positioned.

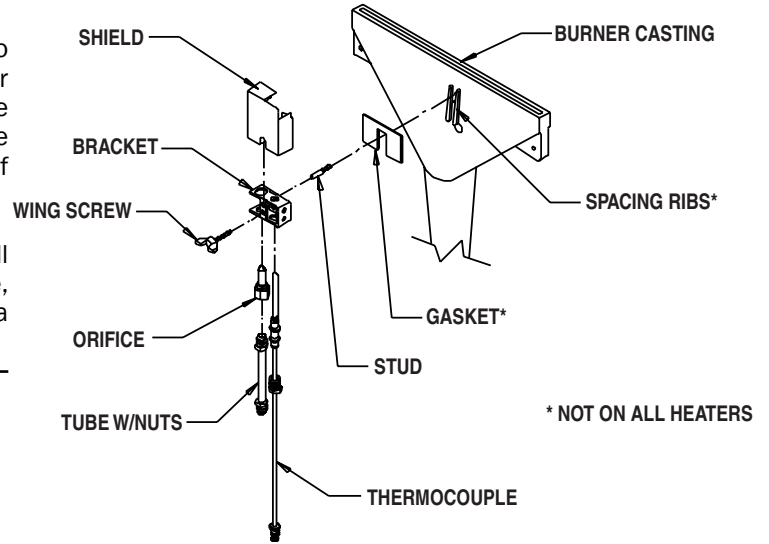
1. Shut off the gas supply to heater.
2. Disconnect the heater from its electrical supply.
3. Let the appliance cool down so the pilot assembly is cool to touch.
4. Loosen the wing screw at the pilot assembly by turning counterclockwise. It is not necessary to remove the screw entirely from the pilot assembly. You need to loosen it just enough to allow you to remove the pilot shield.
5. When loosened, pull up on the pilot shield, exposing the pilot bracket, pilot orifice, and thermocouple.
6. Using a soft brush or compressed air, clean the pilot stack (pop-riveted on inside of pilot shield), of dust and dirt, paying attention to the throat of the pilot stack and the flame spreader at the top of the stack.
7. Brush off the top of the pointed pilot orifice making sure dust and dirt have not plugged orifice hole. If the orifice must be removed, use the appropriate size wrench to loosen and remove the compression fitting and pilot tube from the inlet of the pilot orifice. Use a wrench to loosen and remove the pilot orifice from the pilot bracket. Hold the orifice up to the light to see if the hole in the orifice is clear and open. If not, blow out with compressed air.
8. To replace the shield and the pilot orifice, reverse above procedure.
9. Check for gas leaks.

IMPORTANT

The hole in the pilot orifice is drilled to a specific diameter to match the fuel and gas pressure being used. Do not poke or push sharp instruments into the hole. Doing so will enlarge the hole, creating pilot light outage problems. Clean the orifice only with compressed air, a soft brush, or a dry rag. If necessary, replace the pilot orifice.

Do not use a pliers to remove the pilot orifice. Pliers will "round off" the hex head nut on the base of the orifice, creating difficulty in servicing at a later time. Only use a wrench of appropriate size.

FIG. 12



THERMOCOUPLE

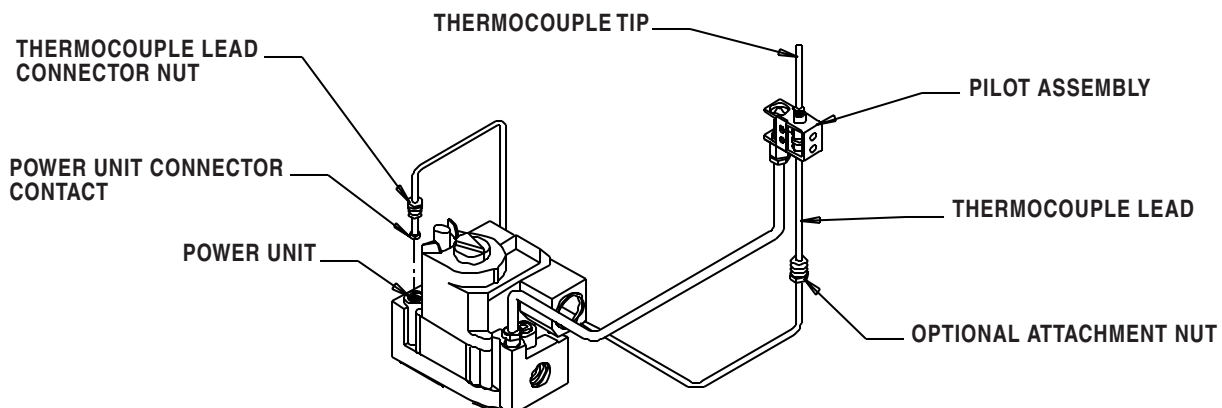
1. Shut off the gas supply to heater.
2. Disconnect the heater from its electrical supply.
3. Let the heater cool down so the pilot assembly is cool to touch.
4. Loosen wing screw at pilot assembly by turning counterclockwise. It is not necessary to remove the screw entirely from the pilot assembly. You need to loosen it just enough to allow you to remove the pilot shield.
5. When loosened, pull up on the pilot shield, thereby exposing the pilot bracket, pilot orifice, and thermocouple.
6. To remove the thermocouple, loosen the attachment nut (turn counterclockwise) until the nut is entirely out of the pilot bracket. Remove thermocouple from the pilot bracket.

7. Remove the lead connector nut threaded into the power unit on the gas control valve.
8. To assemble, reverse above procedure.

IMPORTANT

- The thermocouple is an important safety device which works directly with the pilot safety control valve. It should only be replaced with the thermocouple part number as given in the parts list for the specific model.
- When threading the thermocouple's connector nut back into the power unit on the gas control valve, thread the nut in "finger tight" and "snug it" in place with a wrench. **DO NOT OVERTIGHTEN OR USE UNNECESSARY FORCE ON THE NUT WHEN TIGHTENING.** Doing so will destroy the power unit in the gas control valve.
- Do not use a pliers when removing or replacing thermocouple attachment nut (optional) or connector nut. Doing so will round off the hex nuts, making servicing difficult later on. Always use the appropriate size wrench.

FIG. 13



GAS CONTROL VALVE



WARNING Fire and Explosion Hazard

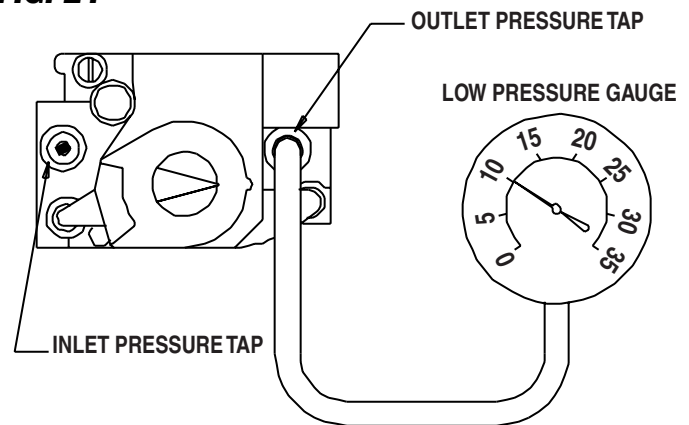
- Do not disassemble the gas control valve.
- Do not attempt to replace any components on the gas control valve.
- The gas control valve must be placed if any physical damage occurs to the control valve assembly.
- Failure to follow this warning will result in fire or explosions, leading to injury or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

1. Brush off any accumulation of dust that may be found.
2. Check manifold gas pressure with a low pressure gas gauge:
 - a. Shut off the gas supply to the heater.
 - b. Disconnect the heater from its electrical supply.
 - c. Turn the pressure tap screw at the outlet of the valve counterclockwise a minimum of one full turn.
 - d. Connect a low pressure gas gauge to the pressure tap.
 - e. Open the fuel supply and reconnect the heater to electrical supply.
 - f. Start the heater.

g. When heater lights, the gas gauge will read 25 MBAR for LP vapor or 10 MBAR for natural gas pressure. This pressure is the flowing gas pressure necessary for the heater to deliver its maximum output. If the gauge does not indicate proper manifold pressure, check the inlet pressure to the gas control valve. Maximum and minimum acceptable inlet pressures to the gas control valve are shown in the heater specifications table and also on the heater's dataplate. The inlet pressure may need adjustment as necessary to achieve proper outlet pressure. Inlet pressure is checked in the same manner as outlet pressure.

h. After pressures have been checked, shut off gas supply and electrical supply to the heater, remove the gauge, and tighten the pressure tap securely. Open the gas supply and reconnect the heater to its electrical supply.

FIG. 14



TESTING THE MANUAL RESET HIGH LIMIT SWITCH



WARNING Fire Hazard

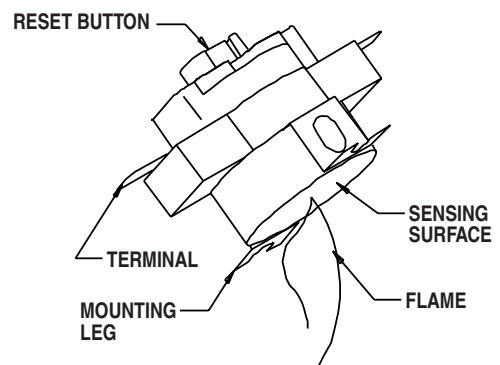
- Do not operate the appliance with the high limit switch bypassed.
- Operating the heater bypassed high limit switch may lead to overheating, possibly resulting in a fire, with subsequent damage to the heater, building damage, or loss of livestock.

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 from the heat chamber.
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.

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. 15



Troubleshooting Guide


READ THIS ENTIRE SECTION BEFORE BEGINNING TO TROUBLESHOOT PROBLEMS.

The following troubleshooting guide provides systematic procedures for isolating equipment problems. This guide is intended for use by a QUALIFIED GAS HEATER SERVICE PERSON. **DO NOT ATTEMPT TO 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.
- **Thermocouple Diagnostic Kit** - (L. B. White Part No. 550-08506) When used with a standard digital multimeter, this kit allows testing of the thermocouple and electromagnetic power unit strength of the pilot safety gas control valves.
- **Low Pressure Gauge** - for checking inlet and manifold pressures at the gas control valve against dataplate rating.

 **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.

- Visually inspect equipment for apparent damage.
- Check all hoses for abrasion and wear. Replace any that are suspect.
- Make sure heater is properly installed and meets minimum clearances to nearest combustible materials. (Refer to dataplate on heater.)
- Check all wiring for loose connections and worn insulation.

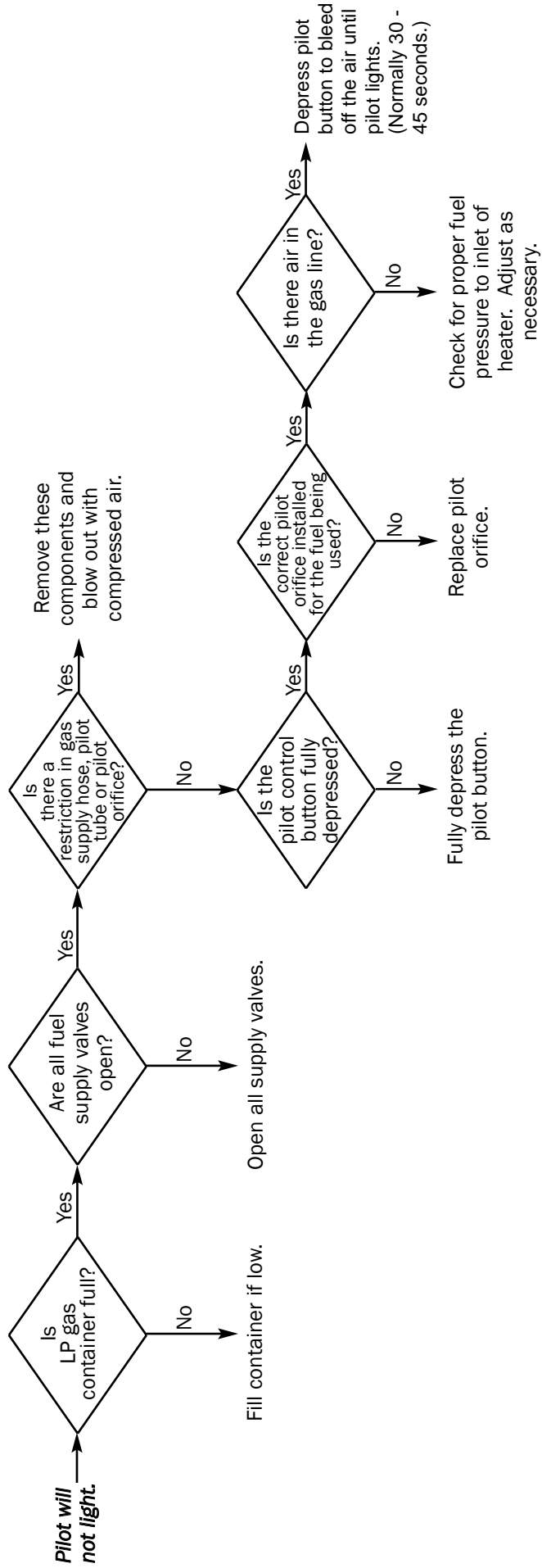
To effectively use these flow charts, you must first identify the problem. The problems are numbered sequentially, along with a brief explanation of each problem. Start at the “diamond” closest to the identified problem and proceed with each step, performing whatever tests are suggested. After each step or test, the guide will direct the service person to the next logical step based on the outcome of the previous check.

Components should be replaced only after each step has been completed and replacement is suggested in the flow chart.

The problems are listed below along with the page number on which you may find the flow chart for the specific problem.

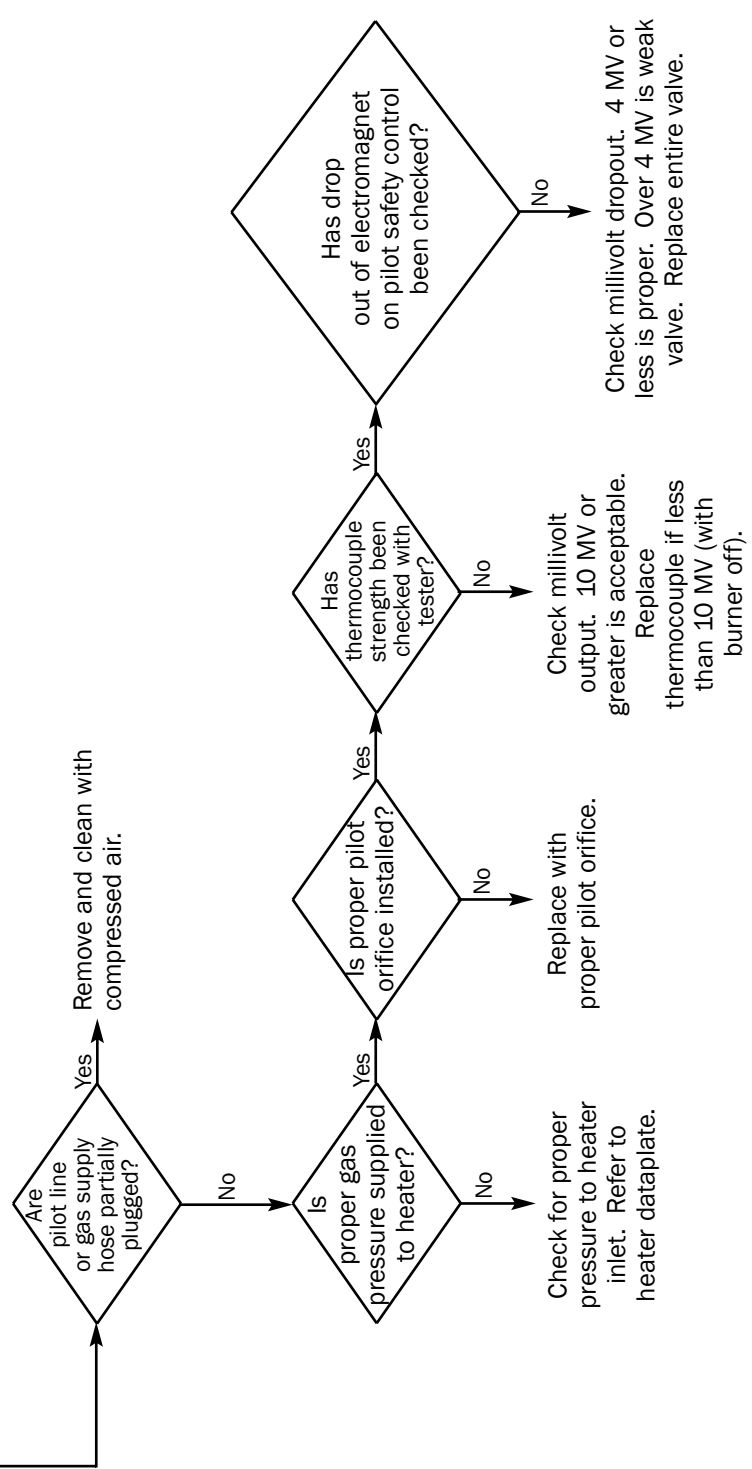
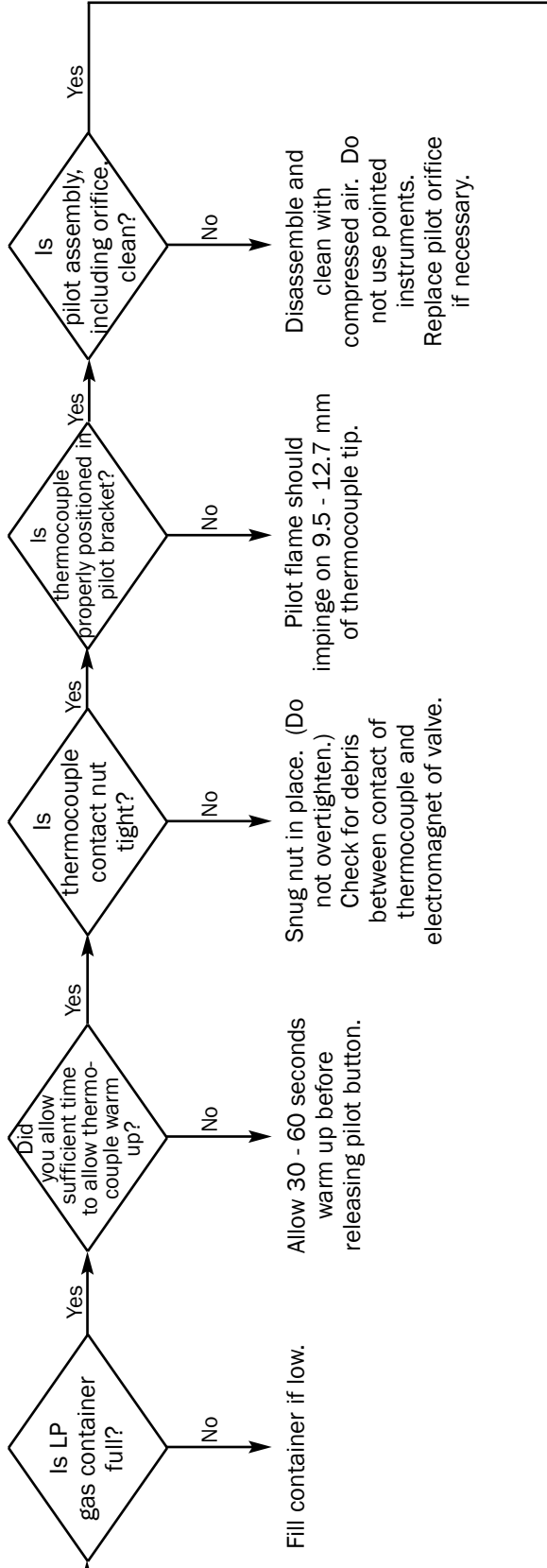
<u>Problem</u>	<u>Description</u>	<u>Page</u>
1	Pilot will not light	20
2	Pilot will not stay lit when pilot control button is released	21
3	Motor runs. Burner does not light with pilot light lit.....	22
4	Motor does not run, heater does not light with pilot light lit.....	23
5	Main burner cycles on and off repetitively. Pilot stays lit	24
6	Pilot will not stay lit when main burner and blower are operating	24
7	High limit switch is open	25
8	Burner does not shut off	26
9	Flame “lifting” off of burner	26
10	Burner flame drops out after 10 - 15 minutes of operation	26
11	Gas control valve “chatters”	27
12	Motor “hums”	27

Problem 1



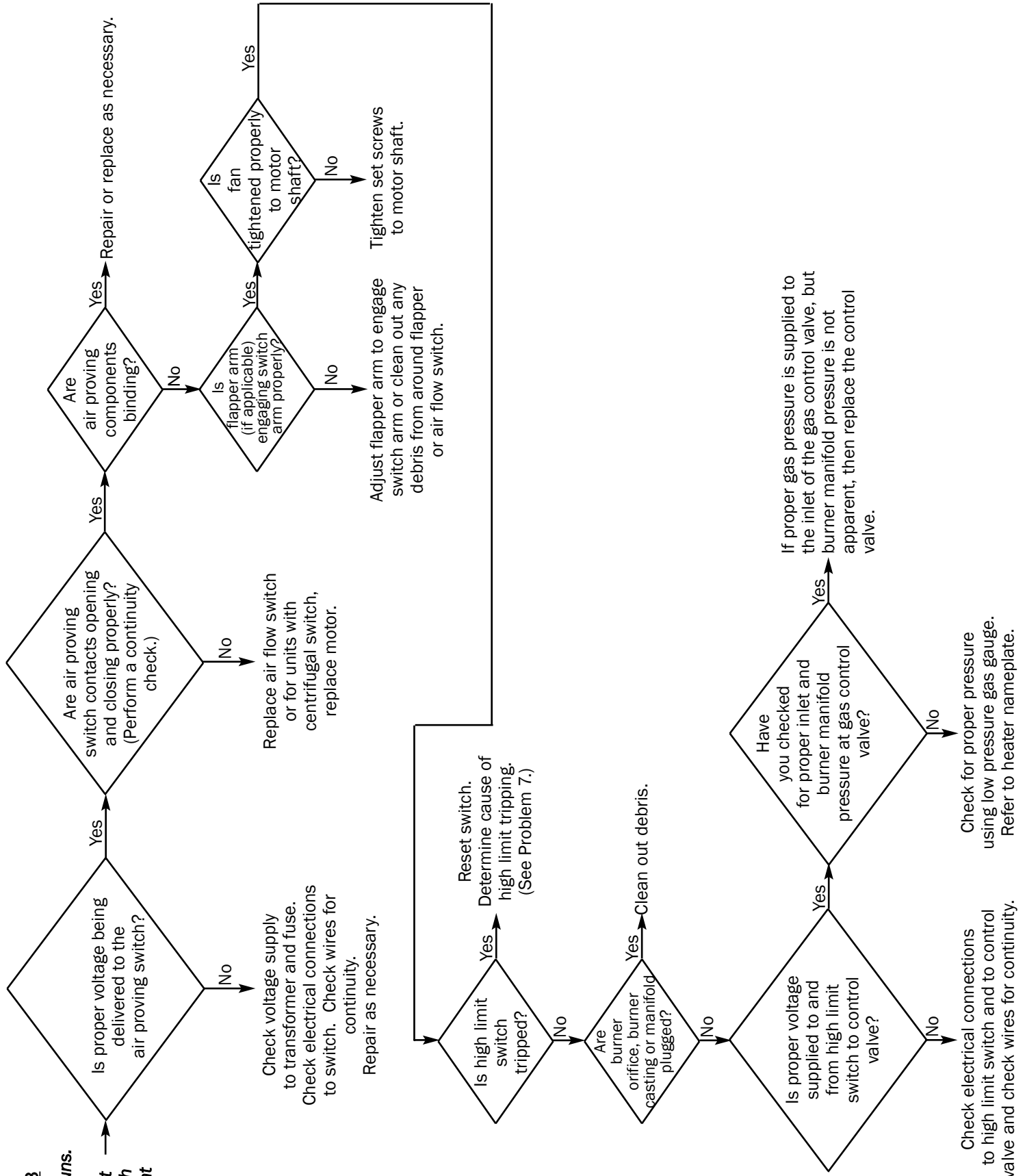
Problem 2

Pilot will not stay lit when pilot control button is released.



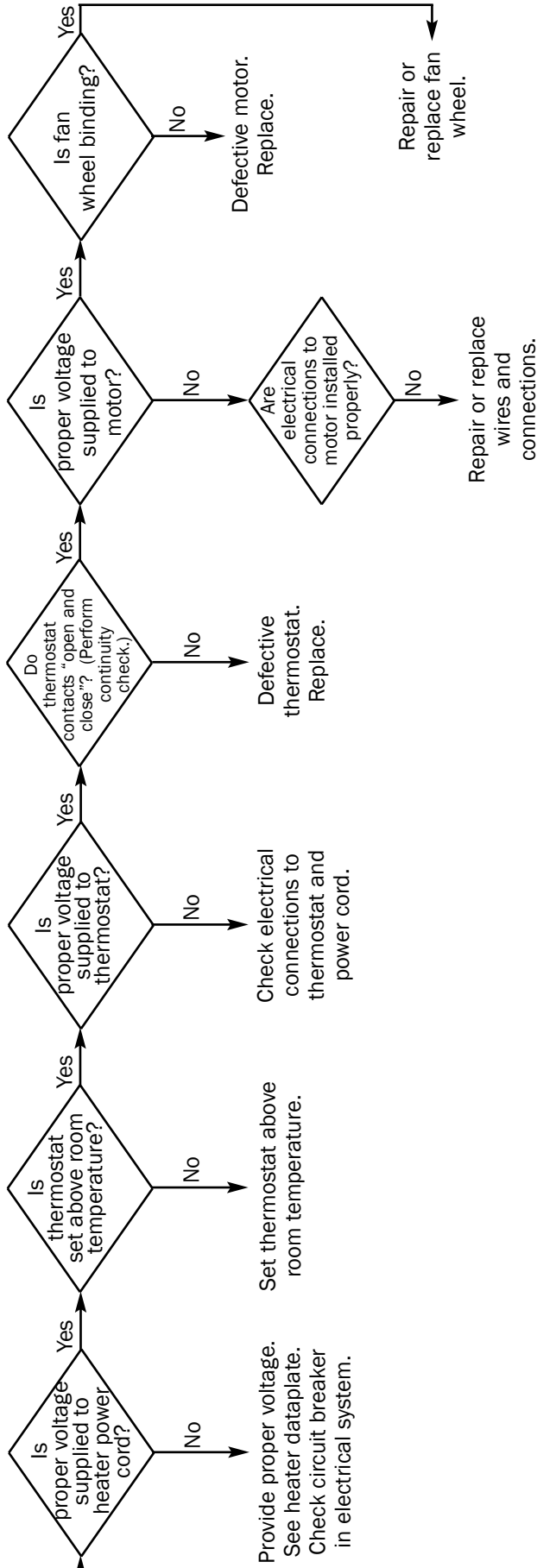
Problem 3

**Motor runs.
Burner
does not
light with
pilot light
lit.**



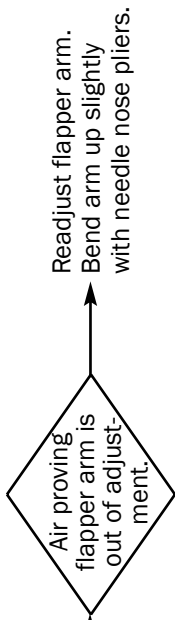
Problem 4

Motor does not run, heater does not light with pilot light lit.



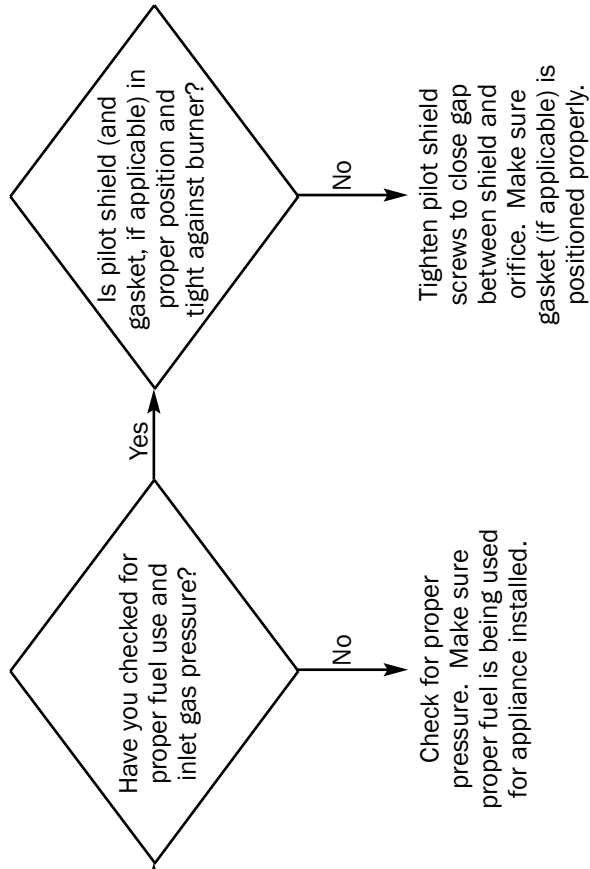
Problem 5

Main burner cycles on and off repetitively. Pilot stays lit.



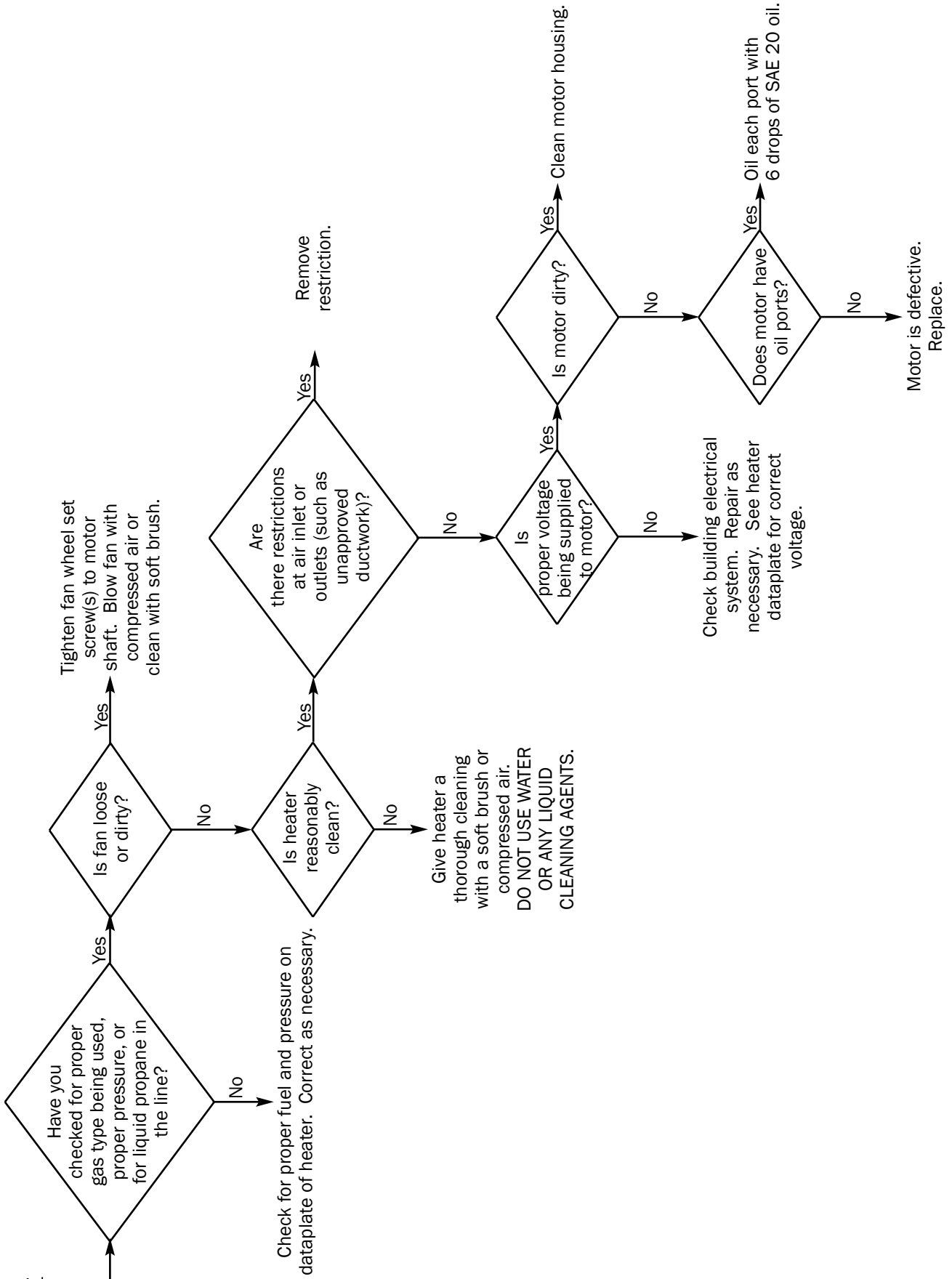
Problem 6

Pilot light will not stay lit when main burner and blower are operating.



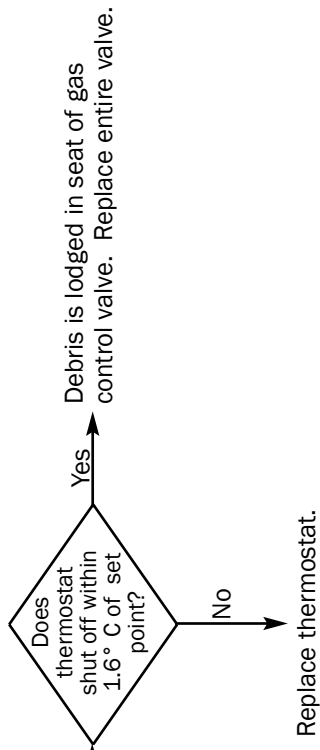
Problem 7

High limit switch is open.

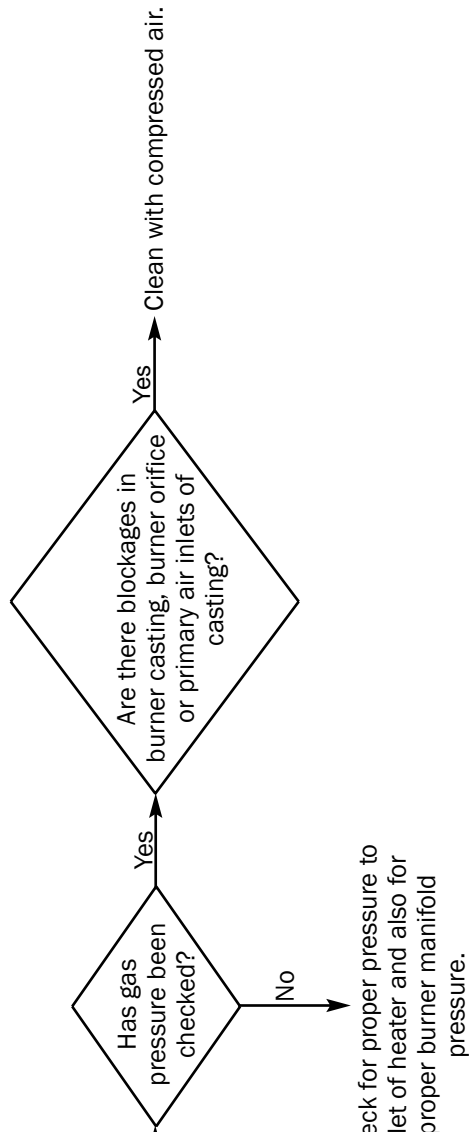


Problem 8

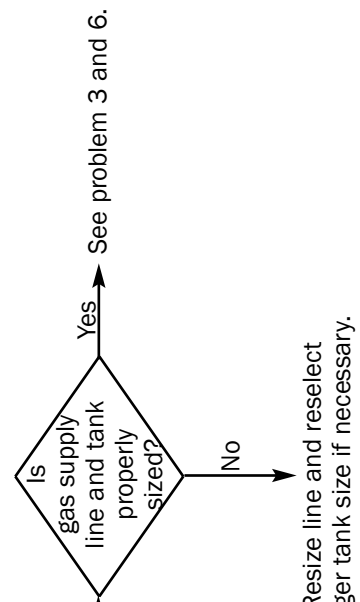
Burner does not shut off when temperature requirement is satisfied.

**Problem 9**

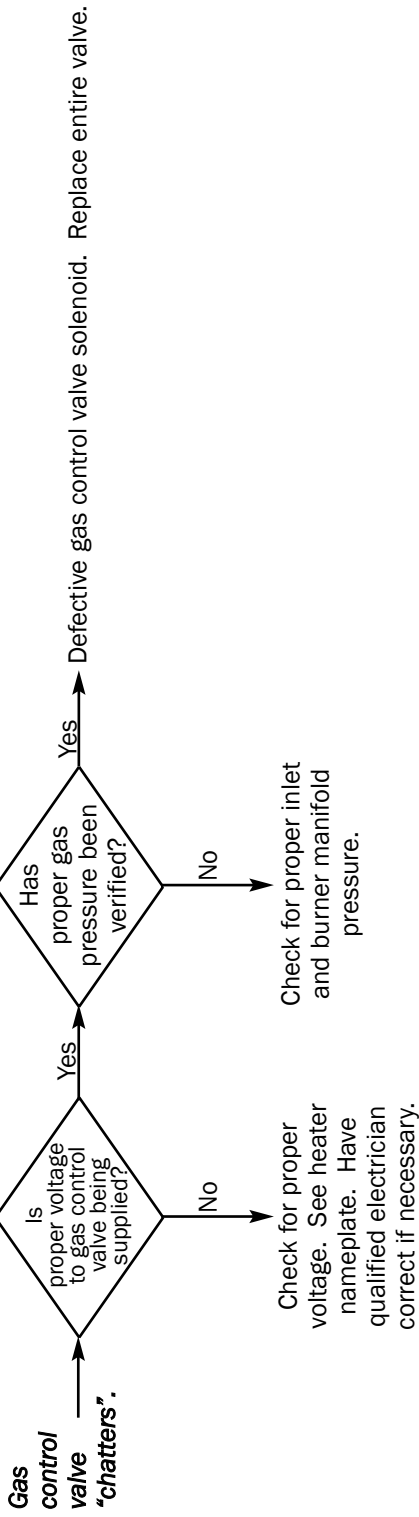
Flame "lifting" off of burner.

**Problem 10**

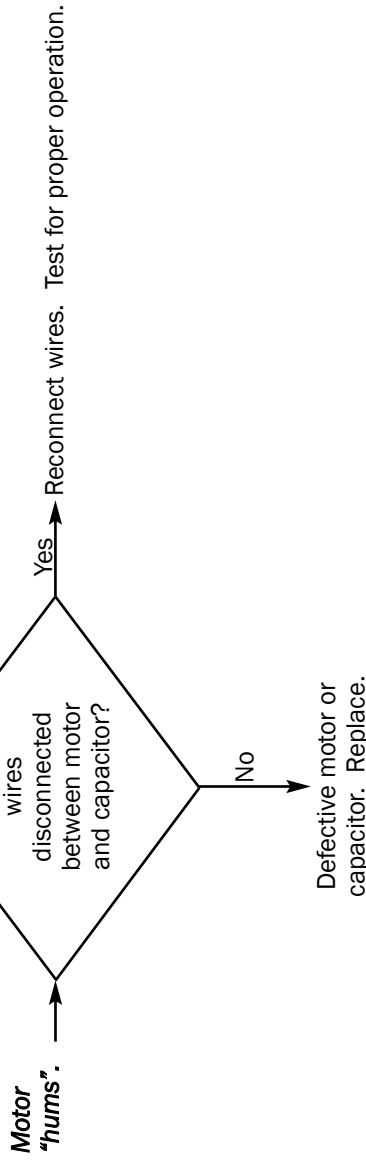
Burner flame drops out after 10 - 15 minutes of operation.



Problem 11



Problem 12

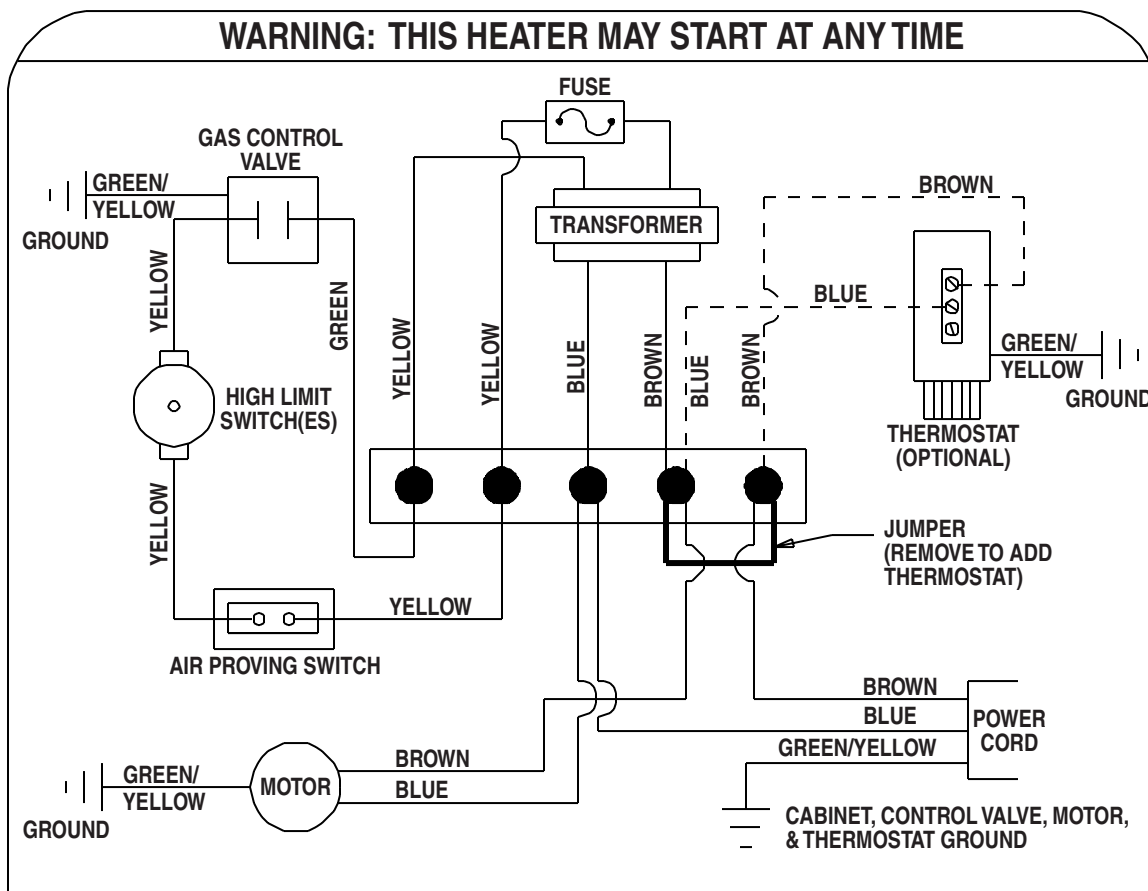


- (1) Some thermocouples use a retainer clip to secure the thermocouple into the pilot bracket. Make sure the thermocouple is pushed up completely into the hole so clip on thermocouple holds it securely within the bracket. Other thermocouples use a retainer nut to hold the thermocouple in place. Make sure the nut is securely tightened.
- (2) With any electrical problem, all wiring should be checked for good connections and proper voltage and repaired if a problem is found.
- (3) To determine if part is defective, place a jumper wire across the two terminals that the wires are connected to. Use the jumper wire only to determine if part is defective. Replace the part IMMEDIATELY or do not operate the heater until it has been properly repaired. NEVER operate a heater with safety device bypassed.
- (4) The high-limit switch will open or "trip" for a variety of reasons including high fuel pressure (see dataplate or owner's manual for proper pressures) or reduced air flow. Reduced air flow is normally due to intake air obstructions, low voltage or dirty fan wheels, etc.

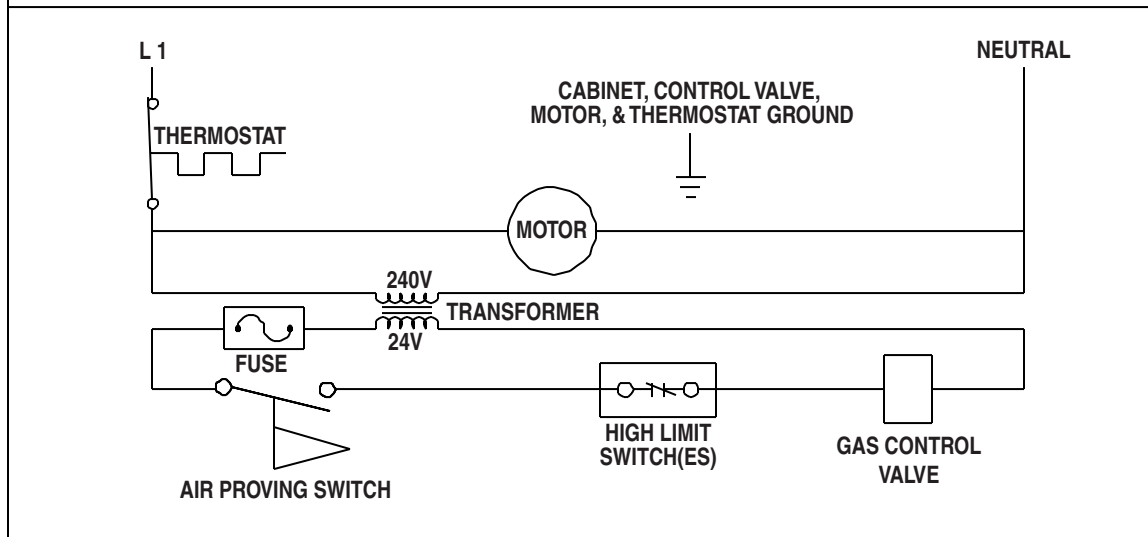
Electrical Connection and Ladder Diagram

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.



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 HAVING A TEMPERATURE RATING OF AT LEAST 302° F (150° 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. (Models ABO60 and AB100 incorporate a “paddle” on the air-proving switch arm.)

Burner

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

Burner Orifice

Brass metering device used to feed gas to burner at a specific rate.

Fan Housing

Chamber used for compressing 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”).

Fuse

Safety device used to protect against an over amperage condition which results from a direct electrical short.

Gas Hose

Flexible connector used to convey 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.

Motor

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

Pilot Light Orifice

A metering device used to supply gas for the dual purpose of igniting the main burner and heating the thermocouple.

Pilot Safety Control Valve

A gas control valve which is held open by electrical power supplied by a pilot generator and which closes automatically to shut off the flow of gas to the main burner when the pilot flame is extinguished or becomes too small to light the main burner.

Pilot Shield

A formed sheet metal piece that fits around the pilot assembly to protect the the pilot flame against drafts.

Pilot Tube

Formed copper tube used to convey gas from the safety control valve to the pilot light orifice. The tube is internally “tinned” when natural gas is used to resist the effects of sulphur in the fuel.

Regulator

The heart of any gas supply installation. Used to deliver a working pressure to the appliance under varying conditions in tank pressure.

Sail (Flapper)

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. (Used on Model AB250.)

Throttle Valve

Manually adjustable component used to increase or decrease the flow of gas to burner. The throttle valve is located between gas control valve and burner assembly.

Thermocouple

A thermoelectric device that converts heat energy directly into electrical energy. Works in conjunction with the electromagnet in the gas control valve thereby providing gas supply for the pilot light.

Thermostat

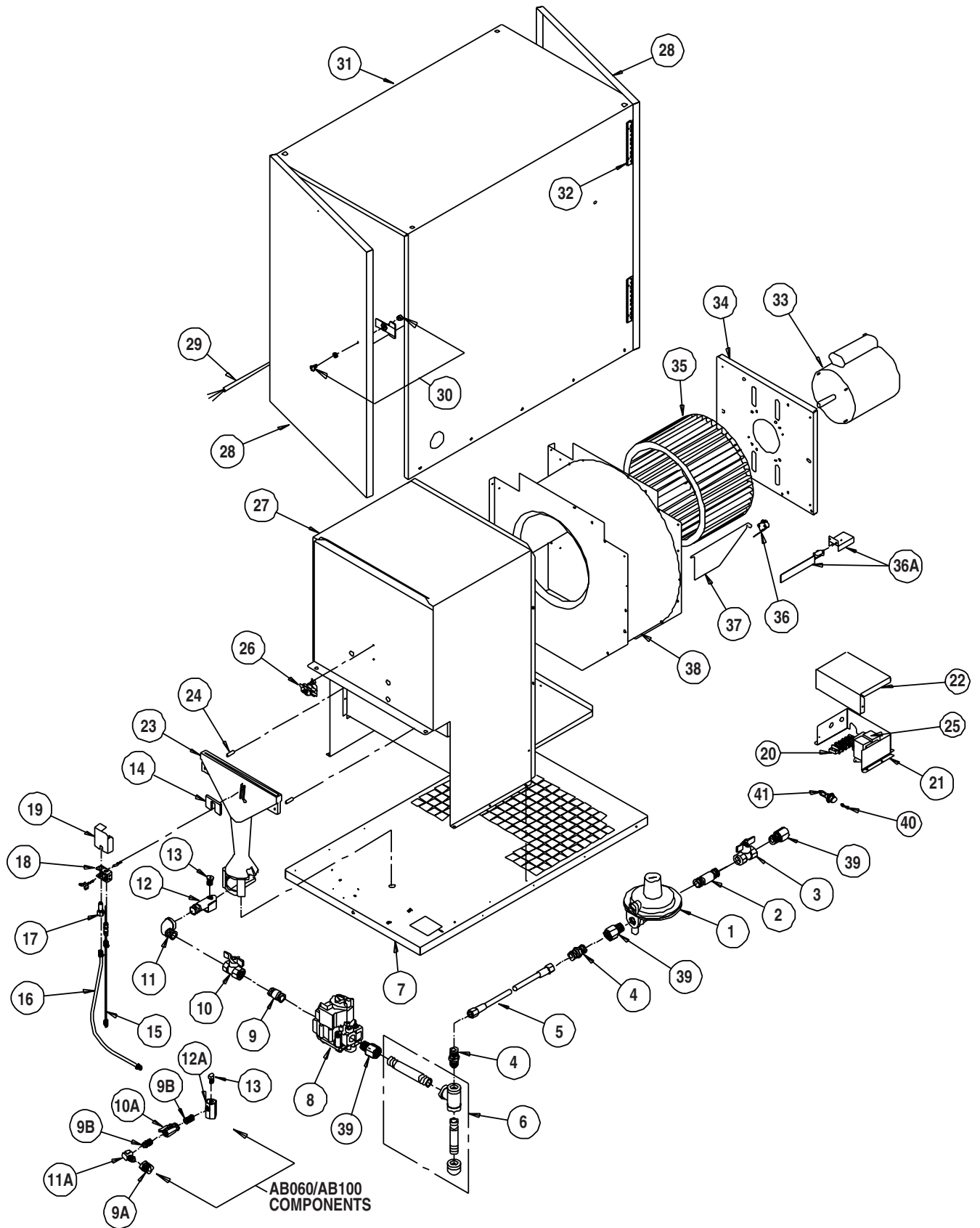
Electrical device used as an automatic “on/off” switch which will respond to changes in temperature in a certain area. Can be wired so contacts in the thermostat open or close on temperature increase or decrease.

Transformer

Electrical control used to take higher incoming voltage and reduce it to lower outgoing voltage to operate certain control systems.

Parts Identification

PARTS SCHEMATIC



PARTS LIST

Item	Description	AB060	AB100	AB250
1	Regulator with Gas Shut-Off Adapters (L.P. Gas)	-----	550-21554*	-----
	Regulator with Gas Shut-Off Adapters (Natural Gas)	-----	550-21569*	-----
2	Nipple	-----	130-07148*	-----
3	Valve, Manual Shut-Off	-----	130-05548*	-----
4	Adapter, Hose	-----	F310-80858*	-----
5	Hose, 12.7 mm ID x 3 Meter	-----	550-21555*	-----
6	Kit, Sediment Trap	-----	400-21520	-----
7	Base	225-21211	225-22937	225-20431
8	Valve, Gas Control (L.P. Gas)	-----	500-23163	-----
	Valve, Gas Control (Natural Gas)	-----	500-23164	-----
9	Nipple	--	--	130-07148
9A	Bushing	130-07859		--
9B	Nipple	130-01142		--
10	Valve, Throttle (L.P. Gas)	410-21292	410-21481	410-20143
	Valve, Throttle (Natural Gas)	410-21291	410-21482	410-20144
11	Ell, Street	--	--	130-01426
11A	Elbow	130-09621		--
12	Manifold	--	--	420-09291
12A	Manifold	310-09759		--
13	Orifice, Burner (L.P. Gas)	310-09630	310-22738	310-20141
	Orifice, Burner (Natural Gas)	310-09631	310-22739	310-21459
14	Gasket, Pilot	--	--	130-06974
15	Thermocouple	-----	120-21196	-----
16	Tubing, Pilot with Nuts	500-23166		500-21476
17	Orifice, Pilot (L.P. Gas)	-----	130-07829	-----
	Orifice, Pilot (Natural Gas)	-----	130-06968	-----
18	Bracket, Pilot Burner	-----	130-07831	-----
19	Shield, Pilot Barrel Assembly	-----	500-21128	-----
20	Terminal Block (5 position)	-----	120-08253	-----
21	Enclosure, Electrical	--	225-23241	225-21453
22	Cover, Electrical	--	225-23240	225-20027
23	Burner	320-21262		320-03453
24	Spacer	-----	130-02687	-----
25	Transformer	-----	410-23145	-----
26	Switch, High Limit	120-03933		120-05566
27	Chamber, Heat	400-09652	400-23165	400-20024
28	Door, Right or Left	225-22723		225-20757
29	Cord, Power	-----	410-20359	-----
30	Latch Assembly	-----	550-20959	-----
31	Case, Assembly with Doors and Latches	500-23168	500-23170	500-21462
32	Hinge	130-08257		130-05868
33	Motor	120-21295	120-21276	120-21073
34	Mount, Motor	220-09870	220-09528	225-08647
35	Fan, Wheel	130-21296	130-08177	130-09050
36	Switch, Air Proving with Screws and Nuts	--	--	500-02680
36A	Switch, Air Proving with Bracket	400-09839	400-09840	--
37	Flapper, Air Proving	--	--	240-21035
38	Housing Fan, with Air Flow Switch and Motor Mount	550-20989	550-20990	500-20250
39	Adapter, Piping	-----	F310-80860	-----
40	Fuse	-----	120-21654	-----
41	Fuse Holder Assembly with Fuse	-----	500-21681	-----

* Optional Accessory

WIRE SELECTION TABLE

Description	Color	Length	Part Number		
			AB060	AB100	AB250
Wire, Air Flow Switch to High Limit Switch	Brown	117 cm	120-21504	--	--
		140 cm	--	120-21505	--
		157 cm	--	--	120-21463
Wire, High Limit Switch to Gas Control Valve	Brown	17 cm	120-21506	--	--
		46 cm	--	--	120-21465
Wire, Terminal Strip to Gas Control Valve	Blue	79 cm	120-21507	--	--
		102 cm	--	120-21508	--
		50 cm	--	--	120-21466
Wire, Terminal Strip to Air Flow Switch	Brown	33 cm	120-21509	--	--
		117 cm	--	--	120-21464
Wire, Terminal Strip to Motor	Brown	18 cm	120-21510	--	--
		86 cm	--	--	120-20613
Wire, Terminal Strip to Motor	Blue	18 cm	120-21511	--	--
		86 cm	--	--	120-20969
Wire, Motor to Base	Green/Yellow	38 cm	120-21512	--	--
		112 cm	--	--	120-21124
Wire, Gas Valve to Base	Green/Yellow	75 cm	120-21513	--	--
		98 cm	--	120-21514	--
		53 cm	--	--	120-21467

FASTENER SELECTION TABLE

Description	Application	Part Number
Bolt	Burner Mounting	130-02692
Bolt, Eye	Hanging of Heater	130-07715
Chain	Hanging of Heater	130-07716
Nut, Cage	Case Top (for Hanging)	130-07708
Screw, Wing	Pilot Shield Mounting	130-07484
Stud	Pilot Mounting	130-07827
Screw	Burner Mounting	130-02688
Screw	High Limit Switch	130-06658
Screw	All Other Applications	130-07288
Washer, Flat	Burner Mounting	130-01589

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.

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.

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

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, Greenhouse 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 Rd. Tel. 608-783-5691
Onalaska, Wisconsin 54650 Fax 608-783-6115
U.S.A.

Declaration of Conformity:

We declare that the equipment designated below meets the requirements of the EC Gas Appliance Directive, Annex I and Annex II, and Low Voltage Directive, Annex 1 on the basis of type evaluation of design and manufacture.

Designated Equipment: Model AB250, AB100 and AB060 direct fired, gaseous fueled, circulating heaters for application in agricultural animal confinement buildings.

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. 87AT68, Certificate EC-87/98/68M2. Applied Standard: EN12669:2000

Electromagnetic Compatibility Directive by assessment; Advantica Certification Services 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 plc Notified Body 0087, Certificate ECS-00153a/M5

Low Voltage Directive by assessment; BG plc Notified Body 0087 Certificate BG/TC/98/68. Applied Standard: EN60335-1:1994

Manufacturer: Date of Issue: 15 May 2004

John L. Tomlinson
Director of Engineering