



Owner's Manual and Instructions

Premier Tent Heaters



MODELS	OUTPUT (Btuh)	FUEL
TS080	80,000	Propane Vapor Withdrawal or Natural Gas
TS170	170,000	

Certification by:



Congratulations!

You have purchased the finest circulating tent 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, toll-free, at 1-800-345-7200.

ATTENTION ALL USERS

This heater has been tested and evaluated by C.S.A. International in accordance with the requirements of Standard ANSI Z83.7• CSA 2.14 and is listed and approved as a ductable direct gas-fired forced-air construction heater with application for the temporary heating of buildings under construction, alteration, or repair. Additionally, this heater has been application reviewed and approved by C.S.A. International for USA Tent Heating Applications with temporary human occupancy. 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

150-22665-B



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 800-345-7200.



WARNING

- Proper gas supply pressure must be provided to the inlet of the heater.
- Refer to data 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, or building damage.
- 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.



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

If you smell gas:

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

FOR YOUR SAFETY

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



WARNING

Fire and Explosion Hazard

- Keep solid combustibles a safe distance away from the heater.
- Solid combustibles include wood, paper, or plastic products, building materials 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.



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General Information

This Owner's Manual includes all options and accessories commonly used on this heater.

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.

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			
TS080			TS170		
Fuel Type	Propane Gas	Natural Gas	Propane Gas	Natural Gas	
Maximum Input (BTUH)	80,000		170,000		
Ventilation Air Required to Support Combustion	450 CFM		1,200 CFM		
Burner Manifold Pressure	10 in. W.C.	4 in. W.C.	10 in. W.C.	4 in. W.C.	
Inlet Gas Supply Pressure Acceptable at the Inlet of the Heater for Purpose of Input Adjustment	MAX. 13.5 in. W.C.				
	MIN. 11 in. W.C.	7 in. W.C.	11 in. W.C.	7 in. W.C.	
Fuel Consumption Per Hour	3.70 lbs.	80 cu. ft.	7.87 lbs.	170 cu. ft.	
Motor Characteristics	Ball Bearing				
	1/8 H.P. 1,100 RPM		1/3 H.P. 1,100 RPM		
Electrical Supply (Volts/Hz/Phase)	115/60/1				
Amp Draw	STARTING	5.0	7.3		
	CONTINUOUS OPERATION	1.5	5.0		
Dimensions (Inches) L x W x H	29-1/2 x 13-1/2 x 20		30-3/4 x 18-1/4 x 28-1/4		
Minimum Safe Distances From Nearest Combustible Materials	TOP	1 ft.			
	SIDES	1 ft.			
	BACK	1 ft.			
	BLOWER OUTLET	6 ft.			
	GAS SUPPLY	Propane Gas - 6 ft., 1.83 m Natural Gas - N/A			
Net Weight	67		126		
Shipping Weight	74		134		
Minimum Ambient Temperature in Which Heater May Be Used	- 20°F				

4

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 leading to serious injury or death. Symptoms of carbon monoxide poisoning can include headaches, dizziness and difficulty in breathing.

FUEL GAS ODOR

Propane 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 gas tank or cylinder fuel supply valves, or the main fuel supply valve located at the meter if you use natural gas.
- Propane 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.
- 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 or natural gas. You must determine if you can smell the odorant in these fuel gases.
- Learn to recognize the odor of propane gas and natural gas. Local propane gas dealers 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.
- The odorant in propane 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 gas odor may differ in intensity at different levels. Since propane 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 gas has 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 gas then do not attempt to light heater, perform service or repairs, or make any adjustments to the heater on the propane 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 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.
 - c. In the Commonwealth of Massachusetts, this product must be installed by a gas fitter licensed by the Commonwealth of Massachusetts.
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.

Also refer to:

- NFPA 102, standard for assembly seating, tents and membrane structures.
 - ANSI/NFPA 58, latest edition, Standard for Storage and Handling of Liquefied Petroleum Gas and/or
 - ANSI Z223.1/NFPA 54, National Fuel Gas Code
 - ANSI/NFPA 70, National Electrical Code.
3. We cannot anticipate every use which maybe made of our heaters. Check with the local fire safety authority if you have questions about applications.
 4. Forced air heaters shall not be directed toward any propane gas container within 20 feet (6.10 meters). Do not wash the heater. Use only compressed air, a soft brush or dry cloth to clean the interior of the heater and it's components.
 5. For safety, this heater is equipped with manual reset high limit switches, an air-proving switch and a

redundant gas control valve. Never operate the 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 locate fuel gas containers or fuel supply hoses anywhere near the blower outlet of the heater.
7. 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.
8. The hose assembly shall be visually inspected on a daily basis after heater relocation and when the heater is in use. 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 building materials, and contact with hot surfaces during use. The hose assembly shall be that specified by the manufacturer. See parts list.
9. Check for gas leaks and proper function upon heater installation, when relocating, and after servicing. Refer to leak check instructions within installation section of this manual.
10. This heater should be inspected for proper operation by a qualified service person before each use and at least annually.
11. Always turn off the gas supply to the heater if the heater is not going to be used in the heating of the work space.
12. This heater is equipped with a three-prong (grounding) plug for your protection against shock hazard and must be plugged directly into a properly grounded three-prong receptacle. Failure to use a properly grounded receptacle can result in electrical shock, personal injury, or death.
13. If gas flow is interrupted and flame goes out, do not relight the heater until you are that all gas that may have accumulated has cleared away. In any event, do not relight the heater for at least 5 minutes.
14. Minimum propane gas supply cylinder size to be used shall be 100 pounds when using a cylinder supply system. The system must be arranged to provide vapor withdrawal from the operating cylinder.
15. When the heater is to be stored indoors, the connection between the propane gas supply cylinder(s) and the heater must be disconnected and the cylinder(s) removed from the heater and stored in accordance with the Standard for the Storage and Handling of Liquified Petroleum Gases, ANSI/NFPA 58.
16. Propane gas supply containers have left handed threads. Always use the appropriate wrench to make a connection to tighten or loosen the P.O.L. fitting at the cylinders' gas supply valve.

Installation Instructions

GENERAL



WARNING

Fire and Explosion Hazard

Can cause property damage, severe injury or death

1. To avoid dangerous accumulation of fuel gas, turn off gas supply at the heater service valve before starting installation, and perform gas leak test after completion of installation.
2. 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 normal hand pressure the gas control valve 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 level and properly positioned before use. Observe and obey all minimum safe distances of the heater to the nearest combustible materials. Safe distances are given on the heater dataplate and on page 4 of this manual.
3. This heater may be installed either indoors or outdoors. For outdoor installations, use only the following air distribution accessory part numbers:

- 12 in. x 12 ft. Duct
Black: 08978
White: 20685
- Unit Diffuser
Premier 80: 09389
Premier 170: 09396
- End Diffuser: 21177

Do not use any other ductwork or field fabricated duct, tarps, stove pipe, etc. on this heater.

4. The heater's gas pressure regulator (with pressure relief valve) must be protected from adverse weather conditions (rain, ice, snow) as well as from building materials (tar, concrete, plaster, etc.) which can affect safe operation and could result in property damage or injury.
5. Heaters used in the vicinity of combustible tarpaulins, canvas, plastics, wind barriers, or similar coverings shall be located at least 10 feet from the coverings. The coverings shall be securely fastened to prevent ignition or upsetting of the heater due to wind action on the covering or other material.

6. Insure that all accessories that ship within the heater have been removed from inside the heater and installed.
7. Check all connections for gas leaks using approved gas leak detectors. Gas leak testing is performed as follows:



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.

- 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.
 - 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.
 - 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.
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. 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.
11. This heater is configured for use for propane gas vapor withdrawal only. Do not use the heater in an propane gas liquid withdrawal system or application. If you are in doubt, contact the L.B. White Co., Inc.
12. The heater must be installed so as not to interfere with or obstruct normal exits, emergency exits, doors and walkways.
13. Railing, fencing or suitable substitute materials must be used to keep the heating equipment from any people using and visiting the structure.
14. The unit shall be located so that rain, ice, or snow drainage from the structure does not affect equipment operation. If the unit is mounted outside,

it must be mounted above any pooled or standing water. If the unit is to be located on the ground, a surrounding trench is recommended to drain any rain, ice or snow away from the unit.

15. The ground and surrounding terrain must be cleared of any combustible vegetation and other combustible materials when the heater is mounted outside.
16. Eventually, like all electrical/mechanical devices, the thermostat can fail. Thermostat failure may result in an underheating condition. The thermostat should be tested to make sure it turns the heater on and off within a temperature differential of $\pm 3^{\circ}\text{F}$.
17. 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.
18. 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.

PROPANE GAS SUPPLY SIZING

The vaporization of propane is affected by several factors: the surface area of the container, the liquid level of propane, temperature surrounding the container, and the relative humidity. All of these factors are specific to a site. Therefore, a degree of experience and judgement is required to select the proper propane supply.

Although experience is the best guide, the following recommendations can be used as a starting point. The table is based on experience in northern climates where cold weather and high humidity are prevalent in the winter. If more or less favorable conditions prevail at a specific site, adjustments can be made on the basis of experience.

Recommended Propane Gas Supply

Average Temp °F		50	40	30	20	10	0	-10
Number of 100lb. Gas Cylinders to Use Per Heater	TS080	1	1	2	2	2	2	2
	TS170	2	2	3	3	3	3	3

* Cylinders must be manifolded together to allow simultaneous vapor withdrawal from all cylinders.

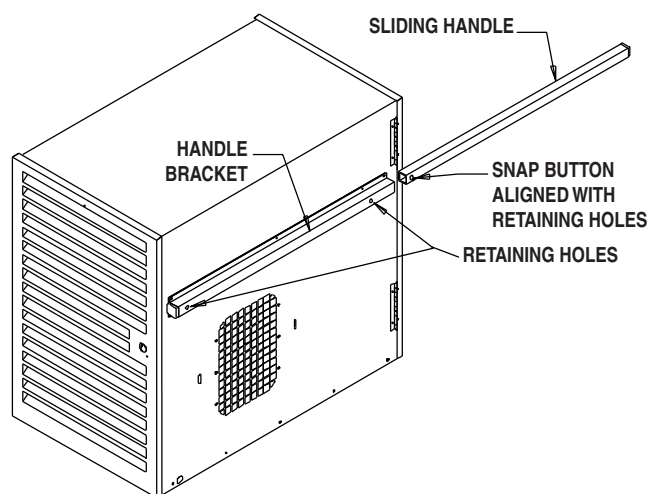
SLIDING HANDLE ASSEMBLY

Premier 170

The Premier 170 is equipped with sliding handles for convenient “wheel-barrow” style mobility. Sliding handles are pre-assembled and installed on the heater case. For shipping purposes, the handles are turned from the required operating position.

1. Remove the sliding handles by grasping the free end and pulling the handle completely out of the handle bracket.
2. Align the snap button on the end of the handle with the retaining hole in the handle bracket.
3. Insert the end of the handle into the handle bracket and depress the snap-button.
4. Slide in the handle and depress the snap-button as necessary until the handle is locked in the fully retracted position.

FIG. 1

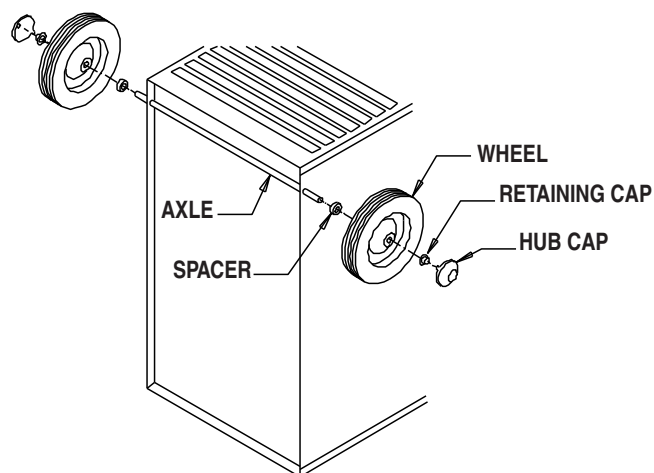


WHEEL ASSEMBLY

Premier 170

1. Tip the heater back on the end access door so the louvered air intake panel is facing up.
2. Locate the axle, two wheels, retaining cap, and two nylon spacers in the heater's accessory package.
3. Install a retaining cap onto one end of axle. Slide one wheel onto axle until it stops up against retaining cap. Ensure that hub cap slots of the wheel are facing towards retaining cap. Slide spacer onto axle until it stops up against side of wheel opposite retaining cap.
4. Slide axle through holes in case assembly until spacer butts up against case. See Fig. 2.
5. Slide remaining spacer and wheel onto other end of axle rod. Slots in wheel face are pointed toward end of shaft.
6. Install other retaining cap.
7. Snap hub caps onto wheels.

FIG. 2

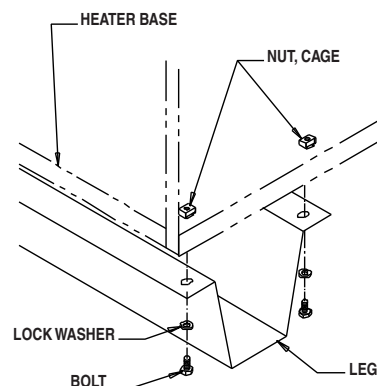


LEG ASSEMBLY

Premier 170

1. Align the support leg channel to the four cage nuts on underside of base.
2. Mount the support using four 1/2 in. bolts and lockwashers. Tighten securely.

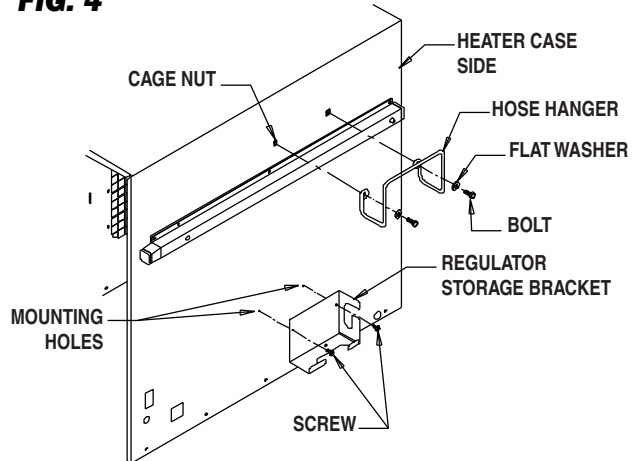
FIG. 3



HOSE HANGER AND REGULATOR STORAGE BRACKET ASSEMBLY

1. Hose Hanger Assembly:
 - a. Align wire hose hanger to cage nuts on back of heater.
 - b. Mount the hanger using the 1/4-20 x 3/4 in. bolts and 1/4 in. flat washers. Tighten securely. See Fig. 4.
2. Regulator Storage Bracket Assembly:
(Premier 170)
 - a. Align regulator storage bracket to the two 1/8 in. diameter holes on heater case back.
 - b. Mount the storage bracket to the case using the two 3/8 in. hex head screws at this point. Tighten securely.

FIG. 4



HOSE AND REGULATOR ASSEMBLY

1. Connect rigid end of hose to regulator outlet. Connect other end to hose adapter at heater. Tighten securely. See Fig 5.
2. The hose may be coiled up and hung on the hose hanger as shown in Fig. 6.
3. If applicable, store the regulator within the storage bracket (Fig. 6) when the regulator is not in use.

FIG. 5

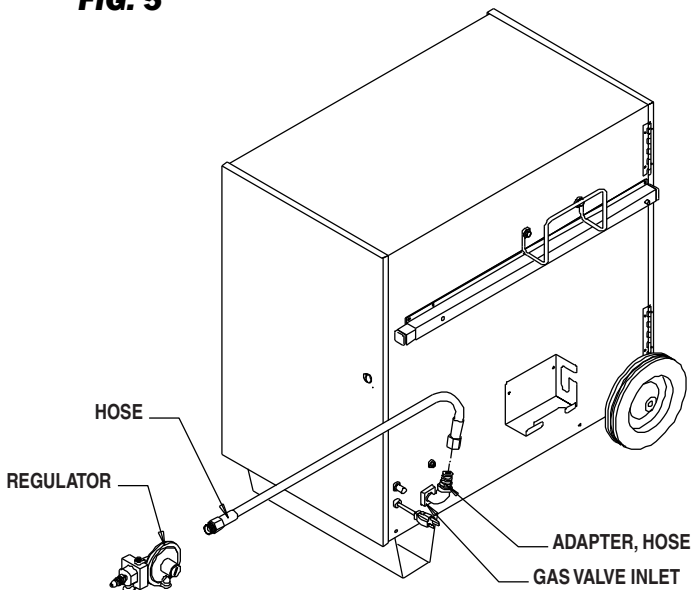
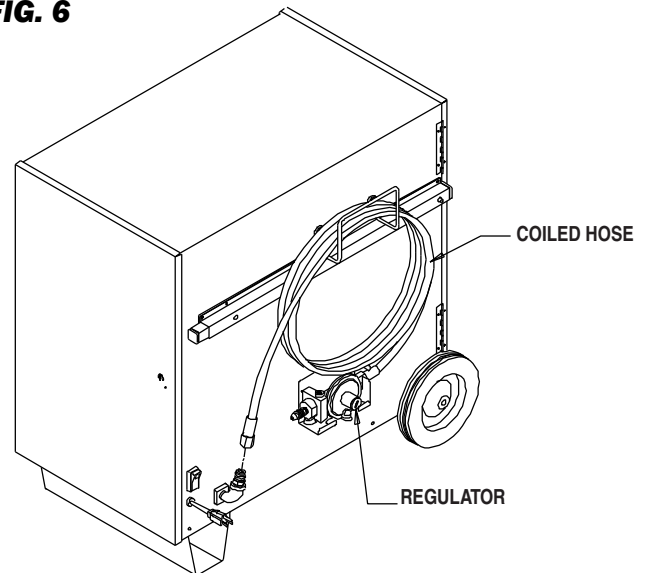


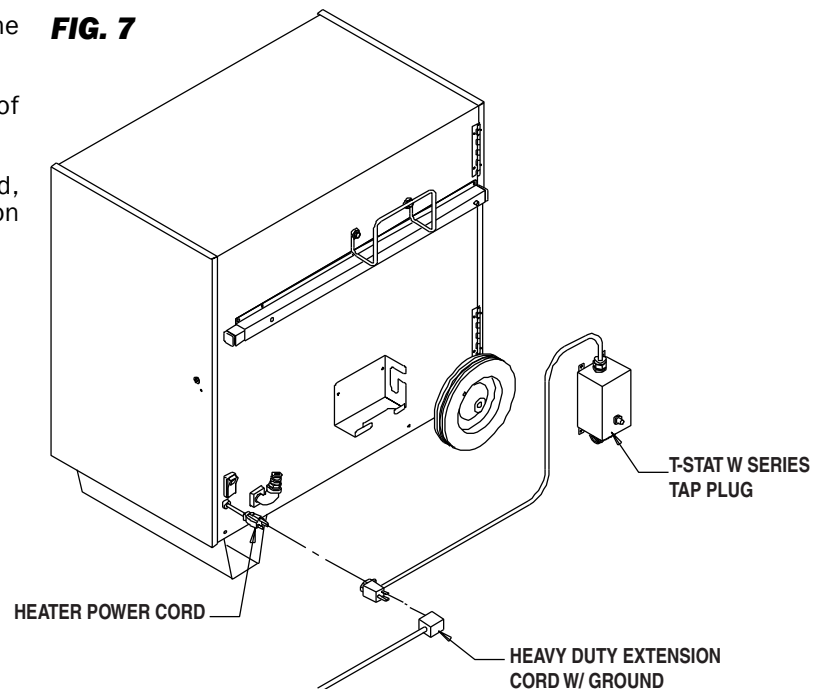
FIG. 6



THERMOSTAT ASSEMBLY

1. The remote thermostat has a series tap plug at the end of the cord.
2. Connect male plug on heater into female side of series tap plug on thermostat. See Fig. 7.
3. Plug male side of series tap plug into grounded, heavy-duty, electrical extension cord. Plug extension cord into approved electrical outlet.

FIG. 7

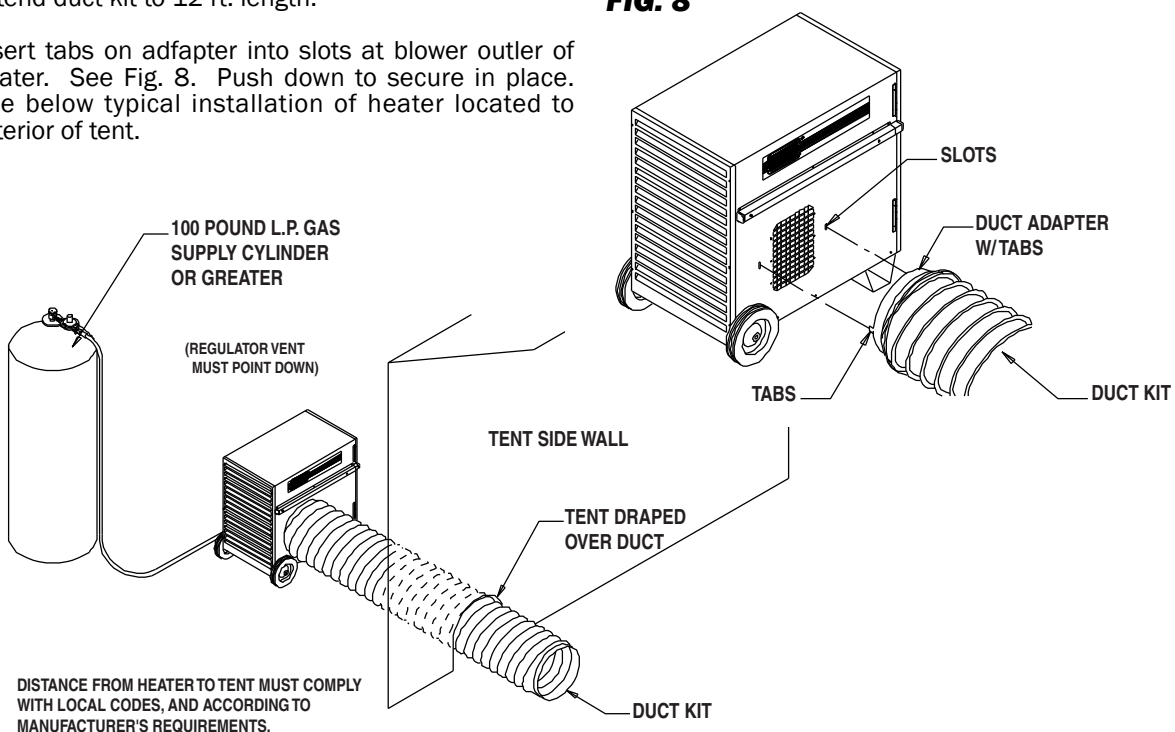


DUCT KIT ASSEMBLY

Optional Accessory 08978

1. Extend duct kit to 12 ft. length.
2. Insert tabs on adapter into slots at blower outlet of heater. See Fig. 8. Push down to secure in place. See below typical installation of heater located to exterior of tent.

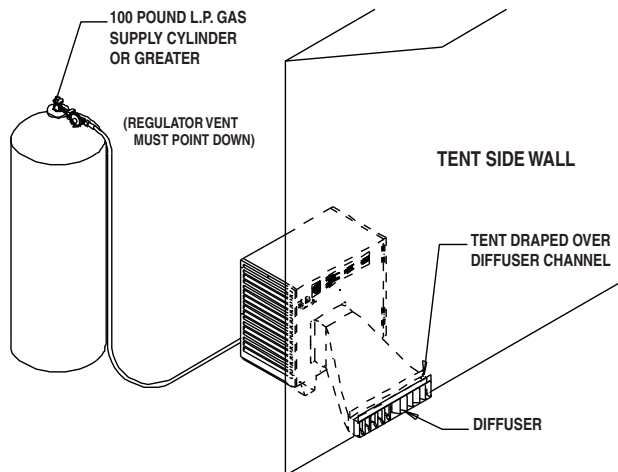
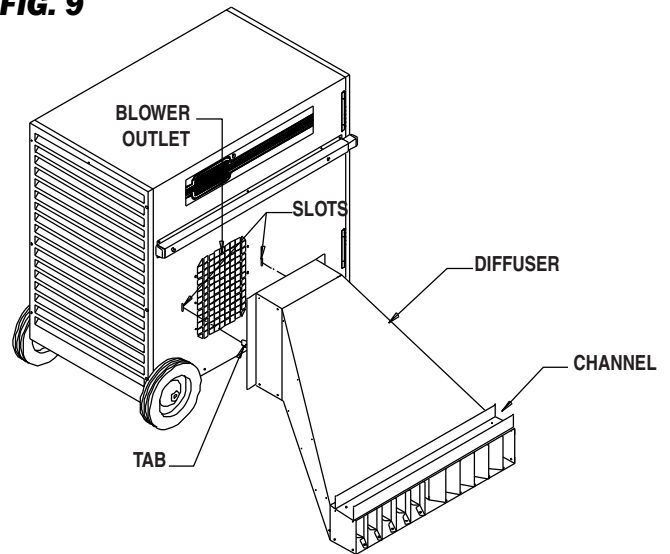
FIG. 8



UNIT DIFFUSER ASSEMBLY Optional Accessory 09389 (TS080) & 09396 (TS170)

1. Insert the tabs of the diffuser into the vertical slots at the blower outlet. Push down on diffuser to secure into place. See Fig. 9.
2. Tent side wall material may be layed within channel of the diffuser to give a finished look to the installation. See below for typical installation.

FIG. 9



END DIFFUSER ASSEMBLY Optional Accessory 21177

1. Insert collar into duct. Tabs of collar must be facing away from duct. See Fig. 10.
2. Wrap the duct clamp around duct and collar. Saddle of clamp lays over duct coil. Connect clamp ends together and tighten securely. See Fig. 10.
3. Insert tabs of collar into slots at air inlet of diffuser. Push down to lock in place.
4. Tent side wall material may be layed within channel of the diffuser to give a finished look to the installation. See Fig. 11 for typical installation.

FIG. 10

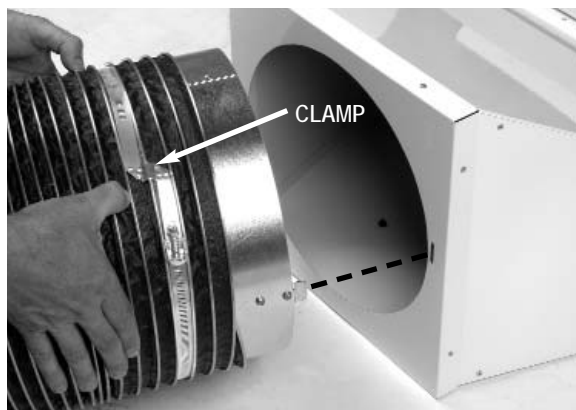
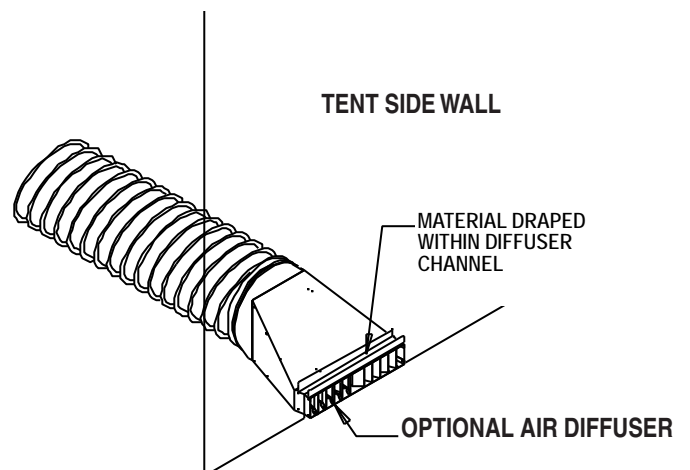


FIG. 11



CONNECTING REGULATOR TO PROPANE GAS CYLINDER

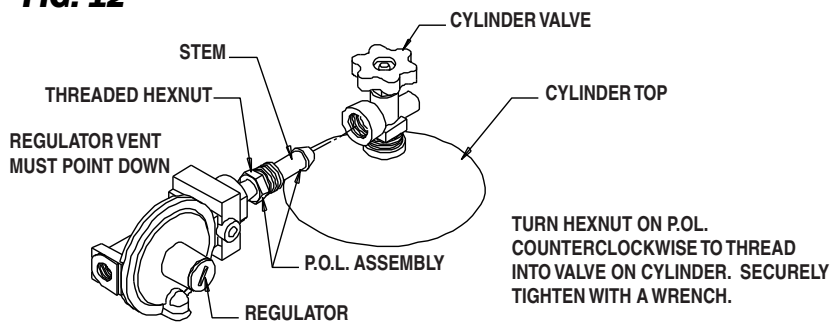
ATTENTION

■ Only use the regulator supplied with the heater.

■ The heater must be regulated at all times for proper operation.

1. Ensure the cylinder valve is turned completely closed.
2. At the inlet end of the regulator is a male nut and stem assembly called a POL. Pull the cap from the POL but do not discard it. Insert POL stem into the valve on the cylinder. Thread the nut counterclockwise into the tank valve. Tighten securely with a wrench. See Fig. 12.
3. Slowly open the cylinder valve by turning counterclockwise. This will prevent lock-up of the excess flow valve built within POL stem.
5. Check all connections with approved leak detector. Do NOT use flame to check for leaks. A fire or explosion may result.
6. When storing or transporting the heater, ensure the POL cap is pushed back onto the POL fitting. This will protect the fitting from nicks or other damage and prevent the entry of moisture.

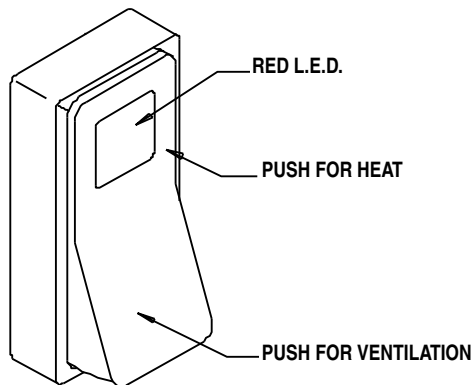
FIG. 12



Start-Up Instructions

1. Connect electrical cord to an approved electrical outlet.
2. Set thermostat to desired room temperature.
3. This heater has a rocker selector switch located on the back of the heater near the burner end access panel. This switch allows you to either heat or ventilate (no heat). See Fig. 13 for selector switch positions.

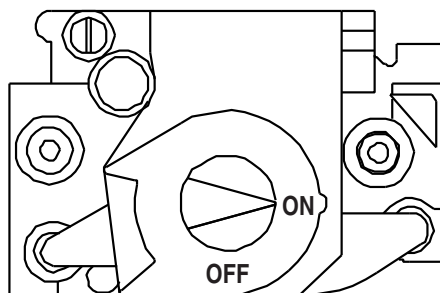
FIG. 13



A. Heating

- a. Open all manual fuel supply valves. Check for gas leaks using an approved leak detector. The gas control valve on the heater has a manual shut-off feature incorporated into the valve assembly. Ensure the indicator on the valve is positioned to ON. See Fig 14.
- b. When the selector switch is positioned to heat, a red light within the switch will be on. The fan motor will start, the igniter will spark and ignition will occur. The thermostat will cycle the heater on or off based upon temperature setting.

FIG. 14



B. Ventilation

When the selector switch is positioned to vent, the red light will NOT be on. The fan motor will start, but the igniter will not spark, nor will ignition occur. This feature is used typically when heat is not needed, but air circulation is required. The heater will not cycle on its thermostat setting. To discontinue the ventilation feature, position the switch to off or heat.

C. Off

Position the switch to midpoint.

ATTENTION

- It is normal for air to be trapped in gas hose on new installations. The heater may attempt more than one trial for ignition before air is finally purged from line and ignition takes place.
4. The direct spark ignition (DSI) control module is self-diagnostic. It works in conjunction with a light emitting diode (L.E.D.) built into the selector switch. The light will flash a specific flash pattern depending on a problem that occurs. Match the flash pattern given by light to the troubleshooting label applied to inside of burner cap access panel of the heater. The troubleshooting label identifies the causes of the problem as it relates to specific flash pattern and remedies to correct the problem. See also "Troubleshooting Data" within this Owner's Manual.
 5. Do not exceed input rating stamped on nameplate or manufacturer's recommended burner orifice pressure for size orifice(s) used. Make certain that the primary air supply to main burner is open and free of dust, dirt and debris for complete, proper combustion.

Shut-Down Instructions

1. Close the gas supply valve located on the propane gas supply container.
2. Allow the heater to burn off any fuel gas remaining in the gas supply line.
3. For heaters so equipped, set the thermostat to "Off" or "No Heat".
4. Position selector switch to "Off."
5. Disconnect the heater from its gas and electrical supplies.

Cleaning Instructions



WARNING Fire, Burn, and Explosion Hazard

- This heater contains electrical and mechanical components in the gas management, and safety systems.
- Such components may become inoperative or fail due to dust, dirt, wear and aging.
- 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. Before each use give the heater a general cleaning using compressed air or a soft brush or dry rag on its case and internal components. At this time, dust off the motor case to prevent the motor from over-heating.
 - 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 blade assembly. Additionally, make sure the burner air inlet venturi ports and the casting are free of dust accumulation.



WARNING

Do not use a pressure washer, water, or liquid cleaning solution on any gas controls. Use of a pressure washer, water, or liquid cleaning solution on the control components can cause severe personal injury or property damage due to water and/or liquids:

- In electrical components, and wires causing electrical shock or equipment failure.
- On gas control valves causing corrosion which can result in gas leaks and fire or explosion from the leak.

Clean all components of the heater with pressurized air, a dry brush, or a dry cloth.

Maintenance Instructions

1. The area surrounding the heater shall be kept clear and free from combustible materials, gasoline, and other flammable vapors and liquids.
2. Have your gas supplier check all gas piping annually for leaks or restrictions in gas lines.
3. 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 heater.
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 heater to make sure that the regulator is reliable.
5. Check all wiring, associated terminals, and electrical components within the heater for corrosion, frayed or cut insulation, tight connections, etc. Repair or replace as necessary.
6. Review all heater markings (i.e. wiring diagram, warnings, start-up, shut-down, troubleshooting, etc.) at the time of maintenance for legibility. Make sure none are cut, torn, or otherwise damaged. Any damaged markings must be replaced immediately by contacting the L.B. White Co., Inc. Dataplates, start-up and shut-down instructions and warnings are available at no cost. A nominal charge will be applied for wiring diagrams.

Service Instructions

GENERAL

WARNING Burn Hazard

- Heater surfaces are hot for a period of time after the heater has been shut down.
- Allow the heater to cool before performing service, maintenance, or cleaning.
- Failure to follow this warning will result in burns causing injury.

WARNING Fire and Explosion Hazard

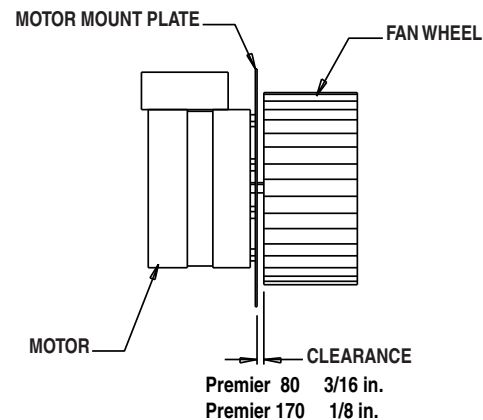
- Do not disassemble or attempt to repair any heater components or gas train components.
- All component parts must be replaced if defects are found.
- Failure to follow this warning will result in fire or explosions, causing property damage, injury, or death.

1. Close the fuel supply valve to the heater and disconnect the electrical supply before servicing unless necessary for your service procedure.
2. For reassembly, reverse the respective service procedure. Ensure gas connections are tightened securely.
3. After servicing, start the heater to ensure proper operation and check for gas leaks.
4. Clean the heater's orifice with compressed air or a soft, dry rag. Do not use files, drills, broaches, etc. to clean the orifice hole. Doing so may enlarge the hole, causing combustion or ignition problems. Replace the orifice if it cannot be cleaned properly.

MOTOR AND FAN WHEEL

1. Open louvered access panel opposite burner end of heater. Disconnect motor leads.
2. Remove screws securing motor mounting plate to housing.
3. Pull fan and motor assembly from housing.
4. Loosen set screws on fan wheel.
5. Pull fan wheel from motor shaft.
6. Remove the four nuts securing motor to mounting plate.

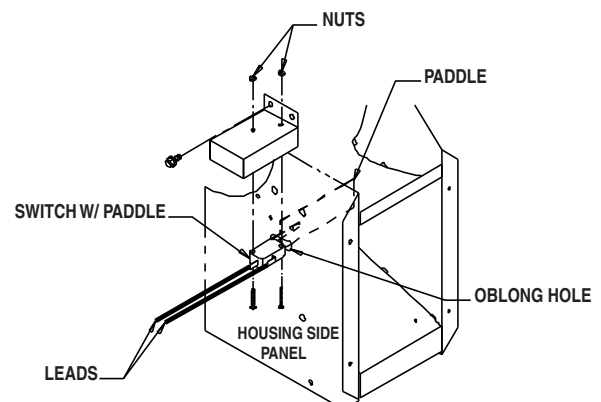
FIG. 15



AIR PROVING SWITCH

1. Open louvered case access panel.
2. Remove two sheet metal screws holding air proving switch blower housing. Remove assembly by turning switch assembly 90 degrees so the switch paddle can be pulled through oblong hole on side of fan housing. See Fig. 16.
3. Disconnect the leads from the air proving switch.
4. When installing replacement switch, use care in not bending the switch arm, otherwise ignition problems may occur.

FIG. 16



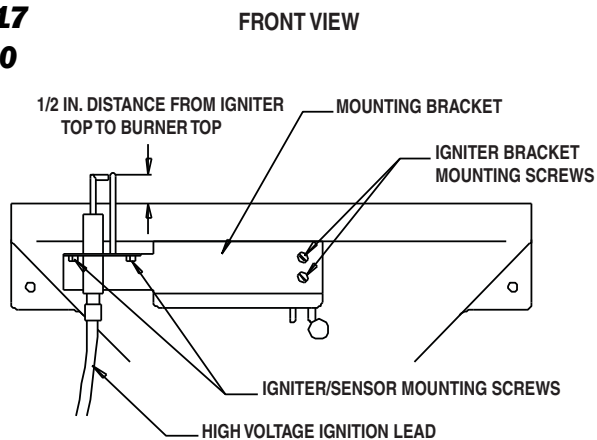
IGNITER AND FLAME SENSOR ASSEMBLY

1. The igniter and sensor assembly is located at the top of the burner casting. See Fig. 17 or 18 depending on heater model.
2. Remove the two screws securing the mounting bracket to the burner. Remove igniter assembly.
3. Disconnect high voltage cable from igniter assembly.
4. Remove the two screws that secure the igniter sensor to the mounting bracket.
5. To assemble, reverse above procedure.

ATTENTION

- The igniter and ground rod should be cleaned to maintain proper ignition.
 - Use steel wool or emery cloth.
 - Rub briskly to remove buildup of dust, dirt, and oxide.
- Check the igniter's ceramic base for cracks.
 - Replace the igniter if cracks are found.

FIG. 17
TS170



TOP VIEW

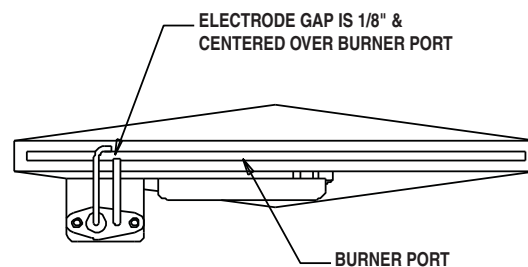
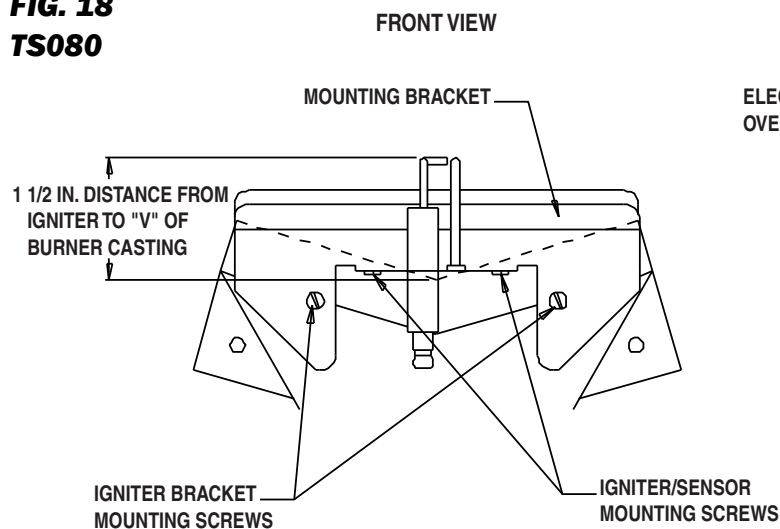
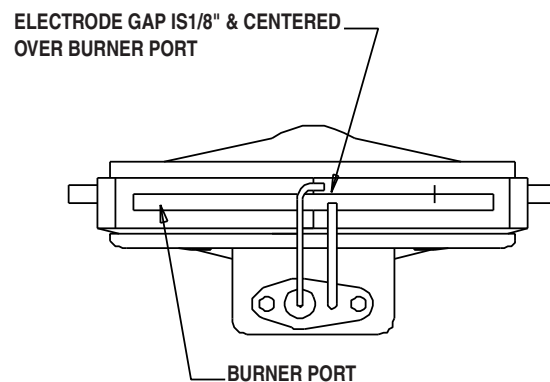


FIG. 18
TS080



TOP VIEW



TESTING THE MANUAL RESET HIGH LIMIT SWITCHES



WARNING Fire Hazard

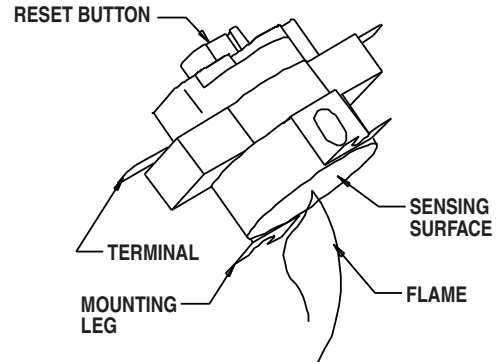
- Do not operate the heater with the high limit switch bypassed.
- Operating the heater bypassed high limit switch may lead to overheating, possibly resulting in a fire, with subsequent damage to the heater or property damage.

This heater has two limit switches, One on the heat chamber, the other on the fan housing. Both switches should be tested annually, typically when the heater is given a thorough cleaning.

1. Remove either high limit switch.
2. 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.
3. Within a minute, you should hear a “pop” coming from the switch, indicating the contacts of the switch have opened.

4. Allow the switch cool down for about a minute before firmly pressing the reset button on the switch.
5. Check for electrical continuity across the switch terminals to make sure the contacts have closed.

FIG. 19



BURNER ORIFICE AND GAS CONTROL VALVE

1. Open the burner end access door and remove gas hose from heater.
2. Remove the elbow and two screws at inlet of gas control valve. See Fig. 20.

FIG. 20

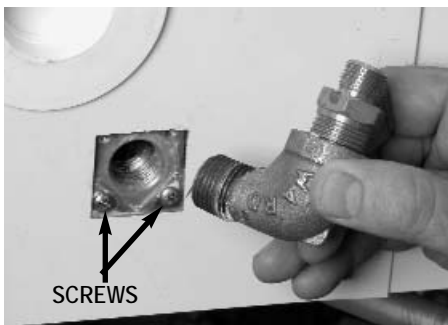
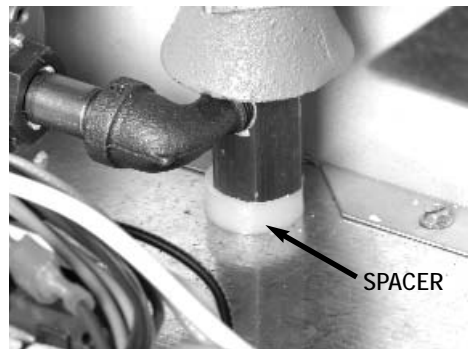
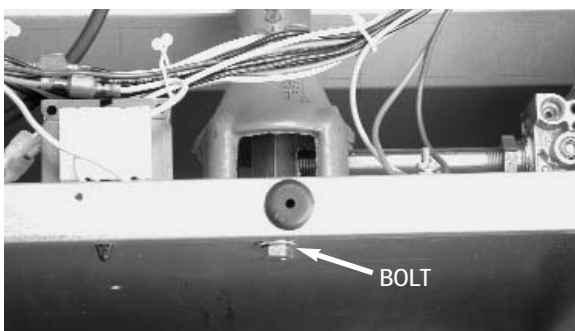


FIG. 22



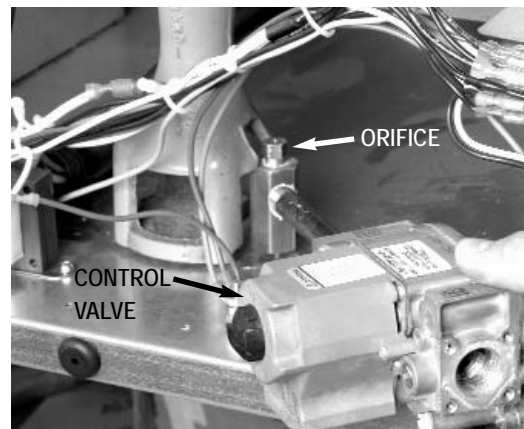
4. Disconnect gas control valve's electrical leads.
5. Remove burner retaining bolt, and washer at underside of heater's base. See Fig. 21. For model TS080, also remove spacer between heater base and burner. See Fig. 22.

FIG. 21



6. Pivot the gas control assembly to expose burner orifice. See Fig. 23. Replace components as needed.

FIG. 23



Gas Pressure Checks

WARNING

- Do not disassemble the gas control valve.
- Do not attempt to replace any components of 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 property damage.

ATTENTION

- The following explains a typical procedure to be followed in checking gas pressures.
- The gas pressures will vary depending upon fuel type.
- Consult the dataplate on the heater or page 4 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.

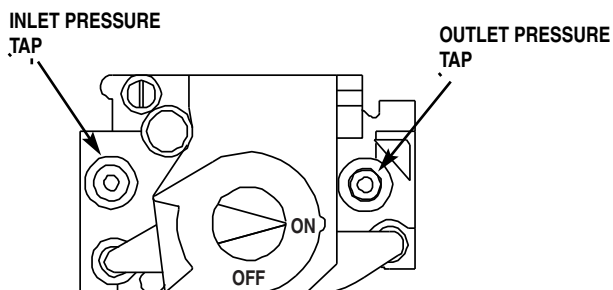
A. Preparation

1. Obtain two pressure gauges capable of reading up to 35 in. W.C.
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. 24. Remove the pressure tap plug using a 3/16 in. allen key.

FIG. 24

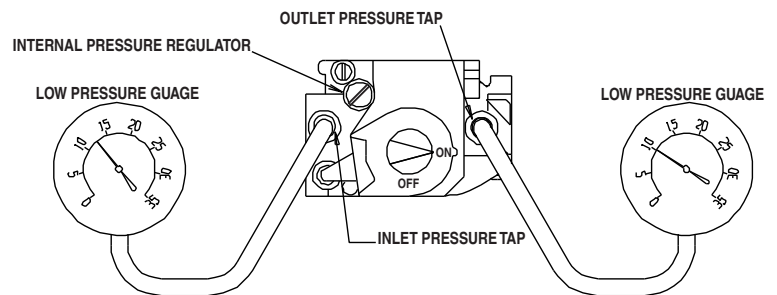


2. Securely connect a pressure gauge to each pressure tap.
3. Open the fuel supply valves to the heater and reconnect the heater electrical supply.
4. Start the heater

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 regulator controlling gas pressure to the heater 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. 25 for regulator location.

FIG. 25



EXAMPLE SHOWS PRESSURE FOR PROPANE GAS ALWAYS
REFER TO PRESSURE ON DATAPLATE

D. Completion

1. Once the proper 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. Install pressure tap plugs and tighten securely. Check for gas leaks.

Troubleshooting Information

READ THIS ENTIRE SECTION BEFORE BEGINNING TO TROUBLESHOOT PROBLEMS.



WARNING

- This heater can start at any time.
- 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 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.
- **Low Pressure Gauge** - for checking inlet and outlet pressures at the gas control valve against dataplate rating.
- 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 important as it relates to problem solving.

The ignition control module is self-diagnostic. The red light (LED) located within the selector switch 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 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.

The red 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.

Heating Mode Problems Page

Red light is steady on. No flash pattern. 21

Red light light is not on. 21

Red light is flashing:

- A. One Time. 22
- B. Two Times. 23
- C. Three Times 24
- D. Four Times 25
- E. Five Times. 25

Ventilation Mode Problems Page

- A. Motor Does Not Run 25
- B. Motor "Hums," Does Not Run 25

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:

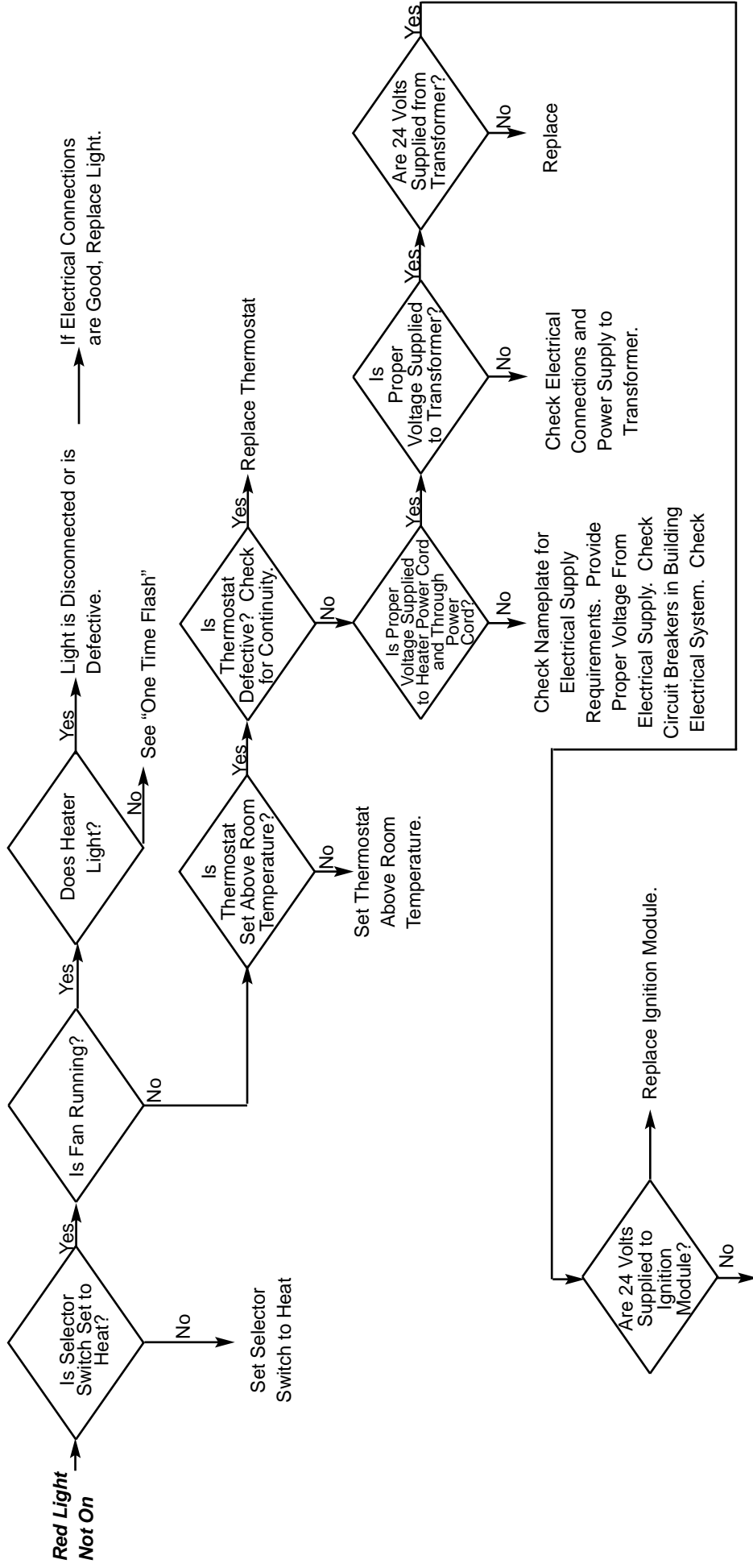
- The thermostat calls for heat.
- Line voltage is sent to selector switch.
- Red light. on selector switch is illuminated.
- Selector switch sends line voltage to the transformer to . . ignition control.
- Transformer reduces line voltage to 24 volts which is sent to ignition control.
- Ignition control 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 are 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 cut 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 10 seconds.
- If ignition module does not sense a flame within the ignition trial,
 - the module goes into safety lockout (3 flash pattern.)
 - Gas valve closes.
 - Ignition spark shuts off.
 - Fan motor stops.
- To retry for ignition, the systems must be reset:
 - Turn the thermostat down and then up to call for heat
 - or unplug heater and plug it back in or
 - Position selector switch to off and then back to on.

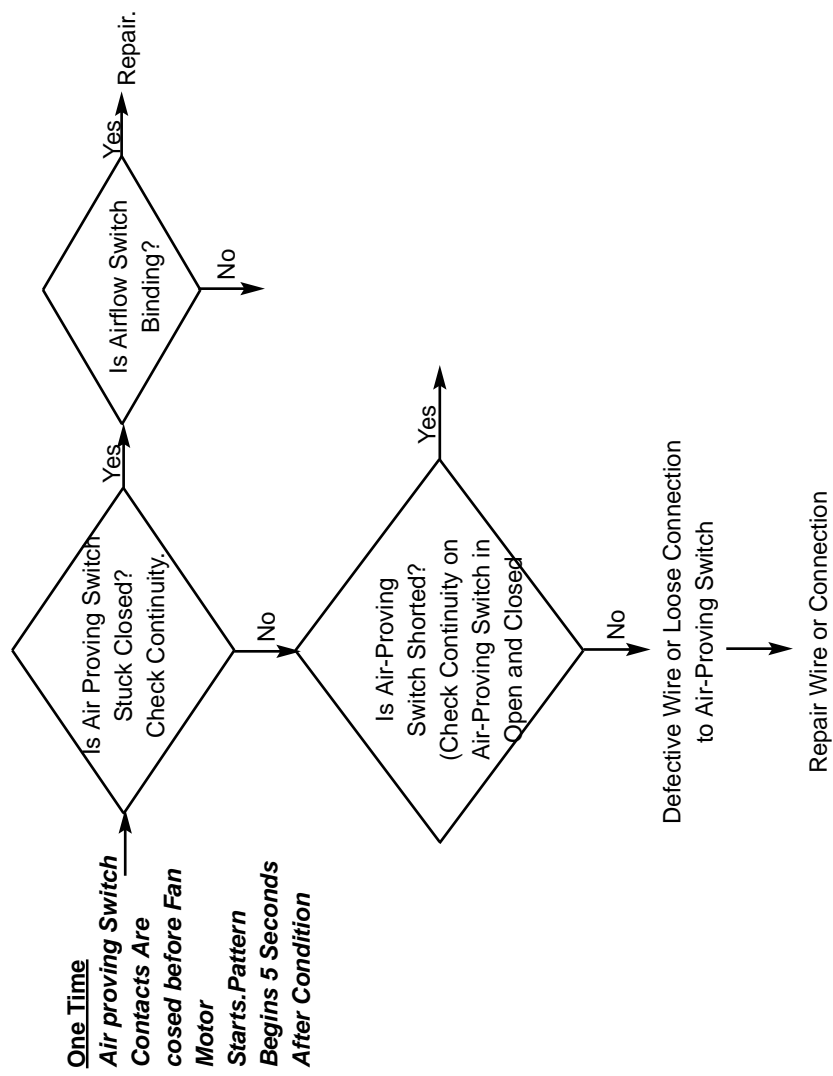
HEATING MODE

LED Constant On → Normal Operation



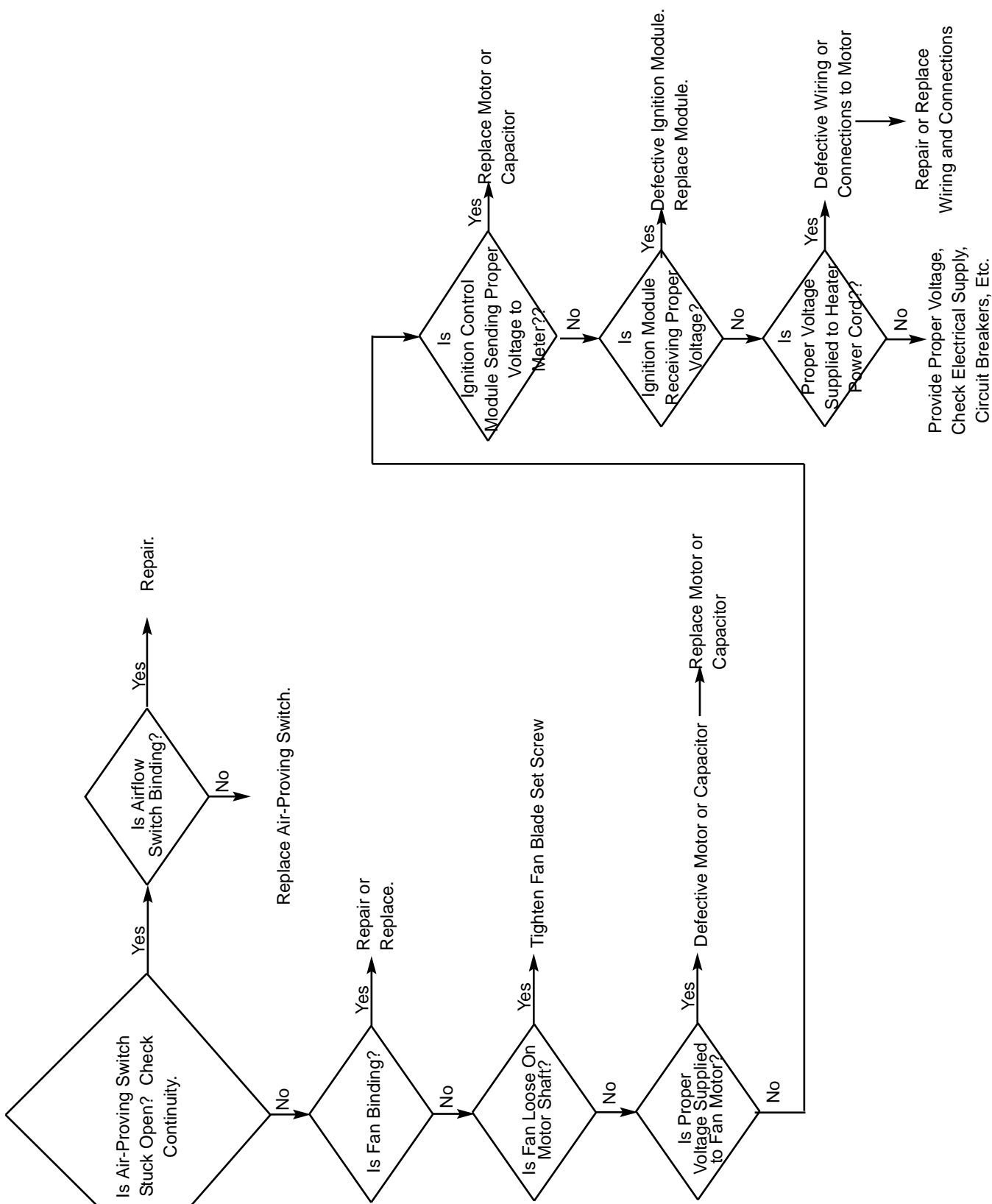
Poor Electrical Connection or Broken Wire Present. Repair or Replace.

LED Flashing



Two Times

Pattern
Indicates Lack
of Air Proving in
Fan Section of
Unit.
Flash Pattern
Begins Within
15 Seconds
After Condition
Occurs.



Three Times

Indicates Burner

Failure. The Control

Module Has Gone

into Safety

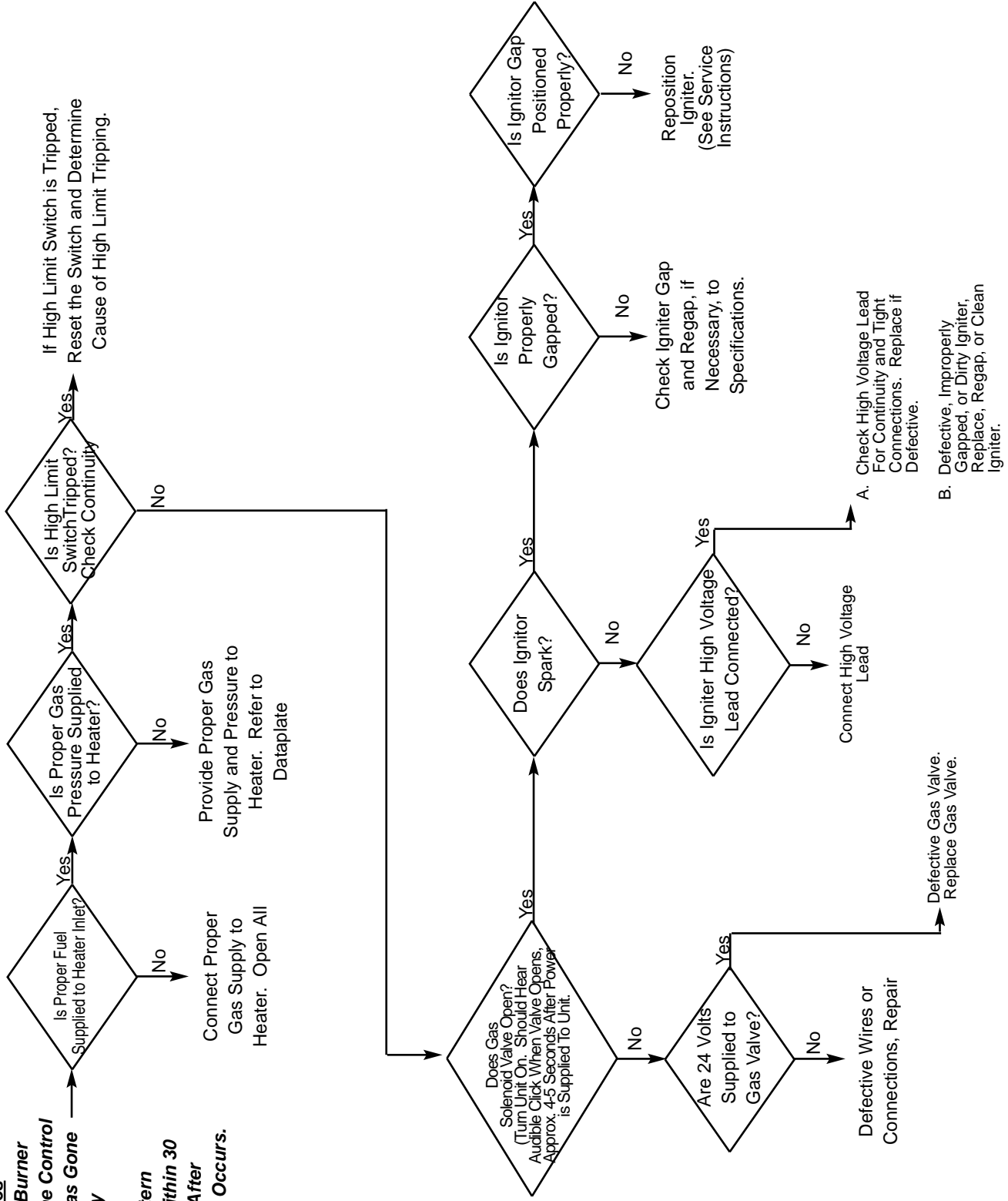
Lockout.

Flash Pattern

Begins Within 30

Seconds After

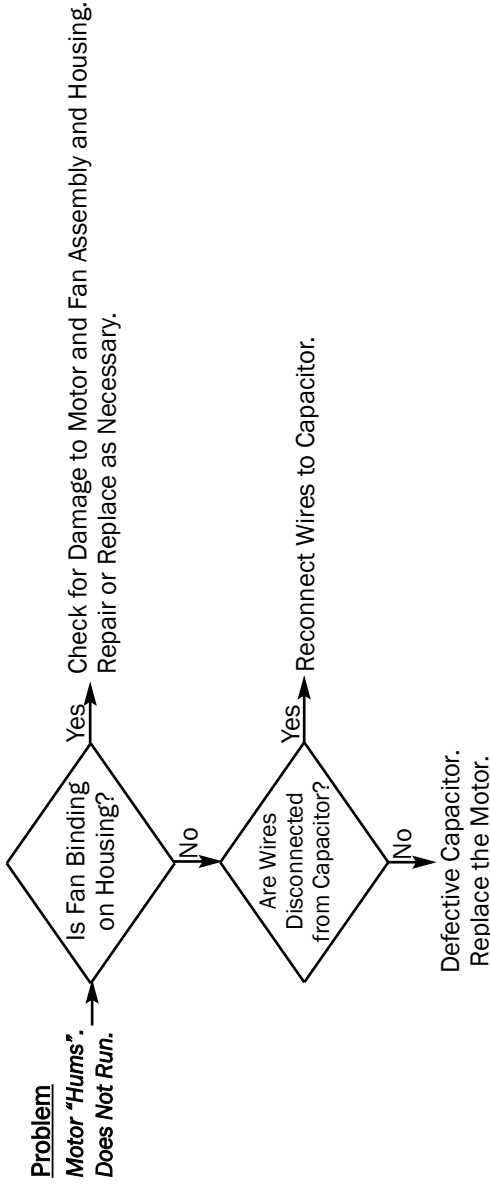
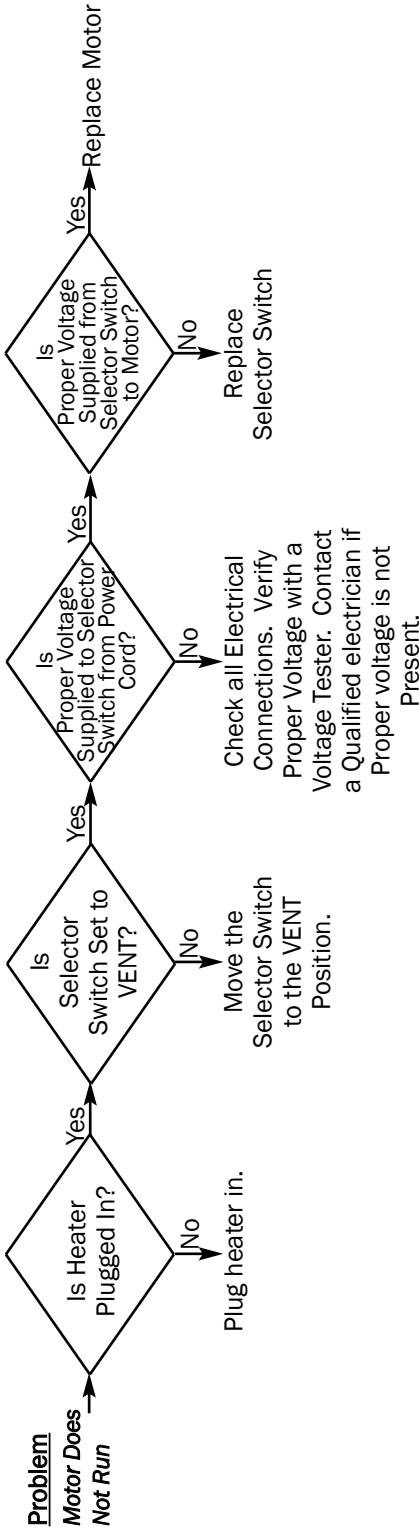
Condition Occurs.



Four Times → Flame sense related problems. Check for cracked or dirty flame sensor, improperly positioned sensor, or poor flame sense ground.

Five Times → If control module does not reset, then replace the it (Internal board fault.) If module resets, then have qualified electrician check power source for power quality problems. (Frequency, line noise, line spikes, loose connections, too small wire gauge.)

VENTILATION MODE

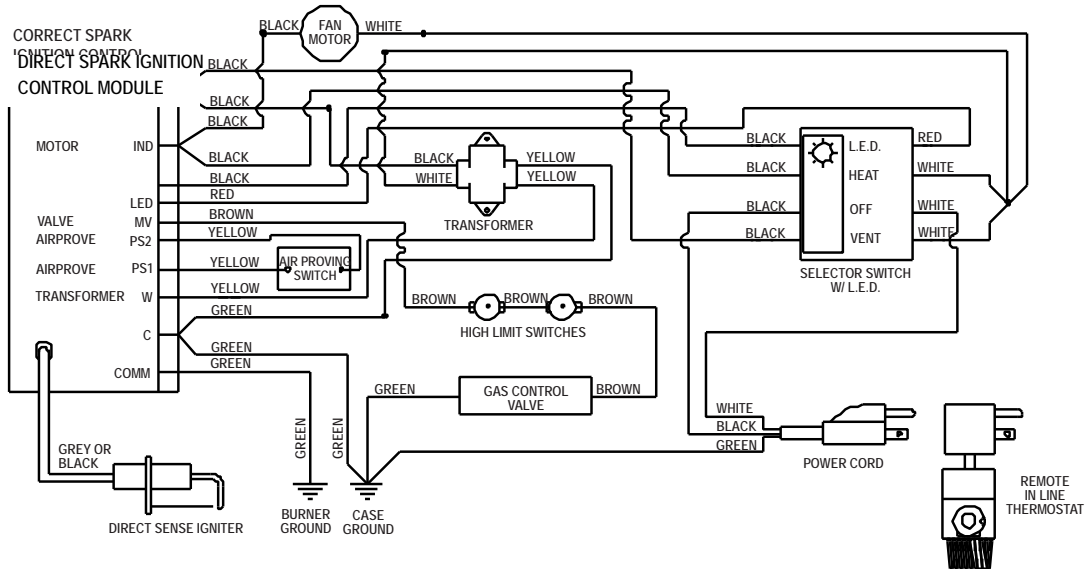


Electrical Connection and Ladder Diagram

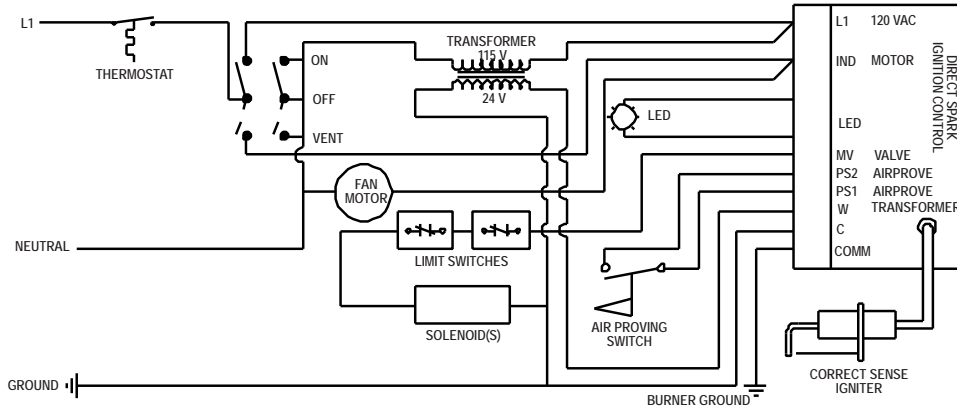
Model TS080

CAUTION - REFER TO THE HEATER'S ELECTRICAL CONNECTION DIAGRAM WHEN SERVICING
TO AVOID WIRING ERRORS & HEATER MALFUNCTION. CHECK FOR PROPER OPERATION AFTER SERVICING.

WARNING: THIS HEATER MAY START AT ANY TIME



ELECTRICAL CONNECTION DIAGRAM



ELECTRICAL LADDER DIAGRAM

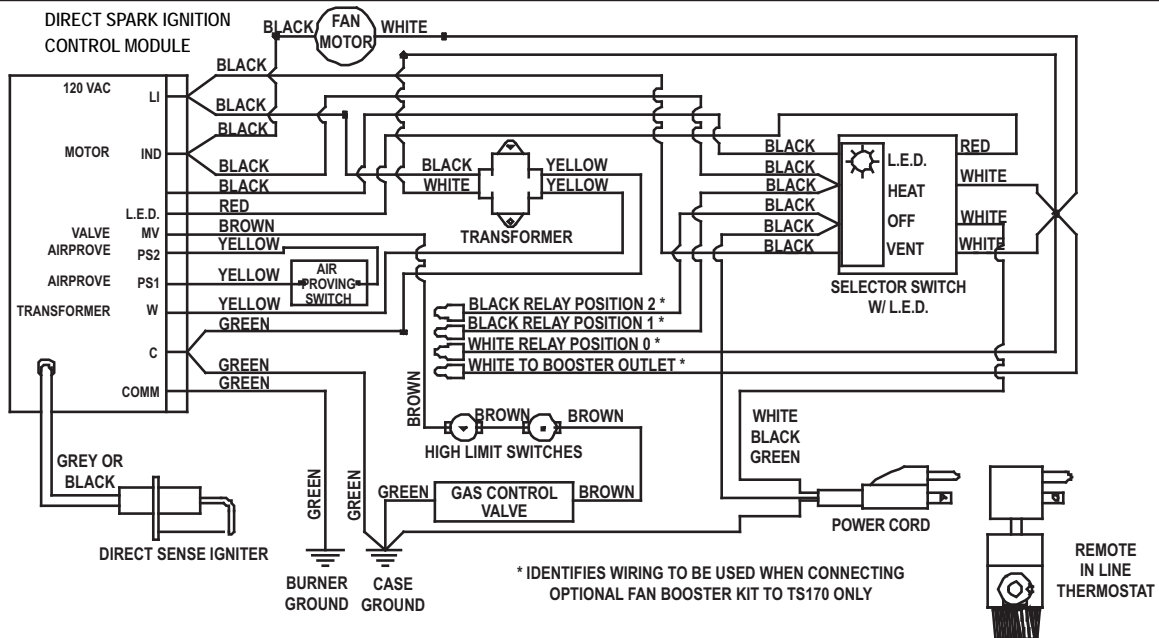
IF ANY OF THE ORIGINAL WIRES AS SUPPLIED WITH THE HEATER MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 302°F (150°C)

Electrical Connection and Ladder Diagram

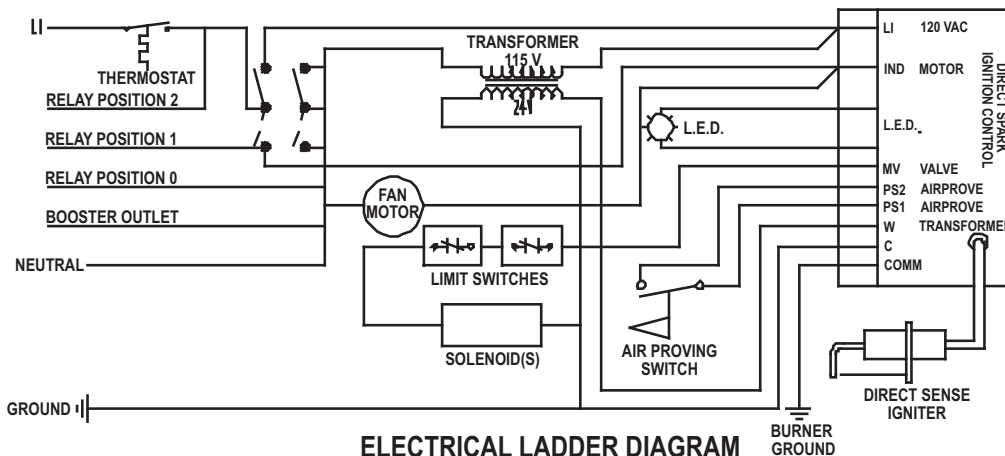
Model TS170

CAUTION - REFER TO THE HEATER'S ELECTRICAL CONNECTION DIAGRAM WHEN SERVICING TO AVOID WIRING ERRORS & HEATER MALFUNCTION.
CHECK FOR PROPER OPERATION AFTER SERVICING.

WARNING: THIS HEATER MAY START AT ANY TIME



ELECTRICAL WIRING DIAGRAM



ELECTRICAL LADDER DIAGRAM

IF ANY OF THE ORIGINAL WIRES AS SUPPLIED WITH THE HEATER MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL 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.

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.

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).

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 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.

Igniter

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

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.

Regulator

Mechanical device used in 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

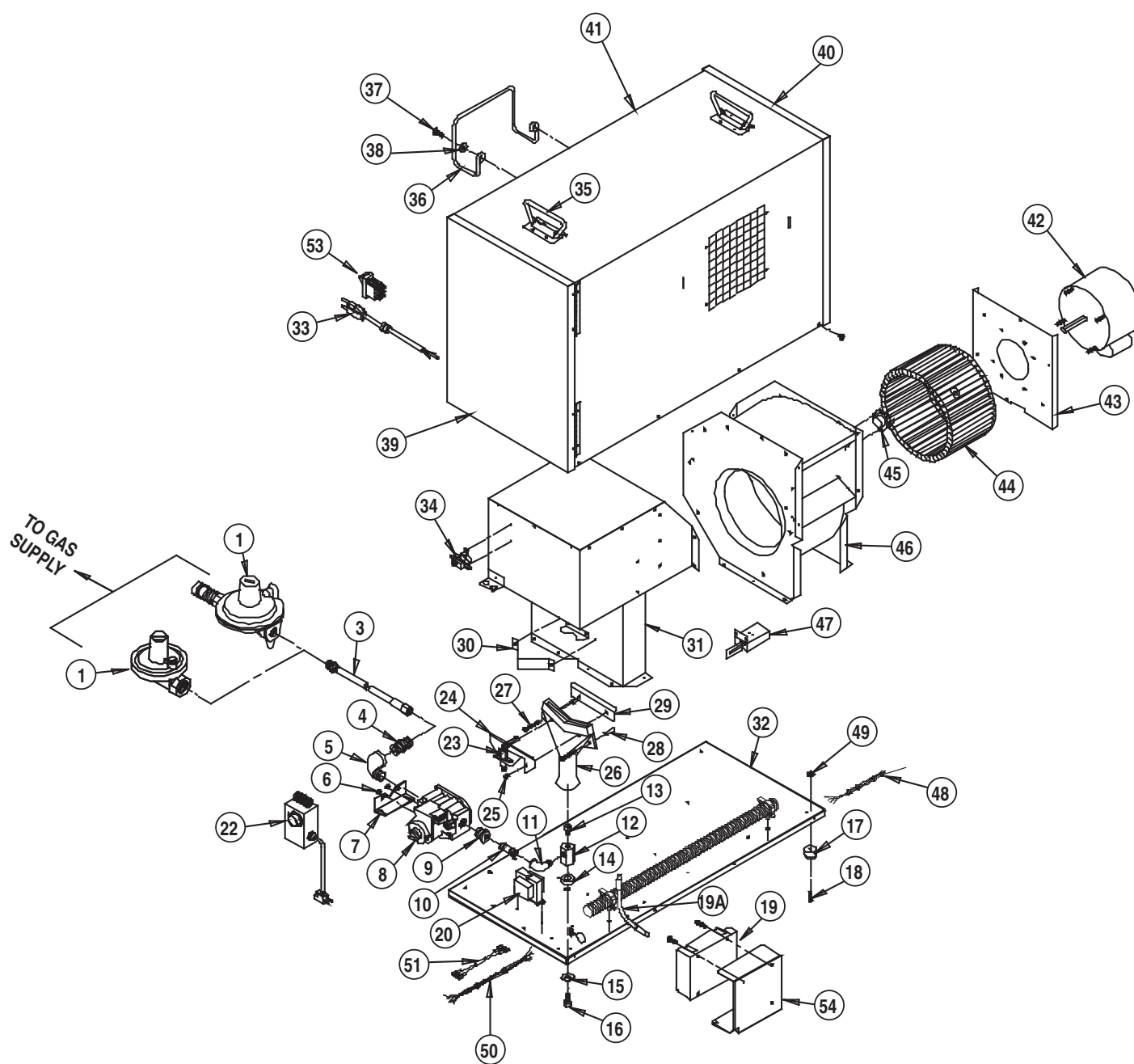
Electrical device used as an automatic “on/off” switch which will respond to changes in temperature in a certain area. Can be wired so contacts in the thermostat open or close on temperature increase or decrease.

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

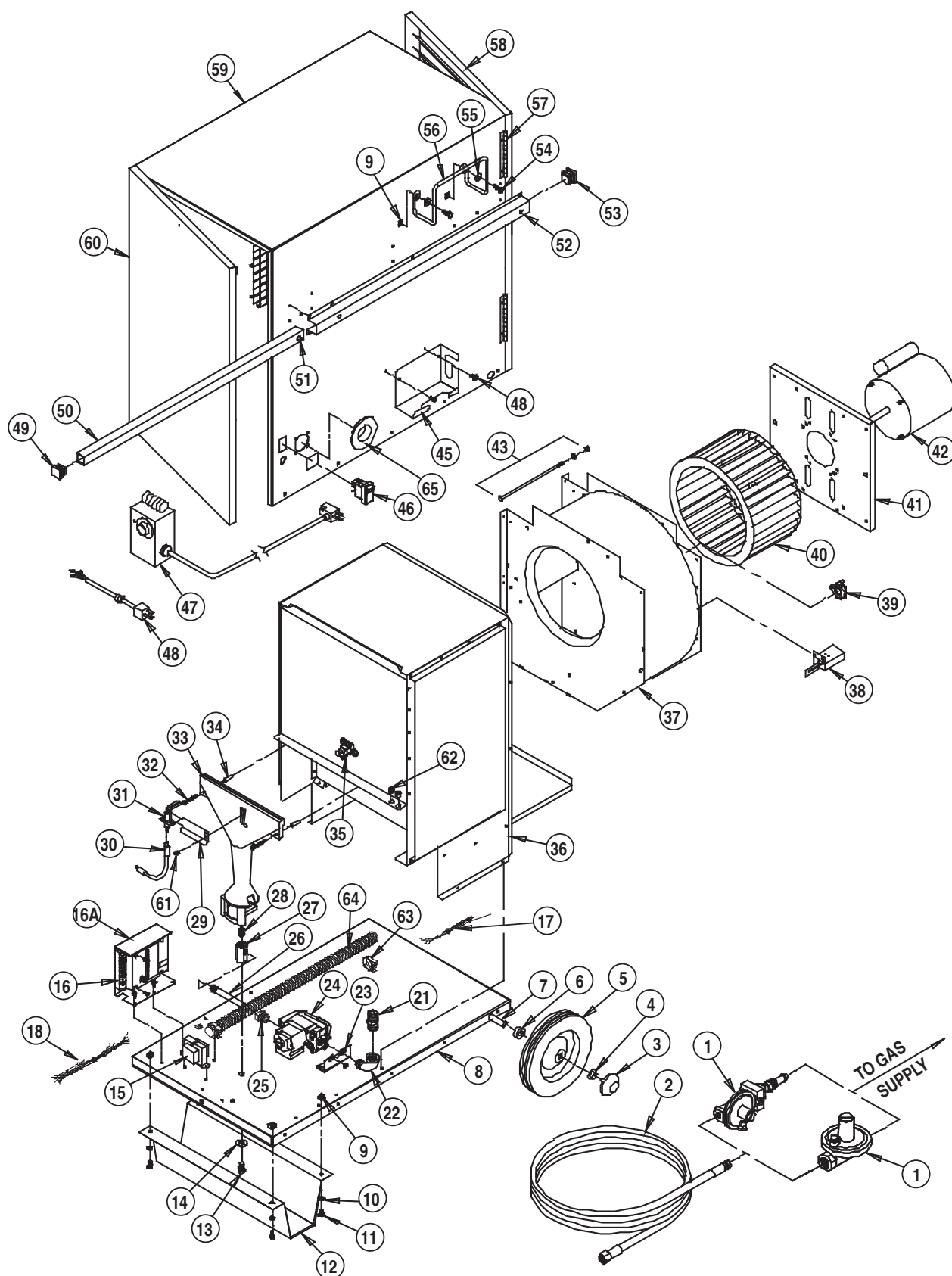
PREMIER 80 PARTS SCHEMATIC



PREMIER 80 PARTS LIST

Item	Description	Part Number
1	Regulator	08990
	Propane Gas	
	Natural Gas	21999
3	Universal Hose Kit, 10 ft. w/ Adapters	23160
4	Adapter 1/2 NPT x 5/8 - 18	06655
5	Ell	09309
6	Screw	09425
7	Bracket	09760
8	Valve, Gas Control	22076
	Propane Gas	
	Natural Gas	22078
9	Bushing	01519
10	Nipple	02453
11	Ell	01425
12	Holder, Orifice	09759
13	Orifice, Burrner	09753
	Propane Gas	
	Natural Gas	09754
14	Spacer, Burner	07905
15	Washer	01589
16	Bolt	02692
17	Bumper	08932
18	Screw	08944
19	Control Ignition	22301
19A	Wire, Ignition Contol	09348
20	Transformer	24503
22	Thermostat Kit	09454
23	Igniter	06479
24	Bracket	08906
25	Screw	01213
26	Burner	08921
27	Screw	02688
28	Spacer	02687
29	Bracket, Flame Arrestor	08942
30	Bracket, Burner	08933
31	Chamber, Heat	08952
32	Base	08909
33	Cord, Power	09139
34	Switch, High Limit, Burner End (275 F)	03933
35	Handle	08534
36	Hanger, Hose	08936
37	Bolt	11254
38	Washer	03054
39	Case Access Panel, Burner End	08917
40	Case Access Panel, Motor End	08916
41	Case Assembly w/ Access Panels	09970
42	Motor	20292
43	Mount, Motor	08146
44	Fan	03531
45	Switch, High Limit (250 °F)	09821
46	Housing Assembly, w/ Motor, Fan,	22067
47	Air Proving Switch w/ Bracket	21186
48	Harness, Motor End	24546
49	Nut	03109
50	Harness, Wire, Burner End	24547
51	Harness, Wire, 2 Wire, White	24548
53	Switch, Selector	22017
54	Bracket	24504

PREMIER 170 PART SCHEMATIC



PREMIER 170 PARTS LIST

Item	Description		Part Number
1	Regulator	Propane Gas	09911
		Natural Gas	09795
2	Universal Hose Kit, 10 ft. with Adapters		23160
3	Cap, Hub		07187
4	Cap, Retaining		01095
5	Wheel		09160
6	Spacer		07905
7	Axle		06421
8	Base		23082
9	Cage Nut		07708
10	Washer		02513
11	Bolt		11267
12	Kit, Leg Bracket		20960
13	Bolt		02692
14	Washer		01589
15	Transformer		24503
16	Control, Ignition		22301
16A	Bracket, Ignition Control		24504
17	Wire Harness, Motor End		24500
18	Wire Harness, Burner and Gas Control End		24499
19	Ground Wire, Gas Valve to Heater Base, Green, 6 in.		24501
20	Bracket, Ignition Control		24504
21	Adapter, 1/2 NPT x 5/8 - 18	Propane Gas	06655
	1/2 NPT x 1/2 NPS	Natural Gas	02894
22	EII		09309
23	Bracket, Gas Control		09760
24	Valve, Gas Control	Propane Gas	22076
		Natural Gas	22078
25	Bushing		01519
26	Nipple		80620
27	Holder, Orifice		09759
28	Orifice, Burner	Propane Gas	21573
		Natural Gas	09787
29	Bracket, Igniter		09783
30	Wire, Igniter		09348
31	Igniter		06479
32	Screw		02688
33	Burner		03454
34	Spacer		02687
35	Switch, High Limit, Burner End (275 F)		03933
36	Chamber, Heat		23089
37	Housing Assembly w/ Motor, Fan, High Limit and Air Proving Switches		24540
38	Switch, Air Proving		09925
39	Switch, High Limit, Motor End (190 F)		09784
40	Fan		09050
41	Mount, Motor		08647
42	Motor		20169
43	Bolt, 7 1/2 in.		09239
44	Screw		07288
45	Bracket, Regulator Storage		09919
46	Switch, Heat/Vent, Rocker w/ L.E.D.		22017
47	Thermostat Kit w/ 20 ft. Cord		21790

(Continued on Page 32)

PREMIER 170 PARTS LIST (Continued)

48	Cord, Power	24502
49	End Cap, Sliding Handle	22934
50	Handle, Sliding	22931
51	Button, Snap	22932
52	Bracket, Handle - Left (Air Discharge Side)	22929
	Right (Hose Hanger Side)	22930
53	End Cap, Handle Bracket	22933
54	Bolt	11254
55	Washer	03054
56	Hanger, Hose	08936
57	Hinge	05868
58	Door, Louvered	09137
59	Case Assembly	24530
60	Door	20757
61	Screw	01213
62	Strain Relief	20037
63	Clip, Conduit	08254
64	Conduit	22747
65	Plug	25747

Warranty Policy

EQUIPMENT

L.B. White Co., Inc. warrants that the component parts of its heater are free from defects in material and workmanship, when properly installed, operated, and maintained in accordance with the Owner's Manual 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 heater, with a new part or heater, F.O.B., Onalaska, Wisconsin.

A warranty card on file at L.B. White will automatically qualify the heater 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 heater 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 heater, and in any event L.B. White's liability in connection with the heater, including for claims based on negligence or strict liability, is limited to the purchase price.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states 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 state to state.

Replacement Parts and Service

Contact your local L.B. White dealer for replacement parts and service or call the L.B. White Co., Inc. at (800) 345-7200 for assistance. Be sure that you have your heater model number and configuration number when calling.