User's Manual & Operating Instructions

Model Numbers
PT-40-GFA-EU / PT-60V-GFA-EU / PT-100V-GFA-EU / PT-150V-GFA-EU

CONSUMER: READ AND SAVE THESE INSTRUCTIONS

⚠DANGER **GENERAL HAZARD WARNING:**

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN. ASPHYXIATION, CARBON MONOXIDE POISONING AND / OR ELECTRIC SHOCK.

ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.

IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABEL, ETC. CONTACT THE MANUFACTURER.

⚠WARNING FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THESE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNERS, DUST PARTICLES OR UNKNOWN CHEMICALS.

RoHS

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Bd. Général Wahis, 53, 1030 Brussels, Belgium

NEVER LEAVE HEATER UNATTENDED WHILE BURNING, CONNECTED TO A POWER SOURCE, OR WHILE CONNECTED TO A FUEL SOURCE

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Safety Information

⚠WARNING **NOT FOR HOME OR RECREATIONAL VEHICLE USE.**

⚠DANGER **NOT TO BE USED FOR THE HEATING OF HABITABLE AREAS OF DOMESTIC PREMISES; FOR USE IN PUBLIC BUILDINGS, REFER TO NATIONAL REGULATIONS**

⚠DANGER **Carbon Monoxide Hazard** This heater produces carbon monoxide, which has no odor. Burning the heater in an enclosed space can kill you. Never use the heater in enclosed spaces such as a tent, a camper, any vehicle or recreational vehicle (RV), enclosed shelter, or any other enclosed areas.

⚠DANGER If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

⚠DANGER Not for use in residential living areas or in non-adequately ventilated enclosed spaces. Never bring or store a gas cylinder indoors.

⚠WARNING **DO NOT OPERATE THIS HEATER UNTIL YOU HAVE READ AND THOROUGHLY UNDERSTAND THESE SAFETY AND OPERATING INSTRUCTIONS.**
Failure to comply with the precautions and instructions provided with this heater can result in death, serious bodily injury, property loss or damage from the hazards of fire, explosions, burns, asphyxiation or carbon monoxide poisoning. Only persons who can read and understand these instructions should use or service this heater.

⚠WARNING This is an unvented portable heater. It uses air (oxygen) from the area in which it is used. Adequate combustion and ventilation air must be provided. Refer to VENTILATION on Page 8.

⚠WARNING Local regulations should be consulted to ensure compliance

⚠CAUTION In order to avoid a hazard due to inadvertent resetting of the thermal cutout, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

This heater is designed as a construction heater in accordance with CE Gas Appliance Directive 2009/142/EC, Annex 1 based on BS EN 1596:1998 +A1:2004. Other standards govern the use of fuel gases and heating products for specific uses. Your local authority can advise you about these.

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Safety Information

⚠WARNING RISK OF INDOOR AIR POLLUTION!

The products described in this manual are gas direct-fired, forced air heaters. Gas forced air heaters are primarily intended for use for temporary heating of buildings under construction, alteration or repair. Direct-fired means that all of the combustion products of the heater enter the heated space. This appliance is rated at 98% combustion efficiency, but does produce small amounts of carbon monoxide.

⚠DANGER CARBON MONOXIDE POISONING MAY LEAD TO DEATH!

Carbon monoxide is toxic. Humans can tolerate only small amounts of carbon monoxide and so precautions should be taken to provide proper ventilation. Failure to provide proper ventilation in accordance with the instructions in this manual can result in death.

People with breathing problems should consult a physician before using this heater.

Early signs of carbon monoxide poisoning resemble the flu. Symptoms of improper ventilation / carbon monoxide poisoning are:

Headache • Dizziness • Nausea • Dry Mouth
Sore Throat • Burning of Nose and Eyes

If you experience any of these symptoms: **GET FRESH AIR AT ONCE!** Have your heater serviced and check for proper ventilation. Some people are more affected by carbon monoxide than others. These include: pregnant women, those with heart or lung problems, anemia or those under the influence of alcohol or at high altitudes.

Minimum ventilation requirements: Room volume should not be less than 100 m^3 ; minimum ventilation of 25 cm^2 per kW of heat input subject to a minimum of 250 cm^2. Refer to "Ventilation" on page 8 for further instructions.

⚠DANGER PROPANE, BUTANE AND LPG ARE EXPLOSIVE GASES!

WHAT TO DO IF THE SMELL OF GAS IS PRESENT:

- **DO NOT attempt to light the heater.**
- **Extinguish any open flame.**
- **Shut off gas to heater.**
- **If odor continues, contact your local gas supplier or fire department.**
- **DO NOT touch or use any electric switch or any electric device that can cause a spark.**
- **Immediately call your gas supplier from a neighbors phone. Follow the gas suppliers instructions.**
- **If you can not reach your gas supplier, call the fire department.**
- **Service must be done by a qualified service agency.**

⚠WARNING RISK OF BURNS, FIRE AND EXPLOSION!

NEVER store or use gasoline or other flammable vapors and liquids in the vicinity of this heater.

NEVER store a gas cylinder not connected to this heater in the vicinity of this heater.

NEVER connect heater to an unregulated gas supply.

NEVER obstruct the flow of combustion and ventilation air. (The front and rear of heater).

NEVER use duct work in front or rear of heater.

NEVER modify this heater or operate a heater that has been modified.

NEVER service, move or handle heater while still hot or operating

⚠WARNING CAUTION! HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, ANIMALS, CLOTHING AND COMBUSTIBLES AWAY FROM HEATER.

Keep all combustible materials away from this heater.

Minimum Clearance From Combustibles			
Sides	Top	Front	Rear
61 cm	92 cm	183 cm	61 cm

Safety Information

⚠WARNING RISK OF ELECTRIC SHOCK!

ALWAYS use the electrical power (voltage and frequency) specified on the model plate of the heater.

ALWAYS unplug the heater when not in use.

ALWAYS install the heater so that it is not directly exposed to water spray, rain, dripping water, or wind.

– Use heater in accordance with all local codes.
– Gas supply connections should be checked by using a 50/50 soap and water solution. Never use a flame to check for gas leaks.
– Locate gas cylinder at least 6 feet from the heater, and do not direct heater discharge towards the gas cylinder unless it is at least 20 feet from the heater.

⚠WARNING The hose assembly shall be protected from traffic, building material, contact with hot surfaces, and torsional stresses both during use and while in storage.

– This heater is designed as a construction heater in accordance with CE Gas Appliance Directive 2009/142/EC, Annex 1 based on BS EN 1596:1998 +A1:2004. Other standards govern the use of fuel gases and heating products for specific uses. Your local authority can advise you about these.
– Use only the regulator and hose assembly provided with this heater. Inspect the regulator/hose assembly prior to each use of the heater. If there is excessive abrasion or wear, or if the hose is cut, replace it with the proper assembly shown in the parts list, prior to using the heater.

Minimum and Maximum Inlet Pressure				
	PT-40	PT-60V	PT-100V	PT-150V
Min.	5 PSI (34.5 kPa)			
Max.	Bottle Pressure			

⚠CAUTION This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

⚠WARNING RISK OF FIRE! DO NOT POSITION HEATER IN A DOWNWARD ANGLE. ALWAYS LOCATE HEATER ON A STABLE AND LEVEL SURFACE!

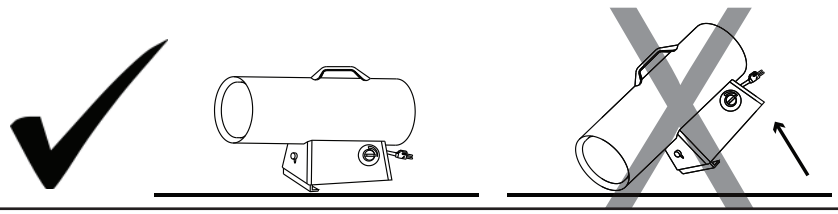


Figure 1

Unpacking

1. Remove all packing items applied to heater for shipment. Keep plastic cover caps attached to inlet connector and hose / regulator assembly for storage.
2. Remove all items from carton
3. Check all items for shipping damage. If the heater is damaged, promptly inform dealer where you purchased the heater.

⚠CAUTION **The gas pressure regulator and hose assembly supplied with the heater must be used without alteration.**

Specifications

Model #	PT-40-GFA-EU	PT-60V-GFA-EU	PT-100V-GFA-EU	PT-150V-GFA-EU
kW	12.3	17.6	19.8-28.4	32.5-43.9
Fuel Consumption (g/hr)	860	1,200	1,500-2,000	2,400-3,100
Maximum Operating Hours	15	16	31	19
Air Temperature Class (ºC)	44	44	44	44
Required Cylinder (kg)	13	13	47	47
Heating Area (m^2)	93	139	232	353
Air Flow (CMH)	510	510	680	680
Volts: AC/Hz	230v ~ 50Hz	230v ~ 50Hz	230v ~ 50Hz	230v ~ 50Hz

Specifications subject to change without notice.

Features

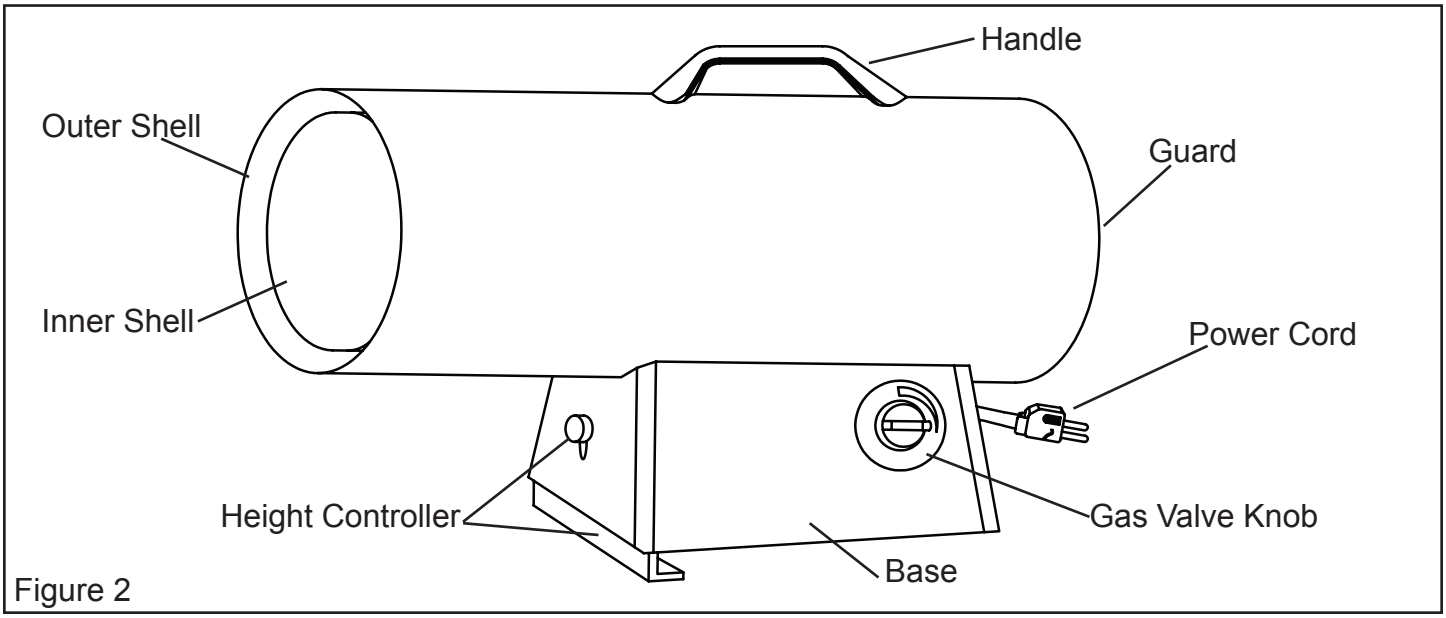


Figure 2

Operation

Gas Supply / Information:

Gas

This heater is not supplied with a gas cylinder. Use only an approved gas cylinder.

Gas Characteristics

- Flammable, explosive under pressure, heavier than air and pools in low areas.
- In its natural state, gas has no odor, but for your safety an odor that smells like rotten cabbage has been added.
- Contact of gas with the skin can cause freeze burns.
- When heater is not in use, gas Cylinder must be turned OFF.
- Be sure that the gas Cylinder is located on a level and stable surface.
- DO NOT use this heater in a basement or below ground level. Gas is heavier than air and will always seek the lowest level. If you suspect a leak, shut off the valve at the gas Cylinder immediately.

The Gas cylinder must also be equipped with the following

- A collar to protect the gas valve.
- A shut-off valve terminating a gas cylinder valve outlet as specified in the American National Standard for Compressed Gas Cylinder Valve Outlets and Inlets Connections.
- A safety relief valve having direct communications with the vapor space of the gas cylinder.
- The heater must operate on vapor withdrawal from the operating cylinder.

Suitable gases and appropriate supply pressures or limits of the pressure ranges / rates in the case of the use of variable regulators.

Model No.	Gas Category	Gas Type and Inlet Pressure	Destination Country
PT-40-GFA-EU	I3B/P(37)	G30 Butane at 37 mbar	PL
	I3B/P(37)	G31 Propane at 37 mbar	PL
	I3B/P(50) / G30	G30 Butane at 50 mbar	DE
	I3P(30) / G31	G31 Propane at 30 mbar	NL, RO, TR
	I3P(37) / G31	G31 Propane at 37 mbar	GB, FR, PT, IE
	I3P(50) / G31	G31 Propane at 50 mbar	NL, DE
PT-60V-GFA-EU PT-100V-GFA-EU PT-150V-GFA-EU	I3+(28-30/37) / G30	G30 Butane at 28-30 mbar G31 Propane at 37 mbar	GB, FR, IT, PT, IE
	I3B/P(30) / G30	G30 Butane at 30 mbar	NL, NO, SE, DK, FI, RO, TR, ES
	I3B/P(50) / G30	G30 Butane at 50 mbar	DE
	I3B/P(37)	G30 Butane at 37 mbar	PL
	I3B/P(37)	G31 Propane at 37 mbar	PL
	I3P(30) / G31	G31 Propane at 30 mbar	NL, RO, TR
	I3P(37) / G31	G31 Propane at 37 mbar	GB, FR, PT, IE
	I3P(50) / G31	G31 Propane at 50 mbar	NL, DE

⚠CAUTION **Gas is safe to use when properly handled. Careless handling of the cylinder could result in a fire and or an explosion.**

- Always keep gas cylinder fastened and upright.
- Avoid tipping the gas cylinder on its side when connected to a regulator, since this may cause damage to diaphragm in the regulator.
- Handle valves with care.
- Never connect an unregulated gas cylinder to a construction heater.
- DO NOT subject gas cylinder to excessive heat.
- Tightly close the gas shutoff valve on the gas cylinder after each use.
- All fittings must be protected when disconnected from the gas cylinder.
- Never store an gas cylinder inside a building or in the vicinity of an gas burning appliances.

⚠CAUTION **The disconnected tank must never be stored in a building, garage or any other enclosed area.**

Plug Replacement

⚠WARNING RISK OF ELECTRIC SHOCK! DISCONNECT FROM POWER BEFORE MAINTENANCE.

NOTE: This section only applies to heaters sold or used in Great Britain.

This appliance is supplied with a BS1363 3 pin plug fitted with a fuse. Should the fuse require replacement, it must be replaced with a fuse with the proper amp rating. (see Technical Specifications page 2) and approved to BS1362.

In the event the mains plug has to be removed/ replaced for any reason, please note:

IMPORTANT: The wires in the mains lead are colored in accordance with the following code:

Blue – Neutral Brown – Live

Green/Yellow – Earth

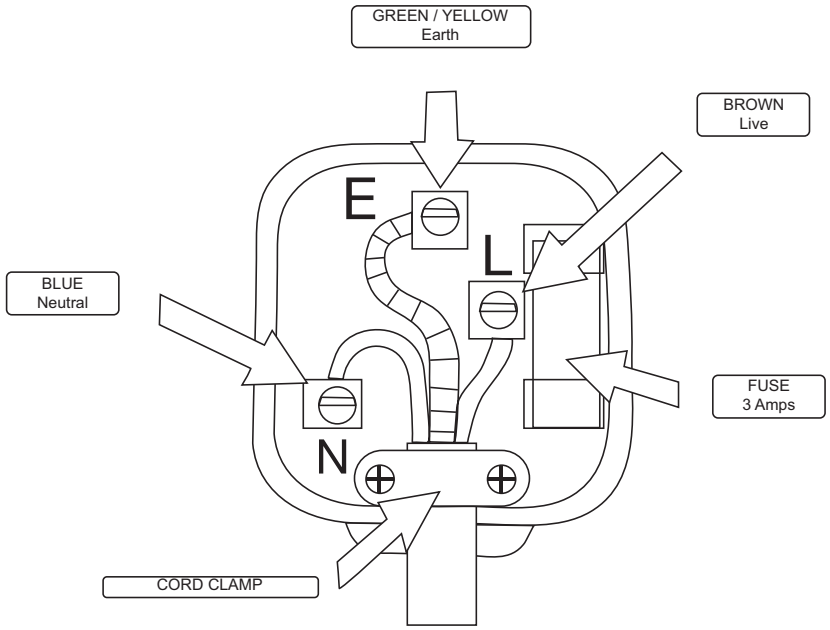
As the colors of the wires in the mains lead of this appliance may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The blue wire must be connected to the terminal marked with an N or colored black. The brown wire must be connected to the terminal marked with an L or colored red. The green/ yellow wire must be connected to the earthing terminal which is marked with an E or with the earth symbol.

⚠WARNING Never connect live or neutral wires to the earth terminal of the plug.

NOTE: If a moulded plug is fitted and has to be removed take great care in disposing of the plug and severed cable, it must be destroyed to prevent engaging into a socket.

Plug Replacement Wiring Diagram



Operation

Pre-Lighting Instructions:

Connecting the Gas Cylinder

⚠WARNING Connecting the gas cylinder shall be undertaken in a flame free environment.

⚠WARNING Purging and filling of the gas cylinders must be performed by personnel who have been thoroughly trained in accepted gas industry procedures. Failure to follow these instructions may result in explosion, fire, severe personal injury or death.

ALL NEW GAS CYLINDERS MUST BE PURGED BEFORE THE FIRST FILLING.

– Turn heater gas valve knob and gas cylinder valve to OFF position.
– Gas cylinder valve equipped with old style fitting has LEFT HANDED THREADS. Turn fitting CLOCKWISE to loosen. Protect this fitting when disconnected from gas cylinder.
– Have your gas cylinder filled by your local gas supplier.
– Some gas cylinders have a bleed-OFF valve. This valve should be inspected for leaks after each filling of the ags cylinder. Turn the valve clockwise to close.
– Fasten full gas tank and connect proper fitting to gas cylinder valve by turning COUNTER-CLOCKWISE.
– With heater gas valve knob still in OFF position turn ON the gas cylinder valve and check for leaks with soap solution.

Checking For Leaks

– To check for leaks, make up a 50/50 solution of dish soap and water. Apply this solution to all gas connections. If bubbles appear, there is a leak. If a leak is found, turn off the gas supply, and re-connect the leaking connection.
– The installation of this heater must meet all local codes and/or gas utility requirements.
– The minimum clearances to any combustible construction materials must be maintained at all times (See Page 2).
– Inspect the heater before each use, and at least annually by a qualified service person.

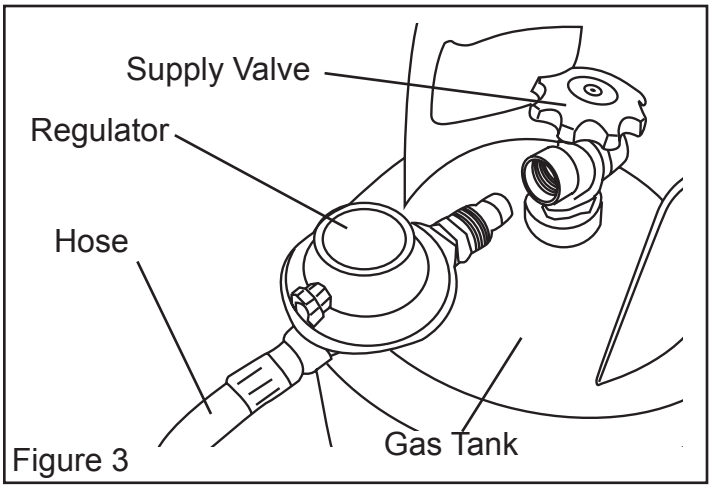


Figure 3

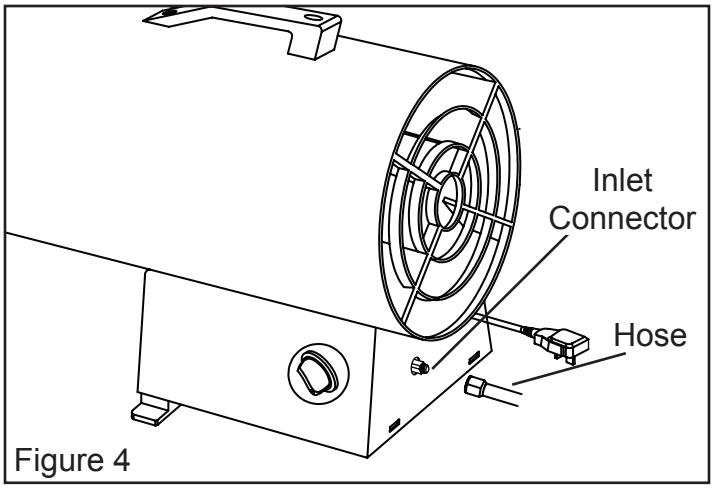


Figure 4

Operation

Lighting Instructions:

Starting the Heater (Ignition)

1. Connect the heater to a three prong (grounded) power source.
2. Connect heater to a proper gas cylinder.
3. Turn gas valve CLOCKWISE to off position.
4. Wait five (5) minutes for any glass to clear. Smell for gas, if you do not smell gas, go to step 5.
5. Push in and turn gas control knob COUNTERCLOCKWISE to 1 position. This will light the burner. If needed, keep pressing control knob until the burner lights and keep pressing and turning from “O” (OFF) to 1 on Piezo electric spark models (40-GFA). (See Figure 5)
6. Keep the valve knob depressed for at least 30 seconds after lighting the burner. After 30 seconds, release the valve knob.
7. If the burner does not stay lit, repeat the lighting procedures.
8. When burner stays lit, turn gas valve knob COUNTERCLOCKWISE to desired setting (except 40-GFA-EU).
9. Check to see that the appliance operating pressure is correct according to the the gas chart (page 5).

Shutdown Instructions

To Shut Off the Heater:

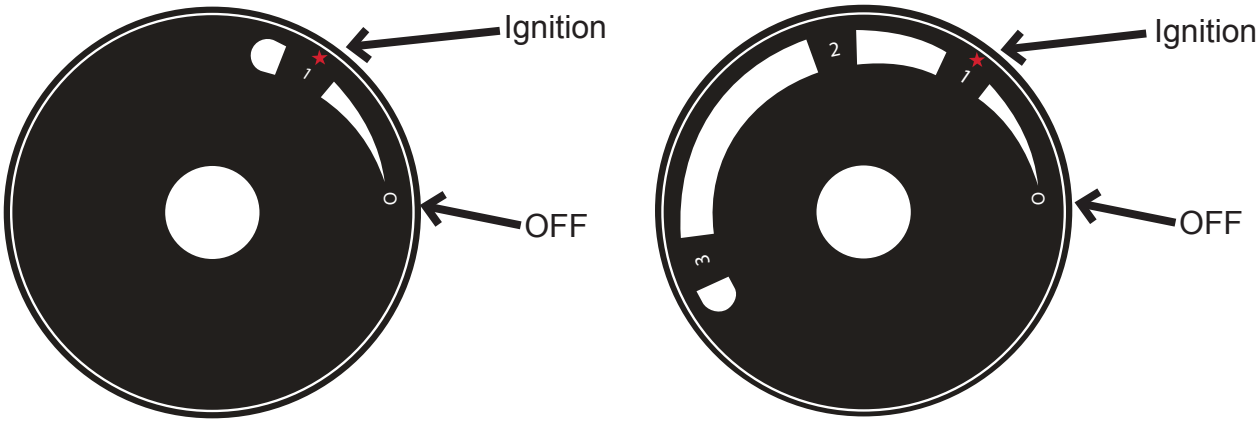
1. Turn gas valve knob CLOCKWISE to “O” (OFF) position. (See Figure 5)
2. Turn gas supply OFF by turning the gas cylinder valve CLOCKWISE to close.
3. Disconnect heater from power supply, and disconnect regulator from the fuel supply cylinder.

Test Firing the Heater

Test fire your construction heater following the lighting instructions applicable to the gas control system employed.

Leak test all gas connections with 50/50 soap and water solution prior to start-up. Soap bubbles indicate a gas leak. DO NOT use a match or flame to test for gas leaks.

NOTE: Heater surface temperature must be cold before initiating service, cleaning or storage.



PT-40-GFA-EU Valve Knob

PT-60V-GFA-EU / PT-100V-GFA-EU / PT-150V-GFA-EU Valve Knob

Figure 5

Ventilation

⚠DANGER CARBON MONOXIDE POISONING MAY LEAD TO DEATH!

- **Risk of indoor air pollution and Carbon Monoxide Poisoning. Use heater only in well ventilated areas.**
- **Refer to Safety Information on pages 1-2 for information about Carbon Monoxide Poisoning.**

- **ALWAYS** provide a fresh air opening in the heated space. Minimum ventilation requirements: Room volume should not be less than 100 m^3; minimum ventilation of 25 cm^2 per kW of heat input subject to a minimum of 250 cm^2. As an example, a 150V-GFA-EU will require:
  - A two car garage door open 16 cm or
  - A single car garage door open 23 cm or
  - Two 82 cm wide windows open 38 cm.

Minimum Ventilation Opening Needed			
PT-40-GFA-EU	PT-60V-GFA-EU	PT-100V-GFA-EU	PT-150V-GFA-EU
1110 cm^2	1670 cm^2	3530 cm^2	4180 cm^2
1.2 $ft.^2$	1.8 $ft.^2$	3.8 $ft.^2$	4.5 $ft.^2$
Min. Room Dimensions ≥ 100 m^3 Min. Ventilation ≥ 250 cm^2			

⚠DANGER Not for use in residential living areas or in non-adequately ventilated enclosed spaces.

Storage / Maintenance

Always disconnect the heater from the gas cylinder before putting the heater into storage. If for any reason the heater is to be stored indoors, the tank MUST be disconnected from the Gas cylinder, and the cylinder stored outdoors in a well-ventilated area, out of the reach of children. The plastic valve plug or valve cover supplied with the cylinder must be re-installed on the valve to protect the fitting from damage.

If the supply cord is damaged, it must be replaced by a special cord or assemble available from the manufacturer or its service agent.

⚠DANGER Never store an gas cylinder inside of a building or near any other gas or oil burning appliances.

NOTE: Installation and repair of this heater should be done by a qualified service person.

ALWAYS be sure to follow proper maintenance procedures. This should include cleaning the inside of the heater once a month and checking the spark gap at least once a heating season. Re-gap the terminals to 4mm.

Wiring Diagram

PT-40-GFA-EU / PT-60V-GFA-EU / PT-100V-GFA-EU / PT-150V-GFA-EU

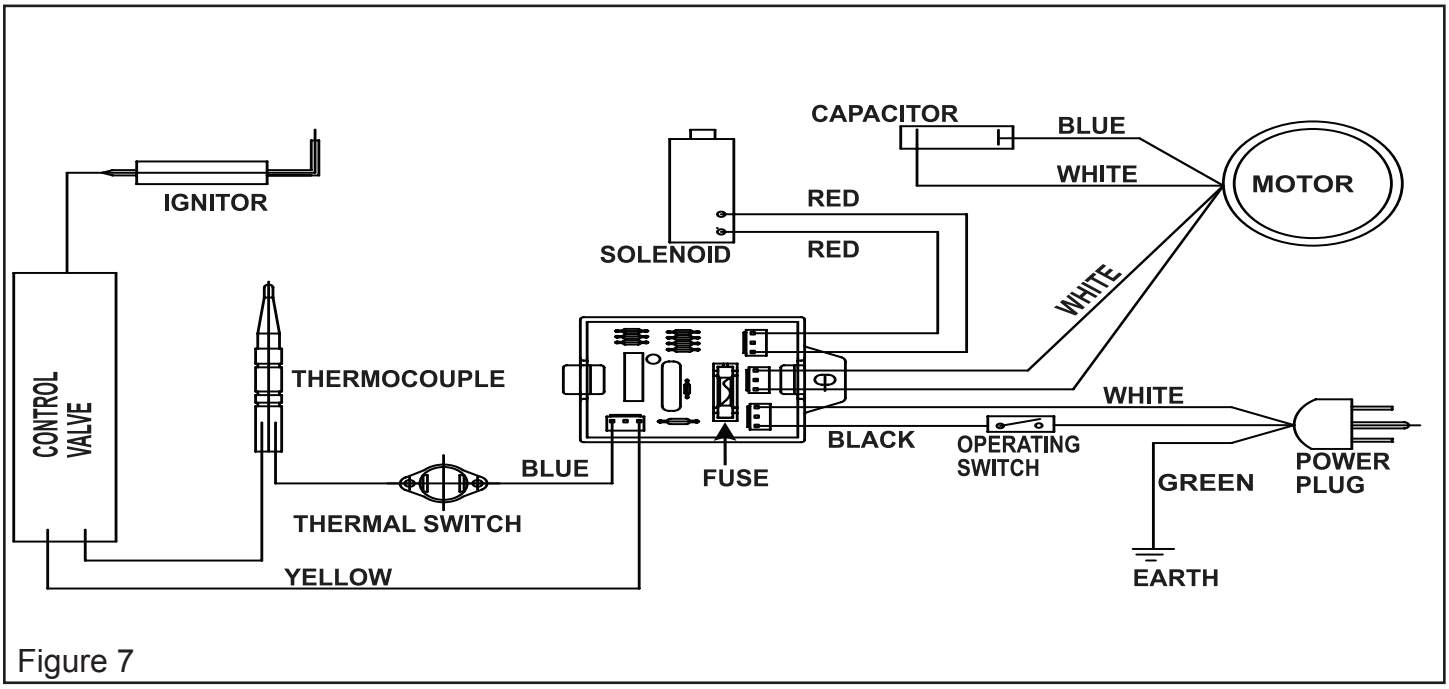


Figure 7

Troubleshooting Guide

Problem	Possible Cause(s)	Solution
Fan does not turn when electricity is connected.	1. No electric power to heater.	1. Check current at outlet. If voltage is correct, inspect extension and power cords for cuts, frays or breaks
	2. Blades of fan in contact with heater housing.	2. Check housing for damage. Be sure there are no dents in the housing obstructing the fan.
	3. Fan blades bent.	3. Straighten all fan blades.
	4. Fan motor defective.	4. Replace motor assembly.
Heater will not fire (ignite).	1. No spark at module.	1. Inspect module wire. Re-attach or tighten if loose. Inspect spark module and replace if necessary. Inspect all other electrical components.
	2. Incorrect spark gap.	2. Set plug gap to 4 mm.
	3. Corroded electrode.	3. Replace spark plug (multi-bracket assembly).
Heater stops running by itself.	1. Temperature inside heater is too high, causing thermal switch to shut down operation.	1. If the heater input or output is restricted, the inside temperature can become too hot. Keep the areas in front and behind heater clear of obstructions.
	2. Damaged control valve.	2. Replace control valve.
	3. Dust or Debris accumulated in heater.	3. Clean inside of heater.
The appliance does not stay lit smoothly or evenly.	1. The incorrect fuel is used or the incorrect pressure is used.	1. Check fuel cylinder to assure the correct gas is being used at the correct pressure.

Exploded View

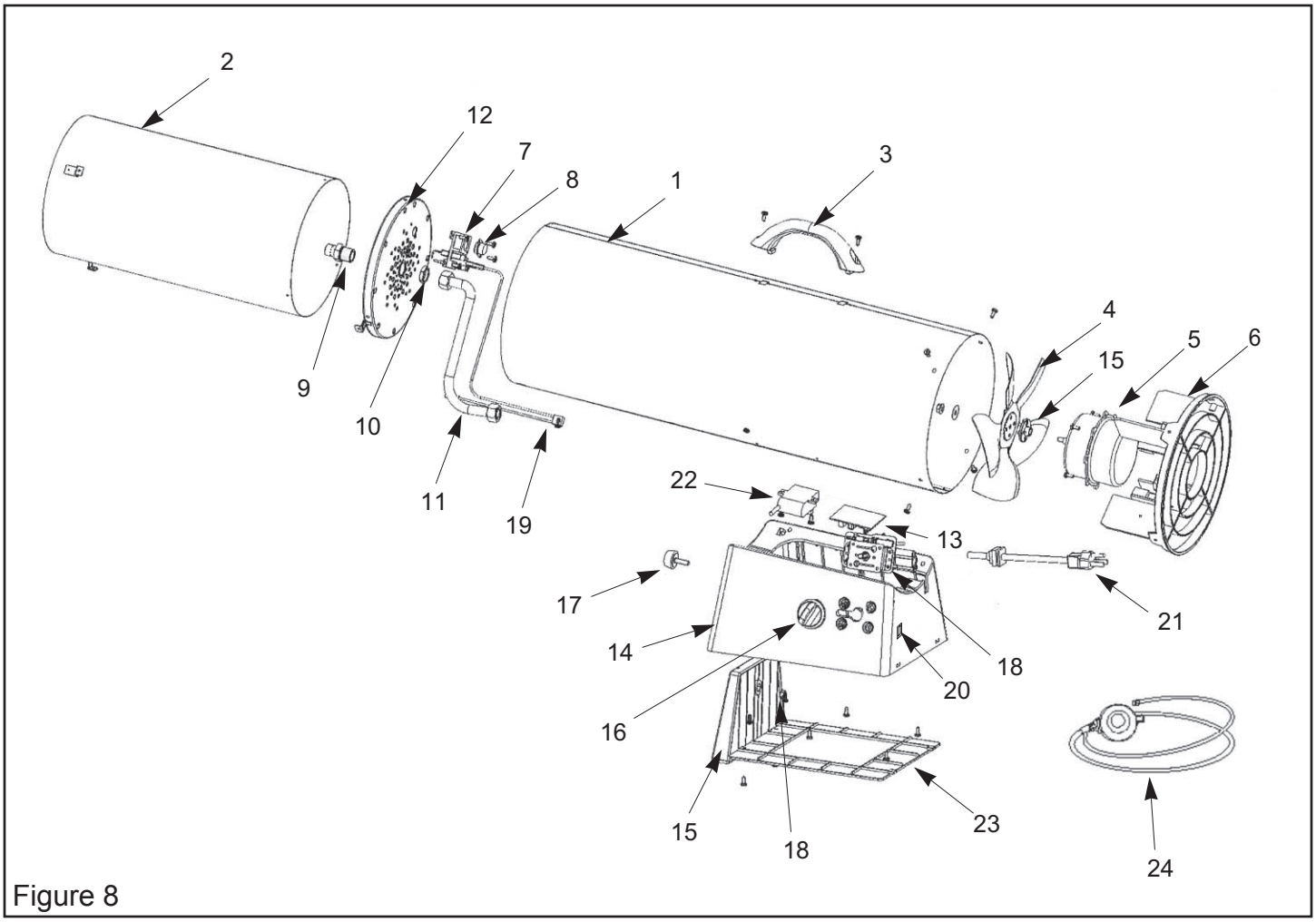


Figure 8

Parts List

#	PT-40-GFA-EU / PT-60V-GFA-EU / PT-100V-GFA-EU / PT-150V-GFA-EU
1	Outer Shell
2	Inner Shell
3	Handle
4	Fan
5	Motor
6	Rear Guard
7	Multi Bracket
8	High Limit Switch
9	Nozzle
10	Nozzle Nut
11	Tubing
12	Inner Shell Cap
13	PCB
14	Base
15	Height Controller
16	Valve Knob
17	Valve
18	Round Bolt
19	Thermal Switch Cable
20	Power Switch
21	Power Cord
22	Solenoid
23	Base Cover
24	Regulator

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Manufactured by:
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Sauk Rapids, MN 56379 USA

EC REP

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