



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.



Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised re-cycling agent. This will allow the recycling of raw materials and help protect the environment.

Fireball XD

Diesel Heater

09560 / 09562 / 09564 / 09566 / 09568 / 09570



FOR HELP OR ADVISE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR

Ref:200421

Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference

Declaration of Conformity

We

SIP (Industrial Products) Ltd
Gelders Hall Road
Shepshed
Loughborough
Leicestershire
LE12 9NH
England

As the manufacturer within the UK, England, Scotland & Wales, declare that the

- Fireball 50 XD SIP Pt No: 09560
Fireball 75 XD SIP Pt No: 09562
Fireball 100 XD SIP Pt No: 09564
Fireball 125 XD SIP Pt No: 09566
Fireball 175 XD SIP Pt No: 09568
Fireball 215 XD SIP Pt No: 09570

Conforms to the requirements of the following directive(s), as indicated.

- Supply of Machinery (Safety) Regulations 2008
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
Electromagnetic Compatibility Regulations 2016

And the relevant harmonised standard(s), including:

- BS EN 60335-1:2012+A11:2014
BS EN 60204-1:2006+A12009
BS EN 61000-3-2:2014
BS EN 61000-3-3:2013
BS EN 61000-6-2:2005
BS EN 61000-6-4:2007+A1:2011
BS EN 62233:2008
BS EN ISO 12100:2010

Handwritten signature of Paul Ippaso

Signed:

Mr P. Ippaso - Director - SIP (Industrial Products) Ltd
Date: 20/04/2021



Declaration of Conformity

We

SIP (Machinery Europe) Ltd
ASM Chartered Accountants
First Floor Block One
Quayside Business Park
Dundalk
County Louth
Republic of Ireland

As the manufacturer's authorised representative within the EC

- Fireball 50 XD SIP Pt No: 09560
Fireball 75 XD SIP Pt No: 09562
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Fireball 125 XD SIP Pt No: 09566
Fireball 175 XD SIP Pt No: 09568
Fireball 215 XD SIP Pt No: 09570

Conforms to the requirements of the following directive(s), as indicated.

- Machinery Directive 2006/42/EC
Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) - Directive 2002/95/EC
Electromagnetic Compatibility - Directive 2014/30/EU

And the relevant harmonised standard(s), including:

- EN 60335-1:2012+A11:2014
EN 60204-1:2006+A12009
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 61000-6-2:2005
EN 61000-6-4:2007+A1:2011
EN 62233:2008
EN ISO 12100:2010

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Mr P. Ippaso - Director - SIP (Industrial Products) Ltd
Date: 20/04/21.



Ref No.	Description	Ref No.	Description
1	Fuel Tank	31	Filter
3	Fuel Gauge	32	Output Filter
4	Fuel Filter	33	Filter End Cover
5	Fuel Cap	34	Plug / Pump Adj. Kit
6	Mains Lead	35	Ball
7	On / Off Switch	36	Spring
8	Display Window	37	Adjustment Screw
9	Thermostat Control Knob	38	Nipple
10	Bottom Cover	39	Capacitor
11	Airline	40	Fan
12	Thermostat Limit Control	41	Ignition Module
13	Combustion Chamber	42	Right Side Cover
14	Photocell Bracket	43	Left Side Cover
15	Fuel Line	44	Fan Guard
16	Photocell	45	Main PCB
17	Burner Head Assembly	46	PCB Fuse
18	Nozzle	47	Clip Nut
19	Nozzle Seal	48	Upper Cover
20	Nozzle Seal Spring	50	Grommet
21	Nozzle Sleeve	53	Mains Lead Bush
22	Burner Head	55	Handle
23	Electrode / Sparkplug	56	Front Handle
24	Motor / Pump Assembly	57	Rear Handle
25	Motor	58	Wheel Support Frame
26	Pump Body	59	Wheel Axle
27	Rotor	60	Wheel
28	Rotor Blade	63	Adjustable Support
29	Pump End Cover	64	Support Bracket
30	Filter	65	Wheel Support Bracket

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IMPORTANT: Please read the following instructions carefully, **failure to do so could lead to serious personal injury and / or damage to the heater.**

When using your heater, basic safety precautions should always be followed to reduce the risk of fire, electric shock, personal injury and / or damage to the heater. Read all these instructions before operating the heater and save this user manual for future reference. **SIP** recommends that this heater should **not** be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us and we will be more than happy to advise you.

KNOW YOUR HEATER: Read and understand the owner's manual and labels affixed to the heater. Learn its applications and limitations, as well as the potential hazards specific to it. **DO NOT USE THE HEATER IN DANGEROUS ENVIRONMENTS:** Do not use your heater in damp or wet locations, or expose it to rain. Always provide adequate space around the heater.

DO NOT OPERATE THE HEATER IN EXPLOSIVE ATMOSPHERES: Do not use the heater in the presence of flammable liquids, gases, dust or other combustible sources.

KEEP CHILDREN AND UNTRAINED PERSONNEL AWAY FROM THE WORK AREA: All visitors should be kept at a safe distance from the work area.

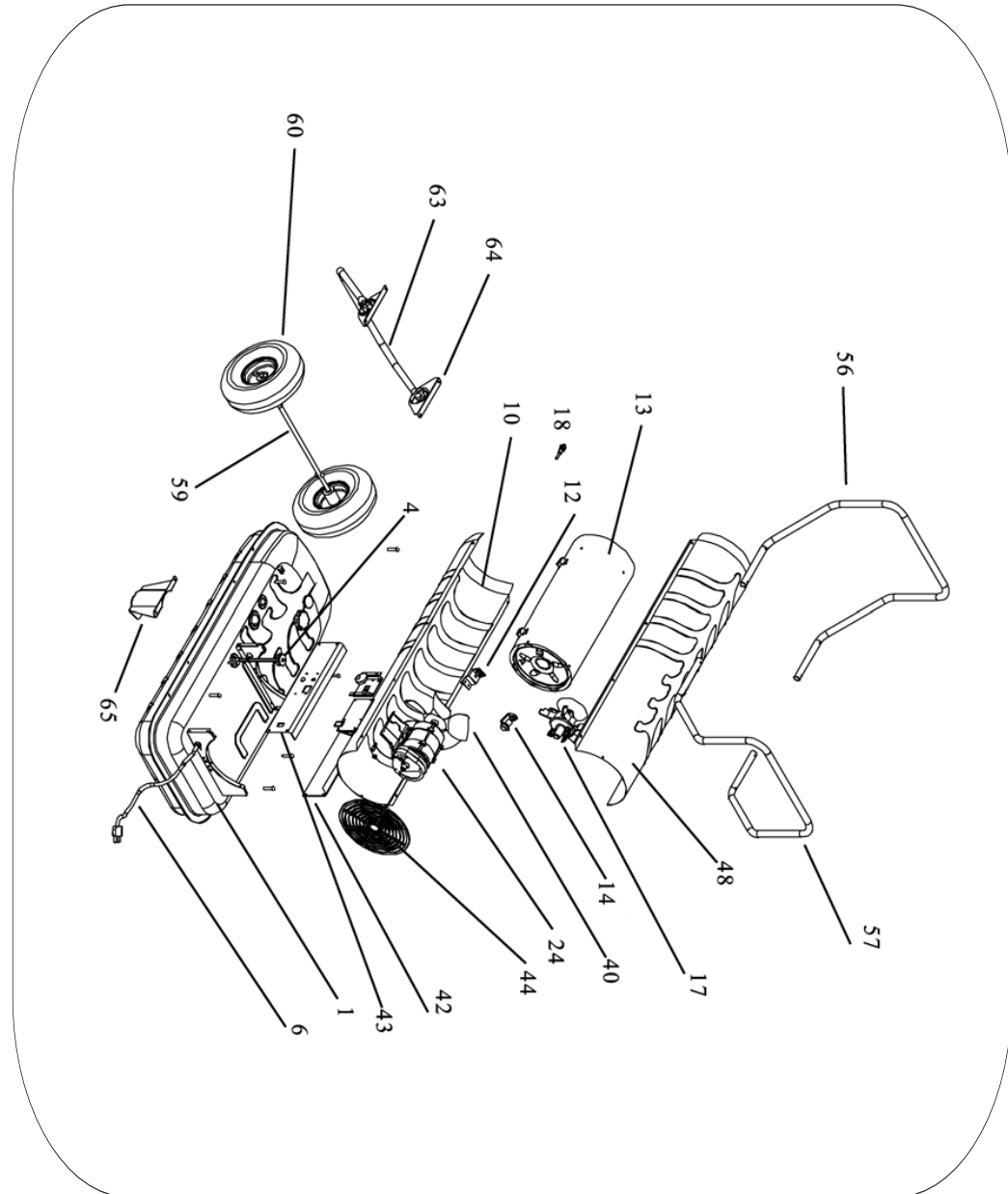
STORE THE HEATER SAFELY WHEN IT IS NOT IN USE: The heater should be stored in a dry, locked cupboard, or similar when not in use wherever possible and out of the reach of children.

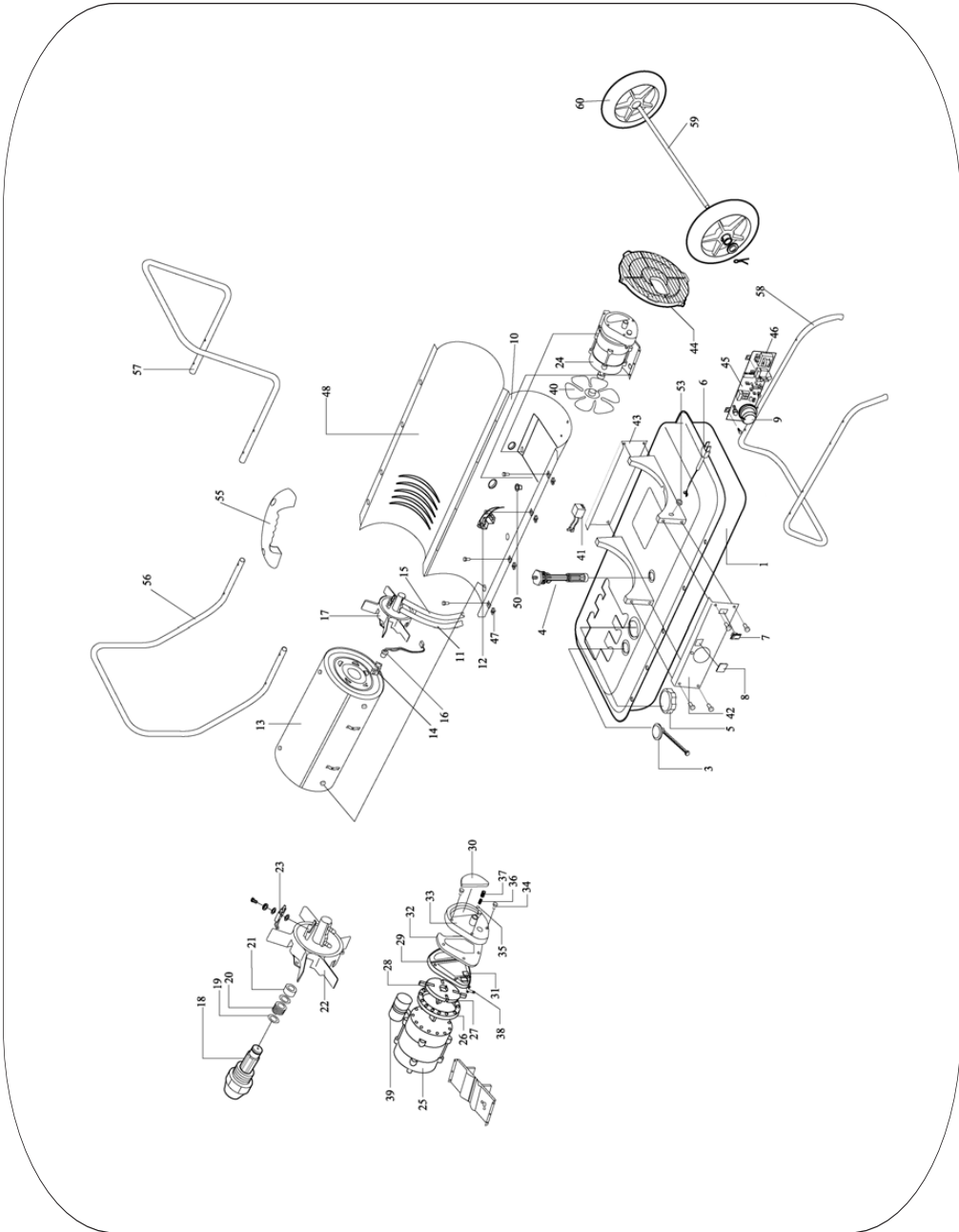
STAY ALERT: Always watch what you are doing and use common sense. Do not operate the heater when you are tired or under the influence of alcohol or drugs. **DISCONNECT THE HEATER FROM THE MAINS SUPPLY:** When not in use, before servicing and when refuelling etc.

AVOID UNINTENTIONAL STARTING: Make sure the switch is in the **OFF** position before connecting the heater to the mains supply.

DO NOT ABUSE THE MAINS LEAD: Never carry the heater by the mains lead or pull it to remove the plug from the mains socket. Keep the mains lead away from heat, oil and sharp edges. If the mains lead is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid unwanted hazards. **HAVE YOUR HEATER REPAIRED BY A QUALIFIED PERSON:** The heater is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.

- **DANGER!** Risk of carbon monoxide poisoning; failure to provide proper ventilation could result in serious illness or death.
- Check that the heater is in sound condition and good working order. Take immediate action to repair or replace damaged parts.
- Use recommended parts only - Unapproved parts may be dangerous and will invalidate the warranty.





- Only use kerosene or diesel to fuel your heater, in accordance with instructions contained in this manual.
- **WARNING!** only use the heater in well ventilated areas. Ensure continuous ventilation from outside of the building is provided to the heater and the operating area.
- Keep the front of the heater a minimum of 2.4 metres (8ft) from any combustible materials (i.e. wooden items, cloth, plastics, paper, etc).
- Only operate on a level and stable surface.
- **WARNING!** Do not use the heater near flammable material, liquids, solids, gases or compressed gas cylinders.
- Do not use the heater in closed rooms, living areas, basements or below ground level.
- Do not allow untrained persons to operate the heater and do not operate the heater without all covers etc. correctly fitted.
- Do not move or handle the heater when it is running or still hot - always turn it off and allow it to cool.
- Do not leave the heater unattended when in use. Switch the heater off and unplug from the mains supply before leaving the work area.
- Do not fill the fuel tank whilst the heater is running or still hot - always turn it off and allow it to cool.
- Do not over-fill the fuel tank and always wipe up any spilt fuel immediately.
- Do not obstruct the air inlet (rear) and air outlet (front) of the heater.
- Do not use any form of ducting in front or at the rear of the heater.
- Do not allow children or animals near the heater, particularly when in use, or while still hot.
- **WARNING! RISK OF ELECTRIC SHOCK.** Do not expose the heater to water spray, rain, dripping water or moisture of any kind.
- Do not operate the heater when you are tired or under the influence of alcohol, drugs or intoxicating medication.
- Do not touch the heater outlet or dome when first switched off as these are very hot and will take time to cool.
- Ensure that the heater is correctly turned off when not in use and store in a safe, dry area, out of reach of children.
- Do not unplug the heater to switch it off - always use the on/off switch.
- Use this heater only in well ventilated areas! Provide at least a three square foot (2,800 sq cm) opening of outside air for every 100,000 Btu/hr of heat rating.
- People with breathing problems should consult a physician before using the heater.
- Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble flu-like symptoms such as headaches, dizziness, and / or nausea. If you have these symptoms, your heater may not be working properly, or there is not enough ventilation.
- Get fresh air at once! Have the heater checked and / or ensure there is enough ventilation. Some people are more affected by carbon monoxide than others. These include pregnant women, those with heart or lung problems, anaemia, or those under the influence of alcohol, or at high altitudes. - Never use this heater in living or sleeping areas.

SAFETY INSTRUCTIONS....cont

- NEVER use fuels such as gasoline, benzene, paint thinners, or other oil compounds in this heater - RISK OF FIRE OR EXPLOSION.
- NEVER use this heater where flammable vapours may be present.
- NEVER refill the heater's fuel tank while the heater is operating or still hot. This heater is EXTREMELY HOT while in operation.
- Keep all combustible materials away from this heater.

Minimum Clearances:

Outlet (front) 8 feet (250 Cm) Sides,
Top and Rear 4 feet (125 cm)

- NEVER block air inlet (rear) or air outlet (front) of heater.
- NEVER move or handle heater while still hot.
- NEVER transport heater with fuel in its tank.
- Beware that as the heater is fitted with a thermostat, the heater may start at any time.
- ALWAYS locate heater on a stable and level surface.
- ALWAYS keep children and animals away from heater.
- Use only diesel or kerosene to fuel the heater.

WARNING: Risk of Electric Shock!

- Use only the electrical power (voltage and frequency) specified on the model plate of the heater.
- Use only a three-prong, grounded outlet and where required, extension lead.
- ALWAYS unplug the heater when not in use.



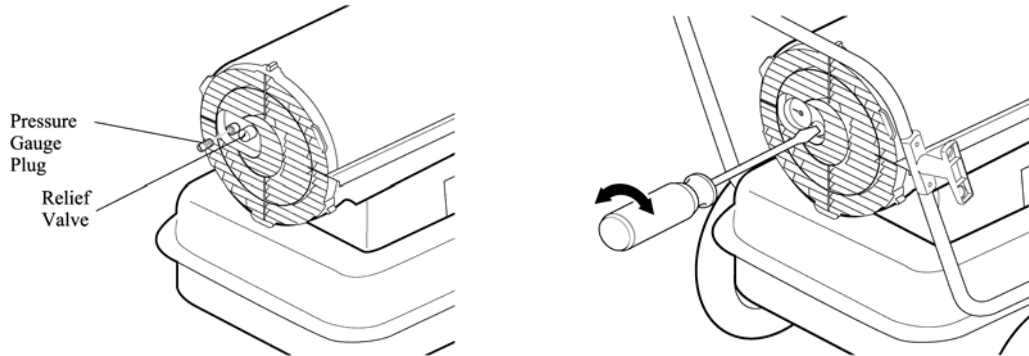
CAUTION: The warnings and cautions mentioned in this user manual can not cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be applied.

TROUBLESHOOTING

Problem	Possible Cause	Solution
E1 Error	<ul style="list-style-type: none"> • No fuel in tank • Dirty photocell lens • Dirty filter / filters • Dirty nozzle • Contaminated fuel • Defective ignitor • Incorrect pump pressure • Defective photocell • Poor electrical connection between ignitor and PCB • Ignition wire not connected to electrode 	<ul style="list-style-type: none"> • Fill tank with fuel • Clean photocell lens • Clean / replace dirty filters • Clean / replace dirty nozzle • Flush fuel tank with clean diesel • Check and replace ignitor as necessary • Check and adjust pump pressure • Check and replace photocell as necessary • Check electrical connections and repair / replace as necessary • Check connection
E2 Error	<ul style="list-style-type: none"> • Poor electrical connection between temperature sensor and PCB • Defective temperature sensor • Thermostat setting too low 	<ul style="list-style-type: none"> • Check electrical connections • Check and replace sensor • Set thermostat to a higher level
LO Error	<ul style="list-style-type: none"> • Temperature below - 9 degrees C 	<ul style="list-style-type: none"> • Normal condition - wait for temperature to come between operating temperatures
HI Error	<ul style="list-style-type: none"> • Temperature above 50 degrees C 	<ul style="list-style-type: none"> • Power off - wait for temperature to come between operating temperatures
Lamp Flickering	Error occurred in operating sequence	<ul style="list-style-type: none"> • Reset and reignite

Model	Pump Pressure
09560 Fireball 50 XD	3.0 psi
09562 Fireball 75 XD	4.0 psi
09564 Fireball 100 XD	5.0 psi
09566 Fireball 125 XD	5.0 psi
09568 Fireball 175 XD	6.0 psi
09570 Fireball 215 XD	7.0 psi

- Stop the heater.
- Remove the pressure gauge and refit the pressure gauge plug.



Long Term Storage:

- Unscrew the fuel cap.
- Use a siphon, or similar suitable for diesel to remove the contents of the fuel tank.
- Using a small amount of clean diesel, rinse and swirl the paraffin inside the fuel tank.
- Empty tank fully.
- Never mix water with the paraffin as it will cause the tank to rust.
- Never store old fuel in the tank over long periods when the heater is not in use.
- Store heater in a safe, dry well ventilated area away from children.
- Be sure that the storage area is free of dust and corrosive vapours.
- Re-pack the heater in the original shipping material.
- Keep the manual in an easily accessible place.

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must check all electrical products, before use, to ensure that they are safe. You must inspect power cables, plugs, sockets and any other connectors for wear or damage. You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices; A residual current circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a residual current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician.

Connecting to the power supply:

This SIP heater is fitted with a standard 230v ~ 13 amp type plug. Before using the heater, inspect the mains lead and plug to ensure that neither are damaged. If any damage is visible have the heater inspected / repaired by a suitably qualified person. If it is necessary to replace the plug a heavy duty impact resistant plug would be preferable.

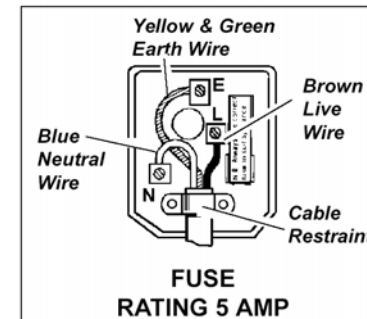
The wires for the plug are coloured in the following way:

- | | |
|----------------|---------|
| Yellow / green | Earth |
| Blue | Neutral |
| Brown | Live |

As the colours of the wires may not correspond with the markings in your plug, proceed as follows: The wire which is coloured blue, must be connected to the terminal marked with N or coloured black. The wire which is coloured brown, must be connected to the terminal, which is marked L or coloured red. The wire which is coloured yellow / green should be connected to the terminal which is coloured the same or marked



Always secure the wires in the plug terminal carefully and tightly. Secure the cable in the cord grip carefully.



ELECTRICAL CONNECTIONcont



Warning: Never connect live or neutral wires to the earth terminal of the plug. Only fit an approved plug with the correct rated fuse (5 amp). If in doubt consult a qualified electrician.



Note: Always make sure the mains supply is of the correct voltage and the correct fuse protection is used. In the event of replacing the fuse always use a 5 amp fuse.



Note: If an extension lead is required in order to reach the mains supply; ensure that this too is rated for the correct voltage and fuse rating.



Note: The cross section of the extension lead should be checked so that it is of sufficient size so as to reduce the chances of voltage drops.

GUARANTEE

Guarantee:

This SIP heater is covered by a 12 month parts and labour warranty covering failure due to manufacturers defects. This does not cover failure due to misuse or operating the machine outside the scope of this manual.

In the unlikely event of warranty claims, contact your distributor as soon as possible. Proof of purchase will be required before any warranty can be honoured.



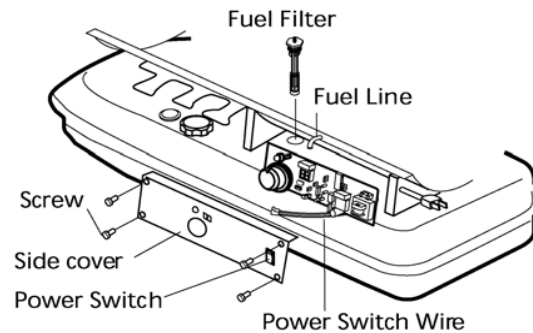
Note: Proof of purchase will be required before any warranty can be honoured.

MAINTENANCE....cont

Fuel Filter:

Clean or replace at least twice during a heating season, or more often if needed.

- Remove the side cover screws and side cover.
- Disconnect the wires from the main power switch (only necessary on certain models).
- Pull the fuel line from the fuel filter neck.
- Turn fuel filter counter-clockwise 90 degrees, pull, and remove from the tank.
- Wash the fuel filter with clean fuel, where possible, but preferably always replace with a new filter.
- Fit / refit the filter into the tank.
- Attach fuel line to fuel filter neck.
- Re-attach the wires to the main power switch (where necessary).
- Reinstall the side cover and secure with screws.



Pump Pressure Adjustment:

A pressure gauge will be required to carry out this operation accurately; contact your distributor, or SIP to order one.

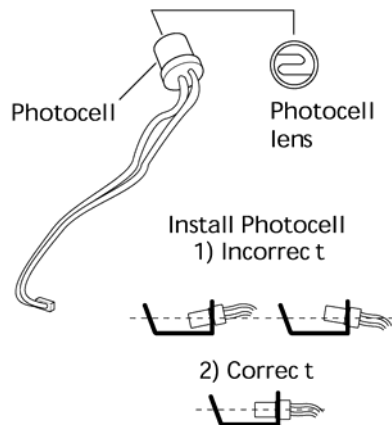
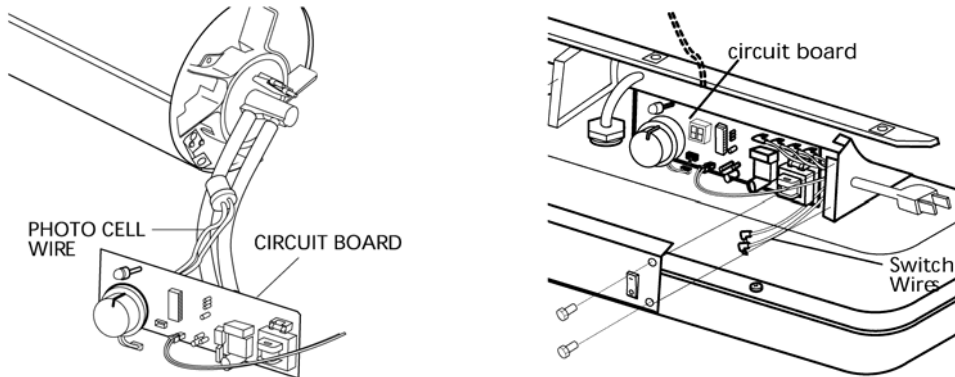
- Remove the pressure gauge plug from the end of the filter cover.
- Install the pressure gauge in its place.
- Start the heater.
- Allow motor to reach full speed.
- Adjust pressure (Using flat blade screwdriver).
- Turn the relief valve clockwise to increase the pressure, and counter clockwise to decrease the pressure.
- Set the correct pump pressure for your model of heater.

MAINTENANCE....cont

- Reinstall the photocell.
- Reinstall the fan and upper shell.

To replace the photocell : Follow the instructions above and:

- Remove the side cover near the main power switch.
- Disconnect the wires from the main power switch (only necessary on certain models).
- Disconnect the photocell wires from the circuit board and remove the photocell.
- Install the new photocell and attach the wires to the circuit board.
- Re-attach the wires to the main power switch (where necessary).
- Refit the side panel.
- Reinstall the fan and upper shell.



TECHNICAL SPECIFICATIONS

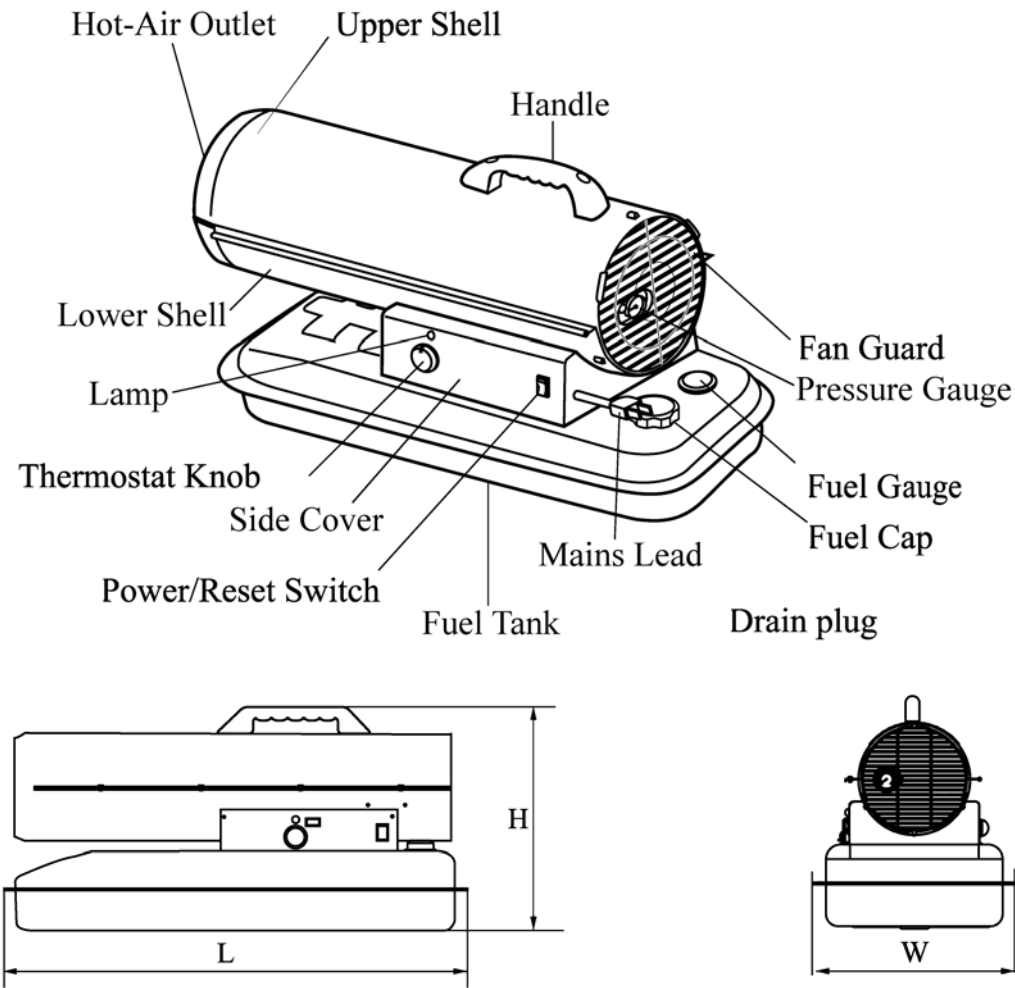
Part Number	09560	09562	09564
Input Voltage	230v ~ 50Hz	230v ~ 50Hz	230v ~ 50Hz
Fuel	Kerosene / Diesel	Kerosene / Diesel	Kerosene / Diesel
Heat Output	50,000 BTU/hr (14.65Kw)	75,000 BTU/hr (21.975Kw)	100,000 BTU/hr (29.3Kw)
Approx. Heating Area	350 m ³	530 m ³	700 m ³
Fuse Rating	5 amps	5 amps	5 amps
Fuel Tank Size	20 Litres	20 Litres	40 Litres
Approx. Fuel Consumption	0.9 l/hr	1.4 l/hr	1.8 l/hr
Heater Dimensions	800 x 300 x 395 mm	800 x 300 x 395 mm	980 x 540 x 615 mm
Net Weight	17.7	16.5	24

Part Number	09566	09568	09570
Input Voltage	230v ~ 50Hz	230v ~ 50Hz	230v ~ 50Hz
Fuel	Kerosene / Diesel	Kerosene / Diesel	Kerosene / Diesel
Heat Output	125,000 BTU/hr (36.625Kw)	175,000 BTU/hr (51.275Kw)	215,000 BTU/hr (62.995Kw)
Approx. Heating Area	900 m ³	1230 m ³	1500 m ³
Fuse Rating	5 amps	5 amps	5 amps
Fuel Tank Size	40 Litres	50 Litres	50 Litres
Approx. Fuel Consumption	2.5 l/hr	3 l/hr	3.6 l/hr
Heater Dimensions	980 x 540 x 615 mm	1030 x 620 x 670 mm	1030 x 620 x 670 mm
Net Weight	26.8	31	33

Minimum Clearance Around Heater	Top - 1250 mm
	Sides - 1250 mm
	Rear - 1250 mm
	Front - 2500 mm

GETTING TO KNOW YOUR HEATER

09560 / 09562



Model	Length	Width	Height
09560 Fireball 50 XD *	800 mm	300 mm	395 mm
09562 Fireball 75 XD	800 mm	300 mm	395 mm

* No Thermostat Model

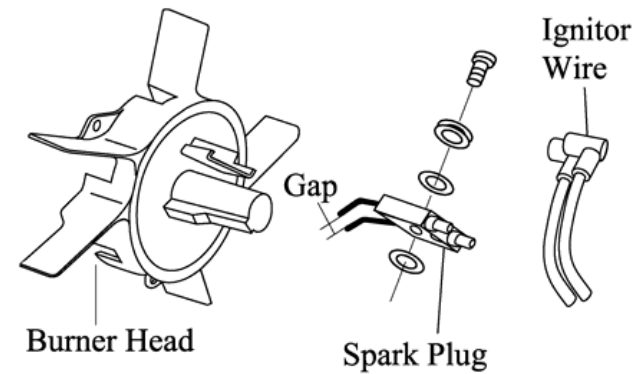
MAINTENANCE....cont

- Blow compressed air through face of nozzle - This will remove any dirt.
- Reinstall the nozzle into the burner head and tighten firmly (9 - 11 Nm).
- Reinstall the electrode / spark plug into the burner head.
- Re-attach the burner head to the combustion chamber.
- Re-attach the ignition wire to the electrode / spark plug.
- Re-attach the fuel and air line hoses to the burner head.
- Reinstall the fan and the upper shell.

Electrode / Spark Plug:

Clean and re-gap every 600 hours of operation, or replace as needed.

- Remove the upper shell.
- Remove the fan.
- Remove the ignition wire from the electrode / spark plug.
- Remove the electrode / spark plug from the burner head.
- Clean and re-gap the electrode / spark plug to a .140" (3.5 mm) gap.
- Reinstall the electrode / spark plug into the burner head.
- Re-attach the ignition wire to the electrode / spark plug.
- Reinstall the fan and upper shell.



Photocell:

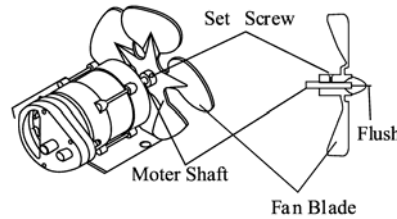
Clean the photocell annually or as needed. To clean the photocell:

- Remove the upper shell.
- Remove the fan.
- Remove the photocell from its mounting bracket.
- Clean the photocell lens with cotton swab.

Fan Blades:

Clean every season or as needed.

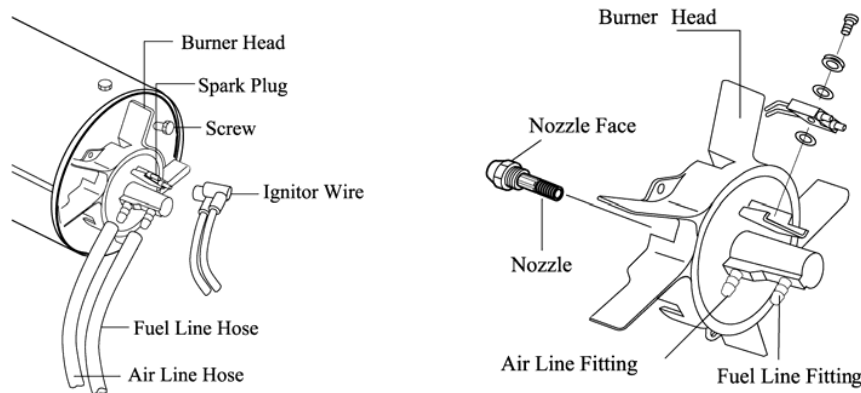
- Remove upper shell.
- Use hex wrench to loosen the set screw which holds fan blade to motor shaft.
- Slide the fan from motor shaft.
- Clean fan using soft cloth moistened with kerosene or solvent, taking care not to bend any of the blades out of position.
- Dry fan thoroughly.
- Reinstall the fan onto the motor shaft.
- Place fan hub flush with end of motor shaft.
- Place set screw on flat of shaft.
- Tighten screw firmly (4.5-5.6 Nm).
- Reinstall upper shell.



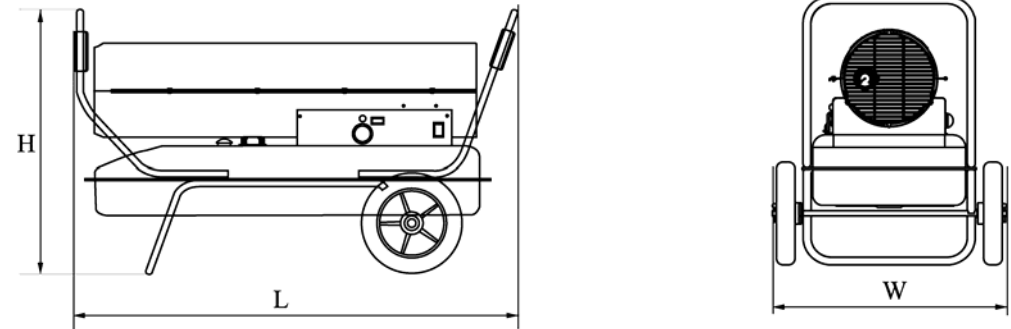
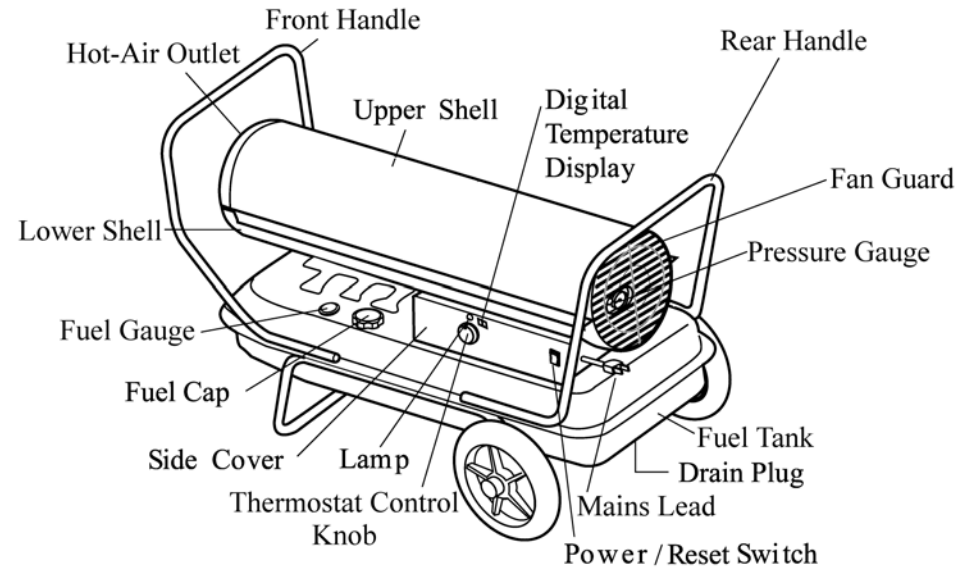
Nozzle:

Clean the nozzle as needed.

- Open the upper shell.
- Remove the fan.
- Remove the fuel and air line hoses from the burner head.
- Remove the ignition wire from the electrode / spark plug.
- Remove the three screws and remove the burner head from combustion chamber.
- Remove the electrode / spark plug from the burner head.
- Carefully remove the nozzle from burner head.



09564 / 09566 / 09568 / 09570

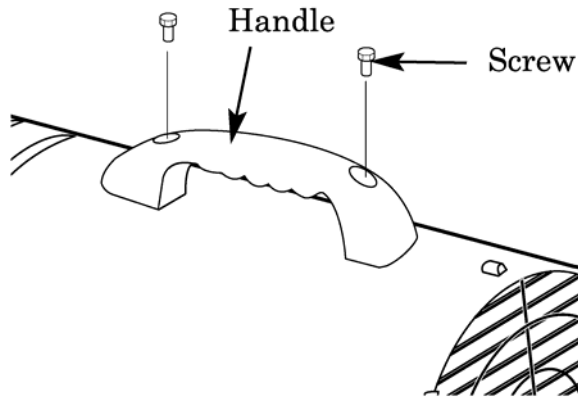


Model	Length	Width	Height
09564 Fireball 100XD	980 mm	540 mm	615 mm
09566 Fireball 125 XD	980 mm	540 mm	615 mm
09568 Fireball 175 XD	1030 mm	620 mm	670 mm
09570 Fireball 215 XD	1030 mm	620 mm	670 mm

ASSEMBLY INSTRUCTIONS

09560 / 09562.

These models are not supplied with wheels as standard to assemble simply: Align the holes in the upper cover with the 2 mounting holes as shown. Secure the handle by tightening the supplied screws.



09564 / 09566.

These models are supplied with wheels and handles as standard; all wheels, handles and fixings can be found in the packaging.

- Slide the axle through the wheel support frame.
- Fit the wheels onto the axle, ensuring that the extended hub of wheel points towards the wheel support frame.
- Place flat washers and cotter pin onto axle ends and bend cotter pin with long nose pliers to secure.
- Place the heater onto the wheel support frame, ensuring that the air inlet end (rear) of heater is over wheels.
- Align the holes on fuel tank flange with holes on support frame.
- Position handles on top of the fuel tank flange.
- Insert screws through handles, fuel tank flange and wheel support frame as shown, and attach nuts finger tight after each screw is inserted.
- After all screws are inserted, firmly tighten all nuts to secure.

MAINTENANCE

WARNING! Air contaminants taken into the heater may affect the heat output, damage the unit and may cause health problems.

Example: Body-shop filler dust/paint overspray will damage the motor bearing, clog the filters and contaminate the combustion chamber causing flame flutter and health hazards. Please note that any parts damaged by filler dust/paint overspray or similar will not be covered by warranty. Additionally, a cleaning charge will be made for any heaters damaged by filler dust/paint overspray or similar. The following is only a guide; if the heater is used in heavy dust environments the servicing frequency should be adjusted accordingly to prolong the life of the heater.

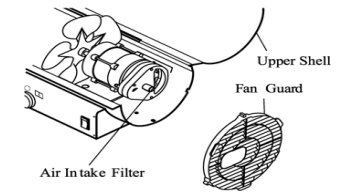
WARNING! Never service the heater while it is plugged in or while still hot!

USE ONLY ORIGINAL REPLACEMENT PARTS - Use of third-party or other alternate components may void your warranty and cause unsafe operating conditions.

Air Intake Filter:

Replace or wash and dry with mild soap and water every 500 hours of operation, or sooner in very dusty environments.

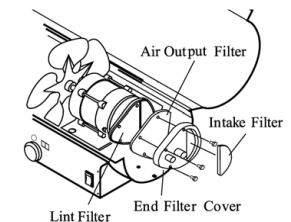
- Remove screws along side of heater.
- Lift off upper shell.
- Remove fan guard.
- Wash or replace air intake filter.
- Reinstall fan guard and upper shell.

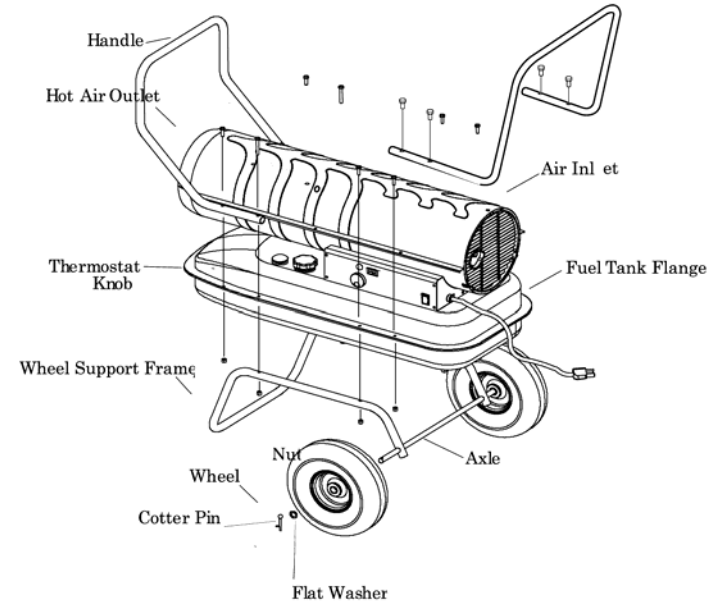
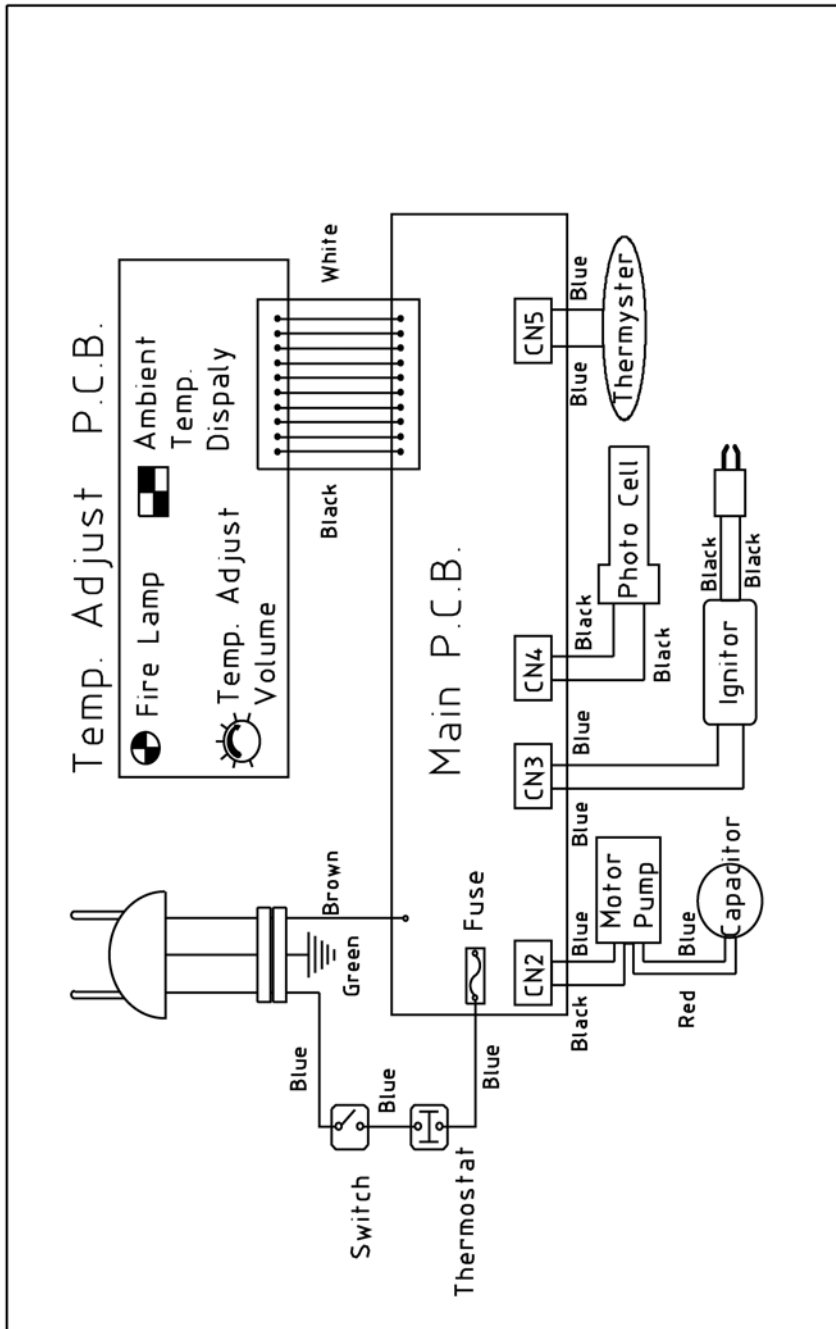


Air Output Filter / Lint Filter:

Replace every 500 hours of operation, once a year or sooner if operated in dusty environments.

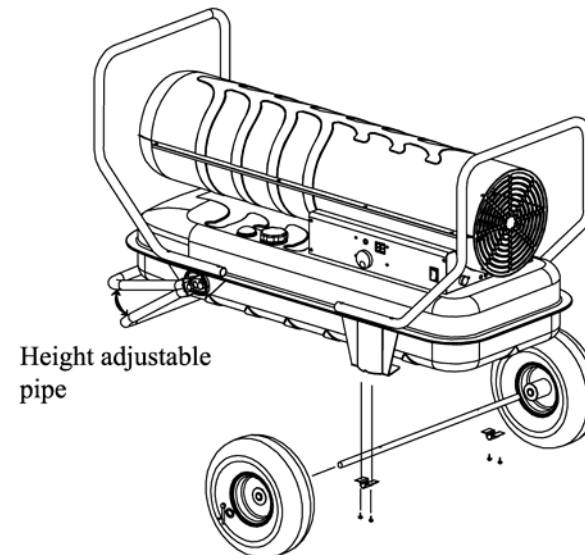
- Remove upper shell and fan guard.
- Remove end filter cover screws.
- Remove end filter cover.
- Replace air output and lint filter.
- Reinstall end filter cover.





09568 / 09570.

These models are already assembled with handles and adjustable pipe. only the wheels, with shaft and brackets need to be fitted - see below.



OVERVIEW OF HEATER DESIGN

Fuel System: The heater is equipped with an electric air pump that forces air through the air line connected to the fuel intake, and then through a nozzle in the burner head. When air passes in front of the fuel intake, it causes fuel to rise from the tank and into the burner nozzle.

This fuel and air mixture is then sprayed into the combustion chamber in a fine mist.

Sure Fire Ignition: The electronic ignitor sends voltage to a specially designed elec-trode / spark plug. The electrode / spark plug ignites the fuel and air mixture described above.

Air System: The heavy duty motor turns a fan that forces air into and around the combustion chamber. Here, the air is heated and then forced out the front of the heater.

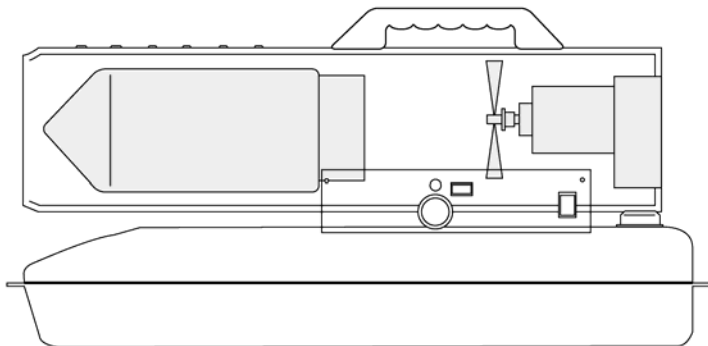
Safety System.

Temperature limit Control: This heater is equipped with a Temperature Limit Control designed to turn the heater off should the internal temperature rise to an unsafe level. If this device activates and turns your heater off, it may suggest that the heater re-quires a service.

Once the temperature falls below the reset temperature, you will be able to start your heater.

Electrical System Protection: This heater's electrical system is protected by a fuse mounted to the PCB assembly that protects it and other electrical components from damage. If your heater fails to operate, check this fuse first and replace as needed. Always replace the fuse like for like.

Flame-Out Sensor: The heater utilizes a photocell to monitor the flame in the combustion chamber during normal operation. It will cause the heater to shut off should the burner flame extinguish.



OPERATING INSTRUCTIONS

To Start The Heater.

- Set the heater on a stable level surface.
- Remove the fuel cap.
- Fill fuel tank with diesel.
- Refit the fuel cap.

Note: Never fuel the heater when it is running, or is still hot from running; Always leave the heater until it is cool before fuelling. Never fuel the heater in an enclosed space. Do not overfill the heater and wipe up any spills prior to operation.

- Plug mains lead into a corresponding electrical socket.
- Turn the thermostat control knob to desired setting.
- push power switch to the "ON" position - The Power indicator lamp will light and heater will start.

Important: The first ignition of the heater should be carried out outdoors - This will allow any oils etc. used during the manufacturing process to be burnt off.

If the heater does not start, the thermostat setting may be too low - Turn THERMOSTAT CONTROL KNOB to higher position to start heater. If heater still does not start, turn power switch to OFF and then back to the ON position.

Note: The major electrical components of this heater are protected by a safety fuse mounted to the PCB. If your heater fails to start, check this fuse first and replace as necessary. You should also check your power source to ensure that proper voltage and frequency are being supplied to the heater.

To Stop The Heater.

- Turn power switch to "OFF" and unplug the mains lead.

To Restart The Heater.

- Wait at least 10 seconds after stopping heater.
- Repeat steps under, "To Start The Heater"

