INSTRUCTIONS FOR:

PRODUCTS PARAFFIN HEATERS

AB601, AB801, AB80, AB100X & AB160X. Models:

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE OR PERSONAL INJURY, AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.

SAFETY INSTRUCTIONS

ELECTRICAL SAFETY. WARNING! It is the user's responsibility to read, understand and comply with the following:

You must check all electrical equipment and appliances to ensure they are safe before using. You must inspect power supply leads, plugs and all electrical connections for wear and damage. You must ensure the risk of electric shock is minimised by the installation of appropriate safety devices. An RCCB (Residual Current Circuit Breaker) should be incorporated in the main distribution board. We also recommend that an RCD (Residual Current Device) is used with all electrical products. It is particularly important to use an RCD together with portable products that are plugged into an electrical supply not protected by an RCCB. If in doubt consult a professional electrician. You may obtain a Residual Current Device by contacting your Sealey dealer. You must also read and understand the following instructions concerning electrical safety.

- 1.1.1. The Electricity At Work Act 1989 requires all portable electrical appliances, if used on a business premises, to be tested by a qualified Electrician at least once a year by using a Portable Appliance Tester (PAT).
- The Health & Safety at Work Act 1974 makes owners of electrical appliances responsible for the safe condition of the appliance. 1.1.2. and the safety of the appliance operator. If in any doubt about electrical safety, contact a qualified electrician.
- Ensure the insulation on all cables and the product itself is safe before connecting to the mains power supply. See 1.1.1. & 1.1.2. above and use a Portable Appliance Tester (PAT).
- Ensure that cables are always protected against short circuit and overload.
- 1.1.5. Regularly inspect power supply, leads, plugs and all electrical connections for wear and damage, especially power connections, to ensure that none are loose.
- 1.1.6. Important: Ensure the voltage marked on the product is the same as the electrical power supply to be used, and check that plugs are fitted with the correct capacity fuse. A 13Amp plug may require a fuse smaller than 13Amps for certain products (subject to 1.1.10. below) see fuse rating at right.
- DO NOT pull or carry the powered appliance by its power supply lead. Products such as welders must not be pulled or carried by their output cables.
- DO NOT pull power plugs from sockets by the power cable.
- DO NOT use worn or damage leads, plugs or connections. Immediately replace or have repaired by a qualified Electrician. A U.K. 3 pin plug with ASTA/BS approval is fitted. In case of damage, cut off and fit a new plug according to the following instructions (discard old plug safely). (UK only - see diagram at right). Ensure the unit is correctly earthed via a three-pin plug.

a) Connect the GREEN/YELLOW earth wire to the earth terminal 'E'.

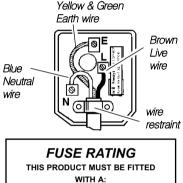
- b) Connect the BROWN live wire to live terminal 'L'.
- Connect the BLUE neutral wire to the neutral terminal 'N'.

After wiring, check there are no bare wires, that all wires have been correctly connected and that the wire restraint is tight. Double insulated products are often fitted with live (BROWN) and neutral (BLUE) wires only. Double insulated products are always marked with this symbol. To re-wire, connect the brown & blue wires as indicated above. DO NOT connect the brown or blue to the earth terminal.

1.1.10. Cable extension reels. When a cable extension reel is used it should be fully unwound before connection. A cable reel with an RCD fitted is recommended since any product which is plugged into the cable reel will be protected. The section of the cable on the cable reel is important. We recommend that at least 1.5mm² section cable but to be absolutely sure that the capacity of the cable reel is suitable for this product and for others that may be used in the other output sockets, we recommend the use of 2.5mm² section cable.

1.2 GENERAL SAFETY

- 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. Non recommended parts may be dangerous and will invalidate the warranty.
- Only use paraffin or diesel to fuel your heater in accordance with instructions contained in this manual.
- WARNING! Only use heater in well ventilated areas. Ensure continuous ventilation is provided to the heater operating area. Allow at least 0.03sqft/1000Btu/h proportioned according to the thermal power of the appliance. This should be divided equally between floor and high level. A ventilation opening must run to the outside of the premises where the heater is to be operated. If your operating area has no direct access to clean fresh air we recommend you run a large gauge ducting flue from the outside of the building to the back of the heater in order to provide a clean air intake. For more details see chapter 4.
- Keep the heater a minimum of 3 meters from any combustible materials (i.e. wooden items, cloth, plastics, paper, etc).
- Maintain a minimum distance of 50cm from non combustible items (i.e. brick, steel, concrete, etc).
- Before each use check that the heater air inlet and outlet is not obstructed or blocked.
- Check the colour of the dome at the heater outlet to ensure that optimum heat output is maintained. (see chapter xx).
- WARNING! DO NOT use the heater near flammable material, liquids, solids, gases or compressed gas cylinders and the like.
- DO NOT use heater in closed rooms, living areas, basements or below ground level.
- DO NOT operate the heater without its cover.
- DO NOT allow untrained persons to operate the heater. X
- DO NOT use an external fuel tank. Only use that which is part of the heater.
- DO NOT leave the heater unattended when in use. Switch the heater off and unplug from the mains before leaving working area.
- DO NOT stand or place any object less than 3mtrs distance from the heater's output.
- DO NOT obstruct the air inlet and outlet sections of the heater.
- DO NOT operate the heater when you are tired, under the influence of alcohol, drugs or intoxicating medication.
- DO NOT over fill the fuel container. Wipe up any spilled fuel immediately.
- DO NOT touch the heater outlet end or dome when first switched off as it is very hot and will take time to cool.
- Ensure the heater is correctly turned off when not in use and store in a safe, dry area, out of reach of children.



13 Amp FUSE

2. INTRODUCTION & SPECIFICATIONS

NOTE: Your heater is set to be used with paraffin, to adjust for diesel use refer to chapter 4.

The AB range of Sealey heaters are made to DIN30697 standard and built to survive the rigor of bodyshops, workshops, and large working areas (these heaters are not for domestic use). The heater's sensor will automatically cut the motor and fuel supply off if the flame is inadvertently extinguished. The heater can be fuelled with paraffin or (with minor adjustments to air pressure systems) diesel. Diesel, however, will not burn as cleanly as paraffin. DO NOT use any other type of fuel. A specially designed burner head in a stainless steel combustion chamber ensures a thorough burn of fuel which results in economical use and maximum heating effect. The cast alloy compressor unit is protected by a large filter element and the fuel line is fitted with an in line filter to ensure trouble free operation. The AB series will operate for between 6 and 13 hours on a single tank of fuel, the specifications of which are below.

2.1. Specification: Paraffin Heaters

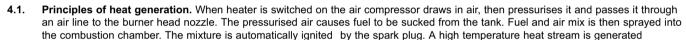
| Model: | AB601 | AB801 | AB80 | AB100X | AB160X |
|--------------------------------------|-----------------|-----------------|----------|-----------------|-----------------|
| Output (kW): | | | | | |
| Tank Capacity (Gallons): | | | | | |
| Fuel Oil: | Paraffin/Diesel | Paraffin/Diesel | | Paraffin/Diesel | Paraffin/Diesel |
| Electrical Input: | | | | | |
| Approx. hours operation per filling: | | | | | |
| Transport wheels: | Not fitted | Not fitted | Standard | Standard | Standard |
| Air flow (CFM): | | | | | |
| Automatic Shut Off: | Yes | | Yes | | Yes |
| Heated Area (Cu.ft): | | | | | |
| Heated Area (Cu.m): | | | | | |
| Net Weight (kg): | | | | | |
| Shipping weight (kg): | | | | | |
| Quality standard: | DIN30697 | | DIN30697 | DIN30697 | DIN30697 |

3. ASSEMBLY

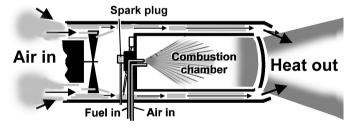
Unpack the product and check contents. Should there be any damaged or missing parts contact your supplier immediately. If your model is supplied with wheels refer to fig 1 for assembly.

- 3.1. Slide axle (4) through wheel support frame (3).
- 3.2. Install wheels (5) then cap nuts (9) on axle ends and tap lightly into place.
- 3.3. Place heater on wheel support frame and line up holes on the fuel tank flange with holes on the wheel support frame.
- 3.4. Place handle on fuel tank flange and line up with the wheel support frame fixing holes. Insert bolts (6) through the fuel tank flange and both frames and secure finger tight only with nuts (7) and washers (8).
- 3.5. When assembly is complete, securely tighten all nuts.

4. OPERATING CONDITIONS



in the combustion chamber. Air is drawn into the unit by a fan and is pushed around the cool chamber situated between the combustion chamber and outer casing. The fast flowing air sucks the heat stream out from the combustion chamber providing required heat. Heat will cause the steel dome in the mouth of heater to glow. The intensity of this glow is an indication of the heater's performance. If system malfunctions a "flame-out" control will cut in and automatically cut the motor and fuel supply off. Should this happen switch machine off and unplug from mains. Refer to trouble shooting chart in section 6 and/or return unit to supplier for maintenance.



- **4.2. The fuel.** The AB series will operate with two types of fuel, paraffin, and diesel. Before operating the heater you must determine which type of fuel you will use in order to effect the correct heater settings. The following information must be understood before use.
- 4.2.1. Paraffin. The heat output is governed by the compressor; the higher the air pressure the hotter the flame. The AB series heaters have had the air pressure pre set at the factory to accommodate paraffin (because it will burn more cleanly than diesel). When the heater is new however (or when the unit has been returned from service) the settings may require minor adjustment to accommodate reductions in air flow through a new air filter. Incorrect settings will cause flame problems and may emit fuel odours resulting in damage to the unit and an uncomfortable working environment. Paraffin will sometimes cause condensation. If the unit is stored unused (i.e. during the summer) such condensation will cause the fuel tank to corrode, and the flame to pulsate due to water in the tank when next used. To overcome the problem, paraffin must be drained off and replaced with diesel whilst standing unused for long periods. Do not forget to change back to the correct fuel before you next use the heater. There is no need to clean the tank as diesel and paraffin will mix satisfactorily.
- **4.2.2. Diesel.** AB series heaters are pre-set at the factory to accommodate paraffin. If diesel is used without changing air pressure the presetting for paraffin will generate a greater air pressure than is required for diesel and consequently blow an excessively hot flame which will damage the unit. (A) Before using diesel the system must be adjusted by decreasing the air pressure to the point at which the diesel will burn to generate the correct heat output.
 - □ **WARNING!** failure to adjust to the correct air pressure will damage the heat chamber and invalidate your warranty.
 (B) The spark plug will require cleaning every 50 hours of use in order to remove carbon soot (see Maintenance). We recommend cleaning the plug at least once every standard working week if less than 50 hours.

4.3. Heater location

WARNING! Only use heater in well ventilated areas. Careful consideration must be given to the placing of your heater to provide safe and comfortable heating. Ensure continuous ventilation is provided to the heater operating area. Allow at least 0.01m2/kW proportioned according to the thermal power of the appliance. This should be divided equally between floor and high level. A ventilation opening must run to the outside of the premises where the heater is to be operated. If your operating area has no direct access to clean fresh air we recommend you run a large gauge ducting flue from the outside of the building to the back of the heater in order to provide a clean air intake. Ensure the flue is laid so that it will not compromise working safety standards.

Minimum opening for fresh air intake Model: AB601 = 0.180m² AB801 = 0.230m² AB80 = 0.230m² AB100X = 0.250m² AB160X = 0.430m²

- 4.4 For use in the construction and agricultural industry ensure the safety regulations in force are adhered to with regard to distances from flammable materials and any other categorised substances. Refer to General Safety requirements on page1 for recommded clearance spacings.
- **4.5 ¬ WARNING!** Air contaminants taken into the heater may effect the heat output, damage the unit and may cause health problems. Example: Bodyshop filler dust will damage the motor bearing, clog the filter and compressor, contaminate the burner chamber causing flame flutter and health hazards. A ventilation opening must run to the outside of the premises where the heater is to be operated. If your operating area has no direct access to clean fresh air we recommend you run a large gauge ducting flue from the outside of the building to the back of the heater in order to provide a clean air intake.

5. OPERATING INSTRUCTIONS

5.1. RUNNING THE HEATER ON PARAFF IN.

The heater has been pre-set in the factory for the use of paraffin and should produce the correct heat output when first used from new. You should run the heater at the pre-set output in order to ensure the long life, safety and reliability of the unit. (Refer to the specification table for output in kW for your particular model.) Minor adjustments to heat output may be required during the first 60 hours of use whilst the air filter acclimatises. These adjustments will be carried out by the use of the air pressure valve which is provided on the unit. (See fig.5-A.) Once the unit has completed its running in period it should not be necessary to alter the air pressure again until a new air filter is fitted or a change of fuel takes place.



orange

glow

fig 4

Cherry red

- 5.1.1. Ensure the unit is unplugged from the mains supply.
- 5.1.2. Fill the fuel tank with paraffin. **Do not** over fill and wipe away any spillage before use.
- 5.1.3. Plug into the main power supply and switch the unit on. The heater will ignite and as the heat builds to its maximum (approximately 2 minutes) the dome at the output end of the heater will begin to glow. You will need to observe the colour of the dome to check that the heater is producing the correct heat output as indicated below.

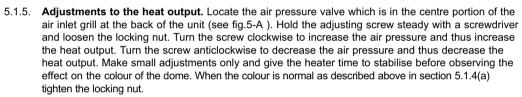
 Bright

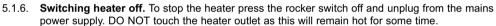
(Stand at least 3 mtrs away from heater output to make observations.)

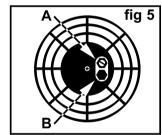
5.1.4. a) NORMAL CHERRY RED IN THE MIDDLE PROGRESSING TO AN ORANGE ON OUTSIDE RIM OF DOME. (See fig.4.)

b) TOO HOT ORANGE ALL OVER. (WARNING. This output will damage the combustion chamber and invalidate warranty.)

c) TOO COOL ANY DULL GLOW PROGRESSING UPWARD TO CHERRY RED ALL OVER. (Also heater odour emissions will indicate incorrect settings.)







5.2. RUNNING THE HEATER ON DIESEL.

The heater has been pre-set in the factory for the use of <u>paraffin</u>. (NOT FOR DIESEL). Because diesel burns hotter than paraffin it will be necessary to *decrease* the air pressure to enable the heater to give out the correct heat output. *Failure to make this adjustment will damage the heat chamber and invalidate your warranty.*

- 5.2.1. Ensure the unit is unplugged from the mains supply.
- 5.2.2. Fill the fuel tank with Diesel. Do not over fill and wipe away any spillage before use.
- 5.2.3. You will need to make a preliminary adjustment to the air pressure valve before turning the heater on. Locate the valve which is in the centre portion of the air inlet grill at the back of the unit (see fig.5-A). Hold the adjusting screw steady with a screwdriver and loosen the locking nut. Turn screw half a turn anticlockwise to decrease air pressure and thus decrease the heat output to compensate for the hotter burning diesel fuel. Retighten the locking nut.
- 5.2.4. Plug into the main power supply and switch the unit on. The heater will ignite and as the heat builds to its maximum (approximately 2 minutes) the dome at the output end of the heater will begin to glow. You will need to observe the colour of the dome to check that the heater is producing the correct heat output as indicated above in section 5.1.4. (Stand at least 3 mtrs away from heater output to make observations.) Minor adjustments to heat output may be required during the first 60 hours of use whilst the air filter acclimatises. If necessary readjust the air pressure valve as indicated in section 5.1.5. to achieve the correct dome colour.
- 5.2.5. **Switching heater off.** To stop the heater press the rocker switch off and unplug from the mains power supply.DO NOT touch the heater outlet end as this will remain hot for some time. Store in a dry, safe, childproof area.

5.3. MONITORING HEAT OUTPUT

The heat output should be checked on a daily basis by observing whether the outlet dome is the normal operating colour as described above in Section 5.1.4. If after a period of time the heat output should begin to fall this indicates that either the unit requires maintenance as laid out in Section 6. or that the environmental conditions the unit is operating in are not correct. (See Section 4.) **DO NOT ATTEMPT TO TURN UP THE AIR PRESSURE TO COMPENSATE FOR HEAT LOSS** as this could result in damage to the combustion chamber and would invalidate your guarantee.

5.3.1. If there is any doubt about the efficient operation of the heater, the air pressure/heat output should be checked more exactly using a pressure guage which will measure up to 30 p.s.i. and have a 1/8" BSP thread. With the heater turned off and unplugged from the mains, remove the threaded plug from below the air pressure valve and attach the guage.(See fig.5-B). Start the heater and compare the reading with the chart shown on the right. If the reading differs from the chart this indicates that maintenance is required as laid out in Section 6. You should also investigate whether the environmental

| Model | Working Pressures bar/psi | | |
|--------|---------------------------|-------------|--|
| No. | Diesel | Paraffin | |
| AB601 | 0.24 / 3.48 | 0.28 / 4.06 | |
| AB801 | 0.26 / 3.77 | 0.33 / 4.78 | |
| AB80 | 0.26 / 3.77 | 0.33 / 4.78 | |
| AB100X | 0.30 / 4.35 | 0.36 / 5.22 | |
| AB160X | 0.30 / 4.35 | 0.39 / 5.65 | |

conditions at the location of the heater are suitable with particular reference to the amount and quality of the air supply. Turn off the heater and unplug it from the mains power supply. Remove the guage and replace the bung before you turn the heater on again.

MAINTENANCE

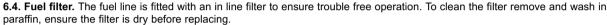


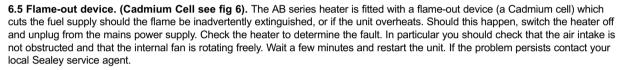
WARNING! MAINTENANCE MUST ONLY BE UNDERTAKEN BY A QUALIFIED PERSON. WE STRONGLY RECOMMEND THAT ALL SERVICING IS UNDERTAKEN BY YOUR LOCAL SERVICE AGENT

Looking after your AB heater will pay dividends, ensuring you have heat as and when you need it, and avoiding frustrating operation problems.

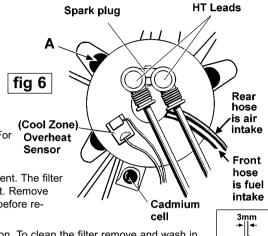
IMPORTANT. We strongly recommend that you arrange to service your heater during the summer months to avoid being left without heat during the winter. D WARNING! unplug unit from mains power supply before opening or servicing heater. See chapter 1. regarding electrical safety & maintenance.

- 6.1. General. Keep heater clean; wipe outer case with a damp clean cloth. Do not use abrasives. Clean fuel tank with a dry cloth. Oil wheels if necessary. Check heater for damage and immediately repair or replace with authorised parts. Contact your Sealey Service Agent.
- **6.2. Spark plug (electrode).** Remove, clean and check the plug gap is 3mm (fig 7). For paraffin check the plug on a monthly basis (or if you have starting problems). If using diesel clean plug every 50 hours (or once every working week if less than 50hours).
- 6.3. Air filter. The cast alloy compressor unit is protected by an extra large filter element. The filter should be cleaned regularly, especially if the appliance is used in a dusty environment. Remove filter end cover, wash the air intake filter using a light detergent and dry it thoroughly before reinstalling. Replace the air delivery filter at least once a year.





6.6. Fan. Fan blades should be cleaned every 500 operating hours. (dependent on environment). Remove the outer case and clean the fan blades with a paraffin moistened cloth or very light solvent. Dry fan thoroughly using compressed air.



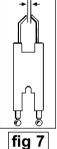


fig 7

TROUBLE SHOOTING

| THE PROBLEM | THE CAUSE | THE SOLUTION | |
|--|--|--|--|
| Pulsation or uneven firing. | 1.1. Low fuel level unit not level. 1.2. Air leak. 1.3. Water in fuel. 1.4. Low air pressure. | 1.1. Fill tank, level unit. 1.2. Check air and fuel lines for air leaks. 1.3. Drain, flush and refill with clean fuel. 1.4. Adjust air pressure, Clean air filters. | |
| 2. Motor does not start. | 2.1. No power to unit, low voltage. 2.2. Defective motor. 2.3. Flame out device activated. 2.4. Fan jammed on outer case. | 2.1. Check outlet and fuse. Check power lead, check fan not fouling on outer case. 2.2. Replace motor or motor parts. (contact service agent). 3.3. Check reason, wait 3 minute and try to restart. 4.4. Switch off mains, open case and check fan clearance. | |
| 3. Motor runs slowly. | 3.1. Low voltage. 3.2. Tight compressor. 3.3. Motor defective. | 3.1. Check length and size of extension cord. 3.2. With unit unplugged turn fan by hand. If fan does not turn freely adjust compressor ring. Also check to ensure the outer cover is not fouling on the fan. 3.3. With unit unplugged fan turns freely, replace motor (contact service agent). | |
| Motor starts, but heater does not ignite and after a short time locks out. | 4.1. Low fuel level. 4.3. Burner nozzle blocked 4.5. Fuel filter blocked. 4.7. Dirty fuel. 4.2. Leak in fuel line. 4.4. Diesel viscosity low. 4.6. Defective spark plug. 4.8. Fault in flame-out sys | 4.1. Check fuel and fill tank it required. 4.2. Tighten or replace 4.3. Clean nozzle. 4.4. Low temperature, mix 10-20% paraffin to the Diesel. 4.5. Clean or replace filter. 4.6. Check for wear or adjust properly. 4.7. Drain, flush & refill tank. 46.8. Contact local service agent. | |
| Flames come out of the heater mouth. | 5.1. Wrong fuel. 5.2. Excess air pressure. 5.3. Improper air flow. 5.4. Air leak in air line. | 5.1. Use correct fuel only. 5.2. Adjust pressure to nominal. 5.3. Dirty or loose fan, air entrance at rear of heater blocked. 5.4. Replace. | |
| Motor starts, heater ignites but flame out system shuts off the appliance. | 6.1. Dirty flame out "Cad Cell". 6.2. Fault with flame-out "Cad Cell". 6.3. Defective connection between "Cad Cell" & flame out co 6.4. Faulty flame out control. | 6.1. Clean and check "Cad Cell" to ensure if responds to light. 6.2. Check as in 6.1. and replace if necessary. 6.3. Check that connection is correct. 6.4. Check and replace if necessary. | |

Declaration of Conformity We, the sole importer into the UK, declare that the products listed below are in conformity with the following EEC standards and directives

PARAFFIN HEATERS Models: AB601, AB801 AB80, AB100X, AB160X Machinery Directive (S.I. 1992/3073) 89/392/EEC Low Voltage Directive (S.I. 1989/728) 73/23/EEC EMC Directive (S.I. 1992/2372) 89/336/EEC

CE Marking Directive 93/68/EEC



The construction file for these products are held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd

Signed by Mark Sweetman



6th June 2000

For Jack Sealey Ltd. Sole importer into the UK of Sealey Power Products

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice. IMPORTANT: No liability is accepted for incorrect use of product. WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim. INFORMATION: Call us for a copy of our latest catalogue and promotions on 01284 757525 and leave your full name and address including your postcode.



Sealey Group, Bury St. Edmunds, Suffolk.



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