



INSTRUCTIONS FOR

POWERSTART EMERGENCY HEAVY-DUTY POWERPACK 1000HP START 12/24V

MODEL NO: **PSTART1000HD**

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 AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instruction manual



Wear protective gloves



Wear eye protection



Warning: corrosive substance



Use in well ventilated areas



Keep away from sources of ignition; battery could explode

1. SAFETY

IMPORTANT: To reduce the risk of a battery explosion, follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of the battery. Remember to review warning marks on all products and on engines.

Modern vehicles contain extensive electronic systems. You are required to check with the vehicle manufacturer, for any specific instructions regarding the use of this type of equipment on each vehicle. No liability will be accepted for damage / injury, where this product is not used in accordance with all instructions.

1.1. ELECTRICAL SAFETY

- ❑ **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. You may obtain a Residual Current Device by contacting your Sealey dealer.

1.1.1. You must also read and understand the following instructions concerning electrical safety.

1.1.2. The **Electricity at Work Act 1989** requires that all portable electrical appliances, if used on business premises, are tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.

1.1.3. The **Health & Safety at Work Act 1974** makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators.

If in any doubt about electrical safety, contact a qualified electrician.

1.1.4. Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply. See 1.1.1. and 1.1.2. and use a Portable Appliance Tester.

1.1.5. Ensure that cables are always protected against short circuit and overload.

1.1.6. Regularly inspect power supply leads, plugs for wear and damage and power connections, to ensure that none is loose or damaged.

1.1.7. **IMPORTANT:** Ensure that the voltage rating on the appliance suits the power supply to be used and that the plug is fitted with the correct fuse - see fuse rating in these instructions.

- ✗ **DO NOT** pull or carry the appliance by the power cable.

- ✗ **DO NOT** pull the plug from the socket by the cable.

- ✗ **DO NOT** use worn or damaged cables, plugs or connectors. Ensure that any faulty item is repaired or replaced immediately by a qualified electrician.

1.1.8. This product is fitted with a BS1363/A 13 Amp 3 pin plug.

If the cable or plug is damaged during use, switch the electricity supply and remove from use.

Ensure that repairs are carried out by a qualified electrician.

Replace a damaged plug with a BS1363/A 13 Amp 3 pin plug. If in doubt contact a qualified electrician.

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

B) Connect the BROWN live wire to the live terminal 'L'.

C) Connect the BLUE neutral wire to the neutral terminal 'N'.

Ensure that the cable outer sheath extends inside the cable restraint and that the restraint is tight.

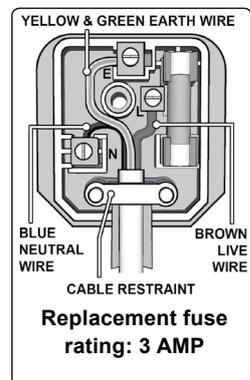
After wiring, check that there are no bare wires, that all wires have been correctly connected. Sealey recommend that repairs are carried out by a qualified electrician.

If an extension reel is used it should be fully unwound before connection. A reel with an RCD fitted is preferred since any appliance plugged into it will be protected. The cable core section is important and should be at least 1.5mm², but to be absolutely sure that the capacity of the reel is suitable for this product and for others which may be used in the other output sockets, we recommend the use of 2.5mm² section cable. If extension reel is to be used outdoors, ensure it is marked for outdoor use.

1.2. ELECTRICAL SAFETY IN RELATION TO BATTERY CHARGERS

- ▲ **DANGER! BE AWARE, LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT VERY IMPORTANT TO READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY, EACH TIME YOU USE THE EQUIPMENT.**

- ✓ Follow these instructions and those published by the battery and vehicle manufacturers, and the maker of any equipment you intend to use in the vicinity of the battery. Remember to review warning marks on all products and on engines.



- WARNING!** Modern vehicles contain extensive electronic systems. You are required to check with the vehicle Manufacturer, for any specific instructions regarding the use of this type of equipment on each vehicle.

No liability will be accepted for damage / injury, where this product is not used in accordance with all instructions.

1.3. PERSONAL PRECAUTIONS

- ✓ Ensure there is another person within hearing range of your voice and close enough to come to your aid, should a problem arise when working near a lead-acid battery.
- ✓ Wear safety eye protection and protective clothing. Avoid touching eyes while working near battery.
- ✓ Have fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- ✓ Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush eye immediately with cool, clean running water for at least 15 minutes and seek immediate medical attention.
- ✓ Remove personal metallic items such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short-circuit current which is high enough to weld a ring or the like to metal, which would cause severe burns.
- ✓ Ensure hands, clothing (especially belts) are clear of fan blades and other moving or hot parts of engine, remove ties and contain long hair.
- ✗ **DO NOT** smoke or allow a spark or flame in the vicinity of battery or engine.

1.4. CHARGING SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the application and limitations of the starter as well as the potential hazards. Also refer to the vehicle manufacturer's handbook. **IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.**
- ✓ Ensure the starter is in good order and condition before use. If in any doubt do not use the unit, contact your Sealey stockist.
- ✓ Use the starter in the upright position only and ensure it is placed on a stable surface which will adequately support its weight.
- ✓ Ensure the starter is disconnected from the mains supply before attaching/detaching the power clamps to/from the battery.
- ✓ Keep tools and other items away from the engine and ensure you can see the battery and working parts of engine clearly.
- ✓ Ensure the output of the starter is the same voltage as the battery.
- ✓ If battery has caps to access the battery fluid, remove the caps and check the fluid level before connecting the power clamps.
- ✓ If necessary top-up the battery with distilled water by referring to the battery manufacturer's instructions (Apply the personal safety precautions described in part 1.3).
- ✓ If the starter receives a sharp knock or blow the unit must be checked by a qualified service agent before using.
- ✓ If the battery terminals are corroded or dirty clean them before attaching the power clamps.
- ✓ Keep children and unauthorised persons away from the working area.
- ✗ **DO NOT** dis-assemble the starter for any reason. The starter must only be checked by qualified service personnel.
- ✗ **DO NOT** try to boost or charge battery if battery fluid is frozen.
- WARNING!** To prevent the risk of sparking, short circuit and possible explosion **DO NOT** drop metal tools in the battery area, or allow them to touch the battery terminals.
- ✗ **DO NOT** allow power clamps to touch each other or to make contact with any metallic part of the vehicle.
- ✗ **DO NOT** cross connect power leads from starter to battery. Ensure positive (+/RED) is to positive and negative (-/BLACK) is to negative.
- ✗ **DO NOT** pull the cables or clamps from the battery terminals.
- ✗ **DO NOT** use the unit to recharge dry cell batteries (commonly used in home appliances). These batteries may burst and cause injury to persons and/or damage to property.
- ✗ **DO NOT** store the unit in damp or wet locations or where temperature may exceed 50°C.
- ✗ **DO NOT** submerge the unit in water.
- ✗ **DO NOT** use starter inside vehicle or inside engine compartment.
- ✗ **DO NOT** leave the unit in a totally discharged state for an extended period of time as this will result in permanent damage.
- ✗ **DO NOT** use the starter for a task for which it is not designed.
- WARNING!** If a fuse blows, ensure it is replaced with an identical fuse type and rating. Use only Sealey genuine parts.
- ✓ When not in use, store the starter carefully in a safe, dry, childproof location.

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.

2. INTRODUCTION

Heavy-duty steel case, high power battery and industrial quality switchgear make this model suitable for starting most vehicles. Positive action power switch reduces risk of inadvertent damage by over-voltage. Heavy-duty copper cables provide efficient power transfer. Twin trips prevent damage to battery or internal circuitry. Easy-to-read LED battery indicator to IEC 51 provides fast indication of battery's state of charge. Surge and spike suppressing circuitry reduces risk of damaging vehicle's on-board electronics. Fitted with charge balance circuitry to provide even charge to integral batteries. Supplied with mains voltage recharge unit.

3. SPECIFICATION

Model No:..... PSTART1000HD
 Voltage:..... 12V/24V
 Maximum Engine Size:..... 1000hp
 Peak Amps 12V:..... 7000A
 Peak Amps 24V:..... 3500A
 Cranking Current (20°C 5secs) 12V:..... 1900A
 Cranking Current (20°C 5secs) 24V:..... 950A
 Cold Cranking Current (-18°C 30secs) 12V:..... 800A
 Cold Cranking Current (-18°C 30secs) 24V:..... 400A
 Cable Section:..... 35mm²
 Cable & Clamp Length:2mtr
 Weight:..... 26kg

4. CHARGING

IMPORTANT! Only recharge POWERSTARTS with the AC charger provided. The charger is automatic and does not require the user to monitor the progress of the charge. Furthermore, whenever the POWERSTART is not in use, it should be connected to the charger, failure to do this will invalidate the warranty.

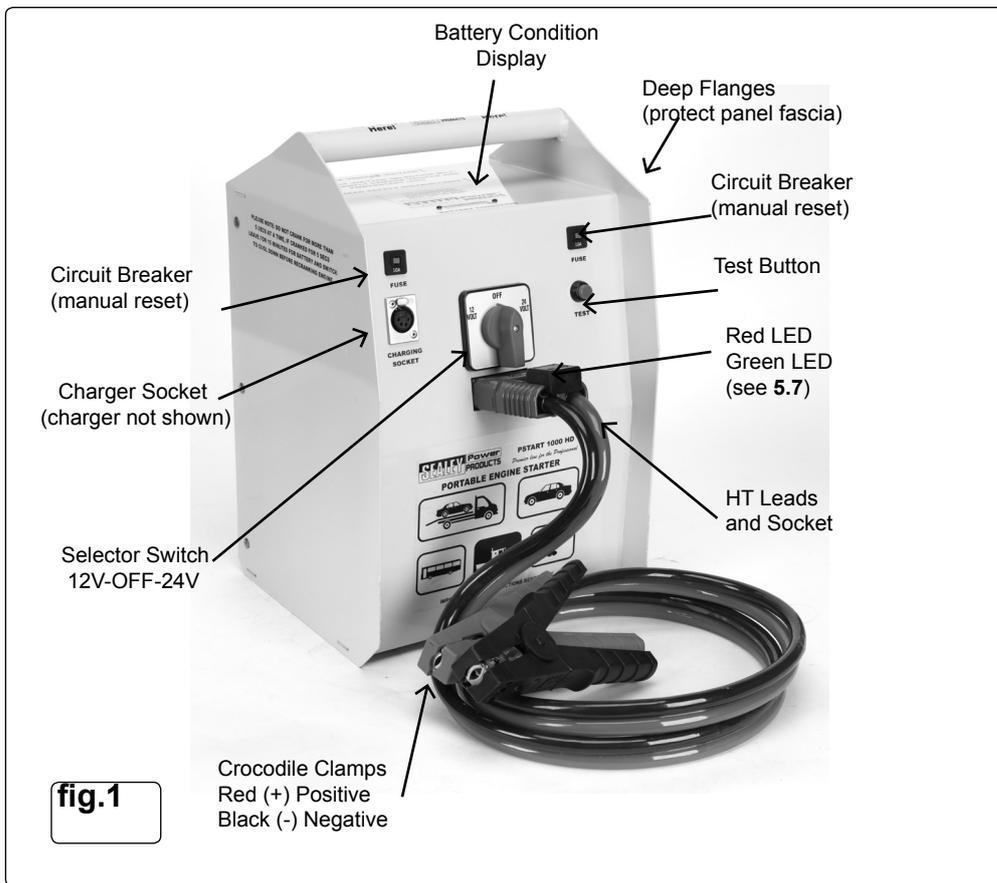
4.1. CHARGING AND RECHARGING

- ✓ The unit should be fully charged before initial use. When partially discharged the unit should be recharged before further use.
- **WARNING!** Use the supplied charger, cable and connector. Unauthorised parts may damage the unit and will invalidate the warranty. Ensure that you strictly apply the safety instructions as stated in Section 1.
- 4.1.1. Ensure that the POWERSTART selector switch is in the 'Off' position (fig.1).
- 4.1.2. Plug the charger mains cable into a 230 volt supply. The red 'On' LED will illuminate.
- 4.1.3. Plug the charger cable into the charge input socket of the unit. The unit will now charge automatically and the charger LED will indicate the level of charge. When the LED changes to green, charging is complete but the charger should not be disconnected or switched off. Leave it connected to the POWERSTART to ensure that the unit is fully charged when next required.
- 4.1.4. Press the test button and hold to read the percentage charge at any time; situated in the top face, marked "**BATTERY CONDITION**".
- 4.1.5. To disconnect the charger from the POWERSTART, first switch off the charger, then press and hold the latch immediately above the socket and pull out the plug.
NOTE: The POWERSTART charging circuits are protected against short circuit by thermal breakers. The breakers in the PSTART1000HD (one per 12V circuit and one per 24V circuit) have manual reset buttons on the front panel, clearly marked "**FUSE**" (10A).

5. OPERATION

WARNING! YOU MUST FOLLOW SAFETY INSTRUCTIONS AND ENSURE THAT THE POWERSTART AND VEHICLE VOLTAGES ARE THE SAME.

- 5.1. Before use, press the test button to confirm that the POWERSTART is fully charged (see 4.1.4).
- 5.2. Disconnect the charger as in 4.1.5. Remember to reinstate after use of the POWERSTART.
- 5.3. Apply the vehicle hand brake and select neutral gear (or 'Park' if automatic transmission). Turn the ignition and electrical accessories off.
- 5.4. Use in a well ventilated area and wear protective eye shields and clothing.
□ **WARNING! DO NOT** allow the red and black clamps to touch each other once the leads are connected to the POWERSTART. Ensure that the correct clamps are placed on the correct battery terminals.
- 5.5. With the HT leads **disconnected** from the POWERSTART attach the positive RED (+) clamp to the positive terminal on the vehicle battery. Ensure that the terminal is clean.
Note: On vehicles with multiple batteries connect the positive clamp to positive battery terminal which is connected to vehicle electrical system.
- 5.6. Attach the negative BLACK (-) clamp to the (ground) engine block or frame of the vehicle. Ensure that the cables are not in the path of moving engine parts, and are away from the carburettor/injection system, fuel lines etc.
- 5.7. Observe the LED status on the plug end of the HT leads. The green LED should illuminate, if the red LED illuminates cross-connection has occurred. This must be remedied before moving to **5.8**.
- 5.8. With the POWERSTART selector switch to 'Off' plug the leads into the socket situated beneath the switch
Note: The connector will only fit the socket one way round, to prevent cross-connection.
- 5.9. Turn the selector switch to select 12V or 24V to match the vehicle voltage.
- 5.10. Make sure that no one is standing near the battery. When all criteria is met, start the engine.
- 5.11. Once the vehicle has started, turn the selector switch to 'Off' and then disconnect the leads from the vehicle, see 5.12 for sequence.
IMPORTANT: If the vehicle does not start within FIVE seconds, **DO NOT** continue cranking. Let the POWERSTART's internal battery(ies) cool for **FIFTEEN** minutes before attempting to start the vehicle again. Failure to do so may damage the unit.
- 5.12. To remove the lead clamps, firstly disconnect the **BLACK (-)** negative clamp followed by the **RED (+)** clamp.
- 5.13. After use, immediately recharge the POWERSTART as described in **4.1**.
□ **WARNING! BEFORE CHARGING THIS UNIT, DISCONNECT THE OUTPUT HT LEADS FROM THE UNIT AS THEY WILL REMAIN "LIVE" WHILE CHARGING.**
□ **WARNING! NEVER CLAMP THE OUTPUT HT LEADS TO THE CARRY HANDLE AS THIS COULD RESULT IN A SHORT CIRCUIT.**



6. MAINTENANCE

- 6.1. The unit has no customer serviceable components. All repairs inside or outside the warranty period to be directed to your Sealer dealer.
- 6.2. Remove the HT leads plug and charger plug before cleaning the outer casing and all leads with a dry cloth. Replace the charger as explained in section 4.
- 6.3. Store the HT leads and POWERSTART indoors separately.



ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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 this product.

Warranty: Guarantee is 12 months from purchase date, proof of which is required for any claim.

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