

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: BEFORE USING THIS PRODUCT, PLEASE READ THE INSTRUCTIONS CAREFULLY. MAKE CAREFUL NOTE OF SAFETY INSTRUCTIONS, WARNINGS AND CAUTIONS. THIS PRODUCT SHOULD ONLY BE USED FOR ITS INTENDED PURPOSE. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. RETAIN THESE INSTRUCTIONS FOR FUTURE USE.**

### 1. SAFETY INSTRUCTIONS



**WARNING! RISK OF EXPLOSIVE GASES.** Working in the vicinity of a lead acid battery is dangerous because it can generate explosive gases. It is important to remember that batteries generate explosive gases during normal operation.



**WARNING!** This equipment contains a sealed, non-spillable lead acid battery. This must be disposed of in accordance with local regulations.

#### **IMPORTANT WARRANTY INFORMATION: KEEP YOUR ROADSTART HEALTHY**

Read and understand the general safety and operating instructions before use. The following information is intended to help you keep the product in top working order.

**NOTE – The battery in this unit is a consumable item and its ability to accept charge will reduce over time. We will warrant it against mechanical and electrical defect for a period of one year - this does not cover fair wear and tear.**

If the battery is not properly charged before first use, or regularly conditioned, its capacity will diminish. Under these circumstances we will not replace the battery even if it is less than one year old.

**You can help prolong the life cycle of the battery by following a few simple guidelines.**

- Plug in your new RoadStart to the mains transformer and make an INITIAL charge lasting 72 hours.
- Ensure the unit is fully charged before storage.
- **DO NOT** leave the RoadStart for longer than 30 days without putting it on charge.
- **DO NOT** drop or handle the RoadStart roughly – this will break or disconnect the battery terminals rendering the battery useless and the warranty void.
- **DO NOT** use any other charger, other than the one supplied, to recharge the RoadStart battery.
- Units are fitted with ventilation slots to aid heat dissipation and to allow any gases generated by the RoadStart to escape.
- **DO NOT** allow water to enter the unit as this could cause damage and will invalidate the warranty.

**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.

#### 1.1. PERSONAL PRECAUTIONS

- ✓ Ensure there is another person within hearing range, or close enough to come to your aid should a problem arise, when working near a lead-acid battery.
- ✓ Have fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- ✓ Wear safety eye protection and protective clothing. Avoid touching eyes while working with a battery.
- ✓ 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 high enough to weld a ring or the like to metal, which may cause severe burns.

#### 1.2. IMPORTANT SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the applications, limitations and potential hazards of the RoadStart.
- ✓ Keep the unit in good working order and condition. Replace damaged parts immediately.
- ✓ Use only recommended parts. To use unapproved parts may be dangerous and will invalidate your warranty.
- ✓ The RoadStart must only be opened and checked by qualified service personnel. **DO NOT** disassemble the unit for any reason.
- ✓ Keep children and unauthorised persons away from the work area.
- ✓ This RoadStart is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- ✓ Keep work area clean and tidy and free from unrelated materials. Ensure that there is adequate lighting.
- ✓ If the RoadStart receives a sharp knock or blow, it must be checked by a qualified service agent before being used.
- ✓ When not in use re-charge every 30 days or sooner.
- x **DO NOT** touch positive and negative clamps together as this could cause an explosion.
- x **DO NOT** smoke or allow a spark, or flame in the vicinity of the battery or engine.
- x **DO NOT** drop any metal item onto the battery as it may spark or short circuit the battery, which could cause an explosion.
- x **DO NOT** use RoadStart to recharge dry cell batteries that are commonly used with home appliances. These batteries may explode and cause personal injury and damage to property.
- x **DO NOT** charge or boost a frozen battery.
- x **DO NOT** use attachments other than those recommended. To do so may cause damage to the unit and other equipment and possible personal injury.
- x **DO NOT** pull or carry the unit by its cables and do not pull the negative and positive clamps from the battery terminals.
- x **DO NOT** operate in vicinity of flammable liquids or gases.
- x **DO NOT** recharge the unit with plugs, cables or attachments that are damaged. Replace such items immediately.
- x **DO NOT** use this RoadStart to perform a task for which it is not designed.
- x **DO NOT** store the unit in damp or wet locations or where the temperature may exceed 50°C.
- x **DO NOT** submerge the unit in water.
- x **DO NOT** use whilst under the influence of drugs, alcohol or intoxicating medication.

- x **DO NOT** leave the unit in a totally discharged state for an extended period of time as this may result in permanent damage to the battery.
- x **DO NOT** cross-connect the power leads from the RoadStart to the battery. Ensure that positive is to positive and negative is to negative.
- ✓ Ensure that the unit is fully charged before storage.

**1.3. ELECTRICAL SAFETY (with respect to mains chargers)**

**WARNING!** It is the user's responsibility to check the following:



**You must** check the AC adaptor to ensure that it is safe before using. **You must** inspect the power supply lead, 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 recommend that an RCD (Residual Current Device) is used with all electrical products. It is particularly important to use an RCD with portable products that plug into an electrical supply not protected by an RCCB. If in doubt consult a qualified electrician. You can obtain a Residual Current Device through your Sealey dealer. **You must** read and understand instructions concerning electrical safety.

- 1.3.1. The **Electricity At Work Act 1989** requires all portable electrical appliances, if used on business premises, to be tested by a qualified person, using a Portable Appliance Tester (PAT), at least once a year.
- 1.3.2. The **Health & Safety at Work Act 1974** makes owners of electrical appliances responsible for the safe condition of the appliance and the safety of the appliance operator. If in any doubt about electrical safety, contact a qualified electrician.
- 1.3.3. **DO** ensure that the insulation on all cables and the product itself is safe before connecting to the mains power supply.
- 1.3.4. **DO** ensure that cables are always protected against short circuit and overload.
- 1.3.5. **DO** regularly inspect power supply, leads, plugs for wear and damage and power connections to ensure that none is loose.
- 1.3.6. **DO** check product voltage is the same as power supply to be used.

**2. INTRODUCTION AND SPECIFICATION**

2.1. Designed and manufactured in America. These units are produced from strong and durable composite material and fitted with a Hawker (Energys) battery, known for high quality output. Heavy-duty sleeve fitted to the base increases the unit's durability and resistance to outside forces. A fusible link in the charging cable gives added protection to the unit and makes for an easy fuse change without disassembling the unit. Includes a ventilation fan which has been designed to power up when the unit has been switched on, helping to prevent overheating and damage to the battery. There is a 15A thermal trip integrated inside the 12V accessory socket, which when activated will self-reset. An Audible Warning System (AWS) is fitted to aid and warn/advise on the unit's current status. For example, when Model No. RS21224 is switched to 24V mode, the AWS will sound four times to make the user aware of their output choice. All units include a switch mode charging unit which keeps the battery fully charged without decreasing its power and at the same time helping to extend battery life. Simple touch technology shows battery charge percentage at the press of a button.

Model: .....	RS20024 .....	RS21203 .....	RS21224 .....
Starting Current: .....	.690A .....	910A .....	12V-910A, 24V-690A
Peak Amps: .....	3800A .....	4400A .....	12V4400A, 24V-3800A
Voltage: .....	24V .....	12V .....	12V or 24V Switchable
Auxiliary Output: .....	12V .....	12V .....	12V
Cable and Clamp Length: .....	1.4mtr .....	1.4mtr .....	1.4mtr
Weight: .....	19.64kg .....	19.64kg .....	19.64kg

**2.2 Product Features**

- 1) On/off switch or 12V / 24V selector on RS21224
- 2) Digital display
- 3) 12V DC power outlet
- 4) Positive battery clamp
- 5) Negative battery clamp
- 6) Battery status button



### 3. CHARGING INSTRUCTIONS



#### **WARNING! YOU MUST FOLLOW SAFETY INSTRUCTIONS**

**IMPORTANT** Charge RoadStart for 72 hours immediately after purchase, after each use and every 30 days to keep the booster's internal battery fully charged. Never wait until the RoadStart is completely discharged before recharging.

- 3.1. Read the entire manual before using this product. Failure to do so could result in serious injury or death.
- 3.2. This charger is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the charger by a person responsible for their safety.
- 3.3. Children should be supervised to ensure they do not play with the charger.  
**WARNING RISK OF EXPLOSIVE GASES. PREVENT FLAMES AND SPARKS. PROVIDE ADEQUATE VENTILATION DURING CHARGING.**
- 3.4. The charger and RoadStart must be placed in a well-ventilated area during use.
- 3.5. Make sure to place the charger on a dry, non-flammable surface, like metal or concrete.
- 3.6. 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. Review the cautionary markings on these products and on the engine.
- 3.7. **Digital Display on the RoadStart**  
To check the internal battery's charge status, either press the Battery Status button to get the percent of charge or turn the ON/OFF switch to the ON position to get the battery voltage. Charge the internal battery if the display shows it is under 100%. When connected to the vehicle, the display shows the vehicle's battery voltage. When connected and in the ON position, the display shows the equalized voltage between the vehicle's battery and the internal battery.  
NOTE: The internal battery's charge status is most accurate when the RoadStart has been disconnected from all devices and charging sources for a few hours.
- 3.8. **LED Indicators on the Charger**  
**CHECK BATTERY  (red) LED lit:** Indicates that the charger is not properly connected to the battery. If the charger does not detect a properly connected battery, the CHECK BATTERY LED will light. Charging will not begin if the CHECK BATTERY LED is on.  
**CHECK BATTERY  (red) LED flashing:** Indicates the charger is in abort mode. If charging cannot be completed normally, charging will abort. When charging aborts, the charger's output is shut off and the CHECK BATTERY LED will flash. To reset after an aborted charge, unplug the charger from the AC outlet, wait a few moments and plug it back in.  
**CHARGING  (amber) LED lit:** Indicates the charger has detected a battery and is charging it. After the battery is fully charged, the charger will automatically go into maintain mode and maintain it at full charge without damaging it.  
**CHARGED  (green) LED lit:** Indicates the battery is fully charged and the charger is in maintain mode. When the CHARGED LED is lit, the charger has started Maintain Mode. In this mode, the charger keeps the battery fully charged by delivering a small current when necessary. NOTE: The maintain mode technology utilized in Sealey® chargers allows you to safely charge and maintain a healthy battery for extended periods of time. However, problems with the battery, electrical problems in the RoadStart, improper connections or other unanticipated conditions could cause excessive current draws. As such, occasionally monitoring your battery and the charging process is recommended.
- 3.9. **Charging the RoadStart's Internal Battery using the Included Charger**  
**IMPORTANT** Only use the charger that was included with the RoadStart to charge the internal battery. Using any other charger or using the included charger for any other purpose could result in personal injury or property damage.  
(Refer to charger safety instructions in Section 1.)
- 3.10. **Charging**
  - 3.10.1 To charge, plug the included charger into the charger plug on the side of the RoadStart.
  - 3.10.2 Plug the charger into an electrical wall outlet, ensuring that the input voltage matches that required by the charger. Make sure to place the charger on a dry, nonflammable surface like metal or concrete.
  - 3.10.3 While the RoadStart is charging, the CHARGING LED will light on the charger. Complete charging may take up to 24 hours. The RoadStart is then ready to use.
  - 3.10.4 After charging disconnect the charger from the supply mains. Then remove all connections to the RoadStart.

## 4. OPERATION

### 4.1. Jump Starting a Vehicle Engine

**IMPORTANT** Do not use the RoadStart while charging the internal battery.

- 4.1.1. Turn the vehicle's ignition OFF before making cable connections.
- 4.1.2. Connect the RoadStart to the vehicle's battery, positive (red) first, then negative (black) should be connected to an earth on the chassis. If you have connected the clamps incorrectly, an audio alarm will sound. **DO NOT** turn the RoadStart ON/OFF switch to the ON position. This could cause serious damage to the RoadStart or the vehicle. Reverse the connections and the audio alarm will stop.
- 4.1.3. Turn the RoadStart ON/OFF switch to the ON position.
- 4.1.4. Crank the engine. If the engine does not start within 3-8 seconds, stop cranking and wait at least 1 minute before attempting to start the vehicle again, (this permits the RoadStart battery to cool down).
- 4.1.5. After the engine starts, turn the RoadStart ON/OFF switch to the OFF position, within 15 seconds.  
**NOTE:** If the vehicle's charging system is allowed to continue to charge the RoadStart's internal battery, the audible warning system will operate if the battery reaches 15V - immediately disconnect as below to prevent damage.
- 4.1.6. Disconnect the RoadStart from the vehicle, negative (black) first, then the positive (red) one. Return the battery clamps to their storage holders and recharge the RoadStart.
- 4.1.7. When using the other features of the RoadStart, always observe the following steps:
- 4.1.8. Ensure the battery clamps are securely clipped in the storage holders.
- 4.1.9. Charge the RoadStart as soon as possible after using.  
**IMPORTANT** An audible warning will sound if:
  - the clamps are incorrectly connected
  - RS 21224 if 24V is selected
  - if RoadStart is connected to a 24V vehicle, and 12V is selected.

### 4.2. Powering a 12V DC Device:

The RoadStart is a power source for all 12V DC accessories that are equipped with a 12V accessory plug. Make sure the device to be powered is OFF before inserting the 12V DC accessory plug into the 12V DC accessory outlet.

- 4.2.1. Open the protective cover of the DC power outlet on the front of the RoadStart.
- 4.2.2. Plug the device into the outlet and turn the device on (if required).
- 4.2.3. If the device draws more than 15A or has a short circuit, the internal circuit breaker of the RoadStart will trip and disconnect the power to the device. Disconnect the device and the breaker will automatically reset.  
The DC power outlet is wired directly to the internal battery. Extended operation of a 12V device may result in excessive battery drain. Recharge immediately after unplugging the device.

## 5. MAINTENANCE

### 5.1. Charger Maintenance Instructions

- 5.1.1. Unplug the charger from the RoadStart before attempting any maintenance or cleaning.
- 5.1.2. Use a dry cloth to wipe dirt or oil from the charger. Do not use cleaning fluids.
- 5.1.3. All other servicing should be performed by qualified personnel.
- 5.1.4. If the supply cord is damaged, it must be replaced. Contact your Sealey service agent.

### 5.2. Fuse Replacement For The RoadStart

The RoadStart is equipped with an external fuse to protect the battery from overload.

**WARNING** Disconnect the charger unit from mains supply.

- 5.2.1. To replace the fuse if it has blown, use a flat bladed screwdriver to gently push in the fuse cover release clips at each end, to release the cover.
- 5.2.2. Undo the two 13mm nuts and replace the fuse.
- 5.2.3. Refit the cover.

## 6. TROUBLESHOOTING

### RoadStart

Problem	Solution	Possible Cause
The RoadStart won't jump start my vehicle.	Clamps are not making a good connection	Check for poor connection to battery and to the chassis. Make sure connection points are clean. Rock clamps back and forth for a connection.
	The RoadStart battery is not charged.	Check the battery charge status by pressing the button on the front of the RoadStart. See section 3 of this manual.
	The vehicle's battery is defective.	Have the battery checked.
	The external (500A) fuse has blown.	Replace the fuse, (see section 5.2).
The RoadStart won't power my 12V device.	The 12V device is not turned on.	Turn on the 12V device.
	The RoadStart battery is not charged.	Check the battery charge status by pressing the button on the front of the RoadStart. See section 3 of this manual.
	The 12V device draws more than 15A or has a short circuit.	Disconnect the 12V device. The internal breaker will automatically reset after a minute or two. Try the 12V device again. If it happens again, replace the 12V device.
The battery in the RoadStart won't hold a charge.	The battery is faulty (will not accept a charge.)	Have the battery checked.
RoadStart shows 100% charge, but charger charging (amber LED).	Unit needs more charge.	Charge RoadStart until the charger's 'charged' green LED comes on.

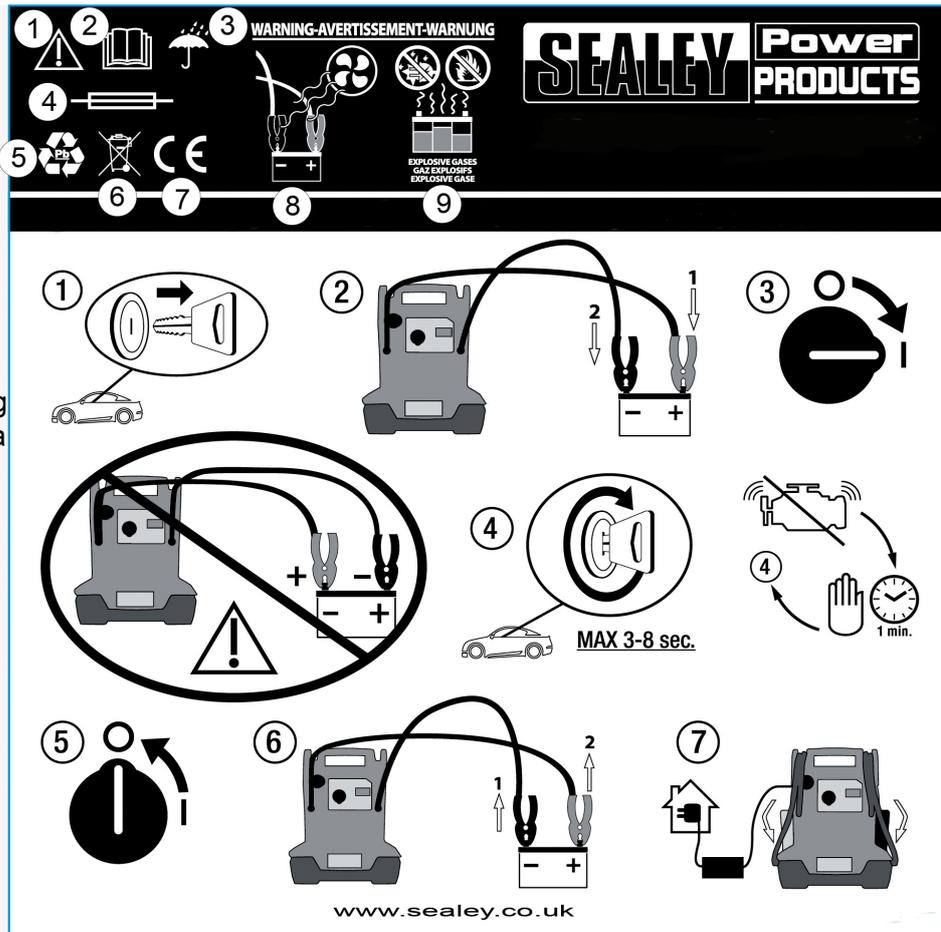
### Charger

Problem	Possible Cause	Solution
CHECK BATTERY (red) LED on charger is on.	Charger is not making a good connection to the booster.	Check the connection. Make sure the connection points are clean.
	Battery is defective (will not accept a charge.)	Have the battery checked.
CHECK BATTERY (red) LED is flashing.	Indicates charger is in abort mode.	See Section 3.8.

## 7. WARNING SYMBOLS

### Key to Symbols

1. Caution risk of electric shock
2. Read Instructions before use
3. Do not expose to rain
4. Fuse see section 5.2
5. Contains lead acid battery
6. Dispose of as per WEEE regulations
7. EU compliance marking
8. Use in a ventilated area
9. Warning explosive gases



Parts support is available for this product. To obtain a parts listing and/or diagram, please log on to: [www.sealey.co.uk](http://www.sealey.co.uk), email: [sales@sealey.co.uk](mailto:sales@sealey.co.uk) or phone: 01284 757500.



### Environmental Protection.

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycle centre and disposed of in a manner which is compatible with the environment.



### WEEE Regulations.

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment. When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

### Battery Removal

**NOTE:** The RoadStart battery is a sealed, lead-acid type. By law, it must be removed and recycled, or disposed of properly, according to national and/ or local regulations.

1. Place the RoadStart unit front side down.
2. Remove the screws from the rear panel and lift off from the unit enclosure.
3. Disconnect the wires from the two battery terminals, taking care to avoid accidental arcing of the terminals.
4. Lift the battery (batteries) out of the casing.

### Disposal

Take the battery to a recycling centre that handles sealed, lead-acid batteries.

If there is no recycling centre in the area, contact the local environmental agency for disposal instructions.

**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 will be required for any claim.

**INFORMATION:** For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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