INSTRUCTIONS FOR:

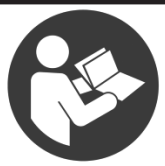
LI-ION JUMP STARTER/POWER PACKS - 235A & 405A 12V

MODEL NO'S: **LSTART235, LSTART405**

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.**

1. SAFETY



Refer to Instructions

Wear Eye Protection

Wear Protective Clothing

Explosive Material

IMPORTANT WARRANTY INFORMATION: KEEP YOUR LSTART 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 batteries in this unit are consumable items and their ability to accept charge will reduce over time. We will warranty against mechanical and electrical defect for a period of one year - this does not cover fair wear and tear.

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

You can help prolong the lifecycle of the batteries by following a few simple guidelines.

- Plug in your new LSTART to the mains transformer and make an INITIAL charge lasting 24 hours.
- Ensure the unit is fully charged before storage.
- **DO NOT** leave the LSTART for longer than 3 months without putting it on charge.
- **DO NOT** drop or roughly handle the LSTART – 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 battery.

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 such items to metal, which may cause severe burns.
✓ Always ensure that you keep clear of parts within the engine bay which will move when the engine starts: drive belts and pulleys for instance.
✗ **DO NOT** smoke or allow a spark, or flame in the vicinity of the battery or engine.
✗ **DO NOT** drop any metal item onto the battery as it may spark or short circuit the battery, which could cause an explosion.

1.2. IMPORTANT SAFETY INSTRUCTIONS

✓ Familiarise yourself with the applications, limitations and potential hazards of the LSTART.
✓ 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 LSTART must only be opened and checked by qualified service personnel. **DO NOT** dismantle the unit for any reason.
✓ Keep children and unauthorised persons away from the work area.
✓ Keep work area clean and tidy and free from unrelated materials. Ensure that there is adequate lighting.
✓ If the LSTART receives a sharp knock or blow, it must be checked by a qualified service agent before further use.
✗ **DO NOT** use LSTART to recharge dry cell batteries that are commonly used with home appliances. These batteries may explode and cause personal injury and damage to property.
✗ **DO NOT** charge or boost a frozen battery.
✗ **DO NOT** use attachments other than those recommended. To do so risks damage to the unit,equipment and possible personal injury.
✗ **DO NOT** pull or carry the unit by its cables and do not pull the negative and positive clamps from the battery terminals.
✗ **DO NOT** operate in vicinity of flammable liquids or gases.
✗ **DO NOT** recharge the unit with plugs, cables or attachments that are damaged. Replace such items immediately.
✗ **DO NOT** use this product to perform a task for which it is not designed.
✗ **DO NOT** store the unit in damp or wet locations or where the temperature may exceed 40°C.
✗ **DO NOT** use whilst under the influence of drugs, alcohol or intoxicating medication.
✗ **DO NOT** leave the unit in a totally discharged state for an extended period of time as this may result in permanent damage.
✓ Place on charge at least once every 3 months.
✗ **DO NOT** cross-connect the power leads from the LSTART to the battery. Ensure that positive is to positive and negative to negative.
✓ Ensure that the unit is fully charged before storage.

© Jack Sealey Limited

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 and check that all fused plugs are fitted with the correct capacity fuses.

NOTE: 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

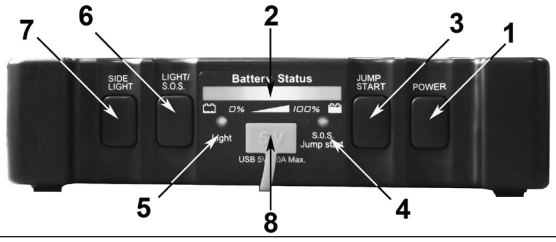
2. INTRODUCTION

Powered by lithium-ion technology and fully protected against reverse charging and overload. The LSTART range of start/power packs benefit from being compact and lightweight yet have high amperage outputs. Li-ion batteries have numerous advantages over lead acid, including a flat discharge curve. This ensures a greater and extended performance and holds the charge for up to 5 times longer with high energy density levels giving more battery power per gram. The range includes three models starting with the LSTART235 (Max. 235A), LSTART405 (Max. 405A) and the professional LSTART810 (Max. 810A). All units are fitted with a USB socket for powering or charging a variety of small electronic devices including mobile phones, MP3 players and tablet PCs. LSTART235 and LSTART405 are supplied with AC 12V 1A Charger and in-vehicle charger lead.

3. SPECIFICATION

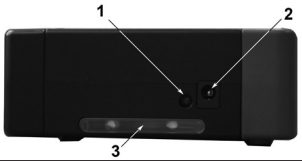
Model No:	**LSTART235**	**LSTART405**
Maximum Current:	235A	405A
Voltage:	12V	12V
Auxilliary Output:	USB 5V/2A	USB 5V/2A
Cable & Clamp Length:	500mm	500mm
Size (L x D x H):	192 x 135 x 45mm	192 x 135 x 45mm
Weight:	1kg	1.3kg
Maximum starting Capacity:	3000cc 4 Cylinder (petrol)	2000cc 4 Cylinder (diesel)
		4000cc 6 Cylinder (petrol)

fig.1 Front Panel



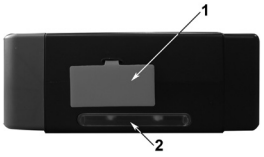
1 Power Button
2 Battery Status Bar
3 Jump Start Button
4 SOS/Jump Start LED
5 White Warning LED
6 Light/SOS Button
7 Side Light Button
8 USB (5V) Outlet

fig.2 Left Side Panel



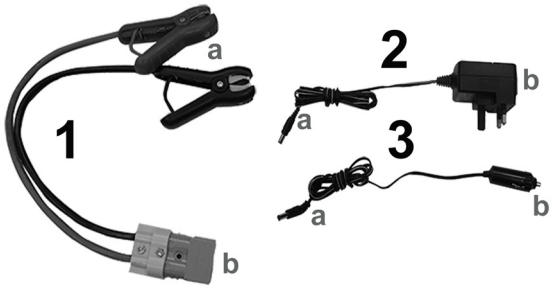
1 Charging Socket
2 Low Battery Warning
3 Side Work Light

fig.3 Right Side Panel



1 Booster Outlet Socket
2 Side Work Light

fig.4 Accessory Leads



1 Booster Lead
2 Mains (230V) Charger
3 12V Charger

4. CHARGING

4.1. The LSTART will need charging when the indicator (fig.1.2) is lit only in the amber section to the left of the bar or when the red 'battery low' lamp (fig.2.2) is lit.

4.2. **Using the Mains Charger.** The unit can be charged from 230V mains using the AC/DC Adaptor. Plug the pin jack (fig.4.2.a) into the charging socket (fig 2.1), then connect charger (fig.4.2.b) to 230V AC mains supply.
The battery status bar (fig.1.2) will illuminate to show the level of charge. When the indicator shows a full charge (being lit to the green section to the right of the bar), disconnect the charger.
DO NOT use any other charger than the one supplied with the LSTART as this could result in damage to the unit which will not be covered by warranty.

4.3. **Using the 12V DC Charger.** Similarly, plug the pin jack (fig.4.3.a) into the charging socket and connect the adaptor (fig.4.3.b) into a 12V DC accessory socket. Disconnect when the indicator shows a full charge has been attained.

4.4. **DO NOT** attempt to use the LSTART whilst being charged.

4.5. **DO NOT** charge the LSTART in ambient temperatures lower than +3°C or higher than +40°C.

5. OPERATION

5.1. Ensure that the LSTART battery is fully charged. The unit can only be used with the battery status bar showing green or yellow. **DO NOT** attempt to start a vehicle if the status bar shows a lower charge than yellow, or if the flashing red 'battery low' light (fig.2.2) is showing.

5.2. **Starting Procedure (partly discharged vehicle battery):**

5.2.1. Ensure the battery terminals on the vehicle to be boosted are free from corrosion and grease.

5.2.2. Insert the booster cable plug (fig.4.1.b) into the booster connection (fig.3.1) on the right hand side of the unit.

5.2.3. Connect the positive (+ RED) clip (fig.4.1.a) onto the positive (+ RED) terminal of the battery.

5.2.4. Connect the negative (- BLACK) clip to a good earth point (the braid from the engine to the vehicle chassis is ideal). If none can be found, connect to the negative (- BLACK) terminal of the battery.

5.2.5. When good connections have been established press and hold the Power button (fig.1.1) until the battery status bar (fig.1.2) lights.

NOTE: If the LSTART is cross-connected to a battery, the red SOS/Jump Start (fig.1.4) and white (fig.1.5) LED's on the front panel will flash alternately. If this occurs, press the Power button to switch off, and correct the connections to the battery, then press and hold the Power button again until the battery status bar lights. Proceed to step 5.2.6.

5.2.6. Press the Jump Start button (fig.1.3), if the SOS/Jump Start LED is illuminated, proceed to 5.2.7. If there are no LED's illuminated, this indicates that the battery is either less than 2V or damaged/faulty, proceed to step 5.3.

5.2.7. Turn the vehicle's starter over until the engine starts, the LSTART will switch off after cranking for 5 seconds; if the vehicle has not started within this time, repeat from step 5.2.6. above.

5.2.8. If the vehicle has started successfully, remove the clips from the battery as soon as possible (remove negative clip first).

5.3. **Starting Procedure (heavily discharged vehicle battery):**

5.3.1. The leads from the LSTART under normal circumstances remain inert until connected to a battery containing 2V or more.

5.3.2. If connected to a battery with less than 2V, neither the red SOS/Jump Start LED nor the white LED will illuminate when the Jump Start button is pressed.

5.3.3. To energise the output manually, hold the Jump Start button (fig.1.3) and Light/SOS button (fig.1.6) simultaneously for 3 seconds until the red SOS/Jump Start LED flashes.

NOTE: The clamps will be live in this condition; ensure that they are connected to a battery before activating.

53.4. Turn the vehicle's starter over until the engine starts, the LSTART will switch off after cranking for 5 seconds; if the vehicle has not started within this time, repeat from step 5.3.3. above.

5.3.5. If the vehicle has started successfully, remove the clips from the battery as soon as possible (remove negative clip first).

5.3.6. If after following the above procedures, the vehicle has still failed to start and the red and white LED's on the front panel are flashing alternately, the battery is potentially short circuiting. It **MUST** be replaced.

NOTE: These boosters are capable of starting a vehicle without a battery in place, but **WILL NOT** start a vehicle fitted with a faulty or damaged battery (as opposed to a discharged battery), regardless of using the above procedures. If the battery is faulty or damaged, it **MUST** be replaced.

5.4. **Using as a Power Supply:**

5.4.1. The LSTART can be used as a portable power supply for 5V applications.

5.4.2. **5V:** The 5V USB socket (fig.1.8) will accept a standard USB plug enabling the provision of electrical power to electronic equipment requiring a 5V DC supply up to a maximum of 2A.

5.4.3. Connect the USB plug to the USB socket and press the power button to energize the supply.

5.5. **Recharge the LSTART fully after use** (see section 4).

5.6. **Additional Features:**

5.6.1. LED work lights are provided on both sides of the LSTART (figs: 1.5, 2.3 & 3.2).

5.6.2. To switch side lights on first press the Power button and then press and hold the Side Light button (fig.1.7):

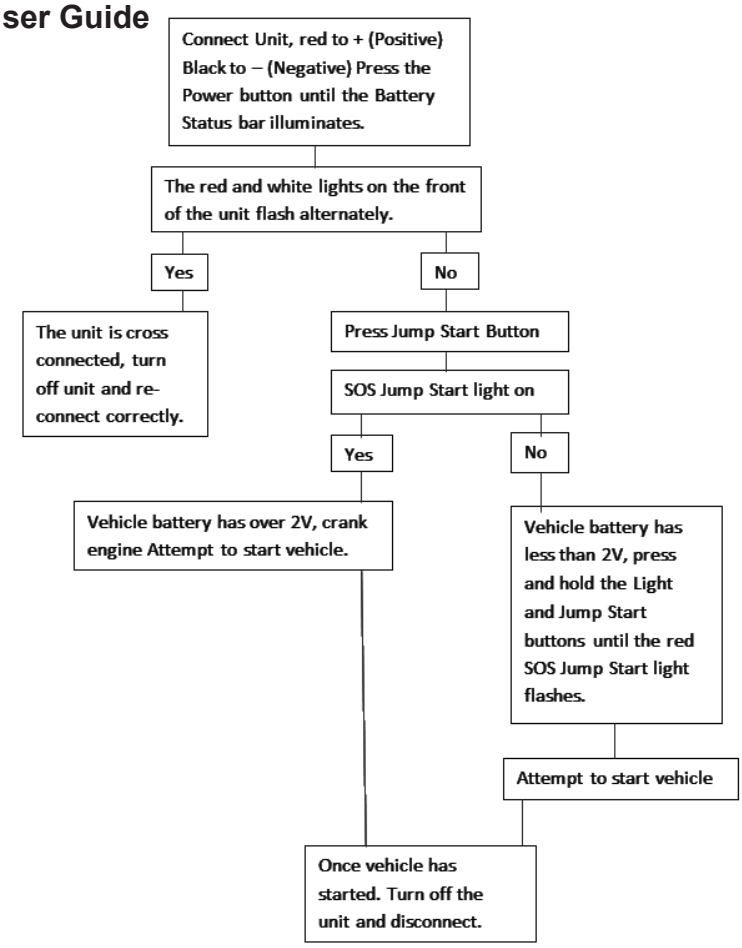
1st press:	Left light
2nd press:	Right light
3rd press:	Both lights
4th press:	Off

5.6.3. The Light/SOS button has the following functions, having pressed the Power button:

1st press:	Tests the red SOS Start LED (fig.1.4)
2nd press:	Tests the white warning LED
3rd press:	Flashes both red SOS Start LED and white warning LED alternately to test the jump start fault indication
4th press:	Off

© Jack Sealey Limited

LSTART User Guide



5. CARE

5.1. If it is anticipated that the LSTART is to be used in very cold conditions, it is recommended that it is kept indoors in a warm environment prior to use.

5.2 If not used regularly, it is recommended that the LSTART is recharged at least every 3 months;.

5.3. **DO NOT** attempt to open the casing; there are no user-servicable parts inside. If repairs are needed, return to the supplying Sealey dealer.

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.

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.

Product Disposal

1. At the end of the product's life, take it to a recycling centre that handles lithium-ion batteries.
2. If there is no recycling centre in the area, contact the local environmental agency for disposal instructions.
   Dispose of batteries according to local authority guidelines.

Li-ion

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme.
Jack Sealey Ltd's Batteries Producer Registration Number (BPRN) is BPRN00705

Parts support is available for this product. To obtain a parts listing and diagram, please log on to www.sealey.co.uk, email sales@sealey.co.uk or phone 01284 757500.

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.

CE

SEALEY
Sole UK Distributor, Sealey Group,
Kempson Way, Suffolk Business Park,
Bury St. Edmunds, Suffolk,
IP32 7AR
01284 757500
01284 703534
www.sealey.co.uk
sales@sealey.co.uk

© Jack Sealey Limited