

Part No. 9473

LASER[®]

Multi-Mode Battery Support Unit

Instructions



www.lasertools.co.uk

Introduction

Modern vehicles rely on extensive electronic and software systems that may require updating or reprogramming to maintain optimum performance. During such procedures, the ignition may need to remain on with the engine off, while actuators and electric pumps operate for extended periods. This places significant demand on the 12V battery. The Laser Tools Multi-Mode Battery Support Unit is a professional-grade 120A battery power support solution that also functions as a battery charger and battery maintenance unit.

- Multi-mode operation: charge, diagnostic, showroom, power supply and deep-discharge rescue mode.
- Suitable for automotive workshops, showrooms and specialist tuners.
- Maximum output: 120A at 14V.
- Easy-to-read 3.5" colour LCD screen.
- Compact design with convenient carry handle. Dimensions: 330 x 275 x 115mm.
- Supplied with BS plug and 2m mains power cable. Battery charge cable length: 2.5m.
- CE and RoHS compliant.

Controls

Fig 1



Ref.	Description
A	Main ON/OFF switch
B	Mains power input socket
C	Battery leads output socket
D	Battery leads plug
E	Crocodile clamps
F	LEFT selection key
G	RIGHT selection key
H	UP selection key
I	DOWN selection key
J	BACK (Esc)
K	SELECT / CONFIRM
L	LCD display screen

Instructions

Operating mode descriptions:

The 9473 battery support unit features four operating modes:

- **Charging mode:** Designed for charging 12V lead-acid batteries, including sealed, flooded and AGM types.
- **Programming mode:** Provides a stable power supply during vehicle programming, diagnostics and ECU updates.
- **Showroom mode:** Maintains battery charge and powers vehicle electrical systems during showroom or demonstration use.
- **Start Aid/Power Supply mode:** Supplies the power required when supporting vehicle start-up procedures. This mode can also be used as a power supply when the battery has been removed.

Before powering on the unit, ensure the mains supply voltage is correct, and the battery is in good physical condition. Select the appropriate operating mode according to the application:

1) Charging mode

Used for standard battery charging. If the battery has been left unused for an extended period or is deeply discharged, a forced start may be required, and the battery should be assessed prior to charging.

When selecting this mode, choose whether the battery is installed in-vehicle or out-of-vehicle, as the unit will apply different charging strategies accordingly. The correct battery type must also be selected to ensure appropriate voltage and current regulation, improving charging efficiency and battery protection.

2) Programming mode

Provides a stable voltage supply for vehicle programming, system coding or prolonged diagnostics. The battery should be fully charged before use to prevent instability caused by voltage fluctuation during programming. The output voltage can be adjusted within a range of 12–16V. Set the correct value according to vehicle requirements to ensure reliable system programming and decoding.

3) Showroom mode

Designed for display vehicles that are in sales showrooms, long-term storage or exhibition use. This mode prevents battery discharge over time and ensures the vehicle remains operational when required. A low charging current is continuously supplied to maintain full battery charge and protect battery health.

4) Start Aid/Power Supply mode: (jump start support mode + battery simulation)

Used when assisting engine start in vehicles with a weak or insufficiently charged battery (battery in situ). Additionally, use this mode when the battery is removed but circuit testing with power is required.

5) Recovery (repair) mode (hidden mode)

Activated automatically at the beginning of the charging process to help restore and condition the battery where required.

Instructions

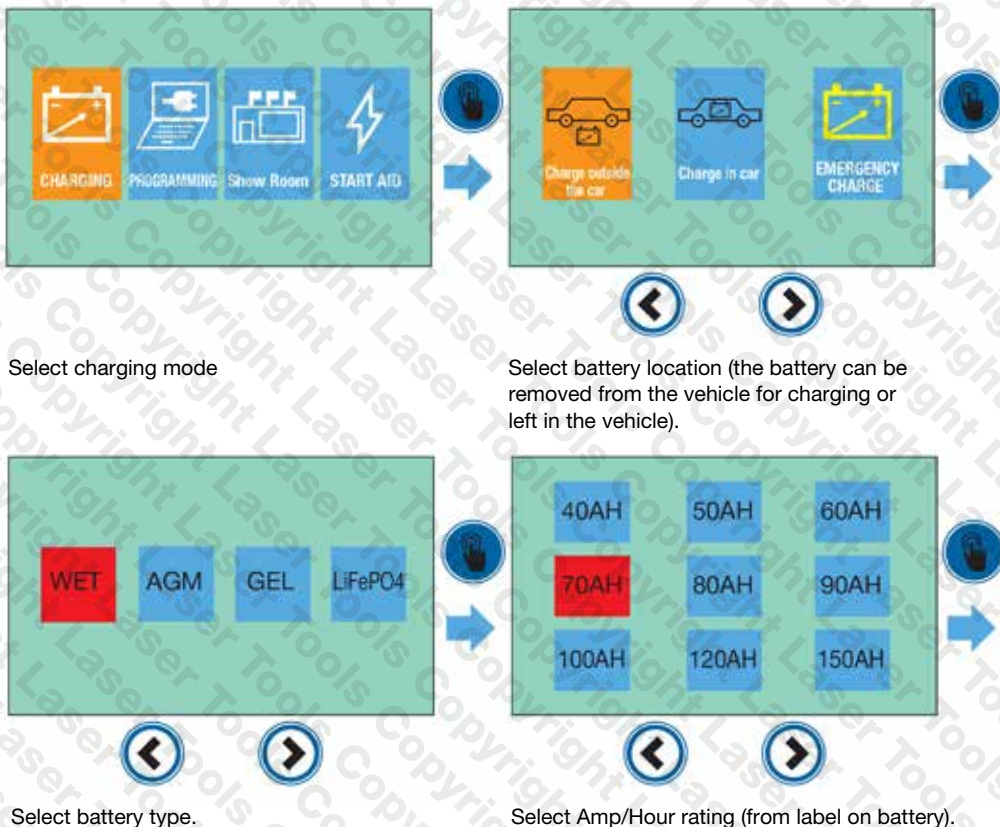
Operation:

1. Connect the unit to a suitable mains supply.
2. Connect the clamps to the vehicle battery (RED positive, BLACK negative ground).
3. Refer to Figure 1: Locate the ON/OFF switch at rear of unit (A) and switch ON.
4. Select the desired mode (use selection keys on front panel F,G,H & I), then press SELECT/CONFIRM button (K).

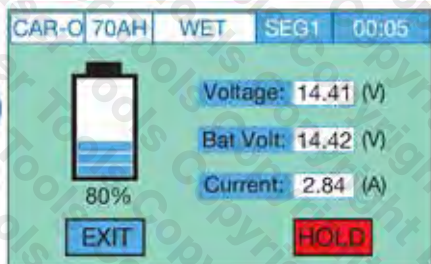
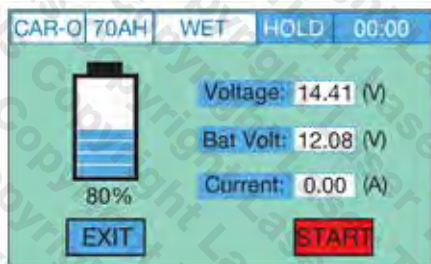
Note: When charging, if you need to stop the process, select HOLD to temporarily stop the charging process, or EXIT to stop charging. Then switch unit off (ON/OFF switch at rear of unit). If the cooling fan is running, do not turn off the machine. Let the built-in fan cool down the unit first. When the fan stops running it is safe to switch off the unit.

Battery Charging:

During charging, the unit automatically adjusts the charging voltage and current to ensure the correct charging profile is applied.



Instructions

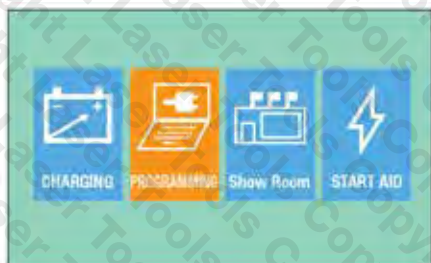


Displays available voltage, present battery voltage and state-of-charge.

Press SELECT/CONFIRM button (K) to start charging.

If required, select HOLD to temporarily stop the charging process, or EXIT to stop charging.

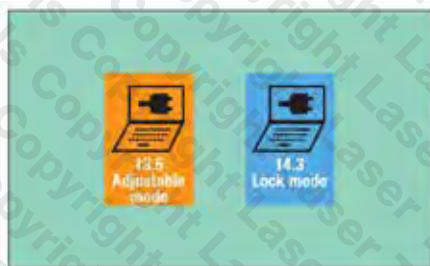
Programming:



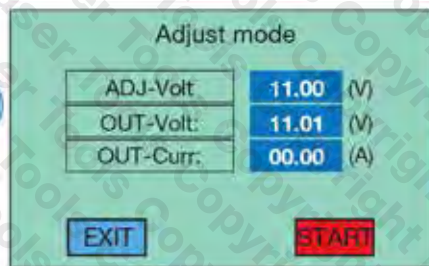
Use arrow keys to select programming mode.

Press SELECT/CONFIRM button (K) to enter programming mode.

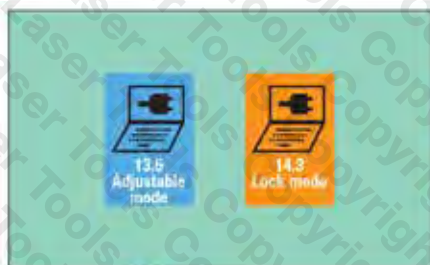
Instructions



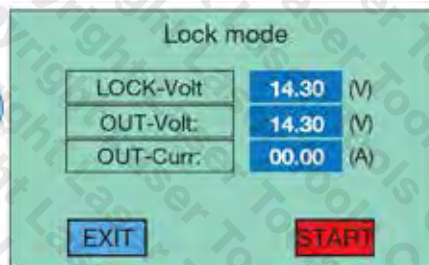
Select adjustable mode.



Adjust voltages as necessary, then press SELECT/CONFIRM button (K) to start.



Select lock mode.



Press SELECT/CONFIRM button (K) to start.

Note: Programming mode — 9473 must not be used in place of the vehicle battery. The vehicle battery must be in circuit before the battery support unit is used in programming/support mode.

Instructions

Showroom mode:

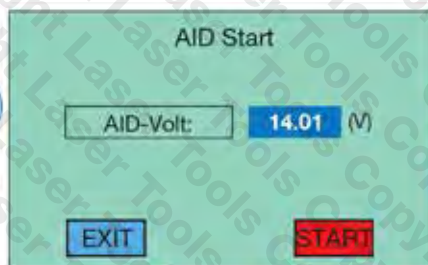
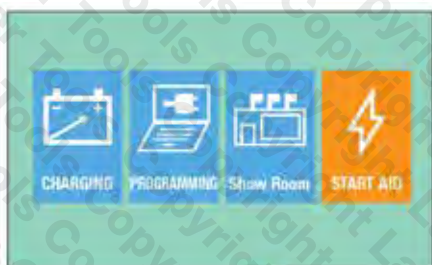


Select showroom mode.

Select SINGLE or MULTI.

Press SELECT/CONFIRM button (K) to start.

Start Aid/Power Supply mode:



Select START AID mode.

Press SELECT/CONFIRM button (K) to start.

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Start-up test:

This additional feature is used to assess the condition of the vehicle starting system (starter motor and battery) during engine start-up. **The battery must remain connected to the vehicle throughout the test.**

1. Connect the clamps to the vehicle battery.
2. Use the arrow buttons to select Start Aid/Power Supply mode.
3. Press the SELECT/CONFIRM button to confirm.
4. Using the arrows select the START button (selected when red) and confirm.
5. Start the engine using the ignition key.
6. The unit will automatically detect the engine start attempt and analyse the starting voltage before start, during start and after start (charging voltage).

Protection features:

This device is protected against short circuits and reverse polarity. An anti-spark system helps prevent sparking when connecting the charger to the battery. The unit will not deliver current unless a battery is detected (no voltage at the clamps). An internal fuse also protects the charger against incorrect operation or handling errors.

Overcharge protection: Continuously monitors battery condition during charging to prevent damage caused by overcharging.

Overheating protection: If the internal temperature becomes too high, charging will stop automatically while the cooling fan operates to reduce temperature. An alarm will also sound.

Short-circuit protection: If a battery fault or internal short circuit is detected, the unit will stop operating and an alarm will sound.

Reverse polarity protection: If the battery clamps are connected incorrectly, a reverse polarity warning will be displayed on the LCD screen and an alarm will sound.

Fault indication & alarm description:

1) Poor clamp contact:

Remove the battery crocodile clamps, clean the battery electrodes and clips, and then reconnect.

2) The temperature is too high:

Take off the charging clamps, but do not turn off the machine. Let the built-in fan cool down the unit. When the temperature decreases, the alarm will be automatically cancelled and return to the normal interface.

3) Excessive current:

If a battery has been over charged (by previously chargers or alternator over charging) then this process will try to save the battery by cycling it through a discharge process. In this case, enter battery activation for charging. After two hours, manually switch to normal charging mode.

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4) Reverse battery connection:

Disconnect the battery crocodile clamps and reconnect correctly: RED to the positive battery terminal; BLACK to the negative (ground) battery terminal.

5) The battery is damaged and cannot accept charge:

Replace the battery.

6) The battery is fully charged:

The battery has been charged. If the voltage drops quickly after use, the battery is damaged. Please replace it.

Specifications:

Model	9473
Input voltage (50-60Hz)	AC 100-240V
Maximum input	1500W
Output voltage	6.6 – 14.5 V DC
Maximum output	14.5V / 120A
Charge cable length	2.5 metres
Net weight	5.8 kg
Dimensions (mm)	L347 x W265 x H118

Maintenance:

Store the unit in a clean, dry and secure location. Keep the unit clean and dust-free. As the unit has an internal cooling fan, this can draw in dust. Periodically, remove the side plate and carefully clean the main transformer and other important heat dissipation components with dry compressed air. Regularly inspect the AC power lead and the battery leads for damage or wear.

Safety Warnings - please read



- Read and understand these instructions before use.
- Always take extreme care when connecting the battery support unit to the vehicle battery. Always connect red cable clamp to the positive terminal of the battery first. When disconnecting, always remove the black cable clamp from the negative battery terminal of the battery first.
- Switch off and disconnect the power supply before plugging or unplugging the connections to/from the battery.
- Check both start clamps and vehicle battery terminals for dirt and/or corrosion before use.
- Danger of sparking: (explosion risk) if vehicle battery has recently been charged, ensure area is well ventilated and ensure eye protection is worn before connecting the battery support unit.
- Danger of sparking: do not connect the battery support unit if there are any fuel leaks or fuel vapour present.
- Do NOT touch the positive red cable clamp and the negative black cable clamp together.
- Do not allow the battery support unit to get wet or use in damp or wet conditions.
- When connecting the battery and battery support unit, make full use of the length of the clip leads and keep the distance between the support unit and the battery as far as possible.
- Do not place the support unit directly on the battery.
- Keep dry and ventilated. The battery support unit must not be exposed to moisture or rain.
- Do not cover the battery support unit when in use.
- Do not obstruct the cooling vents.
- Ensure that the power supply and charging crocodile clamps are properly connected.
- It takes time for the battery to be fully charged. Please wait patiently. In order to better fill the battery, there will be a period of small current floating charge.
- Do not attempt to charge a damaged battery with an internal unit short circuit.
- Keep the battery support unit clean and store in a dry and secure area. Do not use solvents or any aggressive cleaning products.
- Ideal storing temperature: +1°C to +25°C. Keep away from direct sunlight and heat sources. Protect the battery support unit from prolonged exposure to humid or damp conditions.
- Do not use the battery support unit if the crocodile clamps, charging or power input cables are damaged.
- Always keep away from children.
- At end of life, dispose of the battery support unit according to local authority guidelines.
- No liability is accepted for incorrect use of this product — do not use the product for tasks it is not designed for. Use the product correctly and with care. Failure to do so may cause damage and/or personal injury and will invalidate the warranty.

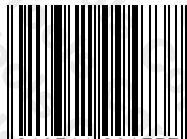
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It is our policy to continually improve our products and thus we reserve the right to alter specifications and components without prior notice. It is the responsibility of the user to ensure the suitability of the tools and information prior to their use.



Safety First. Be Protected.



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When you have finished with this product please recycle it

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Guarantee



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