

LOTUS[®]
Performance, Delivered.[™]



12V /24V Battery Charger

LTBL50X

Made in China/Fabriqué en Chine
Lotus Tool Group (Philippines)
www.lotustoolworks.com





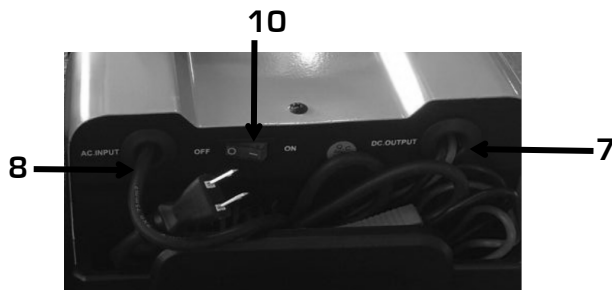
Warning!

- Read all safety regulations and instructions. Any errors made in following the safety regulations and instructions may result in an electric shock, fire and/or serious injury.
- The equipment and packaging material are not toys. Do not let children play with plastic bags, foils or small parts. There is a danger of swallowing or suffocating!
- The charger is designed for charging lead-acid batteries only. This equipment is not designed for lead gel / AGM batteries. Store the equipment in a dry indoor location only.
- Don't use damaged wires and/or clamp. The battery chargers should avoid shake and crash when charging. And don't refresh frozen storage batteries.

Safety Instructions

- Do not expose the charger to rain, snow and/or humidity, outdoor use is forbidden.
- Charging may create dangerous explosive gas during the charging process. It is essential that you ventilate the rooms well.
- The red clamp goes to the positive(+) terminal, while the black one goes to the negative(-) terminal. Don't reverse the clamp when charging.
- Before charging, clear the storage battery carefully and check its initial voltage. Users should choose the appropriate charge voltage depending on the capability of battery.
- Avoid spark formation and naked flames while the battery is charging. There is a risk of explosion!
- Remove the caps from the battery before beginning to charge.
- Check the level of electrolytic liquid covers the battery element. Do not touch the battery's electrolytic liquid, it is very corrosive.
- Avoid contact between the clamp when the charger is operating.
- Check the power supply network, a grounded power outlet is necessary.

Operation Panel



1. Carry handle
2. Charging output current ammeter
3. Overload protection
4. MIN/MAX switch
5. 12V/24V switch
6. Power fuse
7. Black and red clamp' cable
8. Power cable
9. ON/OFF Main Switch

Technical Data

MODEL	Input Voltage/freq	Output		AC power input(W)	Battery Capacity	Input Fuse
		Charger Voltage	Charger Current			
LTBL20X	220V-240V AC 60Hz	12V/24V	9A/7A	180/240	20-200Ah	3A
LTBL30X			15A/13A	300/450	20-300Ah	3A
LTBL50X			28/25A	600/1000	30-400Ah	5A

Charging Time

The charging current depends on the type of battery, generally is about 100% of the max.current of the battery.

Charging time depends on the type and status of the storage battery. The approximate charging time can be calculated using the following formula:

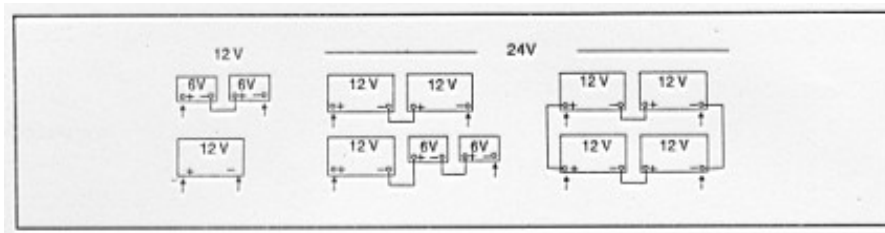
$$\text{Charging time (h)} = \text{Battery Capacity [Ah]} / \text{Charging current [Amp]}$$

Additionally,with the charging time increases ,the charging current will fall, so the actual charging time should be about 1/4 times longer than theoretical time.

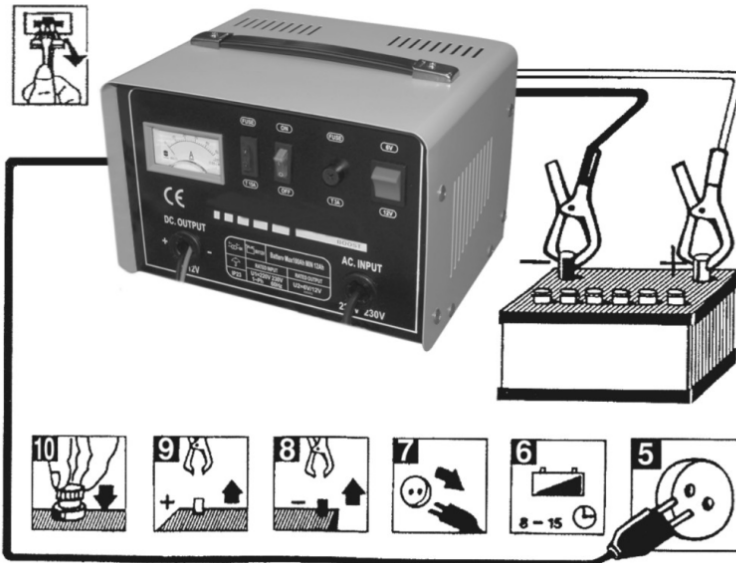
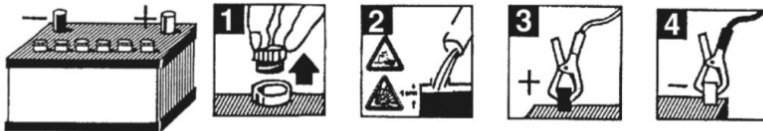
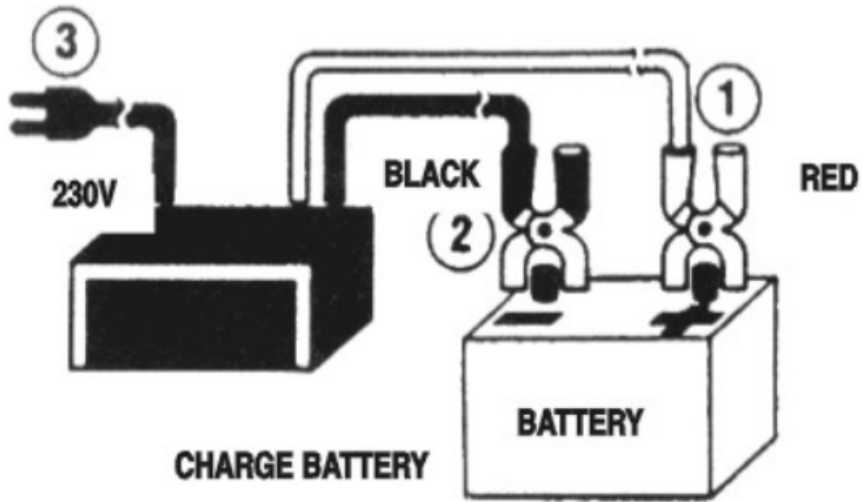
Serial or parallel connections are used to simultaneously charge several batteries. Certainly, the charging time will expand.

Note: For the serial connection of 2 batteries the voltage selected should be doubled.

Example: for two 12V batteries select 24V



Operation



Begin to charge

1. The red clamp goes to the positive(+) terminal,while the black one goes to the negative(-) terminal.
Don't reverse the clamp.
2. Plug the power supply cable into the electric source and switch the main switch to the "ON" position.

Note: When battery is completely charged, stop charging immediately.

If the temperature rising of battery is too high, increase, change to 'min' switch to charge or stop charging immediately.

End of charge

When the charging is finished, first put the main switch on the OFF position "O" and unplug the power supply cable. Then remove the cable clamp from the battery's terminals.Do not forget to put the caps back on the battery.

Note: The charge with overheat and overload protection. A burnt fuse should be replaced with exactly dential fuse of otherwise serious risk of accident to people and deterioration of equipment are probable.

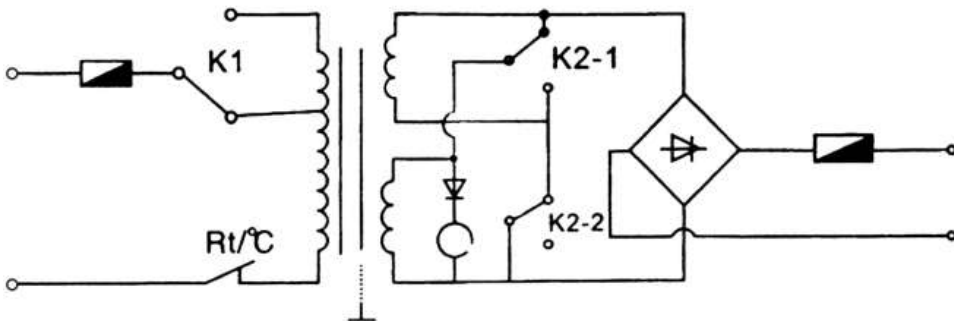
The replacement of fuse is done with the charger unplugged from electric source and not connect to battery.

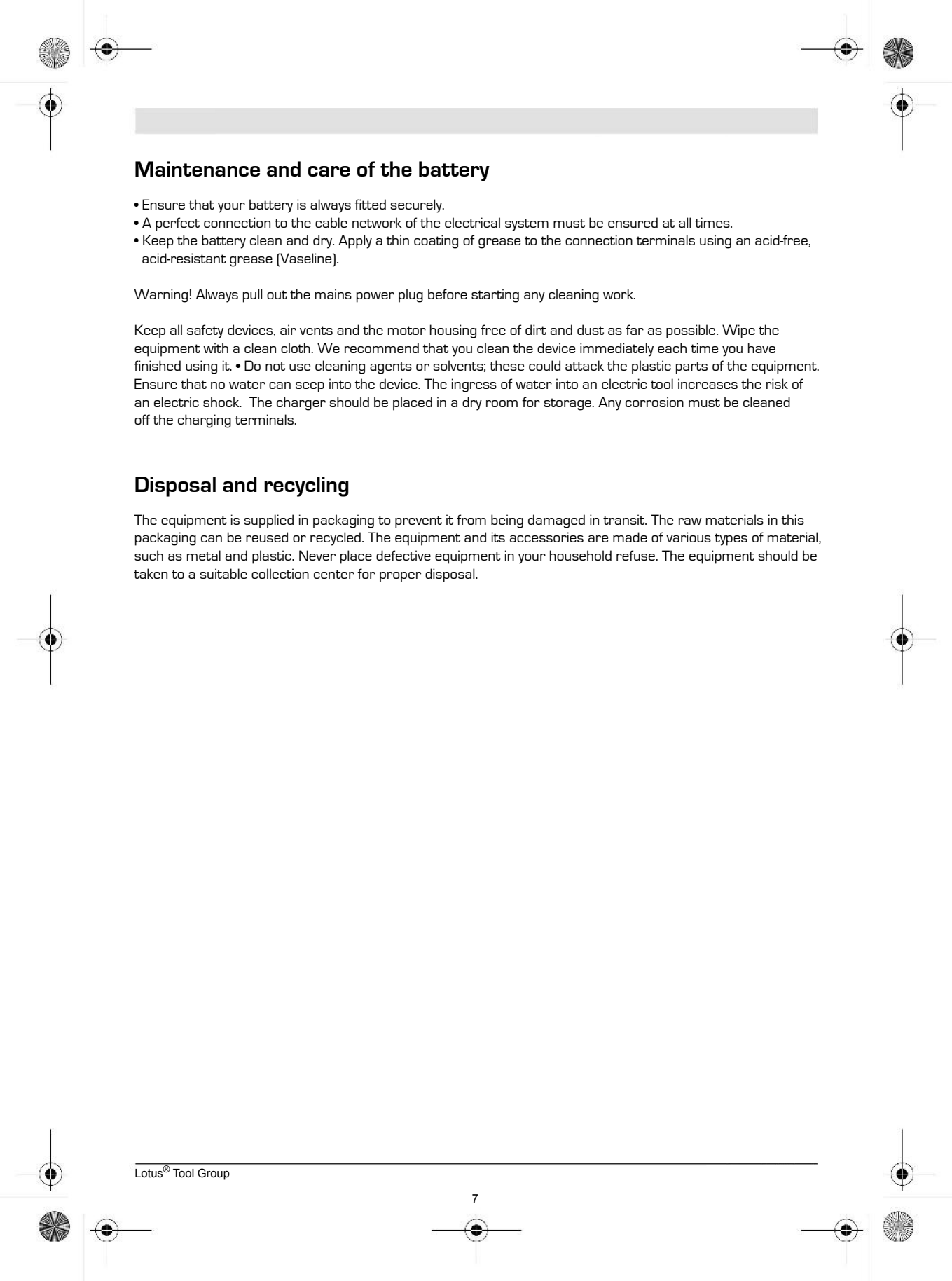
No output current troubleshooting

- A. Examine the 12V/24V switch if correspond the correct location.
- B. Over-current protection setting-change.
- C. fuse-change
- D. oxide exist on storage battery 'anode' (+) or 'cathode' (-)

Still no current please contact with the LOTUS after the above examination.

ELECTRIC DIAGRAM





Maintenance and care of the battery

- Ensure that your battery is always fitted securely.
- A perfect connection to the cable network of the electrical system must be ensured at all times.
- Keep the battery clean and dry. Apply a thin coating of grease to the connection terminals using an acid-free, acid-resistant grease (Vaseline).

Warning! Always pull out the mains power plug before starting any cleaning work.

Keep all safety devices, air vents and the motor housing free of dirt and dust as far as possible. Wipe the equipment with a clean cloth. We recommend that you clean the device immediately each time you have finished using it. • Do not use cleaning agents or solvents; these could attack the plastic parts of the equipment. Ensure that no water can seep into the device. The ingress of water into an electric tool increases the risk of an electric shock. The charger should be placed in a dry room for storage. Any corrosion must be cleaned off the charging terminals.

Disposal and recycling

The equipment is supplied in packaging to prevent it from being damaged in transit. The raw materials in this packaging can be reused or recycled. The equipment and its accessories are made of various types of material, such as metal and plastic. Never place defective equipment in your household refuse. The equipment should be taken to a suitable collection center for proper disposal.