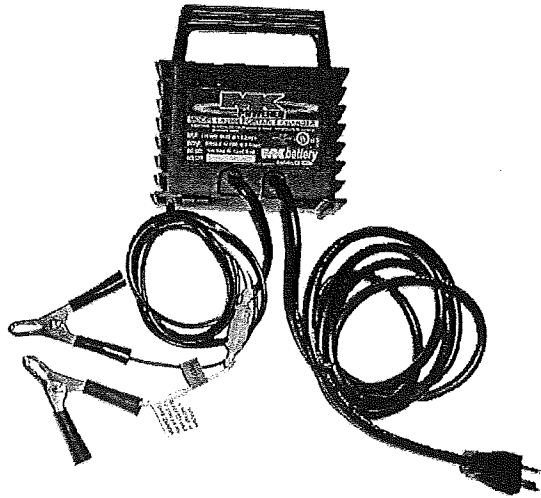


# MKbattery

Manufactured by the GUEST Co.



## MODEL LS2606 6 AMP PORTABLE BATTERY CHARGER OWNER'S MANUAL

### 1. INTRODUCING THE CHARGER

The MK LS2606 is designed to both recharge your battery, and extend your battery's life in applications where it is stored for long periods of time. The LS2606 is a "3-stage" electronic battery charger. Portable, rainproof, lightweight, silent, and completely automatic, it produces 12 Volts DC at a full 6 Amps, while using much less AC current than older chargers. Unlike automotive "trickle" chargers, the LS2606 will not boil off the electrolyte in a lead-acid battery when left unattended. When the LS2606 is attached to your battery and plugged into a standard 115 Volt / 60 Hz AC outlet, the red and green LED's let you know the unit is *recharging* and *maintaining* your battery. This sophisticated device is ideal for recharging and maintaining the 12VDC battery in your boat, electric vehicle or cart, ATV, snowmobile or motorcycle.

### 2. IMPORTANT SAFETY INSTRUCTIONS

This manual contains important safety and operating instructions for the charger. Read the entire manual before using. Also read all instructions and cautions for and on the charger, batteries and equipment in the vicinity of the batteries.

#### WARNINGS

**THIS CHARGER SHOULD BE USED TO CHARGE ONLY 12 VOLT DC LEAD ACID OR GEL CELL TYPE BATTERY SYSTEMS. USE ON OTHER THAN A 12 VDC SYSTEM CAN CAUSE THE BATTERY TO EXPLODE AND CAUSE PERSONAL INJURY.**

**RISK OF EXPLOSIVE GASES! WORKING IN THE VICINITY OF A LEAD ACID BATTERY IS DANGEROUS. A BATTERY GENERATES EXPLOSIVE GASES DURING NORMAL OPERATION. THEREFORE IT IS OF UTMOST IMPORTANCE THAT EACH TIME BEFORE USING YOUR CHARGER YOU FOLLOW THE INSTRUCTIONS EXACTLY.**

#### Personal Safety Precautions

Adhere to the following personal safety precautions when installing or working with the chargers:

1. Someone should be within voice range or close enough to come to your aid when you work near a lead-acid battery.
2. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.
4. If battery acid contacts skin or clothing, wash them immediately with soap and water. If acid enters the eye, flood the eye with cold, running water for at least ten minutes and get medical attention.
5. Never smoke or allow an open flame in the vicinity of the battery.
6. Do not drop a metal tool onto the battery. It may spark, short circuit the battery and may cause an explosion.
7. Remove all personal metal items such as rings, bracelets, necklaces, and watches when working near a lead-acid battery. A battery can produce short circuit currents high enough to weld a ring or the like to metal, causing a severe burn.

#### Preparing to Charge Precautions

Before charging a battery with the charger, read the following precautions:

1. Do **NOT** operate the charger if the input or output cables or an LED is damaged.
2. Make sure all accessories on the product you are charging are **OFF**.
3. If the battery or batteries must be removed from the product, always remove the grounded terminal from the battery first.
4. Be sure the area around the battery is well ventilated while the battery is being charged. Gas can be forcefully blown away using a piece of cardboard or other non-metallic material as a "hand fan".
5. Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
6. Add distilled water in each cell until battery acid reaches levels specified by the battery manufacturer. Do not overfill. For a battery without cell caps, carefully follow the manufacturer's recharging instructions.
7. Never allow the alligator clips to touch each other.
8. Position AC and DC cords to reduce risk of damage by hood, door, or moving engine part. Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
9. **NEVER** charge a frozen battery.

#### Grounding Precautions

#### DANGER

**Do not operate this charger with a two bladed adapter plug or extension cord. Doing so can result in serious personal injury.**

**CAUTION:** To reduce the risk of shock, connect only to a properly grounded outlet.

### 3. INSTALLING THE CHARGER

#### Choosing Charging Location

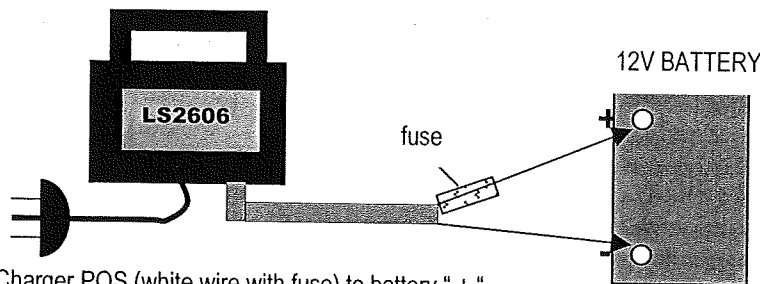
The charger should have at least eight inches of unobstructed area on all sides of the unit for effective cooling. The case of this charger will become warm during operation. Do not operate the charger on carpeted, upholstered, or varnished surfaces. Position the AC and DC cords to reduce the risk of damage by hood, door, or moving engine parts. Keep the AC power cord connection as short as possible especially when using an extension cord.

#### Making DC Connections

1. Check polarity of the battery posts. The POSITIVE (POS., P, +) battery post usually has a larger diameter than the NEGATIVE (NEG., N, -) post.
2. Attach the red POSITIVE alligator clip (identified by the red POSITIVE label on the white output wire) from the charger to the POSITIVE post of the battery. Attach the black NEGATIVE alligator clip (black output wire) from the charger to the NEGATIVE post of the battery. Rock back and forth the alligator clips several times to insure good contact.
3. When disconnecting the battery charger, first disconnect the AC power cord, then remove the black (NEGATIVE) alligator clip from the battery terminal and then remove the red (POSITIVE) alligator clip from battery terminal.

#### Connections at a glance:

The MK Model LS2606 is designed to be used as a mobile, general purpose charger for lead acid batteries (flooded cell and AGM types) and gel cell batteries. We recommend that you set up the charger near the battery you wish to charge, and make connections in the following order:



1. Charger POS (white wire with fuse) to battery " + ".
2. Charger NEG (black wire) to battery " - ".
3. Plug AC line cord into a GFCI protected wall socket.
4. Remove connections in the reverse order.







**SAVE THESE INSTRUCTIONS**

## Making AC Power Connections

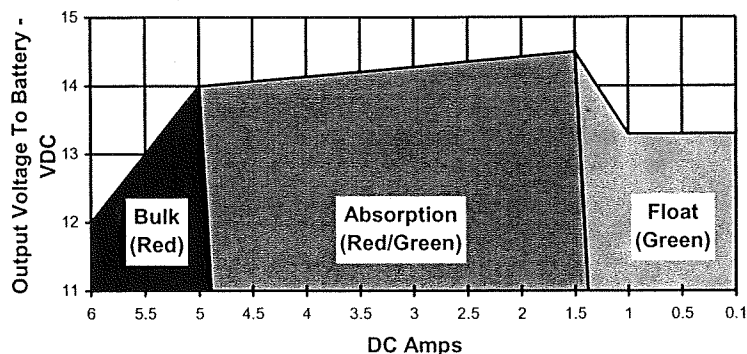
After securing the battery connections, plug the AC line cord into an available AC outlet that is protected by a Ground Fault Circuit Interrupter (GFCI) breaker. Keep the AC power cord connection as short as possible especially when using an extension cord.

## 4. OPERATING THE CHARGER

The LED Function Chart below describes the charging process.

Display	Operating condition
Red  Green 	When the red LED is on, it indicates that your battery is discharged and the LS2606 is recharging at the "BULK" rate (stage 1). This charging rate is 6 Amps. While the red LED is on, the voltage measured (with the charger on) will be 11.8 to 14 Volts. If the red LED stays on for more than 24 hours, refer to Problem 1 in the troubleshooting section in this manual.
Red  Green 	When both the green and the red LED's are on, the LS2606 is charging at an "ABSORPTION" rate of between 1.5 and 5 Amps (stage 2). This mode of charging gradually "tops off" your battery, and reduces harmful sulfating. While both LED's are on, the voltage measured (with the charger on) should be approx. 14.0 to 14.5VDC. If both LED's stay on longer than 24 hours, refer to Problem 2 in the troubleshooting section in this manual.
Red  Green 	When the green LED is on, the LS2606 is charging at a "FLOAT" or "MAINTENANCE" rate of less than 1.5 Amps, (stage 3). Your battery is now 90% charged and ready for use. This "float" charging current will gradually decrease to as low as 0.1 Amps as the battery reaches 100% charge. It will now be kept at full charge without over-charging. If the green LED stays on when your battery is known to be low, refer to Problem 3 in the troubleshooting section in this manual.

MK Model LS2606 Charging Method



## 5. TROUBLESHOOTING

Problem	Cause	Solution
1. Red LED stays on for more than 24 Hrs.	1. One or more defective or damaged cells. 2. Charger has reduced its output voltage below the normal level due to a DC overload or a DC short. 3. On-board DC systems are drawing more current than the charger can replace.	1. Load test the battery and replace if necessary. 2. Remove the source of the overload or short. Disconnect the charger's black (NEGATIVE) alligator clip from the battery. Reapply AC power and the green LED only should now light. 3. Turn off all DC equipment while charging.
2. The red and green LED's stay on for more than 24 Hrs.	1. On-board DC systems are drawing between 1.5 - 5A. 2. One or more defective or damaged cells. 3. Extremely low AC voltage at the battery charger	1. Turn off all DC equipment while charging. 2. Load test the battery and replace if necessary. 3. Apply a higher AC voltage source or reduce the length of the extension cord.
3. Green LED stays on when the battery is known to be low.	1. Open DC output fuse. 2. Faulty or contaminated terminal connections. 3. One or more defective or damaged cells.	1. Replace DC output fuse with a Bussmann (AGX-10). 2. Clean and tighten or repair all terminal connections. 3. Load test the battery and replace if necessary.
4. Neither of the LED's turn on when the AC power is applied.	1. No AC power available at the charger. 2. Inspect the charger's external AC wiring 3. Component failure	1. Connect AC power or reset the AC breaker on the main panel 2. Disconnect all AC power sources, and then repair external wiring 3. Return charger to the Guest Service Dept.

## 6. MAINTAINING THE CHARGER

Periodically clean both battery terminals with baking soda and tighten all connections. No other maintenance on the charger is required.

## 7. SPECIFICATIONS

Output:	
Charging:	12 Volts DC (min.) at 6 Amps
Maintaining:	13.30 Volts DC at 0.1 Amps
Input:	
Rated AC Voltage	100 - 130 VAC, 50/60 Hz
Current Draw	1.6 Amps at full output
Maximum recommended battery size:	
For recharging:	Up to 150 Amp-Hours
Maintenance only:	Up to 300 Amp-Hours
Physical Dimensions:	
Height:	5.5 in. (14 cm.)
Width:	5.0 in. (12.7 cm.)
Depth:	2.4 in. (6.1 cm.)
Weight:	2.5 lb. (1.2 kg)

### FCC Class A EMC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning this equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

### LIMITED WARRANTY

For one (1) year from the date of purchase, The Guest Co., Inc. will, at its discretion, repair or replace for the original consumer, free of charge, any parts found defective in material or workmanship.

Proof of purchase is required: A computerized register receipt is required. Hand-written receipts are not accepted for warranty proof of purchase.

THERE IS NO OTHER EXPRESSED WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF PURCHASE. THIS IS THE EXCLUSIVE REMEDY AND CONSEQUENTIAL DAMAGES ARE EXCLUDED WHERE PERMITTED BY LAW.

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