

Lester Electrical

12 VOLT FULLY AUTOMATIC BATTERY CHARGER MODEL 15840

Specifications

AC Supply:	100-125 or 200-250 volts, 50 or 60 Hertz, single-phase
DC Output:	12 volts, 10 amps, tapering to 3 amps or less
Battery Capacity:	Use only on 12 volt, 6 cell, 55 to 105 ampere-hour (20 hr. rate) liquid electrolyte lead acid batteries

PLEASE SAVE THESE IMPORTANT SAFETY AND OPERATING INSTRUCTIONS

For correct operation of the equipment, it is important to read and be familiar with this entire manual before installing and operating the charger.


DO NOT DISCARD THIS MANUAL AFTER READING.



LOOK FOR THIS SYMBOL TO POINT OUT SAFETY PRECAUTIONS. IT MEANS: *BECOME ALERT—YOUR SAFETY IS INVOLVED.* IF YOU DO NOT FOLLOW THESE SAFETY INSTRUCTIONS, INJURY OR PROPERTY DAMAGE CAN OCCUR.

IMPORTANT SAFETY INSTRUCTIONS

1. This manual contains important safety and operating instructions. Read and understand this entire manual before installing or operating the charger.
2. Before using battery charger, read all instructions and cautionary markings on battery charger, battery, and product using battery.

 CAUTION: TO REDUCE RISK OF INJURY, CHARGE ONLY LIQUID ELECTROLYTE LEAD ACID RECHARGEABLE BATTERIES. OTHER TYPES OF BATTERIES MAY BURST CAUSING PERSONAL INJURY AND DAMAGE.

3. Do not expose charger to rain or snow.
4. Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.

5. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
6. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
7. An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure that:
 - a. Pins on plug of extension cord are the same number, size, and shape as those of plug on charger cord.
 - b. Extension cord is properly wired and in good electrical condition.
 - c. Wire size is large enough for AC ampere rating of charger.

8. Do not operate charger with damaged cord or plug; replace it immediately.
9. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified service center.
10. Do not disassemble charger; take it to a qualified service center when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
11. To reduce risk of electric shock, unplug charger from a live outlet or disconnect AC power to the outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

INTRODUCTION

This battery charger is a self-regulating charger with a minimum of moving parts, designed for long, trouble-free service. Built-in line voltage compensation produces a consistent output when the AC supply voltage varies by as much as 10% from nominal. Convection cooling maximizes the reliability and minimizes any maintenance costs. ONLY liquid electrolyte lead-acid batteries should be recharged with this charger to ensure superior battery performance and life. A patented electronic circuit turns the charger on and off automatically. When the battery has reached its maximum state of charge, the solid state control will turn the charger off.

⚠ DANGER: TO REDUCE THE RISK OF FIRE, DO NOT USE THE CHARGER NEAR FLAMMABLE MATERIALS OR VAPORS.

AC INPUT

The charger must be connected to a 100-125 or 200-250 VAC, 50 or 60 Hertz, single phase AC power source. This charger is equipped with an AC voltage selector switch which allows you to change the input AC voltage for the application required. The selector switch is located on the front of the charger. To operate in the 100-125 volt AC range, the switch should read 115V and to operate in the 200-250 volt AC range, the switch should read 230V. Charger is equipped with an IEC 320 AC power inlet receptacle. An AC power cord having an IEC 320 molded connector is used to connect the charger to the power source. The cord must be connected into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

⚠ DANGER: NEVER ALTER AC CORD OR PLUG IF IT WILL NOT FIT OUTLET. HAVE A PROPER OUTLET INSTALLED BY A QUALIFIED

ELECTRICIAN. IMPROPER CONNECTION CAN RESULT IN A RISK OF AN ELECTRIC SHOCK.

GROUNDING INSTRUCTIONS

Charger AC receptacle has an equipment grounding conductor which must be connected to the ground through the AC cord to the outlet ground.

⚠ DANGER: IMPROPER CONNECTION OF THE EQUIPMENT-GROUNDING CONDUCTOR CAN RESULT IN A RISK OF AN ELECTRIC SHOCK.

If an extension cord is required, always use a three-conductor, No. 14 AWG (1.5mm) heavy duty cord with ground, properly wired, in good electrical condition and keep it as short as possible. Make sure the pins on the plug of the extension cord are the same number, size and shape as the AC plug on the battery charger cord. The use of an improper extension cord could result in a risk of fire or electric shock. Locate all cords so they will not be stepped on, tripped over or otherwise subjected to damage or stress.

DC OUTPUT

This battery charger is designed to produce a 12 volt DC output with an initial charge current of 10 amps. ONLY 12 VOLT, 6 CELL, 55 TO 105 AMPHOUR, LIQUID ELECTROLYTE (WET) LEAD ACID BATTERIES SHOULD BE USED. The charge current will decrease gradually to about 3 amps as the battery reaches full charge and will remain there until the charger turns off. Liquid electrolyte batteries will normally be charged to 2.5-2.6 volts per cell.

OPERATING INSTRUCTIONS

Instructions printed on the cover of the charger are for daily reference.

1. Set the Power switch to OFF and make sure the DC output cord is properly connected to the battery. The BLACK wire must be connected to battery negative (-) and the RED wire to battery positive (+). Make sure all connections are clean and tight.
2. Connect AC supply cord to a grounded outlet which matches the voltage setting on the charger's AC voltage selector switch.
3. Set the power switch to AUTO. The charger will start after a short delay as indicated by the ammeter movement.

⚠ WARNING: LEAD ACID BATTERIES GENERATE GASES WHICH CAN BE EXPLOSIVE. CHARGE ONLY IN WELL VENTILATED AREAS. DO NOT DISCONNECT CHARGER DC OUTPUT

TERMINALS FROM BATTERY WHEN CHARGER IS ON. THE RESULTING ARCING AND BURNING COULD CAUSE THE BATTERY TO EXPLODE.

 WARNING: KEEP SPARKS, FLAME, AND SMOKING MATERIALS AWAY FROM BATTERY.

If the charger must be stopped, set the power switch to OFF. Then disconnect the AC supply cord.

4. Monitor the ammeter for correct charge rate. The initial charge rate should be approximately 10 amps. If the battery has not been discharged, or the AC supply voltage is lower than 100/200 volts, the initial charge rate may be less than 10 amps.

The charge rate will decrease as the battery reaches full charge. On a liquid electrolyte battery, the charge rate will decrease to about 3 amps and remain there until the charger turns off. As the battery ages, the charge rate may no longer decrease to the 3 amp finish rate. This is normal and the charger will still determine when the battery is charged to its optimum and then turn off.

An older battery, even though it is properly charged, will gradually lose capacity and should be replaced when it will no longer perform as required.


5. Charger turns off automatically when battery is fully charged. Charge time varies with battery size and depth of discharge. Allow 10 hours for normal charging. Severely discharged batteries may require up to 14 hours to be properly charged and equalized. If the charger operates for 14 hours and is unable to fully charge the battery, an internal timer will turn the charger off. After the charger has turned off, set the Power switch to OFF, then disconnect the AC supply cord from outlet.

PROPER CARE OF DEEP-CYCLE BATTERIES

Batteries are subject to severe deep-cycle duty on a daily basis. For this reason, it is important that only deep-cycle batteries be used. Although these batteries are designed to withstand such duty, the following precautions must be observed to obtain good performance and maximum cycle life.

1. Always observe the following personal safety precautions when working with lead acid batteries:
 - a. Someone should be within range of your voice or close enough to come to your aid when you work near a battery.

- b. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
- c. Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
- d. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention immediately.
- e. NEVER smoke or allow a spark or flame in vicinity of batteries.
- f. Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
- g. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead acid battery. A lead acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
- h. NEVER charge a frozen battery.

 DANGER: TO REDUCE RISK OF ELECTRIC SHOCK, ALWAYS DISCONNECT THE AC SUPPLY CORD FROM ITS OUTLET AND THE DC OUTPUT CORD FROM THE BATTERY BEFORE ATTEMPTING ANY MAINTENANCE OR CLEANING OF THE BATTERY.

2. New batteries should be given a full charge before their first use because it is difficult to know how long batteries have been stored.
3. Limit use of new batteries for first 5 cycles. New batteries are not capable of their rated output until they have been discharged a number of times.
4. Do not excessively discharge batteries. Excessive discharge can cause polarity reversal of individual cells, resulting in complete failure shortly thereafter. Limited use of new batteries will minimize the chance of cell reversal.
5. CHECK THE LEVEL OF THE ELECTROLYTE IN CONVENTIONAL LIQUID ELECTROLYTE LEAD ACID BATTERIES MONTHLY. MAINTAIN THE PROPER ELECTROLYTE LEVEL BY ADDING DISTILLED OR PURIFIED WATER WHEN NECESSARY. Electrolyte levels lower during discharge and rise during charge. Therefore, it is mandatory that water be added to cells ONLY when they are fully charged; do not overfill. Old batteries require more frequent additions of water than new batteries.

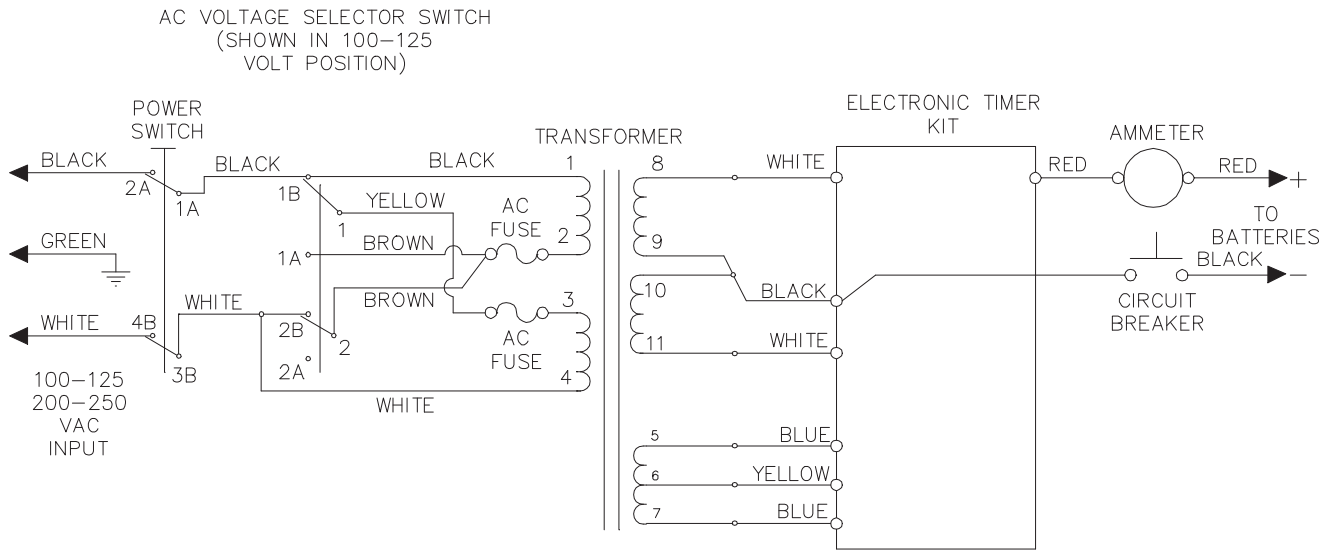
6. Keep tops of batteries clean and dry to prevent excessive self-discharge. Keep battery terminals reasonably tight.

CHARGER TROUBLESHOOTING

⚠ CAUTION: DO NOT OPERATE THE CHARGER IF IT IS DAMAGED OR APPEARS TO BE MALFUNCTIONING. PERSONAL INJURY OR DAMAGE TO THE CHARGER OR BATTERIES MAY RESULT. DO NOT DISASSEMBLE THE CHARGER. TAKE IT TO A QUALIFIED SERVICE AGENT WHEN SERVICE OR REPAIR IS REQUIRED. INCORRECT REASSEMBLY MAY RESULT IN A RISK OF ELECTRIC SHOCK OR FIRE.

1. If there is no ammeter movement three to five (3-5) seconds after the charger connections are made, one of the following is preventing the charger from turning on:
 - a. Charger power switch is not in AUTO position.
 - b. Charger is not plugged into a live AC outlet.
 - c. Battery connections are wrong (reverse polarity).
 - d. Battery is no longer serviceable (voltage below 2 volts for 12 volt system).
2. If the charger turns off before the batteries are fully charged, it indicates one of the following:
 - a. The AC power was interrupted during charge.
 - b. The DC cord was accidentally disconnected from the battery during charge.
 - c. The battery has been allowed to sulfate. Charge the battery at least once every three days when the equipment is lightly utilized. Once sulfation is allowed to take place it may be partially reduced by returning, temporarily, to daily charging.
3. A decrease in equipment range where the battery loses power earlier and earlier in the day indicates one of the following:
 - a. The electrolyte level in conventional liquid electrolyte lead-acid batteries was allowed to drop below the top of the battery plates. Add distilled water to just cover the tops of the plates immediately upon discovery and fill to the proper level with distilled water at the completion of the very next charge cycle. Battery capacity lost in this manner is permanent and is not recovered with additional charge cycles.
 - b. Use of the equipment before the batteries have been fully charged and the charger turns off. This shortens battery life and hastens the onset of reduced daily range. Battery capacity lost in this manner is permanent and is not recovered with additional charge cycles.
 - c. This is the normal wearout process for all types of deep-cycle motive power batteries.
4. The charger runs 14 hours before turning off. This indicates one of the following:
 - a. Batteries larger than 130 amp-hour capacity (20 hr. rate) can require more than 14 hours to charge.
 - b. New batteries (5 cycles or less) can require more than 14 hours to charge.
 - c. Overdischarged batteries can require more than 14 hours to charge.
5. If battery voltage exceeds 2.70 volts per cell, the charger turns off indicating one of the following:
 - a. Improper batteries used with charger. Must be a 6 cell, 2.35-2.50 volts per cell battery system.
 - b. Battery design may be inappropriate for this use. Check with your dealer for deep-cycle batteries only.
 - c. Sulfation of batteries may have occurred.

WIRING DIAGRAM



PARTS LISTS FOR MODEL 15840 100-125 OR 200-250 VAC / 50-60 HZ

PART NO.	QTY.	DESCRIPTION
20852S	1	CASE ASSEMBLY
18735S	1	TRANSFORMER ASSEMBLY
18805S	1	ELECTRONIC TIMER KIT
24551S	1	SWITCH ASSEMBLY
13102S	1	AMMETER, 12 AMP
15488S	1	BUSHING, INSULATOR, FOR DC CORDSET
19997S	1	CORDSET, DC, 16 AWG, RED & BLACK
18684S	1	CIRCUIT BREAKER, DC
23518S	1	SWITCH ASSEMBLY
** 22149S	2	FUSE, 2 AMP, 250V, DELAY
** 05322S	2	FUSEHOLDER, AC
24748S	1	AC CONNECTOR ASSEMBLY
* 28783S	2	CIRCUIT BREAKER, AC

** BEFORE 12/98

* AFTER 12/98