Lester Electrical

LESTRONIC II BATTERY CHARGER
MODEL 09787

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.

SAFETY INFORMATION

CAUTION: LOCATE THE IDENTIFICATION AND RATING INFORMATION. READ ALL OF THE INFORMATION AND ENSURE THE CHARGER YOU HAVE IS CORRECT FOR THE AVAILABLE INPUT VOLTAGE, VAC, AND FREQUENCY (HERTZ OR Hz), AND BATTERY SYSTEM VOLTAGE AND CAPACITY. TO REDUCE RISK OF ELECTRIC SHOCK OR FIRE, CONNECT AC SUPPLY CORD ONLY TO A PROPERLY GROUNDED SINGLE-PHASE OUTLET WITH THE SPECIFIED VOLTAGE (VAC) AND FREQUENCY (HERTZ OR Hz). DO NOT ATTEMPT TO OPERATE THE CHARGER ON INPUT POWER DIFFERENT, EITHER INPUT VOLTAGE (VAC) OR FREQUENCY (HERTZ OR Hz), FROM SPECIFIED.

1. This manual contains important safety and operating instructions for your battery charger.
2. Before using battery charger, read all of the instructions and cautionary markings on battery charger, battery, and product using battery.

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

3. Do not expose the 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 the electric plug and cord, pull the plug rather than cord when disconnecting charger.
6. Make sure the 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 the plug of extension cord are the same number, size, and shape as those of the plug on charger.
   b. Extension cord is properly wired and in good electrical condition.
   c. Wire size is large enough for the AC ampere rating of charger.

8. Do not operate the charger with a damaged cord or plug; replace it immediately.
9. Do not operate the 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 the 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 the risk of electric shock, unplug the charger from a live outlet or disconnect AC power to the outlet before attempting any maintenance or cleaning. Turning off controls will not reduce the risk of electric shock.

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. The charger utilizes convection cooling which maximizes the reliability and minimizes any maintenance costs. Charge only flooded, liquid electrolyte (wet) lead acid batteries 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.

RECEIVING AND INSTALLING THE CHARGER

When the charger is received, portable chargers should be checked for possible in-transit damage. If any damage is found, it should be reported as a claim to the carrier.

Proper installation of the charger is important in order to achieve good charger performance and to prevent damage to the charger and batteries. The charger should be located in a clean, cool, dry and well ventilated area. To permit free air flow for convection cooling, allow three inches (3") minimum between the charger and any wall and six inches (6") between the charger and other equipment. Position the charger on a foundation of stone, brick, concrete or grounded metal.

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

AC INPUT AND GROUNDING INSTRUCTIONS

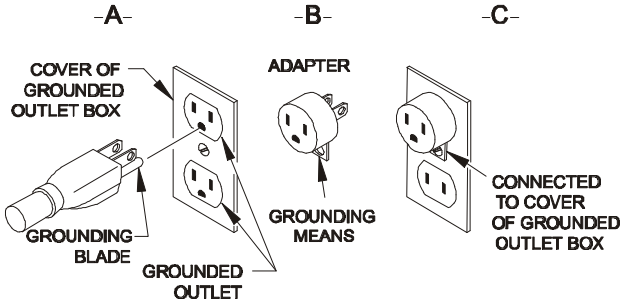
This battery charger must be grounded to reduce the risk of electric shock. This charger is equipped with an electric cord having an equipment-grounding conductor with insulation as an outer surface that is green, with or without yellow stripe(s). If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding connector to a live terminal.

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

A variety of input cord plugs and input cord lead colors are used throughout the world. Contact qualified/licensed personnel if the input plug or input cord lead colors or required charger input voltage is different than you need.

Battery chargers equipped with a grounding plug as illustrated in Figure A are used in the USA, Canada, Mexico, and Central America for 120 AC input voltage, and 60 Hertz input frequency. A temporary adapter, as illustrated in Figures B and C may be used to connect this plug to a two-pole receptacle as shown in Figure C if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear or lug extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

GROUNDING METHODS



NOTE: The use of the adapter shown in Figure B and C is not permitted in Canada. If a grounding type receptacle is not available, do not use this charger until the proper outlet is installed by a qualified electrician.

NOTE: The same plug and receptacle shown in Figures A, B and C is used in Japan, plus other Asian countries, for 100 VAC input voltage, and 50 or 60 Hertz input frequencies.

When there is not a plug on the input cord or the input plug must be changed, identify the lead connections by the following lead color table.

Connection	120V/ 60Hz	100V/ 50-60Hz	220-240V/ 50Hz
Line 1, L1	Black	Brown	Brown
Neutral, N	White	Blue	Blue
Ground, ⏚	Green OR	Green/Yellow	Green/
Earth, ⊕	Green/Yellow		Yellow
Connection	**240V/ 60Hz**	**OLD BSI 220-240V/50Hz**	
Line 1, L1	Black	Red	
Neutral, N	Red	Black	
Ground, ⏚	Green OR	Green OR	
Earth, ⊕	Green/Yellow	Green/Yellow	

EXTENSION CORD REQUIREMENTS

Always use a three-conductor, No. 12 AWG 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 of the battery charger. The use of an improper extension cord could result in a risk of fire or electrical shock. Locate all cords so they will not be stepped on, tripped over or otherwise subjected to damage or stress.

OPERATING INSTRUCTIONS

⚠CAUTION: THIS CHARGER CAN BE ADJUSTED TO OPERATE ON TWO DIFFERENT INPUT AC (120/240) LINE VOLTAGES. ADJUST AC VOLTAGE SELECT SWITCH LOCATED ON THE CHARGER OR REMOVE THE COVER TO DETERMINE/CHANGE THE INTERNAL LINE VOLTAGE SETTING. REFER TO WIRING DIAGRAM.

NOTE: For normal overnight charging, use only 230 volt AC input. Limit use of 115 volt AC input to emergency situations and occasional charging when vehicle is not in use and 230 volt input is not available. Continual use of 115 volt input will lead to undercharging of the batteries, reducing performance and battery life.

1. Connect the AC supply cord to a properly grounded single phase outlet of the proper voltage (VAC) and frequency (Hertz) as specified on the charger. The output cords of "ON BOARD" or "BUILT-IN" chargers are attached to the batteries.

   Output Cord Polarity: BLACK (-) NEG.
   WHITE, RED (+) POS.

   Verify that all connections to the batteries are clean and tight. If this applies to your charger, go to step 3; if not, go to step 2.

2. Connect the DC output plug, if not already connected, by grasping the plug body and pushing it straight into the receptacle until it is fully engaged.
3. The charger will start after a short delay as indicated by the transformer hum and 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 WILL DAMAGE THE CONNECTORS AND COULD CAUSE THE BATTERY TO EXPLODE. KEEP SPARKS, FLAME AND SMOKING MATERIALS AWAY FROM BATTERY.

   If the charger must be stopped, always disconnect the input supply cord from its outlet to terminate the charge.

4. Monitor the ammeter for correct charge rate. Normal charging at the finish charge rate for the last three to five (3-5) hours is important to achieve equalization of all battery cells every time the batteries are charged. New batteries or batteries charged in cold temperatures (below 50°F) will require more time to achieve full charge.
5. Charger turns off automatically when battery is fully charged. Charge time varies with battery size and depth of discharge. Allow 8 hours for normal charging. Severely discharged batteries may require up to 12 hours to be properly charged and equalized. After the charger has turned off, disconnect the AC supply cord from outlet, then disconnect the DC output plug from the battery on portable chargers only.

⚠CAUTION: DO NOT LEAVE CHARGER CONNECTED WHILE UNATTENDED FOR MORE THAN TWO CONSECUTIVE DAYS. SEVERE OVERCHARGING AND POSSIBLE DAMAGE TO BATTERIES WILL RESULT IF CHARGER SHOULD FAIL TO TURN OFF.

MAINTENANCE INSTRUCTIONS

The battery charger requires minimal maintenance. It should be kept clean and all connections are to be tightly secured. In the event of intermittent operation, examine and tighten, if necessary, all connections. BE SURE THE CHASSIS IS SECURELY GROUNDED. If any problems cannot be resolved, consult a qualified service center.

Observe the following battery cycle maintenance procedures 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.
   e. Never smoke or allow a spark or flame in the 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 (CHANGING FUSES, ETC.) OR CLEANING OF THE BATTERY CHARGER.

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 five 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.