

**6/2 AMP
BATTERY CHARGER**

FOR 6 OR 12 VOLT BATTERIES

INTRODUCTION

Your new Battery Charger has been designed and manufactured to provide years of reliable service. Proper use and care can prolong the life of this charger. This manual contains information necessary for the safe operation, care, and maintenance of your battery charger. Make sure that you, and anyone else who will be using this charger or working in the vicinity of a battery being charged, are familiar with this information.

Your new Battery Charger is ideal for recharging batteries in compact and mid-sized cars. It can also be used to recharge batteries in garden tractors, snowmobiles, motorcycles, and ATV's.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

- 1) This manual contains important safety and operating instructions.
- 2) Do not expose charger to rain or snow.
- 3) 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.
- 4) To reduce the risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
- 5) An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:
 - a) That pins on plug of extension cord are the same number, size, and shape as those of plug on charger;
 - b) That extension cord is properly wired and in good electrical condition; and
 - c) That wire size is large enough for AC ampere rating of charger.
- 6) Do not operate charger with damaged cord or plug. Replace them immediately.
- 7) 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 person.
- 8) Do not disassemble charger; take it to a qualified service person. Men service or repair is required. Incorrect assembly may result in a risk of electric shock or fire.
- 9) To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

▲ CAUTION

To reduce the risk of electric shock, connect only to properly grounded outlets.

▲ WARNING

CONNECT OR DISCONNECT THE BATTERY CLAMPS ONLY WHEN THE SUPPLY CORD IS DISCONNECTED OR ARCING OR BURNING MAY RESULT.

▲ CAUTION

Do not expose to rain; replace defective cords or wires immediately.

▲ WARNING

RISK OF EXPLOSIVE GASES.

- 1) **WORKING IN THE VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON IT IS OF UTMOST IMPORTANCE THAT EACH TIME BEFORE USING YOUR CHARGER YOU READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY.**
- 2) To reduce the risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery. Review cautionary marking on these products and on the engine.

PERSONAL PRECAUTIONS

- 1) Someone should be within range of your voice 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 the battery.
- 4) If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters the eye immediately flood eye with running cold water for at least 10 minutes and get medical attention immediately.
- 5) **NEVER** smoke or allow a spark or flame in the vicinity of the battery or the engine.
- 6) 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 an explosion.
- 7) Remove personal metal items such as rings, bracelets, necklaces and watches when working near a lead-acid battery. A lead-acid battery can produce a short-circuit current high enough to weld a ring or other jewelry to metal causing a severe burn.
- 8) Use charger for charging **LEAD-ACID** battery only. It is not intended to supply power to a low voltage electrical system other than in an automotive application. Do not use battery charger for charging dry-

cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons or damage to property.

- 9) NEVER charge a frozen battery.

PREPARING TO CHARGE

- 1) If necessary to remove battery from vehicle to charge, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
- 2) Be sure area around battery is well ventilated while battery is being charged. Gas can be forcefully blown away by using a piece of cardboard or other non-metallic material as a fan.
- 3) Clean battery terminals. Be careful to keep corrosion from coming into contact with eyes.
- 4) Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. This helps purge excessive gas from the cells. Do not overfill. For a battery without cell caps, carefully follow manufacturer's recharging instructions.
- 5) Study all battery manufacturer's specific precautions such as removing or not removing cell caps while charging and recommended rates of charge.
- 6) Determine voltage of battery by referring to car owner's manual and make sure that the output voltage selector switch is set at correct voltage. If charger has adjustable charge rate, charge battery initially at lowest rate. If charger has only one voltage verify that the battery voltage matches voltage of charger. For a charger not having an output selector switch, determine voltage of battery by referring to car owner's manual and make sure it matches the output rating of battery charger.

GROUNDING AND AC POWER CORD CONNECTION INSTRUCTIONS

Charger should be grounded to reduce risk of electric shock. Charger is equipped with an electric cord having an equipment grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

▲ WARNING

USE OF AN ADAPTER IS NOT ALLOWED IN CANADA. IF A GROUNDING TYPE RECEPTACLE IS NOT AVAILABLE DO NOT USE THIS APPLIANCE UNTIL THE PROPER OUTLET IS INSTALLED BY A QUALIFIED ELECTRICIAN.

CHARGER LOCATION

- 1) Locate charger as far away from battery as DC cables permit.
- 2) Never place charger directly above battery being charged; gases from battery will corrode and damage the charger.
- 3) Never allow battery acid to drip on charger when reading specific gravity or filling the battery.
- 4) Do not operate charger in a closed-in area or restrict ventilation in any way.
- 5) Do not set battery on top of charger.

DC CONNECTION PRECAUTIONS

- 1) Connect and disconnect DC output clamps only after setting any charger switches if available to off position and removing AC cord from electric outlet. Never allow clamps to touch each other.
- 2) Attach clamps to battery posts and twist or rock back and forth several times to make a good connection. This tends to keep clamps from slipping off terminals and helps to reduce risk of sparking.

OPERATING INSTRUCTIONS - CHARGING BATTERIES

- 1) FOLLOW THESE STEPS WHEN BATTERY IS INSTALLED IN VEHICLE. A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE RISK OF A SPARK NEAR BATTERY:
 - a) Position AC and DC cords to reduce risk of damage by hood, door, or moving engine parts.
 - b) Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
 - c) Check polarity of battery posts. Positive (POS, P, +) battery post usually has larger diameter than Negative (NEG, N, -) post.
 - d) Determine which post of battery is grounded (connected) to the chassis. If Negative post is grounded to chassis (as in most vehicles), see item e. If Positive post is grounded to the chassis, see item f.
 - e) For negative-grounded vehicle, connect Positive (RED) clip from charger to Positive (POS, P, +) ungrounded post of battery. Connect Negative (BLACK) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines, or sheet metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
 - f) For positive-grounded vehicle, connect Negative (BLACK) clip from charger to Negative (NEG, N, -) ungrounded post of battery.

Connect Positive (RED) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor; fuel lines, or sheet metal body parts. Connect to a heavy gauge metal part of the frame or engine block.

- g) Connect charger AC supply cord to the electrical outlet.
 - h) When disconnecting charger, turn switches, if available, to off, disconnect AC cord, remove clip from vehicle chassis, and remove clip from battery terminal.
 - i) See operating instructions for length of charge information.
- 2) FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE VEHICLE. A SPARK NEAR THE BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE RISK OF SPARK NEAR BATTERY:
- a) Check polarity of battery posts. Positive (POS, P, +) battery post usually has a larger diameter than negative (NEG, N, -) post.
 - b) Attach at least a 24 inch long 6 gauge (AWG) insulated battery cable to Negative (NEG, N, -) battery post.
 - c) Connect Positive (RED) charger clip to Positive (POS, P, +) post of battery.
 - d) Position yourself and free end of cable as far away from battery as possible — then connect Negative (BLACK) charger clip to free end of cable.
 - e) Do not face battery when making final connection.
 - f) Connect charger AC supply cord to electric outlet.
 - g) When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while as far away from battery as practical.
 - h) A marine (boat) battery must be removed and charged on shore. To charge it on board requires equipment especially designed for marine use.

CHARGING TIME INSTRUCTIONS

- 1) Determine battery percent of charge (or specific gravity) by using hydrometer or battery percent of charge tester. The following table will help you convert hydrometer readings to percent of charge values.

SPECIFIC GRAVITY	PERCENT OF CHARGE	PERCENT OF CHARGE NEEDED
1.265	100%	0%
1.225	75%	25%
1.190	50%	50%
1.155	25%	75%
1.120	0%	100%

- 2) Read down from the Battery's Starting Percent of Charge on the chart below. Use the row corresponding to the proper battery voltage and charging current setting that will be used.
- 3) Charge for time indicated on chart.

CHARGING TIME CHART

HOURS TO REACH FULL CHARGE				
Switch Setting	Battery's Starting Percent of Charge			
	75%	50%	25%	0%
6 Amps/6 Volts	3 3/4 Hrs.	7 Hrs.	10 Hrs.	12 1/2 Hrs.
2 Amps/12 Volts	6 1/2 Hrs.	12 Hrs.	18 Hrs.	23 Hrs.
6 Amps/12 Volts	2 1/3 Hrs.	4 2/3 Hrs.	7 Hrs.	9 Hrs.

NOTE: Times given are for an average sized automotive battery. For small batteries, adjust time by using the formula given below. For Deep Cycle batteries, use formula, then add 1 hour to time calculated.

$$\left(\frac{\text{Amp Hour Rating of Battery} \times \text{Percent of Charge NEEDED}}{\text{Amp Setting Selected On Charger}} \right) \times 1.25 = \text{Hours to Charge}$$

NOTE: Batteries that are 25% charged or lower may easily freeze and should be charged at once. If the battery being charged is rated in Reserve Capacity rather than Amp Hours, use the formula below to determine the appropriate Amp Hour rating for your battery.

$$\text{Amp Hour Rating} = (\text{Reserve Capacity} / 2) + 15.5$$

PRE-CHARGE BATTERY ACTIVATION

The need for pre-charge activation is indicated when the ammeter reads zero and it has been determined (by a volt meter or hydrometer reading) that the battery is discharged.

▲ CAUTION

MAKE SURE BATTERY IS REALLY DISCHARGED BEFORE ATTEMPTING PRE-CHARGE ACTIVATION. KEEP IN MIND THAT A FULLY CHARGED BATTERY WILL ALSO CAUSE THE AMMETER TO READ LOW. ATTEMPTING PRE-CHARGE ACTIVATION OF A FULLY CHARGED BATTERY CAN CAUSE OVERCHARGING THAT COULD LEAD TO BATTERY DAMAGE OR EXPLOSION.

Newer 12 volt batteries, of the high-calcium design, may require special pre-charge activation if they've been discharged extremely low. When deeply discharged, these batteries tend to have very low voltage output and, when recharging is attempted, will draw less than 1 amp until activated. Pre-charge activation (the time it takes before the battery starts accepting measurable charge from the charger) may take as long as 4 to 8 hours from the time the charger is hooked up and turned on.

CHARGER CONTROLS

SELECTOR SWITCH

The switch on the front of your charger allows you to select the voltage and rate of charging. By sliding the switch to the left position, the 6 volt 6 amp charging rate is selected; by selecting the center position, the 12 volt 2 amp charging rate is selected; by sliding the switch to the right position, the 12 volt 6 amp charging rate is selected;

Always make sure that the selection you make matches the voltage of the battery being charged.

When charging small 12 volt batteries, like those used in garden tractors, snowmobiles, motorcycles, and ATV's, always select the 12 volt 2 amp setting. Small batteries like these can be damaged by higher rates of charge.

AMMETER

The ammeter on the front of your charger indicates the amount of amperes flowing from the charger into the battery. As the battery becomes more fully charged, the rate of charge tapers down. Depending on the battery percent of charge, the amperage that the charger delivers when starting to charge will vary. It will usually be less than the amperage selected unless the battery is almost fully discharged.

Do not use the meter to determine the state of charge of the battery. Use a hydrometer or other battery tester. The meter should be used only as a guide to how the charging is proceeding.

When the battery being charged is cold (Temperatures less than 0° C (32° F)) the battery will not accept high rates of charge until it warms up. The initial charge rate will be low and as the battery warms up through charging, the rate will increase. Because of this, you cannot depend on the meter to indicate the state of charge.

The same conditions exist if the battery being charged is sulfated. Sulfated batteries cannot accept high charge rates because the internal plates of the battery are coated with lead sulfate. This occurs when a battery is left in a discharged state for a long time. This battery condition can sometimes be cured. The battery should be taken to a service station or battery distributor for service.

When the battery being charged has a short circuit, the ammeter will show that the charger's putting out full current and that the battery is mostly discharged. If after 5–10 minutes, the needle has not moved toward lower amperages, unplug the charger and discontinue charging. If available use a voltmeter and read the voltage of the battery. If the voltage is under 12 volts, the battery is probably defective and should be serviced or replaced. If the voltage reads over 12 volts, plug the charger back in and continue charging . If after 15–20 minutes, the needle on the meter still has not moved toward lower amperages, repeat the voltmeter test. If no change in voltage has occurred, the battery needs service or replacing.

CHARGER MAINTENANCE AND CARE

A minimum amount of care can keep your battery charger working properly for years.

- 1) Clean the clamps each time you are finished charging. Wipe off any battery fluid that may have come in contact with the clamps to prevent corrosion.
- 2) Coil the input and output cords neatly when storing the charger. This will prevent accidental damage to the cords and charger.
- 3) Occasional cleaning of the case of the charger with a soft cloth will keep the finish shiny and help prevent corrosion.

TROUBLESHOOTING

- 1) No Ammeter Reading (Battery does not accept charge)
 - a) Make sure charger is plugged into live AC outlet.
 - b) After unplugging unit, check connections at battery. Make sure the clamps are making good contact with the battery terminal (or vehicle chassis).
 - c) Check to see that the battery is capable of being charged. It may be damaged or sulfated.
 - d) Make sure that you have selected the proper charge voltage for the battery being charged.
 - e) Make sure you are allowing enough time for charging the battery. Refer to the charging time formulas earlier in this manual.
 - f) See PRE-CHARGE ACTIVATION Section.
- 2) Ammeter shows reading, but battery does not accept charge.
 - a) Check to see that the battery is capable of being charged. It may be damaged or sulfated.
 - b) Make sure you are allowing enough time for charging the battery. Refer to the charging time formulas earlier in this manual.

LIMITED WARRANTY

Century Mfg. Co. warrants that for 2 years from the date of original retail purchase on entire unit, it will repair at no charge for parts and labor, this product proven defective in material or workmanship. If, after reasonable efforts by Century, the product is deemed not repairable, Century will, at its option, refund the original purchase price or supply a replacement unit.

THE TERMS OF THE CENTURY LIMITED WARRANTY CONSTITUTE THE BUYERS SOLE AND EXCLUSIVE REMEDY. THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THIS EXPRESS WARRANTY. AFTER TWO YEARS FROM DATE OF PURCHASE ALL RISK OF LOSS FROM WHATEVER REASON SHALL BE PUT UPON THE PURCHASER.

CENTURY SHALL NOT BE LIABLE FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES UNDER ANY CIRCUMSTANCES: CENTURY'S LIABILITY, IF ANY, SHALL NEVER EXCEED THE PURCHASE PRICE OF THIS MACHINE, REGARDLESS OF WHETHER LIABILITY IS PREDICTED UPON BREACH OF WARRANTY (EXPRESS OR IMPLIED), NEGLIGENCE, STRICT TORT OR ANY OTHER THEORY.

This warranty extends to each person who acquires lawful ownership within two years of the original retail purchase, but is void if the product has been abused, altered, misused or improperly packaged and damaged when returned for repair.

This warranty applies to the product only and does not apply to any accessory items included with the product which are subject to wear from usage; the replacement or repair of these items shall be at the expense of the owner.

Some states and provinces do not permit the limitation of warranties or limitation of consequential or incidental damages, so the above disclaimer and limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or province to province.

TO OBTAIN SERVICES UNDER THIS WARRANTY

Take your battery charger (10 amp and under) with sales receipt (or other proof of purchase date) to place of purchase. If it is determined that the product is defective and still under warranty, the product will be exchanged with another unit of the same or equivalent design.

For answers to questions concerning use, out-of-warranty service, or warranty/service information on other Century products, contact:

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