



MODEL: 260-9538

BATTERY CHARGER & Maintainer OPERATOR'S MANUAL



IMPORTANT SAFETY INSTRUCTIONS:

1. **SAVE THESE INSTRUCTIONS.** This manual contains important safety and operating instructions. You may need to refer to these instructions at a later date.
2. **CAUTION:** To reduce risk of injury or danger, charge only wet cell, lead-acid, automotive type rechargeable batteries. Other types of batteries may burst causing personal injury and property 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 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 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;
 - c. If the length of the extension cord is less than 15 meters, use a 0.75mm² cord, If 30 meters – 1mm², 60 meters -1.5mm².
8. Do not operate charger with damaged cord or plug, replace the cord or plug 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 serviceman.
10. Do not disassemble charger; take it to a qualified serviceman 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 outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

12. WARNING - RISK OF EXPLOSIVE GASES

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

cautionary marking on these products and on engine.

13. PERSONAL SAFETY PRECAUTIONS

- a. Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid 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 enter eyes, immediately flood eyes 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 battery or engine.
- 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. Use the charger for charging a LEAD-ACID battery only. It is not intended to supply power to a low-voltage electrical system other than in a starter motor 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 and damage to property.
- i. NEVER charge a frozen battery.

14. OPERATING INSTRUCTIONS

PREPARING TO CHARGE

- a. If necessary to remove battery from vehicle to charge, always remove the grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
- b. 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.
- c. Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
- d. Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. This helps purge excessive gas from cells. Do not overfill. For a battery without cell caps, carefully follow manufacturer's recharging instructions.
- e. Study all the battery manufacturer's specific precautions such as removing or not removing cell caps while charging and recommended rates of charge.

- f. Determine voltage of battery by referring to car owner's manual and make sure that output Voltage is set at correct voltage. If charger has adjustable charge rate, charge battery initially at lowest rate.

15. CHARGER LOCATION

- a. Locate charger as far away from battery as output cables permit.
- b. Never place charger directly above battery being charged; gases from battery will corrode and damage charger.
- c. Never allow battery acid to drip on charger when charging battery.
- d. Do not operate charger in a closed-in area, or restrict ventilation in any way.
- e. Do not set a battery on top of charger.

16. DC CONNECTION PRECAUTIONS

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

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 part.
- 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) clamp from battery charger to POSITIVE (POS, P, +) ungrounded post of battery.
Connect NEGATIVE (BLACK) clamp to vehicle chassis or engine block away from battery.
Do not connect clamp 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) clamp from battery charger to NEGATIVE (NEG, N, -) ungrounded post of battery. Connect POSITIVE (RED) clamp to vehicle

- chassis or engine block away from battery. Do not connect clamp to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- g. When disconnecting charger, disconnect AC cord, remove clamp from vehicle chassis, and then remove clamp from battery terminal.
- h. See charging time instructions for length of charge information.

FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE VEHICLE TO REDUCE RISK OF A SPARK NEAR BATTERY.

A SPARK NEAR THE BATTERY MAY CAUSE BATTERY EXPLOSION!

- a. Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has a larger diameter than NEGATIVE (NEG, N, -) post.
- b. Connect POSITIVE (RED) charger clamp to POSITIVE (POS, P, +) post of battery.
- c. Position yourself and free end of cable as far away from battery as possible - then connect NEGATIVE (BLACK) charger clamp to free end of cable.
- d. Do not face battery when making final connection.
- e. When disconnecting charger, always do so in reverse sequence of connecting procedure and break the first connection while as far away from battery as practical.
- f. A marine (boat) battery must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use.

17. AC POWER CORD CONNECTION INSTRUCTIONS

The plug must be plugged into an outlet that is properly installed in accordance with all local codes and ordinances.

DANGER! Never alter AC cord or plug provided - if it will not fit in outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.

18. CHARGING TIME

- The following instructions will allow you to determine how long it will take to bring a specific battery to full charge.
- a. Test the battery for state of charger with a hydrometer or electronic percent-of-charge tester.
- b. Determine the size of the battery in Amp-Hour or Reserve Capacity. If the ratings are not printed on the battery, contact your local battery dealer for this information. These are the only ratings that can be used to determine length to charging time.
- c. Use the battery rating, the charge level of the battery, and amp setting to be used on the

charger in the formula provided below:

$$\frac{\text{Amp Hour Rating of Battery} \times \text{Percent of Charged Needed}}{\text{Amp Setting Selected On Charger}} \times 1.25 = \text{Hours to Charge}$$

- d. If the battery is rated in Reverse Capacity, use the following formula to convert reverse capacity to amp-hours.

$$\frac{\text{Reverse Capacity}}{2} + 15.5 = \text{Amp-Hour Rating}$$

NOTE: The length of charge times are approximate and vary from the battery to battery. Always follow the battery manufacturer's specific charging instructions.

19. CHARGING

NOTE: Before using the charger, please review all safety and connection directions. Failure to do so can damage battery and cause serious injury or death.

Model 260-9538 is a fully automatic charger and comes with a Micro-Processor Control Unit and indicator LED.

The output rate is 12V 1.25A.

20. STATUS INDICATING LIGHT:

If the light is not lit, then the battery is not properly connected and /or the charger is not plugged into AC power.

The following describes light operation:

Solid Red light	The solid red light indicates that the battery charger has AC power available and the microprocessor is functioning properly, but either the battery voltage is too low(Less than 1.5Volts) or the output alligator clips or ring terminals are not connected correctly.
Flashing Green Light	Whenever the green light is flashing, a battery is connected properly and the charger is charging the battery. The flashing green light will remain on until the charger completes the charging stage.
Solid Green light	When the green light is solid, the charger is complete and the battery can be returned to service if necessary. It can also stay connected to maintain the battery for an indefinite period of time.

- Connect the charger to battery per instructions.

- Connect the charger to AC outlet.
- If the charger does not detect a properly connected battery, the solid red light will be on until such a battery is detected. Charging will not begin while the solid red light is on. When the charging begins, the flashing green light will be lit steady.
- When charging is complete, unplug the charger from the AC outlet.

21. Automatic Micro Processor Control Unit Charge:

Stage 1 —Diagnosis: Analyze the battery to check if it can accept charge or not, prevent charging from proceeding on a defective battery;

Stage 2—Pre-charge: Battery V <12V, small current to charge, better maintenance battery;

Stage 3 — Soft start: Bulk charging process with a gentle (soft) charge.

Stage 4—CC (Constant Current): Fast speed charging;

Stage 5—CV (Constant Voltage) Absorption to voltage 14.6V, it is a charge cycle for batteries nearly full. It will top off the battery at 14.6V DC;

Stage 6—Resting: Cut off with full charged statement, high energy efficiency;

Stage 7—Restoring: Automatic On-off Monitoring. The charger DC output will shut off and monitor a fully charged battery. If the battery falls below 12.8VDC, the charger will restart and enter into stage one.

22. Protection Features:

- *Short circuit, open circuit, spark proof;
- *Overheat;
- *Overcurrent
- *Overcharge

23. MAINTANENCE INSTRUCTIONS

This charger requires minimal maintenance. As with any appliance or tool, a few common sense rules will prolong the life of the battery charger.

ALWAYS BE SURE THE CHARGER IS UNPLUGGED BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.

1. Store in a clean, dry place.
2. Coil up the cords when not in use.
3. Clean the case and cords with a slightly damp cloth.
4. Clean any corrosion from the clamps with a solution of water and baking soda.
5. Examine the cords periodically for cracking or other damage and have them replaced if necessary.

24. WARNING: All other service should be done by qualified personnel only. Your product, accessories & packaging should be discarded in an environmentally responsible way.

Figures and photos may vary slightly due to our program of continuous product improvements.

TWO YEARS LIMITED WARRANTY.



WARNING: Cancer & Reproductive Harm www.P65Warnings.ca.gov

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