ProLite II™

Lead Acid/NiMH Battery Charger

Owner's Manual

Congratulations, on purchasing the ProLite II car charger. This is the finest car charger on the market. With proper care, this charger will provide many years of dependable service. With the addition of an AC Adaptor this can be the only charger you will ever need.

1. Features
    a. Charges 6V ProLite II and Tag lead acid batteries.
    b. Charges all ProLite II NiMH Smart Battery Packs.

2. Options
    a. 120V AC to 12V DC Adaptor
    b. Universal charging cord

3. Safety
    a. Do not use in wet conditions. Electrical shock or damage to the unit may result. If unit becomes wet, let unit dry thoroughly before using.
    b. Charge **only** 6V lead acid or Prolite II NiMH Smart Battery Packs. **Do not attempt to charge other makes of NiMH packs. Serious injury, death or damage may occur.**
    c. Do not attempt internal repairs. Serious injury or damage may result. Warranty is void if internal repairs are attempted.
    d. When cleaning contacts or inspecting cords make sure the charger is unplugged.
    e. Do not leave charger unattended when in use.
    f. Caution: Charger will become very hot when in operation. Do not touch charger when hot, serious burns may result. Do not place charger on surfaces that cannot withstand at least 150° F (66° C).
    g. When using charger, the charger must be orientated so name plate faces forward and writing is right side up. See Figure 1.

Figure 1: Correct charger orientation when in use.

4. Operation
    a. Charging Lead Acid Batteries
        i. Inspect all cords, connectors and batteries for damage. Warning: Do not use if damage is found. Repair or Replace damaged parts before continuing.
        ii. Select Lead Acid setting on charger. Warning: Do not try to charge a lead acid battery on NiMH setting. Serious damage or injury may result.
        iii. Connect charger to the cigarette lighter. The red LED on the lighter plug, indicating power to charger, and the yellow LED on the charger, indicating charge circuit is operating, will light. If the red LED on plug or yellow on charger does not light see Trouble Shooting Section.
        iv. Plug battery into the charger.
        v. The Yellow LED will go out or dim significantly indicating the battery is charging.
        vi. As the battery becomes fully charged, the yellow LED will become brighter or light.
        vii. When the yellow LED lights or glows brighter the battery can be considered fully charged.
        viii. The battery can be left on the charger for several hours once fully charged. Note: Do not leave battery on charger for extended periods of time once it is charged; battery damage may result.
        ix. When fully charged, disconnect the battery from the charger. See Figure 2.
        x. Disconnect the charger from the cigarette lighter.

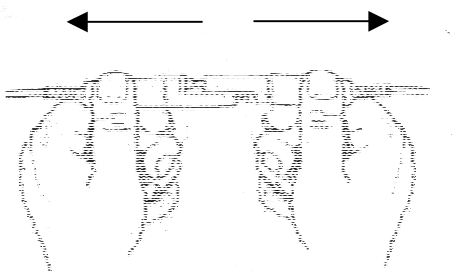


Figure 2: Proper Disconnect Method

b. Charging ProLite II NiMH smart battery packs.

i. Inspect all cords, connectors and batteries for damage. Do Not Use If Damage is found. Repair or Replace damaged parts before continuing. Note: NiMH batteries must be charged at a temperature range between 32° F and 104° F (0° C and 40°C).
ii. Select NiMH setting on charger. Warning: Do not try to charge a NiMH battery on lead acid setting. Serious damage or injury may result.
iii. Connect charger to the cigarette lighter. The red LED on the lighter plug, indicating power to charger, and the yellow LED on the charger, indicating charge circuit is operating, will light. If the red LED on plug or yellow on charger does not light see Trouble Shooting Section.
iv. Plug battery into the charger. The yellow LED on the charger will go out.
v. When battery becomes fully charged, the yellow LED will light. Note the battery will become very warm during charging.
vi. The battery should be removed from the charger as soon as possible once it is fully charged. Note: Do not leave battery on charger for extended periods of time once it is charged; battery damage may result.
vii. Wait at least 15 minutes before using battery after charging. Battery will not provide any current until it cools down several degrees. This is considered normal operation.

5. Trouble Shooting
   a. Red LED on lighter plug does not light.
      i. No power to cigarette lighter socket.
         1. Turn ignition on.
         2. Check fuse for cigarette lighter.
      ii. Bad contact between lighter plug and socket.
         1. Clean contacts
      iii. Blown fuse in lighter plug.
         1. Replace fuse in lighter plug. See Figure3.
      iv. Cigarette outlet is wrong polarity.
         1. Plug charger into a correct polarity outlet. Center of outlet should be positive.

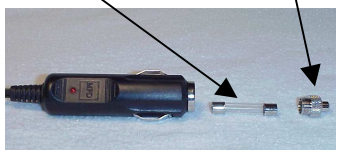


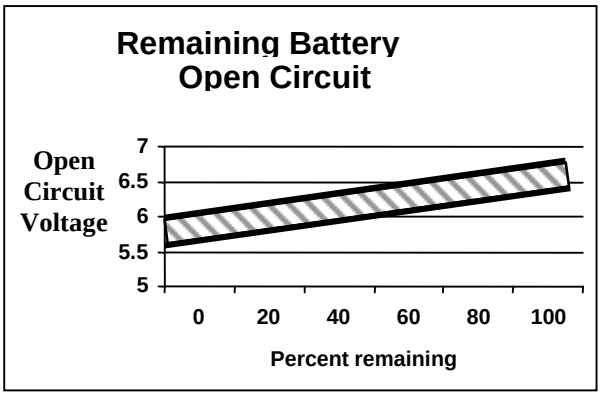
Figure 3: Replacing the fuse in the lighter plug.

   b. Yellow LED on charger lights but battery does not charge.
      i. Bad connection between charger and battery.
         1. Clean connector.
         2. Replace connector. Contact factory for details.
      ii. Defective battery
         1. Replace battery.
      iii. Broken battery or charger wire.
         1. Repair or replace wire. Contact factory for details.
   c. Yellow LED on charger does not light.
      i. Start vehicle. Most vehicles will provide between 13.8-14.5 volts when vehicle is running. The charger is designed to operate between 13 – 17 volts. The battery will still charge but the LED may not light if voltage is below the recommended range.
   d. When NiMH battery pack is connected to charger, Yellow LED on charger does not go out.
      i. Battery is fully charged.
      ii. Bad connection between battery and charger.
         1. Clean contacts.
         2. Repair or replace connectors.
      iii. Broken internal connection in battery pack.
         1. Replace battery pack.

6. Typical Charging Times
    a. The charging times listed in the table are typical times. Your actual charging time may vary due to actual input voltage, battery condition, state of charge etc.

Battery Type, Voltage and Capacity	Charging from running vehicle. (Input voltage 13.5 – 14.5)	Charging from 120V AC to 12 DC adaptor. (Input voltage 14.5 - 16.5)
6V, 4.2 Ah, Lead Acid	4.5	4.25 hours
6V, 7.0 Ah, Lead Acid	9	8.5 hours
6V, 1.5 Ah, NiMH	1.75	1.3 hours
7.2V, 1.5 Ah, NiMH	2	1.5 hours
7.2V, 3.7 Ah, NiMH	4.75	4 hours

7. Remaining Capacity of a 6 volt lead acid battery



8. Limited Warranty

    a. This charger is warranted for a period of one year from the original purchase date against defects in parts or workmanship. The manufacturer will replace or repair the charger at the manufacturer's discretion after inspection has determined the cause of failure. The registration card must be filed with the manufacturer along with a copy of the original sales receipt for the warranty to be valid. This warranty is valid only to the original owner and is non-transferable. Naturally, normal wear and tear, misuse, neglect or dissatisfaction with the product choice are not manufacturing defects and thus are not cover by this warranty. No other warranty is implied.
    b. The manufacturer and their agents are not liable for any incidental or consequential damages, including, but not limited to, property damage, lost time, loss of use of a covered product, or any damages resulting from the breakdown or failure of a covered product, or from delays in replacement of a covered product.
    c. If the product falls within the warranty guidelines, the manufacturer will cover repairs. Shipping to and from the repair center is the responsibility of the consumer. If it is necessary to ship, please send the charger prepaid, insured, and in a carton. Enclose an 8 ½ x 11 sheet of paper with your name, address, telephone number, email address and a brief description of the problem to ProLite, $^{c}/_{o}$ Brian Preaux.

9. Contact Information
    For additional information about PROLITE II Car Charger or any other PROLITE products, or warranty or non-warranty repairs contact PROLITE at:
    a. Email: PROLITEII@aol.com
    b. Phone: (703) 455-4782
    c. Mailing Address: See Website for Address