



Owner's Manual

ULTRA-POWER II ACCU-POWER & ACCU-POWER ONBOARD Solid State Fully Automatic Chargers

Manual Number 1017361

Edition Code 0493B0101A

WARNING

- **This instruction manual should be read completely before attempting to use or service the charger. Failure to follow the instructions in this manual could result in personal injury, property damage, or death.**

It is important to note some vital statements throughout this manual. These statements are preceded by the words DANGER, WARNING, CAUTION, or NOTE. These statements are for your safety and must be followed.

DANGER

- **A DANGER indicates an immediate hazard that will result in severe personal injury or death.**

WARNING

- **A WARNING indicates an immediate hazard that could result in severe personal injury or death.**

CAUTION

- **A CAUTION indicates hazards or unsafe practices that could result in minor personal injury, product or property damage.**

GENERAL INFORMATION

WARNING

- **Only trained technicians should repair or service the charger. Consult your nearest Club Car distributor/dealer.**
- **Do not use the charger near water.**
- **Always wear safety glasses or eye protection when servicing the vehicle or charger.**
- **Do not connect the charger to battery packs that are not compatible with the DC output voltage specified on the charger. Overheating and transformer burnout will result.**
- **Do not use the charger if the plug, cord, or receptacle have been damaged in any way. Use of the charger with any of these symptoms could result in fire, property damage, personal injury, or death.**

The battery charger is designed to recharge a deep-cycle, lead-acid battery system of the specified DC voltage. The charger is a taper type ferro-resonant charger with a patented solid state automatic shut off circuit that determines full charge of the batteries by measuring the rate at which the battery voltage increases during charge. When the voltage stops rising, the battery is fully charged and the charger turns off. The charger has a minimum of moving parts and is designed for long, trouble-free service.

Batteries should be put on charge even if used for 9 holes or ten minutes. If charger does not seem to be operating properly or the batteries seem weak, contact your nearest Club Car Distributor/Dealer.

NOTE: When night air temperatures fall below 65 °F (18 °C), batteries charged in unheated areas should be placed on charge as soon after use as possible. Batteries are warmest after use and cold batteries require more time to fully charge.

CHARGER INSTALLATION AND OPERATION – ALL MODELS

⚠ CAUTION

- Use only on circuits provided with maximum 20 amperes branch circuit protection in accordance with the national electrical code, ANSI/NFPA 70, and all local codes and ordinances, or the electrical codes of the country in which used.
- Install surge arrestors on incoming AC power lines. Surge arrestors will protect electrical/electronic components in the charger and on the vehicle from all but direct and very close lightning strikes.
- Do not place the charger on an unstable cart, stand, or table. The charger may fall, causing serious damage or personal injury.

⚠ WARNING

- Do not operate the charger if it has received a sharp blow, was dropped or otherwise damaged in any way. Contact your nearest Club Car Distributor/dealer.
- Ventilation openings must not be blocked or covered and must have at least two inches of clearance. The charger should never be placed on a bed, sofa, rug, or other similar surface and do not allow clothing, blankets, or other materials to cover the charger. The charger should never be placed near or over a radiator or heat register. It should not be installed in a confined space unless proper ventilation is provided.
- Ventilation fans should be located at the highest point in the room and must be capable of changing the total volume of air in the room five times per hour. Consult your local HVAC engineer.
- Do not use near fuels, grain dust, solvents, thinners, or other flammables. Chargers can ignite flammable materials and vapors.
- Keep the charger dry - Do not expose it to rain or spill liquids of any kind onto the charger.
- Never push objects of any kind into the charger through the cabinet slots. They may touch dangerous voltage points or short out parts that could result in fire or electric shock.
- The battery charger must be grounded to reduce the risk of electrical shock. The charger is equipped with an AC electric cord having an equipment-grounding conductor and a grounding type plug. The plug must be connected to an appropriate receptacle that is properly installed and grounded in accordance with the National Electrical Code and all local codes and ordinances, or the electrical codes of the country in which used.
- Do not defeat the purpose of the grounding-type plug by using an adaptor for installation into a two-prong outlet. The electrical outlet or extension cord must have a three-prong outlet. Improper connection of the equipment-grounding conductor could result in fire or electrical shock.
- The use of an extension cord with the charger should be avoided. If an extension cord must be used, use a three conductor No. 12 AWG cord with a grounding type plug in good electrical condition and keep it as short as possible (no more than twelve feet). Locate all cords so that they will not be stepped on, tripped over, or otherwise subjected to stress. Replace worn, cut, or damaged power cords or wires immediately. An improper extension cord could result in fire or electrical shock.
- Do not use an extension cord with onboard models.

CAUTION

- Do not leave DC plug (AC plug for onboard charger models) plugged in while unattended for more than two days in a row. Severe overcharging and damage to the batteries may result if the charger does not turn off.

WARNING

- Do not disconnect the DC output plug from the battery receptacle when the charger is on. The resulting arcing between the plug and receptacle could result in an explosion. If the charger must be turned off, first disconnect the AC power supply cord from its outlet, then disconnect the charger DC output plug from the battery receptacle.

The AC line to which the charger is to be connected must be capable of supplying sufficient amperage.

ACCU-POWER MODELS ONLY:

With charger DC output cord disconnected (not applicable for onboard models), connect the power supply cord to an AC supply.

To charge the batteries, insert the DC plug into receptacle (not applicable for onboard models). The charger will turn on three to five seconds later.

Monitor the ammeter for the correct charge rate. The initial charge rate will vary from 16 to 21 amperes depending upon the condition of the batteries and how much the batteries have been discharged.

Slight variations in the initial charge rate may also result from AC input line voltages that are higher or lower than normal. Higher line voltages increase the initial charge rate while lower line voltages reduce the charge rate.

CAUTION

- Do not allow the charger to operate for more than 30 minutes at 23 amperes or more.

If the batteries are heavily discharged and the AC input line voltage is higher than normal, the initial charge may exceed 23 amperes. Under normal conditions, the charge rate will taper to less than 21 amperes within 30 minutes. If the ammeter still reads 23 amperes or more after 30 minutes, turn the charger off by disconnecting the AC power supply cord from its outlet. **See Troubleshooting Guide on page 7.**

ULTRA-POWER II MODELS ONLY:

With charger DC output cord disconnected, connect the power supply cord to an AC supply.

To charge the batteries, insert the DC plug into receptacle and the charger will turn on three to five seconds later and illuminate the red CHARGER ON light. This indicates the charger is charging the batteries.

As long as the charger is allowed to shut off by itself, the batteries should be fully charged. If the CHARGER ON light has not shut off, the batteries are not fully charged. If possible, allow the charger to complete its charge cycle before disconnecting the charger from the vehicle.

Light Display

The Ultra-Power II features a range indicator that consists of three red lights and a manual stop button.

This feature gives an indication of the vehicle's expected range as well as providing a diagnostic tool.

The three red lights are labeled 18 HOLES, 36 HOLES, and FULL RANGE. These lights will be illuminated as the on-charge voltage reaches the predetermined thresholds. When the charger shuts off after a normal charge cycle, the red CHARGER ON light will turn off, but the range indicator lights will remain on until the charger is unplugged from the vehicle. Anywhere from zero to three red lights will be on.

Range Indicator

The greater number of lights that are on, the healthier the batteries are and the greater the range that can be expected of the vehicle. You can tell how healthy a particular vehicle's batteries are in relation to the other vehicles at a glance at the time you unplug the charger. You do not have to turn the charger back on to perform any special tests. Use **Figure 1, Page 5** as a guideline for predicting the range of the vehicle.

Vehicle Rotation

The light display is also an excellent tool for setting up a vehicle rotation in your fleet. The number of lights illuminated should indicate the condition of the batteries. The vehicles with the greatest number of red lights illuminated should be sent out first. This procedure should be followed until all vehicles are in service. The vehicles with no lights illuminated on their charger need to be inspected and tested by a trained mechanic. This procedure will reduce the possibility of sending out a vehicle likely to run out of power during use and allows maximum service from your batteries.

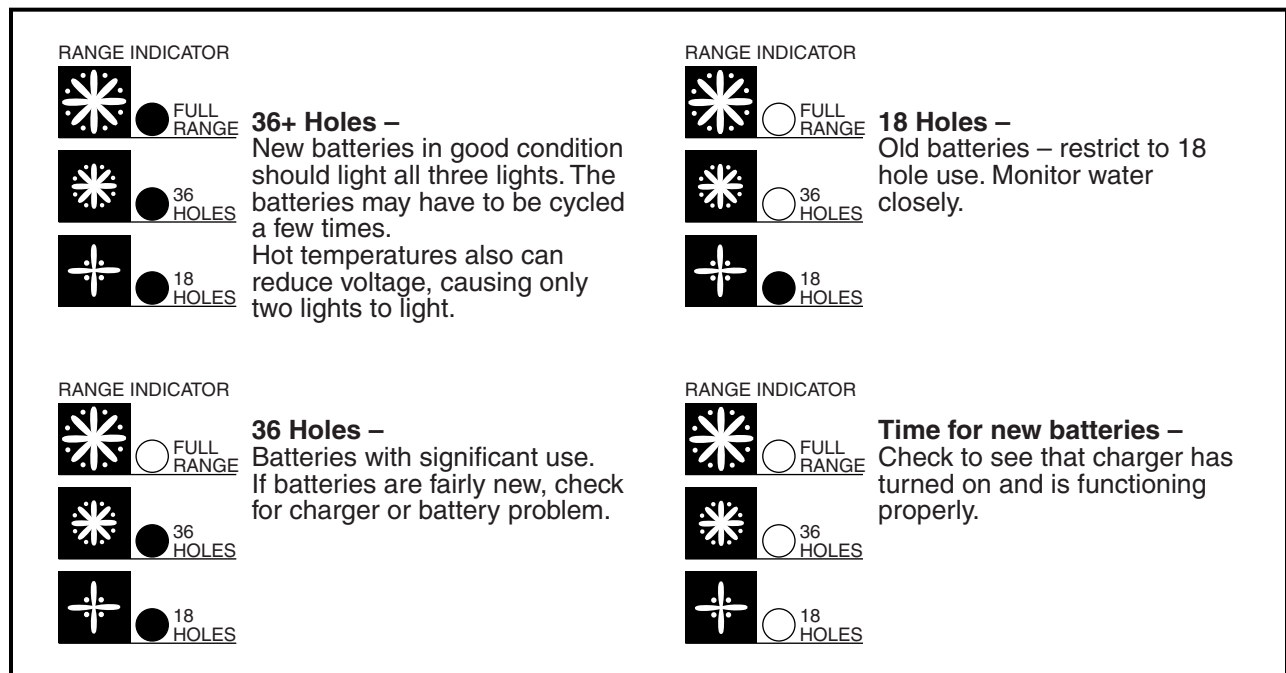


Figure 1

NOTE: *Extreme hot or cold temperatures can affect the length of charge and the number of lights that will turn on.*

Some brands of batteries are built with lower voltage characteristics and may never light the full range light but will still give good performance. In this case, all voltages will be lower. For example, one light will give an estimated 36 hole performance and zero lights might give an estimated 18 hole performance. Develop your own guidelines for the brand of batteries you are using.

For best battery life, Club Car recommends that electric vehicles not be used for more than 36 holes before recharging to avoid deep cycling of the batteries. Charging between rounds will also extend battery life.

*Check to be sure charger has turned on and is functioning properly before replacing batteries. **See Diagnostic Tool on page 6.***

New batteries will not deliver their full range until they have been run and recharged from 20 to 50 times depending on the brand. You should restrict the vehicle to 18 holes between charges until the batteries have been properly cycled.

It can be seen from **Figure 1, Page 5** that by monitoring the number of lights that remain on after the charge cycle is finished, you can determine which vehicles can go two rounds and which vehicles need new batteries, etc. It is best to use the average of several charge cycles.

It should be noted that **Figure 1, Page 5** is to be used as a guideline only. Results may vary due to terrain and playing conditions. The results are also based on batteries that are well maintained and in good working condition. See the section on Batteries in your vehicle's Owner's Manual or contact your local Club Car Distributor/Dealer.

Diagnostic Tool

Because the lights indicate final on-charge voltage, they can be used as a diagnostic tool by the experienced user.

For instance, low voltage on a set of batteries when compared to batteries of similar age and usage may indicate a problem with one or more batteries within that set. If the CHARGER ON light does not turn ON or OFF, this indicates there may be a problem with the charger or batteries. If no red lights are lit with batteries you know are good, but the CHARGER ON light is turned ON then there may have been a power interruption during the charging cycle. Consult your local Club Car Distributor/Dealer to further analyze the problem.

The lights allow you to spot potential problems early and remove the bad batteries or components before other batteries or components are damaged. This may extend the battery life and reduce maintenance costs.

NOTE: While the lights on the charger may forewarn you of many problems, not all problems will be detected by the lights. If all the range indicator lights are on, but a problem is noted with the batteries or your vehicle's performance, consult your local Club Car Distributor/Dealer for assistance.

PLUG AND RECEPTACLE – ALL MODELS

WARNING

- Do not twist, rock, or bend the plug.
- Do not pull on the cord that connects the charger to the plug. Doing so could damage the charger cord, plug, or the vehicle receptacle.

Do not use this charger if:

- The plug is too loose or does not make a good connection.
- The plug and receptacle are hot to the touch.
- The plug blades or contacts are bend or corroded.
- The plug, receptacle, or cords are cut, worn, or have exposed wires.
- The plug, cord, charger, or receptacle are damaged in any way.

Using the charger with any of the above symptoms could result in fire, property damage, severe personal injury, or death.

To connect the charger plug to the vehicle receptacle, grasp the plug handle and push the plug straight into the receptacle (**Figure 2, Page 7**).

To disconnect the charger plug from the vehicle receptacle, grasp the plug by the handle and pull the plug straight out from the receptacle. Do not pull on cord (**Figure 3, Page 7**).

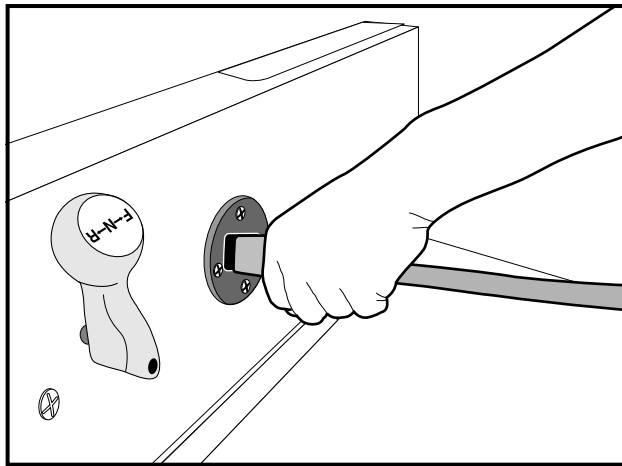


Figure 2

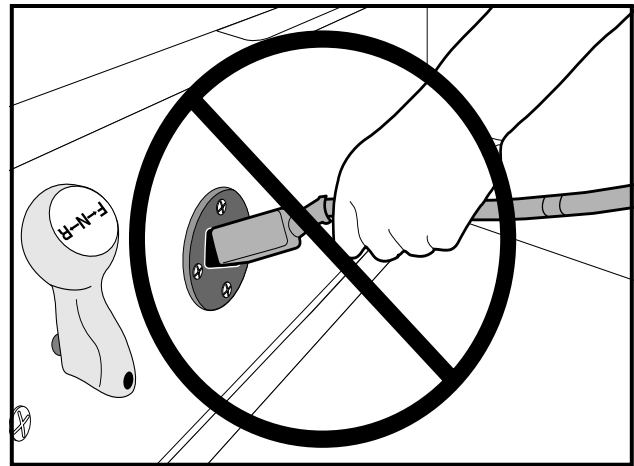


Figure 3

As part of a preventive maintenance program, the plug and cord should be checked daily.

If the warning tag has been removed from the DC cord, have it replaced.

A Club Car vehicle supplied with an onboard charger is also equipped with a DC receptacle connected to the batteries. This allows for charging the batteries with a stationary charger in an emergency. If a stationary charger is used, refer to and follow the warnings and instructions provided for that type of charger.

TROUBLESHOOTING GUIDE

⚠ DANGER

- Do not disassemble the charger. Take it to a qualified service technician when service or repair is required. Incorrect assembly may result in fire or electrical shock.
- Always disconnect the AC power supply cord and the DC output cord on portable models before attempting any maintenance or cleaning to reduce the risk of electrical shock.

⚠ WARNING

- Do not operate the charger if it is malfunctioning. Property damage, personal injury or death could result.
- Do not use the charger if the plug or receptacle is broken, twisted, bent, or loose and does not make a good electrical connection. Have it replaced by a qualified service technician immediately. A fire and/or personal injury could result.

The following procedures are intended only to determine if a malfunction exists in the charger. If the problem is other than one listed below, consult your nearest Club Car Distributor/Dealer for assistance.

1. CHARGER DOES NOT TURN ON

Stationary Models

Always disconnect the AC power supply first.

Disconnect and visually inspect the DC output plug and battery receptacle to be sure they are in good working condition.

The DC plug must be disconnected and reconnected to start the charger after it has been turned off.

If the DC plug and receptacle are in good condition, connect the DC plug to the receptacle.

Connect the power supply cord to a live AC outlet and listen for the power relay inside the charger to “click” on within five seconds. If the click cannot be heard, disconnect the AC power supply cord and remove the DC plug from the receptacle. Connect the AC power supply cord of another charger known to be operating properly, to a live AC outlet. Connect the DC plug of this second charger to the vehicle receptacle.

If still no click can be heard, a malfunction in the batteries or receptacle wiring exists. If the click can be heard, the batteries and receptacle are good and a malfunction exists in the original charger.

If the relay click can be heard from the original charger, a hum from the transformer should also be heard. If transformer hum cannot be heard, check to be sure the AC power supply cord is securely connected to a live AC outlet. Check the AC line fuse or circuit breaker and connect some other electrical appliance to the outlet to verify the presence of AC power. If AC power is present and still no transformer hum can be heard, the charger is malfunctioning. If the relay clicks on and the transformer hums, but no charge rate is indicated on Accu-Power models, or the CHARGER ON light doesn't light up on Ultra-Power II models, the charger is malfunctioning.

Onboard Models

Connect the power supply cord to a live AC outlet and listen for the power relay inside the charger to “click” on shortly. If the click cannot be heard, remove the AC plug from the outlet. Connect the AC power supply cord of a stationary charger known to be operating properly, to a live AC outlet. Connect the DC output plug of the stationary charger to the vehicle receptacle.

If still no click can be heard, a malfunction in the batteries or receptacle wiring exists. If the click can be heard, the batteries and receptacle are good, and a malfunction exists in the original charger and/or retractable cord reel.

If the relay click was heard from the original (onboard) charger with its power supply cord connected to a live AC outlet, a hum from the transformer should be heard and the ammeter should indicate the charge rate. If no transformer hum can be heard, check to be sure the AC power supply cord is securely connected to the live AC outlet. Check the AC line fuse or circuit breaker and, if possible, connect an electrical appliance to the outlet to verify the presence of AC power. If AC power is present and still no transformer hum can be heard, the charger and/or retractable cord reel are malfunctioning. If the relay clicks and the transformer hums, but no charge is indicated on the ammeter, the charger is malfunctioning.

2. CHARGER FUSE BLOWS

The charger fuse assembly consists of a U shaped two-stage fuse wire visible through a transparent cover mounted on the back of the front panel. Each half of the fuse wire serves as an individual fuse link that protects the charger in the event one or both rectifier diodes fail, or a reverse polarity connection is made to the batteries.

Check the fuse assembly visually for an open or blown fuse link. If a battery has been replaced, maintenance performed on the receptacle, or the battery wiring changed, the polarity of the batteries may be reversed. If battery polarity is correct, then the charger is malfunctioning. If only half of the fuse link blows, the charge rate will be low and will be indicated by a low charging current on the ammeter or by a lesser number of illuminated lights on the front panel. The low charge rate indicates a malfunction in the charger.

▲ CAUTION

- **Do not use the charger if the output is low. Batteries will not reach full charge, thereby increasing the possibility of a harmful deep discharge during the next use.**

3. THE CHARGER DOES NOT TURN OFF

New batteries or batteries charged in cold temperatures may require an extended charge time to achieve full charge. However, if the charger runs for more than 18 hours without shutting off, the charger is malfunctioning.

4. AC LINE FUSE OR CIRCUIT BREAKER BLOWS

If this occurs, the charger may be malfunctioning or the AC line fuse/circuit breaker may be weak. Connect another charger known to be operating properly, to the same AC outlet. If the AC fuse/circuit breaker still blows, have a qualified electrician check for weak line fuse/circuit breaker. If the AC line fuse/circuit breaker works properly with the second charger, the original charger is malfunctioning.

5. AMMETER NEEDLE REMAINS AT OR ABOVE 23 AMPERES FOR MORE THAN 30 MINUTES (ACCU-POWER MODEL ONLY)

This condition normally results if the charger is connected to a battery system that is less than the battery charger rated DC output. The Accu-Power battery charger (CCI 101646401) has a rated output of 36 volts. If a 36 volt battery charger is connected to a 12, 18, 24 or 30 volt battery system, the charge rate will not taper below 23 amps within 30 minutes. This may also result if a 36 volt battery system is wired incorrectly or if the battery polarity markings are reversed. Have a qualified service technician check the wiring of the batteries and the charger receptacle.

CLUB CAR® LIMITED THREE YEAR WARRANTY FOR 2001 36-VOLT BATTERY CHARGERS

CLUB CAR, INC., ("CLUB CAR") hereby warrants to the original retail purchaser that its new Ultra-Power II or Accu-Power Charger purchased from CLUB CAR or an authorized distributor or dealer will be free from defects in material and workmanship under normal use and service for a period of three years from the date of purchase, subject to the terms, provisions, limitations, and exclusions contained herein.

The limited warranty with respect to parts and labor only covers defects in material and workmanship for a period of three years from the date of purchase. Such repair labor shall be performed only by CLUB CAR or by an authorized distributor or dealer. Purchaser shall be responsible for all freight costs to and from CLUB CAR's facility.

LIMITED WARRANTY EXCLUSIONS

THE PROVISIONS OF THIS LIMITED WARRANTY SHALL NOT APPLY TO FAILURE DUE TO:

- 1) Normal maintenance services such as preventive maintenance checks and tightening loose wire connections;
- 2) Semiconductor parts such as diodes and fuses that are vulnerable to electrical overloads (including lightning) beyond the control of CLUB CAR;
- 3) Charger DC cord set with plug, which is a wear item and subject to user abuse.

Any warranty service, which includes labor during the first year, must be performed by CLUB CAR or by an authorized distributor or dealer. For repairs made by qualified technicians other than CLUB CAR's factory technicians or an authorized distributor or dealer, CLUB CAR will provide only the replacement parts or components.

This charger is intended to be used by persons with knowledge of the charger and proper charging practices and only on CLUB CAR 36-Volt vehicles. Any other use renders the Limited Warranties expressed herein and any implied warranties null and void and same are hereby excluded.

Without limiting the generality of the foregoing in any way, and as part of its limited warranty exclusion, CLUB CAR does not warrant that the Ultra-Power II or Accu-Power Charger is suitable for use in any application other than its 36-volt products. As in the use of any electrical device, a prudent owner will read and study the charger owner's manual, the electric vehicle owner's manual, the operator instructions, and the battery warning labels; and will exercise due care in working on or around electrical devices.

Transportation expenses for warranty services are also excluded from this warranty.

WARRANTY LIMITATIONS

CLUB CAR's liability under this limited warranty, or in any action whether based upon warranty, contract, negligence, strict product liability or otherwise, shall be the replacement or repair of a charger or component thereof that CLUB CAR deems to be defective. Replacement shall mean furnishing, during the applicable limited warranty period, a new charger or component thereof which is identical or reasonably equivalent to the warranted product or defective component at no cost to the purchaser. Repair shall mean remedying a defect in the charger or component thereof at no cost to the purchaser during the applicable limited warranty period. If CLUB CAR elects to repair the charger, it may provide factory-reconditioned parts or components. All parts and components replaced under warranty shall become the property of CLUB CAR.

THIS LIMITED WARRANTY IS EXCLUSIVE. CLUB CAR MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS OR TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY CLUB CAR AND EXCLUDED FROM THIS WARRANTY. THE PURCHASER AND CLUB CAR EXPRESSLY AGREE THAT THE REPLACEMENT OR REPAIR OF THE DEFECTIVE VEHICLE OR COMPONENT THEREOF IS THE SOLE REMEDY OF THE PURCHASER. CLUB CAR MAKES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND AND NO REPRESENTATIVE, EMPLOYEE, DISTRIBUTOR OR DEALER OF CLUB CAR HAS THE AUTHORITY TO MAKE OR IMPLY ANY REPRESENTATION, PROMISE OR AGREEMENT WHICH IN ANY WAY VARIES THE TERMS OF THIS WARRANTY.

IN NO EVENT SHALL CLUB CAR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS RELATED TO PROPERTY OTHER THAN THE BATTERY CHARGER, LOSS OF USE, LOSS OF TIME, INCONVENIENCE OR ANY OTHER ECONOMIC LOSS.

Damage not resulting from a defect which occurs due to unreasonable use, abuse or neglect (including failure to provide reasonable or necessary maintenance), accident or alteration is excluded from the limited warranty.

Some states allow neither limitation on the duration of an implied warranty nor exclusions or limitations of incidental or consequential damages. Therefore, the above limitations or exclusions 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.

For further information contact WARRANTY SERVICES, CLUB CAR, INC., P.O. Box 204658, Augusta, Georgia 30917-4658, U.S.A., 706-863-3000.



P.O. Box 204658
Augusta, Georgia 30917-4658 USA
Telephone: 1-800-ClubCar (258-2227)
www.clubcar.com