Kangaroo™ Hillcrest X-Series

Remote Motorcaddies for the Serious Golf Athlete

Made in USA

Thank you!

Dear Kangaroo owner,

I am sure you are looking forward to many enjoyable rounds on the golf course with your new X-Series. To make absolutely sure you do, a team of us carefully put together this easy to use Owner's Manual which includes operating and maintenance instructions, warranty information, and helpful tips on how to keep your X-Series looking new and running smoothly.

Before your X-Series was shipped, it was given a special pre-delivery inspection and operational test, all parts being checked and aligned to ensure it is ready for the golf course. However, if you discover something faulty or have questions, don't hesitate to give us a call at 800.438.3011.

On behalf of the entire Team at Kangaroo Golf, THANK YOU VERY MUCH!

Hillcrest MAX

Hillcrest ABX

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What to do if a Kangaroo product or part is damaged during shipping

Please call or e-mail Kangaroo (see Contact Information on page 6) with your invoice number and customer number. Specify which product or part is damaged. Do not return the damaged products or parts back to Kangaroo; we will contact the shipping carrier to file a claim. Kangaroo will send replacements. The shipping carrier is responsible for picking up the damaged merchandise, if they choose to, and sending the item back to Kangaroo.

Do not dispose / destroy any carton or packing material in which merchandise was shipped. The carrier may contact you for an inspection visit or send a pickup for the merchandise.

Contact Information

Kangaroo Golf
111 Kangaroo Drive
Columbus, North Carolina 28722

Phone: 800.438.3011 or 828.436.2101

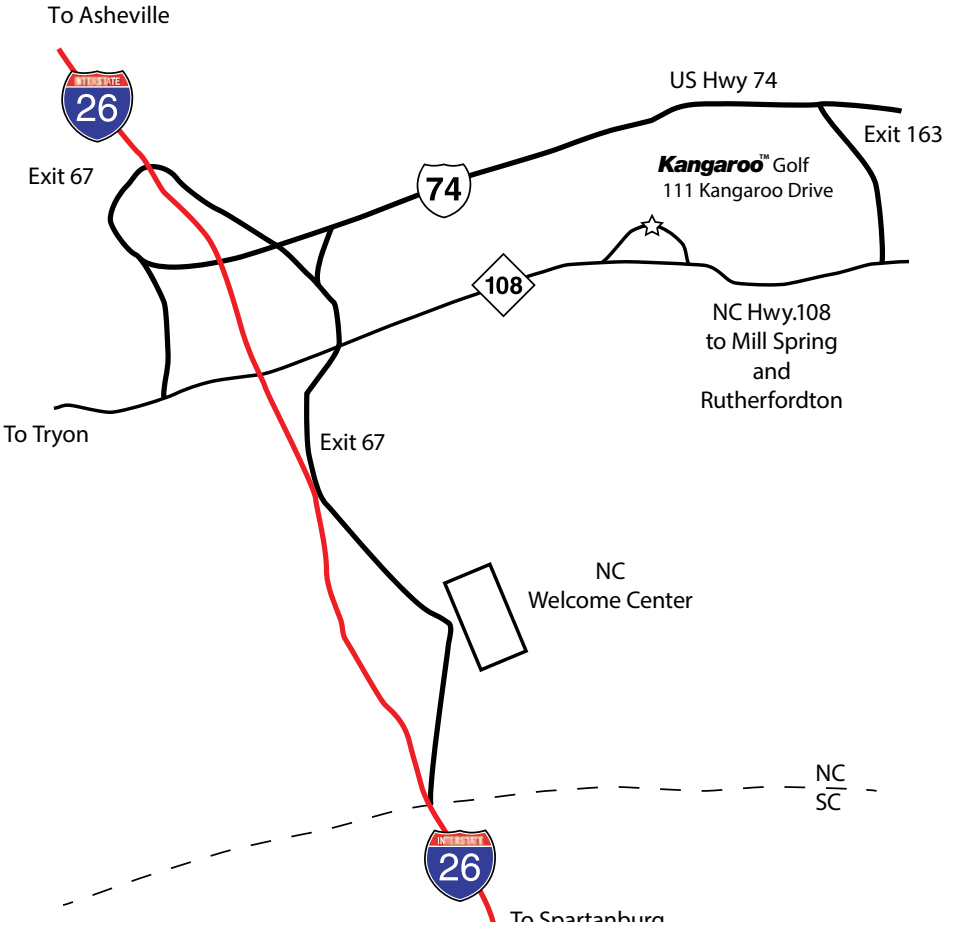
E-mail: iwalk@KangarooGolf.com

To order parts and accessories visit:

www.KangarooGolf.com/customize.html

www.KangarooGolf.com/orderparts.html

Kangaroo's worldwide headquarters is located just one mile from interstate 26, 40 miles southeast of Asheville, North Carolina' and 30 miles northeast of Spartanburg, South Carolina.


To Asheville
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US Hwy 74
Exit 163
Exit 67
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Kangaroo™ Golf
111 Kangaroo Drive
108
NC Hwy.108
to Mill Spring
and
Rutherfordton
To Tryon
Exit 67
NC
Welcome Center
NC
SC
26
To Spartanburg

Visit Kangaroo

From Asheville, North Carolina via Interstate 26.

Follow Interstate 26 east toward Spartanburg, South Carolina. Take exit 67 (US-74) toward Rutherfordton. Follow US-74 approximately one mile to exit 163 then turn RIGHT toward Columbus. Kangaroo will be 1/2 mile on the RIGHT.

From Charlotte and Gastonia, North Carolina via Interstate 85 and US-74.

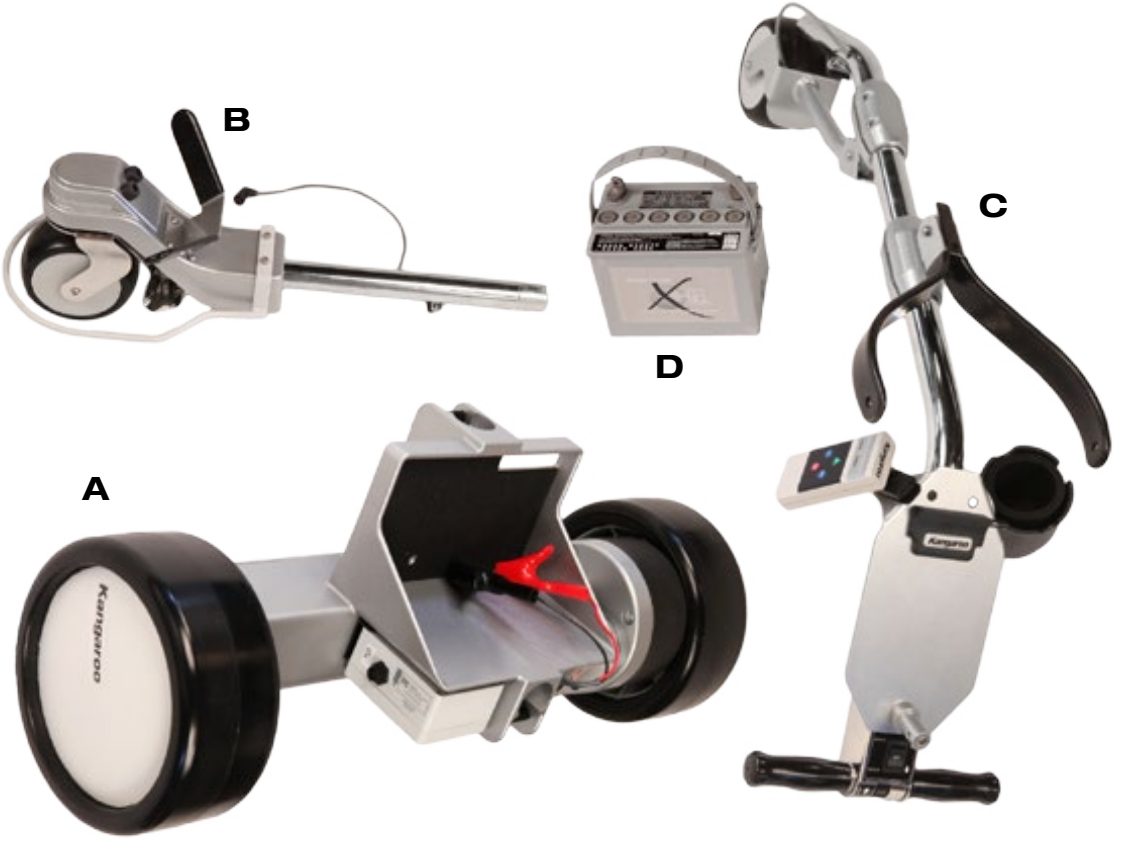
Follow Interstate 85 south toward Spartanburg, South Carolina. Take exit 10B (US-74) toward Kings Mountain and Shelby. Follow US-74 approximately 69 miles to exit 163. At exit 163 turn LEFT toward Columbus. Kangaroo will be 1/2 mile on the RIGHT.

From Columbia, and Spartanburg, South Carolina via Interstate 26.

Follow Interstate 26 west toward Asheville, North Carolina. After entering North Carolina take exit 67 (North Carolina Highway 108) and follow the signs to Columbus. Kangaroo will be 1.1 miles on the LEFT.

From Atlanta, Georgia via Interstate 85

Follow Interstate 85 north toward Greenville, South Carolina. Take exit 70A (Interstate 26) toward Asheville, North Carolina. After entering North Carolina take exit 67 (North Carolina Highway 108) and follow the signs to Columbus. Kangaroo will be 1.1 miles on the LEFT.


B
D
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Kangaroo

Assembly

Components:

A- Chassis

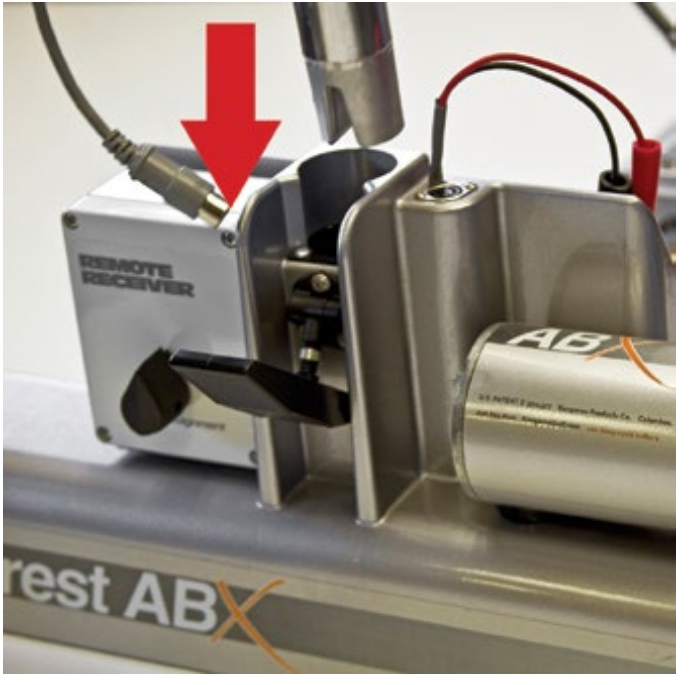
B- Electronic Front Drive

C- Upper Caddie Structure

D - Battery

Figure 1

Figure 2



Assembling your X-Series Motorcaddie

Your Kangaroo X-Series Motorcaddie is shipped without the rear wheels attached. See **pages 37 and 38** for rear wheel assembly and removal instructions.

1. Steady the Chassis by using the hand-hold, located in the bottom of the battery tray. Insert the Electronic Front Drive into the hole located in front of the battery tray, and close the draw latch. **(Figure 1)**

   Note: The Upper Caddie Structure and Electronic Front Drive will fit in either hole—therefore be sure the motor is on the top right side, while standing behind the X-Series.

2. Insert the Upper Caddie Structure into the top of the Chassis just behind the battery tray, and close the draw latch. **(Figure 2)**

3. Fold down the Flex-Adjust Bag Support **(Figure 7 on page 15)** until it comes to a stop.

4. Remove the three plastic tie-wrap bands from the handle. Simply press down on each of the red tabs on the tie-wraps that are encircling the handle grips. While pressing down on the red tab, push the extended edge back through the locking mechanism to loosen the hold on the handle grip.

   Note: Make sure the Function Switch is in the "OFF" position. Begin to establish the habit of putting the switch in the "OFF" position while assembling your Kangaroo *X-Series.*

Cont:

Figure 3

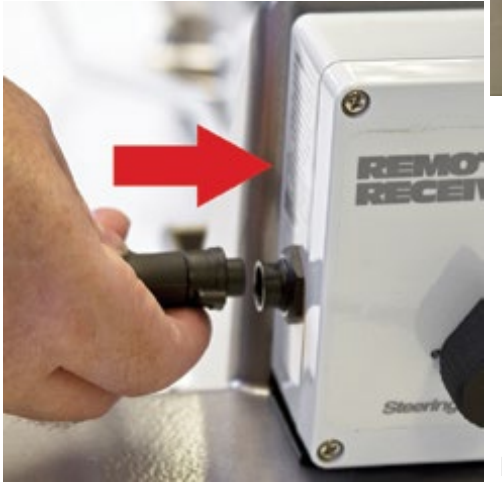


Figure 4

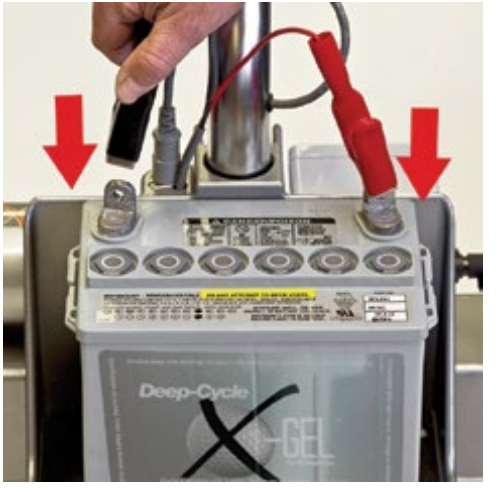


Figure 5

5. Connect the plug from the Upper Caddie Structure to the receptacle in the Chassis. **(Figure 3)**

   Note: Always handle the plug when connecting or disconnecting the control cable. Pulling on the wire can cause damage.

6. Connect the Electronic Front Drive by inserting the black plug into the receptacle on the lower left of the **Remote Receiver.** Push inward on the lock ring while twisting it clockwise until it stops. **(Figure 4)**

7. Remove the black plastic cover (not shown) from the battery terminal. Set the battery into the battery tray with the terminals to the back of battery tray. **(Figure 5)**

   a. Connect the **RED** clip to the (+) positive terminal.

   b. Connect the **BLACK** clip to the (-) negative terminal.

      Note: If the cables are accidentally reversed, your X-Series will not run until the polarity is corrected. (Your X-Series is equipped with reverse-polarity protection, and connecting the terminals backwards will not harm you or the unit.)

Adjustments

Your X-Series comes with an assortment of Allen-type wrenches. They are provided for adjustments, keeping screws tight, and for adding optional equipment.

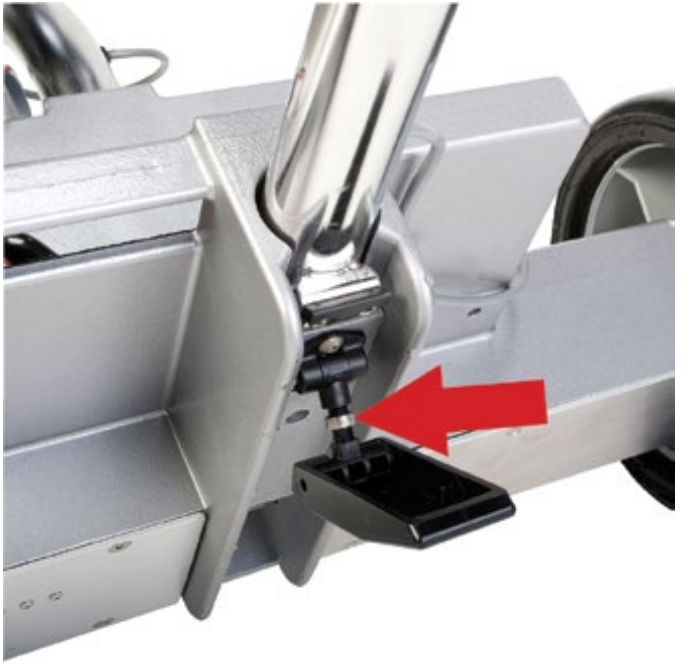


Figure 6

Figure 7

Draw latch:

If the Upper Caddie Structure or Electronic Front Drive is loose, turn the draw latch metal adjustment ring *clockwise* to tighten. *Do not over-tighten the adjustment ring as this may cause the draw latch to break when engaged.* If the draw latch will not lock in place, loosen the draw latch by turning the metal adjustment ring *counter-clockwise*. **(Figure 6)**

Note: The metal adjustment ring may be difficult to turn. A standard pair of needle nose pliers can be used to make adjustments. To avoid possible breakage, always close draw latches before placing Chassis into your car.

Flex-Adjust Bag Support:

The Flex-Adjust Bag Support on the Upper Caddie Structure (**Figure 7)**, also referred to as the yoke, is designed to fold up for easy transportation and storage. It can be adjusted to grip your golf bag by bending the arms open or closed as needed.

The Flex-Adjust Bag Support is attached to the stainless steel tubing at the best position to hold most golf bags securely. If you have an unusual bag, or a personal preference for its position, its clamp can be moved up or down the tubing to any point you like. The Bag Support is secured with four 5/32” Allen-type machine screws and a suitable wrench is provided with your X-Series. Simply loosen the four screws and adjust the clamps accordingly, then re-tighten securely.

Figure 8

Figure 9

Power Controls and Operation

Accelerator

Speed is controlled by the Accelerator located between the handle grips. The decal indicates speed in relation to the Accelerator position. **(Figure 8)**

Note: Turning the Accelerator all the way down does not turn off Power Controls, even if your X-Series is not moving.

There is a feature, known in technical terms as “ramp up”, that automatically provides a gentle start at any setting up to, and including, full speed. Even so, your *X-Series* is very powerful, and it is best to start out at lower speeds.

Function Switch

The Function Switch is located on the top center of the handle. **(Figure 9)**

- Switch to the **MANUAL** mode when remote control is not desired.
- Switch to **REMOTE** mode when you are ready to resume play with Remote Guidance.

Figure 10

Normal Operation:

1. Prior to beginning play, rotate the Accelerator to the **SET** position **(Figure 8 on page 17)**. You can vary the Accelerator to suit your own walking pace after you begin play.

2. Position the Function Switch to **ON (Figure 9 on page 17)**.

3. Position the Function Switch to the **MANUAL** position when Remote Guidance is not desired. Manual Mode is recommended when using your X-Series in parking lots, in tight spots, and around water hazards.

4. Position the Function Switch to the **REMOTE** position when you are ready to begin play with Remote Guidance.

5. Press the **GO** button on the Remote Transmitter. Your X-Series will start and ramp up to your preset speed. Press **GO** a second time and your X-series will increase its speed, automatically ramping up to 90% of its maximum speed (approximately 4.5 mph). Press **GO** a third time and your X-Series will automatically decrease to your original preset speed. If you press **GO** a fourth time, your X-Series will again increase to 90% of its maximum speed. Each activation of **GO** while your X-Series is moving will alternate between your preset speed and 90% maximum speed. **(Figure 10)**

Cont:

Figure 11

6. To stop your X-Series, press **STOP** on the Remote Transmitter. To achieve maximum braking the Function Switch must be turned **OFF**. There is no need to change the accelerator when stopping and re-starting. **(Figure 11)**

   Reminder: The arrows on the Remote Transmitter indicate steering direction as if you were operating your X-Series *manually. If your* X-Series *is coming toward you, the steering direction of the arrows are reversed.*

7. If you stop your X-Series on a hill, always turn it across the slope to park it. The X-Series models do not have a parking brake and will creep down a hill on their own.

Runaway and Circuitry Protection

Your X-Series will automatically shut itself off if the Function switch is left in Remote or Manual position for an extended period of time. The reason for this is to prevent a possible runaway situation. This also allows the solid state circuitry a cool-down period. To avoid activation of this safeguard, turn the Function switch **OFF** each time you stop. Merely turning the speed all the way down will not reset this internal timer and will cause your X-Series to unexpectedly shut off. If you forget, and your X-Series unexpectedly “cuts out” or is “dead”, turn the Function Switch to **OFF** and then back **ON** to restart your X-Series.

Figure 12

Figure 13

Figure 14

Remote Guidance System

Remote Guidance System consists of three components – the Remote Transmitter **(Figure 12)**, Remote Receiver **(Figure 13)**, and Electronic Front Drive **(Figure 14)**. Remote Guidance System operates on an FM Pulse Code Transmittal System that is FCC approved, and requires no operator's license. Remote Guidance System is relatively low power (milliamps) and is subject to little outside interference.

Remote Transmitter and Remote Receiver devices comply with Part 15 of FCC rules. Operation of these devices is subject to the following two conditions: (1) The devices may not cause harmful interference, and (2) The devices must accept any interference received, including interference that may cause unintended operation.

The antenna is permanently mounted inside the Remote Receiver to make it more water resistant. You should not attempt to open the Remote Receiver - doing so will break the seal and void the warranty.

Activating Remote Guidance System

See **Power Controls & Operations** on page 18.

Figure 15

Centering the Steerable Front Wheel

Before you begin play the front wheel must be centered, so your X-Series will track straight. Use the centering knob **(Figure 15)** on the rear of the **Remote Receiver** to adjust the front wheel. **Do not attempt to turn the front wheel by hand.** The front wheel must be centered electronically by turning the black knob. The knob is very sensitive. Rotate it slowly to adjust the front wheel right or left as needed. When the front wheel is centered, the knob can be turned slightly right or left without the wheel moving. If the wheel is not centered, any turn of the knob will cause the wheel to swivel.

Automatic Self-Centering Front Wheel

Remote Guidance System's built-in centering control will automatically center the front wheel every time you stop transmitting a directional signal with the Remote Transmitter. The centering function will not work properly unless you center the front wheel using the electronic centering knob (as described above).

During normal operation, a sensor in the Remote Guidance System detects course conditions and allows for small terrain deviations, thus allowing your X-Series to follow a straight line of travel. If for any reason the front wheel becomes jammed and cannot return to center, the self-centering feature will shut off after 6 seconds. To dislodge the obstacle, turn the Function Switch to **OFF** and remove the obstruction. Turn the power back **ON**. The wheel should now automatically align itself. If it does not, re-adjust using the centering knob as shown on this page.

Cont:

The centering and directional control in the Electronic Front Drive can be damaged if the unit rams into any obstacle. When your X-Series must be maneuvered in close areas, it may be best to do so manually; for instance, across bridges, around trees, or in parking lots. X-Series includes a Bumper Guard to help protect the centering device.

Damage caused by hitting obstacles is not covered under the manufacturer's warranty. All Remote Guidance System units must be returned to Kangaroo for proper repair. There are no user serviceable components inside.

Electronics (Remote Receiver and Remote Transmitter)

Remote Receiver

The Remote Receiver is the main control center of the Remote Guidance System. It processes and relays all of the signals from the Remote Transmitter to the Electronic Front Drive.

Automatic Safety Shut-Off

The Remote Receiver is designed to receive a signal from the Remote Transmitter every 10 to 15 seconds. If for any reason the unit does not receive a signal within this time span, it will automatically shut off. The auto shut-off will also stop your X-Series if it gets out of signal range. This is a required safety function to prevent runaway. In normal use, most golfers will be making many directional adjustment signal transmissions. However, if you do not press any button on the Remote Transmitter for 15 seconds, your X-series will stop. This is a safety feature, not a defect. If your X-Series stops, just press the GO button and the X-Series will start again.

Remote Transmitter

The Remote Transmitter is supplied with a fresh, standard Alkaline 9-volt battery. The battery compartment is located on the bottom rear of the transmitter. The cover slides off for easy battery replacement. Under normal use, the 9-volt battery should last 3 months. Replace the Remote Transmitter battery at least every three months.

Keep Dry

Use great care in operating your X-Series around water. The Remote Transmitter is sealed to be water resistant. However, if dropped into a puddle, pond, or creek, it may become damaged.

The Remote Receiver should be protected at all times against water damage. If your X-Series runs into a body of water and the Remote Receiver becomes submerged, the electronic circuit board inside will be destroyed. When washing the unit, avoid direct water contact with the Remote Receiver. If the Remote Guidance System electronics are damaged by extreme exposure to water, e.g. submerged in a pond, the damage will not be covered under the manufacturer's warranty.

Figure 15

Confirm Command Indicator

1. When a signal is given, the red **Confirm Command** light **(Figure 15)** on the Remote Transmitter will flash twice – once with the pressing of the button, and again when the button is released, confirming your command. NOTE: The buttons are easy to press. There is no need for excessive force. When the indicator light flashes, the signal has been sent.

2. When the 9-volt battery is weak, the light will stay on continuously, indicating the 9-volt battery must be replaced. Remote Guidance System may have a loss of signal strength and a loss of range when the Remote Transmitter battery is weak. To test the battery, press and hold any function button. If the light stays on while the button is depressed, the battery is weak and should be replaced.

The position of the Remote Transmitter is important during signal transmission. In order to achieve maximum range, hold the Remote Transmitter with the control buttons on top, and the back of the Remote Transmitter toward the ground. Point the front of the Remote Transmitter toward your X-Series. The Remote Transmitter will operate if held in other positions, but the overall operating range will be decreased. The range will also be affected if there are obstacles between you and your X-Series such as trees, buildings, cars, etc.

Play it Safe

Expect an orientation period to learn the controls of the Remote Guidance System. Do not try to learn the controls in close quarters. Never try to operate your X-Series while it is out of your sight! Play it safe! Your new X-Series is not a toy. Always use common sense while operating.

Figure 16

Figure 17

Figure 18

Manual Steering Operation

To operate your X-Series in Manual Mode, Press the Remote Transmitter's **STOP** button. Then turn the Function switch to **MANUAL**. Adjust the Accelerator if necessary.

Padded Case for Remote Transmitter

Included with your new X-Series is an attractive Padded Case screenprinted with Kangaroo logo (**Figure 16)**. It can be worn two ways:

1. Looped over a belt with the back flap secured by the Velcro®.
2. Slipped over the waistband of pants or a skirt.

Try it both ways, to decide which you prefer! The Padded Case's long back flap is stiff enough to hold the Remote Transmitter secure. When you put your Remote Transmitter away, flip the long flap forward, secure with Velcro®, and store in a safe, dry place.

Remote Transmitter Swivel Clip System & Belt Clip

The Remote Transmitter Swivel Clip System (standard on both MAX and ABX) mounts securely to the Scorecard Platform (**Figure 17)**. The included Remote Transmitter Belt Clip can also be worn on your belt, pocket or golf bag (**Figure 18)**.

Hillcrest ABX

AutoBrake Operation

As your X-Series travels downhill with the power switched **ON**, turn the Accelerator downward to a slower setting. Your X-Series will slow down and give you a feeling of security as you travel down the hill.

If the slope is extremely steep, you may turn the Function Switch **OFF**, which will provide approximately 50% more braking power than just turning the Accelerator to its slowest setting. If this is too much braking power, alternate turning the Function switch **OFF** and **ON** until you reach the bottom of the hill.

IMPORTANT: If you must tow your X-Series either forward or backward, always place it into Free-Wheeling Mode FIRST! Gear damage may result from pulling or pushing your X-Series with great force or for long distances. Damage incurred from failure to disengage drive wheels from gear train is NOT covered by warranty. *See Free-Wheeling instructions on **page 35 & 36**.*

AutoBrake is not intended to stop your X-Series. Rather, it is used for decreasing speed when going down hills. AutoBrake does not function as a parking brake. Therefore, always make sure your X-Series is turned sideways when stopped on a slope.

Figure 19

Free-Wheeling Mode

Free-Wheeling means that the two drive wheels on your X-Series turn freely without engaging the axle or drive train. **If you must tow your X-Series** either forward or backward, **ALWAYS place it in Free-Wheeling Mode first!** Gear damage will result from pulling or pushing with great force. Damage from failure to disengage the drive wheels from the gear train is not covered by the warranty.

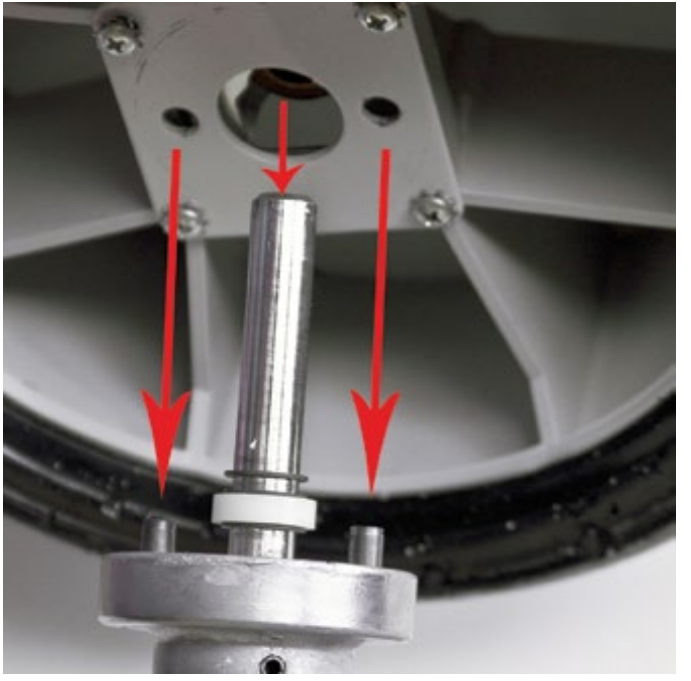
To position each wheel into Free-Wheeling Mode, pull the release tab on the inside of the wheel towards the tire. **(Figure 19)** Slide the wheel outward slightly on the axle. Position the wheel so that the release tab is in the Free-Wheel groove. Release the tab to allow it to lock in the proper groove. The wheel should spin freely. Hub drive pins will no longer be engaged into the wheel's drive holes. Now try to move the wheel outward on the axle to ensure the release tab is locked. The wheel will NOT slide off the axle if properly positioned.

Returning Wheels to Drive Mode

While pulling the release tab, slip wheel all the way against the hub, aligning the drive pins on the hub into the drive holes in the wheel. When the wheel is on the axle, against the hub with the drive pins engaged, release the tab. This will allow the release tab to lock into the drive groove. The wheel should now be securely mounted on the axle. **(Figure 19)**

Figure 20

Figure 21



Rear Wheel Assembly and Removal

Both rear wheels on your X-Series may be easily removed and replaced. Wheels are held in place by a spring-loaded release tab on the inside of each wheel. The tab seats into a groove on the axle. There is a groove for the Drive position and one for Free-Wheeling Mode.

To install the wheel on the axle, pull the wheel release tab back. **(Figure 20)** While holding the release tab, place the wheel on the end of the axle. Slip wheel all the way against the hub, aligning the drive pins on the hub into the drive holes in the wheel. When the wheel is on the axle, against the hub with drive pins engaged, release the tab. **(Figure 21)** This will allow the release tab to lock into the Drive groove, and the wheel should now be securely mounted on the axle. Wheels should NOT slide off the axle. To remove the wheels, pull the release tab back toward the tire and slide the wheel off axle. Wheels are not left/right specific and can be installed on either side.

Figure 22

Figure 23

Figure 24

Battery & Charger

Before Using Your Battery

The Hillcrest X-Gel Deep Cycle Battery is shipped in an 80% charged state. Prior to your first round of golf, we recommend a full 12-hour charge when you receive the new battery.

To Charge Your X-Series Battery with the Schauer Smart Charger

1. If your battery has a safety cap, remove it before attaching charger.
2. Disconnect battery from your Kangaroo motorcaddie.
3. Connect the battery before turning on charger:

- **RED** (+) battery clip on the charger to POSITIVE (+) terminal on battery.
- **BLACK** (-) battery clip on the charger to NEGATIVE (-) terminal on battery.

4. Plug charger into a standard 120-volt household outlet.
5. Turn on charger at switch. **RED** indicator light will illuminate any time charger is on.
6. Charging - **YELLOW** indicator light, fan operating.

7. Once the battery is fully charged the indicator light will turn to **GREEN**. The charger will go into maintenance mode. The fan will continue at a slower rate. Please do not disconnect from battery or turn off until ready to use.

To Charge Your X-Series Battery with the ReadyPro Electronic Charger

1. Disconnect the battery from your X-Series. **(Figure 22)** Or, if this is your first time charging your battery, be sure to remove the safety cap. (**Figure 23**)

2. Be sure the charger is UNPLUGGED from the wall when connecting or disconnecting the battery. **Doing so will avoid sparks or shocks and will reset the charging circuits**.

3. Connect the **RED** (+) battery clip on the charger to the POSITIVE (+) terminal on the battery. Connect the **BLACK** (-) clip to the NEGATIVE (-) terminal on the battery. **(Figure 24)**

4. Plug the charger into a standard 110 / 120-volt household outlet.

5. When the battery is fully charged, the green light will glow brightly.

6. Once your battery is fully charged, leave the charger plugged in and the battery connected when not in use. This will maintain your battery in good condition, especially during periods of non-use.

Keep Your Battery Connected to the ReadyPro Charger at ALL TIMES

Always recharge your battery immediately after each use! Never wait a day before recharging. If the battery is left discharged for long periods of time it will deteriorate faster, shortening the life of your new battery. Never use the battery to play more than 18 holes of golf on a single charge. Doing so will lessen the life of your battery. An unused TG-31 battery will lose its charge in about 1 month / 30 days. If it remains discharged, it can be permanently damaged. To maintain your battery's life, it must remain connected to the charger while not in use. Failure to do so will void the warranty.

About the ReadyPro Electronic Battery Charger

The ReadyPro charger is designed to charge 12-volt, deep-cycle, gel-filled batteries (such as your special Hillcrest X-Gel battery). It is also designed to remain connected to your battery indefinitely when you are not playing, to maintain the battery in good condition while stored for long periods of time. The standby charging mode is sufficiently low to ensure that the battery will not be over-charged.

Explanation of Charger Lights

- If **RED** light only is illuminated, charger is "on" and battery is charging, but NOT READY for use. (The length of time will depend on battery's level of discharge – the more it's discharged, the longer the RED light will stay illuminated.)
- If **RED** AND **GREEN** lights are illuminated at the same time, your battery is ready for 9 HOLES of use. (This status lasts approximately 20 minutes to one hour before battery is "fully charged.")
- If **GREEN** light only is illuminated, battery is fully charged and is ready for 18 HOLES of use.

Indications that Your Battery Needs Replacement

- If you never get the **GREEN** light, even after 24 hours of charging, you know that your battery has a “dead cell.” The battery can no longer achieve a full charge, and should be replaced when it can’t power your Kangaroo Motorcaddie for 18 holes.

- If the **GREEN** light is illuminated after a charging cycle, but you no longer get 18 holes of sufficient power, your battery has “sulfated” with age and use. Your battery is being recharged to full voltage, but it no longer has sufficient capacity to power your Kangaroo motorcaddie for a round of golf.

- On the Schauer if the **RED** light does not go on when the charger is plugged into a 120V outlet; the fuse is blown. Replace the fuse with the spare fuse provided, order spare from Kangaroo (Part #SC-FUSE) or buy one locally.

Maintenance

The Hillcrest X-Gel is a maintenance-free sealed battery.

Warranty

See pages 53–58.

Troubleshooting Problems

See pages 59–65.

Purchasing a Replacement Battery or Smart Charger

To purchase replacement Hillcrest X-Gel Battery (PT: BATPA) or Schauer Charger (PN: SCBC) visit

www.KangarooGolf.com/customize.html

or contact Kangaroo Golf at **800.438.3011 or 828.436.2101.**

A

B

C

D

Options

A- Xtra-Gear Basket

Attractive, lightweight mesh basket attaches quickly and comes in handy when carrying a sweater or snack. The wedge shaped mounting clip makes this roomy basket (12 x 8 inches, by 8 inches deep) easy to remove. Black parts are electro-statically powder painted for durability.

B- Ball & Club Washer

This washer mounts in the seat bracket on your X-Series. When you finish golfing, just slide the washers' blue L-bracket out of the chassis mounting bracket. If your X-Series already has a seat bracket, no installation is needed. If you don't already have a seat bracket, chassis brackets are available separately.

C- Gallery Seat

Mounts easily to your X-Series. The seat provides a perfect spot for a quick break or to wait your turn. The bracket is attached securely to your chassis for outstanding stability. The cushion is molded by Kangaroo of puncture-proof, integral-skinned polyurethane foam (more durable than rubber or vinyl — withstands rain, ozone, and ultraviolet rays).

D- Xtreme Slope Wheel **(Standard on the MAX and ABX)**

Offers added stability on steep inclines. When your X-Series tilts back, the wheel arm automatically pivots out, preventing an embarrassing tip-over. Easy to install. Recommended for remote control operation.

E

F

G

H

E- Smartphone Mount

Zinc coated U-bolt base and universal X-Grip® cradle compatible with most smartphones. Double socket design for almost infinite adjustment and perfect viewing angles. Phone cradle has clever four leg design with strong holding power allowing full screen and side button access. Made in USA by RAM Mounts.

F- Umbrella Stand

Holds a straight-handle golf umbrella — unique clip device secures it from flying off. Attaches to the Umbrella Holder Mount that sits atop your X-Series Scorecard Platform. *Optional Xtender available for tall golfers.*

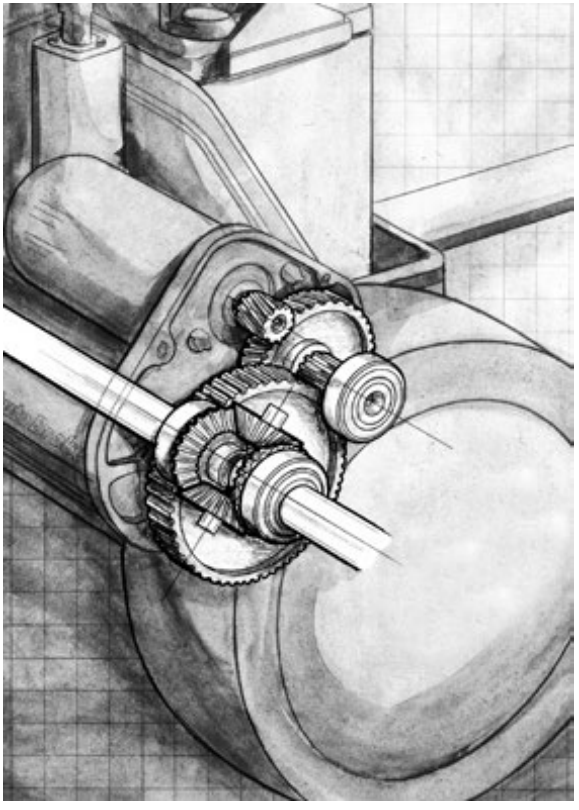
G- Rain Cover

Take the featherweight, zero permeability Rain Cover out of a golf bag pocket to protect equipment from the rain. It offers easy pocket access and a front-to-back or zip per. Remote Guidance will still work, and your X-Series controls remain visible (through a clear panel in the cover) for those with manual operation.

H- Sand & Seed Holder

Repair divots to help maintain your course's fairways! The Sand & Seed Holder fits your X-Series model handle tubing, and works best when mounted sideways on tubing for easy access. Simple to install. Comes complete with Sand Bottle. Just fill with your golf course superintendent's divot repair mixture.

To order options for your X-Series call **800.438.3011** or shop online at **www.KangarooGolf.com**.



Internal view of the precision-made transaxle, with 4 power train gears plus 4 beveled differential gears, enabling easy turning and Automatic Braking.

Technical Specifications:

Motor:

High torque, 2-pole armature/permanent magnet, 12-volt DC.

Drive Train:

Double reduction, sealed maintenance-free self-lubricating gear drive with differential and direct-drive hubs.

Controls:

All solid-state motor control, 45 amp capacity, all circuitry under overcurrent and reverse polarity protection.

Remote Guidance System:

Maximum Range of Go/Stop Operation: **100 yards**

Maximum Range of Directional Operation: **50 yards**

Maximum Turning Angle of X-Series: **20°**

Time-Lapse from Straight Ahead to Full Turn: **2 Seconds**

Time-Lapse from Turn Button Release to Straight Ahead: **2 Seconds**

Turning Radius (on pavement): **16 Feet**

Replacement Transmitter Battery: **(Alkaline Battery) 9 Volt**

Radio Operating Frequency Range: **903.37–921.37 MHz**

FCC ID:
OVPTX600-845C
OVPRX600-840C

Component Weight
Electronic Front Drive: **10lbs.**
Hand-Held Transmitter: **5 oz.**
Radio Receiver Module: **12 oz.**

All parts and specifications subject to change without notice.

Maintenance

Don’t Oil it!

Your X-Series has been designed and manufactured to be essentially maintenance free. Do not open or attempt to service the transaxle gear train. It is tuned at the factory to minimize gear noise. It also contains a special lubricant, which is sealed inside by a gasket. The control system is well designed, with quality parts and full protection circuitry. There are no user serviceable components.

Keep it Clean!

The only type of maintenance required for your X-Series is cosmetic. Use soap or mild detergent and water, then rinse with clean water. You **MUST** avoid getting water in the control plugs. Your X-Series can dry in the sun, but the stainless steel tubing should be wiped dry for the best luster. Never use an abrasive cleaner.

Stainless Steel Components & Tires

It is a good idea to use a quality automotive wax on the stainless steel to prevent fingerprints and smudges from showing up. The X-Series’ polyurethane tires are made of a compound unaffected by conditions that deteriorate ordinary rubber. You may use a cleaner/preservative such as Armorall®, or a similar product, to keep tires looking like new.

Normal Wear & Tear

The handle grips and the Upper and Lower Black Bag Protectors may deteriorate with use. This is normal wear and tear and is not covered by warranty.

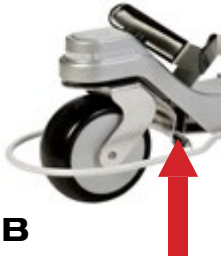
Annual Replacement of Motor Drive O-ring

Remote steering is accomplished by the movement of a specially designed ***neoprene O-ring*** **(Figure A)** against the ***curved steering fork channel*** **(Figure B).** Off the shelf O-rings from hardware stores are incompatible.

Normal use will eventually cause the O-ring to wear or deteriorate. The most obvious indication of deterioration is sluggish or unresponsive steering. **Kangaroo recommends this part be replaced annually.** Detailed owner instructions available on-line **http://www.kangaroogolf.com/pdf/oring_replacement.pdf.**

A

O-ring replacements can be ordered by visiting **www.KangarooGolf.com/orderparts.html** or phoning Kangaroo Products Company at 800.438.3011 (8 am-5 pm Eastern Time). The O-ring is a “wear item” not covered by the Kangaroo warranty.



B

Replacement O-rings can also be installed an authorized Kangaroo Repair Centers.
List of Repair Centers: **www.KangarooGolf.com/repaircenters.html.**

Factory Warranty Service

If you need repair or service, please follow this procedure:

1. Telephone or e-mail the Kangaroo factory. See page 6 of this manual for contact information.

2. If Technical Service instructs you to return your X-Series, or any part of it, pack in the original carton or a sturdy substitute container. Enclose a note with your name, address, daytime phone number or e-mail, and description of the problem you discussed with Technical Service.

Any parts and services provided under warranty do not extend the original warranty. Any out-of-warranty service, including parts and labor, is warranted for 60 days. If the service is not under warranty, please specify whether you would like Kangaroo to invoice you or charge to your credit card, including all numbers and the expiration date of your card.

ARS Service

When shipping your X-Series to the factory for repairs, save money by requesting Authorization Return Service (ARS). ARS provides for the easy shipment of UPS-compatible packages. Pre-printed UPS return labels are available from Kangaroo at a reasonable price. ARS labels can be mailed or sent via e-mail.

Warranty at a glance

Component	Coverage	Page
Chassis, Wheels, Upper Caddie Structure	12–Months	53
Hillcrest X-Gel Deep Cycle Battery	12–Months (Pro-Rated)	54
Schauer Smart Battery Charger ReadyPro Electronic Battery Charger	12 Months	55
Remote Guidance System (RGS) and Electronic Front Drive	12–Months	55
Xtreme Slope Wheel, Gallery Seat, Scorecard Platform, Ball & Club Washer, Mount for Remote Transmitter, Swivel Cup Holder, Sand & Seed Holder, Umbrella Stand, and Extender for Umbrella Stand	12–Months	56
Rain Cover, Smartphone Mount	12–Months	56

Warranty – Wheels & Upper Caddie Structure

Any failure that is the result of a defect in material or workmanship is covered by the warranty. The original owner is entitled to a no-charge repair (or replacement, at Kangaroo's option) for 12 months from the date of purchase. Components covered by the warranty are the motor, power train, wheels, tubing, and all electronics. Necessary labor will also be at no charge. All warranty repairs must be performed at Kangaroo's factory in Columbus, North Carolina.

TO ACTIVATE YOUR WARRANTY

See pages 1 and 50.

EXCLUSIONS

Exclusions to the warranty coverage include: damage from shipment to Kangaroo, normal wear and tear, hairline cracks in structural parts (not affecting X-Series operation), neglect, abuse, or accidents, damage by persons other than the Owner, or utilization for any purpose other than carrying golf bags on golf courses.

TRANSFERRING YOUR WARRANTY

The X-Series warranty is not automatically transferable. If your X-Series is sold, the new Owner can purchase the remaining warranty for $5 per month remaining on the warranty. To transfer the warranty, the new Owner must contact Kangaroo, request the warranty transfer, and provide proof of the original purchase.

IF YOU NEED WARRANTY SERVICE

All warranty repairs MUST be performed at Kangaroo's factory in Columbus, North Carolina.
All shipping charges inbound and outbound are the responsibility of the Owner.

Warranty – Hillcrest X-Gel Deep Cycle Battery

Warranty expires 12 months from the date of shipment.
For this reason, it is recommended to buy your battery only at the time of need.

The battery purchased from Kangaroo for use on the X-Series is guaranteed to power for eighteen holes of golf on any course for a period of one year. Batteries which have been subject to abuse, physical damage, improper storage or improper maintenance are not covered.

Batteries that fail to hold a charge within 12 months from the date of shipment will be replaced on a pro-rata basis, computed from the date we are informed of the problem. If the battery fails, please call Kangaroo's Service Department for instructions. The pro-rata value will be based on the current price of the battery which replaces the defective one.

Kangaroo reserves the right to require return of this battery to our plant prior to replacement. This warranty supersedes any other warranties, expressed or implied. We do not authorize any other person or firm to assume for us any other liability or obligation in connection with the sale of this battery.
Shipping is the responsibility of the Owner.

NOTE: *This warranty is not valid for sales or use outside the U.S.A.*

This warranty is voided if any charger is used that is rated higher than 6 amps or is not specifically recommended by Kangaroo. Please inspect this battery upon receipt.
If you believe it is damaged, call immediately at: **800.438.3011**

Warranty – Battery Charger

Warranty expires on the Schauer or ReadyPro Electronic Battery Charger one year from the date of shipment it to the original purchaser. If the charger is defective, Kangaroo may require its return to our plant prior to replacement. The customer is responsible for UPS shipping charges on all returned items.

The Charger is warranted to charge your Kangaroo Battery for an eighteen hole round of golf. This warranty is void unless proper maintenance procedures are followed.

I M P O R T A N T

Damage due to accident, abuse, or misuse and neglect is specifically excluded under this warranty. This warranty supersedes any other warranties, expressed or implied, and is non-transferable. Kangaroo does not authorize any other person or firm to assume for Kangaroo any other liability or obligation in connection with the sale of this battery charger. Features and manufacture's specifications are subject to change without notice. This product is solely for use with a Kangaroo X-Series Motorcaddie.

Warranty – Remote Guidance System (RGS) & Electronic Front Drive

Any failure that is the result of a defect in material or workmanship is covered by the warranty. The original Owner is entitled to a no-charge repair (or replacement, at Kangaroo's discretion) for 12 months from the date of purchase. Components covered by the warranty are the motor, power train, wheels, tubing, and all electronics. Necessary labor will also be at no charge. All warranty repairs must be performed at Kangaroo's factory in Columbus, North Carolina.

Warranty – Equipment

Warranty expires on *Kangaroo Xtreme Slope Wheel, Gallery Seat, Scorecard Platform, Ball & Club Washer, Mount for Remote Transmitter, Swivel Cup Holder, Sand & Seed Holder, Umbrella Stand, and Extender for Umbrella Stand* **12 months from the date of shipment to the original purchaser.**

Warranty expires on *Kangaroo Rain Cover, Smartphone Mount* **12 months from the date of shipment to the original purchaser. If the equipment is defective, Kangaroo may require its return to our plant prior to replacement. The customer is responsible for UPS shipping charges on all returned items.**

If the equipment is defective, Kangaroo may require its return to our plant prior to replacement. The customer is responsible for UPS shipping charges on all returned items.

IMPORTANT

Damage due to accident, abuse, or misuse and neglect is specifically excluded under this warranty. This warranty supersedes any other warranties, expressed or implied, and is non-transferable. Kangaroo does not authorize any other person or firm to assume for Kangaroo any other liability or obligation in connection with the sale of this battery charger.

Features and manufacture's specifications are subject to change without notice.

Troubleshooting

Symptom	Problem	Solutions
My Remote Guidance System does not function. All connections are made properly and the Confirm Command indicator light flashes normally.	1. Circuit board needs to be reset. 2. Water or debris could be inside connection plugs.	1. Turn the Function Switch OFF – wait 5 seconds. 2. Clean and dry all male plugs and female connectors.
My Remote Guidance System does not function. All connections are made properly but the Confirm Command indicator does not flash.	9 volt battery connector inside the Remote Transmitter may be loose.	Using pliers, carefully tighten Remote Transmitter battery metal connection snap, then reconnect the battery.
Intermittent and erratic operation. My X-Series shuts off, loss of steering directional control, or will not restart.	Outside interference.	By FCC regulation, Remote Guidance System must accept all outside interference. See label on the Remote Receiver.
My Remote Guidance stops unexpectedly and will not restart right away.	Grass or debris in the male plugs and female connectors.	Clean and dry all male plugs and female connectors.

Symptom	Problem	Solutions
Diminished operating range in remote, particularly when turning left or right.	Weak 9-volt battery in the Remote Transmitter.	Replace the 9 volt battery. It is recommended that you replace the 9-volt battery every three months.
Remote Transmitter battery has an unexpectedly short life span.	Remote Transmitter keypad or circuit board needs replacing.	Return to Kangaroo for repair.
Erratic Remote Guidance operation. Confirm Command light stays on.	1. Weak 9- volt battery in the Remote Transmitter. 2. Remote Transmitter keypad or circuit board needs replacing.	1. Replace the 9 volt battery. It is recommended that you replace the 9-volt battery every three months. 2. Return to Kangaroo for repair.
Using the Remote Transmitter, both STOP and GO commands function, but the LEFT and RIGHT commands do not function. The front wheel does not turn.	1. Loose cable connection between the Electronic Front Drive and the Remote Receiver. 2. Broken wire on front wheel servo motor.	1. Properly insert plug and set locking ring. (See page 12) Properly insert plug and set locking ring. (See page 11, Figure 4) 2. Return to Kangaroo for repair.

Symptom	Problem	Solutions
My Electronic Front Drive wheel turns, but will not center exactly.	1. The front wheel is misaligned. 2. The centering sensor in the front wheel is inoperative.	1. Adjust the Centering Knob on the Remote Receiver. (See pages 23–24) 2. Return to Kangaroo for repair.
My Electronic Front Drive wheel will not return to center.	Steering motor timed-out.	1. Turn the Function Switch OFF – wait 5 seconds. 2. Return to Kangaroo for repair.
My Electronic Front Drive wheel chatters and moves back and forth.	The centering sensor in the front wheel is inoperative.	Return to Kangaroo for repair.
My X-Series runs on fast speed only.	Circuit board inoperative.	Return to Kangaroo for repair.
My AutoBrake does not function.	Circuit board inoperative.	Return to Kangaroo for repair.
My Motor is running but the wheels are not turning.	1. Transaxle gear train problem. 2. Axle pin / roll pin sheared.	Return to Kangaroo for repair.

Symptom	Problem	Solutions
One of the rear wheels will not stay attached.	Bronze bushing in the center of the wheel may not be fully seated.	Gently tap the bushing back down to ensure it is seated in the hole as far down as it will go.
Flex-Adjust Bag Support keeps falling down.	1. Yoke Stop is broken. 2. Yoke Stop screw is broken.	1. Replace Yoke Stop. 2. Replace Yoke Stop Screw.
My X-Series gradually died as the round of golf progressed.	The battery is no longer capable of powering your X-Series an entire round. To be certain, swap batteries with a friend.	Replace the battery. KEEP YOUR BATTERY CONNECTED TO THE CHARGER AT ALL TIMES.
My battery seems okay but my X-Series was sluggish at the beginning of play, then died during my round. It also struggles on steep slopes.	Possible motor failure. Is the motor hot to the touch?	If the motor is hot to the touch it will have to be serviced or replaced. It is normal for the motor feel warm.

Symptom	Problem	Solutions
My X-Series suddenly stopped during the round.	Possible broken battery wire.	Check the battery wire clips. While standing behind your X-Series, wiggle them to see if it will power up. If your X-Series powers up, then you have a broken wire somewhere on your battery clips. To check the battery wires, open the crocodile clips and clip them onto an object ¾" thick so they are held in the open position. Then slide the black / red rubber covers back to inspect the metal clip. Solder the joint and wire or replace the battery wires.
Charger never shows GREEN (Schauer Smart Charger) or Double GREEN (ReadyPRO Charger)	Battery incapable of being fully charged.	Replace battery (BATPA).

Symptom	Problem	Solutions
Schauer Smart Charger does not show RED when turned on.	Fuse has blown.	Replace fuse with PN SC-FUSE.
Steering is sluggish; other aspects are OK.	O-ring worn and not gripping wheel helmet well.	Replace O-ring.
Caddie will not turn in one direction or gets “stuck” in one direction.	1. Foreign material in wheel helmet area. 2. O-ring broken or has worn area.	1. Clean out wheel helmet area. 2. Replace O-ring.
Response of front wheel to turning command is not smooth.	1. Foreign material in wheel helmet area. 2. O-ring broken or has worn area and not gripping wheel helmet.	1. Clean out wheel helmet area. 2. Replace O-ring.

HINTS

If you still have problems after consulting this troubleshooting guide and following its directions, please call our Technical Service Department at 800.438.3011 or 828.436.2101.

Important:

Kangaroo strongly recommends you contact Technical Service prior to making any repairs.

Replace the Remote Transmitter 9 volt battery every 3 months with a good quality Alkaline 9 volt battery.

TRADE NAME:	Remote Guidance System Receiver
MODEL NUMBER:	RX600-840D
COMPLIANCE TEST REPORT NUMBER:	B40609D1
COMPLIANCE TEST REPORT DATE:	June 9, 2014
RESPONSIBLE PARTY (IN USA):	Kangaroo Golf
ADDRESS:	111 Kangaroo Drive, Columbus, NC 28722
TELEPHONE:	(800) 438-3011

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If the unit does cause harmful interference to radio or television reception, please refer to your user's manual for instructions on correcting the problem.

INSTRUCTION TO THE USER

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Operation with non-approved equipment is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Industry Canada Information

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

NOTES

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