Z-series
Owner's Manual

Kangaroo Golf

KangarooGolf.com

Summer 2019

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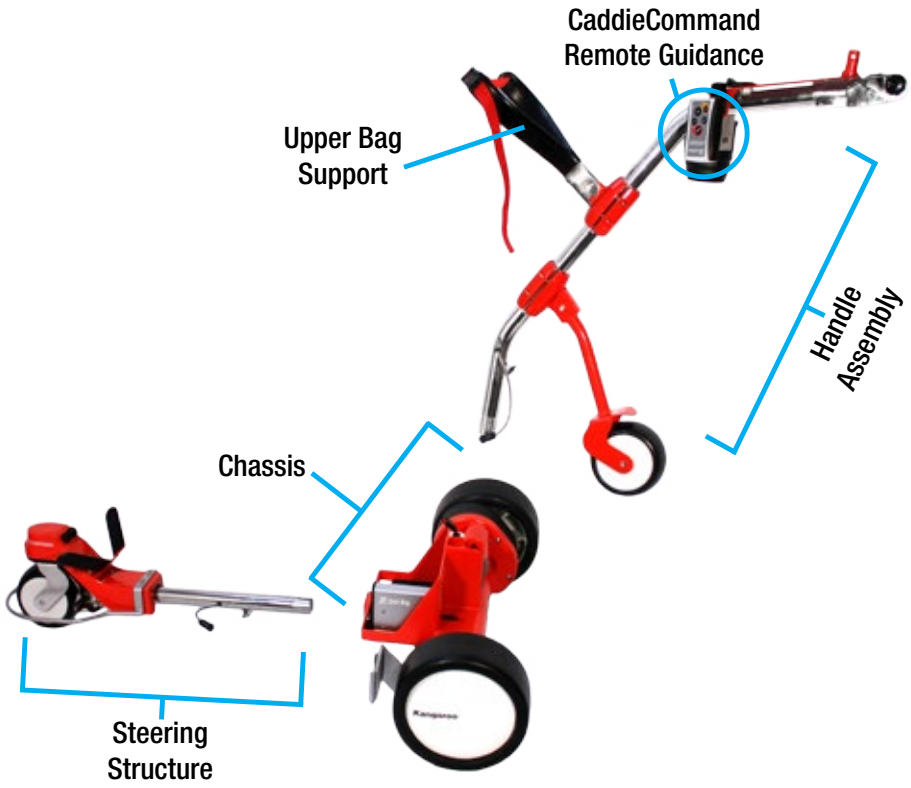
Z-series Assembly and Disassembly

Your Z-series motor caddie is designed to be disassembled into three sections.



The weight of each standard component of the Z-series is:

Component	Weight (LBS)
Steering Structure	10.5
Chassis	26
Upper Caddie Structure incl. Extreme Slope Wheel	12
CaddieCommand Remote Guidance (Including Batteries)	0.75
Battery	5
Charger	1
Tool Kit	.2

Draw latches

The three sections are secured to each other with draw latches as shown.

Closed

To open, pull bottom out

Lift slightly to open

metal tension adjustment ring

Note: To avoid possible breakage, always close draw latches before placing chassis into your car.

If a connection is loose, turn the draw latch metal tension adjustment ring clockwise to tighten. Don't over tighten. If draw latch won't lock into place, loosen it by turning adjustment ring counter-clockwise. If adjustment ring is difficult to turn, use needle nose pliers to grip the ring.

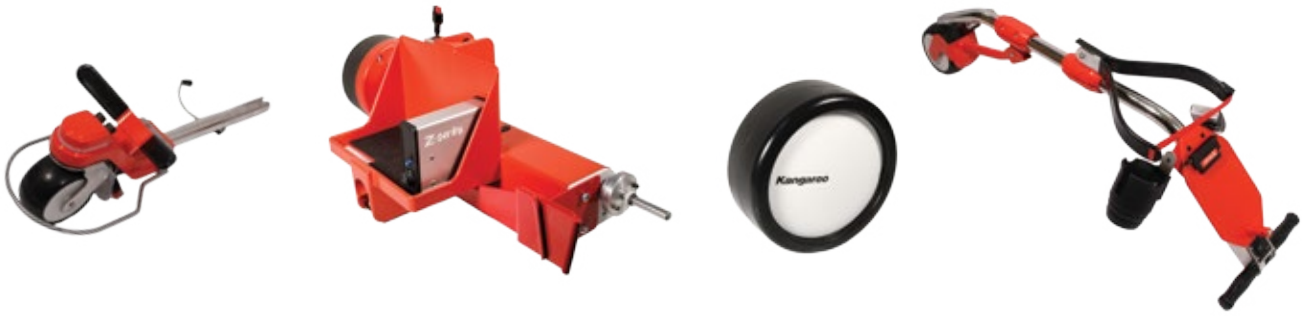
Quick Start Guide

Step 1: Top-off battery

Attach battery to charger and plug charger in. Ensure charger light is green to indicate battery is fully charged.

Step 2: Lay out components

While the battery is being charged, you can assemble your caddie. Start by laying out the parts as they will be used.



Step 3: Attach drive wheels to chassis

3a. Remove protective covers from the main axle in the chassis.

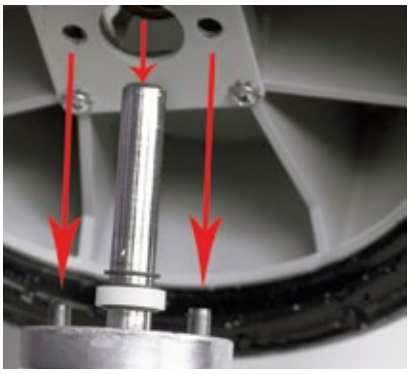
3b. On the inside of drive wheels, locate and pull wheel tab, which releases the mechanism locking wheel to the axle.

3c. Place each wheel on the axle, aligning drive pins on axle with holes in the wheel panel.

3d. Release wheel tab.

Pulling the wheel tab.

Inserting the wheel onto the axle.



Step 4: Attach Steering Structure to chassis

4a. Open draw latch under battery tray.
4b. Steady chassis by using the hand-hold at bottom of battery tray. Insert the steering structure into the hole in front of battery tray.
4c. Secure draw latch. Draw latches are adjustable if required.

Step 4b

Step 5: Attach Upper Caddie Structure to chassis

5a. Open draw latch on top of chassis.
5b. Insert handle tube into the hole. Note that this end of the tube should be vertical when inserted into chassis.
5c. Secure draw latch.
5e. Remove the three plastic tie-wrap bands from handle.

Step 5b

Step 6: Attach Wire Plugs to Z-box

6a. Plug in wire from steering structure to receptacle on front of Z-box as shown. Align white lines on plug and receptacle. Twist locking mechanism on plug to securely attach to receptacle.

6b. In the same manner, attach wire plug from upper steering structure to receptacle on rear of Z-box. NOTE: When removing wire plugs from z-box , be sure to twist locking mechanisms and carefully pull wire plugs from receptacles. Too much force can damage receptacles.

Step 6a

Step 6b

Step 7: Connect Power, Remote Guidance System Control

7a. Put fully charged battery onto battery tray and attach battery wire harness to chassis power port.

7b. Attach “T-bar” on battery wire to battery terminals, lining up positive to positive (+) and negative to negative (-).

7c. Unpack the CaddieCommand remote guidance and familiarize yourself with command buttons and indicator lights.

Step 7b

Loading your golf bag

Your bag rests on upper and lower bag supports. Pull down flex-adjust bag support (yoke) until it comes to a stop. Load your bag. Secure with strap and buckle, adjusting the strap if necessary for a tight fit.

If the bag does not fit comfortably and securely, there are two adjustments that can be made.

1. The upper bag support can be slightly widened or narrowed by pushing gently on yoke arms.
2. The position of yoke on the handle tube is adjustable, if necessary, to fit your bag. Using the provided Allen wrenches, loosen clamp and move to desired location. Retighten clamp.

Modes of Operation

There are three modes of operation for Z-series.

Free-wheeling: When moving caddie without power.

Manual Operation: Manual mode is handy in close quarters or when a lot of twists and turns are necessary.

Remote Operation: Remote mode allows you to walk along with your caddie. You can send it ahead or to the side.

Free-wheeling Mode (non-powered)

Free-wheeling allows the drive wheels on your Z-series to turn freely without engaging the axle or drive train. If you need to pull or push your caddie without power, always put it in Free-wheeling mode first. This prevents strain on gears.

If the caddie is difficult to push or pull, you're not in free-wheeling mode. For very short distances, you can safely move the caddie wheelbarrow style by lifting the handles so that only the front wheel is on the ground while in motion.

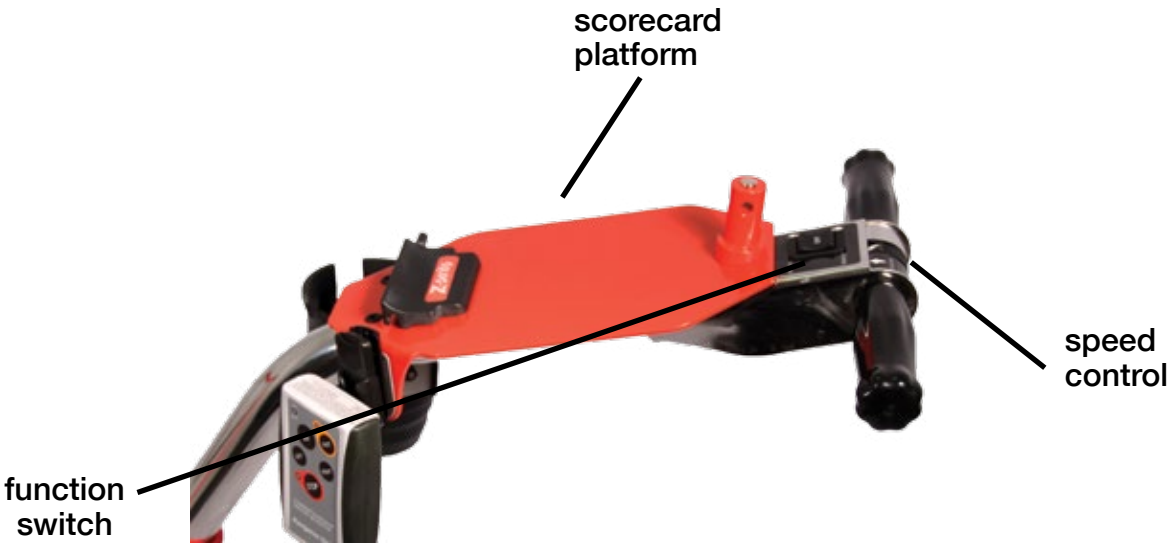
Putting wheels in Free-wheeling mode

Pull release tab on inside of the wheel toward the tire. Slide wheel outward slightly on the axle. Release tab to allow it to lock in the proper groove. When the hub is locked onto the free-wheel groove, the wheel will not slide off. Repeat this process for other wheel.

Returning Caddie to Axle Drive

For each wheel, pull release tab and slide the wheel inward, aligning drive pins on the hub with holes in wheel. Release tab to securely mount wheel on axle.

Power Controls and Manual Operation



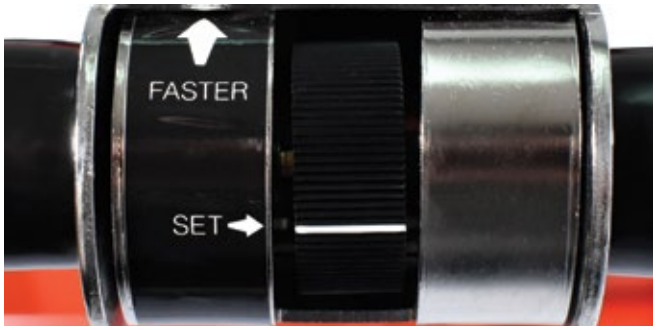
Function Switch: 3-way toggle function switch serves as power ON/OFF and determines mode of operation between manual and remote.

OFF (neutral position): You should put your caddie in OFF when you are away from it or waiting for a period of time. This will preserve the longevity of the battery and prevent mishaps.

Manual: "Manual" refers to hands-on steering and operation of the caddie. However, it will proceed at the speed selected even if your hands are not on the handles. We recommend manual mode when in parking lots and tight areas or near water hazards and other carts.

Remote: Once function switch has been toggled to "Remote", speed and direction is controlled by keypad commands on the CaddieCommand remote.

Speed Control



The speed control is located between the handle grips. When starting either manual or remote mode, it is recommended that the speed be set so that the white bar indicates a typical walking speed.

When you turn power on, there will be a gradual acceleration to the set speed. To avoid runaways we recommend starting at a low speed before turning on the power. If the speed is set all the way down, the unit is still powered, but will not move.

Once you are under way, set the speed to suit your walking pace.

Auto Brake and Downhill Travel

Much like an automobile can be slowed by shifting to a lower gear, the caddie can be slowed down by slowing the speed setting when it is accelerating downhill due to gravity. If the slope is extremely steep, turning the function switch OFF as you go downhill will slow the caddie down.

When stopping on a hill, turn the caddie sideways. There is no “parking brake”.

Extreme Slope Wheel

When going uphill, the extreme slope wheel will swing away from the upper caddie structure to support the weight of the caddie and golf bag. It isn't neccessary for you to pull it out in advance. Provides added stability, preventing backward tipping.

Centering Adjustment

The track of your Z-series, when you're not turning, is controlled with a knob on the front cover of the Z-box. If you find that your caddie is moving off center, you will need to make an adjustment. To do this, make very small adjustments and test the track of your caddie again. Turn it as you would a steering wheel in the direction that you want the front wheel to move toward.

Remote Operation

There are three important components of remote control operation: CaddieCommand remote guidance system (remote), Z-box, and steering structure. The remote and Z-box communicate with each other to command and provide feedback.

A motor changes the front wheel's direction in response to directional commands. GO, STOP, and speed commands operate the main drive wheels in the same way as in manual operation.

Kangaroo's front wheel turning design, the Steering Structure, guarantees smooth and predictable turning of the motorcaddie.

CaddieCommand is designed for easy one-handed operation. CaddieCommand is only operational when the function switch is set at REMOTE. Pointing it at the caddie is not necessary but will provide the best range for the signal. Trees, cars, and other objects can negatively impact the range. There are pressure buttons for speed and direction commands and three signal lights.

Remote control components use the 900-megahertz band, and have been tested and approved by the FCC (USA) and IC (Canada) (See page 22 for additional information). Band provides range and realiability benefits beyond that offered by the competition. In addition to many other control functions, the radio receiver and antenna are included in the Z-box.

Battery compartment is located on the bottom rear of case. It takes two high quality standard AA batteries. These batteries should last approximately three months under normal conditions. Replace them at first sign of weakness as indicated by amber light on the key pad.

GO – Caddie will proceed at the speed selected on the red ***speed control***.

FAST – Caddie will go at the fastest speed available. To return to selected speed, press GO.

LEFT– Caddie will turn left at an angle of 20° for as long as button is depressed. It will stop turning and go straight ahead from that position once button is released.

RIGHT - Caddie will turn right at an angle of 20° for as long as button is depressed. It will stop turning and go straight ahead from that position once button is released.

STOP – The caddie will stop. Note that this does not reposition the Function Switch to "OFF". If you will not be driving the caddie for a while, such as stopping to take a shot, you should turn the Function Switch to OFF.

Amber **Lo Batt**- This light will flash when batteries in your CaddieCommand are low and should be replaced. To test your batteries, press any command button.

Red **Stop Command Confirmation** – This light will flash to indicate that a stop command has been given.

Green **GO Command Confirmation** - This light will flash to indicate that a GO command has been given.

Safety Shut-off (after 15 seconds)

There are two potential risks that are mitigated by the Safety Shut-off feature.

- You or your caddie have moved so that it is now out of range of the CaddieCommand.
- You are distracted or otherwise not aware of where your caddie is going.

To prevent these situations from becoming accidents, the remote guidance system will automatically stop the caddie if a command hasn't been given in 15 seconds. While this may seem like a short time, the vast majority of owners find that they're interacting with their caddie frequently, changing direction, speed, starting and stopping.

Performance Specifications for Remote Operation

It's beneficial to know the operating parameters for your Z-series:

- Maximum time between commands (safety shut-off) : **15 seconds**
- Maximum range for Go/Stop/Speed commands: **100 yards**
- Maximum range for directional commands: **100 yard**
- Turning angle: **20°**
- Turning radius on pavement: **16 feet**
- Time lapse from straight ahead to full turn: **2 seconds**
- Time lapse from turn to straight ahead: **2 seconds**

Battery and Charger

Z-series is powered by a CaddyCell lithium Ferro phosphate battery. For battery and charger instructions, click here.

Care of CaddieCommand and Z-box

Care should be taken around water. The enclosures are water resistant, but won't withstand being submerged or placed in a wet area for an extended period. Exposing these units to water will void their Warranty. During the off season, store CaddieCommand in a dry place and remove AA batteries to protect it from corrosion due to battery leakage.

Ready-Set-Go

In Manual

To proceed with your Z-series in *manual* mode:

1. Set speed to safe or preferred walking speed on speed control.
2. Set function switch to *Manual*. Caddie will start moving.
3. Adjust speed control if necessary.
4. Steer with handle bar. You may let go of the caddie, but do not let it get out of reach!

To discontinue Manual mode:

1. Set function switch to OFF.

In Remote

To proceed with your Z-series in *remote* mode

1. Set speed to safe or preferred walking speed on speed control.
2. Set function switch to *Remote*.
3. Press GO button on CaddieCommand. Caddie will start moving.
4. If Amber Low Battery light comes on, replace the CaddieCommand's two AA batteries.
5. Adjust the speed using thumb-wheel speed control on the handle.
6. Use STOP, FAST, RIGHT and LEFT buttons as required.
7. Press any button every 15 seconds to continue in motion.

To discontinue remote mode:

1. Depress STOP button.
2. Set red **function switch** to OFF or *manual*.

Always disconnect the Z-box wires before removing the handle assembly or steering structure. Failure to do so will break the plugs. Repairs required as a result of such misuse will not be covered under warranty.

Routine Care and Maintenance

Like any piece of mechanical equipment, your Z-series will benefit from a small amount of care and making sure that others who handle it know what to do.

Lubrication

In general, your Z-series will not need lubrication. This is assisted by keeping it clean of dirt and debris. If you feel it's necessary, use only a silicone or Teflon based product. Oil based products such as WD40 will attract dirt and make problem worse. Clean anything you can access before applying lubrication.

Keep it Dry and Clean

It goes without saying that you should not drive your Kangaroo into a water hazard, even though there have occasionally been stories of one surviving such treatment.

If you do get the CaddieCommand remote or the Z-box wet, treat it like you would your mobile phone, dry off what you can and put it in a container with an absorbent material such as uncooked rice.

Periodically clean out plugs and receptacles by blowing out debris and dirt with electronic device canned air.

Looking Good

Your Z-series will always look its best with occasional cleaning. Finished components can be cleaned with soap or mild detergent and water, being especially careful to keep electronic and electric components and plugs dry. A good quality automative wax will make the task easier and keep stainless and finished surfaces clean longer. Tires may become too slippery if cleaned with some cleaners. DO NOT hose down or pressure wash your caddie!

Normal Wear and Tear

Handle grips, upper and lower bag protectors, yoke strap, draw latches and tires may wear out with use. This is considered normal and not covered by warranty. Replacements are available through Kangaroo Golf at nominal cost.

Annual O-ring Replacement

The only periodic maintenance that is expected on your Z-series is replacement of an O-ring, which is attached to a motor in the steering structure.

Remote steering is accomplished by the movement of this specially designed neoprene O-ring against the front wheel fender channel. It is important that the O-ring grip the channel firmly. Be sure not to lubricate the O-ring or this channel. Off the shelf O-rings from hardware stores may not be compatible.

Normal use will eventually cause O-ring wear or deterioration. The most obvious indication of O-ring deterioration is sluggish or unresponsive steering. Kangaroo recommends this part be replaced annually. The O-ring is a “wear item” and is not covered by factory warranty.

For detailed O-ring replacement Instructions, click here.

Warranty Information

We encourage a thorough inspection of any shipment when it is received. If any problems are found, please follow the directions on page 1. If a problem is encountered during the warranty period, call Z-series Customer Service for instructions.

Component	Coverage From Ship Date
Z-series Motor Caddie and Accessories	12 months
Battery	12 months
Charger	12 months
Repairs performed at the Kangaroo Factory in North Carolina	60-day

General Conditions

A defect will be either repaired or parts replaced at Kangaroo's sole option. Kangaroo may require the return of defective parts to our plant prior to credit for replacement. The customer is responsible for shipping charges on all returned items.

No other person or firm is authorized to assume for us any other liability or obligation in connection with any sale. The warranties specified supersede any other warranties, expressed or implied.

Warranty replacements do not extend the original warranty. For example; if your charger is replaced as defective after 6 months, the warranty for your, now new, charger will expire 12 months after the shipping date of the original purchase.

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

For Z-series Motorcaddie and Accessories

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 . All components are covered by the warranty except for wear items (see exclusions below). Any labor will also be at no charge. All warranty repairs must be approved in advance by Kangaroo Products Company's factory in Columbus, North Carolina.

Exclusions: These include: neglect, abuse, accidents, or damage during shipment to Kangaroo. Also excluded are: hairline cracks in structural parts which do not affect operation, normal wear and tear, damage by any persons other than the Owner or utilization for any purpose other than carrying a golf bag on a golf course. items not covered under warranty include; but are not limited to; bag protectors, yoke strap, draw latches, and tires.

Warranty Transfer: The Z-series warranties are not automatically transferred if the unit is sold or given to another individual. The new owner can purchase the remaining warranty on the Z-Series caddie itself for $25 for each month remaining. New owners should contact Kangaroo, request a warranty transfer and provide proof of purchase. The option to transfer only applies to Z-series standard equipment, not additional accessories, battery or charger.

For Repairs

A 60 day warranty is granted on any repairs completed by the Kangaroo factory, irrespective of whether the original repair was covered by a warranty. It applies only to that repair, not other items.

FCC/ IC Compliance

TRADE NAME:	Remote Guidance Sysytem
MODEL NUMBER:	600-855-Z Project Z-series Transmitter
FREQUENCY:	903.37-921.37
EQUIPMENT CLASS:	Part 15 Low Power Communication Device Transmitter
COMPLIANCE TEST REPORT NUMBER:	OVP600-855-Z
COMPLIANCE TEST REPORT DATE:	April 20, 2018
RESPONSIBLE PARTY (IN USA):	Kangaroo Products Company
ADDRESS:	111 Kangaroo Drive Columbus, North Carolina 28722
TELEPHONE:	(800) 438-3011

Instructions 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 and 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 license-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 suìvantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique, même si le brouillage est susceptible d'en compromttere le fonctíonnement.