

ELLIPTIGO[®]

ELECTRIC BIKE CONVERSION KIT MANUAL

MSUB/RSUB

Thank you for purchasing an electric bike conversion kit for your ElliptiGO bike. We have spent many hours developing and testing different electric bike solutions and we believe this kit is going to give you a fantastic riding experience. We hope you enjoy many years of healthy exercise and fun while using it.

As fun as an electrified ElliptiGO can be to ride, we want to emphasize that your ElliptiGO bike is not a toy. It is an advanced piece of fitness equipment designed to be used for exercise by responsible riders. This electric bike conversion kit is designed so that you can install it at home. However, it is critical that you follow the directions. Your safety is our primary concern. An electrical device like this with a powerful motor mounted onto a bicycle can result in significant injuries if not installed properly. Please review this owner's manual and watch the recommended videos before beginning the installation. Then follow the instructions carefully. If you need assistance with the installation, please don't hesitate to contact us at service@elliptigo.com. We are here to make your experience as positive as possible. For the most up to date version of the manual and installation procedures, please visit www.elliptigo.com/manuals.

If you have any questions or concerns about any of your ElliptiGO products, please contact us at service@elliptigo.com.

Happy Riding,

Brent and Bryan
ElliptiGO Co-Founders

IMPORTANT NOTIFICATIONS

DO NOT SKIP THIS SECTION!

Like all forms of cycling, riding an ElliptiGO® bike involves a real risk of serious injury, maiming and death. Each time you ride your ElliptiGO bike you are assuming this risk. We cannot stress enough how important it is to wear a helmet and proper clothing, know and follow the rules of the road, ensure your bike is in good working order before and during your ride, and to use caution when riding.

To help minimize your risk of injury when riding your bike with an electric bike kit installed, it is critical that you read and understand the contents of this manual and become familiar with operating and maintaining your bike before you head out on the road.

No manual can address all of the potentially hazardous situations that could arise when riding a bike. As a result, we cannot provide guidance on how to be safe in every circumstance. There are many unpredictable and unavoidable risks that are inherent in the sport of cycling. By choosing to ride a bike, you are voluntarily exposing yourself to these risks and are responsible for that choice. The magnitude of these risks tends to increase as your speed increases, so by choosing to ride a motorized bike, you are exposing yourself to a higher likelihood of serious injury, maiming and death.

To highlight some of the most important safety concerns, this manual includes many “Warnings”, “Cautions” and “Alerts.” They are set out conspicuously in the manual.

Safety Warning

The following symbol: **▲ WARNING!** (the safety designator together with the word WARNING!), calls attention to a potential hazard that, if not properly addressed or avoided, could cause serious injury or death.

Safety Caution

The following symbol: **▲ CAUTION!** (the safety designator together with the word CAUTION!), calls attention to a

potential hazard that, if not properly addressed or avoided, could cause property damage or an injury.

Damage Alert

The designation **ALERT!** calls attention to a situation which, if not properly addressed or avoided, could cause serious damage to your ElliptiGO bike, electric bike conversion kit and/or void your warranty.

As you will see, most of the Safety Warnings and Cautions contained in this manual relate to conditions that could cause the rider to lose control and fall. Every fall, regardless of the associated speed or cause, can result in serious injury or death for the rider and injury to bystanders and property. As a result, a warning that indicates the rider may lose control and fall if a situation is not properly addressed or avoided may not also state that the resulting fall can cause serious injury or death. You should understand that this fact is always implied by the possibility of falling.

HOW TO USE THIS MANUAL

The purpose of this manual is to work in concert with the electric bike conversion kit installation video (www.elliptigo.com/Ekit), other support videos and other content on our website to provide you with an understanding of what is included with your electric bike conversion kit, how to install your kit on your ElliptiGO bike, how the installed kit was intended to perform, and highlight some of the dangers from using the kit properly and improperly. **We strongly advise reviewing this manual in its entirety as well as reviewing the videos and material provided on our website before installing your electric bike kit.** If you have any questions or concerns while digesting this information, please do not hesitate to contact us at service@elliptigo.com so that we may assist you.

▲ CAUTION! Do not attempt to install the electric bike conversion kit before reading this manual and reviewing the installation video: www.elliptigo.com/Ekit. There are some parts of the process that will be much easier to comprehend if you watch the installation video. Failure to do so could result in an error that leads to an injury or damage to the bike, conversion kit or other property.

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OVERVIEW

This ElliptiGO MSUB/RSUB Electric Bike Conversion Kit enables you to convert a RSUB or MSUB model ElliptiGO bike into an electric bike. It is designed for use by adults on ElliptiGO model RSUB and MSUB bikes only. It is not for use with any other product or ElliptiGO models and should not be used by children.

▲WARNING! This electric bike conversion kit is designed exclusively for the ElliptiGO models listed above. Using this kit with any other bike is likely to result in injury and/or damage to the conversion kit or bike.

The electric bike conversion kit includes a rear wheel with a 500W geared hub motor which replaces your existing rear wheel. The motor is powered by a 48V, 14AH (672 WH) lithium-ion battery pack coupled to an integral PWM controller. The system can propel the bike at speeds up to 20 mph. The battery has a range when fully charged of 25-50 miles depending on the terrain, riding conditions and amount of power the motor needs to provide to assist the rider at a given speed.

The kit features both a thumb throttle and a five-level pedal assist system (PAS). The thumb throttle allows the rider to propel the bike entirely via the electric motor without pedaling. The PAS senses the movement of the pedals and provides a proportional amount of motorized assistance based on the PAS level selected. Other features of the kit include a color LCD display, brake levers with motor cutoff switches, a lockable/removable battery pack and battery charger.

The motor can produce a significant amount of torque, causing the bike to accelerate quickly. No matter how familiar you are with ElliptiGO bikes, it is imperative that you follow the instructions for taking a first ride outlined in this manual so you learn how the motor and other components change the riding experience.

You must also take special care to ensure the electric bike conversion kit is installed correctly. There are many cables and electronic parts that will not work if installed improperly.

We have created several videos to assist you with installing the kit. **We highly recommend that you use the videos in conjunction with the instructions in the manual during the entire installation process.** If you have any questions before, during or after installation, please contact ElliptiGO customer service at 888.796.8227 or service@elliptigo.com.

Note: Watching the installation videos on our website located at: www.elliptigo.com/Ekit will greatly assist you throughout the installation process. We highly recommend using the videos in conjunction with the manual.

You should always consult with your physician before starting an exercise routine. This includes riding an electrified ElliptiGO bike. If you start to feel lightheaded, short of breath, dizzy, nauseous, disoriented or feel pain or numbness anywhere in your body while you are riding, immediately stop the bike and contact a physician or an emergency medical provider.

WHAT COMES IN THE BOX



PARTS LIST			
1	MOTORIZED REAR WHEEL	11	ALCOHOL PAD
2	MOTOR EXTENSION CABLE	12	PAS RETAINING RING AND ZIP TIE
3	PAS SENSOR	13	ZIP TIES FOR BATTERY WITH RUBBER SLEEVES (4)
4	THROTTLE	14	SMALL ZIP TIES (25)
5	CONTROL HARNESS CABLE	15	BATTERY KEYS
6	DISPLAY	16	BATTERY CHARGER
7	BRAKE LEVERS WITH CUTOFF SWITCHES	17	BATTERY COVER
8	BATTERY AND CONTROLLER	18	BRAKE ADJUSTMENT WRENCH
9	BATTERY BRACKETS AND SCREWS (3)	19.	TORQUE ARM SCREW
10	PAS MAGNETIC DISC		

TOOLS REQUIRED

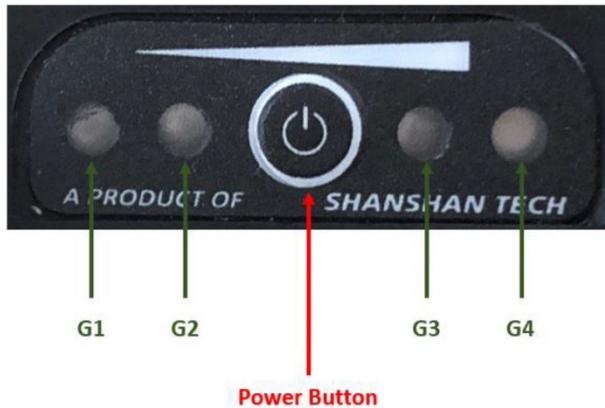


TOOLS REQUIRED	
1.	SCISSORS OR WIRE CUTTERS
2.	ADJUSTABLE or 18MM WRENCH
3.	BRAKE ADJUSTMENT WRENCH (INLCUDED)
4.	3MM ALLEN KEY
5.	4MM ALLEN KEY
6.	5MM ALLEN KEY

THE BATTERY AND BATTERY CHARGER

Battery Power Button and LED Indications

Your battery includes a power button, charging port, and a 4 LED display.



Power Button

Use the power button to turn the battery on and off and to check the charge level.

- **To turn the battery on:** Press and hold the power button for 10 seconds. The LED lights will light up as the battery turns on.
- **To turn the battery off:** Press and hold the power button for 10 seconds.
- **To check the charge level:** Quickly press and release the power button when the battery is on. The LED lights will display the charge level of the battery according to the table below.

LED Indications	Remaining Battery Capacity
● ● ● ●	91 - 100%
● ● ● ○	51 - 90%
● ● ○ ○	11 - 50%
● ○ ○ ○	0 - 10%

● On ○ Off

4 LED display

The 4 LED display indicates when the battery is on, charging, the charge level, and alarm codes.

- **Charging:** When the battery is charging, the 4 LED display indicates the amount of charge as set forth in the following table:

LED Indications (Charging)	Remaining Battery Capacity
● ● ● ☆	91 - 100%
● ● ☆ ○	51 - 90%
● ☆ ○ ○	11 - 50%
☆ ○ ○ ○	0 - 10%

☆ Blinking ● Static ○ Off

- **Alarm Codes:** Battery malfunctions are shown as per the table:

Alarm Indication	LED Behavior	Action
Out of Operating Temperature Range	☆ ☆ ○ ○	Let battery sit in ambient temperature between
Issue With Current	☆ ☆ ☆ ○	Turn Battery Off and Then On
Voltage Too High or Low	☆ ☆ ☆ ☆	Discharge or Charge the Battery
Other Issues	☆ ○ ○ ☆ ☆ ☆ ☆ ●	Contact ElliptiGO

☆ Blinking ● Static ○ Off

Battery Handling

You must use caution when handling your battery. It is heavy and can be damaged if dropped or handled roughly. Pay particular attention to the “+” and “-” connection terminals located on the bottom of the battery. They are exposed when the battery is not attached to the bike. Take care not to damage them.

⚠ CAUTION! Avoid dropping or otherwise damaging your battery, including the connection terminals. If you damage the battery. Do not use it or charge it. Instead, contact customer service at 888.796.8227 or service@elliptigo.com.

THE BATTERY AND BATTERY CHARGER

Long-Term Battery Storage

If you need to store your battery for longer than two weeks, follow these instructions to maintain your battery's health and longevity:

- Charge or discharge the battery to approximately 60-75% of maximum charge.
- Power off the battery.
- Store the battery in a dry, climate controlled, indoor location between 50 °F - 77 °F (10 °C - 25 °C).
- Check the battery every 3 months, and if necessary, use the charger that came with your kit to charge the battery to 60-75% of maximum charge.

▲ CAUTION! Failure to follow proper battery storage procedures can result in a non-functional battery and void your warranty.

ADDITIONAL BATTERY SAFETY WARNINGS

▲ WARNING! Do not open the battery housing. Opening the battery housing voids the warranty, can damage the battery and can cause fire, explosion or chemical burns resulting in damage to property, serious injury and death.

▲ WARNING! Do not expose the battery to excessive heat, fire or mechanical shock. Exposing the battery to excessive heat, fire or mechanical shock voids the warranty, can damage the battery and can cause fire, explosion or chemical burns resulting in damage to property, serious injury and death.

▲ CAUTION! Keep batteries out of the reach of children. Batteries present a serious danger to children.

▲ CAUTION! Avoid storing your battery in direct sunlight. Storing your battery in direct sunlight can damage the battery.

▲ WARNING! If your battery begins to leak, do not allow the liquid to come in contact with the skin or eyes. If you do contact the liquid, wash the affected area thoroughly with soap and water and seek medical advice.

When your battery is no longer operating as desired, dispose of it properly in accordance with all local, state and federal laws.

Charger Safety Information

The charger works on 120/240 V 50/60 Hz standard home AC power outlets. The charger is designed to generate heat when in operation. As a result, the charger should only be used indoors in a cool, dry, well-ventilated area and on a flat, stable, hard surface. Similarly, do not cover the charger and keep it free from contact with liquids, dirt, debris, or metal objects when in use. Store and use the charger in a safe place away from children and where it cannot suffer damage from falls or other impacts.

▲ WARNING! If not treated properly, your charger could overheat and start a fire. If the charger gets too hot to touch, you notice a strange smell when charging, or you observe any other indication that the charger may be overheating, discontinue charger use immediately and contact ElliptiGO customer service at 888.796.8227 or service@elliptigo.com.

Only charge the battery using the provided charger or a replacement charger purchased from ElliptiGO directly. Do not yank or pull on the charger cables. When unplugging the charger, carefully remove the cables by pulling on the plastic plugs, not pulling on the actual cables.

▲ WARNING! Using a charger other than the one included with this kit or a replacement purchased directly from ElliptiGO can damage your battery and cause a fire or explosion. Only charge the battery with the correct charger.

Charging the Battery

Fully charge the battery prior to operating your bike for the first time. You can charge the battery on its own or while it is attached to the bike. Before charging your battery, always check the charger, charger cables, and battery for damage. Place the charger and battery in a safe area, free from direct sunlight and debris, and arranged so the lights on each are visible. Arrange the charging cords so they are in the least likely position for someone to trip over. Only charge the battery in temperatures between 50 °F and 86 °F (10 °C and 30 °C).

▲ WARNING! A damaged charger, battery or cables can result in a fire or additional damage to your charger and/or battery. It is critical that your charging system is free from damage before you begin the charging process.

THE BATTERY AND BATTERY CHARGER

▲WARNING! Temperature is important when charging your battery. Do not leave the battery or charger exposed to direct sunlight or other direct heat sources. Ensure the ambient temperature is between 50 °F and 86 °F (10 °C and 30 °C). If the temperature is too hot, your battery can overheat which can lead to an explosion and fire. If it is too cold, your battery may not charge fully.

Charging Time

Battery State of Charge	Estimated Time to Fully Recharge
75%	1 hour and 40 minutes
50%	2 hours and 45 minutes
25%	3 hours and 50 minutes
0%	5 hours

The battery may take longer to charge when fully depleted, when very new, and after 3-5 years of regular use. If your battery does not seem to be charging normally, taking longer to charge than expected, or you are experiencing substantial reduction in range, please discontinue use and contact ElliptiGO customer service immediately at 888.796.8227 or service@elliptigo.com.

You should recharge your battery after each use. When the battery is charging, the charge indicator light on the battery charger will be red. When charging is complete, the indicator light will turn green. Do not leave a charging battery unattended. Disconnect the battery from the charger as soon as possible and always within one hour of charge completion.

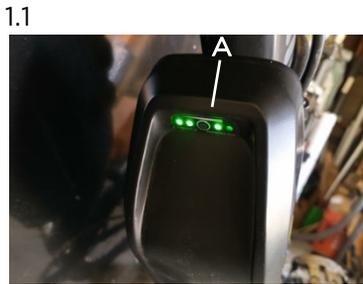
▲CAUTION! Avoid leaving a fully-charged battery connected to the charger and never charge the battery for more than 12 hours at a time. Doing so can lead to reduced battery life and may cause your warranty to be voided.

INSTALLATION

This installation process is designed for two people. We highly recommend following the installation video located on our website: www.elliptigo.com/Ekit. These instructions are meant to be used in conjunction with the video.

Step 1: Charge the Battery (5 Minutes)

- 1.1 Check that the battery is off by quickly pressing the button on the battery (A). If no lights appear, the battery is off. If you see green lights, the battery is on. To turn the battery off, press and hold the button for about 10 seconds until the lights go away.



- 1.2 Remove the battery from the controller by facing the battery down and placing your fingers in the front section of the plastic receiver. Pull the controller toward the back of the battery to dislodge the controller from the battery. Set the controller aside.
- 1.3 Open the charging port cover located on the battery's side.
- 1.4 Place the charger on a flat, secure place between the battery and a wall outlet. Connect the charger's small cylindrical connector to the charging port on the side of the battery and the regular plug to a standard 120V power outlet. The light on the charger will turn solid red when charging begins.
- 1.5 Charging is complete when the charger lights turn green. At that point, unplug the charger from the wall and disconnect the charger from the battery.

1.3-1.5



▲CAUTION! Always charge your battery in temperatures between 50 °F and 86 °F (10 °C - 30 °C) and ensure the battery and charger are not damaged before initiating charge.

▲WARNING! Batteries are inherently dangerous objects that can lead to explosions or fires if not treated properly. If you notice anything unusual while charging, please discontinue charging and use of the bike and contact ElliptiGO service at service@elliptigo.com for assistance.

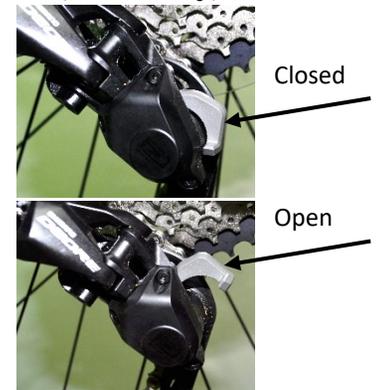
Step 2: Remove the Rear Wheel (5 Minutes)

- 2.1 With the bike on the kickstand, shift into the smallest sprocket by leaning the bike against the kickstand so the rear wheel is off the ground and then rotate the pedals with one hand while using the shifter to shift into the highest gear with the other hand.
- 2.2 Open the clutch on the derailleur (MSUB only).
- 2.3 Open the quick release and then turn the quick release nut counter-clockwise until there is enough space to remove the rear wheel from the dropouts.
- 2.4 Pull the rear wheel out from the frame and set aside.

2.1



2.2 (MSUB only)



2.3



2.4



INSTALLATION

Step 3: Install the motorized rear wheel. (15- 20 Minutes)

- 3.1 Remove the axle caps. Check that the axle with the Motor Cable has a non-turn washer, flat washer and nut, in that order. Check that the other side has a non-turn washer, torque arm, flat washer and nut, in that order.
- 3.2 Using a 3mm Allen key, remove the reflector and hardware on the side opposite the derailleur.
- 3.3 With the bike right side up, have your helper hold the front of the bike. Orient the motorized wheel with the cassette on the right side and the non-turn washer tabs pointed down. Loosen the nuts several turns. Align the flat sides of the axle with the dropouts. Use your wrench if necessary. Push the non-turn washers against the motorized hub and push the flat washers away from them. Insert the wheel into the frame so that the dropouts sit between each non-turn washer and flat washer and the torque arm is oriented so that the small slot lines up with the threaded hole where the reflector was removed.
- 3.4 Once seated, close the derailleur clutch (MSUB only).
- 3.5 Insert the Torque Arm Screw (#19) through the slot in the torque arm. Use a 3mm Allen key to thread it into the reflector hole where the reflector was. Tighten to 5 N-m.
- 3.6 Tighten the axle nuts to 40 N-m. 40 N-m is tight! The chart below shows the amount of force in pounds you need to apply to the end of different-length wrenches in order to obtain a torque of 40 N-m. The Nylox locknuts have more rotating resistance than normal nuts. Ensure you have tightened them to 40 N-m. Cover with the rubber caps.

Wrench Length (inches)	Force (pounds)
6	59
8	44
10	35
12	30

⚠ WARNING! It is critical to fully seat the wheel in the frame with the non-turn washer tabs facing downwards and engaged within each dropout and to tighten each nut to 40 N-m. Failure to do so could result in the wheel detaching from the bike, which would cause the rider to lose control and suffer a fall.



3.2



3.3



Non-Turn Washer Tab Oriented Down (View from Underneath)

3.4 MSUB Only - Closing the Clutch



Open



Closed

- 3.7 Align the arrow on the motor extension cable (#2) with the arrow on the wheel cable connector. Connect the cables and ensure they are seated. Use 3 small zip ties to route the cable along the frame as shown. **Do not place any zip ties on the short cable coming out of the wheel axle.** If you do, it will make changing a tire later much more difficult. Trim the excess ends of the cable ties. Note: Leave the other end of the motor extension cable loose.

⚠ CAUTION! Do not use a zip tie on the short cable coming out of the wheel axle. Using a zip tie there will impede your ability to remove the rear wheel from the bike in the future.

3.7



(Underneath view)

INSTALLATION

Step 4: Install the Pedal Assist System Sensor (20-30 Minutes)

4.1 Have your helper help you turn the bike upside down.

4.2 Remove the retaining ring (#13) from the PAS magnet disc (#11). Pull to separate the disc into two pieces.

4.2



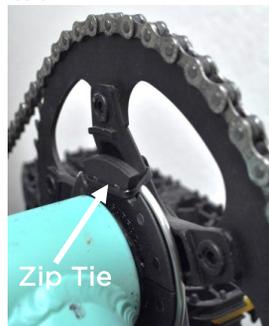
4.3 Install the PAS magnet disc on the right crank. Make sure the face of the disc labeled “working surface” (A) is facing inward toward the bike frame. Press the two pieces together. Install the retaining ring back around the disc. If the two pieces do not fully seat together, that is OK, the retaining ring will keep them together.

4.3



4.4 Secure the magnet disc to one of the legs of the crank spider using a small zip tie. Make sure the head of the zip tie sits on the outside of the crank spider, away from the bike. Trim off the excess zip tie.

4.4



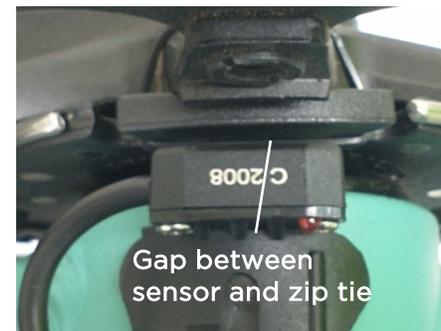
4.5 Use the alcohol pad to clean the surface of the bottom bracket.

4.5



4.6 Remove the backing from the adhesive on the PAS sensor (#3). Rotate the crank so that the zip tie is in line with the sensor. Align the PAS sensor so that the face is parallel with the disc surface and there is about a 1/16 inch gap between the zip tie and sensor. You can use a credit card to establish the gap. Press down on the PAS sensor to adhere it to the bottom bracket. Apply additional pressure for about 30 seconds to fully activate the adhesive.

4.6



4.7 Route the PAS and motor extension cables as shown and secure them using 2 small zip ties. Trim off the excess zip tie.

4.7



INSTALLATION

Step 5: Install the Controller (20 - 30 Minutes)

5.1 Remove the rubber sleeves from the large zip ties (#14).

5.1



5.2 Slide a large zip tie through the slots in each battery bracket (#9) until it stops.

5.2



5.3 Using a 3mm Allen key, attach the battery cover (#17) to the controller with the three battery bracket screws (#10) and then use the screws to attach the three brackets. Tighten to 5 N-m.

5.3



5.4 Slide the rubber sleeves over the zip ties.

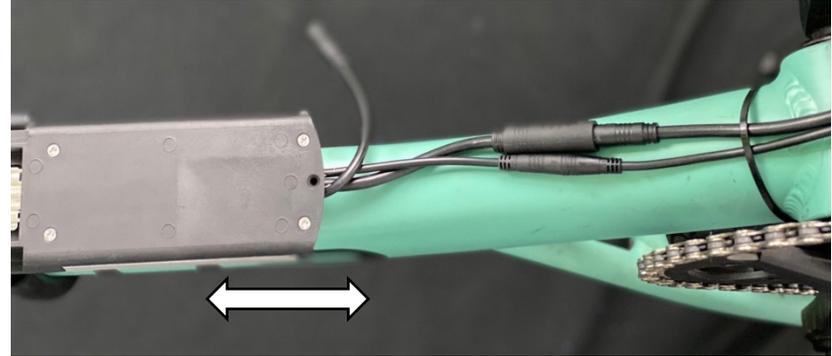
5.5 Orient the controller so that the cables are facing the rear of the bike. Align the rear of the controller about 1 inch behind the edge of the "E" in the ElliptiGO logo on the right side of the bike. Very loosely close the zip ties. DO NOT TIGHTEN YET!

5.5



5.6 Connect the PAS and Motor extension cables to the controller. Adjust the controller position to eliminate cable slack.

5.6



5.7 Once the controller is positioned so that there is no slack in the connected cables, tighten the zip ties. Once tight, route the zip tie end back through the zip tie buckle.

5.7



5.8 Trim off the excess length of the zip ties with scissors.

5.8



INSTALLATION

Step 6: Attach the Controls (20-30 Minutes)

- 6.1 Turn the bike right side up and put the kickstand down.
 - 6.2 Remove the grips from the handlebar using a 3mm Allen key.
 - 6.3 Detach the brake cables from the brake levers by aligning the slots in the barrel adjuster, locking ring and front of the brake body. Next pull the cable housing out of the barrel adjuster so that the bare cable is visible. Then slide the bare cable through the aligned slots in the barrel adjuster, locking ring and brake body. Pull the brake lever and remove the gray brake cable anchor out of the capturing hole.
 - 6.4 Remove the brake levers from the handlebar with a 4mm Allen key.
 - 6.5 Orient the display (#6) as shown and slide it onto the left handlebar. Do not tighten yet.
 - 6.6 Orient each brake lever (#7) so the gray star symbol is facing up and away from the handlebar and each lever is pointing outboard. Slide each brake lever onto the handlebar. Do not tighten yet.
 - 6.7 Attach the brake cables to the levers by aligning the slots in the barrel adjuster, locking ring and brake body. Seat the gray brake cable anchor into the brake lever hole and route the exposed cable through the aligned slots. Then insert the cable housing into the barrel adjuster. **Note: If you need more slack to attach the cable, loosen the brake caliper pinch bolt located on the brake.**
 - 6.8 Orient the throttle (#4) with the screw facing down. Slide it onto the left handlebar until it is next to the brake. Do not tighten yet.
 - 6.9 Slide each grip onto its respective end of the handlebar. Ensure that the grip is fully seated on the handlebar. You may need to slide the shifter, throttle, display and brake levers further in on the handlebar to enable the grips to fully seat. Once seated, use a 3mm Allen key to tighten the screw to 3 N-m.
- ⚠ WARNING! Failing to fully seat the grips onto the handlebar and to tighten them sufficiently could cause the grips to come off while riding, which would cause the rider to lose control and fall.**
- 6.10 Fine tune the positioning of the shifter, throttle, display and brake levers until they are correctly aligned. Then tighten the display and throttle to 3 N-m using a 3mm Allen key and tighten the brake levers and shifter to 5 N-m with a 4mm Allen key.

6.2



6.3



6.4



6.5



6.6



6.7 - 6.10



INSTALLATION

Step 7: Adjust the Brakes (10 – 15 Minutes)

- 7.1 Tighten down each barrel adjuster at the brake lever and caliper by rotating it clockwise until it stops.
- 7.2 Loosen the cable pinch bolt on the brake caliper arm.
- 7.3 Eliminate the slack in the cable without actuating the brake caliper arm and then re-tighten the pinch bolt to 4 N-m.
- 7.4 Using a 5mm Allen key, loosen the two caliper mounting bolts just enough to allow the caliper body to laterally float on the bracket, but not enough to have a significant gap between the two surfaces. You should be able to move the caliper side to side easily with your hand.
- 7.5 Use the Brake Adjustment Wrench (#18) included with the kit to turn the adjustment screw on the fixed inner pad clockwise until the resistance increases. Then, loosen it slightly by making a 1/2 counter-clockwise turn.
- 7.6 Pull and hold the brake lever firmly with one hand to align the caliper with the rotor. With the other hand, tighten both caliper bolts to 6 N-m.

▲WARNING! Ensure you tighten each caliper bolt to 6 N-m. Failure to properly tighten these bolts can cause your brake to malfunction, which could lead to a fall.

7.1



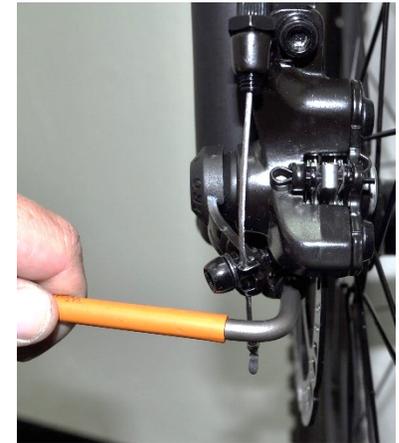
7.2



7.4



7.4



7.5



Brake Adjustment Wrench inserted in Adjustment Screw

7.6



INSTALLATION

Step 7: Adjust the Brakes (Continued)

- 7.7 Release the brake lever. Spin the wheel and confirm there is no rubbing. Look to see that the fixed pad sits parallel to the rotor surface less than 1/16 of an inch away.
- 7.8 If the rotor is rubbing on the fixed pad, turn the adjustment screw counter-clockwise 1/4 turn and recheck. Repeat this step until the rubbing is eliminated.
- 7.9 Adjust the other pad by turning the barrel adjuster on the brake caliper counter-clockwise until the pad just contacts the rotor. Then turn the barrel adjuster clockwise 1/4 turn. If the caliper barrel adjuster does not have at least 3 threads of engagement, then tighten it back down until it has at least that amount of engagement and use the barrel adjuster on the brake lever to make this adjustment.

⚠ WARNING! Ensure the caliper barrel adjuster has at least three (3) threads of engagement. Failure to do so can cause the brake to fail and lead to a fall.

- 7.10 Squeeze the brake lever three times. Spin the wheel and check for rubbing. If the outer pad rubs then turn the barrel adjuster 1/4 turn and recheck. Repeat this step until the rubbing is eliminated.

- 7.11 Squeeze the lever and make sure that the brake had full braking force before the lever hits the grip. Tighten the lock nuts on both barrel adjusters.

⚠ WARNING! Ensure that the brake levers stop before contacting the grip. If the brake levers contact the grip, then the brakes may not be providing full braking force to the rotor. This could result in the rider not being able to stop as quickly as necessary in certain circumstances, which could lead to a fall.

7.9 - Primary



Caliper Barrel Adjuster

7.9 - Alternative



Brake Lever Barrel Adjuster

INSTALLATION

Step 8: Connect the Wire Harness (15-20 Minutes)

- 8.1 Raise the steering column to the “MAX. EXTENSION” mark.
- 8.2 Connect the brake levers, display and throttle to the control harness cable (#5). The connectors are color coded: the brakes are red, the display is green, and the throttle is orange.
- 8.3 Connect the other end of the control harness cable and the loose end of the motor extension cable to the connectors on the controller. Route the cables as shown using 10 small zip ties. Coil up the excess cable in the front section of the frame. Trim off the excess zip tie ends.

⚠WARNING! Ensure that the cables always stay close to the frame members and that any extra slack can not get caught in any of the bike’s moving mechanisms. Allowing the cable to get caught in a moving mechanism could cause the rider to lose control and fall.

8.1



“MAX EXTENSION” Line

8.2



8.3



Zip Ties

8.3



Zip Ties

Connectors

INSTALLATION

Step 9: Check the Display Settings (5-10 Minutes)

9.1 Once your battery is fully charged, unplug it from the charger. Ensure the battery is off by short pressing the button on the battery (A). If no lights appear, the battery is off. If green lights appear, the battery is on. Turn the battery off by pressing and holding the button for about 10 seconds until the lights go off.

9.2 Align the battery so that the battery button is facing down and oriented towards the front of the bike. Align the tabs on the battery with those on the battery receiver portion of the controller. Lift the battery into the receiver and while keeping the battery vertically seated, gently slide it rearward to capture it into the receiver. Note the small tabs at the back of the controller and ensure the battery slides over them. Make sure the battery is fully seated by ensuring it sits flush with the edge of the controller.

9.3 Insert the key into the battery. Turn the key clockwise to lock the battery to the battery receiver. Remove the key.

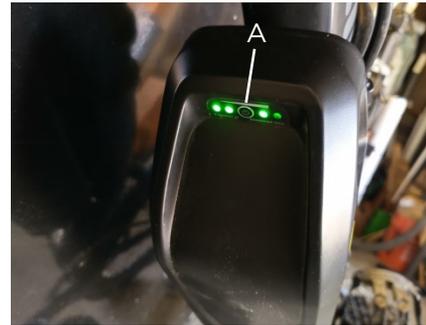
⚠WARNING! Failure to properly seat and/or lock the battery to the receiver using the key prior to riding or transporting your bike could allow the battery to detach from the bike resulting in injury and/or damage to the battery and bike.

9.4 Ensure the battery has been properly secured to the bike before each use by confirming that it is locked and then carefully pulling backward on the battery with both hands to test that the battery is secured to the receiver.

⚠WARNING! Ensure the key is removed from the battery before mounting or operating the bike. Leaving the key inside of the battery key barrel while mounting, operating the bike, pedaling, dismounting, and/or removing an unlocked battery from the frame can damage the key or battery, and/or lead to an injury.

9.5 Turn on the battery by pressing and holding the battery button for 10 seconds until the lights turn on. Then turn on the display by pressing and holding the on/off button until the display lights up (about 3 seconds). Keep one hand near the brake levers at all times in case you inadvertently hit the throttle or rotate the crank arms.

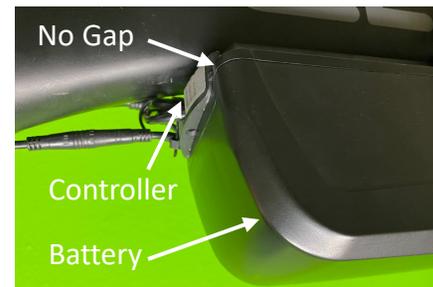
9.1 & 9.5



9.2



9.3



⚠CAUTION! Once the battery and display are turned on, pressing the throttle or rotating the cranks will activate the motor, causing the bike to roll forward. It is critical that you keep your right hand ready to squeeze the brake lever at all times when the display is turned on. Squeezing the brake lever will cut off power to the motor. Failure to react to an unexpected movement of the bike could injure you or someone else or damage property.

9.6 Press and hold both the + and - buttons simultaneously for 3 seconds to enter the "SETTING" menu.

9.6



INSTALLATION

Step 9: Check the Display Settings (Continued)

9.7 Quickly press and release the power button to select “Display Setting.” Confirm that the settings are set to the following:

9.7

Display Setting	
TRIP Reset	NO
Toggle Unit	Imperial
Wheel	700C
Speed Limit	20 mph
Set Voltage	48V
SOC View	Percent
Sensitivity	02
BACK	

If a setting is incorrect, press the “-” button to highlight it. Press the power button quickly to enter the adjustment functionality. Press the “+” to correct the setting.

9.8 To exit the setting, quickly press and release the power button. Navigate to “BACK” using the - button. Quickly press and release the power button to return to the “SETTING” menu.

9.9 Press the - button to highlight “Advanced Settings.” Quickly press and release the power button to select “Advanced Settings.” Confirm that the settings are set to the following:

9.9

Advanced Settings	
Power Set	0-5
Current Limit	18A
Assistant Num	12
Speed Sensor	01
Slow Start	-0-
LCD Luminance	100%
Password	>
BACK	

If a setting is incorrect, press the “-” button to highlight it. Press the power button quickly to enter the adjustment functionality. Press the “+” to correct the setting.

9.10 To exit the setting, quickly press and release the power button. Navigate to “BACK” using the - button. Quickly press and release the power button to return to the “SETTING” menu. Once on the SETTING menu, use the “-” button to highlight “EXIT.” Quickly press and release the power button to exit the setting menu.

▲ CAUTION! Incorrect settings can prevent the kit from working properly.

OPERATION

In this section we will provide information so you can familiarize yourself with how to operate your ElliptiGO when it is equipped with the electric bike kit. Before operating your electrified ElliptiGO, ensure you have installed everything properly and read and understood this manual completely. Your electrified ElliptiGO has a powerful motor, complicated electronics and a large battery that can cause the bike to accelerate quickly and change its handling characteristics. You must put in the time to learn how to use your electrified ElliptiGO safely before taking your first real ride. If you have any questions, please contact ElliptiGO customer service at 888.796.8227 or service@elliptigo.com.

! **WARNING!** Do not disregard the instructions and warnings set forth in this manual. They are here for your safety. Failure to follow the instructions and warnings contained herein could cause you to suffer a fall that results in an injury or death. Failure to follow the instructions and warnings could also cause damage to your bike, electric bike conversion kit, personal property, and injuries or death to a third-party.

! **WARNING!** Do not attempt to operate your electrified ElliptiGO bike until you have adequate knowledge of how the controls work. Operating the bike without understanding how the controls work can result in a fall where the rider suffers serious injury or death. It can also damage your bike, electric bike conversion kit, personal property, and result in injuries or death to a third-party.

! **WARNING!** The throttle mechanism allows full power to be activated from a stop. Inexperienced users should take extra care when first applying the throttle. The pedal assistance feature can also deliver a significant amount of power to the bike. Before using it, you must research and understand how it operates so you know what to expect. Do not skip the next section.

OPERATION

Controls Overview



- 1 Brake Lever with Motor Cutoff Switch
- 2 Thumb Throttle
- 3 Display

Display



- 1 + Button
- 2 Power Button
- 3 - Button
- 4 Odometer
- 5 Assist Level
- 6 Trip Distance
- 7 Motor Power
- 8 Speedometer
- 9 Battery Charge Indicator

Operation	Button Sequence
Power on or off display	Hold power button (2) for 3 seconds and release.
Increase Pedal Assist Level	Press and release + button (1)
Decrease Pedal Assist Level	Press and release - button (3)
Toggle between Odometer, Max Speed, Avg. Speed and Time in lower left of display (4)	Quickly press and release power button (2) when display is on.
Activate push assist mode	Hold - button (3) for 3 seconds to start push assist mode. Release button to exit push assist mode.
To access the display settings mode	Hold + button (1) and - button (3) simultaneously for 3 seconds and release.

OPERATION

Brake Levers with Motor Cutoff Switches

The electric bike conversion kit brake levers include switches that automatically cut off the power to the motor whenever you squeeze a lever. This is a safety feature to prevent the situation where you accidentally accelerate while you are trying to stop.

Thumb Throttle

Your electric bike conversion kit thumb throttle allows you to use your thumb to control the amount of power the motor delivers. Slowly depress the thumb throttle to apply power. The more you press the throttle downward, the more power is applied by the motor.

The thumb throttle delivers a consistent amount of power regardless of what pedal assist system power level you select and whether or not you are pedaling. You will find the thumb throttle is convenient for providing an instantaneous boost of power when you are starting from a stop or just beginning a steep climb.

It is extremely important to understand that the throttle is active whenever the bike is turned on. **DO NOT USE THE THUMB THROTTLE UNLESS YOU ARE MOUNTED ON THE BIKE.** Also, note that squeezing either brake lever when the throttle is active will cut off the power to the motor.

▲ WARNING! Never actuate the thumb throttle while dismounted. Pressing the thumb throttle when you are not mounted on the bike can cause you to lose control of the bike and injure yourself or someone else or damage property.

Pedal Assist System (PAS)

Your electric bike conversion kit includes a pedal assist system (PAS). The PAS senses the movement of the pedals and provides a specific amount of motorized assistance based on the PAS level you select. The PAS system is set initially to have six levels numbered from 0-5. Level 0 provides no pedal assistance. Level 1 provides the lowest level of pedal assistance, and level 5 provides the highest level of pedal assistance. The lower the PAS is set, the less power provided by the motor and the longer your battery will last at a given speed. The following table shows the percentage of total power delivered at each PAS level using the default settings.

PAS Level	Motor Power
0	0%
1	50%
2	61%
3	73%
4	85%
5	96%

You can use the display settings menu to change the number of PAS levels and the motor power percentages for each level. For more information see the user's manual for the display on our website at www.elliptigo.com/display_manual or watch the display video at www.elliptigo.com/display_video.

To use the pedal assist system, turn on the battery and the display. Select the desired level of pedal assist using the + and - buttons on the display. Mount the bike and pedal normally. The PAS will automatically sense the rotation of the pedals and will provide the appropriate amount of motor power based on the level you selected. When you stop pedaling, the motor will stop providing power.

There will always be a slight delay between when you start and stop pedaling and when the motor applies power and stops applying power. These delays are by design to provide a smoother riding experience. Squeezing either brake lever will cut off power to the motor regardless of whether or not you are pedaling.

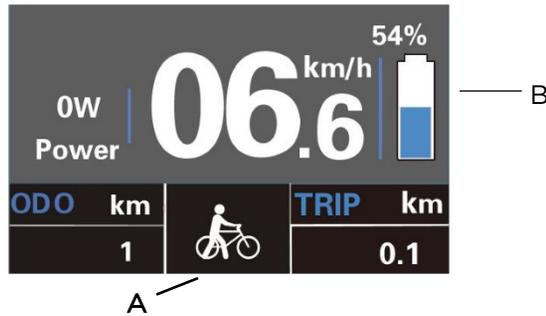
OPERATION

Push Assist Mode

Your PAS includes a push assist mode. The push assist mode provides a small amount of power from the motor to make pushing the bike when dismounted easier. When activated, this mode causes the bike to move forward at a constant speed of about 4 mph.

To activate the push assist mode, turn on the display. Press and hold the “-” button until the PAS level indicator on the display changes from a number an icon of a person walking a bike (“A” in the image below). At that point, the bike will start moving forward at a constant speed of 4mph. To stop the bike, release the “-” button or squeeze one of the brake levers. Only use this mode while dismounted from the bike and with both hands on the handlebar.

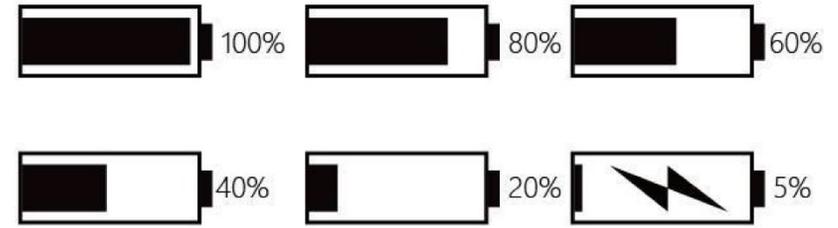
▲ WARNING! Before using push assist mode, ensure you are dismounted from the bike and holding the handlebar with both hands. Keep at least one hand near a brake lever when using push assist mode so you can quickly cut off the motor assistance if necessary.



Battery Charge Level Indicator

The display features a battery charge level indicator (“B” in the image above). This indicator calculates the remaining battery life based on the battery power output. An illustration of the different indicator levels is provided in the right hand column.

The indicator provides an instantaneous voltage reading and will fluctuate during your ride as the power demand and power output change. You should plan to charge the battery before it reaches the 20% level. When the battery drops below 20%, the PAS system may reduce the amount of power provided to prevent damage to the battery. Immediately before the battery is fully depleted, the last bar will begin to flash. This is a warning to indicate that the battery needs to be recharged as soon as possible.



Battery Charge Levels Corresponding with Display Indicators

▲ CAUTION! Ensure you periodically check your battery indicator while riding. Knowing your battery level and using power appropriately is the best way to avoid running out of battery power when you are on the road.

Battery Range

The range of your battery is the distance you can travel on a single charge. Factors that affect battery range include the age of the battery, the rider’s pedaling effort, terrain, speed, rider size, acceleration, starts and stops, rider weight, air temperature, tire pressure, and wind conditions.

The following table applies the above factors to provide a rough range estimate for range of a new battery under different conditions. This table is only meant to illustrate how the factors contribute to decreased range. Your actual range will vary.

Battery Range	Operating Factors
~25 mi (40 km)	Hilly terrain High wind Large rider High throttle/PAS use Light pedaling
~35 mi (56 km)	Flat terrain Low wind Medium rider Medium throttle/PAS use Medium pedaling
~50 mi (80 km)	Flat terrain Low wind Small rider Low throttle/PAS use Heavy pedaling

OPERATION

1. Attaching the Battery

- 1.1 Place the bike upright with the kickstand in the down position.
- 1.2 Ensure the battery is off. Short press the button on the battery (A). If no lights appear, the battery is off. If you see green lights, the battery is on. Press and hold the button for about 10 seconds until the lights go away to turn off the battery.
- 1.3 Align the battery so that the battery button is facing down and oriented towards the front of the bike. Align the tabs on the battery with those on the battery receiver portion of the controller. Lift the battery into the receiver and while keeping the battery vertically seated, gently slide it rearward to capture it into the receiver. Note the small tabs at the back of the controller and ensure the battery slides over them. Make sure the battery is fully seated. There should be no gap between back of the receiver and the battery.
- 1.4 Insert the key into the battery. Turn the key clockwise to lock the battery to the battery receiver. Remove the key.
- 1.5 Ensure the battery has been properly secured to the bike before each use by confirming that it is locked and then carefully pulling backward on the battery with both hands to test that the battery is secured to the receiver.

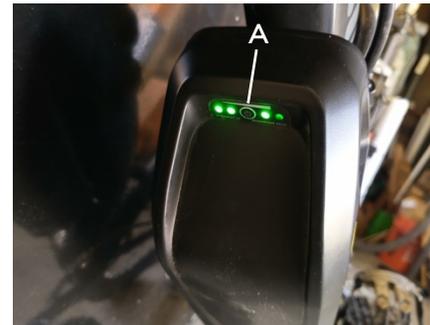
⚠ WARNING! Failure to properly seat and/or lock the battery to the receiver using the key prior to riding or transporting your bike could allow the battery to detach from the bike resulting in injury and/or damage to the battery and bike.

⚠ WARNING! Ensure the key is removed from the battery before mounting or operating the bike. Leaving the key inside of the battery key barrel while mounting, operating the bike, pedaling, dismounting, and/or removing an unlocked battery from the frame can damage the key or battery, and/or lead to an injury.

2. Removing the Battery

- 2.1 Ensure the battery is off by following the procedure above.
- 2.2 Insert the Key into the battery. Turn the key counter-clockwise to the unlocked position. Remove the key.
- 2.3 Support the battery with both hands and slide it forward until the tabs on the battery disengage from those on the battery receiver. The battery is heavy. Be careful to not drop the battery when removing it.

1.2



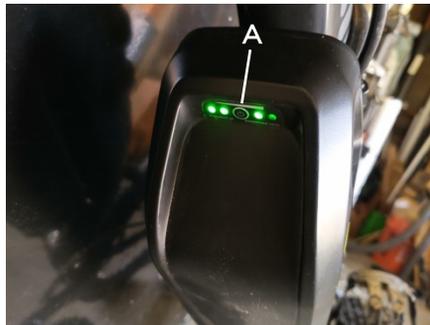
1.3



1.3



2.1



2.3



OPERATION

Taking Your First Ride

Step 1: Pre-Ride Inspection

Take your bike to a flat, paved, open area (like a large parking lot) that is free from obstacles. With the battery and display turned off, inspect your bike to ensure that everything is working properly.

- 1.1 Complete the pre-ride safety inspection checklist found in your bike owner's manual. This process includes checking the critical components of your bike, including the tires, rims, brakes, frame, drive arms and hub. You can find the latest version of your manual on our website at: www.elliptigo.com/manuals.
- 1.2 Inspect your Electric Bike Conversion Kit to ensure it is installed correctly. Confirm the following:
 - The rear wheel is seated properly in the dropouts.
 - Each pair of cable connectors is connected tightly.
 - Each cable is well secured by the zip ties, each zip tie is trimmed and there is no slack in the cable routing that would allow for interference between the cable and the bike's moving parts.
 - The battery is fully charged, is securely attached to the receiver, is set in the "locked" position and the key is removed.
 - The grips, brake levers, shifter, throttle and display are oriented correctly and securely attached to the handlebar.
- 1.3 Put on your helmet and straddle the bike. Place both hands on the grips near the brake levers.

Step 2: Riding Your Electric ElliptiGO Bike

- 2.1 Turn on the battery and display. Ensure that the PAS level is set to 1. If it is not, use the + and - buttons on the left side of the display to set it to 1.
- 2.2 Start riding your bike normally. After a few pedal strokes, you should feel the electric motor applying power. **Note: at any time, you can pull either brake lever to cut off the power coming from the motor.**
- 2.3 Ride in PAS level 1 for several minutes. Get used to steering, turning, stopping and starting. Practice using the brake levers to cut off the power.

2.4 Once you are comfortable operating in PAS level 1, increase to PAS level 2 and familiarize yourself with that level. Repeat this process until you are getting the level of power you desire or have reached PAS level 5.

2.5 After you have ridden comfortably at the PAS level you desire and done several starts, stops and turns, you can familiarize yourself with the throttle. Get the bike up to around 10 mph and then stop pedaling. Use the throttle to apply power. Depress the lever slowly and adjust to the increase in power. Release the lever to stop the power. In subsequent trials, use a brake lever to cut off power to the motor while using the throttle.

Best Practices for Extending Battery Range and Life

Here are some tips to get the most range and life out of your battery:

- Avoid applying full throttle from a stop or very slow speed.
- Always pedal to assist the motor, especially when climbing hills and accelerating from a stop.
- Check your power consumption on the display and do your best to keep it low whenever possible.
- Avoid hills steeper than a 15% grade.
- Accelerate and decelerate slowly and under control.
- Avoid completely draining the battery.
- Store the battery in a dry, climate controlled, indoor location between 50 °F - 77 °F (10 °C - 25 °C).
- Disconnect the battery from the charger once it has reached a full charge.

SATISFACTION GUARANTEE AND LIMITED WARRANTY

Satisfaction Guarantee

We guarantee that you will love your ElliptiGO Electric Bike Conversion Kit. If you purchased your kit directly from ElliptiGO you can return it for any reason within 30 days of receipt for a full refund, less return shipping charges, if any. You should retain all original packing materials so they can be used for a return. Any item that is damaged or is missing parts for reasons not due to our error may receive a partial refund. Contact us at service@elliptigo.com to arrange the return.

If you purchased from an authorized dealer, that dealer's Return Policy will apply instead.

Limited Warranty

This warranty covers all of the components of your ElliptiGO Electric Bike Conversion Kit, except the battery, against defects in material or workmanship for two years from the date of purchase. The battery is warranted to have 60% battery life remaining after two years from the date of purchase or 500 cycles, whichever comes first. This is the only warranty and it is limited to the initial purchaser (it expires upon resale or transfer of the product to another party). The warranty applies only to those ElliptiGO products purchased from ElliptiGO directly or through an authorized dealer. **Any implied warranty of merchantability or fitness for a particular purpose is limited to the two-year duration of this warranty.** Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty is being provided by ElliptiGO, Inc., 722 Genevieve St., Suite O, Solana Beach, California. During the term of this warranty, if you experience a defect in a component of your kit, we will either repair or replace the defective part. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. This warranty does not cover any costs for return shipping, labor, installation, transportation, or any other expenses incurred because of the defective part.

During the term of this warranty, if you experience a defect in a component of your kit, we will repair or replace the defective part at our sole discretion. The warranty repairs should be completed in a

reasonable amount of time, not to exceed 30 days. This warranty does not cover any costs for return shipping, labor, installation, transportation, or any other expenses incurred because of the defective part. In certain circumstances and at our sole discretion, in lieu of replacement or repair of a defective part, we may elect to provide a full refund of the product cost in exchange for the return of the entire product.

Limits to Coverage

This warranty does not cover damage to your Electric Bike Conversion Kit resulting from:

- Normal wear and tear
- Improper assembly
- Improper servicing of a part by someone not authorized by ElliptiGO
- Failure to perform routine maintenance
- Damage caused by using parts other than the original parts or replacement parts purchased from ElliptiGO

Voiding Your Warranty

You void your warranty by:

- Misusing the Electric Bike Conversion Kit
- Modifying the Electric Bike Conversion Kit
- Disassembling any of the of the individual Electric Bike Conversion Kit components (e.g. the battery, motor, controller, throttle, brake levers, display)

SATISFACTION GUARANTEE AND LIMITED WARRANTY

Claims

To make a claim, please contact service@elliptigo.com.

Subject to the laws of the governing jurisdiction, ElliptiGO shall not be responsible for any incidental or consequential damages arising from this offer of warranty or that result directly or indirectly from the use of the Electric Bike Conversion Kit.

Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Your rights under this warranty are limited to the reparation or replacement of your product. The decision to repair or replace resides solely with ElliptiGO.

This warranty gives you specific legal rights. You may also have other rights which vary from State to State. Any limitations expressed in this warranty do not affect your statutory rights under the law of your jurisdiction. A court of competent jurisdiction determining that one or more specific provisions contained in this limited warranty cannot be applied shall not affect the enforceability of any other provision contained herein and all other provisions shall remain in full effect for the term of the warranty.

ELLIPTIGO[®]