



E-TrikeKit™

Electric Tricycle Conversion Kit System



Owner's Manual and Installation Guide

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The E-TrikeKit™

The ultimate electric tricycle conversion solution

This complete conversion system has everything you need "out of the box" to convert your conventional bike into a high-quality electric bike.

Important: When not in use (ex: during winter), store the battery fully charged and recharge it at least once every 30 days.

Important: Don't forget to program your LCD (page 10)

If you do not have the mechanical ability to correctly and safely install this kit, you should obtain the services of a professional bicycle shop or other qualified technician. Installation and use of this kit will create a vehicle that has exposed moving parts, electrical connections and high powered batteries.

Any or all of these components can be dangerous.

Because this kit is installed, maintained and operated by the purchaser, Electric Bike Technologies LLC disclaims any responsibility for injury, damage or other consequences arising from the use of this product. Each installation will be different and therefore it is the responsibility of the purchaser to determine the best way to install the kit on a particular bicycle. The following instructions should be considered as general guidelines only - your installation will be slightly different.

Federal Law mandates that no person under the age of 16 shall operate a motorized bicycle. Always wear a helmet, ride responsibly and observe all Federal, State, and Local laws.

Kit Box Contents:

- 1 x Hand-Built Wheel w/ Disc Hub Motor
- 1 x 36/48V 22A Brushless Motor Controller
- 1 x LCD Display
- 1 x Split-Twist Throttle with reverse button
- 2 x E-Brake Levers (left & right)
- 1 x Extension Wire – Motor
- 1 x 3-to-1 wire - E-Brake/LCD/Throttle
- 1 x Owner's Manual

Included Accessories:

- 1 x Universal Torque Arm - Stainless Steel
- 14 x Cobra Ties and 8x FlexRoutes
- 2 x C-Washers
- 1 x Battery Wire Harness (kit without battery only)
- 1 x 3mm Allen wrench for installing throttle
- 1 x 5mm Allen wrench for installing brake levers

Installation Guide

Video instructions online at <http://ebikekit.com>

1: Check your bike

The E-TrikeKit fits most bikes, but you should check for compatibility:

Front conversion:

- **100mm (4 inches) of space** between the front dropouts (this is standard for most bicycles)



You need 100mm (4 inches) here

- **Quick release tabs:** forks designed for quick-release axles require the use of *c-washers* to fill the indentations. Check for quick release tabs.



*Quick release tabs (right) and none (left)
Left dropout filed to fit axle (see below)*

- **10mm (13/32 inch) of clearance** The dropouts need to accommodate a 10mm axle. If everything else is okay, but the axle won't fit, remove the paint from the inside of the dropouts.



10mm (13/32 inch) here

2: Put your tire on and install the wheel

- **Install a tire on the E-BikeKit Wheel:** move your old one over, or install a new set. Don't use screwdrivers or anything sharp!

- **Disc mounts on the left:** The motor is on the correct way when the 6 bolts for the disc mount are on the left side of the bike.



Disc bolts go on the left of the bike

- **Quick release tabs:** C-Washers are needed for bikes with quick release tabs. Otherwise, you don't need them.



Put the c-washer inside the QR tabs

- **Inside Washers:** Use a washer on the inside of the dropouts to keep them from spreading open when you tighten the axle nuts.



Inside washer

- **Install the torque arm** on the non-wire side of the hub, outside the dropouts. Some bikes will need one or two spacers (use c-washers) to keep it clear of the frame. Tighten the hose clamp fully—it should deform and match the shape of your fork. Then tighten the bolt on the torque arm.



Connect the arm to axle and frame

- **Tighten the axle nuts:** once the axle is straight in the dropouts, tighten the nuts to 30ft-lbs (or normal force with a 10-inch wrench)

3: E-brakes, throttle, & LCD

Install E-brake:

- Remove your grips
- Remove your old brake lever
- Slip the E-brakes on your bars and tighten the clamp with a *5mm allen wrench*
- Insert your brake cable into the lever on the brake handles

It's optional!

You don't have to use the E-brake, but it's good for safety—it will cut power to the motor as soon as you squeeze the brake lever. The kit will work without a brake, though—just don't install it.

Two brakes to choose from:

Most trikes have only one hand brake, either left or right, so the kit includes both—choose the one that fits best on your trike.

Install Throttle:

- Make sure the grips are off and any brake levers are installed
- Slip the throttle onto the right handle bar
- Make sure the buffer is in place
- Tighten the clamp with a *3mm allen wrench*



Throttle installed

Grips:

- Reinstall the grips
- A little hair spray or Windex helps them slip on and stay put

Connect Wiring:

- Listen for two clicks on the brake wire.
- LCD and throttle plugs: line the arrows up on each side and plug



Connect the E-brakes and throttle

4: Charge your battery

Charging:




- First plug the charger into the wall
- Then plug the battery into the charger
- When the LED turns green, charging is done






SLA 36v

-  *Green:* battery disconnected or charge not needed
-  *Red:* battery charging
-  *Green:* charge complete
-  *Flashing:* charge complete / equalized

SLA 48v

-  *Red:* charger on
-  *Red:* battery charging
-  *Green:* charge complete

Lithium (LED 2 status)

-  *Red:* charger on
-  *Red:* battery charging
-  *Green:* charge complete

Battery care:

- **Charge right away** when you receive your kit, the batteries are only partially charged. Charge them fully before use.
- **Charge after every use** as soon as you can, charge your battery fully. Follow all instructions that came with your 3rd-party battery.
- **Maintain your battery's health** by storing it fully charged, and charging it at least once every 30 days when you're not using it.

5: Secure an SLA battery (see page 8 for lithium)

SLA batteries should be stored inside the battery bag.

- Unplug your battery from the charger
- Run the power wire out through the grommet in the bag
- Strap the battery securely to the bag with the internal Velcro strap

6: Mount the controller

The controller can be securely attached in one of these three ways

- **Under rack or basket** using the zip-ties
- **Inside the battery bag** with the excess wire secured
- **On the bike frame** using the band clamps or zip ties



On the basket, in the bag, or on the frame

7: Hook it up

Now you're ready to finish making the connections. Line the arrows on the connectors up and push them together

- Now you can connect the 4-to-1 wire to the controller
- Connect one end of the motor extension wire to the motor
- Connect the motor extension wire to the controller
- Connect the battery to the controller

8: Run the wiring

- Tuck the cables into the Flex Route, secure with the Cobra Ties
- Be sure you have enough slack to move your handlebars freely



Secure the wires with zip ties

9: Final adjustment

- Skip to the next page and use the instructions to set up the LCD
- Double-check that the brakes are adjusted and functioning
- Lift the wheel from the ground and push the throttle
- Watch the wheel spin
- Test the E-Brakes (if installed)
- Inspect the kit to be sure that the wheel is secure and hasn't moved

E-TrikeKit™ LCD Quickstart Guide

The E-Bike™ Kit LCD will display your current speed, trip and overall mileage, battery remaining, and more.



Before you use your kit, you need to set up your LCD.

Step 1: Turn on and set units



Press the **red power button**

1. Hold the **SET** button for 3 seconds to switch between Kilometers and Miles

Step 2: Set Motor Type



Motor Type: Trike = "3" or "46"

1. Hold the **up arrow** and **SET** button simultaneously for 3 seconds
2. Use **up** and down arrows to locate motor type
3. Save the setting by holding the **up arrow** and **SET** button again for 3 seconds

**Note: Disregard the other numbers, they are for unavailable motors

Step 3: Set Wheel Size



1. Hold the **up arrow** and **down arrow** simultaneously for 3 seconds
2. Use **up** and **down arrows** to locate wheel size
3. Save the setting by holding the **up** and **down arrows** again for 3 seconds

**Note: 28 is the setting for 700c and 29er wheels

Step 4: Set Battery Voltage



1. Hold the **up** and **down arrows** and **red power button** simultaneously for 3 seconds
2. Use the **up** and **down arrows** to locate battery voltage (36 or 48 volts)
3. Save the setting by holding the **up** and **down arrows** and **red power button** again for 3 seconds

****Note:** Disregard 24 as the E-BikeKit is not compatible with 24 volts.

Step 5: Switch Display to ODO



1. Press the **SET** button once
2. This will switch the display between "ODO" and "TRIP" - check that it is set on "ODO"

Step 6: Clear Odometer



1. Hold the **up arrow** for 3 seconds
2. The Odometer and Trip will both reset to 0

IMPORTANT:

Assist Level: Quick press **up** or **down arrows**. When you turn the kit on, it will start with the lowest level of assist. Press the **up arrow** to go faster.

On and Off: hold the **red power button** for 3 seconds. Always turn the kit off when you're done riding.

Additional Commands & Information:

Clear Trip or ODO:

1. Press the **SET** button once to switch to "ODO" or to "Trip"
2. Clear ODO: **up arrow** for 3 seconds. Clear trip: **down arrow** for 3 seconds

Backlight: Quick press **red power button**

LCD Troubleshooting

The E-BikeKit™ LCD also provides 6 troubleshooting indicators. These can help you recognize and correct problems with the kit.



Troubleshooting:

Icon	Meaning	Explanation
	Wheel Size Setting	This icon will show while you are selecting the wheel size (hold up arrow and down arrow to save & close)
	Throttle Error	This icon will show if you turn the kit on with the throttle engaged. Check that your throttle buffer is installed and the throttle returns to the "off" position when released. If all else fails, you could have a damaged connector. The error should clear as soon as the throttle returns to "off."
	E-Brakes Engaged	This icon will show whenever the E-Brakes are engaged, and will cut power to the motor for safety. If the icon is lit but you're not grabbing your brake handles, check to make sure they're not stuck open. Unplug and reconnect the wires. The icon should clear as soon as you release the brakes.
	Backlight On	This icon is lit when you press the Power button to turn on the LCD backlight—if you don't want the backlight on, press the Power button again to turn it off.
	Motor Error	This icon indicates a problem with the hall sensors. Hall sensors help the controller to regulate the "timing" of your motor, and if there's a problem with them the motor will run rough. Excessive heat, vibration, shock, or voltage can
	Controller Error	This icon indicated a problem with the controller. Unplug and reconnect all of the wires for your kit. If the problem persists, please call us to discuss repairs.

Kit Troubleshooting

If your motor isn't running, follow these steps to find the problem. Start with the first, test the kit after each step, and go for a ride when it's working!

- **Unplug everything and plug it all back in** one at a time, go over each plug. Sometimes a plug can get pulled loose.
- **E-Brake plugs** will make two "Clicks" as you plug them in. You should be able to hear and feel this.
- **Look for broken wires** — if you can see worn insulation, cuts, or gouges, you may need to replace a wire that's been damaged.
- **Check your E-Brakes** — if you're using E-Brakes on the kit, and the lever gets stuck open, the motor will be shut off.
- **Disconnect your E-Brake** — a bad switch in the E-Brake could shut the motor off.
- **Try your other throttle** — each kit ships with both a thumb and a split-twist throttle. Swap the other one in and see if the kit runs. If it does, the throttle might be the problem.
- **Test battery voltage** with a multimeter. Be very careful not to short the red and black wires together. 36 volt batteries should measure at least 31 volts and 48 volt batteries should measure at least 43 volts.
- **Call us up** we're here to help. Call toll free: 1-866-882-EBIK(3245)



E-brake plugs make two clicks. Line up the arrows on the LCD and throttle when plugging in.



Make sure the E-Brake is closed



Test the battery voltage.

Specifications

SLA Batteries

Voltage	36v	48v
Amp-Hour Capacity	9ah	9ah
Range	8-16 miles	8-15 miles
Top Speed (26" wheel) "performance"	20mph	28mph
Top Speed (26" wheel) "heavy duty"	15mph	20mph
Weight	17lbs	22lbs
Dimensions	10.5x6x3.75	10.5x6x3.75
Cycle life	250 cycles to 80%	250 cycles to 80%

Lithium Batteries

Voltage	36v	48v
Amp-Hour Capacity	10ah	10ah
Range (Direct Drive)	10-26 miles	10-26 miles
Top speed ("heavy duty" 500w direct-drive 6x9)	15mph	20mph
Weight	7.7lbs	9.7lbs
Dimensions	11.7"x6"x2.7"	15"x6"x2.7"
Cycle life	700—1800 cycles	700—1800 cycles

Lithium Chargers

Input voltage (AC)	100-240V 50/60Hz
Output voltage (DC)	54.6V ± 0.2V (48V Charger) 42V ± 0.1V (36V Charger)
Output current	3A ± 0.1A
Fully charged output	0.15A ± 0.1A
Safety features	Short circuit protection, reverse polarity protection, over-voltage protection, over-current protection
Automatic shutoff	10 hours
Certifications	UL TUV-GS CE KC SAA ROHS

SLA Chargers

Input voltage (AC)	100-240V 50/60Hz
Output voltage (DC)	54V ± 0.2V (48V Charger) 42V ± 0.1V (36V Charger)
Output current	36v: 2A ± 0.1A 48v: 3A ± 0.1A
Fully charged output	0.15A ± 0.1A
Safety features	Short circuit protection, reverse polarity protection, over-voltage protection, over-current protection
Automatic shutoff	10 hours
Certifications	UL TUV-GS CE KC SAA Rohs

Wheel/Wheel Size/Motor Type	TOP SPEED AT 36 Volts	TOP SPEED AT 48 Volts
Front/20"/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Front/24"/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Front/26"/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Front/700c/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Front/20"/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)
Front/24"/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)
Front/26"/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)
Front/700c/500w Direct-Drive	15 MPH (24KPH)	28 MPH (45KPH)
Rear/20"/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Rear/24"/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Rear/26"/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Rear/700c/500w Geared	20 MPH (32KPH)	28 MPH (45KPH)
Rear/20"/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)
Rear/24"/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)
Rear/26"/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)
Rear/700c/500w Direct-Drive	15 MPH (24KPH)	20 MPH (32KPH)

Maintenance Schedule

All bikes require regular maintenance to ensure safety and performance. Electric bikes require more care since they're ridden farther and faster than conventional bikes.

Wheel tune-up

- **The first 50-100 miles** of a wheel's life will stretch and settle the spokes—after this period the wheel should be tuned up by a bicycle mechanic
- **Every 3 months or 400 miles** thereafter, the wheel should be serviced again
- **Wheels will last** much longer and break fewer spokes if they get this attention

Prior to each ride

- **Check your wheels** especially the wheel with the hub motor. Spokes should be tight and the wheel should not have play
- **Check the frame** the dropouts and connection to the torque arm should be tight and secure
- **Pump up your tires** under-inflated tires can cause serious damage if you bottom-out the rim on a pothole or curb. But don't over-do it—too much pressure makes the tires rock-hard.
- **Check cables, brakes, wires** working brakes are crucial, and the brake cables are an important part of this. If you're using e-brakes, lift the wheel off the ground and run the throttle. Make sure the E-brakes cut power like they should
- **Double-check battery** make sure it's fully charged, securely fastened, and the connections are tight.

After each ride

- **Turn it off** by pressing and holding the *red power button*
- **Check for damage** to your tires, to your frame, and to your wheels
- **Charge your battery** to keep it healthy
- **Clean your bike** and don't let things get gummed up

Every three months

- **Inspect your frame and fork** paint cracks, blisters, or bulges might indicated damage
- **Check components** your seatpost, your rack, your seat, stem, handlebars, cranks, brakes—make sure nothing is bent or loose
- **Check your wiring** make sure the connectors are rust-free and don't exhibit corrosion or burning

Every six months

- **Inspect bearings** in your headset, non-electric hub, pedals, and bottom bracket. These bearings need period adjustment and replacement.

Keep an eye on bolts

- **Rear rack**
- **E-brake and brake handles**
- **Brake cable anchors**
- **Brake centering**
- **Brake pads**
- **Throttle clamp**
- **Shift lever mounts**
- **Seatpost clamp**

This schedule is recommended to ensure that your e-bike remains safe and reliable. If you're uncomfortable performing any of this maintenance on your bike, you should visit a bike shop for assistance.

Take care of your E-Bike and it will take care of you!

Limited Warranty

The E-BikeKit is warranted to the original retail purchaser when purchased directly from an authorized Electric Bike Technologies dealer or from the EBikeKit.com online store (<http://www.ebikekit.com/>), to be complete and free from defects in materials and workmanship. All Electric Bike Technologies product warranties are effective from the date of purchase by the end user provided the product is purchased in NEW condition.

Hub Motors and Parts Warranty

500w Direct-Drive Hub Motors - 2 years (up to 48 volts)

SLA (Sealed Lead Acid) Battery Packs - 6 months or 150-250 cycles

E-BikeKit Lithium Batteries—1 year

Battery chargers—6 months

Kit, Parts, and battery chargers - 6 months

Battery Packs are warranted from the date of purchase. A pack will be deemed defective if it fails to deliver 80% of nominal capacity within 6 months of purchase when discharged at 1.5C with a static resistive load following full charge with an approved charger. Please note that SLA battery packs are rated for 150-250 charge cycles. This means that their normal lifespan can be from 5-9 months or regular use. Irregular charging, deep discharges, and storage without maintenance charging can limit the life of an SLA battery. Even within the 6-month warranty period, SLA batteries that have been used heavily are not eligible for warranty.

What is Not Covered by the E-TrikeKit Warranty

"Spin Out" - Spinning out the axles inside of your dropouts - We are unable to be there when the kit is installed so it is up to you to understand the high torque involved at the dropouts and install them correctly. If your dropouts are not correctly suited to fit the axle then you should not install the kit on those forks. Get new forks, file the forks to the axle fit "flush" or contact us to return the kit. We will not refund or replace a motor that has been "spun out."

"Over Voltage" - Connecting a larger battery larger than 60 nominal volts can damage the controller, wires and/or connectors. Damaging any kit component or motor by connecting the wrong battery type is not covered under our warranty. The E-BikeKit controller will work with any 36 volt or 48 volt (60v nominal) battery pack. Using the controller with any battery larger than 60 nominal volts will void the warranty for your controller.

Water Damage to the Battery/Improperly Caring for the Battery - The battery warranty does not include damage from power surges, use of improper charger, improper maintenance or other such misuse, or normal wear. E-BikeKit battery packs are water resistant and fine for use in the rain but should NEVER be submerged in liquid.

The E-BikeKit should not be left outside in the elements. Store indoors. Damage caused by water, dropping or any collision is NOT covered under warranty.

* Batteries need to be stored fully charged and kept in a cool dry environment. They should be charged immediately after every use and never stored for long periods of time empty or without maintenance charging.

Warranties are limited to replacement of parts and/or products determined by E-BikeKit, at its sole discretion, to be defective. In cases where multiple components are missing, you may be redirected to the retailer for assistance.

E-BikeKit Limited Warranty does not cover or apply to the following: Normal wear and tear; any damage, failure and/or loss caused by accident, shipping, misuse, neglect, abuse and/or failure to follow instructions or warnings as stated on the product or in the applicable owner's manual or other printed materials provided with the product; damage, failure and/or loss caused by the use of the product for stunt riding, ramp jumping, competition, off-road use, acrobatics, trick riding or other similar activities, or use in any other manner for which such products were not specifically designed.

This warranty does not apply to any products or components, mechanical and/or electrical, which have in any way been altered from their original configuration by any person. Electric Bike Technologies LLC will not be liable and/or responsible for any damage, failure or loss caused by any unauthorized service or use of unauthorized parts.

Rentals, Commercial Use & Non- Authorized or 3rd Party Sellers:

The E-BikeKit Limited Warranty does not cover or apply to any Electric Bike Technologies LLC product used for rental or commercial purposes unless the specific product is designated, labeled or marketed by Electric Bike Technologies LLC as acceptable for rental or commercial use. All products used for rentals are warranted across the board for a period of 90 days.

The E-BikeKit Limited Warranty does not cover or apply to any Electric Bike Technologies LLC product sold by a non-authorized reseller or retailer.

The E-BikeKit Limited Warranty does not cover or apply to any replacement, maintenance or accessory parts not sold directly by Electric Bike Technologies LLC to the original retail purchaser.

Disclaimer

The E-BikeKit electric bicycle motor kit is supplied as a set of do-it-yourself parts for the user to install on their bicycle. Because this kit is installed, maintained and operated by the purchaser, Electric Bike Technologies LLC disclaims any responsibility for injury, damage or any other consequences arising from the use of this product.

Each installation will be different and therefore it is the responsibility of the purchaser to determine the best way to install the kit on their particular bicycle. The provided instructions should be considered as general guidelines only - every electric bike conversion will be slightly different. If you do not have the mechanical ability to correctly and safely install this electric bicycle kit, you should obtain the services of a professional bicycle shop or other qualified technician. Installation and use of this e-bike conversion kit will create an electric motor vehicle that has exposed moving parts, electrical connections and high powered batteries. Any or all of these components can be dangerous! Federal Law mandates that no person under the age of 16 shall operate a motorized bicycle. Always wear a helmet, ride responsibly and observe all Federal, State and Local laws.

Warranty Claims

Those parts and/or products which are determined by E-BikeKit to be defective and to qualify for warranty replacement will be provided at no charge, only after a valid warranty claim is processed by E-BikeKit Customer Service Department. Warranty claims must be made by the original purchaser by submitting a warranty service request online at <http://ebikekit.com> within the warranty period (stated above). Shipping & Handling fees will apply to all orders placed for warranty parts and/or products and will be invoiced to the customer/warranty claimant at the time said parts and/or products are shipped from E-BikeKit.

E-BikeKit, at its sole discretion, has the option of replacing with a new part, or factory re-certified part. The Limited Warranty stated herein is in lieu of and expressly excludes all other warranties not expressly set forth herein, whether expressed or implied by law or otherwise, including, but not limited to, any warranties for merchantability and/or fitness for any particular purpose. E-BikeKit shall in no event be liable or responsible for incidental or consequential losses, damages or expenses in connection with their products. The liability of Electric Bike Technologies LLC hereunder is expressly limited to the replacement of goods complying with this warranty or at the sole discretion of Electric Bike Technologies to the repayment of an amount equivalent to the purchase price of the product in question.

Federal Electric Bicycle Law
HR 727



SECTION 1. CONSUMER PRODUCT SAFETY ACT.

The Consumer product Safety Act (15 U.S.C. 2051 et seq) is amended by added at the end of the following:

LOW-SPEED ELECTRIC BICYCLES

SEC. 38. (a) Notwithstanding any other provision of law, low-speed electric bicycles are consumer products within the meaning of section 3(a)(1) and shall be subject to the Commission regulations published at section 1500.18(a)(12) and part 1512 of title 16, Code of Federal Regulations.

(b) For the purpose of this section, the term 'low-speed electric bicycle' means a two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 h.p.), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 mph.

(c) To further protect the safety of consumers who ride low-speed electric bicycles, the Commission may promulgate new or amended requirements applicable to such vehicles as necessary and appropriate.

(d) This section shall supersede any State law or requirement with respect to low-speed electric bicycles to the extent that such State law or requirement is more stringent than the Federal law or requirements referred to in subsection (a).

"We recommend you laminate this sheet and keep with you when riding"



For Additional Information Visit:

WWW.EBIKEKIT.COM

1-866-882-EBIK(3245)

Electric Bike Technologies LLC

951 River Road

Croydon, PA 19021

United States of America

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