The E-BikeKit™
Electric Bike Conversion System

WWW.E-BIKEKIT.COM

1-866-882-EBIK(3245)

E-BikeKit LLC

204 N Union Street

Lambertville, NJ 08530

OWNER'S MANUAL

The E-BikeKit™ Electric Bicycle Conversion System

The E-BikeKit™
Electric Bike Conversion System

The E-BikeKit™ 36V/500W Complete System offers the ultimate electric bicycle conversion solution. The complete system has everything you need "out of the box" to convert your conventional bike into a high-quality electric bike. Complete System includes the E-BikeKit Conversion Kit plus the E-BikeKit LiFePo4 or SLA battery & charger. This manual covers complete systems, conversion kits and both SLA or LiFePO4 batteries.

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, E-BikeKit 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 their particular bicycle. The following instructions should be considered as general guidelines only - your

E-BikeKit Product Registration Form

There is a unique serial number on the hub motor plate of every E-BikeKit hub motor.

All owner's of E-BikeKit products are encouraged to officially register their products via our convenient online Product Registration Form (http://e-bikekit.com/shop/pages/product_registration.html).

You can also cut and send the following information by mail:

- -

Product Registration

* Full Name:_____

* Address:_____

Product Registration:_____

* Full Name:_____

* Address:_____

Address Line 2:_____

* City:_____

* State/Province/Region :_____

* Postal/Zip Code:_____

* Country:_____

* Email:_____

* Serial #:_____

* Purchase Date:_____

* Product Purchased:_____

- Purchased From:_____

Send To:

E-BikeKit LLC

204 N Union Street

Lambertville, NJ 08530

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"

installation will be slightly different. **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.

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.

Conversion Kit Box Contents

1 x Front Wheel w/ Brushless Hub Motor
1 x 36 Volt 22 Amp Intelligent Motor Controller
1 x Throttle & Matching Grip
2 x Brake Handles w/ Electric Switch
1 x Battery Harness Wire (with kit or with battery)
1 x Universal Torque Arm
15 x Zip Ties (for securing the wiring to the frame)
1 x Metric Hex Key (to secure the throttle)
1 x Owner's Manual with Installation Instructions

LiFePO4 Battery box has mounting plate, brackets & battery harness. In some instances the charger may ship with the battery or with the conversion kit.

PLEASE CHECK ENTIRE CONTENTS OF BOX FOR PARTS AS THEY CAN BE PACKED UNDER THE CORNERS.

36V/500W Conversion Kit Specifications

Motor: Direct Drive Brushless Hub Motor
Power: 36v (500-750w / 20MPH) / 48v (up to 1000w / 24MPH)
Wheel: Hand-Built with 500-750w Brushless Hub Motor
Rim: Flat Profile Double-Walled
Spokes: 13 Gauge Stainless Steel
Weight: 14 Pounds
Hub Width: 85mm / 3.35 Inches (requires standard 100mm width between fork dropouts)
Range: Range is dependent on battery capacity, weight of rider, route and pedaling.

36v LiFePo4 Battery Specifications (10AH or 9AH)

Specifications:

Pack:
Dimensions: 14" x 2 3/4" x 6"(10AH) / 9AH 13” length
Weight: 11 lbs(10AH) / 9AH 9lbs
Voltage: 36 Volts
Capacity: 10 AH
Cycle Life: 1500-2000

BMS:
Over-Charge Protection: 3.85V per cell - 46.2v (12 cells)
Over-Discharge Protection : 2.3V per cell - 27.6 (12 cells)
Max Discharge Current: 25A
Max Charge Current: 5A
Short Circuit Protection: Yes
Balancing: Yes

Highlights:

* Treated to be 99% Water-Resistant (do NOT open your pack)
* Advanced compact built-in BMS (battery management system)
* Over Discharge Protection: To prevent damage to your battery, the BMS will monitor every cell in the battery pack (made of 12 cells). Over Charge, Over Discharge, Short Circuit Protection
* Lightweight impact resistant aluminum battery enclosure
* On Off Key Switch: Locks battery box to provided Rack System

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, E-BikeKit 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.

United States Electric Bicycle Regulations

For reference only. Not legal advice. Be aware that electric bikes may be considered motor vehicles in some states. It is your responsibility to know the law.

Federal law says that an electrically driven bicycle is considered a "bicycle" and the laws of bicycles apply if:

* Electrically driven bicycle has less than 750 watt motor

* Functional pedals

* Max speed is less than 20mph

Sec. 1512.2. to read as follows: (1) A two-wheeled vehicle having a rear drive wheel that is solely human-powered;
(2) 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 less than 20 mph.

Federal Public Law of "Low-Speed Electric Bicycles"
Public Law 107-319 (next page…)

dent, 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. E-BikeKit will not be liable and/or responsible for any damage, failure or loss caused by any unauthorized service or use of unauthorized parts.

Warranty Claims

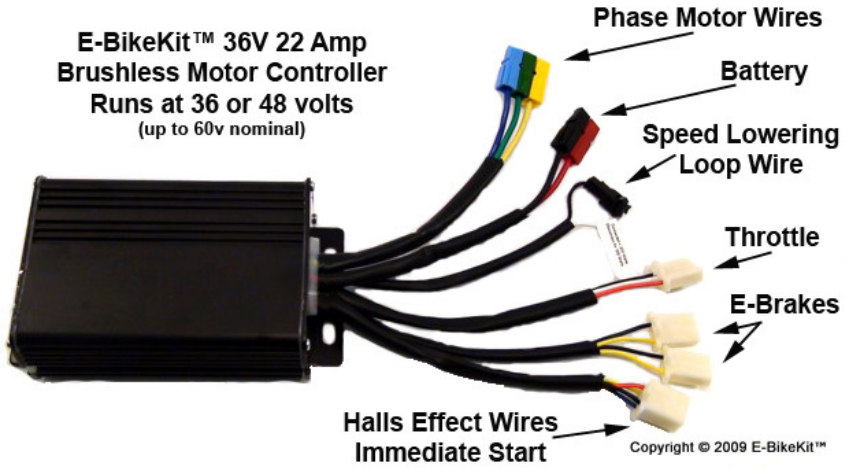
Those parts and/or products which are determined by E-BikeKit to be defective and to qualify for warranty replacement will be provided at no charge, only after a valid warranty claim is processed by E-BikeKit Customer Service Department. Warranty claims must be made by the original purchaser by contacting the E-BikeKit Customer Service Call Center (1.866.882.3245) 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 E-BikeKit hereunder is expressly limited to the replacement of goods complying with this warranty or at the sole discretion of E-BikeKit to the repayment of an amount equivalent to the purchase price of the product in question.

36v Rechargeable Sealed Lead Acid Battery Pack

Every pack ships professionally soldered in a series and is completely "Plug & Ride" with Anderson Powerpole connectors ready to connect to your E-BikeKit brand controller.

Step by Step Installation Guide with Controller Wiring Diagram



A full step by step video installation guide is posted online at: www.e-bikekit.com

IMPORTANT: You MUST only install a front hub motor on a bike with steel forks. NO ALLOY FORKS.

Alloy forks are NOT strong enough to support a hub motor. During installation and even worse during a ride, alloy forks can crack or break under the pressure of a wheel with a hub motor. It is important to tighten front wheels extremely tight when installing a hub motor and there is a strong likelihood of cracking alloy forks during installation. This could also be very dangerous if it happens while you are riding. Use your torque arms to eliminate the possibility of losing a wheel while riding and use steel forks to ensure your own safety. If you are unsure if your fork set is alloy or steel, test the fork with a magnet to ensure it's made of steel. If the magnet is NOT attracted to your fork it is an alloy fork and NOT steel. Replace your fork with a steel fork or find another

bike with a steel fork to convert. E-BikeKit™ is not responsible for damages or injuries as a result of installing an E-BikeKit™ hub motor on alloy forks.

Step 1 - Make Sure Your Bike is Suitable for Conversion

The E-BikeKit electric bike conversion system is universal and can be used to convert most conventional bicycles. However, there are a few criteria which must be met first.

Your front forks or rear dropouts need to be wide enough to accept the hub motor.

Front forks MUST be at least 100mm at the dropouts (where the axle fits into the forks). Rear conversions require 135mm of space between the rear dropouts (this is standard for most bicycles)

For front wheel conversion your bike MUST have steel forks.

The motor is very strong and there is a lot of torsional pressure at the axle. Aluminum is not meant to handle this kind of pressure and can crack. If your bike does NOT have steel forks and you want to convert using a from wheel hub motor, you MUST replace your forks with steel forks or consider finding another bike for conversion. Aluminum frames are suitable for rear wheel conversion.

Helpful Tip: To test if your forks are steel, use a magnet. If the magnet sticks to the forks they are steel and you are fine to install a front hub motor kit.

You MUST use a Universal Torque Arm.

A universal torque arm is included with every E-BikeKit. Torque arms provide increased support at the axle and are used to prevent the axle from ever "spinning out" inside the dropouts. Both from and rear wheel conversions require torque arms.

E-BikeKit 36v 9ah Cylindrical LiFePo4 - 1 YEAR

LiFePo4 Battery Packs are warranted for a period of 1 Year or 18 months from the date of purchase depending on the battery purchased. A pack will be deemed defective if it fails to deliver 80% of nominal capacity within 1 year of purchase when discharged at 1.5C with a static resistive load following full charge with an approved charger. The E-BikeKit 36v LiFePo4 will be deemed defective if it fails to deliver any discharge within 12-18 months of purchase when discharged at 1.5C with a static resistive load following full charge with an approved charger.

What is Not Covered by the E-BikeKit 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 Lithium Iron Phosphate battery packs are 99% water resistant and fine in the rain but should NEVER be submerged in liquid.

*** LiFePO4 Batteries need to be stored fully charged and kept in a dry environment.**

*** Batteries should not be submerged in liquid for any reason.**

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 acci-

IMPORTANT:

A fully charged LiFePo4 battery, not in use, will drain within 30 days.

NEVER store your battery for long periods of time completely empty, this can cause permanent damage to the cells. THIS KIND OF DAMAGE IS NOT COVERED UNDER YOUR WARRANTY.

YOU MUST CHARGE YOU BATTERY AT LEAST ONCE EVERY MONTH WHEN STORING FOR LONG PERIODS OF TIME.

Plugging in the charger will recharge the pack to full capacity at any time. You can partially charge and disconnect the charger even if the green light has not come on and use the battery, be aware that you will not have a full charge.

WARNINGS:

- Always disconnect the battery from your E-Bike when not in use. If the motor is not running the controller consumes power on standby, left connected long enough this can over-discharge the battery and cause permanent damage.
- Never use this battery for anything other than your E-Bike.
- Keep dry, the pack is 99% water resistant, but not water proof. DO NOT SUBMERGE THE PACK IN LIQUID.
- SERVICE SHOULD BE PERFORMED BY A QUALIFIED BATTERY TECHNICIAN. NEVER OPEN YOUR BATTERY PACK.

Limited Warranty

E-BikeKit products are warranted to the original retail purchaser when purchased directly from an authorized E-BikeKit dealer or from the E-BikeKit online store (http://www.e-bikekit.com/shop/), to be complete and free from defects in materials and workmanship. All E-BikeKit 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

Direct Drive Hub Motor - 2 YEARS (up to 48 volts)

Kit, Parts & Battery Chargers - 6 MONTHS

LiFePO4 Battery Pack Warranties

NOTE: Damaged caused by water, dropping or any collision is NOT covered

E-BikeKit 36v 10ah Prismatic LiFePo4 - 18 MONTHS

E-BikeKit™ is not responsible for damages or injuries as a result of installing an E-BikeKit™ hub motor on alloy forks.

Step 2 - Install the Hub Motor Wheel

Take the E-BikeKit™ hub motor wheel and place it between the forks to make sure it fits correctly. After making sure it fits you can secure the rim in place. Make sure you secure the bolts tightly and secure a universal torque arm to keep the motor from spinning within the fork. If you apply power and the axle is not secured tightly, the motor will try to turn inside the dropouts, permanently damaging the wires connecting the motor.

Torque arms should always be used. Tighten axle bolts and secure torque arm. Inflate the tire, secure the brakes and flip the bike back over. Re-install and adjust the brakes. Odds are good that the new rim and old rim are not 100% the same, so adjust the brake pads so that they engage the rim with full contact. Adjust the cable for enough free-play to keep the shoes off the wheel during rotation. Electric bikes require more attention and care to brakes since you will normally be riding at higher speeds..

Step 3 - Install the Throttle & Brake Handles

Next remove the grips from the handle bars to replace the brakes and install the throttle. The E-BikeKit™ includes two brake handles with internal magnetic switches that cutoff power and deactivate the throttle when braking. You will need to connect your existing caliper brake inner -wires to the E-BikeKit™ brake handles. After installing the brakes, install and connect the throttle. If you have a twist throttle, simply slide it onto you right side handlebar and tighten in place with the provided 3 mm hex wrench. If you are using a thumb throttle you will need to remove your right grip, slide the thumb throttle onto the handlebar, slide your right handle grip back into place and then secure the thumb throttle with the hex wrench.

Step 4 - Install the Rear Rack & Secure Battery Pack

It is a little different for each bike, but generally when installing a rear rack you'll use the axle for the lower support and the seat post for the upper support. If you are using the E-BikeKit™ 36v LiFePo4 battery pack it will come with a mounting plate that can be secured to your rack allowing you to easily slide your battery on and off and lock it in place when riding. Racks come in many styles so each installation will be different depending on the type of rack used. Make sure your battery is secure and snug so it will not move when riding. If you are unsure about how to secure the battery properly you should consult a professional.

Step 5 - Mount the Controller
Now you have to decide where you would like to mount the controller. The most common places are behind the seat or on top of the battery bag. Be sure to keep the controller in a well ventilated spot to prevent overheating.

Step 6 - Run the Wiring
For a clean install, route all of the wires toward the back of the bike and secure the wires with zip ties (included with the E-BikeKit™). Make sure you have full range of motion with the handlebars when tying back the wires and leave some slack at each zip tie.

Step 7 - Connect the Electronics
Connect the wires from the motor, brakes and throttle to the controller. The connectors from each component will only fit to the correct mate on the controller. Please consult the wiring diagram for further clarification. Please not that there is a black & white "European Suppressor Loop Wire" on the controller that limits power to the motor to 200 watts when connected. This will limit the top speed of the motor to approximately 200 watts(14 MPH). Simply disconnect the loop to enable full power and higher top speeds.

When all connections are correctly and securely attached, plug your battery into the controller. If you're using your own battery and not the E -BikeKit™ 36v LiFePo4 battery pack, you can use the wiring harness (included with the kit) to easily connect your battery pack.

Step 8 - Make Final Adjustments & Enjoy
Make sure the brakes are placed and tightened to your comfort level. Finally, make sure the brakes are adjusted, gears are tuned and everything is ready to go. That's it! Now you're ready to ride. Be careful and take it slow until you get the feel. Ride for a few miles and then come back to check everything over. Give the bolts a good tightening one more time. You should check all the components often to make sure all connections are secure, especially near the hub and at the motor.

E-BikeKit™ 36v LiFePO4 Battery Quick Start Guide (same for 10AH or 9AH battery pack)

The E-BikeKit™™ 36v LiFePo4 battery pack is the newest technology available today. This battery pack has been designed for safety, ease of use and durability. Please take the time to read this manual before operating your E-BikeKit™ LiFePO4 battery, understand how to properly operate and care for your battery pack in order to insure many years of reliable service.

Inspect your new battery:

- Keep all packing materials, foam insert and box.
- Inspect the pack, wires and charger for any visible damage, if you find anything, STOP and contact us, never use or charge a damaged battery.

Charging: Plug the charger into the pack first, and then plug the charger into the wall outlet. (The charge port is near the carrying handle).

The 3.5 amp charger will have a RED light during charging, ORANGE near the end and GREEN when fully charged. The 2 amp charger will have a red light during charging and a green light when fully charged.

IMPORTANT: For the first few cycles, avoid deep discharges to allow the charger and BMS to balance the cells in the pack for full capacity to be available. Discharging the pack completely empty is not required.

The charger will get warm during charging, do not cover the charger or leave it inside a bag, allow plenty of air for the heat to dissipate. Placing the charger on top of the aluminum battery box will help keep the charger cooler.

You can leave the charger plugged in for short periods of time(1-2 days); this will not harm the battery. The “BMS” – Battery Management System inside the battery will prevent any possible overcharge, however, it is advisable to remove the charger if the pack will not be used for an extended period of time, will extend the life of your charger.