

retrospec®

Koa **REV** **2**

Electric Fat Tire Bike - 500W



Assembly Instructions


Before your first ride

We strongly recommend taking your bike to a local bike shop after assembling so a professional, reputable bike mechanic can check your work and perform all necessary safety checks prior to the first ride. To find a Retrospec dealer near you, please visit <https://retrospec.com/pages/storelocator>. Please keep these instructions for future use and reference. Do not discard.

Congratulations on your purchase of this Retrospec electric bike! We make sure all our E-Bikes have been carefully designed and manufactured to the latest international quality standards.

Please read this instruction manual carefully and thoroughly before assembling your new E-Bike.

Proposition 65 Warning

 **WARNING!** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Assembly Instructions

Following is important information and instructions for assembling and maintaining your new electric bicycle.

Step 1: Unpacking Your Bike

1. Open the box. You may need a box knife to cut tape. Watch-out for staples and sharp edges as you lift the bike out of the box. A helper can make this easier. Do not lay the box out flat and cut the bike out as you may damage the bike. **HOT TIP:** Use needle nose pliers to remove the staples before pulling the bike out of the box. This will insure they do not scratch you or the bike.
2. Cut all packing zip ties. Detach all parts that are tied to the frame. Be careful not to cut/scratch the bike, particularly the tires and cables when removing the zip ties.
3. Do not attempt to rotate the handlebar/fork until all zip ties and packing have been removed, otherwise you may damage the bicycle. Carefully examine the carton for loose parts and make certain that no parts are remaining in the box. Keep the box and packing material for a short time in case the bike needs to be returned.
Examine your new bike for any visible damage which may have occurred during shipping. If any is found, please contact Retrospec immediately.

Step 2: Fender Headlight and Front Wheel Installation

2.1 Installing the Front Fender and Headlight

Unwrap and remove packaging from the fender and light.

Locate the long bolt, washer, and nut which will either be in the parts bag/box or inserted in the top of the fork. If it is threaded into the top of the fork arch, remove it using the 5mm hex wrench.

Slide the tab at the top of the fender in front of the fork arch hole at the back followed by the headlight mounting bracket. Insert the bolt through both and snug tight with the 5mm hex. **(Fig1)**



Fig. 1

Position the fender struts to the mounting tabs on the fork. It is okay to squeeze inward as these braces are designed to be pliable. Using the 4mm hex and 8mm open end wrench, unthread the mounting bolts. Run the bolt through the open end of the strut and fix the fork mounting tab. Thread the nut onto the back of the bolt and snug tight with the 4mm and 8mm wrenches. **(Fig. 2)**

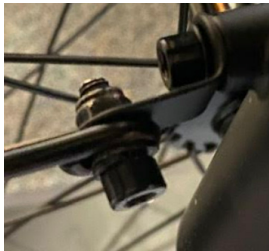


Fig. 2

Check that the fender and light are level and straight and tighten the fork arch mounting bolt using the 5mm hexwrench. We will tighten the struts after installing the front wheel, which is up next.

2.2 Installing the Front Wheel

Remove the plastic dropout protector from the fork. (Keep this in case there is a need for a return.)

Inflate the tire to make centering the wheel in the fork easier. The tires PSI range is noted on the sidewall of the tire.

Using the 17mm open end wrench, loosen the axle nuts on the front wheel. Lift the front of the bike and insert the front wheel into the fork dropouts (a helper can make this easier). Make sure the washers are also between the nut and the fork and not the fork and the hub.

Inspect the wheel to make sure it is centered in the fork and the rotor is situated in the brake caliper. Tighten each axle nut a little at a time (17mm or adjustable wrench), alternating between sides until each axle nut is properly tightened (35-40Nm).

If the fender is not straight, or rubbing the tire, that is okay! the fender braces can be adjusted or bent to center the fender. Gently adjust the fender by hand until it is straight. Tighten the strut fixing bolts at this time.

NOTE: Rear Fender Adjustment: The rear fender is installed at the factory and should be good-to-go. However, it may require some small adjustment due to shipping. Follow 2.2 step 4 to straighten as necessary or a combination of loosening the brace end bolts, retightening, and centering.

Step 3: Handlebar & Handlebar Stem Assembly (Refer to Figs. 3 & 4)

The handlebar has been pre-assembled together with brake levers, shifter levers and grips. Be sure that the longer cable is fixed to the right lever (rear brake) and shorter cable to the left (front brake). (NOTE: In some areas, such as the UK, the cables are required to be arranged in the opposite way). If your bike is equipped with hydraulic brakes, check that the line is running from the lever to the correct caliper. The stem comes installed on your bike but it may need to be aligned.

Loosen the bolts that hold the stem to the bike enough so that you can move it. Align the handlebar stem with the front wheel (See Fig. 13). Securely tighten the stem bolt(s). Note: Some models require a 5 or 6mm hex key. (5-6Nm).
Installing the Handlebar: • Loosen the stem handlebar hex bolts to remove the face plate (See Fig 14). Position the handlebar at the desired angle and reinstall the face plate. Make sure the handlebar is in the center of the stem handlebar clamp. • Tighten the handlebar clamp bolt (5-6Nm).
Be sure that your handlebar and stem assembly is properly tightened before riding. The handlebar and stem should not rotate in the stem up or down or in the fork.

Threadless:

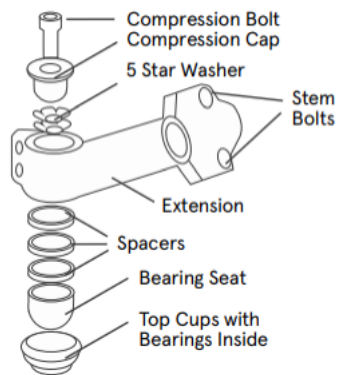


Fig. 3

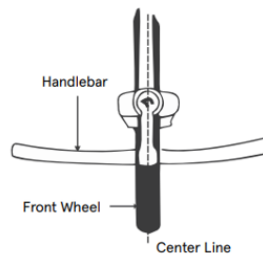


Fig. 4

Step 4: Installing Pedals (Refer to Fig. 5)

The pedals are marked with either a "R" (Right) or "L" (Left) on the threaded end of the pedal axle.

Screw the pedal marked by "R" into the right side of the crank assembly (chain side of bicycle). Turn the pedal (by hand) in the clockwise direction. Tighten securely with a 15mm open-end, 15mm pedal specific wrench, or adjustable wrench (tighten to torque: 34N.m or 26 lbs.).

Screw the pedal marked by "L" into the left side of the crank assembly. Turn the left pedal (by hand) in the counterclockwise direction. Tighten securely with a 15mm open-end, 15mm pedal specific wrench, or adjustable wrench (tighten to torque: 34N.m or 26 lbs.).

Pedal Identification:

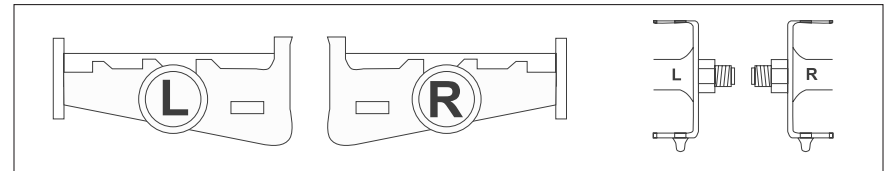


Fig. 5

The saddle may need to be attached to the seat post. If this is the case, loosen the seat clamp nut/bolt. Insert the saddle rails into the clamp. Make sure they are fully engaged by the clamp and tighten until snug. Insert the post into the frame and rotate the saddle until the top of the saddle is level with the ground. Once there, fully tighten the clamp holding the rails.

To adjust the seat height, pull the quick release lever attached to the top of the set tube outwards and adjust the seat to the desired height. Once you have the desired position, lock it in place by closing the quick release lever against the clamp. The lever should require some force to close. If it closes too easily and does not hold the post in place or if the effort to close the clamp is too great, adjust the clamping force by opening the lever and loosening or tightening the adjusting nut on the other opposite the lever

NOTE: Do not raise post above the minimum insertion mark noted on the post.



Step 5: Brake Adjustments

The brakes on your bicycle should be correctly adjusted from the factory. However, it's important to check the function of your brakes before your first ride. The following instructions are not exhaustive. We strongly suggest you take your bike to your place of purchase, professional bike shop, or certified E-bike mechanic for assembly, adjustment, and maintenance.

Basic Disc Brake Adjustment

The following instructions are not exhaustive. We strongly suggest you take your bike to your place of purchase, professional bike shop, or certified E-bike mechanic for assembly, adjustment, and maintenance.

Brake Lever and Brake Pad Travel Adjustment

You can adjust the amount of braking leverage by adjusting the brake lever travel and by the closeness of the brake pads to the brake disc

Brake Lever/Cable Adjustment

To adjust the travel of the brake lever, loosen the Locking Collar A1 (away from lever body), turn/unscrew the Adjusting Barrel A2 (what the cable enters) left/ counterclockwise which tightens cable tension and increase lever travel & leverage, this will bring the caliper brake pads closer to the disc (Fig. 6). If the pads are rubbing against the disc, reverse the process. If you have tuned the Adjusting Barrel to its maximum and the lever travel is still excessive you will have to adjust the space between the pads and the disc. Tighten the Locking Collar up to the lever body.

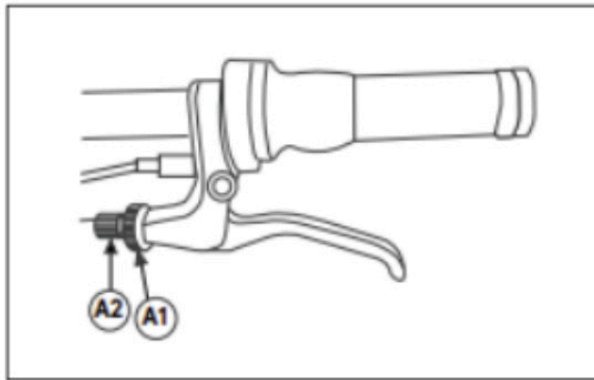


Fig. 6

Once the correct amount of travel has been reached, center the brake Caliper on the disc by adjusting screw C (Fig. 7). When the brake pads are centered on the disc the wheel should spin freely with no rubbing. Upon applying the brake(s), there may be a slight amount of noise until the pads “bed” in, this should stop after your first ride. Make sure there is no oil or grease on your hands or on the disc which can degrade brake performance.



Fig. 7

Checking Brake Pad Wear, Pad Replacement

Pads that are 1mm thick (or less) need immediate replacement (Fig. 8).

To install new pads, remove the brake caliper from the fork or frame by unscrewing hex bolts D (Fig. 9). Unscrew (left/counterclockwise), the smaller hex bolt inside hex bolt B (Fig. 10). Lift up and pull the inner pad downward, using the protruding tab. Slide a thin slot screwdriver under the outer pad and lift it up.

Hold the screwdriver in this position and remove the pad with a pair of long-nosed pliers.

Remove the springs from the worn-out pads and fit them onto the new pads.

Replace the new pads, keeping them slightly inclined into the seat of the Caliper.

Check that the spring hooks correctly onto the small piston. (When pulling downwards the pads should not come out). Refit the Caliper to the fork (or frame for rear brake).

Turn adjuster screw C (Fig. 8) until the pads are centered on the disc and the wheel spins freely. Again, there may be some noise from the brake until it “beds” in. You may have to adjust the cable tension and lever adjustment - follow previous. We strongly advise you have your brakes periodically checked and maintained by your dealer or a professional bicycle mechanic.

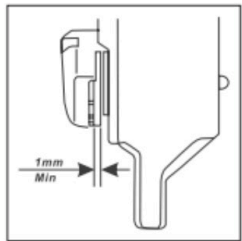


Fig. 8

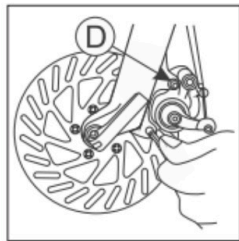


Fig. 9

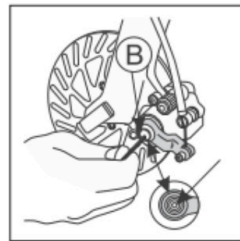


Fig. 10

Step 6: Derailleur Gears Maintenance and Adjustment

The gears/derailleur on your bicycle should be correctly adjusted from the factory. However, as cables do seat and stretch, it is important to check the function of your shifting after your first ride. Note that it is not unusual for your shifting system to need some adjustment after being used a few times.

We strongly recommend you have your e-bike serviced by your dealer or professional bike shop/mechanic.

To ensure long life and efficiency for your drivetrain system, it must be kept clean and properly lubricated. Before attempting any adjustments, make sure you understand the drivetrain components functions and feel confident to attempt such maintenance.

Left shifter controls the front derailleur and chain wheel(s); Right shifter controls the rear derailleur and rear cogset.

The largest/larger rear sprockets on the cogset are the low [speed] gears used for hill climbing and low speed technical riding; the smallest/smaller rear cogs are for cruising and high(er) speed and downhill riding.

NOTE: For good shifting and riding experience, follow these 4 actions:

- 1) Shift only when pedaling (forward), do not shift when stopped.
- 2) Do not use hard, aggressive pedal pressure while changing gears.
- 3) Never back pedal when changing gears.
- 4) Never force the gear shifting levers.

6.1 Rear Derailleur Adjustment:

There are two limit adjustment screws on the rear derailleur - High/“H” and Low “L”. Looking from the rear of the bike forward, the limit adjustments center the chain on the high/large and low/small rear cogs which prevents the chain from going over the large cog and into the wheel/left (the “H” or high adjustment screw) or into the frame/ right (the “L” or low adjustment screw).

First, the derailleur cable tension needs to be correct. Position the shifter(s) so the chain is on the smallest rear cog and largest front sprocket - check for cable slack at point “B” (Fig *8). If there is slack, loosen the cable nut or hex bolt, pull the cable tight and retighten the cable nut/bolt while pulling cable taut (tightening torque: 7Nm).

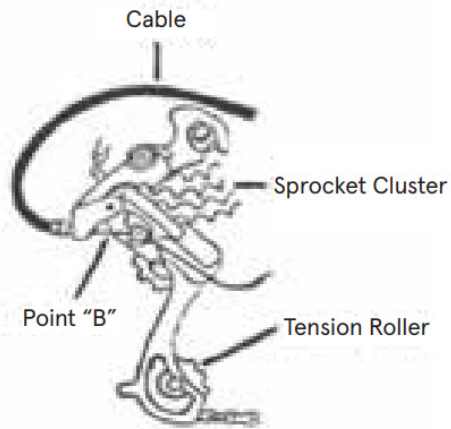


Fig. 11

High/Large Cog (“H”) Limit Adjustment

Turn the “high limit” adjust screw marked “H” on the rear derailleur so that, again looking from the rear, the upper guide pulley is below the vertical plane of the center of the top/large cog.

Low/Small Rear Cog (“L”) Limit Adjustment

Turn the “low limit” adjust screw marked “L” on the rear derailleur so that, again looking from the rear, the upper guide pulley is below the vertical plane of the center of the low/small cog.

Operate the shift lever to shift the chain from top gear to 2nd gear.

If the chain will not move to the 2nd gear, turn the cable adjusting barrel on the rear derailleur to increase the tension (counterclockwise)

If the chain moves past the 2nd gear, decrease the tension (clockwise) 2) Next, with the chain on the 2nd gear, increase the inner cable tension while turning the crank forward. Stop turning the cable adjusting barrel just before the chain makes noise against the 3rd gear. This completes the adjustment. Make sure the drivetrain is clean. We suggest “dry” lubricants for most applications.

Battery Installation & Usage.

Retrospec Koa Rev 2 48V E-bikes have the battery positioned in the down tube and ships with the battery installed. You can remove the battery by inserting the key and turning the key. It is a two-stage mechanism. The first click undoes the latch. Then make ready to catch the battery and push the black button by the keyhole towards the key to releasing the battery. To reinstall press the battery into place in a revers fashion of how it came out. Make sure it clicks into place and that it is locked.



Your battery ships in Deep Sleep Mode. To take it out of this mode, press the battery button for 3 seconds. Hold the button for 3 seconds again to put the battery back into Deep Sleep. This is used for storage of the battery when it will not see use for a while.

Procedure for Charging

Charge the bike battery according to the following procedure:

When charging the battery by AC (house/wall plug), make sure the bike is turned off. The power button on the battery is only used if you plan to not use the battery for 4 weeks or more. It can be recharged either in normal mode or in deep sleep. The button when quick pressed will also indicate the charge status of the battery via the LED lights.

Securely insert the charger output plug into the battery, then plug the main cable of the charger into a reachable AC (wall plug) outlet.

During charging, the LED on the charger pack will be RED showing charging is in process. When the light on the charging pack turns GREEN, charging is complete.

Upon full charge (GREEN light), FIRST disconnect the charger pack from the AC (wall plug); SECOND disconnect the charger output plug from the battery pack. FINALLY, close the charging socket cover on the battery - make sure it is securely closed.

Operating temperature for the battery charger is: 14F-104F (-10°C to +40°C). Do NOT disassemble the battery charger.

Use only the charger provided with your electric bike. Otherwise, damage could occur to your battery, battery charger, and void the warranty.

When charging, both battery and charger should be minimum 4 in (10cm) away from the wall, and in a cool, well-ventilated environment. Place nothing around or on the charger, while in use!

Warranty: Should any original component prove defective in terms of workmanship within its warranty period, we will replace it. Warranty period for Retrospec electric bikes is as follows:

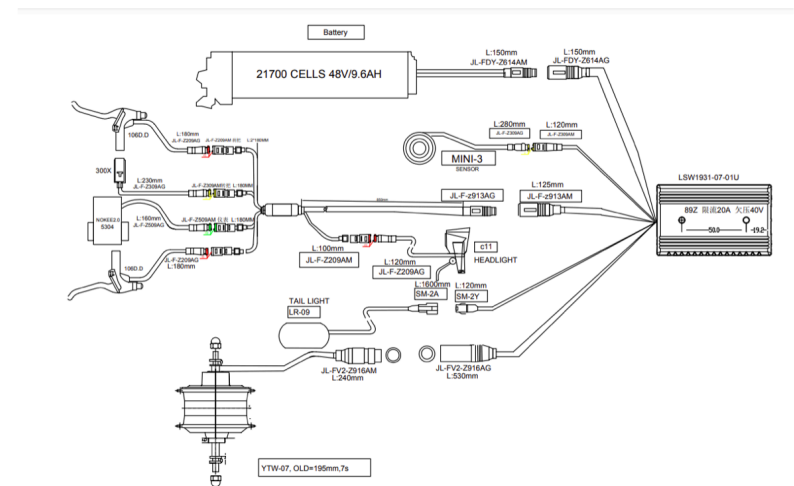
Electrical Components excluding Battery: 2 years with proper maintenance

Battery: 1 year

Frame and Fork: 1 year

All other components: 6 months

This warranty does not include labor and transportation charges. The company cannot accept any responsibility for consequential or special damage. This warranty applies only to the original retail purchaser who must have a proof of purchase in order to validate any claim. This warranty applies only in the case of defective components and does not cover the effects of normal wear, nor damage caused by accident, abuse, excessive loads, neglect, improper assembly, improper maintenance, or the addition of any item inconsistent with the original intended use of the bicycle. No bicycle is indestructible and no claims can be accepted for damage caused by improper use, competition use, stunt riding, ramp jumping and leaping or similar activities. Claims must be submitted through your retailer. Your statutory rights are not affected. The company reserves the right to change any specification without notice. All information and specifications within this manual are correct at time of printing.





Making
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