

# Sick Bike Parts.com

Congratulations – you have decided to take the next big step in Motorized Biking....



**Disclaimer:** Bicycle riding can be dangerous. Sick Bike Parts in no way approves of dangerous bike riding. Our kits and parts are strictly for the hobby enthusiast with a detailed mechanical knowledge of bicycles. People attempting this addition should have experience building motored bike kits and bicycles. The modifications shown are not for racing, speeding or nonlegal on or off highway use.

Your kit was packed with care, however to familiarize yourself with all the parts, be sure you have read through and matched all parts on the parts list. Parts List Attached.

Fit up is required and some minor adjustments may be required to fit your individual bike. All bikes are different and care must be used to set up YOUR bike as shown in this manual. We are always here to help, so feel free to contact us.

Before we begin let's first visualize all the steps in the installation process.

PLEASE follow the detailed steps within this document, but for ease of assembly the rough steps will be outlined prior to starting:

1. Remove pedals, crank arms, and bottom bracket assembly from bike.
2. Assemble the motor and motor mount.
3. Install new bottom bracket, motor and motor assembly to bike.
4. Assemble and install new chain rings, front freewheel and chains.
5. Install the throttle assembly to the handlebars.
6. Install speed control to the bike.

Here is a general list of tools and materials that you will need to complete this build:

Chain breaker  
Screwdrivers  
Knife or tin snips  
Allen wrenches  
Sockets and or box end/open end wrenches  
Grease  
Other hand tools as needed

**Failure to follow these instructions explicitly may result in loss of warranty.**

## **Step 1**

1. Remove your pedals, crank arms and bottom bracket assembly from your bike.

## **Step 2**

1. Remove the two long bolts in the locations marked in red from the motor and gear box assembly.



2. Install the longer bolts through the thick straight plate, along with the two spacers and chain tensioner as shown above. Do not overtighten the bolt holding the tensioner. It will be adjusted later.

### Step 3



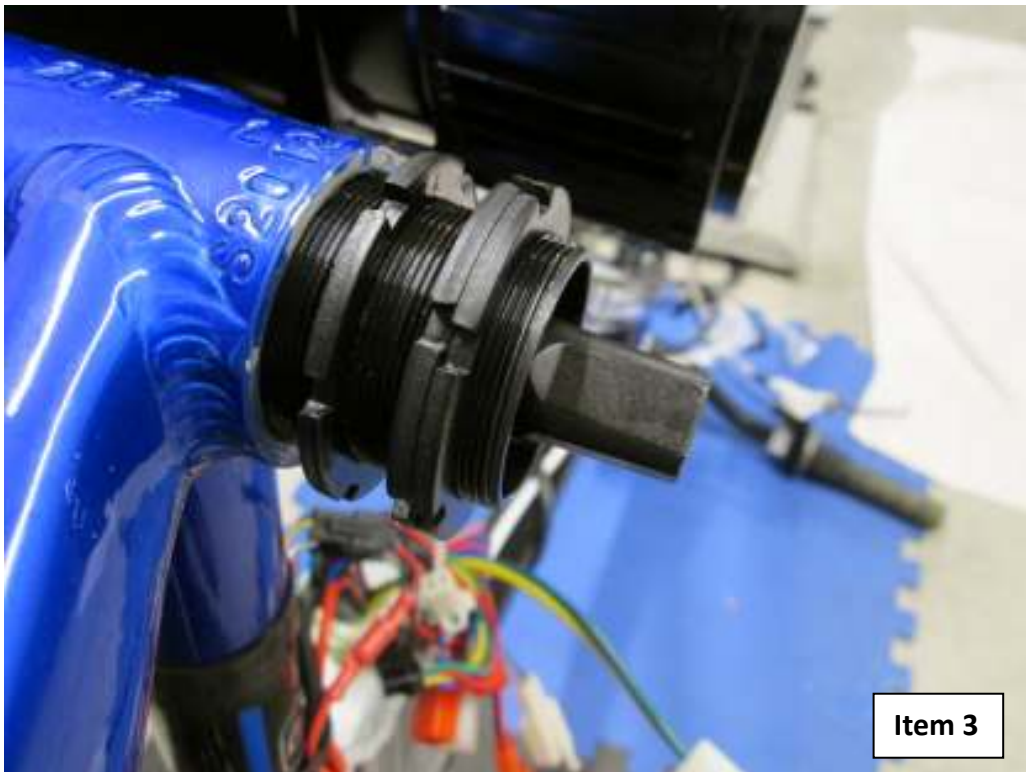
1. Install the motor to the frame using the bottom bracket as shown above. Please note these are reverse threads so counter clock wise is the direction used to tighten it.





Item 2

2. For frames with 68-73 mm bottom bracket shells, assemble the BB extension tube as show. For 83 mm bottom bracket shells omit the extra bearing. Be sure to tighten the two lock nuts against each other as this will be used to tighten this to your frame. Note these are standard threads so clockwise will tighten the assembly.



Item 3

3. Thread the BB extension into your frame and tighten it. Once it is tight then tighten the lock ring up against the frame. Separate the two outer lock rings and remove the outer most lock ring.

## Step 4



1. Remove the two bolts from the motor closest to the bottom bracket and install the bent mount plate as show above. Please note that it may take some adjusting to this bracket for it to fit properly. If it needs to be shorter then increase the bends. If it needs to be longer then straighten the bends. Once you have the plate correctly adjusted tighten the motor bolts and the lock ring.

**Note:** If you are installing this on a Fat Tire bike then then you will use the added straight plate and not the bent plate as show below.



## Step 5

1. Install the plastic chain guard to the flush side of the 44 tooth chainring with the 5 screws. The tooth bevel should be on the opposite side of the chain guard.



2. Install your freewheel to the crank by screwing it on in a clockwise direction.



Note: if your freewheel came with a black washer install it between the crank and the freewheel. Notice that one side of the washer has a groove in it. This should go against the freewheel. It is also a good idea to add some grease to the crank arm threads. If you upgraded to the HD or UHD freewheel you will not be provided this lock washer as it is not needed.

3. Install the 44 tooth chainring onto the crank and freewheel assembly as shown.

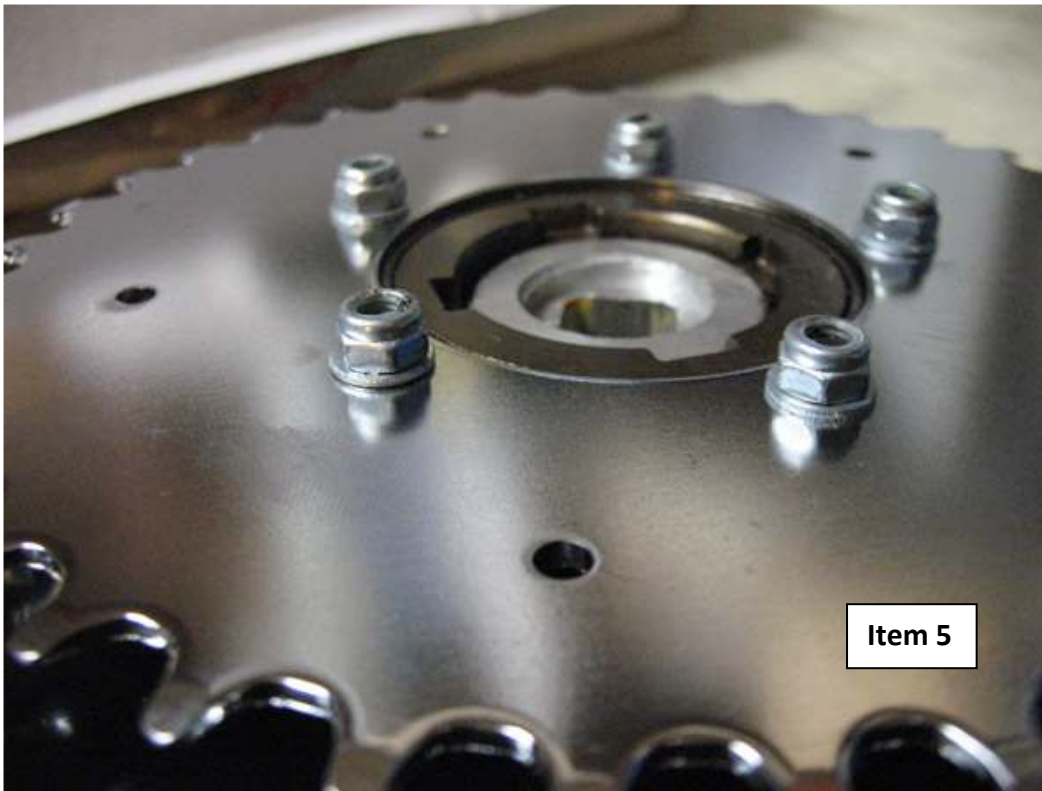




4. Next install the five 5 mm bolts through the chainring and freewheel and place the 5 spacers (6mm nuts) over the bolts up to the freewheel.



5. Position the other chainring over the bolts and spacers and secure with the small washers and locknuts. The beveled side of the teeth should be facing each other.



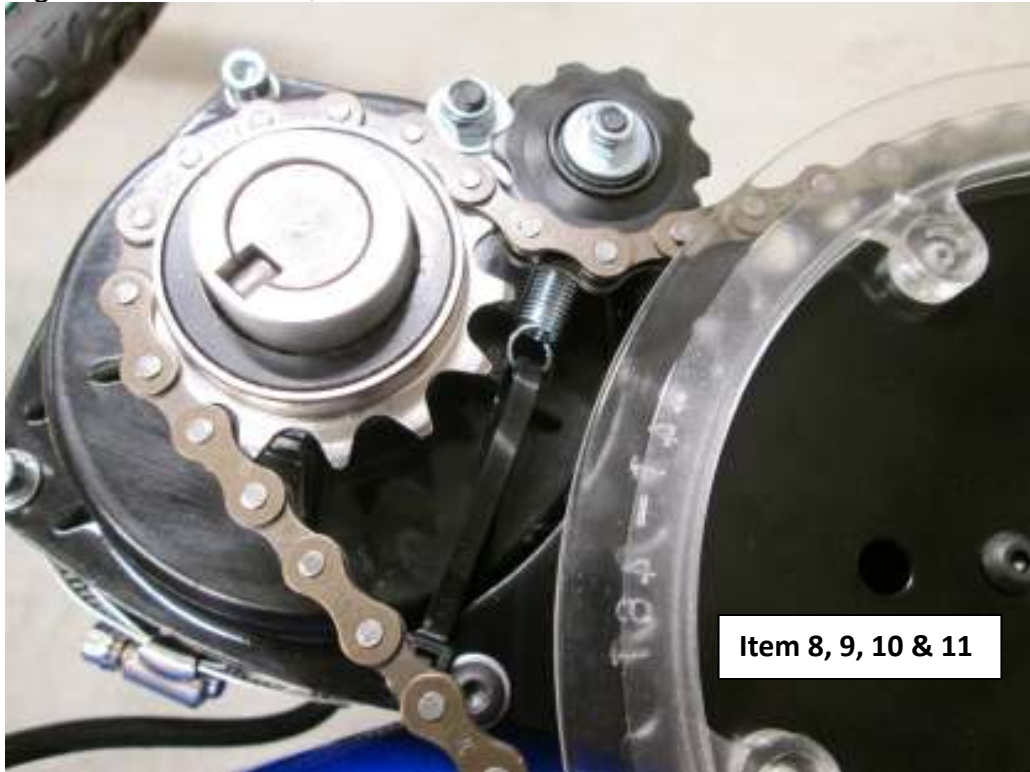
6. Install the crank, freewheel and chainring assembly to the crank spindle. Ensure the right and left cranks are pointing in opposite directions.  
**Be sure to put your bike chain around your bottom bracket before you install the right crank and freewheel assembly.**
7. Install the bike chain onto the inner chainring.



8. Install the set screw into the motor freewheel hub and place it onto the motor shaft as shown. Do not tighten the set screw as there will be some adjustments made for chain alignment later.



9. Install the outer chain onto the chainring and motor. Use the provided chain. You will need to splice this chain. A half link has been provided to assist in getting the perfect chain length.
10. Align the chain by moving the motor freewheel hub in or out to get proper alignment. Then tighten the set screw, a little Loctite is recommended.



11. Use the tie wrap to attach the tensioning spring.

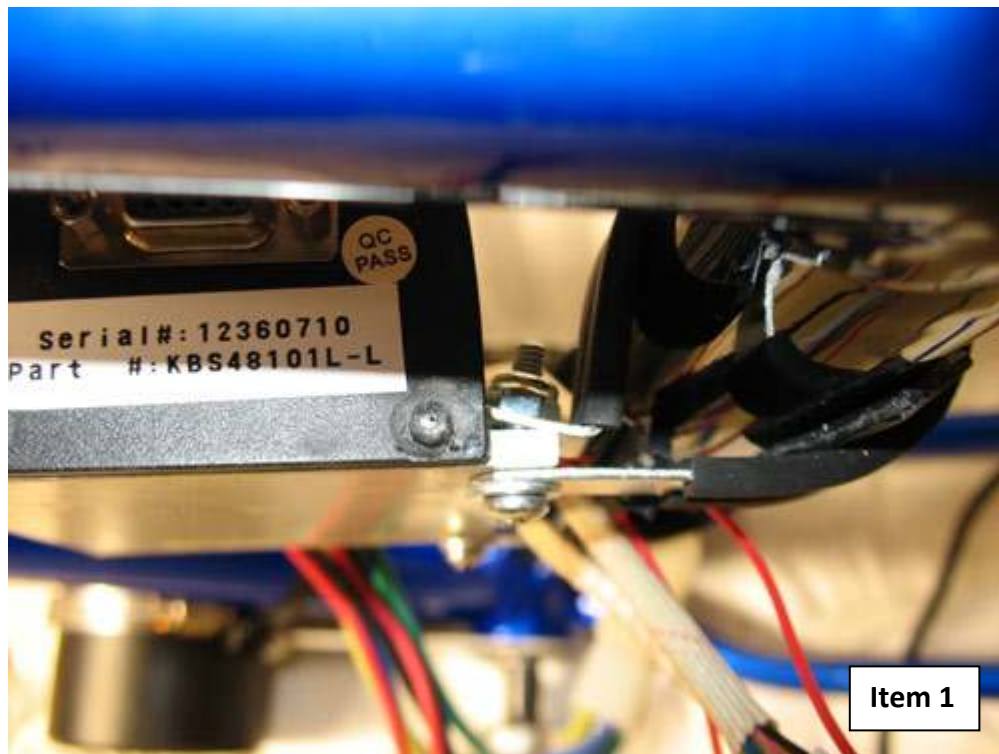
## Step 6

1. Install the large hose clamp over the motor. Then strap the motor to the down tube using the tie wrap around the down tube and through the hose clamp.



## Step 7

1. Install the speed control using the straps and hardware supplied.



2. You can install it on the top tube or the seat tube.





## Step 8

1. Install the throttle to the handlebars.



2. Install your grips after installing the throttle.



## Step 9

### Final installation Steps

1. Ensure to rout all wires in a clean, logical and safe manner. Use tie wraps or electrical tape as required.
2. A grip shifter or “rapid fire” shifter is an excellent addition to ensure safe operation of your motorized bicycle. It allows you to up-shift and down-shift easily without taking your hand off the handlebars. Since you most likely do not have a front derailleur it can simply be mounted on the left side of your bars.

### Batteries

We recommend the following sources for batteries.

**EM3ev** - <http://em3ev.com/store/index.php?route=common/home>

**Ping Battery** - <http://www.pingbattery.com/servlet/StoreFront>

Batteries are probably the biggest overall investment in electric vehicles. It is wise to buy good quality batteries and learn how to properly take care of them. They can last a long time both run time and overall longevity if properly cared for.

### Your first ride

Take your bike out for a spin under pedal power. Make sure that everything is moving feely and that your shifting mechanism is working correctly. After a few minutes pedaling, double check that all your hardware is tight and check your chain tension. Readjust as necessary. You may find that in your top gear that the 2 chains get very close to each other. Pay close attention to this. Each bike is different and due to many factors these chains may touch which is an unacceptable condition. To increase the clearance you can try a few things. You can increase the space between your rear cassette and chain stays by adding a spacer to the right side of your axle and remove the same amount of space from the left side of the axle which will move the cassette closer to the center of the bike. You can also add a washer in between the front freewheel and the large front chainring to each of the 5 bolts which will space the chainrings farther away from the other.

### Shifting

When attempting to shift your bike for the first time under power we recommend you back off the throttle slightly before making a shift. This will relieve a little force from your derailleur and allow smooth shifts. Also be sure to roll the throttle back on slowly. Due to the slack that exists in the chains combined with the 2 freewheels your motor can free rev for a split second as you add power after a shift. This can cause excessive force to be applied to the drive train and cause damage to your rear axle, hub or cassette. With some practice you will be able to shift quickly and not overly stress the drive train.

Remember to downshift when coming to a stop.

**A note on electrics: electric motors have a ton of torque so in reality you could accelerate from a stop in say 3<sup>rd</sup> or 4<sup>th</sup> gear and it would work. However, this puts a lot of stress on the motor.**

Keep the motor spinning at higher rpm's. Essentially it is the opposite of a gas engine, you don't want to over rev a gas engine but you do want to over rev an electric. Do not lug or work the motor. Be sure to only ride for a few minutes and then double check all your hardware and chain tension. Also check for heat at the speed control and motor.

## Maintenance

This kit is relatively maintenance free but you should maintain your chains, derailleur and front freewheel. Keep your chains clean and use appropriate lubrication on them, do not use WD-40 on chains. Keep all moving parts of your derailleur especially the idler sprockets clean and well lubricated. Your front freewheel should also be lubricated periodically. We recommend that you follow our Freewheel maintenance instructions found on our website.

## Parts list

Item	Description	Qty
1	3000W brushless motor	1
2	Freewheeling motor sprocket w/set screws	1
3	Compact Blue Tooth Controller	1
4	Throttle with battery voltage indicator & main power switch	1
5	Motor mount kit with motor brackets	1
6	Battery Pigtail for ease of connecting to any style of battery	1
7	Grips	1
8	44Tooth Chainring	1
9	36 Tooth Chainring	1
10	HD 410 Chain	1
11	1/2 link (410 Chain)	1
12	Chainring hardware	1
13	Chainring guard	1
14	Mount hardware for controller	1
15	Crank Freewheel	1
16	153 mm bottom bracket cartridge	1
17	Left and Right Freewheel Crank	1

## Contacts and additional information

For questions or comments visit us at:

[www.sickbikeparts.com](http://www.sickbikeparts.com)

For additional information on Motorized bicycles go to:

[www.motoredbikes.com](http://www.motoredbikes.com)

[www.motorbicycling.com](http://www.motorbicycling.com)

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