

# T ECHNICAL INFORMATION



PRODUCT

P 1 / 8

**Model No.** ▶ BBY180

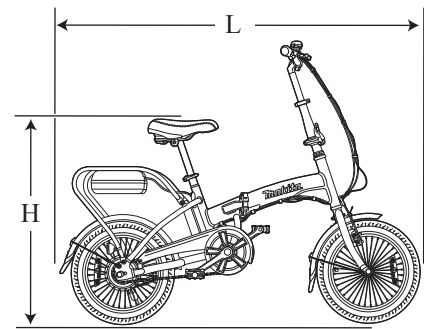
**Description** ▶ Motor-assisted Bicycle

## CONCEPT AND MAIN APPLICATIONS

Model BBY180 is the first motor-assisted bicycle in power tool industry. Its main features are;

- Motor-assist function featuring 5 level adjustable motor-assist
- Powered by conventional Makita 18V Li-ion battery, enabling to get the power source easily in job site, etc.
- Compact, foldable frame design for easy transport and storage in tight space such as a car trunk.

This bicycle is able to work on either a single 18V Li-ion battery or two batteries connected in parallel for longer travel distance in motor-assist mode, and is compatible with both 1.3Ah battery BL1815 and 3.0Ah battery BL1830.



Dimensions: mm (")		
Condition	when unfolded	when folded
Length	1,450 (57)	820 (32-1/4)
Width	570 (22-1/2)	450 (17-3/4)
Height	910 (35-3/4)	700 (27-1/2)

## ► Specification

Specifications		Model No.	BBY180
Battery	Cell		<b>Li-ion</b>
	Voltage: V		<b>18</b>
	Capacity: Ah		<b>1.3/ 3.0</b>
	Energy capacity: Wh		<b>24/ 54</b>
	Charging time (approx.): min.		<b>15/ 22 with DC18RA</b>
Motor type			<b>DC Brushless</b>
Max. output: W			<b>100</b>
Travel distance in level 3 motor-assist mode on a single fully charged battery: km (mi.)			<b>[8.5 (5.3) on a BL1830/ 4 (2.5) on a BL1815]*1</b>
Battery location			<b>Under rear rack</b>
Wheel size: mm (")			<b>Front: 406mm (16), Rear: 406mm (16)</b>
Foldable frame			<b>Yes</b>
Battery fuel gauge			<b>Yes (5 levels)</b>
Motor-assist function			<b>Pedal speed sensor type</b>
Adjustable motor-assist			<b>Yes (5 levels)</b>
Human-power to motor-assist ratio			<b>1 : 1.2</b>
Speed gearing			<b>Single</b>
Material of frame			<b>Aluminum</b>
Net weight*2: kg (lbs)			<b>20.8 (45.9)</b>

\*1: Shown here are theoretical values when a person weighing 75kg rides this product on a flat concrete ground under calm weather condition. The actual value in practical use may vary depending on weather, road surface and other various conditions.

\*2: with two BL1830 batteries

## ► Standard equipment

Front light ..... 1

**Note:** The standard equipment for the tool shown above may vary by country.

## ► Optional accessories

Battery BL1830

Battery BL1815

Fast charger DC18RA

Charger DC18SD

Charger DC24SC

(for all countries except North America)

Automotive charger DC18SE

## ► Repair

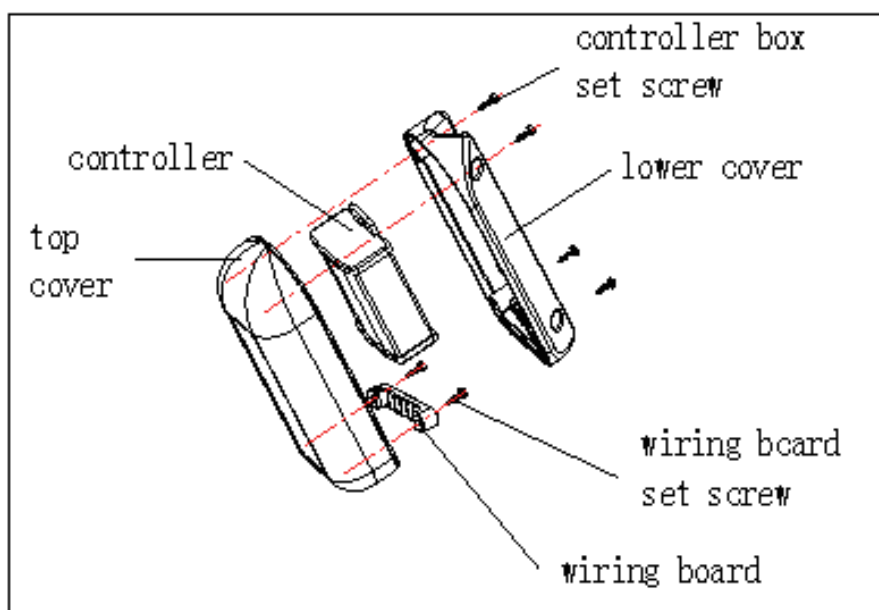
### MAKITA Motor-assisted bicycle parts replacement instructions

#### [1] The replacement of controller

As below, first use cross screwdriver remove the controller box set screw, take down the front cover and the controller; then use cross screwdriver to take down the controller box wiring board set screw, to separate the controller and controller box, then disconnect all outlet plugs, replaced with new controller, repeat the above installation, the opposite action.

Attention:

1. Before replacing the controller to take down the battery.
2. Install the controller box in the upper and lower cover, be careful not to press to the wire.



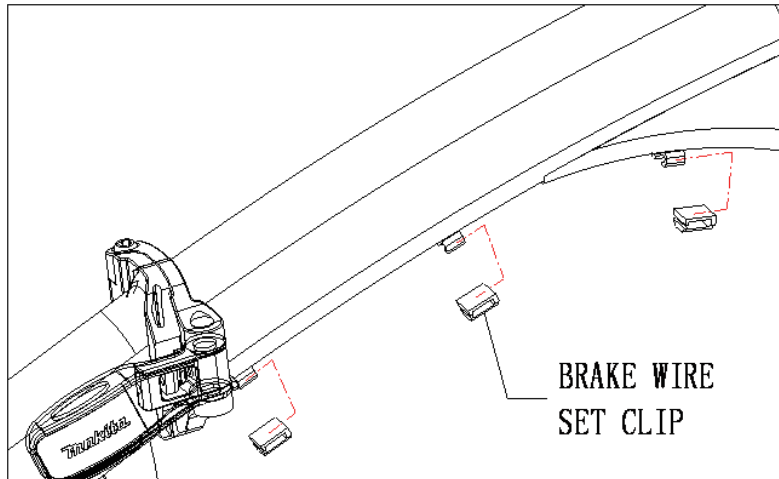
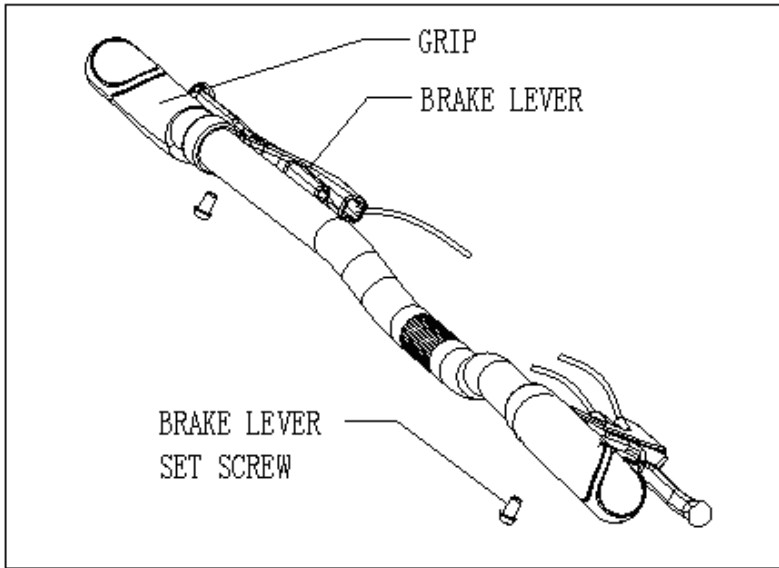
#### [2] The replacement of brake lever

First replace the brake to match the brake wire to take down, then take down the grip from the handle bar, use 5mm Hexagon wrench to release the brake lever set screw, then the brake lever control wire removed from the frame wire clamp to remove, at this point according to 1 method of the controller box opened, Extract the plug of brake lever control wire, exchange the new brake lever, when install repeat the above action contrary.

Attention:

1. Before replacing the brake lever to take down the battery.
2. Locking force of not less than 18N.m.

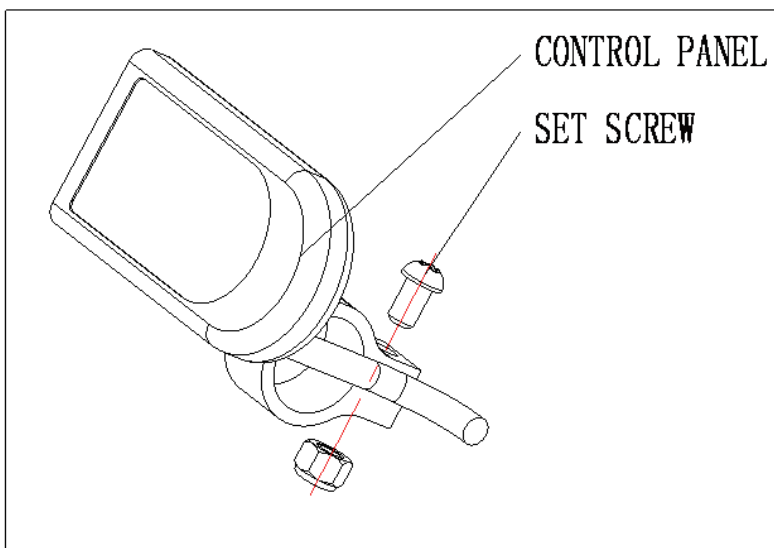
► **Repair**



**[3] The replacement of control panel**

Use cross screwdriver the control panel on the release from the handlebar, then the operating procedure is the same with the replacement brake lever.

Attention:  
Before replacing the brake lever to take down the battery.



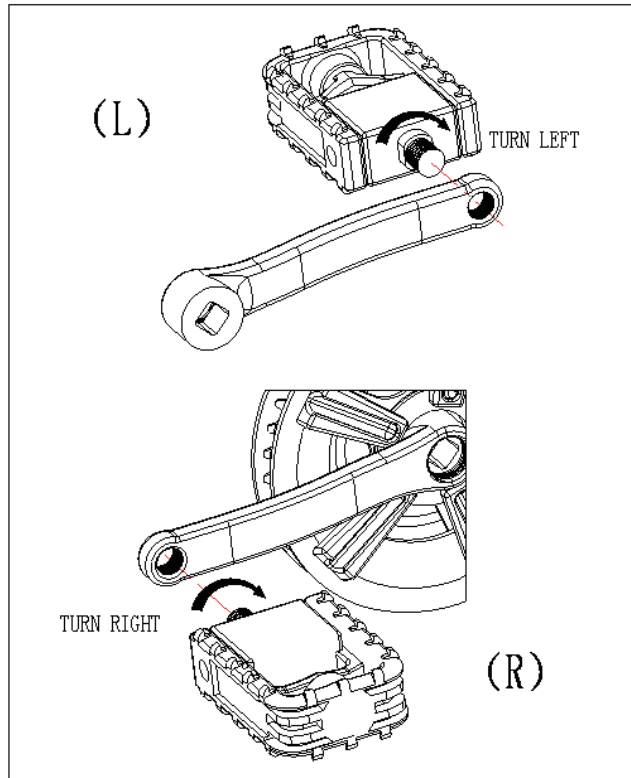
► **Repair**

**[4] The replacement of pedal**

Use 15MM open end wrench to take down the damage the pedal, can be replaced with new.

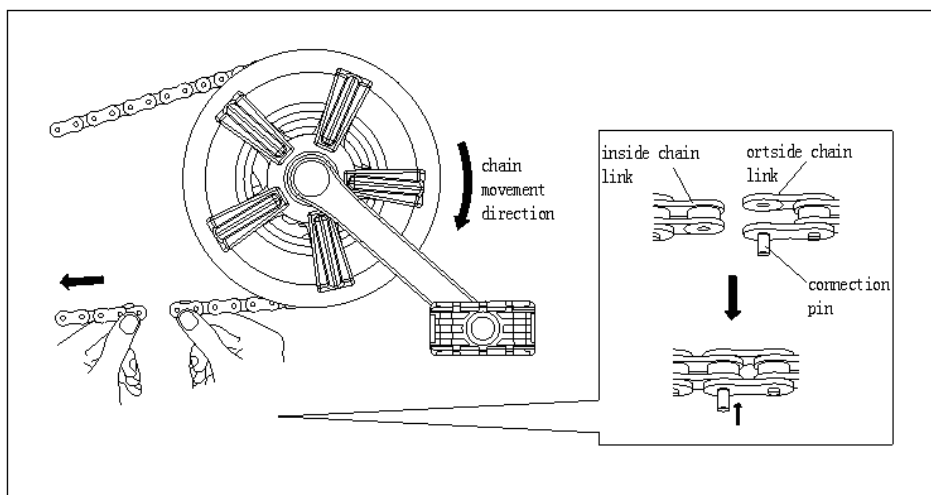
Attention:

1. Pedal thread direction as shown below.
2. Locking force of not less than 45N.m.



**[5] The replacement of chain**

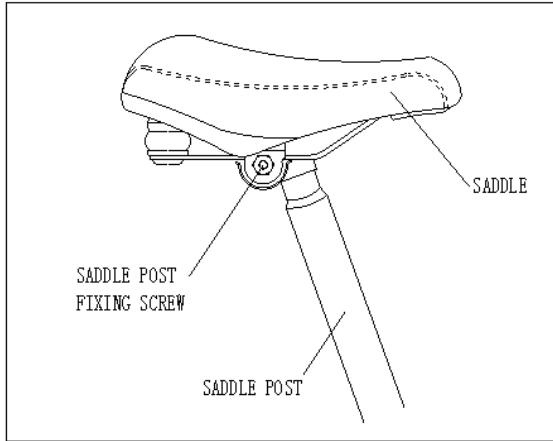
When replace the chain, please use the chain special-purpose tool, according to under chart method to replacement.



**[6] The replacement of saddle post**

Use 13MM open end wrench to take down the saddle post screw and saddle post, replaced with new saddle post, Lock the screw.

## ► Repair

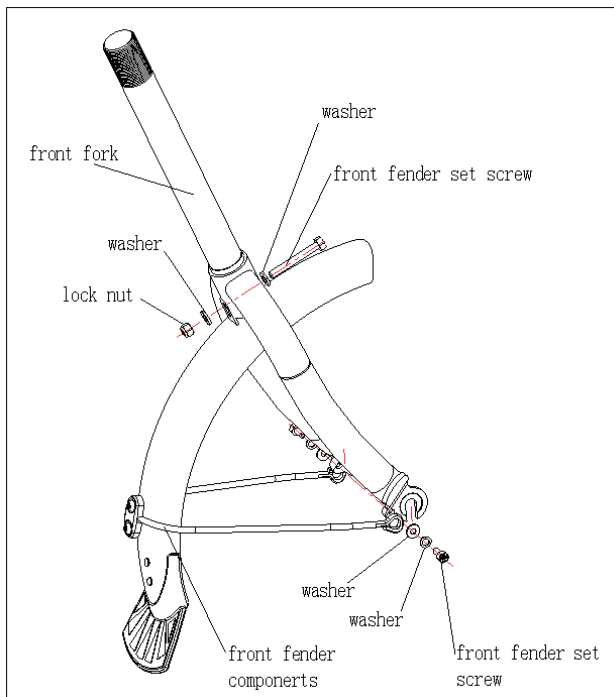


### Attention:

1. Loosen or tighten screws, we should operate on both sides of alternating.
2. Install the saddle and the saddle post, note the angle, make the saddle to keep the level (may as well saddle post) into the frame, after angle adjustment, again lock to screw.
3. Locking force of not less than 30N.m.

### [7] The replacement of front fender

The following chart shows, front fender fixed have three groups of screws, the above bolt is unloads with cross screwdriver and 10MM open end wrench, the following side is unloads with 10MM open end wrench, to be taken down the front fender components.



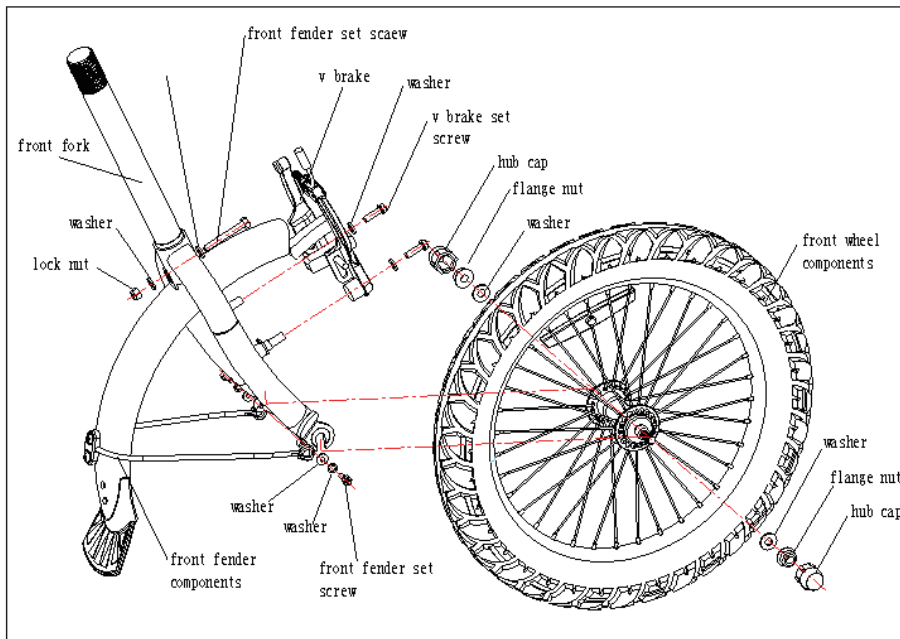
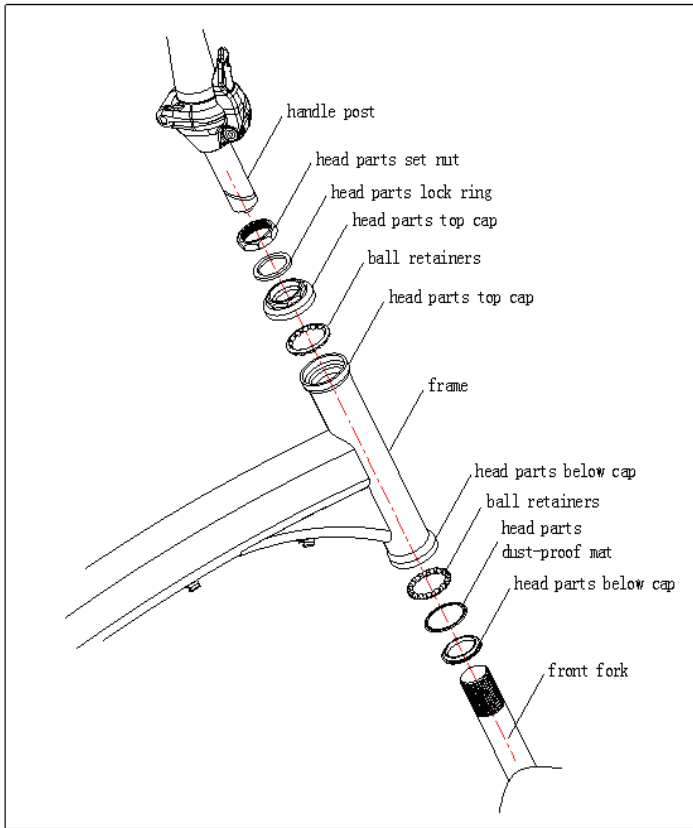
### [8] The replacement of front fork

Before replacing the front fork, must take down with the front fork related components, then may exchange the new front fork, this batch of components include:

1. Front wheel components, use 15MM open end wrench. Locking force of not less than 30N.m.
2. Handle post components, use 6MM hexagon wrench. Locking force of not less than 30N.m.
3. Front fender components, use cross screwdriver and 10MM open end wrench.

## ► Repair

- 4. Front V brake, use 5MM hexagon wrench. Locking force of not less than 18N.m.
  - 5. BB parts, use 36MM open end wrench. Locking force of not less than 20N.m.
- Parts assembly relation, the following chart shows:



## ► Repair

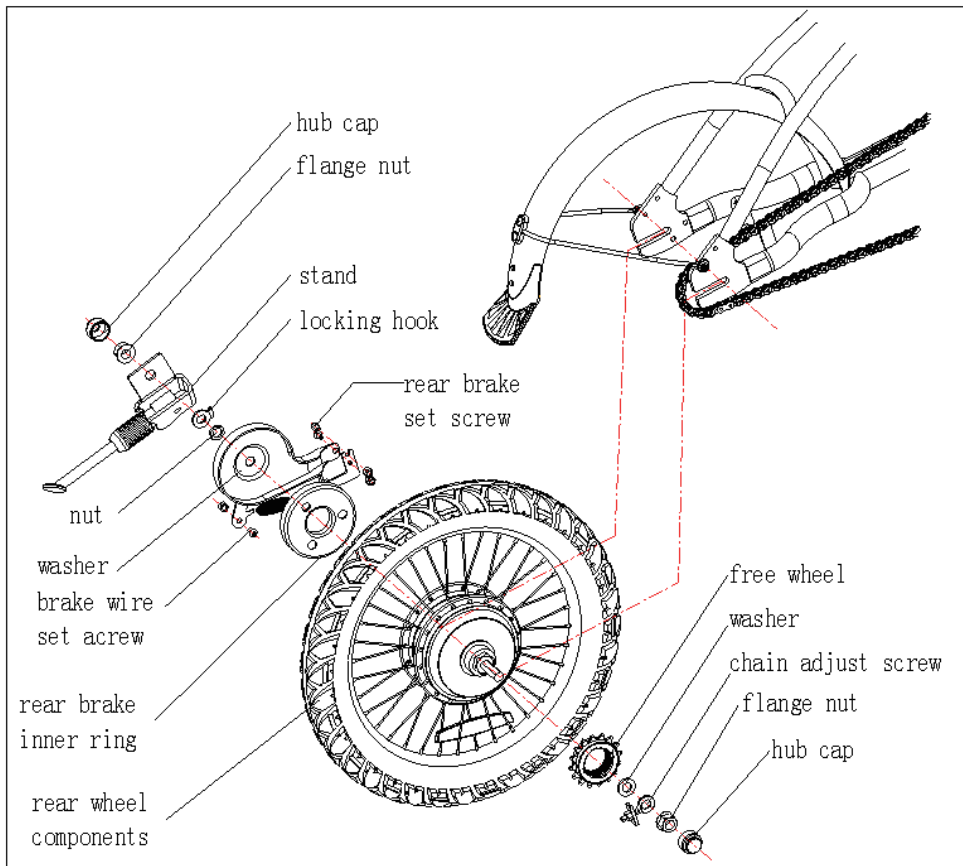
### Attention:

1. When installing handle post, please note that installation angle, the suggestion tightens in advance the handle post set screw, after handle bar angular adjustment is good, then locking this bolt.
2. When install the front wheel, pay attention to the tire pattern direction.

### [9] The replacement of rear wheel components

Before replacing the rear wheel components, must take down with the rear wheel related components, the step is as follows:

1. According to 1 method, opens the controller box, disconnect the motor connector line and the controller connector. Take down the both sides hub cap.
2. Use 10MM open end wrench, Loosens the screw of rear brake wire, check the brake wire to pull out. Use cross screwdriver and 8MM open end wrench, take down the rear brake set screw (two groups of screws), remove the rear brake and frame's fixed.
3. Use 18MM open end wrench twists off the axis both sides flange nut, and take down the related components in turn according to under chart.
4. Use the special-purpose tool to disassemble the flywheel and rear brake components.
5. Exchange the new rear wheel components, Install on the frame according to the above opposite step.



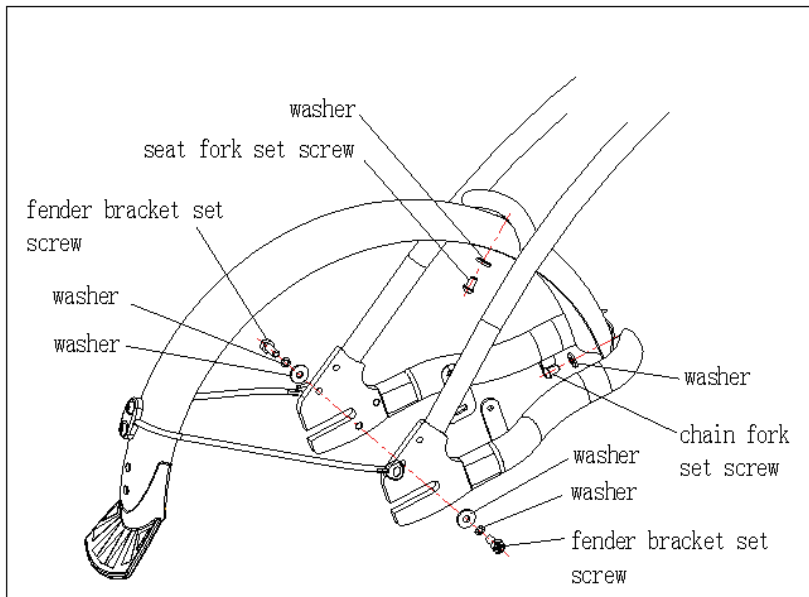
### Attention:

1. Note the direction of the flywheel when installing, has the character side is inward, four lack one side is outward.
2. When disassemble the rear wheel, may adjust on the chain bolt's nut to loosen first, Separate from the chain and the front big gear crank, such easy to operate, install the adjustment chain link loose and tight please to defer to the request of the product instruction.
3. When install please note the angle of the stand, parallel with the ground to make contact with the stand bottom.
4. The rear wheel flange nut locking force of not less than 45N.m.
5. Screw with fixed brake wire locking force of not less than 18N.m.

► **Repair**

**[10] The replacement of rear fender**

The following chart shows, fix of the front fender there are four sets screws, use cross screwdriver to twist off separately, can be taken down the front fender components.



**[11] The replacement of battery box**

Battery box assembly is as shown below:

According to 1 open the controller box. Pull out the wiring terminal, solder the bullet wiring terminal open, The wire is pull out from the seat post of frame. Use cross screwdriver take down upper cover screw and lower cover screw (6pcs), separation of the battery box up and down, use cross screwdriver take down the fixed screws of battery box and the frame (4pcs), now can be battery box Exchange the new battery box connected to the wire.

Attention:

The within component of battery box have been installed. Do not need the repackaging, only need according to above step installment.

