

# ENGWE-BIKES



## **Operation and maintenance manual**

**Before using the e-bike, please read the attached  
operating instructions.  
Carefully read the safety rules.**

## **IMPORTANCE**

When using the electric bicycle, basic safety precautions should always be followed, including the following:

1. Read all instructions.
2. To protect against fire, electric shock and injury to persons, do not immerse cord, plugs, or e-bike in water or other liquid.
3. Close supervision is necessary when the e-bike is used by or near children.
4. Unplug from outlet when not in charging and before cleaning.
5. Do not operate the e-bike with a damaged cord or plug or after the e-bike malfunctions, or has been damaged in any manner. Take the e-bike to the nearest authorized service bike shop for examination, repair or adjustment.
6. The use of accessory attachments not recommended by the e-bike manufacturer may result in fire, electric shock or injury to persons.
7. Do waterproof when using on a rainy or snowy day.
8. Do not let cord hang over the edge of table or counter, or touch hot surfaces.
9. Do not place on or near a hot gas or electric burner, or a heated oven.
10. Always attach the plug to the battery first, then plug the cord into the wall outlet.
11. Do not use the bike for other than intended use.
12. Save these instructions.

## **SAVE THESE INSTRUCTIONS**

# ENGINE X



\* Please note that this is a general manual. So, the frame style of the electric bicycle (e-Bike) that you have may differ from the picture shown in this manual.

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**PLEASE NOTE:**  
This manual is not intended as a detailed user, service, repair or maintenance manual.  
Please seek assistance from a qualified technician for service, repairs or maintenance.

## **Read This First: Safety and Compliance with the Law**

Congratulations on your purchasing of your new e-bike. Your new e-bike is an excellent piece of personal transportation equipment that will give you good service for many years.

Before you start using your e-bike, we want you to be aware of a few important points.

Please read this section carefully..

- **Observe Laws Regarding the Use of Battery-Operated Bicycles**

Your e-bike is designed and manufactured to meet safety requirements as a battery-operated bicycle. However, state and local laws governing the use of battery-operated bicycles on public roadways, parks, and other open areas may differ. Please check with your local authority before using your e-bike in public areas.

- **Observe Laws Regarding the Use of Bicycles**

Note that all laws regarding the use of bicycles in public areas, such as those mandating the use of helmets and the use of infant seats, will automatically apply for e-bikes. Check with your local authority on what restrictions might apply-

- **The Lithium-ion Battery of Your e-Bike**

Your e-bike is equipped with the latest battery technology. The lithium-ion battery is much lighter than lead- or nickel-based batteries that are being used in some older models.

- **Your First Ride**

Please be VERY CAREFUL when you are ready to get on your e-bike for the first time because that the e-bike moves significantly faster than a regular bicycle at active power-assisted mode. Take your e-bike to an area with a lot of open space before you start. Do not start pedaling hard as soon as you get on the e-bike (as you normally would be with a regular bicycle), as the e-bike will accelerate under pedal-assist mode and you may be unprepared for the sudden increase in speed. However, after a few times, you will enjoy using the pedal-assisted function.

## Assembling Your New e-Bike

If you purchased your e-bike unassembled, please follow these instructions to assemble your e-bike under the guidance of an adult or a qualified technician. Assembly is quite easy as most of the parts are already assembled; you need only to put a few large pieces together to complete the job.

For more information, please refer to this website: [www.engwe-bikes.com](http://www.engwe-bikes.com).

### ● Name of each Part



- **Check that the Package is Complete and Undamaged**

Your e-bike comes in a carton containing the following:

The main body of the e-bike - consisting of the frame, the rear wheel, the gear and chain, the rear brake, the battery in the frame, the rear fender.

- ◇ The handlebar subassembly with the battery's keys that attached on it - the handlebar subassembly is not really separate, as it is connected to the main body by the brake cables and electrical wires. The handlebar also has the brake levers and gear control already assembled. Additionally, the right handle also has an integrated control for the throttle mode power-assisted, a display panel.

- ◇ The Seat - the seat is attached to its pedestal stem.

The front wheel

- ◇ The front wheel fender with supports
- ◇ Front light -the front light is not really separate, as it is connected to the main body by an electrical wire.
- ◇ Tools and other parts -One multi-tools, one charger, a pair of foot pedals and this manual, they are contained in a separate box.

- **Assembly - Step 1: Attach the handlebar subassembly**

Stand the main body of the e-bike on the kickstand. Stand up and lock the steering column that is at the front of the main body frame, insert the stem of the handlebar subassembly into it. Make sure that the fork (that will hold the front wheel) is pointing forward, and orient the handlebar accordingly. Insert the stem all the way and tighten from the top using the quick lock.

Insert the stem of the handlebar  
to the steering column.



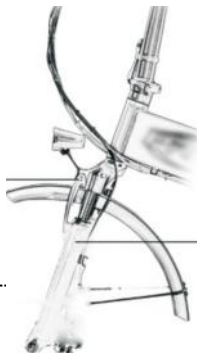
Stand up and lock  
the steering column.

- **Assembly - Step 2: Attach the Front Wheel Fender and the Front Light**

Make sure that the fork from the steering column is pointing forward. Place the front light and the front fender within the fork: locate the small projection with a screw hole at the top of the fender, fit it to the bolt at the back of the base of the steering column; attach the supports (one on each side) to the base of the fork using two small bolts (supplied). After all three points (the dorsal point and the 2 support points) are properly attached, use the multi-tools to tighten.

Fix dorsal point to base of  
steering column

A support point on-----  
each side

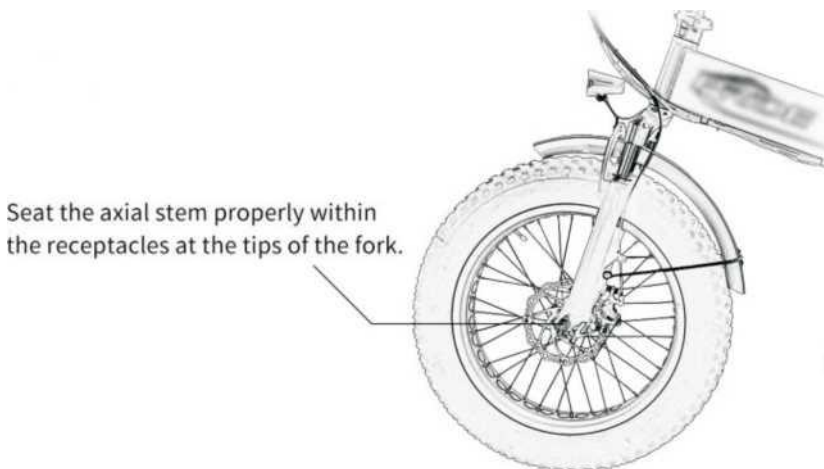


Make sure "fork"  
points to the front



- **Assembly - Step 3: Attach the Front Wheel and Adjusting the Front Brake**

Make sure that the fork from the steering column is pointing forward. Remove the protective bar from the front fork, place the front wheel within the fork and the brake disc within the brake block, seat the axial stem properly within the receptacles at the tips of the fork, and tighten the nuts with the multi-tools. Make sure that the front wheel moves freely and does not wobble from side to side. Reposition the wheel and re-tighten if necessary.



Test the brake by lifting the front of the e-bike and setting the wheel in motion (turn it) and apply the brake at the handlebar to stop it. If you could not set the wheel in free motion, or if you could not stop it by applying the brake, you need to re-adjust by increasing or decreasing the clearance.

Caution: Do not operate the e-bike until you are satisfied that both the front and rear brakes are operational.

- **Assembly - Step 4: Installing the Seat and Pedals**

Insert the pedestal stem of the seat into the seat column of the main body frame, use the built-in lever to tighten.

Attach a pedal on each side of the crank, tighten with the multi-tools.

Inflate the tires to proper pressure.

At this point, your e-bike is a completely functional bicycle, although without any battery operated to function as yet. Check all tightening points to make sure. Take a short ride. Adjust the height of the handlebar, and the height and the tilt of the seat, if necessary, for maximum comfort.

- **Assembly - Step 5: Charging the Battery**

Remove the charger from the box, attached the power cord and insert that to any wall outlet. Insert the plug at the end of the smaller cable into the charging terminal of the battery and start charging. The charging terminal is on the side of the battery opposite to a hole on the side of the frame. The LED on the charger glows RED while charging and glows GREEN when charging is complete. The battery should be turned OFF while being charged. When the LED on the charger turns Green, disconnect the charging cord and cover the charging terminal with the rubber cap.

If a battery is installed on the e-bike and turned ON, the display panel will show the charge level of the battery when the bike turned ON.

You are now ready to start using your e-bike.

# Operating Your New e-Bike

The method to turn on the bike is: I, twist the battery lock counterclockwise to the end to turn on the battery; II, press power button on the left handle bar until the display lights on; III, ride on the bike and twist the throttle bar or pedal the bike, the bike will move, you can change the power level with control buttons, level 1 is the slowest and level 5 is the fastest, level 0 is human model.

Your e-bike is driven by a motor embedded in the hub of the rear wheel. The motor is powered by a battery. The amount of power delivered to the motor, and hence the accelerating force on the e-bike, is controlled by you in a way according to the power-assisted mode or full power mode you choose.

You can configure the e-bike to operate in the pedal-assist-only-mode or the full power mode (should check against local laws to ensure full power mode is permitted) where you can also use the hand throttle to deliver power to the motor.

- **Your First Ride**

(Reprinted from the Safety and Compliance with the Law section)

Please be VERY CAREFUL when you are ready to get on your e-bike for the first time because the e-bike moves significantly faster than a regular bicycle at active power-assisted mode. Take your e-bike to an area with a lot of open space before you start. Do not start pedaling hard as soon as you get on the e-bike (as you normally would do with a regular bicycle), as the e-bike will accelerate under pedalassist mode and you may be unprepared for the sudden increase in speed. However, after a few times, you will enjoy using the pedal-assisted function.

- **Pedal-Assisted**

You must **turn on the battery** to use the e-bike in pedal-assisted mode.

In the pedal-assisted mode, power assist is triggered when you pedal forward, and power assist stops when you stop pedaling, sometime would be delay. In other words, power assist happens as long as you pedal. You don't need to pedal hard. All you need is to apply a light force to the pedals continuously to maintain the current flow. When you apply one of the brakes, power assist will automatically stop, allowing the e-bike to slow down and stop. Power assist will turn itself off when the e-bike has reached the maximum speed that the power level you choose.

You should use the gear shifter at the handlebar to set the gears appropriately according to road conditions and pedal, as usual, you will find that you need to exert a lot less effort and the e-bike travels faster and at a more steady speed.

- **I-ERS, Cruise Control and Ambient Light Detection (Only for ENGINE Pro)**

I- .I-ERS is stand for Intelligent Energy Recovery System. It allows the battery to get recharged when it is on high speed or downhill. Over 20km/h(12mph) at PAS 0/1, it will be triggered.

II- .Cruise Control will be triggered when you holding thumb throttle for 8 second, and it will be released by braking pedaling or throttling.

III- The headlight automatic light up when the ambient is dark.

- **Hand Throttle Control**

In the hand throttle mode, amount of power assist is determined by the throttle switch controlled by your hand. You control the throttle by twisting it from its resting position, the farther the throttle switch is from its resting position, the more power is delivered to the motor to accelerate the e-bike. When you want to slow down, you simply release the throttle and let it return to its resting position, and simultaneously apply the brakes if necessary.

You do not need to pedal the e-bike if you use the hand throttle. However, you can pedal while commanding power assist. If you do pedal to help the movement, you conserve energy and the charge in the battery will last longer.

- **Charging Your e-Bike Battery**

Your e-bike battery is a lithium-ion battery. Lithium-ion battery requires specially designed chargers. You should never charge your battery with a substitute charger that is not designed for this use. Use of an unsuitable charger to charge a lithium-ion battery will result in overheating, fire or even explosion. If your charger is lost or damaged, contact your dealer to order a replacement.

Charge your battery while the e-bike is not in use. You should turn off the battery before you charge it. You may charge your battery while it is mounted on the e- bike, or after it has been removed from the e-bike.

Do not place either the charger or the battery near flammable substances while charging is taking place. Charging should not be done in the vicinity of infants and small children. It is also prudent to remove valuable objects from the immediate vicinity of the battery while it is being charged.

The length of charging time depends on the level of charge the battery still holds. If a battery is completely discharged, it will take 6 hours to be fully recharged. When a battery is fully charged, the LED on the charger will transition from RED to GREEN. At this point, you should disconnect the charger. Do not leave the charger connected to the battery for a very long period of time after charging is complete. (Leaving it connected for an overnight charging is OK.

It is normal for the charger and the battery to be slightly hot while charging is ongoing.

- **Removing the Battery from the e-Bike**

The battery is an important and costly part of the e-bike. It is designed to be locked into position with a key to preventing theft. You can take further precaution by removing the battery while the e-bike is parked unattended. You may also have a need to remove the battery from the e-bike to recharge it at a location where you cannot park your e-bike.

The method to remove the battery is: I, open the cap of the charging port and fold the bike; II, insert the key into the battery, hold pressing the key a bit until twist clockwise to the end (Note: You can't remove the battery until the lock bar withdraws into the battery completely); III, slip off the battery, the battery is quite heavy and you should take care not to drop it.

- **Maximizing the Riding Range**

Many factors affect the rate of use of the electrical energy and the riding range.

- ◇ You should fully charge the battery before a long journey.
- ◇ Rough road conditions and hilly terrain will consume more energy.
- ◇ Frequent change of speed will consume more energy.
- ◇ Carrying more weight on the e-bike will consume more energy.
- ◇ Keeping the tires properly inflated and keeping the e-bike clean and well lubricated will save energy.
- ◇ Making sure that both wheels move freely when brakes are not applied will save energy. You should check brake adjustments frequently.
- ◇ Pedaling as you ride will consume less electrical energy and increase the riding range.
- ◇ When the battery is turned off, your e-bike functions as a regular bicycle. If you embark on a very long journey, you might want to turn off the battery for long stretches where the road is level or downhill and pedal the e-bike as a regular bicycle so that you can conserve electrical energy stored in the battery.

## Care and Maintenance for Your New e-Bike

You should, in general, take care of your e-bike the way you would with a regular bicycle by keeping it dry, clean and the moving parts well lubricated. You should also avoid parking your e-bike in exposed areas whenever possible.

You should check the effectiveness of the brakes before each use.

- **For your e-Bike, you should also take note of the following:**

- ◇ Your e-bike is designed for regular country road use for a single person. Using your e-bike for extreme maneuvers, such as extreme off-road use, jumping, or carrying the excessive load will damage the e-bike and could cause serious injury.
- ◇ Do not use high-pressure water streams to clean your e-bike, as water might seep inside the motor or the wiring compartment and cause rusting of electrical parts or short circuits.
- ◇ Avoid parking your e-bike outside when there is rain or snow. At the end of a trip where there was rain or snow, bring the e-bike inside and use a clean, dry towel to eliminate any wetness.
- ◇ Be sure you do not lose both keys and remote controls. If you lost one key, you should immediately make a copy as a back-up. If you lost both keys, you will be unable to remove the battery from the e-bike. If you lost both remote controls, you can't turn on the bike.

- **Special Care for the Battery and the Charger**

- ◇ Use only the supplied charger to charge your battery. Do not use an unauthorized substitute. If your charger is lost or damaged, contact your dealer to order a replacement
- ◇ Do not open or alter the battery or the battery charger.
- ◇ Do not place the battery near fire or corrosive substances. Do not immerse in water or other liquids.
- ◇ Avoid subjecting the battery from high temperatures, such as directly under the hot sun, for prolonged periods of time.
- ◇ Do not connect (short circuit) the two poles of the battery.
- ◇ After much use, your battery's charge holding capacity will decrease. If you find that your battery does not hold sufficient charge even for short trips, you should contact your dealer to order a replacement. Under normal use, the battery will undergo 500 charging and discharging cycles.
- ◇ If the battery will not be used for an extended period of time, charge it fully and recharge it every 3 months. Store it in a cool place.
- ◇ Your e-bike battery is engineered with precision for high capacity and long useful life. We do not recommend that you use it to power other electrical

devices. Improper use of the battery will damage the battery and shorten its useful life and may cause a fire or an explosion.

## **Specifications**

Frame Construction: Aluminum Alloy

Wheelbase: 1110mm

Gear Range: 7-speed type / 8-speed type

Tire Model: 20<sup>H</sup> (508.0mm)

Climb Grade: 25 degree

Max load: 150kg (330 lb)

Max Speed: 35kmph (22mph) / 40kmph (25mph) / 45kmph (28mph)

Power: 250W /500W

Battery Capacity: 13Ah/ 16Ah

Battery Charger Input Voltage: 110/220 volt AC

Battery Operational Temperature: 0° to 40° Celsius (32° to 104° Fahrenheit)

Battery Life: Approximately 500 complete charge/discharge cycles

The following assumes an 60kg (176 lb) load (rider weight + any carry-on weight) on a flat road at 25km/h(15mph):


Maximum Riding Range in Pedal Assist Mode : 80km (50miles) / 100km (62 miles)

Maximum Riding Range in Hand Throttle Mode: 40km (25miles) / 50km (31 miles)


## Safety

These safety precautions are provided for your benefit to protect you and those around you. Please read and follow them carefully to avoid unnecessary injury, damage to the product, or damage to other property.

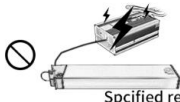
### Battery

 **CAUTION**


■ Do not throw the battery into a fire. Do not overheat the battery.




■ Do not connect the battery to other appliances other than your battery.



■ Use only the specified charger to charge the battery.




■ Do not take apart or modify the battery.




Disassembly Prohibited

■ Do not connect positive and negative terminals by using metallic objects.




(Electrolyte leakage, overheating and/or rupture may result in this type of abuse.)

### Battery Charger


 **CAUTION**

■ Do not take apart or modify the charger




Disassembly Prohibited

■ Do not subject the charger to shocks, e.g. by dropping. Keep the charger away from water




■ Do not touch the charger with your skin for long periods during charging




Overheating, fire or electric shock may result

■ Do not cover the charger or place objects on it




Overheating, fire or electric shock may result


■ Place the charger firmly on a flat dry surface




■ Do not short-circuit the terminals by using metallic objects



■ Using the charger upside-down or stretching the cable tight may result in malfunction, fire or electric shock



■ Overheating, fire or electric shock may result







## WARNING

- Keep the battery away from water. Pouring water on the battery may result in short-circuit, overheating or permanent damage of the battery.
- Do not submerge the battery. Soaking the battery in water may cause irreparable damage.



## WARNING

- Do not apply pressure to the cable or the plug.
  - ⊘ Placing the cable tightened between a wall and a window frame, or placing heavy objects on the cord or the plug may result in electric shock or fire.
- Be sure to insert the plug securely into a wall socket.
  - ⊘ Electric shock and overheating may result, causing fire.
- Do not touch the plug with wet hands.
  - ⊘ Electric shock may result.
- Keep out of reach of children or pets.
  - ⊘ Electric shock or injury may result.
- Do not attempt to use another maker or model's charger to charge the battery.
  - ⊘ Overheating, fire or electric shock may result.
- Do not use the charging plug and/or the power source Plug when they are dirty, wet or dusty.
  - ⊘ Insulation failure due to moisture absorbed in the dust may result, causing fire.
    - Pull out the power source plug and clean it with a dry cloth.
- To remove a cable from a socket, pull the plug, not the cable.
  - ⊘ Always pull the charging cable gently.
- Do not rotate the pedals when charging the battery while it is mounted on the bicycle.
  - ⊘ The cord may twist around the pedal or the crank, and the damage to the plug may result, causing electric shock or fire.
- Do not apply voltage over the rated value to the charger.
  - ⊘ Do not use sockets, correctors and other wiring devices with a power source other than standard rated voltage (AC110-240 volts) power supply.
    - Overheating, fire or electric shock may result.
- Do not use damaged components such as charge case, power cord, plug etc.
  - Electric short, short-circuit or fire may result.

## Trouble Shooting

As one or more causes of failure might lead to the failure phenomenon, you should find out the true cause(s) and then take the appropriate solution(s) to rectify the problem. In case of doubt, please consult a qualified technician for service, repairs or maintenance.

Failure Phenomena	Causes of Failure	Solutions
<ul style="list-style-type: none"> <li>Can not turn on the e-bike</li> </ul>	<ul style="list-style-type: none"> <li>Battery is off</li> <li>The Battery is out of power</li> <li>Battery aging or damaged</li> <li>Poor contact of display line</li> <li>Failure of computer</li> <li>Failure of controller</li> </ul>	<ul style="list-style-type: none"> <li>Turn on the battery</li> <li>Fully charge the battery</li> <li>Replace the battery</li> <li>Reconnect the display</li> <li>Replace the computer</li> <li>Replace the controller</li> </ul>
<ul style="list-style-type: none"> <li>Pedal assist doesn't work</li> <li>Gear doesn't work well</li> <li>Brake doesn't work well</li> <li>Display doesn't light on</li> </ul>	<ul style="list-style-type: none"> <li>Failure of speed sensor</li> <li>Rear derailleur mismatch</li> <li>Brake caliper mismatch</li> <li>Brake Disc is bent</li> <li>Poor contact of display line</li> </ul>	<ul style="list-style-type: none"> <li>replace speed sensor</li> <li>Adjust rear derailleur</li> <li>Adjust brake caliper or disc</li> <li>Reconnect the display line</li> </ul>
<ul style="list-style-type: none"> <li>Can not adjust the speed</li> <li>Speed is less than 10km/h</li> </ul>	<ul style="list-style-type: none"> <li>Battery's voltage is too low</li> <li>Throttle governing bar is damaged</li> <li>Poor contact of the controlling line</li> <li>Spring failure or being locked</li> </ul>	<ul style="list-style-type: none"> <li>Fully charge the battery</li> <li>Replace the throttle governing bar</li> <li>Replace the spring</li> </ul>
<ul style="list-style-type: none"> <li>e-Bike's mileage is obviously inadequate after fully charged</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate tire pressure</li> <li>Failure of charger</li> <li>The battery cannot be fully charged</li> <li>Failure of controller</li> <li>Battery aging or battery damaged</li> <li>e-Bike has not been well assembled</li> <li>Too much upgrade road</li> <li>Strong wind</li> <li>Bad road</li> <li>Overweight</li> <li>Too many braking times</li> <li>Temperature is too low</li> </ul>	<ul style="list-style-type: none"> <li>Inflate tire with appropriate air pressure</li> <li>Repair the charger</li> <li>Examine and repair the controller</li> <li>Replace the controller</li> <li>Replace the battery</li> <li>Re-adjust the e-Bike</li> <li>Boost the e-Bike by manpower</li> <li>Warm the battery above 0°C (32T)</li> </ul>
<ul style="list-style-type: none"> <li>Wheel hub stop running after switching on the power</li> </ul>	<ul style="list-style-type: none"> <li>The connection of battery is loosen</li> <li>Poor contact of controlling line</li> <li>The connection of wheel hub is loose or damaged</li> <li>The protective board of the battery is broken</li> </ul>	<ul style="list-style-type: none"> <li>Re-connect the battery</li> <li>Replace the connection line</li> <li>Replace the battery's protective board with a new one</li> </ul>

## IMPORTANT:

### 1. How to active the throttle bar accelerate function?



Step1: Hold the throttle bar



Step2: Hold the left brake



Step3: Turn on the display at the same time, keep holding throttle bar & left brake for 8 seconds.



Step4: Release the throttle bar & left brake and finish.

**Note: If you want to cancel the accelerate function of throttle bar, please repeat step 1 to 4.**

### 2. Speed Limit Settings



**Speed Limit Setting Interface**

The default value of the highest riding speed of the instrument leaving the factory is 25Km/h. Changing this value can set the highest riding speed of the electric vehicle. When the electric power exceeds the set value, the controller will stop supplying power to the motor to protect the riding safety. LS indicates the speed limit. The optional range of the maximum speed setting value is between 12Km/h and 40Km/h, which can be added/subtracted through UP/DOWN key. Press the "i" key for a long time to confirm and exit the setting state.

**Warning: Please noted that people need to follow local law when they use the E-bikes.**

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**The manufacturer reserves the right to change the features of the product without prior notice.**