WOLFF

ride with us to zero emissions®

AMP E-BIKE MANUAL

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Introduction

Welcome to the pack! Our team is made up of passionate individuals who have been working with and riding bicycles their entire lives. Each day we see the positive impact of cycling in our personal and professional lives and are dedicated to sharing this same joy with our customers.

Our engineers choose high-quality parts from Shimano, Kenda, Bafang, and other reputable brands to guarantee a smooth and enjoyable ride every time your tires hit the road. Our lightweight e-bikes provide predictable handling on variable terrain, seamless shifting between gears, and powerful batteries to cover long distance trips.

Wolff e-bikes are designed to perform — without sacrificing comfort or affordability.

Warning

E-bikes can be dangerous to ride. They have powerful motors and accelerate faster than traditional bicycles. We strongly encourage you to wear a helmet and ride with caution. Please familiarize yourself with the traffic laws in the areas that you will ride your bicycle in.

Wolff e-bike riders assume the potential risk of personal injuries and damage to e-bike parts or system resulting from using an e-bike.

It is your responsibility to keep your bicycle in good condition. Check for looseness of parts and fittings, wear on soft parts such as tires and brake pads, and that the chain and cables are clean and lubricated. Keep your tires inflated in the range as suggested by the tire manufacturer as printed on the sidewall of the tires. All of this will keep you safer as the bicycle will function as intended.

It is not recommended to disassemble your e-bike, change parts or electrical components. Only use a Wolff branded charger to charge batteries on Wolff bicycles.

Your Wolff e-bike information

Bicycle serial number: _____

Battery serial number: _____

Model: _____

Color: _____

Dealer: _____

Purchase Date: _____

Component Diagram

1. Battery
2. Motor
3. Control Buttons
4. On/off Button
5. Charging Port
6. Brake Lever(s)
7. Derailleur Lever
8. Pedals
9. Seat
10. Seatpost
11. Chainring with crank arm
12. Chain
13. Fork
14. Disc Brake
15. Tires (inner tubes inside)
16. Rack/Carrier
17. Rear Derailleur

Carton Contents

1. Assembled bicycle wrapped with padding and packaging material
2. Box with one pair of pedals
3. Box with the charger and cord

Assembly Instructions

Required Assembly Tools

1. 3mm Allen key
2. 4mm Allen key
3. 5mm Allen key
4. 6mm Allen key
5. #2 Phillips screwdriver
6. 15mm wrench
7. 4mm wrench

Assembly Steps

1. Open carton. Please be certain to guard yourself against the staples. Remove bicycle from box. This may be easier with two people.

   Lean the bicycle against something that will not move. Place on a non-slip floor. Carefully remove all wrapping and padding material from the bicycle. Recycle where facilities exist.

2. Apply a thin film of grease inside the frame's seat tube. Insert seatpost and adjust the seatpost quick release to hold the post firmly in place.

   Clamp bicycle by the seatpost. If the bicycle has a suspension seatpost do no clamp by or above the collar of the suspension mechanism.

3. The pedals will be marked L (Left) and R (Right). The R pedal is for the crank arm with the chainring. This threads on with a narrow 15mm wrench in a clockwise direction. The L pedal is for the non-chain side and threads on in a counter-clockwise direction. Make sure both pedals are threaded on to 40Nm.

4. Remove the top cap by loosening the Allen bolt of the steer tube of the fork. Making certain not to drop the fork, install the stem on the steer tube and tighten the center bolt until you have adjusted any looseness out of the headset bearing (at the same time making certain the bearings turn freely and are not too tight). Center the stem to the fork and tighten the stem bolts with a 4mm torque wrench to 5Nm.

5. The front wheel quick release skewer can be installed with the lever on the left or right side. Install the wheel so that it is center in the dropouts and tighten the quick release skewer.

6. The front fender and light attach to the bridge of the fork by means of a 5mm Allen head bolt, and on the lower portion by means of 4mm Allen head bolts. Some bicycles may have both bolts and 8mm nuts to affix the fender stays. Plug the light in being mindful of the keyway in the connector. Aim the lamp in a direction that allows you to see 5m ahead of you when seated on the bicycle.

7. Check all nuts and bolts on the bicycle for tightness especially the seat, seat post, stem, and handlebar bolts. Be certain that all the levers and controls can be reached without interference and that the gears and brakes work properly and safely.

8. Inflate your tires as recommended by the tire manufacturer's recommendation on the sidewall of the tire.

Adjustments After Assembly

Cockpit

- All the controls and levers on the handlebar are adjustable left, right, up and down. These controls may take a screwdriver or Allen key to adjust.
- Make sure that all levers, buttons, and controls are visible and within reach.
- Make sure there is not anything impeding the function of the levers, buttons, and controls.
- Brake levers should be angled from 3 o'clock to 4 o'clock in position and easy to reach with your hands on the grips.
- The display should be angled so that it is visible from the seated position on the bicycle.
- The function buttons (up, down) should be within reach while your hand is on the grip.
- Make sure that the addition of any accessory such as mirror, phone holder, basket, or anything else that attaches on or in the handlebar does not prevent the levers and buttons from being reached or their functions. Make sure the cables of the controls do not pull or bind on anything added to the handlebar and handlebar area.

Seatpost & Saddle

- The most efficient riding position is to have your seat elevated so that your leg is almost straight when the pedal is at the 6 o'clock position. This means when stopped you will reach for the ground with the tips of your toes. If you find that this is not desirable, lower your seat to a position that gives you comfort and security, and as you gain familiarity with the bicycle your goal is to raise the seat to a height that is an efficient riding position.
- The seat post has a 'minimum insertion' or 'maximum extension' mark on it. Do not raise the seat post higher than this mark. It will cause damage to the seat post and frame that is not covered under any warranty.

Disc Brakes

This bike is equipped with hydraulic disc brakes. A hydraulic brake has a sealed system that should not be tampered with, and should only be worked on with proper tools. In general, the brakes are low maintenance however it is advised to have them checked with every tune-up (once a year or as needed) and the fluid changed if necessary. This work should only be performed by a knowledgeable technician.

Drivetrain

- Your bicycle has ‘indexed’ gears made by Shimano. One ‘click’ on the lever will cause the derailleur to move the chain to the next adjacent cog on the rear wheel, higher or lower as selected by you on the handlebar lever.
- Should the gears not engage quickly, or should they make noise after a gear selection has been made, the rear derailleur may need to be adjusted. This is best performed by your authorized Wolff dealer. Do not delay in getting service.

Suspension Fork and Suspension Seatpost (where applicable on specific models):

Keep the seat post and fork legs clean and dry. Do not clamp or attach anything that will inhibit the function of these parts.

Care and Maintenance

Taking proper care of your e-bike can prolong its lifespan by many years, so it's important to remember a few basic methods of maintaining your e-bike.

1) Pump your tires

E-bikes are on average heavier than regular bikes, so it's important to remember to keep your tires inflated. Having inflated tires makes it much easier to pedal and accelerate, helping your motor do its work. Your electric bicycle will benefit with increased range when tires are inflated and rolling resistance is decreased. Besides, inflated tires lower the risk of getting flats and protect your rims from being damaged, especially if you hit a pothole or a curb.

Look at the side of your tire to find the PSI range – the amount of air pressure you should aim for when pumping your tires. Tire pressure has a minimum and maximum range. Do not exceed either limit as it may cause uncomfortable riding, premature wear on the tires, inner tubes, wheels, and bicycle overall. Check your tire pressure frequently, ideally a minimum of twice a month and top up as require. At the time of checking your tire pressure also check for nicks, cuts, debris, and wear on the tread and sidewall of the tires.

2) Keep your chain clean and lubed

Your drivetrain will perform better and last longer when it is kept clean and lubricated. It is suggested that a light duty oil be applied to the chain and pivot points of the derailleur every 200km (125 miles) or as suggested by the lubricant manufacturer.

Plus, chains tend to wear out and stretch overtime. Make sure to change your chain before it's too worn out to avoid damage to the rest of the drivetrain.

3) Avoid going over curbs

Since e-bikes are much heavier than regular bikes, whenever you hit a bump on the road or go over the curb, the bike components receive much more shock. Over time, it can cause damage to your motor and other e-bike parts. Besides, the rim tires are much more likely to bend.

If you're riding on the bumpy road, we encourage you lift up from your seat to minimize the pressure you're putting on the motor and the rest of your bike. We also encourage you to get off your bike when you have to go over the curb. Trust us, it would significantly prolong the life of your e-bike.

4) Regularly clean your bike

Dirt and mud can cause damage to your bike's mechanical and electrical components, so it's a good practice to clean your bike regularly. Remember to not use water under pressure, as it can penetrate in the internal parts of your e-bike like bearings and motor and cause damage or rusting. Instead, use a damp cloth and a bike-friendly cleaner.

Every few months bring your e-bike to a registered Wolff dealer to perform safety check ups, and tune ups if necessary.

Operating Procedures

Installation and removal of battery

The battery of the Amp bicycles are fully integrated into the frame.

The removal of the battery requires a key to be inserted on the left side of the frame. Turning the key 180* unlatches the battery in the first step. The battery is now unlocked from the frame and requires a second step of swinging a safety catch that is visible on the underside of the frame. Be certain to have the battery in hand to prevent it from falling out.

The installation of the battery is done by first placing the key in the frame and putting the lock in the ‘unlock’ position. Then place the bottom of the battery inside the frame and then raising the top and with a gentle push into the frame until you hear a ‘click’. The key will now be turned 180* and this will lock the battery to the frame. Give a tug on the battery to check for fit and looseness. Turn on the display to check that there is power to the bicycle.

Charging the Battery

Your Wolff charger has a standard North American household plug and fits 120v electrical sockets in the US and Canada. The battery has a jack type plug that fits Wolff batteries. The charger has a LED light. This light indicates the battery is charging when it is Red. When the charge is complete the light is Green. This is an easy visual indicator that it is time to unplug the charger. Do not leave charging batteries unattended or charging longer than necessary. Batteries can be charged while installed on the bike or removed from the bicycle. From a low charge the battery can take up to 4 hours to fully charge.

Cut-off function

Wolff bicycles have a ‘cut off’ function that stops the motor from powering the drive wheel by means of pulling the brake lever. Both levers have an electric sensor to detect brake use. Using either brake will stop the power to the motor. If you are pedaling and release the brake lever the power to the drive wheel will be instantly restored.

Battery Storage

Your Wollf e-bike battery can be stored on the bicycle when not in use, whether it is for a short duration or an extended time. Store your battery in a place where it will not get bumped or damaged and a place that is clean and dry. If you live in a climate that is cold in the winter (below 0*C/32f) it is best for the life and performance of your bicycle that the battery, if not the bike, be stored at room temperature. If your battery is not used for more than a duration of 3 months, it is advised to plug in the battery for 1 hour ever 8 weeks.

Turning the Power ON / OFF:

The Amp bicycle has a silver button on the right side of the frame. Push the button on to turn on the battery. After that is done, push and hold the lower right-side button of the controller until the display lights up.

To turn your Amp e-bike off simply push the button on the frame again to cut power to the display.

Throttle:

This bike has a throttle lever beside the left grip and is activated by your thumb. The throttle can Not be engaged from a dead stop. You must pedal to a minimum of 6.5km/h or 4m/h before the throttle can be activated. When using the throttle you do not need to pedal. Using the brakes cuts power to the throttle.

Display

Product Digiwise Display

Mode L182

Product Specification

Product Model	L182
Button Model	Built-in button
Screen Size	1.8'' LCD
Wireless Transmission Protocol	Bluetooth 5.0(optional)
Water Resistance	IP66
USB	Type-A，5V 1A
Voltage Input	24V/36V/48V DC

Operating Temperature	-20~+70 degree centigrade
Operating Humidity	15~95%RH
Storage Temperature	-30~+80 degree centigrade
Storage Humidity	30~70%RH
Shell Material	PC

Features

- **Function Introduction**

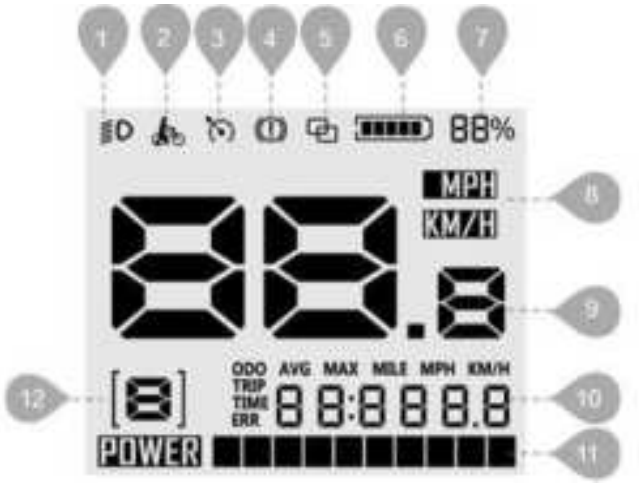
Standard functions

- Real-time speed, maximum speed, average speed
- Real-time power
- Battery capacity
- Assist level
- Total mileage、Trip mileage
- Trip time
- Calorie consumption
- Light indicator
- Metric(km/h)/Imperial(mph) switching
- Error code
- Backlight brightness adjustment
- Auto power-off time
- USB charging port（5V/1A）

Bluetooth Version (Optional)

- APP connection
- Data sync
- Riding rank
- Riding track recording
-

Riding interface



① Headlight status
② Walk mode
③ Cruise control
④ Abnormal warn
⑤ Bluetooth connection
⑥ Battery sign
⑦ Battery capacity
⑧ Speed unit
⑨ Real-time speed
⑩ Data area
⑪ Power bar
⑫ Assist level

Button functions

① “Power”button

② “+”button

③ “-”button

Operation instruction

Power on

Long press the “Power” button for 2s.

Power off

Long press the “Power” button for 2s.

Turn on/off headlight

Long press the “+” button for 2s.

Switch assist level

Short press the "+" button to increase the assist level; short press the "-" button to decrease the assist level;

Press and hold the "-" button to start walk mode, and release the "-" button to exit walk mode.

Clear trip

Long press the “Power” button and “+” button combination to clear trip.

Switch data display

In the main interface, short press the "power" button to switch to view different data

information;

Switch data display order: Riding time→ Trip mileage→ Total mileage→ Average speed→ Maximum speed.

Menu operation

① When speed is 0, long press "+" and "-" button combination for 2s to enter user menu interface;

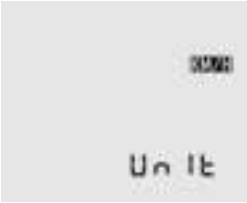
② After entering the menu interface, short press the "power" button to select the setting option;

③ Short press "+" or "-" button to adjust the value;

④ Long press "+" and "-" button combination for 2s to exit user menu interface.

Menu functions

Switch Display Unit



Display unit of speed and mileage can be switched and there is metric and imperial available.

Backlight Brightness

Setting Screen brightness can be adjusted and adjustment range is 1-5. The 5th level is the brightest.

Auto Power Off time

The automatic power off time of the Display can be set, the setting range is 0-99, it will turn off automatic shutdown function when set 0.

Bluetooth Connection Setting*(optional) When using the vehicle for the first time, it's required to enter this menu page and search for bluetooth to connect through Bikewise Pro APP. If display N, it means disconnected and if Y displayed, it means connected.

App download QR code:

Error codes

Common error code

KM5S protocol error code:

Error code	Meaning
E21	Current or MOS Fault
E22	Throttle Fault
E23	Motor Phase Fault
E24	Motor Hall Fault
E25	Brake Fault
E26	Low-Voltage Protection
E30	Communication Fault

Li2 protocol Error Code:

Error code	Meaning
E02	Brake Fault
E06	Low-Voltage Protection
E07	Motor Phase Fault
E08	Throttle Fault
E09	Current or MOS Fault
E14	Motor Hall Fault
E30	Communication Fault

Riding The Bicycle

Assist Modes

Changing Assist Mode: Your Wolff bicycle turns on at assistance level 1. To select a different level simply push the Up/Plus or Down/Minus buttons on the display. This can be selected and left before you start your ride, or it can be selected while riding. You may even turn the electric assistance off (Zero) and ride it as a non-electric bicycle.

1. Level 1 provides assistance from 0 to 12km/h or 7.5m/h
2. Level 2 provides assistance from 0 to 18km/h or 11m/h
3. Level 3 provides assistance from 0 to 24km/h or 15m/h
4. Level 4 provides assistance from 0 to 28km/h or 17.5m/h
5. Level 5 provides assistance from 0 to 32km/h or 20m/h

You may ride the bicycle faster however electrical assistance will stop at approximately 32km/h. The speed indicated for the level of assistance selected.

Basic Screen Display

1. Plus button – Selects one lever greater of assistance to a limit of 5
2. Minus button – Selects one lower level of assistance to zero (no assistance)
3. On/Off button – Activates the display power
4. Mode button – Allows the rider to see information of Maximum Speed, Odometer, Trip Distance, and Time.

Warranty

Five-Year Limited Warranty

Each part of a Wolff bicycle frame and fork is warranted for up to five (5) years from the Date of Purchase to be free from defects in materials and workmanship as clarified below. This warranty is limited to the repair or replacement of a defective part and is the sole remedy of the warranty. This warranty applies only to the original owner (the “Owner”) and is not transferable. This warranty only covers bicycles and bicycle components purchased through an authorized Wolff dealer and is only valid within the country in which the bicycle was originally purchased.

All components, including electronic components, are guaranteed for 2 years.

Wolff Warranty Support

Wolff will repair or replace any parts that manifest a defect in materials and workmanship during the warranty period.

Any part that is replaced pursuant to this warranty will be replaced by parts of the same or similar design, but Wolf reserves the right to replace defective parts with other parts of different design manufactured by Wolff, provided such replacement will not reduce the original design operation and function.

Owner’s Responsibility

The warranty does not cover normal wear and tear, improper assembly or follow-up maintenance,installation of parts or accessories not originally intended or compatible with the bicycle as sold, damage or failure due to accident, misuse or neglect, or modification of the frame, fork, or components. Warranty is void if the electric vehicle is abused in any way.

The Owner shall demonstrate reasonable care and use, and follow preventive maintenance, storage, and lubrication schedules as required by use, climate, and other pertinent factors. Should a product defect become known, transport of bike or parts to and from authorized Wolff dealer for warranty repair (within the applicable warranty period), is owner’s responsibility.

Exclusions

Neither the material nor workmanship warranty covers damage and/or defects: if a bike has been used, ridden, handled, maintained, or overloaded contrary to the product specifications; if a bike has been re-assembled, repaired or modified by personnel not authorized by Wolff; if a part has been misused, or has sustained physical damage from any cause other than its intended use; has been subjected to fire, flood, accidental breakage, improper actions by third parties, and/or any event outside Wolff's control; if the frame number or service tag of the bike has been defaced, modified or manipulated or is otherwise not clearly identifiable. This is the only warranty made by Wolff and no employee, agent, or reseller of Wolff is authorized to make any other warranty on behalf of Wolff.

Making a Warranty Claim

The Owner must at their own expense, deliver, mail, or ship the damaged part, a photo of the defective part, and a description of the defect, together with both the original bill of sale and this limited warranty statement as proof of warranty coverage, to their place of purchase.

The Owner must transport bike or parts to and from authorized Wolff dealers for repair or replace of parts under warranty, at their own expense.

Disclaimer of Implied Warranties

This limited warranty is in lieu of all other expressed or implied warranties, including any warranty of FITNESS FOR A PARTICULAR PURPOSE OR USE otherwise applicable to this product. Wolff shall not be liable for any special incidental or consequential damage, including lost profits. There are no warranties extended other than as provided herein. This limited warranty may be modified only by Wolff.

If any part of this warranty does not comply with local law, then it shall be deemed separable from the rest of this warranty, which remains enforceable, and shall be interpreted as the closest meaning of that written above or the minimum required by such local laws.

FAQ

How far can an e-bike go?

Your e-bike range will vary depending on many different conditions, from your battery size to weather. Some of the most common factors include battery size and age, rider's weight, average biking speed, level of assistance used, hilly terrain, wind, tire pressure, and outside temperature.

If your tires are low, they have more friction with the ground, making it difficult for you and your motor to maintain high speed. If you live in a hilly area, your motor will work harder to help you climb hills. The harder the motor works, the more energy it requires from the battery. Things like head wind and heavy cargo loads also drain the battery faster.

How can you optimize e-bike autonomy?

If you want to increase the distance you travel on your e-bike, keep your tires pumped and beware of the assistance levels that you use. If you feel like you have achieved the desired speed, switch to eco mode. Once you feel like you're slowing down again, turn up the assistance and help your bike accelerate by pedaling. Remember that high assistance levels drain the battery much faster than low and medium ones. Don't forget to use proper gears according to your speed and terrain. This will play a key role in optimizing the distance of your bike rides.

How long does it take to charge the battery?

Our e-bikes batteries take up to 4.5 hours to charge from low. All batteries can be easily removed and transported, so you can take the battery to your office or home to charge, while leaving an e-bike in the garage.

What care/maintenance does the battery need?

Batteries are built to last and can be recharged 600 or more times. Even if you're an avid cyclist, you'd still get several years out of your battery until you have to replace it. Make sure to follow e-bike's manual instructions for proper attachment and removal of the battery. They can be an expensive replacement if damaged.

If you plan to store your battery for a longer period of time, for example the winter period, it's better to keep your battery 30-60% charged. Lower temperatures can also drain your battery, so it's preferable to store it inside.

How to transport your e-bike?

The easiest way to transport an e-bike is by putting it on a rack. Since e-bikes are heavier than regular bikes, they require specific car racks that can handle the weight. They usually come with a two-inch hitch that reduces wobbling. While transporting your e-bike on a rack, it is best to remove your battery to minimize e-bike weight.

Another way of transporting your bike by car would be folding your back seats, taking the front wheel off, and putting it in the back of your car. If you have a bigger car, you do not necessarily need to take the front wheel off as long as the bike fits in the truck without being awkwardly squished. Since e-bikes are equipped with different electrical parts that can be easily damaged when improperly transported, we recommend that you do not have any other objects surrounding the bike.

What if my battery turns off or it dies? / Can I use it as a regular bike?

If your battery dies or you turn off your assistance completely, you will be able to pedal and ride your e-bike just like a regular bicycle.

Can I bring it to a regular bike shop for a tune up?

Electric bikes are more complex than regular bikes as they have electric components and wiring. We strongly recommend checking in advance whether the bike shop you're planning to bring your e-bike to for a tune up has experience with servicing your e-bike brand or type. Sometimes inexperienced mechanics can unintentionally damage internal electric parts that will be hard to repair later.

Once you found a bike shop to service your e-bike, we recommend setting up annual check-ups and tune-ups. If you ride almost every day, a tune-up at least once a year is recommended.

How much does an e-bike weigh?

E-bikes are equipped with motors and batteries, which make them heavier than regular bicycles. On average, an e-bike weighs about 55-60 pounds, whereas a traditional bike's weight is around 30-35 pounds. Major e-bike drive system companies are trying to solve the challenge of reducing the components' weight. But unfortunately, the lighter weight versions of the battery and motors will come at a compromise with their power and range.

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