

WISPER
Electric Bikes



WISPER ELECTRIC BIKES
Bicycle Owners Guide and Assembly Instructions
PLEASE READ CAREFULLY BEFORE RIDING
EPAC Bicycles(Electrically Power Assisted Cycles)
EN 15194

WAYFARER RANGE



YOUR WISPER SERIAL NUMBER

Your Wisper Dealer Information

Shop name: _____

Address 1: _____

Address 2: _____

Town: _____

County: _____

Postcode: _____

Country: _____

Telephone Number: _____

Date Purchased: _____



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Thank you for choosing a Wisper electric bicycle.

Before you use your Wisper electric bike it is important that you read this manual carefully. If there is anything you do not understand completely, please contact us. Please observe traffic regulations, and do not lend your bicycle to anyone who is unfamiliar with it. In the UK the bicycle can only legally be used on the road by a person aged fourteen years or older. We strongly advise you to always wear an approved cycle helmet when riding your bicycle. If you are unfamiliar with cycling, we advise attending a cycle proficiency course prior to using your new bicycle on the public highway. When using any bicycle, it is important that you stay within safe limits; if you feel as if you are travelling too quickly, you probably are. Always test your brakes prior to using the bike, and remember the bike will not stop as quickly in the wet as it would in the dry!

Before you use the bike for the first time, please make absolutely certain that it has been correctly assembled. You can do this by either taking it to your nearest cycle engineer or if you are proficient in cycle mechanics, inspecting it yourself. In particular, you must make sure that the pedals, saddle, handle bars and any self assembled items have been fitted correctly. Avoid consuming alcohol before you ride your electric bike. The use of alcohol greatly reduces reflexes and limits your ability to ride safely.

If you need to replace your battery, please either dispose of it properly or preferably send it back to us at Wisper or one of our distributors and we will make sure it is properly recycled.

Above all, enjoy your Wisper bike, happy cycling!





L2	Display cable
L3	Integrated Loom
L4	Speed sensor
L5	Power cable
L6	Front light
L7	Rear light
L8	Shift sensor



Safety Points

This sign is used in this booklet, wherever a particular topic is safety sensitive or needs extra care. Some of these items are specified in the British Standard covering bicycles but many others are recommendations.

Caring for your Wisper bike and pre-use checks

Your Wisper bike has been thoroughly tested at the factory prior to delivery, and undergone a pre-delivery inspection by your Wisper dealer.

It is very important that you check the bike thoroughly before its first use. Equally important are frequent and regular spot-checks, as they will protect you and your Wisper bike. Please read this manual carefully. Only on full understanding all of the functions of this electric bicycle should you attempt to use it.

Before you set off for the first time

- Check the handlebars and handlebar stem are properly tightened.
- Check all other nuts, bolts and fixings are properly tightened.
- Check brakes are functioning properly.
- Check tyre pressures are correct and tyres are not damaged.
- Check reflectors and lights if fitted, are functioning properly.
- Make sure the battery is fully charged.
- Attach the battery into bicycle and turn on with the switch located on the top of the battery.
- To remove the battery, turn the battery key hold in unlocked position and slide the battery up and out. Remove key from battery and keep safe during operation of the bike.
- Turn on the bike by pressing the on/off button on the battery and then turn on at the remote on the handlebars.
- Remember to validate your warranty by visiting

<https://wisperbikes.com/support/register-your-e-bike/> filling in your details.

Before each use

It is important you check your bike prior to each time you use it. Checks should include the following: (If you do find any damage or problems, do not use the bike until the problem has been solved or you have had the faulty item checked by an electric bike mechanic or your dealer).

- Check the tyres for any visible damage.
- Check the tyre pressures.
- Check for any loose nuts, bolts or fixings.
- Check the brake functions.
- Check the electronic functions.
- Check the reflectors are in place and the lights are working.
- Check the battery for any visible signs of damage

Battery care

Your Wisper bike comes with a high quality lithium ion battery. All lithium batteries need to be looked after to ensure years of full use.

- Recharge your battery after every use if possible. Keeping your battery charged extends its life and your bike is always ready to go.
- Recharge your battery every month even if you are not using the bike. Most lithium ion batteries will continue to discharge even when the bike and battery are turned off.
- Do not expose the bicycle or battery pack to fire, heat sources, acid or alkaline substances.
- When leaving your bicycle during hot weather, always leave in a shaded well ventilated area.
- For best results, always recharge and store the battery at room temperature.
- Before unloading the battery, make sure it is turned off and unload the battery using its handle.

Maintenance and adjustments

IMPORTANT! Do not attempt to open the casings of the battery and the motor. It could be dangerous and all warranties will become void. If you experience a problem, contact our service department or your Wisper dealer. Wheel spokes should be checked after 300 miles of riding. Handlebar and saddle tubes should never be raised beyond the maximum permissible, indicated by a safety line around the tubes. The recommended torque (tightness) of crucial fixings is as follows:

Back axle nuts.	35N.m
Handlebar and stem clamp bolts.	8-10N.m
Handlebar stem expander bolt.	8N.m
Seat pillar clamp nut/bolt.	5-8N.m
Seat clamp nuts.	15N.m
Crank axle Allen bolts.	25N.m
Gear shifter nuts.	4N.m
Rear carrier nuts.	8N.m
Mudguard bracket nuts.	6N.m

Other general torque settings depend on the thread size. M4: 2.5-4.0N.m, M5: 4.0-6.0N.m, M6: 6.0-7.5N.m.

Your bike has a rear derailleur that will automatically tension your chain. However, if the chain becomes loose or frequently comes off the front chain-wheel, please seek advice from your Wisper dealer.

Brake levers should lock the wheels when compressed half way between their open position and touching the handle bars.

Warning: Handlebar hand grips or tube end plugs should be replaced if damaged, as bare tube ends can cause injury.

Front and Rear brake pads must be replaced if the pad material wears to less than 1mm.

Lubrication

Lubricate all pivot points on the derailleur and chain with light oil or chain lube on a regular basis. Once a year, have your Wisper dealer re-grease the headset bearings, front wheel bearings and pedal bearings. Recommended tools for proper maintenance: Torque wrench with lb/in or N/m gradations

- 2, 4, 5, 8mm Allen wrenches
- 15mm Pedal Spanner
- Torque wrench
- No. 1 Phillips head screwdriver
- Bike pump

Warranty and User responsibilities

Repair or replacement of components

IMPORTANT! To validate this warranty, the retail customer must register the bike at www.wisperbikes.com within 14 days of purchase. Only use this product in accordance with this user manual. Wisper offer a limited warranty on the following items.

Main frame
5 years

Motor shell, Hub motor, Controller and Charger
2 years

Electronic handle bar controls and electrical connections
2 years

Paintwork (excluding accidental or deliberate damage)
2 years

Mechanical Parts
1 Year

WAYFARER CROSSBAR



TECHNICAL SPECIFICATIONS

Motor: Wisper High Torque Mid Drive motor

Sensors: Wisper Torque Sensor

Battery: Medium range 450Wh and Mega range 700Wh

Assisted range: Rider weight, load carried on bike, terrain, tyre pressures, speed, power settings, wind conditions, and motor power all have a huge bearing on range. With this in mind, you may expect the following AVERAGE ranges from our batteries.

450Wh battery 15 to 40 miles

700Wh battery 30 to 75 miles

Controls: Wisper Back lit LCD display

Frame: Hand welded, 6061 Alloy T4 and T6 tempered

Frame Size: 19" 48.3cm

Colour: Iridium Silver

Kick Stand: Black anodised alloy

Gears: Shimano Alivio derailleur with 10-Speed selector

Brakes: Wisper Apex Hydraulic 180mm disc brake front and 160mm rear

Tyres: Kenda 27.5" 1.95 high puncture resistance with Kevlar and wall reflector

Mudguards: Black Full length

Lighting: Front: 15W LED super bright and Rear: 43V light, power from bike battery

Rear Rack: Wisper's unique rear rack, certified to 25kg

Max Loading Weight Including Luggage: 21 Stone / 135kg

Forks: Suntour XCM Thru axle

WAYFARER STEPTHROUGH



TECHNICAL SPECIFICATIONS

Motor: High Torque Mid Drive motor

Sensors: Wisper Torque Sensor

Battery: Medium range 450Wh and Mega range 700Wh

Assisted range: Rider weight, load carried on bike, terrain, tyre pressures, speed, power settings, wind conditions, and motor power all have a huge bearing on range. With this in mind, you may expect the following AVERAGE ranges from our batteries.

450Wh battery 15 to 40 miles

700Wh battery 30 to 75 miles

Controls: Wisper Back lit LCD display

Frame & Forks: Hand welded, 6061 Alloy T4 and T6 tempered

Frame Size: 18" 45.8cm

Colour: Iridium silver

Kick Stand: Black anodised alloy

Gears: Shimano Alivio derailleurs with 10-Speed selector

Brakes: Wisper Apex Hydraulic 180mm disc brake front and 160mm rear

Tyres: Kenda 27.5" 1.95 high puncture resistance with Kevlar and wall reflector

Mudguards: Black Full length

Lighting: Front: 15W LED super bright and Rear: 43V light, power from bike battery

Rear Rack: Wisper's unique rear rack, certified to 25kg

Max Loading Weight Including Luggage: 21 Stone / 135kg

Forks: Suntour XCM Thru axle

WAYFARER CROSSBAR HUB DRIVE



TECHNICAL SPECIFICATIONS

Motor: Wisper High efficiency, 250W (350W New Zealand) ultra high torque brushless motor

Sensors: Wisper Cadence Sensor

Battery: Medium range 375Wh and Mega range 700Wh

Assisted range: Rider weight, load carried on bike, terrain, tyre pressures, speed, power settings, wind conditions, and motor power all have a huge bearing on range. With this in mind, you may expect the following AVERAGE ranges from our batteries.

450Wh battery 15 to 40 miles

700Wh battery 30 to 75 miles

Controls: Wisper Back lit LCD display

Frame: Hand welded, 6061 Alloy T4 and T6 tempered

Frame Size: 19" 48.3cm

Colour: Blue or Red

Kick Stand: Black anodised alloy

Gears: Shimano Altus derailleur with 8-Speed selector

Brakes: Wisper Apex Hydraulic 180mm disc brake front and 160mm rear

Tyres: Kenda 27.5" 2.2 high puncture resistance with Kevlar and wall reflector

Mudguards: Black Full length Alloy

Lighting: Front: 15W LED super bright and Rear: 43V light, power from bike battery

Rear Rack: Wisper's unique rear rack, certified to 25kg

Max Loading Weight Including Luggage: 21 Stone / 135kg

Fork: Suntour XCM ATB

WAYFARER STEPTHROUGH HUB DRIVE



TECHNICAL SPECIFICATIONS

Motor: Wisper High efficiency, 250W (350W New Zealand) ultra high torque brushless motor

Sensors: Wisper Cadence Sensor

Battery: Medium range 450Wh and Mega range 700Wh

Assisted range: Rider weight, load carried on bike, terrain, tyre pressures, speed, power settings, wind conditions, and motor power all have a huge bearing on range. With this in mind, you may expect the following AVERAGE ranges from our batteries.

375Wh battery 15 to 40 miles

700Wh battery 30 to 75 miles

Controls: Wisper Back lit LCD display

Frame: Hand welded, 6061 Alloy T4 and T6 tempered

Frame Size: 19" 48.3cm

Colour: Blue or Red

Kick Stand: Black anodised alloy

Gears: Shimano Altus derailleur with 8-Speed selector

Brakes: Wisper Apex Hydraulic 180mm disc brake front and 160mm rear

Tyres: Kenda 27.5" 2.2 high puncture resistance with Kevlar and wall reflector

Mudguards: Black Full length Alloy

Lighting: Front: 15W LED super bright and Rear: 43V light, power from bike battery

Rear Rack: Wisper's unique rear rack, certified to 25kg

Max Loading Weight Including Luggage: 21 Stone / 135kg

Fork: Suntour XCM ATB



City

27.5" 2.2" High Puncture Resistance City
and Road Tyres
Alloy mudguards with cable management
Rear rack
Large LCD centre display



Adventure

27.5" x 2.35" Nobby Nic off road tyres
or 27.5" x 2.4" Super Moto tarmac and
trail tyres
Alloy mudguards with cable management
Rear rack
Large LCD centre display or Left hand LCD
sports display



Mountain Pack

27.5" x 2.35" Nobby Nic off road tyres
or 27.5" x 2.4" Super Moto tarmac and
trail tyres
Large LCD centre display or Left hand LCD
sports display
No mudguards or rack



City

27.5" 2.2" High Puncture Resistance City
and Road Tyres
Alloy mudguards with cable management
Rear rack
Large LCD centre display



Adventure

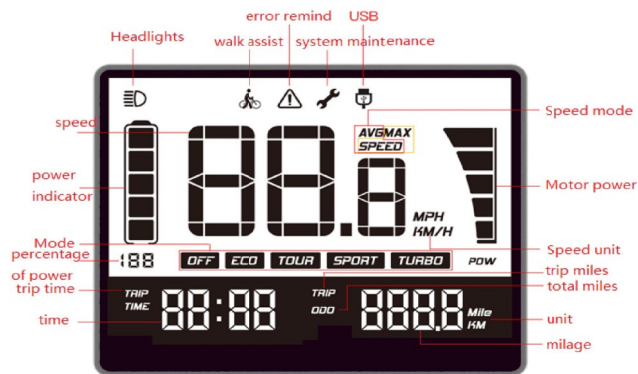
27.5" x 2.35" Nobby Nic off road tyres
or 27.5" x 2.4" Super Moto tarmac and
trail tyres
Alloy mudguards with cable management
Rear rack
Large LCD centre display or Left hand LCD
sports display



Mountain Pack

27.5" x 2.35" Nobby Nic off road tyres
or 27.5" x 2.4" Super Moto tarmac and
trail tyres
Large LCD centre display or Left hand LCD
sports display
No mudguards or rack

DS102 LCD OPERATION



To turn on

Hold down the power button for 2 seconds to activate the LCD to turn off hold down the power button again for 2 seconds.

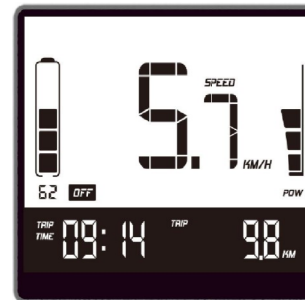
Assist mode select

Press ^ or v to select the assist mode you require, there are 5 levels of assistance.

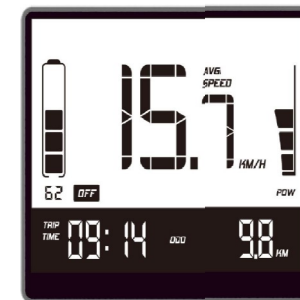
OFF/ECO/TOUR/SPORT/TURBO. Default ECO mode when display turned on. OFF means no assist power.

Display information settings

To access the display information press the M button once, it will show information as per below



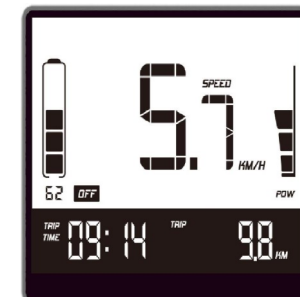
SPEED & TRIP



AVERAGE SPEED & TRIP



MAX SPEED & TRIP



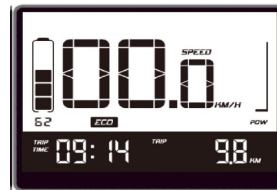
SPEED & TRIP

Walk assist mode

To enter walk assist mode hold down the ∇ for 2 seconds when the bike icon appears you are now in walk assist mode this will propel the bike at a steady walking pace to take the weight of the bike. To turn off walk assist mode hold down the ∇ again for 2 seconds and the bike will revert to normal operation.



WALK ASSIST ACTIVE



WALK ASSIST OFF

Headlight & Backlight operation

To activate the lights on the bike hold down the \wedge button for 1 second, the headlight icon will illuminate and so will the backlight on the lcd. To turn off the lights hold down the \wedge button for 1 second and the lights will turn off.

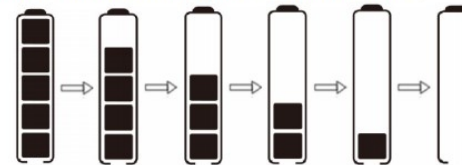
Settings Menu

To enter the settings menu, press the M button for 3 seconds within 10 seconds of the display turning on. To navigate the settings use the \wedge and ∇ buttons, to select the setting use the M button to confirm. Press and hold the M Button to save and exit the settings menu.

Unit setting (UN)

In the unit setting use the \wedge and ∇ button to change from Km/h / Mph, press the M button to confirm the unit of measurement.

Battery levels



No	%	level	43v
1	0-5%	FLASHES	42.9
2	5-15%	1 BAR	42.9<45.1
3	15-35%	2 BARS	42.9<54.1
4	35-55%	3 BARS	46.5<47.5
5	55-75%	4 BARS	47.5<50.1
6	+75%	5 BARS	<50.1

Battery information

Before charging your battery, make sure the charger is turned off and connect your battery to the charger at the charging socket. Plug the charger into a switched mains socket that is switched off and turn on socket. A red lamp will light up on the charger and indicate the battery is charging. When the red light turns green, the battery is fully charged. To optimize battery life, leave the charger connected for a further hour, then turn off the charger, turn off the main socket and disconnect the charger from the mains. Always disconnect the charger from the mains before disconnecting the charger from the battery. It is possible that the battery will take up to twelve hours to charge on the first three charges. When charging the battery, always do so in a well-ventilated area. Do not leave the charger connected to the mains when not in use.



IMPORTANT If your battery cells are damaged due the battery being left in a discharged condition, or has not been recharged advised as per this manual your battery is not covered by our warranty.

Battery safety

Never leave a battery connected to the charger or mains power overnight. ii. Never recharge a battery outside, in damp conditions or in temperatures less than 0 degrees centigrade.

Never open a battery case, try and fix the battery or give it to any one other than a registered Wisper Stockist for maintenance. (Failure to comply will void the warranty)

If a battery is or appears to be damaged or overheating for any reason, do not use the bike and leave the battery in a place where it cannot cause fire. Immediately contact your retailer for advice and a safety check.

IMPORTANT Ignoring any of the safety rules above could cause serious injury or fire.

Brakes

Disc brakes are fitted to the front and rear wheels of the bicycle. Disc brakes offer several advantages over traditional rim brakes, including better braking in wet, muddy or other adverse conditions and less braking power fade over extended downhill braking.

Details of how to adjust and maintain your brakes are as follows:

Regularly inspect the brake pads for wear. If they have reached the wear limit of 1mm, replace them immediately.

To replace the brake pads, unless you are a competent bicycle mechanic always take your bike to your Wisper dealer. Front brake: Remove the caliper from the fork leg, complete with the mount adapter by removing the two 5mm Allen caliper fixing screws. Rear brake: Remove the caliper by removing the two 5mm Allen caliper fixing screws on the bike frame. The pads can then be removed by unscrewing and removing the pad retaining screw (which passes through the tabs of the brake pads) using a 3mm Allen wrench. Then lift the pads complete with the spring out of the rotor slot in the caliper body.

Warning! Do not loosen any other screws on the caliper.

To refit the pads, hold the pads complete with spring as an assembly and insert into the caliper slot with the metal backing towards the pistons. Refit the pad retaining screw ensuring it passes through the holes in the pad tabs and through the hole in the spring and tighten to 3–5 N.m. Refit the caliper loosely using the two Allen screws, apply the brake lever and tighten securely to 6 to 8 Nm whilst continuing to apply the brake lever. (N.B. use of a thread locking compound is recommended on the caliper fixing screws).

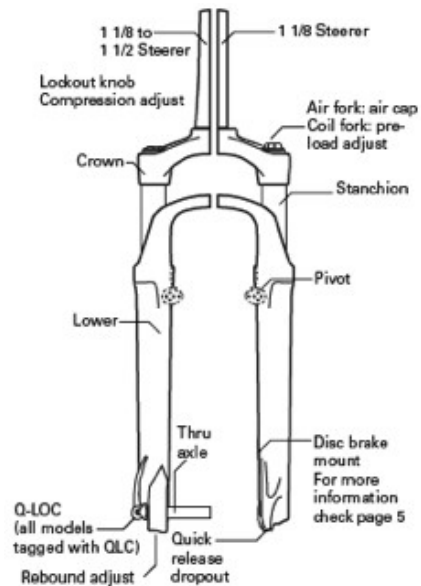
Warning: If you are unsure about any part of the brake installation process you should seek advice from a Wisper service centre or qualified mechanic.

Caution: The pads and rotor must be kept clean and free from oil or grease-based contamination. If the pads become contaminated, you must discard them and replace them with a new set. A contaminated brake disc rotor must be cleaned with a proprietary brake cleaning solution.

Suspension Fork

SR SUNTOUR XCM32 27.5"

https://www.srsuntour.com/fileadmin/user_upload/Downloads/Consumer/Bike/Owners%20manuals/General_Fork_Manual/General_Fork_Manual.pdf



Stem and handle bar clamps

The handlebars can be adjusted before you use the bike by slackening the four clamp bolts using a 4mm Allen key. Once a comfortable position is achieved, securely tighten the four clamp bolts evenly, ensuring an even gap is left between the two halves of the clamp housing, and the serrations on the two halves of the clamp mate correctly with the fixed part of the stem. Tighten the four bolts to a torque setting of 12Nm to alter the rake of the handle bars, slacken the central Allen screw in the side of the stem and rotate the stem up or down until the desired position is obtained. Retighten the Allen screw securely to 17-18.5 Nm.

Tyre pressures

You will find the correct tyre pressure printed on the side wall of the tyre, please refer to this when inflating tyres.

Rims and spokes

It is essential to have your spokes checked and tightened after 300 miles. This is a free service provided by your supplier. If this service has not been undertaken at the correct time, this may cause damage to the wheels and spokes that will not be covered under our Warranty.

Quick release saddle height adjustment

Your Wisper bike has been fitted with a quick release saddle post fitting to facilitate the adjustment of the saddle height.

It is important that the nut on the fitting is tightened so the post will not move in the seat post tube. Make this adjustment with the quick release lever in the open position.

Adjust the seat to the correct height and close the lever firmly. When you sit on the saddle there should be no vertical movement. Never apply grease to the seat post.

IMPORTANT

Height limit marks on the seat post must be strictly adhered to, if there is no mark on the seat post contact Wisper Support for advice. Frames damaged due to the seat post being used too high will not be covered under our limited Warranty.

Derailleur and gear change

Full details on how to adjust and maintain your derailleur can be found in the Shimano manual available on the Shimano web site.

<https://bikecheck.shimano.com/global/en>

If difficulty is experienced with changing gear after initial operation of the bicycle, it is likely that some cable stretch will have occurred in the gear change cable. To compensate turn the knurled adjuster shown in the centre left hand side of the image below by pulling it away from the outer cable stop in the direction of the cable towards the rear of the bicycle and turning it ½ turn anticlockwise when viewed from the rear. This will compensate for the cable stretch. If necessary, repeat the operation again until smooth gear selection is obtained or return your bicycle to your Wisper dealer for further adjustment.

To change gear, use the 7-speed rapid fire gear shifter located on the right side of the handlebar. The two levers located underneath the shifter can be pulled and pushed to select the gears over the range 1 to 8.

Pre Delivery Inspection check list

The PDI is a critical part of the overall Quality Assurance process and must be completed by the supplying dealer followed by a test ride and sign off before passing the bike to the customer. The following items below are a generic list for all current Wisper models and must be covered during the PDI.

1. Check front and rear wheel for alignment and run out — Tighten spokes if necessary
2. Check tightness of rear axle nuts and front quick release — Tighten to torque setting in user manual
3. Check tyre pressures front and rear — Inflate to correct pressure
4. Check and adjust action of front and rear brakes — Ensure there is no noise or squeal
5. Check smooth action and adjustment of front suspension forks—
6. Check adjustment of bearings in headstock — Adjust if necessary
7. Check security of all handlebar stem fixings and clamps — Adjust to suit customer preferences
8. Check front and rear mudguards for security and clearance from tyres
9. Check all cables are clipped securely and safely
10. Check motor cable cannot rub against the tyre
11. Check pedals have been fitted correctly and tightened fully — Note left and right hand threads
12. Check pedal cranks have been tightened fully on bottom bracket axle — Tighten to torque setting in user and service manual
13. Check smoothness and running clearance of bottom bracket

- 14. Check seat post quick release clamp is properly in place and secure and saddle is correctly fitted — Adjust as necessary
- 15. Check smooth operation of gear change on either derailleur or hub gear and ensure all gears can be selected — Adjust as necessary
- 16. Ensure side stand supports bike correctly and does not interfere with other moving cycle parts
- 17. Ensure motor wheel turns smoothly and quietly when rotated by hand in forward and reverse direction Some additional resistance will be felt when rotated in reverse
- 18. Ensure correct chain tension
- 19. Ensure chain guard is not rubbing on models equipped with guard
- 20. Ensure all reflectors are in place on pedals, wheels etc

- Electrical Parts
- 1. Check correct operation of front and rear lights
- 2. Check connections on all electronic components
- 3. Check throttle returns smoothly to closed position and cuts out at 4mph — Adjust if necessary
- 4. Check functionality of LCD display — Includes selection of five power assist levels, speed readout, and all functions are correct as described in the user and service manual
- 5. Check battery locates properly and locks in place securely — Ensure keys are present
- 6. Charge battery off the bike and check charger and battery functions correctly — Check status lights on battery

SERVICE 1

Date:

Mechanic:

Dealer:

Work carried out:

Further work suggested:

SERVICE 2

Date:

Mechanic:

Dealer:

Work carried out:

Further work suggested:

SERVICE 3

Date:

Mechanic:

Dealer:

Work carried out:

Further work suggested:

Service

After sales service is available through your retailer. If you are unable to contact your retailer please contact our Wisper Support team
support@wisperbikes.com

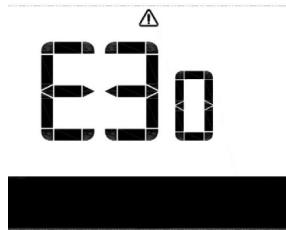
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support@wisperbikes.com

www.wisperbikes.com

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New Zealand
[09-479-9274](tel:09-479-9274)

Error Information



EXAMPLE OF LCD SHOWING AN ERROR

ERROR CODE	FAULT DESCRIPTION	CHECK METHOD
4	throttle doesn't turn back to zero position	Check if the throttle return to zero position
5	throttle failure	check throttle
7	overvoltage protection	check the voltage of the battery
8	failure of motor's hall signal wire	check the motor
9	failure of motor's phase wire	check the motor
11	failure of the controller's temperature sensor	check the controller
12	failure of the current sensor	check the controller
13	failure of the temperature of the battery	check the battery
14	failure of the temperature of the motor	check the motor
21	failure of the speed sensor	check speed sensor position
22	BMS communication failure	Check battery
30	Communication failure	check controller connection

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