

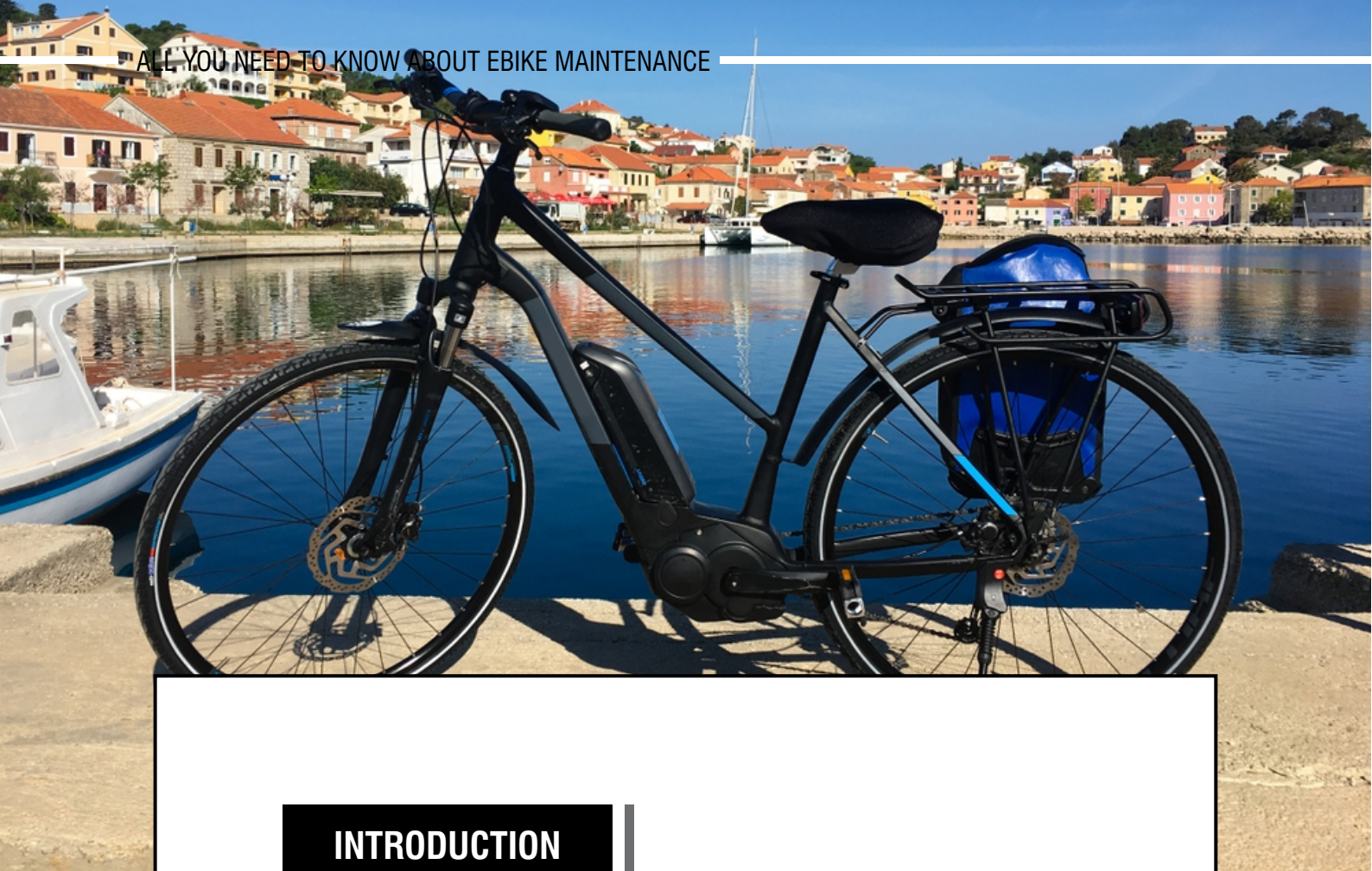


NEXT GEN E-RIDES

ALL YOU NEED TO KNOW ABOUT EBIKE MAINTENANCE



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INTRODUCTION

One of the key concerns of any ebike rider is maintenance. Whether this fear is because less is known about ebikes in general or scare-mongering on the internet there is no doubting that it's one of the key concerns of anyone new to ebike technology. It's important to keep the fear in perspective and arm you with some knowledge. In knowing what to expect you can be better prepared should anything go wrong on your ebike. This guide is designed to help you take control of the basics so that you can get the best out of your ebike and keep it running in tip top shape leaving you more time to enjoy riding your ebike!

It is hard to know what to expect when you take your ebike in to get serviced. At the very least you want to ensure that the technician undertakes a safety check to ensure that the ebike is safe to ride. A safety check or the "M" check should cover all the major components of your bike to ensure they are working as they should.




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THE "M" SAFETY CHECK


The "M" safety check is an easy way to remember where the vital parts are to check on your ebike. It is also a good way to conduct your own regular maintenance so that you follow a formula and similar pattern that helps you establish your own maintenance routine.

The "M" Check



4. Saddle and seatpost 2. Handlebars, brakes, and display
(throttle-assist if applicable)

5. Rear wheel and gears 3. Battery and cranks 1. Front wheel and tyre



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THE 'M' CHECK – 1. THE FRONT WHEEL AND TYRE

The first place to start your maintenance check is the front wheel:

1. Check the wheel is spinning true on the axle (at the centre of the wheel), ensure it runs smoothly and ensure the quick release skewer or axle nuts are fully closed or tight (this is to ensure the front wheel won't fly off while riding).
2. Check that the tyre is inflated to the correct level (the range should be provided on the tyre sidewall or in the user manual)
3. Inspect the tyre for any obvious signs of damage or wear such as cracking, cuts, tears, or punctures

4. Ensure all spokes are tight by pinching them together two at a time, if there's lots of movement they will need to be tightened and if broken they will need to be booked in for a repair
5. If you have mudguards of front rack do a quick wheel spin the ensure none are rubbing on the tyres. If the mudguard is rubbing, you can easily realign with your hand until it is no longer rubbing. For the rack check that it is bolted tight.



THE 'M' CHECK – 2. THE HANDLEBARS, BRAKES, AND DISPLAY



Moving up from the front wheel we then check the handlebars and headset:

1. Ensure the handlebars are tight, this is achieved by placing the front wheel between your knees and trying to rotate the handlebars from left to right. There shouldn't be any play in the bars at all.
2. If the handlebars are loose, tighten them in the centre where there is locking mechanism and four bolts which can be adjusted with an Allen/Hex key
3. Test both brakes by engaging the brake levers, they should instantly grab and stop the bike without any noise. Also visually inspect the brake pads to ensure there is adequate brake pads left, if there is damage or contaminated pads this will need to be replaced by a professional
4. Check the bell is working and or horn (note that by law you must have a warning device on your bike for your own safety)
5. Check the display works and is securely firmly and tighten bolts if necessary.
6. Visually inspect all cables to ensure no loose wiring or damage, again if the wiring is frayed or damaged it is best to go seek a professional to repair
7. Check that the front light is working, for some ebikes this may be activated by the display screen

THE 'M' CHECK – 3. BATTERY & CRANKS

Next, we move along the frame to the cranks and bottom bracket:

1. For most bikes the battery will be in or on the diagonal frame, check to see that the battery is firmly secured in place and is not damaged and that there is no water anywhere on the battery terminal
2. Check the pedals and ensure that are tightly secured to the cranks arms and are not stiff
3. Lift the back of the bike and turn the pedals forwards to see if they turn smoothly and easily. Then, with the bike back on the ground, grasp both cranks firmly and try to move them side to side. If there is some play, it is likely to be a loose bottom bracket (the housing for the pedal axles) Check the bell is working and or horn (note that by law you must have a warning device on your bike for your own safety)
4. If the bike has front gears, check the front gears change smoothly and the gear cable is not frayed
5. Ensure the chain runs smoothly when you turn the pedals and is not too slack. Make sure the chain is properly lubricated and not thick with grease



THE 'M' CHECK – 4. SADDLE & SEATPOST

Next, we move up to the saddle and seatpost:

1. Check that the saddle is on nice and tight, also check that the angle of the saddle is as desired, this can sometimes move around whilst riding
2. Ensure the seatpost clamp is tight, especially if the height has been altered
3. For telescopic seatposts check that the shim and posts are fully inserted, listen for any unusual noises that may indicate it has not been inserted correctly and adjust, if necessary, this is very important so that it doesn't crack the bike frame over time
4. Any brake lights or LED lights should be checked to ensure they are function or require charging so that they continue to provide safety when riding in dark conditions



THE 'M' CHECK – 5. REAR WHEEL, CHAINS AND GEARS

The final check is for the rear of the bike:

1. Check the wheel is spinning true on the axle (at the centre of the wheel)
2. Check that the tyre is inflated to the correct level (the range should be provided on the tyre sidewall or in the user manual)
3. Inspect the tyre for any obvious signs of damage or wear such as cracking, cuts, tears, or punctures
4. Ensure all spokes are tight by pinching them together two at a time, if there's lots of movement they will need to be tightened and if broken they will need to be booked in for a repair
5. If you have rear mudguards or rear rack do a quick wheel spin to ensure none are rubbing on the tyres. If the mudguard is rubbing, you can easily realign with your hand until it is no longer rubbing. For the rack check that it is bolted tight.
6. If you have had crunchy or slipping gears ensure you lube your chain and check it is clean and free of rust, check the derailleur hanger (see bottom part holding chain) to ensure it is straight and there is no damage to the rear cassette
7. Make sure there is no damage to any wires or rear frame



WHAT'S INCLUDED IN A STANDARD EBIKE SERVICE?

If you are not comfortable with undertaking any work on your ebike then take it down to your nearest bike service shop. A lot of work can be undertaken by general bike repair shops but for any specialist work relating to the bike electrics it's best to go to a bike that specialises in servicing ebikes with a licenced electrical bike mechanic.

Make sure that wherever you take your ebike to be serviced that you have confidence in the mechanic who'll be working on your bike. A lot can be gained by how the staff interact with you when you walk in the store. There are still some bike mechanics who are snobbish about what ebikes they are working on. If you encounter this don't bother with them. You want the person working on your bike to want to do a good job regardless of whether your bike is of suitable quality in their eyes.

It also pays to only deal with service shops that list the service prices on their website, so you know what you'll be paying upfront. Some bike shops will offer to work on ebikes but not have any pricing available. This can lead to you paying more than what you should for your service or lead to bill shock when it comes time to pay. It's best to know from the outset what you're upfront and save heartache later down the line.

Below is a list of what to expect for a standard service. This list is comprehensive and it's likely that a shop will not list all elements but a selection of this list. Many of these service elements will be included under the broad term of "safety check". The most important thing is that you want to ensure that your ebike is road safe.

What's included in a standard ebike service?

- Safety check
- All bolts tightened and checked
- Brakes tuned
- Gears tuned
- Lubricate chains and cables
- Spoke tensions checked
- Full drivechain degrease & clean
- Wheel alignment checked (or trued)
- Wheel hubs checked and adjusted
- Clean and polish frame and wheels
- Headset inspected and adjusted
- Bottom bracket inspected and adjusted
- Battery life check
- Electric wiring check
- Electrical problem diagnosis (if applicable)

Note that what is included in your service may vary depending on the service shop and the level of ebike service you have requested i.e. standard, deluxe etc.

HOW OFTEN SHOULD I SERVICE MY EBIKE?

Servicing your ebike is not unlike servicing your car. How often would also depend on your mileage. Do you keep your ebike in good condition and regularly clean, lubricate and charge your battery as per manufacturer's instructions?

The first place to look would be on your user manual which should provide you with a guide for servicing requirements. Failing that a good rule of thumb is to service **every 12 months or 2000km** whichever comes first.

COMMON EBIKE MAINTENANCE REPAIRS

So, if the worst happens and you have some maintenance issues what are the most common that you will encounter? Here is a list of some of the more common maintenance issues you may encounter:

Mechanical	Comment
Brake pad replacement	Ebikes wear out brake pads faster due to higher speeds and heavier weight of bike. This is not however an expensive repair.
Chain replacement	Bike chains are under more pressure due to high torque of bike this is especially true for mid-drive motors. This is generally not an expensive fix either.
Cassette replacement	The cassette - this is the part on the rear wheel axis that the chain moves onto when the gears are changed. The parts can range from around \$100-500+ depending on the bike model. The repair is quick so labour isn't as much.
Gear cable replacement	This is a low-cost fix and should be under \$100.
Tyres	The cost of repairs for tyres will depend on if the tyre is punctured or if it needs replacing. For rear hub motors this may be a little more expensive due to the electrics. It is best to try and fix with an inner tube, if possible, to avoid high labour repair costs.
Electrical	
Battery replacement	This can occur prematurely if the ebike is left in storage for too long without sufficient charge. The replacement is easy on most ebike models as the battery should be easy to remove and a new battery installed. The cost however is not cheap and will depend on the model of bike. You are looking at around \$300-1500
Display replacement	Normally this is only caused when the ebike is dropped or involved in a crash. The cost is totally dependent on the bike model with some as cheap as \$50 and some up to \$500 to replace.
Connection issues	The ebike won't turn on. This could be moisture or corrosion in the battery inside the display has lost its capacity and turned itself off. Both require labour to diagnose and should cost around \$60-\$150 to repair.

PRE-RIDE CHECKLIST

To ensure trouble free riding here is a short checklist that should become part of your ebike routine. By running through this prior to your ride you can avoid small problems becoming expensive problems.

Task	Tools	Instructions
Check tyre pressure	Air inflator with pressure gauge	Check the PSI of the tyres is within manufactures range, this will be displayed on the sidewall of the tyre
Inspect brakes	No tools required	Whilst rolling your ebike besides you, pull on one of the brake levers. The ebike should come to a stop immediately. Repeat with the other lever.
Test headset	No tools required	Pull the front brake and rock the ebike back and forward. There should be no play in the handlebar mount. Tighten if needed and re-test.
Clean and lube chain	Chain lube and rag	Clean off any excess dirt with a rag, this can be done by spinning the pedals whilst the wheel is off the ground and holding the rag around the chain (so length of chain is cleaned). Then apply lube to length of chain.
Check wheel tightness	No tools required	Check that there is no wheel wobble and that the nuts are tightened.
Check battery levels	No tools required	When you turn on your ebike make sure there is enough charge for your journey. If not, plug in the charger until the ebike is fully charged.

POST-RIDE CHECKLIST

To ensure trouble free riding here is a short checklist that should become part of your ebike routine. By running through this prior to your ride you can avoid small problems becoming expensive problems.

Task	Tools	Instructions
Inspect rims and tyres	No tools required	Look for any damage.
Inspect shifter and derailleur	No tools required	With the ebike wheel off the ground turn the pedals and change gears. The ebike should shift seamlessly, also visually check for any damage.
Wipe down & inspect the frame	Clean damp rag	Wipe down the frame and visually check for any cracks or damage.
Wipe down chain	Clean rag	The frequency is dependent on riding terrain, if you are riding through mud then daily if only commuting on road, then monthly. Clean off any excess dirt by spinning pedals and holding rag between chain.
Inspect pedals	No tools required	Check for any cracks or damage.
Check wheel straightness	No tools required	Turn each wheel whilst looking straight down the tyre. There should be no wobbling at all.
Charge battery	Battery charger	Plug charger into wall and fully charge, ready for your next ride.

BASIC MAINTENANCE TOOLS

Here is a short list of must have tools for basic ebike maintenance:

- Full Hex set 2-5mm & Torx set
- Wrenches 6-17mm
- Bike pump with gauge reading
- Lubricant
- Degreaser
- Rags (lots of them)!

Tools for the DIY bike repairer (note there are many more if working on drivechain and brakes):

- Bike stand
- Inner tubes and patch kits
- Tyre levers
- Latex gloves
- Needle-nose pliers
- Rotor truing tool
- Bleed kit and oil
- Alcohol or cleaner
- Screwdrivers
- Crank arm puller

HOW TO CLEAN YOUR EBIKE

1. Remove the battery and display (if you can) and cover the battery holder, motor and any electrical connections with a tarp or towel to keep them dry.
2. Gently rinse down the frame, taking care to avoid the battery, motor and controls. Never use a high-pressure hose as this could damage the electrical components.
3. Use a cloth to scrub down the frame with some bike wash (or car wash detergent). Pay special attention to the brake pads, as dirt build-up can make them less effective, as well as sweaty areas such as the handlebars and the seat.
4. Rinse with plain water and then dry the entire frame, using a dry cloth to prevent rust.
5. Wait a few hours to make sure the battery holder is completely dry before reattaching the display and battery.



FINAL WORD

Remember that if you aren't comfortable undertaking any elements of maintenance yourself then it's in your best interest to ensure you get regular ebike servicing. Qualified bike mechanics will be able to easily diagnose any issues and potentially save you money in the long run.

Just remember however that how often you require servicing is completely down to how regularly you ride your ebike. Remember a good rule of thumb is to service the bike at least **every 12 months or 2000km whichever comes first.**

By taking care of your bike and regularly service it you can enjoy it for many years into the future!