Smarta Bike

'Its a bicycle with something extra!'

SMARTA IQ GT

Thank you For Purchasing a Smarta Bike!

Our mission is to offer the most reliable and best performing electric bicycles (ebikes) for the best price.

Every single Smarta bike is checked by a Quality Control technician before being carefully packaged and boxed.

Many components are stainless steel to prevent rust. Durable sealed bottom bracket units are standard on Smarta bikes. The battery cells and motor used are normally found on ebikes costing over £1,200. You have purchased a well made, well thought out product and we hope you enjoy it for a long time. To ensure you get the most from your new ebike please read the following carefully.

IMPORTANT

Get help if you intend to lift the bike from the box and mind your back when you do so. You can also cut the side of the box to avoid lifting.

Charge your battery now

Most of you will want to use the ebike as soon as possible. The battery will arrive in a dormant state suitable for shipping. Essentially the battery will be sleeping and may be damaged if it is not charged before first use.

It is a good idea to put your battery on charge immediately because the initial charge should be for 10 to 12 hours. Please read Battery Charging section now.

Smarta Bike

Contents of the Box

One well made bicycle with:

A rear motor wheel

Shimano front hub dynamo light set

Pedelec sensor

Electronic V brakes

Twist grip throttle

Pedelec mode switch

Battery gauge

36V 10Ah Lithium-ion battery

Battery charger

Battery lock/ignition and 2 keys

Manual

Tools Required

Spanners: 8mm, 10mm, 15mm, 18mm
Allan Keys set
Screwdrivers: Phillips-head and flat-head
Bottom Bracket Tool: 14mm socket

Preparation for Use

Is your battery on charge?

Once you are happy that all the parts are in the box you can begin assembling the ebike.

****It is advised that you ensure your bike is assembled and inspected by a suitably qualified person. This is a matter of personal safety.****

Please see the pictures below as a guide to fitting the front light and connecting to the hub dynamo.

Please slot the front wheel into the front forks. * you may need help to hold the bike steady.

Please note the direction of rotation on the card so you insert the wheel correctly. * The dynamo will not work if it is inserted incorrectly.

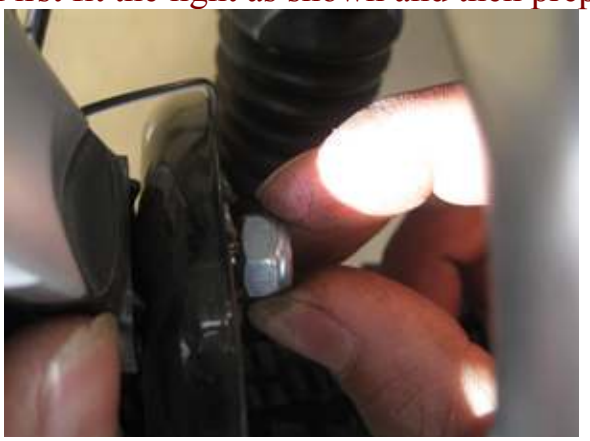
You can also see the direction of rotation on the hub dynamo itself.

Once you are happy that the wheel has been inserted correctly you can tighten the nuts.

Please make a note of the position of washers and nuts so the wheel is safely fixed into position. * Doing this correctly is a matter of personal safety.

Please see the pictures below as a guide to fitting the front light and the mudguard.

First fit the light as shown and then prepare to connect the light's earth loop.



Now slide the front mudguard loop followed by the earth loop onto the retaining bolt and then tighten.

Please attach the mudguard stays on either side of the wheel as shown.

You can fit the handlebars at any point, we believe it is easier when the front wheel is in place and you can use the side stand to keep the bike steady. At this point you can also ensure the headset is aligned with the front wheel.

Slot in the steering column, align and tighten. (IQ LX used for pictures)

Centre and fix the handlebars in place as shown.

Please note the pedals are marked 'L' for left and 'R' for right as if you were in the riding position. They should screw on using a rotation direction towards the front of the bike (clockwise for 'R' and anti-clockwise for 'L') Please note they are self tightening so once they start to lock you only need to make another ¼ to ½ turn using a 15mm spanner.

Pump your tyres to between 50 and 60 psi.

Set your brakes up and test them before riding.

Please see the front brakes being connected after the wheel has been fitted.

Check all nuts and bolts and spokes and ensure the bike is safe to ride. Give the brakes one more check.

If you are determined to set your bike yourself please check a reliable source such as www.sheldonbrown.com/ to understand how the mechanical components should be prepared for use.

Charging Your Battery

- Most of you will be familiar with charging some kind of battery device, even if it is just your mobile phone. The Smarta battery charger should be used only with the Smarta battery and vice versa. The battery can be charged on or off the bike.
- Plug the charger into the wall and wait 2 to 4 seconds. You will see a green light on the charger.
- Connect the charger to the battery charge port and you will see the green light turn red.

- Leave the battery on charge until the charger light turns green again...this means it is fully charged.
- The first time you charge it please leave on charge for 12 hours. This is important because it activates the chemistry and opens up the capacity of the battery. Shorter charges may result in a lower battery capacity and life. **<u>WARNING</u> if you use the battery before the initial charge you may cause irrevocable damage.**
- When charging on the bike the ignition should be turned off.
- When a green light indicates a full charge you can disconnect the charger and the battery will remain above 90% of charge for several days i.e. it has a slow self-discharge rate. Regardless, if it has been more than 2 days since its last charge it should be charged before next use.
- Disconnect and switch off when fully charged.
- When you connect the battery to the bike and switch on you will see the battery gauge lights glow.

Battery Care

In a sense it is possible to describe your battery as 'alive' or 'active' and unsurprisingly with that comes a life span. Just like you service your bicycle there are things you can do to prolong your use and enjoyment of the battery. Please read the following carefully and if you need anything explained please do not hesitate to contact us.

Avoid frequent full discharges because this puts additional strain on the battery. Several partial discharges with frequent recharges are better for lithium-ion than one deep one. Recharging a partially charged lithium-ion does not cause harm because there is no memory. (In this respect, lithium-ion differs from nickel-based batteries.) Short battery life in a laptop is mainly cause by heat rather than charge / discharge patterns.

Although there is no memory effect a full discharge once every 6 months can help to calibrate the battery gauge and ensure an accurate reading.

Keep the lithium-ion battery cool. Avoid leaving in the boot of a hot car for

example. For prolonged storage, keep the battery at a 40% charge level.
Avoid purchasing old batteries. The chemistry works best when it is fresh.
If you have a spare lithium-ion battery, use one to the fullest and keep the other cool. Do not freeze the battery. For best results, store the battery at 40% state-of-charge.
Some lithium-ion batteries fail due to excessive low discharge. If discharged below 25 volts, the internal safety circuit opens and the battery appears dead. A charge with the original charger may no longer be possible.
<u>WARNING</u> if the battery voltage has fallen below 15V and has remained in that state for a few months, a recharge should be avoided. To prevent failure, never store the battery fully discharged. Apply some charge before storage, every 2 months while being stored, and then charge fully before use.

Using the Bike

Once you have made sure the bike is set up correctly and safe to ride you can put the charged battery in, lock it in place and switch it on.
You will see the power gauge lights on the handlebars come on to show the current state of battery charge.

You are now ready to cycle.

<u>The Battery 36V Lithium Ion LiMnO4</u>

This battery uses the same battery cells found in some of the most expensive ebikes available in Europe. Our goal is that you can rely on this product everyday.

<u>The battery has been fully tested and certified as safe by the global consumer testing agency the Underwriters Laboratories. www.ul.com</u>

<u>Throttle</u>

The throttle is available to use whenever the battery is turned on. It allows

you to provide a variable amount of power to the motor so you can control your speed. When you release the throttle it returns to the off position.
The throttle is located on the right handlebar like a motorcycle.

Pedelec System

When you pedal power can be engaged in two modes: 'E' for economy and 'S' for sport. The middle position of the switch turns the pedelec power off so you can ride like a normal bike.
****Warning – Please turn the pedelec off when you are walking with the bike. If the pedals rotate the power will be engaged. Also be careful that no one twists the throttle when you are stationary and not expecting the power.**

Electronic Safety Brakes

The brakes on your Smarta ebike are connected to the control unit and cut the power when you use them. This means that the bike will stop well even if you have the throttle on while you brake. It is recommended that as with mopeds and motorcycles you use both brakes when stopping. Depending on the riding conditions the right amount of front and rear brake application will ensure you stop in a controlled manner. It is wise to get the mechanical parts of the brakes serviced regularly.

The Hub Motor

The motor is a high efficiency hub. It is lightweight and has a high power to weight ratio. The hub is sealed and provides power directly where it is needed. It has smooth performance through the rpm range making standing starts quick and controlled.

The Control Unit

Essentially the brain of the system and a very important component. The efficiency and performance of the system is very dependant on the quality of the controller processes.

This control unit has been hand picked for its ability to get the most out of the components while simultaneously protecting them to ensure longevity. It is responsive and gives the product a flexibility that responds well to many riding conditions and riding styles.

The Rest

The remaining components such as the gears and drive chain are normal bicycle components and we recommend if you get them serviced regularly and have periodic safety checks.

Important Maintenance

Although we have made every effort to make this product intuitive and 'maintenance free' your Smarta ebike is firstly a bicycle, then an ebike. This means you must perform pre-ride checks and servicing of the bicycle components.

Pre-Ride Checks

- You should ensure the brakes are working satisfactorily and you can stop safely.
- Check your tyres are in good condition, suitable for the riding conditions and pumped to 50 – 60 psi.
- Check the chain is clean, at the correct tension and ready for use.
- Test the pedals and steering column are not loose or have inhibited movement.

Essential Maintenance

- Probably the single most important bit of maintenance requires the brakes to be serviced regularly. This may be more often than a normal bicycle because it has been shown that ebikes are used by their owners more often than standard bicycles.

- ****Please check and service brakes as required****
- On any bike the spokes should be checked every few rides to ensure they are holding the wheel true and at approximately equal tension. The motor will put increased stress on the spokes and although we use extra strong spokes and a more robust spoke lacing pattern they should be checked at the very least once a month.
- The nuts and bolts that hold your machine together may come loose over time with vibration caused by use or transportation. It is important to check these regularly.
- ****Please check all nuts, bolts, brakes, gears and spokes after the first few rides. New products have a wearing in period when the metal and cables will react to the new conditions. Cables generally stretch and nuts and spokes may lose tension.****
- We use standard bicycle components on the Smarta ebikes so you won't have any problem sourcing replacements if required. If you want a professional bike service or need any help or advise you can always contact us.

The 2 Year Warranty

Summary of Warranty

- The frame of the bike is supplied with a 2 year warranty.
- The electronic components (excluding the battery but including the charger) are supplied with a 1 year warranty.
- The battery is supplied with a 1 year conditional warranty (see conditions below).
- Consumables such as tyres, tubes, brake blocks, bulbs/LEDs, are not covered under this warranty.
- The Warranty applies for normal* use of the product only and does not include sport use.

The warranty does not apply if:

- our set up/operating/care instructions have not been followed.
- the product has been modified

- the use is not consistent with the limitations of the product or its components and evidence of overloading is evident, e.g. mechanical or thermal stress overload.
- If there is natural wear.

***Normal Usage**

Normal usage for these components can be defined as road or cycleway riding and with a total load no more than 100Kg and power used to assist/ augment cycling rather than an effective drive system.

Conditions of Battery Warranty 1 Year above 75% of Capacity

The initial charge is performed.
Storage procedures are followed.
The battery warranty does not transfer to a new owner unless the battery is returned for analysing and conditioning. (Your retailer may be a small charge for this service). This can be done by either purchaser or seller.

Troubleshooting

The concept of battery power is not new to most people. Rechargeable batteries are used in many products used by millions of people everyday. Most of those batteries are Lithium ion, however most of the battery packs are smaller than 36V.
What may be a problem is that not all of you will have used a bike with a motor or electrical connections before...so there is a short learning period where you should take a little time to understand your new machine. Our trouble shooting guide will help you answer the most common questions.
If you need more help simply email us. Troubleshooting@TETS.biz

Problem: No Power and gauge is OFF.

- Check the battery is connected and locked in place.
- Make sure the key is turned on.
- Check the battery charge level by pressing the button on the battery if it needs charging connect the charger.
- Check the battery fuses located on the battery. The input fuse is

5Amp and the output is 20Amp.

- Check the connections and make sure the battery power line is connected to the switch and the gauge is connected to the controller. If the power works then it is a connection problem with the power gauge.
- If all seems well give the battery a charge for 4 hours and try again, then contact us.

Problem: No Power and gauge is ON.

Ensure the electronic brakes are returning to the normal brake 'off' position...if not they will be disengaging the power.

If the problem persists after you check the above then disconnect the electronic brakes at the controller, if the power returns then you may have a faulty brake sensor.

Check the motor and throttle connections at the controller and along the wire harness.

Problem: Intermittent Power

1. If a power failure occurs after stops it is almost certainly the brake levers, have them serviced to ensure they return to the full off position. Servicing normally involves proper set-up of the brakes and application of water expelling/lubricant solution the the brake cables.
2. If your pedelec disc has become dirty or damaged you may experience an intermittent loss of power while pedalling. Check your magnetic pedelec disc and sensor for damage and dirt. They are located on the bottom bracket axle and are likely to require periodic cleaning.
3. If loss of power is experienced after bumps it is most likely to be a connection.

- Check the battery contacts and ensure they are clean and making good contact.
- Check the ignition to see if it is faulty by wiggling the key. N.B. It is not a good idea to hang lots of keys from the ignition because the weight will cause rapid and excessive wear.

5. Check that the fuse holders are secure.

6. Completely discharge and recharge the battery twice. This is the least likely scenario but it is a required fault check.
7. When the power cuts out test the voltage across the battery terminals using a multimeter and call us with this information.

Problem: Battery not Charging

1. Check if the charger is working...if no light check the plug fuse on the charger
2. Are you connecting the charger in the right order (see charging the battery).
3. Check the input (5Amp) fuse on the battery.
4. If you have a multimeter check the voltage across the battery terminals. If it is below 20Volts the charger may not be able to start charging and the battery may be damaged.

Problem: Not Giving Full Range

1. Ranges can vary dramatically from customer to customer under different riding conditions.
2. Your bike may have an adjustable power/range setting on the controller, this may need to be changed if you require a longer range.
3. Hills and loads over 90Kgs reduces the range significantly.
4. Please check the brakes are correctly set-up i.e. not rubbing and the tyres are correctly inflated...usually 50 to 60 psi – this is the number one cause of reduced range.
5. If you are using the throttle to build momentum you put a huge strain on the motor, controller and battery and this will evaporate your range. Work together with your machine for maximum benefit.
6. If it is a new battery it may take a few cycles (charge/discharge) before it fully opens up the capacity.

Problem: Motor Noise

1. Be exact about when the noise is experienced: when running motor off load or under load, when cycling with motor switched off, when using pedals, before or after braking etc. Often a service will rectify noises.

2. Motors with quality metal gearing will make more noise than the motors that use plastic cogs.
3. If the noise of your motor suddenly gets louder it is a good idea to have it checked out. Contact us.

Should you have any need please contact: Troubleshooting@TETS.biz

Disclaimer/Declaration

Smarta and The Electric Transport Shop Ltd assume no responsibility for accidents or malfunctions resulting from improper use of the components, battery or charger.

When you ride the machine on public roads, cycleways, footpaths or anywhere other than your own private land, we kindly ask you to observe and obey the applicable laws and be mindful of your fellow road users and pedestrians.

Disposal of Battery & Electronic Equipment

Please dispose of Electrical and Electronic equipment properly. It is an offence to dispose of these parts in your household rubbish. Local councils in the UK provide facilities for such disposal and can direct you to your nearest recycling point.