

PowaCycle

Electrically Assisted Pedal Cycles



Ranger

Assembly Instructions

Version 4 – 24 Sept 2005

Introduction

Thank you for buying a PowaCycle Ranger electric bike. We hope it brings you many hours of enjoyment.

For safe and compact shipping, we have despatched your PowaCycle Ranger part assembled. It therefore requires some assembly work before you can begin riding.

Please follow these instructions carefully. If you do not feel confident to assemble the bike yourself, we recommend you visit your local cycle store for professional help and advice.

Contents

Before assembly, please check that you have all the parts below:

Important: A spare set of keys is supplied. Please keep these in a safe place as lost keys cannot be replaced.



Front Wheel



Main Cycle Frame



Pedals



Mudguards



Small components for fixing mudguards

3 x Small nuts & bolts

1 x Large nut & bolt

2 x Washers

2 x Brackets



Keys (Power, Battery Lock)



Saddle on stem



Battery Charger

Assembly Instructions

Charge the Battery

Before assembling your PowaCycle, you should charge the battery. This will allow you to test the electrical connections during assembly. Remove the battery and charge it indoors. It may take up to 8 hours to fully charge the battery. When charged, the LED turns from red to green. Please note, the battery will deteriorate if it is left uncharged.



To remove the battery, turn the key on the vertical tube. The barrel will release, allowing the battery to be withdrawn.



A lever under the seat releases a latch, allowing the seat to be lifted forward on a hinge, this makes the battery accessible.



Using the handle provided, pull upward to slide the battery from the base housing.



Charge the battery indoors, keeping it away from water or combustible material.

Connect the round-ended charger plug to the battery socket. Plug the charger into the mains supply and switch it on at the plug.

A full charge can take 8 hours. The light is green when the battery is charging and changes to red when it is fully charged.

Fitting the Handlebars



The handlebars are already attached to the frame via cables.

They now need to be inserted into the frame as shown.



Align the handlebars 90 degrees to the forks.



Finally, use an Allen key or hexagonal tool to tighten the handlebars in place.

NOTE: We recommend that you make a final adjustment of the handlebars once the bike is fully assembled.

Fitting the Saddle



Insert the saddle stem into the frame. Use the lever clip to secure the saddle in place. If the clip is too loose or too tight, adjust the lever in relation to its opposing nut to achieve a firm closure.

Fitting the Wheel



Remove the black plastic front fork protectors, which are part of the protective packing material.



We recommend that you turn the bicycle upside down, resting it on the handlebars and saddle.

Note: We suggest you remove the battery, to make the bike lighter, before turning it upside down. Also, you may need to adjust the saddle to make it more stable.



Remove the protective plastic nut from the wheel. This is part of the packing material.



Insert the wheel into the front fork, ensuring that the disc is placed within the brake mechanism.



Insert the lock washer into the small hole in the fork.



Use a spanner to adjust the inner wheel nuts (arrowed) between the wheel and the fork, to align the wheel and disc with the disc brake mechanism.

The wheel needs to spin freely, so avoid over tightening the inner nuts.



Use a spanner or socket set to tighten the outer nuts (outside the fork) so that the wheel is secured firmly to the fork.

Brake Assembly



Use an Allen key to release the brake cable, and then pull it through to take up the slack. Tighten the Allen nut once the cable is tight and retest the brakes. Adjust the cable until the wheel turns freely and the brakes are effective.



Fine adjustments to the brake tensions can be made via adjustment controls located at the junction of the brake lever and cable.

Fitting the Mudguards



FRONT Fix the small bracket to the front mudguard, then insert the front mudguard between the wheel and the arch.



Attach the mudguard bracket and the front light bracket to the arch (the front light is already connected to the bike by its wires).

The mudguard bracket should be to the rear of the arch and the front light bracket should be at the front of the arch.



The brackets are fixed by a bolt through the centre of the arch. A sculpted nut sits over the rounded front surface of the arch with a smaller, securing nut to the rear.

Note: *Ensure that the mudguard is pulled up with sufficient clearance from the wheel.*



REAR Fix the rear mudguard directly to the support bracket that is integral to the frame. Insert the plastic barrel between the integral frame supports. Place the mudguard supports on the outside edges of the frame supports and tighten the nut and bolt.

Fitting the Pedals



Pedals are marked L and R, for the left and right hand side of the bicycle when it is facing forward. Screw each pedal into the appropriate pedal shaft by hand, and then tighten with a spanner to secure.

The pedals have a reverse thread and therefore need to be screwed in backwards.

Completed PowaCycle Ranger



Finally ...

Before mounting your cycle to ride, remember to check that:

- the battery is fully charged.
 - the tyres are inflated to the correct pressure.
 - the brakes are operating effectively.
 - the handlebars are correctly adjusted and secure
 - the seat is at the correct height for the user
 - the lights are working
 - all nuts and bolts are secure (including pre-assembled ones).
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Operation of the Ranger PowaCycle

Overview

The PowaCycle Ranger is an electrically assisted bicycle that operates as a standard bicycle, with the assistance of a motor and battery. The power provided supports the rider's own efforts, giving increased performance with less effort.

Battery Charging, Care & Safety

Care of the battery is vital to maximise its long-term performance.

The battery must be removed from the bike for charging.

Regular Use – If you are commuting significant distances, it is advisable to recharge the battery before the return journey.

Occasional Use – Recharge the battery at least once a week, even if the cycle is unused.

Always recharge the battery after use.

Always charge the battery indoors.

Keep the battery away from water, to prevent shocks or shorting. When attached to the bicycle, it is safe to operate in wet conditions.

Do not cover the battery or charger.

Do not leave the battery permanently charging from the mains supply.

Only use the charger provided to charge the battery.

Do not use the battery to power anything other than the PowaCycle for which it was purchased.

Do not disassemble or modify the battery.

Do not expose the battery to fire or extreme temperatures.

Do not short circuit the battery.

Do not allow impact or force against the battery pack.

Dispose of the battery in a dedicated waste facility.

Additional Lights

As an additional safety feature, we recommend that night users purchase independent front and rear lights that are NOT powered from the cycle battery. After a long journey, there is a risk that the cycle battery could be depleted, so lights relying on the cycle battery could stop working.

Tyres

Check the tyres regularly to ensure that the correct pressures are maintained (pressure ranges are shown on the sides of the tyres).

Do not over-inflate the tyres.

There are different types of pumps available for cycles. Ask your local cycle shop for the one best suited to your needs (do not use a garage forecourt air hose to inflate your tyres).

Brakes

Make sure your brakes are adjusted correctly at all times.

Adjustment can be made at the wheel rim/brake mechanism with tools. Fine tuning of the brakes can be made via adjustable twist screws that are located at the join of the brake lever to the cable.

Replace the brake blocks when worn.

Power

Switch on the power by turning the key in the battery. The Ranger is a "pedelec". This means that, as soon as the rider begins to pedal, the motor supplies energy to support the cyclist's efforts. If the rider prefers to cycle without the assistance of the motor, he or she should leave the ignition off.

Gears and Bicycle Chain

Change through the gears one at a time and only when the bicycle is being pedalled. To maintain performance, ensure that all the mechanical parts of the gears are lightly oiled (avoid getting oil deposits on the wheel rims). If the chain mechanism becomes dislodged, turn the pedals forward gently to engage it. If the chain becomes completely dislodged, re-engage it on the smallest gear cog.

Saddle

For maximum comfort ensure that the saddle is both correctly adjusted and secure. Once set up correctly, the height of the saddle can be adjusted without tools. Loosen the lever at the top of the frame below the saddle to raise or lower the saddle. Once the saddle is at the required height, secure it by tightening the lever. Tighten or loosen the nut on the lever if required.

User Safety

Cycle Helmets

Although there is no legal requirement to wear a cycle helmet, we recommend that you do so for your safety. Wearing a cycle helmet has been proven to reduce the likelihood of head injuries.

Professional Maintenance

We recommend that you have your cycle serviced by a professional cycle engineer at least once a year to ensure ongoing safe performance. Also, if you are unsure as to how to carry out a particular assembly procedure or adjustment, we recommend that you consult your local cycle shop.

Troubleshooting

1 – Brakes not working effectively

Check the distance between the brake blocks and the wheel rim.
Check that the blocks are parallel with the wheel rim.
Check for any wear on the brake blocks

Fine tuning to the brakes can be performed by the adjusters between the brake lever on the handlebars and the brake cable. Major adjustments are made at the brake blocks and you will need the appropriate tools. See brake assembly instructions.

2 – Motor not working

Check that the ignition has been switched on
Check that the battery is properly inserted in its housing.
Check that the battery is charged.
Check that none of the electrical cables and connections has become dislodged.

3 – Light(s) not working

Check that the wiring is not broken.
Check that the bulbs are inserted correctly.
Check that all connections are made properly

Warranty

Information

- 1 – The frame – Has a warranty of two years.
- 2 – Other main parts – Have a warranty of one year.
- 3 – The battery – is covered by a 6 month warranty,
as battery life will be determined by user care.
- 4 – Bulbs, brake blocks, tyres etc – Are regarded as consumables,
therefore when replacements are required, these need to be
purchased from your local cycle shop or store.



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