S6M1 Mountain E-bike

E-BIKE: S6M1 Assembly

The S6M1 is a lightweight mountain e-bike aimed at users who want a well balanced feature rich product at an affordable price. It is easy to master and gives tons of boost allowing you to enjoy cycling in its purest form.

The one size fits all compact aluminium frame with its 27.5 inch wheels provides a bike that caters for Small to XL sized riders.

Its mid mounted 250W motor applies power to the pedals which utilizes the 9x gears to provide more than enough low end torque for climbing mountains and high end speed for racing or traveling along flat terrain. This out performs offerings with rear wheel mounted motors in the 500 to 750 watt range and is substantially lighter.

The 36V 13.4Ah (482Wh) LI-ION battery gives adequate range without adding too much weight. The overall lightness of the bike allows you to pedal quite easily even without any electric assistance.

The gears, chain ring and brake components are Shimano brand which is popular all over the world and spares are readily available. Most other parts like the tyres, the seat and the pedals adhere to industry standards and can be replaced with similar from the bike shop down the road.

E-BIKE: S6M1 Assembly

The bike is supplied 95% pre assembled and needs minimal skill to be completed. Final assembly takes around 30 minutes and can be mastered by your typical handyman or amateur bike mechanic. Tools (Allen keys and spanners) are supplied.

ASSEMBLY STEPS:

1. Unpack the parts:

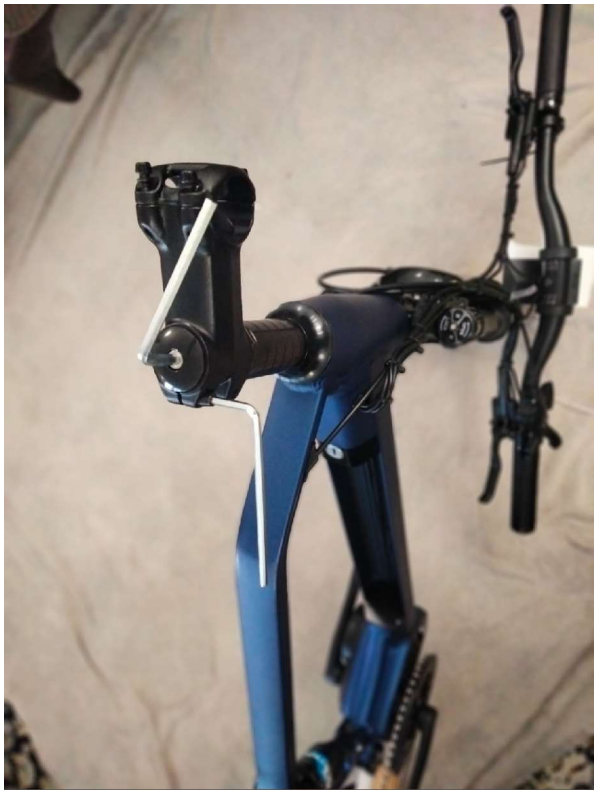
You will need a knife or side cutter to cut all the cable ties holding the parts in place.

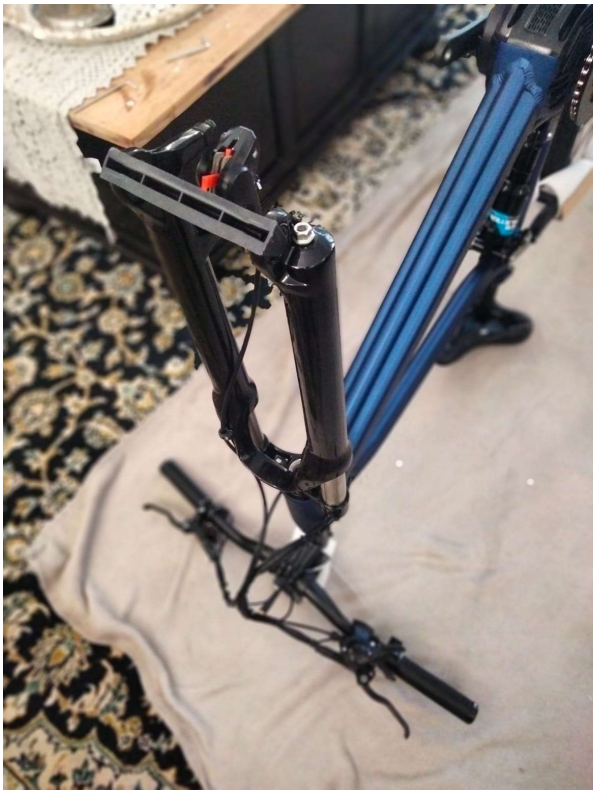
E-BIKE: S6M1 Assembly

2. Install the handle bar:

a. Loosen the top Allen key in the stem and turn the stem forward.
b. Remove the 4x bolts that hold the handlebar clamp and fit the handlebar to the stem. Then re-insert the clamp and the 4 bolts while making sure that the brake levers are horizontal and that the handlebar is centred in the stem clamp.
c. Once done turn the bike upside down to prep it for inserting the front wheel.

Take care not the damage the computer mounted to the handlebars which would now be touching the floor. Also do not to overtighten the bolts.

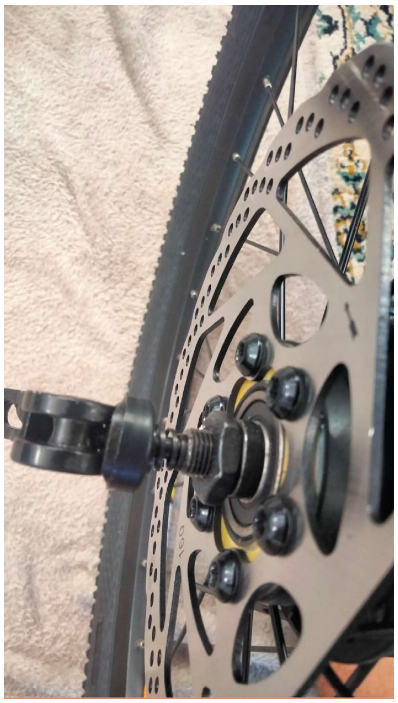


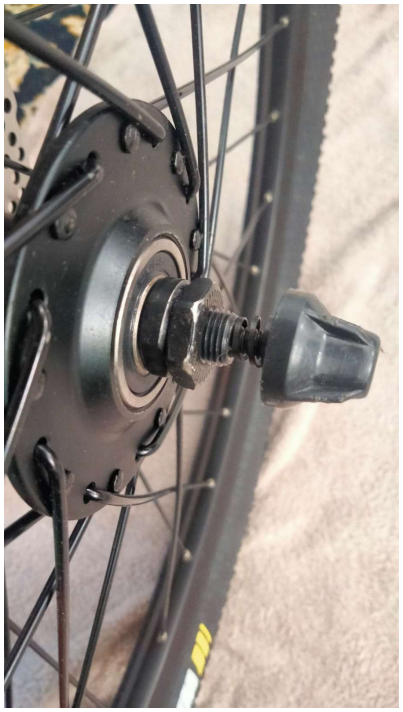


E-BIKE: S6M1 Assembly

3. Install the front wheel:

a. Remove the 2 large round plastic protectors from both sides of the front wheel
b. Remove the plastic spacers keeping the break caterpillars open and the forks apart
c. Assemble and insert the tru-axle (skewer) into the front wheel making sure that each side has a spring (thin ends on the insides) with the axle locking arm on the disc pad side.
d. Carefully insert the wheel into the forks while making sure that the brake disc slides into the caterpillars.
e. Open the arm and hand tighten the axle screws. Now close the arm to lock the wheel to the fork. If too tight, unscrew the axle bolt a bit and try again untill the locking arm locks in place with a reasonable amount of force.
f. Spin the front wheel to make sure that it turns freely. Correct if needed.





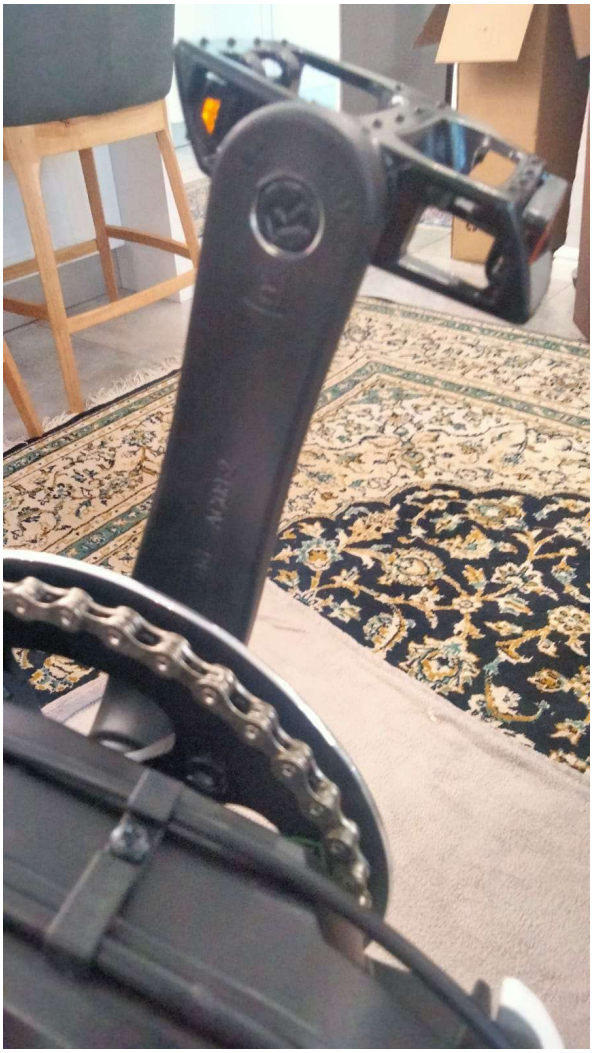
E-BIKE: S6M1 Assembly

4. Fit the pedals:

a. The R-pedal goes on the chain/chainring side and screws in counter clockwise
b. The L-pedal goes on the other side and screws in clockwise
c. Use the supplied spanner to tighten

As a possible upgrade, these standard pedals can be replaced by pedals with clips that hold your foot in the correct position on the pedal while pedalling. This requires matching cycling shoes that clip into the pedal.

It is suggested that a new rider first gets comfortable with the standard pedals before optionally upgrading to cycling shoes and cycling pedals.

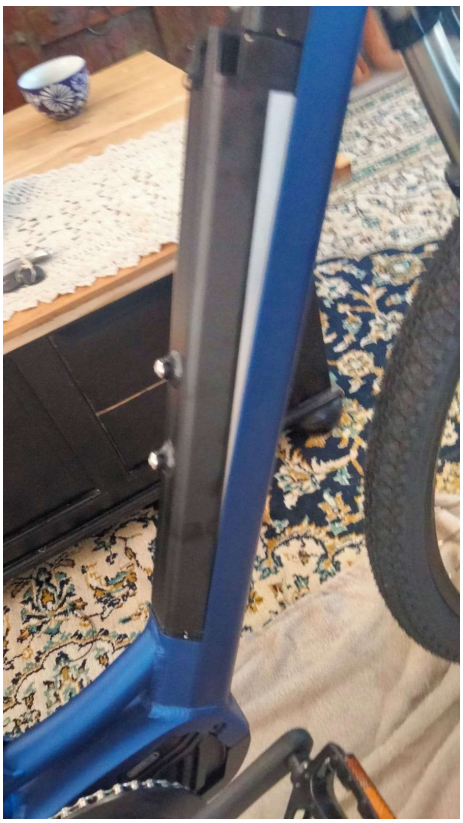


E-BIKE: S6M1 Assembly

5. Fit the battery:

a) Slide the battery into the frame and press the bottom part fully down and backwards
b) Press to top part of the battery into the frame untill it clicks into place
c) To remove the battery, insert and twist one of the supplied keys to release the lock and then pull the battery out of the frame using the grips at the top of the battery. This can be rather difficult untill the parts have been worn in a bit.

The battery can be charged separately (removed) or while in the bike. Simply connect the 42V charger to 220V and insert the cable into the battery. A red light on the charger should be on. When the battery is fully charged the light turns to green.



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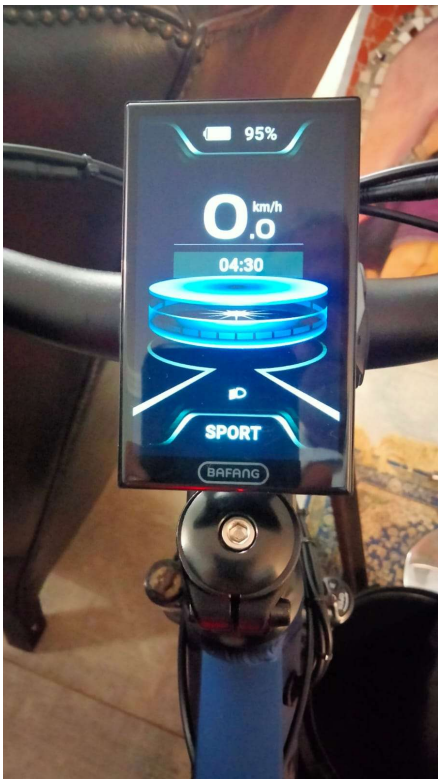
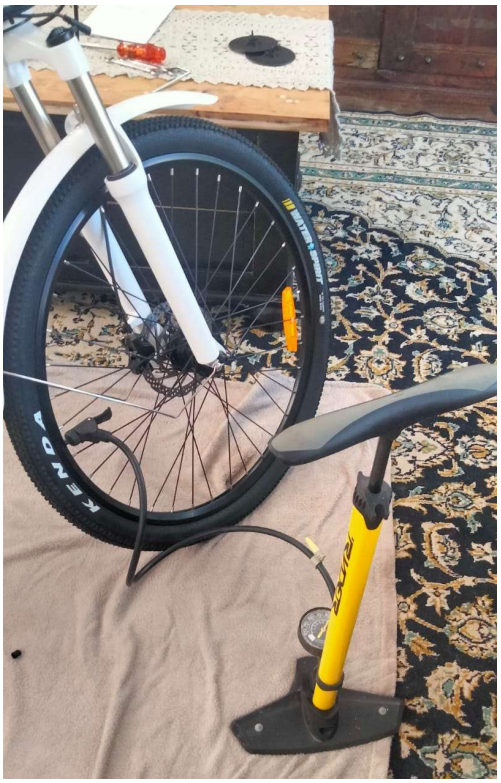
6. Check everything:

a) That the rear bike stand functions correctly
b) That the brakes work
c) The computer is comes on (press single button on the side) and the assist level can be adjusted up or down by using the other two buttons (next to each other)
d) All parts are screwed tightly and all the cables are in place
e) Adjust the seat to the correct height. Release the locking arm, then move the seat up or down and then tighten the locking arm again. (seat height should be such that when sitting the leg going to the bottom pedal should be nearly straight)
f) Fit other parts like the water bottle holder, bell, reflectors, lights etc
g) Check that the gear selector moves by using the handlebar levers (front and rear on the right). Only move the gears one gear up or down if the rear wheel is not turning.
h) Lock (for riding on-road) or unlock (for riding off-road) the front shocks by turning the lock on the right front fork to the desired position.
i) Pump both tyres untill they a hard





E-BIKE: S6M1 Testing/Riding/Upgrading

First ride:

a) Try to put the bike in a low gear (somewhere between 2 and 5). Lift the rear wheel while turning the pedals and adjust the gear using the gear change levers on the handle bar.
b) First switch the computer off, double check the seat height and then manually ride the bike. Get used to the brakes (use both together where possible) and the up and down gear changes. The actual gear 1..9 is displayed on the display on the right handle bar. Low or 1 (first gear) is strong and slow for going uphill or pulling away. Gear 9 is the fastest but weakest and used for traveling on flat or downhill sections.
c) Once comfortable, switch on the computer (computer single button) and select then the desired assist levels (2 buttons together). Now cycle normally

This e-bike uses a method called PAS (Pedal assist) to signal to the motor how much power to provide. This control process comes naturally and the rider experiences cycling in the same way as on a normal bicycle while having to apply a lot less pedal energy.

There is no throttle (like on a scooter or motorbike). You have to pedal to propel the bicycle. Higher assist level give easier pedalling at the expense of shorter range.

Maximum speed while pedalling depends on how fast you can pedal but around 40km/h is a rough limit. The bike can reach higher speeds when freewheeling downhill.

The bike does not have regenerative braking but this reduces the range minimally only.

Cleaning and caring for the bike (chain oil etc) is similar to that of a normal bike.
Take care to not apply excessive water to any of the electrical parts.

Possible Upgrades:

a) As mentioned before items such as the pedals and the seat can be upgraded with more performance driven equivalents if required
b) A larger battery is optionally available but this is bigger so it is no longer fully integrated into the frame) and it is heavier. You need to decide if the extra range is worth it.
c) For larger people with longer arms a longer stem (small arm that connects the frame to the handle bar) can be considered. This will move the handle bars forward. Stems are also available that can be tilted up or down to move the handle bar either up or down. This helps to cater for an even wider range of rider sizes.
d) For higher road speeds you could consider replacing the chainring (front gear) with a larger one with more teeth. You will have to increase the chain length as well when doing this. You now traded climbing ability for speed.

E-BIKE: S6M1 Specifications

a)	Frame:	Aluminium 6061
b)	Weight:	TBC
c)	Tyres:	27.5 inch diameter 1.95 inch wide. Kenda brand with tubes
d)	Gears and Chain:	Shimano Altus with 9-speed cassette (gears at the rear)
e)	Brakes:	Disc type front and rear (cable operated)
f)	Motor:	250W Bafang M410. (extra torque for mountain climbing)
g)	Motor mounting:	Mid frame integrated into frame
h)	Shocks:	Front (dual hydraulic damping) and rear/frame (air damping)
i)	Seat:	Padded and comfortable (adjustable up/down etc)
j)	Battery:	Li-ION 36V 13.4Ah embedded into frame
k)	Computer:	High end colour screen showing battery status, speed and assist level.