



POWATRYKE
BUILD MANUAL



The Electric Bike Innovator

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Assembly Manual of the Tryke

Tools required :

- 8mm spanner
- 10mm spanner x2
- 13mm spanner x2
- 14mm spanner
- 18mm spanner
- 22mm spanner
- 2.5mm Allen key
- 6mm Allen key
- Cross head screwdriver
- Chain link extractor tool
- Hot air gun
- Pliers
- Side cutters
- Rubber mallet

Consumables :

- 22 medium cable ties
- 6 small cable ties
- 15m nylon strapping and clips (x5)
- Large labels

Preliminary notes :

Ensure you assemble on a board or similar surface to prevent scratching of paint-work.
Two size trikes – 24” and 20”
Two boxes of parts for each trike.

Parts list :

Box 1

- Chain guard x1
- Seat x1
- Handle bars, Nexus gear hub and cable set x1 / or derailleur
- Rear mudguards x2
- Front mudguard x1
- Rear Wheels with tubes and tyres x2
- Front tyre, inner tube and rim protector x1
- Battery housing pack x1
- Main frame with front forks, chain, crank and rear hub assembly x1
- Back axle x1
- Rear Basket x1

Parts Pack A :

- Seat post x1
- Pedals x2 (L & R)
- Nut covers for rear wheels x2

- Small rear chain x1
- Front brake cable pack with anti rotation device x1
- Rear basket stays x2
- Front light box (white) x1
- Handle bar grip x1
- Anti Rotation Bracket
- Nuts and bolts pack

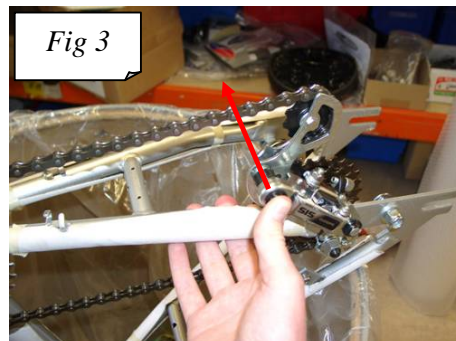
Box 2

- Motorised front wheel x1
- Battery Charger x1
- Electric wiring loom, throttle, keys and control box pack x1
- Spare brake lever x1 (not used)
- Stickers x4, cables ties and spare heat shrinks pack x1

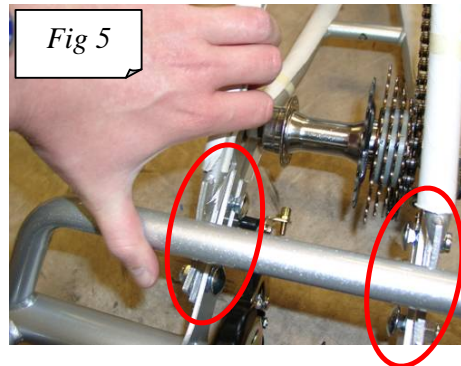
Assembly instructions :

Mechanical Parts

1. Unpack and check all parts against Parts list. Please note serial number under bike frame for use later.
2. Check that all the gears good work: push on the derailleur and with your other hand run chain by turning pedals (fig 1, 2, 3). If gears not operate smoothly, adjust them by acting on the adjustment screw of the derailleur.



3. Fit back axle to frame: slide axle inside frame (fig 4) locating four bolts into the slots (fig 5). Don't tighten nuts for the moment.
Note: four locating holes for the battery cage should be uppermost.



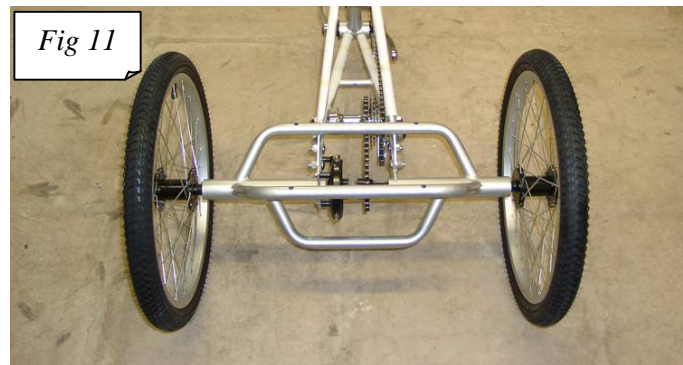
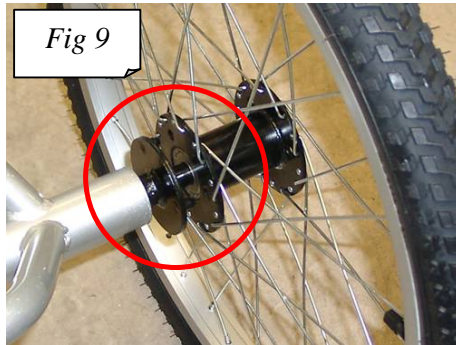
4. Fit small rear chain and adjust it: first of all, ensure cogs are lined up. Then, using chain link tool to insert pin into link from one side until proud (fig 6). After that, swap link over and push pin back a little to allow free movement of link (fig 7). Finally, tighten the chain (**do not overtighten:** leave around 1cm loose), check alignment and tighten all nuts on rear assembly (14mm).
Note: extra link may be required on 20" model.



5. Assemble front wheel: fit wheel rim protector ensure valve holes are aligned and all spoke ends covered (fig 8). Fit tyre, inner tube and inflate to 40psi.

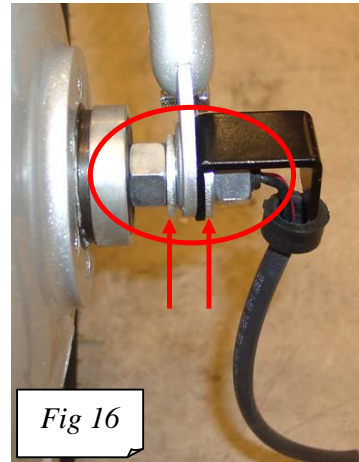
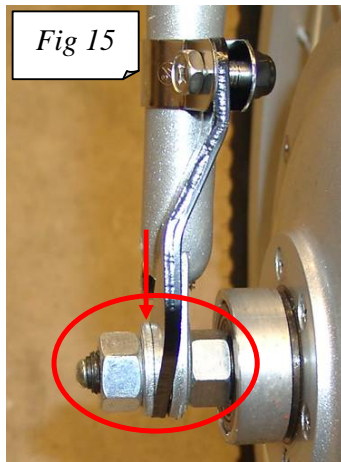


6. Fit Rear Wheels: for the right rear wheel, locate the 3 pins on axle into the holes on wheel (fig 9). Tighten nuts (22mm). Tap on plastic nut covers (fig 10).
Note: do not tighten too much nuts because otherwise, you will damage wheels bearings.



7. Working right way up with electrical connector to near side (left if sitting on bike). Remove the black angle bracket on the axle nut near side (fig 12, 13) and undo the rubber protection cap (fig 14). Fit front wheel to forks between washers on near side only. Remove one washer on off-side axle ensure good fit on axle (fig 15, 16). Line up Front wheel with forks.
Note: to fit front wheel to forks, before to assemble it, lightly widen the forks by pulling apart while offering the wheel into position.

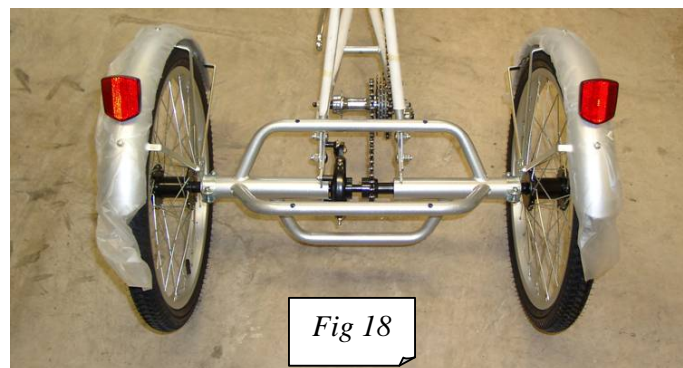




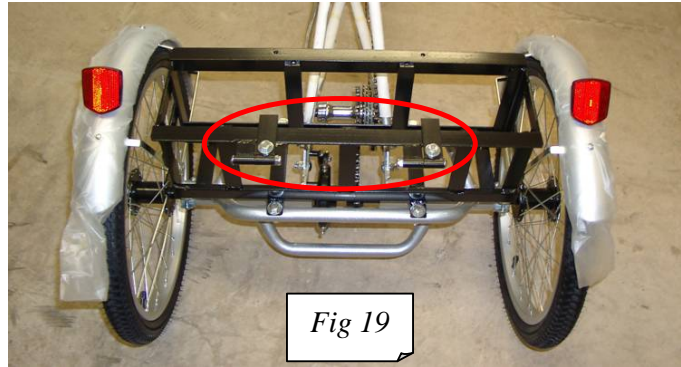
8. Fit anti rotation device to right side front axle with bracket around fork (10mm) (fig 17). Tighten nuts on axle both sides before tightening bracket (18mm). Replace rubber protection cap and fit the black angle bracket onto the axle nut left side. Tighten all front nuts. Check alignment of front wheel.



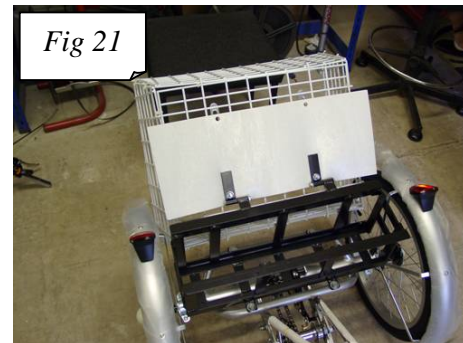
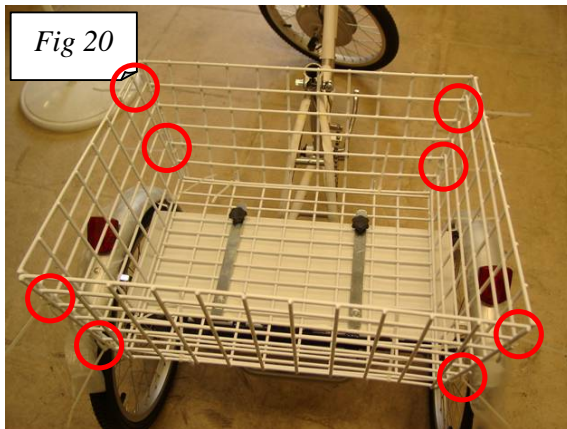
9. Fit Rear mudguards with 10mm spanners. Retain plastic covering for protection. (fig 18)
Note: finger tight only as mudguards need to be moveable for packing.



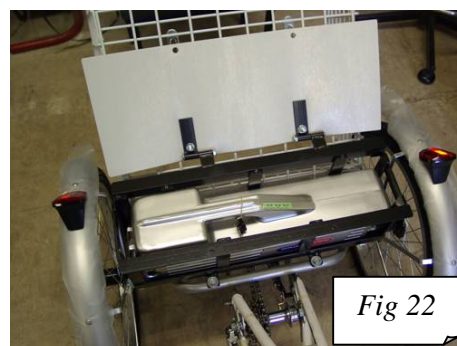
10. Fit battery cage to frame with 13mm bolts in pack, ensure that the rotation of the basket is to rear of bike (fig 19). Ensure that bolt heads are to the inside of the cage and that the largest washers are under the bolt heads.



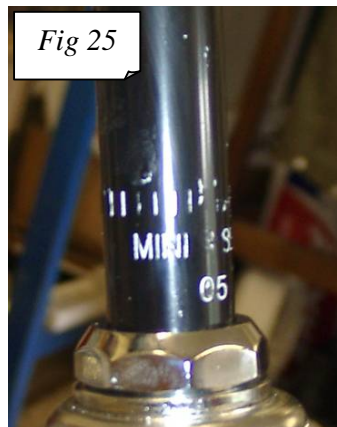
11. Assemble rear basket and fix with 2 cable ties per corner and side next to 'L' shaped lugs (16 cable ties altogether) (fig 20). Fit rear basket to top of battery cage with rear basket stays (fig 21): site basket so that seat can be raised and lowered freely.
Note: during the fitting of the basket, do not tighten too much cable ties before you have completely assemble the basket. Otherwise, it will be very hard to fit the last side of the basket.



12. Insert battery inside battery cage: Remove rubber protections which are located either end of the battery and leave battery keys tied to it. (fig 22)



13. Remove plastic bolt cover (fig 23) and unscrew 6mm hex bolt. Insert stem into frame and tighten 6mm hex bolt (fig 24). Replace plastic bolt cover.
Note: respect the minimum penetration level of the stem (indication engraved on the stem: fig 25).



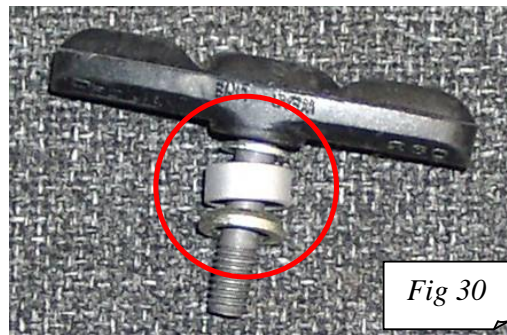
14. Attach front mudguard removing plastic protection. Secure to bolt through frame and screw side stays to brackets with attached screws. Push down on guard before tightening. (fig 26)



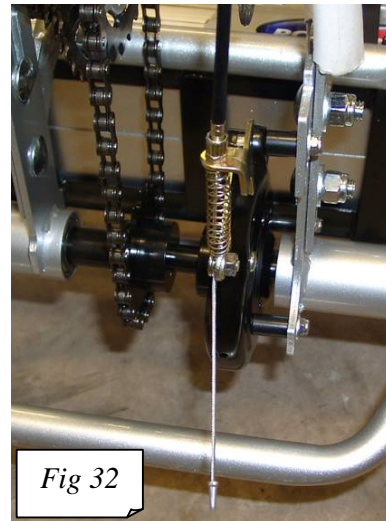
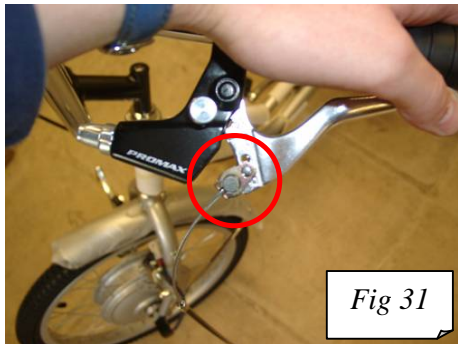
15. Fit pedals using special spanner (fig 27). Check which one is the right and the left pedal before to fit them: indication engraved on end of pedals.
Note: thread of left pedal is reversed (left pitch).



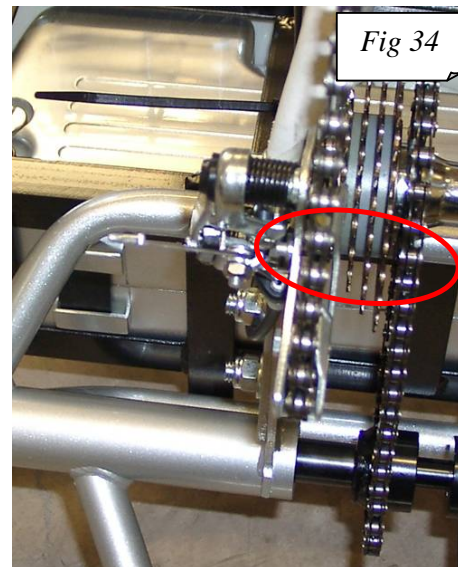
16. Attach chain guard to lugs – screws supplied on frame – locate front screw first and check chain can run free without rubbing. Adjust if necessary.
17. Adjust the angle position of the seat and then fit seat post to seat and locate into frame (14mm).
18. Attach front brake cable to lever. Adjust brake blocks (8mm bolts) to contact rim only (not tyre) (fig 28) and pass cable through 'L' shaped cable guide inserted into bracket, fit rubber gaiter and secure wire through cable clamp (10mm) (fig 29). Finish cable ends with clamped on aluminium caps.



19. Attach rear brake cable to lever (fig 31) and thread through frame clips to rear brake cable clamp. Insert rear brake spring and then, pull cable taught and tighten (10mm). Finish cable ends with clamped on aluminium caps (fig 32).
Note: put the tryke upright on these rear wheels to proceed.



20. Select gear 5 and thread gear cable through frame clips. Attach gear cable to frame with 2 cable ties (fig 33). Secure wire through cable clamp (10mm) and finish cable ends with clamped on aluminium caps (fig 34). Test Gear change movement and adjust it if necessary by turning the adjustment nut located at the end of the cable (at the derailleur side).
Note: put the tryke upright on these rear wheels to proceed.



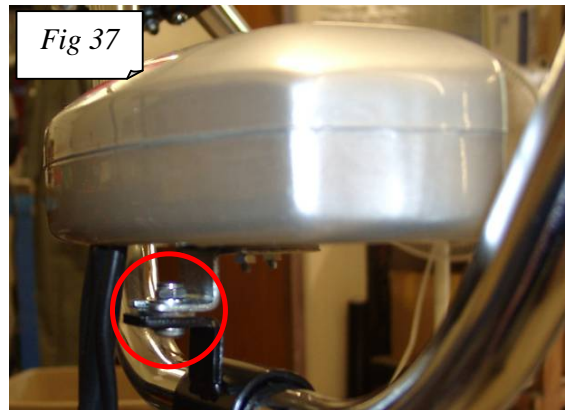
20bis. **If Hub gear:**

Select gear 1 and thread gear cable through frame clips, pass gear assembly between chain and frame (fig 35). Insert Gear spring in gear shaft and make sure chamfer is outward (fig 36). Attach gear assembly onto nut with 10mm bolt. Test gear change movement: in 2nd gear, indicator on rear assembly should be between the lines.



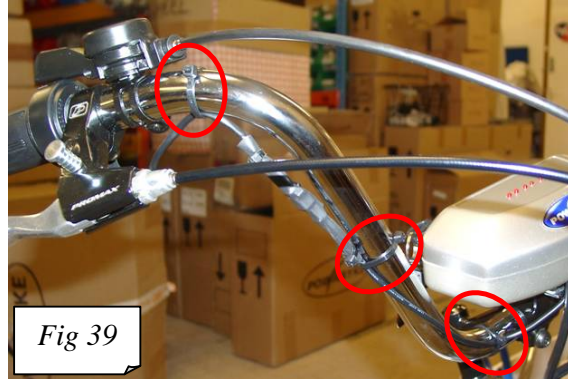
Electric Parts

1. Attach keys to handle bars.
2. Connect controller to bracket on front of handle bars: lug between the two washers (fig 37) and tighten (8mm).
Note: Ensure key hole faces rider.



3. Attach throttle to handle bar: loosened grub screw (2.5mm hex) but do not remove because impossible to re-insert. When throttle is in position tighten grub screw (fig 38). With three small cable ties attach cable to handle bar and under controller (fig 39).

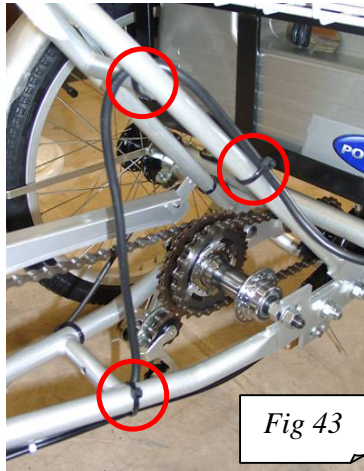
Note: don't insert completely the throttle on the handle bar: leave a small looseness between the end of the handle bar and the throttle, otherwise throttle will not operate smoothly.



4. Keeping electrical cables separate from gear and brake cables (fig 40) connect white connector to front hub cable. Ease heat shrink sleeve over connector and use hot gun to shrink sleeve (fig 41), attach small cable ties above and below connector. Use two cable ties to attach cable to forks and feed into frame clips (fig 42).



5. Starting from rear, thread main power cable from basket under frame in clips with other cable(s) leaving enough cable to attach plug to battery and secure with cable ties. Excess cable should be at the front to facilitate turning. Cable tie (2 or 3) to make neat (fig 43). Remove all cable tie ends.



6. Four stickers should be placed on front stem (fig 44), middle stem under seat post (fig 45), chain guard (fig 46), and rear axle frame (fig 47).



7. Road Test by inserting test battery and check motor, brakes and gears, check for mudguards or chain rubbing.

Packing

1. Place trike onto palletted box base.
2. Attach three packing straps as photos.



3. Insert accessories (front and rear light, bell), battery charger and user manual in rear basket.
4. Fit cardboard sides and top and secure with two straps.
5. Label both long edges of box with Size, Colour and Serial No.