

ELECTRIC TRIKE 2019 MANUAL



Welcome

First off, welcome to the Wattwheels family! We're so happy to have you on board! You've picked a great model and in this manual, we're going to break down the basics to make sure that your E-Trike remains in top shape and performs to the highest standard.

You're about to experience the ride of your life. In order to get you out and having fun as quickly and as safely as possible please read the all the manual carefully, paying close attention to the safety section.

Also, we highly recommend familiarizing yourself with local laws for E-Trikes/Bikes and the components of the model that you have before your first ride.

Wattwheels assumes that all persons involved in: using, repairing, maintaining, cleaning, or disposing of this or any Wattwheels product must have fully read and understood the content and meaning of these operating instructions.

Additionally, Wattwheels claims no responsibility for any injury or damage resulting in improper use of any E-Trike.

Ready to get started? Let's ride!

Using This Manual

This manual contains details of the product, its equipment, and information on its operation and maintenance. Read it carefully and familiarize yourself with the E-Trike before using it to ensure safe use and prevent tragic accidents. Be sure to retain this manual as your convenient E-Trike information source.

This manual contains many Warnings and Cautions concerning the safe operation and consequences, if safe setup, operation and maintenance are not performed. All information in this manual should be carefully reviewed and if you have any questions you should contact your local retailer immediately.

Because it is impossible to anticipate every situation or condition which can occur while riding, this manual makes no representations about the safe use of tricycles under all conditions. There are risks associated with the use of any tricycle which cannot be predicted or avoided, and which are the sole responsibility of the rider.

You should save this manual, along with any other documents that were included with your tricycle, for future reference, however all content in this manual is subject to change or withdrawal without notice.

Visit www.wattwheels.co.nz to download the latest version. Wattwheels makes every effort to ensure accuracy of its documentation and assumes no responsibility of liability if any errors or inaccuracies appear within. Assembly and first adjustment of your E-Trike requires special tools and skills and it is recommended that this should be done by a trained bicycle mechanic if possible.

LET'S GET STARTED:

1. Completely charge the battery before the first use
(Red light is on when battery is charging, green when fully charged. Approx. time is around 4-5 hours)

FOR DETAILED INSTALLATION INSTRUCTIONS REFER TO THE INSTALLATION MANUAL or WEBSITE.

www.wattwheels.co.nz/manuals

2. Assemble the Handle Bars
3. Attach Front Basket & Light
Beware: The left-hand pedal has a reverse thread. To tighten, please turn anti-clockwise.
4. Attach the seat post
5. Attach front Mudguard
6. Mount the Front Wheel
7. Attach Pedals, rear mudguards and rear lights.

LCD Display Features

The image shows the various features and information displayed on the wireless remote. The display is controlled using the 3 -button remote mounted on the left side of the handlebar. For more information on the LCD display and operation please refer to the manual included. This is also on located on our website at <https://www.wattwheels.co.nz/manuals>



Throttle

The Throttle is located on the left hand side of the handlebars in the form of a thumb piece. Please be careful as these throttle are set to operate the E-Trike from stationary so any slight press of this will propel the E-Trike forward. The throttle can be used when taking off from a stationary start, as a cruise control or just if you're in need of a break! Please be aware using the throttle will drain the battery much quicker than normal riding. Also the throttle are not designed to climb steep hills. To get the maximum amount of power from the trike on steep gradients select the highest level of PAS and use the highest gear. These can also be disconnected if required.



GEARS

The gear shifter is located on the right side of the handlebars in the form of a twist shifter. To change the gears turn the shifter down or up. It's a Nexus 7 speed system



PAS (Pedal assist modes)

Pedal assist modes start from 1 and go up to 9 in some cases. This can be changed if required. Refer to the Display manual. PAS level 1 is the first pedal assist level and will give you some slight assistance. The rider however will still be doing most of the work. As you select the higher levels the assistance will increase. Level 9 basically doing all the work for you. Using higher levels of PAS will again, drain the battery faster. The recommended level is PAS 3-4 to ensure maximum battery life. With these displays you have the option of programming the power level on each PAS level. If you feel level 1 & 2 for example are too powerful and the trike takes off too quickly these can be changed. Please contact your retailer or email [wattwheels – admin@wattwheels.co.nz](mailto:admin@wattwheels.co.nz) for assistance in changing this.

Reverse Mode

Your E-trike is equipped with a reverse feature. To use the reverse option press the red button located on the handlebars. Then press the throttle option and the trike will slowly go backwards. Please be aware the pedals will rotate when you are using this mode. By pressing the red button again it will go back into normal forward operating



Park Brakes

The park brakes are located on both of the brake levers. To use the park brakes when the brake lever is pressed in flick the little clip around and it will hold the brake in place, thus preventing the trike from rolling if you are parked on an angle/slope. Make sure you release these brakes before using the motor as it will not operate if the park brake is still on.

Driving Range

The range of your E-Trike is the distance the Trike will travel on a single full charge of the onboard battery pack. The range values in this manual are estimates based on expected usage characteristics. Some of the factors which effect range include changes in elevation, speed, payload, and acceleration, number of starts and stops and ambient air temperatures. Tire pressure and terrain are also important variables to consider. We suggest that you ride conservatively when you first get your E-Trike to get to know your E-Trike and travel routes.

Once you become familiar with the range requirements of your travel routes, and the capabilities of your E-Trike you can then adjust you riding characteristics if you so desire.

The following table provides general estimates and outlines various factors effecting range and their combined estimated effects on range. This table is meant to help owners understand the factors that can increase or decrease range, but E-Trike makes no claims to the range that individual users might obtain.

Expected Range	Operating Conditions
36km	<ul style="list-style-type: none"> o Hilly Terrain o Heavy Payload o Windy o High Speeds o High PAS Level
54 Km	<ul style="list-style-type: none"> o Flat Terrain o Normal Payload o Not Windy o Medium Speeds o Moderate PAS Level
70 Km	<ul style="list-style-type: none"> o Flat Terrain o Normal Payload o Not Windy o Low Pedal Assist Level o Moderate to Heavy Pedaling

Battery Capacity Display

The LCD readout on the handlebar of your E-Trike features a battery capacity gauge (much like the fuel gauge on an automobile). It is recommended that users stop operating the E-Trike once one bar is on the top of the display. Once the battery is fully depleted, the last remaining bar will begin to flash, communicating to the user that they should cease operation immediately. Once this happens turn of the display and the trike can be ridden as normal without the electric option going.

Adjusting Seat Height

Use the quick release lever to free the seat post and pull upwards or push downwards to reach desired height.

Notice: Ensure seat post and seat are properly adjusted before riding. Do not raise the seat post beyond the minimum insertion marking etched into the seat post tube. If your seat post projects from the frame beyond these markings, the seat post or frame may break, which could cause you to lose control and fall. Prior to first use, be sure to tighten the seat clamp properly. A loose seat clamp or seat post binding bolt can cause damage to the bicycle or can cause you to lose control or fall. Periodically check to make sure these the seat clamp is properly tightened.

Rider Comfort

To obtain maximum comfort, the rider should not overextend his or her arms reach when riding. In order to obtain the most comfortable riding position and offer the best possible pedaling efficiency, the seat height should be set correctly in relation to the rider's leg length. The correct saddle height should not allow leg strain from over extension, and the hips should not rock from side to side when pedaling. While sitting on the tricycle with one pedal at its lowest point, place the ball of your foot on that pedal. The correct saddle height will allow the knee to be slightly bent in this position.

Battery & Charging

Removing the battery from the trike when storing it for a long period of time is recommended. In this case store it in a cool, dry area away from water. The charge left in the battery should be 50%-75% for long storage times.

Cleaning the battery and battery housing should only be done while disconnected and powered off. Use a dry rag, and if need be a lightly damp rag.

DO NOT spray with high-pressured water to prevent damage or possible short-circuiting. Only charge the battery with the supplied charger as others may not function properly, and this increases the possibility of fire or explosion.

Charging the battery during the day in a dry space with a smoke/fire alarm is recommended, while placing the battery on a non-flammable surface. Do not store the charger or battery in a wet place or in direct sunlight. Lithium-ion batteries are meant to be recharged with 10%-15% of the charge remaining to prevent damage to the cells. Keep both the battery and charger out of the reach of children and If there appears to be an issue with the charger or battery, stop use immediately and contact either the manufacturer or Wattwheels at admin@wattwheels.co.nz

Charging:

- Firstly, insert plug of the charger into charging socket of the battery box.
- Second, Insert the charger into the socket of the home power supply. It shows the power has already been put through when the indicator lamp of the charger is on.
- It is charging when the indicator light is red. When the light turns from red to green, it indicates that the battery is fully charged.
- After the green light is on, the charger is in little electric current and "fill slowly mode". It will not be harmful to the battery if left to charge for a longer period or overnight.

Please don't use the charger of other brands to charge. The electric apparatus contains a high-pressure circuit.

USEFUL TIPS

While starting or climbing, please ride with feet auxiliary as much as possible, otherwise the energy consumption will be very high. By doing this it can lengthen the life of battery and motor.

- This specified load of the Electric Trike is 120kg, please don't overload.
- While riding if the level of charge shows only one bar is recommended to ride as a normal E-Trike at this time and charge as soon as you can.
- Close the power and take down the key, while parking.
- The power switch of the LCD panel should be turned off every time you finish making sure the Electric Trike won't start suddenly and cause accidents.
- Try and reduce please reduce braking frequently while riding, in order to save the electric energy.
- Do not turn on the E-Trike when the brake levers are depressed as this will trigger the faulty brake sensor and disable the motor.

- Inspect the bolts on a regular basis, to ensure that they are tight and all components are secure. This is especially important if you are riding in demanding conditions.

As with all trikes pay particular attention to the crank bolts, as they are subject to more loosening forces than any other bolt.

Regularly check the brake pads, the provided Tektro pads should be replaced if they have:

- Been contaminated
- Have less than .8mm of material
- Cracks or deformation

To replace the brake pads or perform other maintenance take it to a qualified professional at your local bike shop.

Properly inflate your tyres according to riding conditions. Under-inflated tyres are prone to pinch flats, especially if riding off-road. We recommend a PSI of 25-45 depending on riding conditions.

Please don't dismantle and repair parts by yourself, please go to your local bike repair shop. This E-Trike comes with a full comprehensive warranty (document included) so any standard repairs please contact Wattwheels and we will arrange a service agent close to you to look at the E-Trike. We carry spare parts so anything electrical that a standard bike shop doesn't have we will ship to you.

Best Practices for Extending Range and Battery Life

Notice: It is recommended that users pay close attention and ride within the following limitations to ensure the hub motor does not overheat or become damaged from excessive loading.

- o Do not climb hills steeper than 15% in grade.
- o Pedal to assist the motor when climbing hills and accelerating from a stop.
- o Avoid sudden starts and stops.
- o Accelerate slowly.

Parking, Storage and Transport

Please follow these basic parking, storage and transport tips to ensure your Trike is well cared for on and off the road. The trike is equipped with a park brake located on the brake. Press the brake and flip over the switch to hold the brake in position and avoid the trike from rolling or moving when you get off.

When pushing the vehicle manually, turn off the power to avoid accidental acceleration from the motor.

- o It is recommended to park indoors when not using
- o Switch the power off, and any lights to conserve battery. Remove the key from the E-Trike and ensure the battery is locked to the frame or removed and brought with you for security.
- o In public places, your E-Trike must be parked in accordance with local rules and regulations.
- o If you have to park outdoors in rain, or wet conditions you should only leave your E-Trike outside for a few hours and proceed to park the E-Trike in a dry location afterwards in order to allow all the systems to dry out. Much like a regular E-Trike, use in wet conditions mandates a more regular maintenance schedule to ensure your E-Trike does not become rusty, corroded and to ensure all systems are always working safely.
- o Do not park, store, or transport your E-Trike on a rack that is not designed for the size and weight of the trike.
- o Wide tyres, as used on E-Trike, cannot fit into all E-Trike racks, please select an appropriate rack for the width of tyres used on your E-Trike.
- o Locking up your trike is recommended to ensure your is secure and the chance of theft is reduced. E-Trike makes no claims or recommendations on the proper lock hardware or procedures to secure your E-Trike, but we do recommend you take the appropriate precautions to keep your E-Trike safe from theft.
- o When storing your E-Trike or carrying your trike on a rack for transport, you can remove the battery pack to reduce the weight of the E-Trike and make lifting and loading easier.

Safety Check

Safety Check	Basic Steps
1. Brakes	<ul style="list-style-type: none"> ○ Ensure front and rear brakes work properly. ○ Ensure brake pads are not over worn and are correctly positioned in relation to the rims. ○ Ensure brake control cables are lubricated, correctly adjusted and display no obvious wear. ○ Ensure brake control levers are lubricated and tightly secured to the handlebars.
2. Wheels and Tyres	<ul style="list-style-type: none"> ○ Ensure tyres are inflated to within the recommended limits displayed on the tyre sidewalls. ○ Ensure tyres have tread and have no BULGES OR EXCESSIVE WEAR. ○ Ensure rims run true and have no obvious wobbles or kinks. ○ Ensure all wheel spokes are tight and not broken. ○ Check axle nuts and quick releases to ensure they are tight. If your bicycle is outfitted with quick release axles, ensure the locking levers are correctly tensioned and in the closed position.
3. Steering	<ul style="list-style-type: none"> ○ Ensure handlebar and stem are correctly adjusted and tightened, and allow proper steering. ○ Ensure the handlebars are set correctly in relation to the forks and the direction of travel.
4. Chain	<ul style="list-style-type: none"> ○ Ensure the chain is oiled, clean and runs smoothly. ○ Extra care is required in wet or dusty conditions
5. Bearings	<ul style="list-style-type: none"> ○ Ensure all bearings are lubricated, run freely and display no excess movement, grinding or rattling. ○ Check headset, wheel bearings, pedal bearings and bottom bracket bearings.
6. Cranks and Pedals	<ul style="list-style-type: none"> ○ Ensure pedals are securely tightened to the cranks. ○ Ensure the cranks are securely tightened and are not bent.
7. Derailleurs	<ul style="list-style-type: none"> ○ Check that the derailleur(s) are adjusted and functioning properly. ○ Ensure shift and brake levers are attached to the handlebar securely. ○ Ensure all brake and shift cables are properly lubricated.
8. Frame and Fork	<ul style="list-style-type: none"> ○ Check that the frame and fork are not bent or broken. ○ If either are bent or broken, they should be replaced.
9. Accessories	<ul style="list-style-type: none"> ○ Ensure all reflectors are properly fitted and not obscured. ○ Ensure all other fitting on the E-Trike are properly secured and functioning. ○ Ensure rider is wearing helmet and any other required riding safety gear.
10. Motor Drive Assembly and Throttle	<ul style="list-style-type: none"> ○ Ensure hub motor is spinning smoothly and the motor bearings are in good working order.
11. Battery Pack	<ul style="list-style-type: none"> ○ Ensure battery is charged before use. ○ Ensure there is no damage to battery pack. ○ Lock battery to frame and check to see that it is secured.

Troubleshooting

Basic Troubleshooting

Symptoms	Possible Causes	Most Common Solutions	
1	It doesn't work	<ol style="list-style-type: none"> 1. Insufficient battery power 2. Faulty Connections 3. Battery not fully seated in tray 4. Improper turn on sequence 5. Brakes are applied 	<ol style="list-style-type: none"> 1. Charge the battery pack 2. Clean and repair connections 3. Install battery correctly 4. Turn on E-Trike with proper sequence 5. Disengage brakes
2	Irregular acceleration and/or reduced top speed	<ol style="list-style-type: none"> 1. Insufficient battery power 2. Loose or damaged throttle 	<ol style="list-style-type: none"> 1. Charge or replace battery 2. Replace throttle
3	When powered on the motor does not respond	<ol style="list-style-type: none"> 1. Loose wiring 2. Loose or damaged throttle 3. Loose or damaged motor plug wire 4. Damaged motor 	<ol style="list-style-type: none"> 1. Repair and or reconnect 2. Tighten or replace 3. Secure or replace 4. Repair or replace
4	Reduced range	<ol style="list-style-type: none"> 1. Low tire pressure 2. Low or faulty battery 3. Driving with too many hills, headwind, braking, and/or excessive load 4. Batter discharged for long period of time without regular charges, aged or damaged. 	<ol style="list-style-type: none"> 1. Adjust tire pressure 2. Check connections or charge battery 3. Assist with pedals or adjust route 4. Replace the battery
5	The battery won't charge	<ol style="list-style-type: none"> 1. Charger not well connected 2. Charger damaged 3. Battery damaged 4. Wiring damaged 	<ol style="list-style-type: none"> 1. Adjust the connections 2. Replace 3. Replace 4. Repair or replace
6	Wheel or motor makes strange noises	<ol style="list-style-type: none"> 1. Damaged motor bearings 2. Damaged wheel spokes or rim 3. Damaged motor wiring 	<ol style="list-style-type: none"> 1. Replace 2. Repair or replace 3. Repair or replace motor.

Error Detection

Your E-Trike is equipped with an error detection system integrated into the LCD display and motor controller. In the case of an electronic control system fault an error code should display. The error codes are listed in the manual and the most common and can aid in troubleshooting. If your trike has an error code displayed at any time it is recommended that you cease operation and contact your retailer or wattwheels immediately.

FINALLY, WE WOULD LIKE TO SAY THANKS AGAIN AND ENJOY YOUR NEW E-TRIKE! AND PLEASE CONTACT YOUR LOCAL DEALER OR WATTWHEELS IF YOU HAVE ANY ISSUES OR QUESTIONS.

“POWER TO THE PEOPLE”