TRIKKE **eV5 & eV6**
OWNER MANUAL

Made in Holland

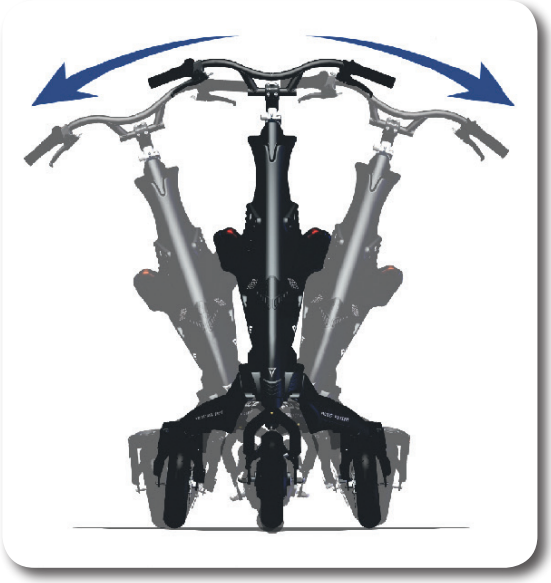
This manual has been written with great care.
However, Trikke Europe may make improvements and/or
changes to the products in this manual at any time without notice.

TRIKKE eV OWNER MANUAL

Introduction

Congratulations with your Trikke eV!
The green, smart and easy way of personal transport over short distances.
This manual contains important information about the specifics and the use of the Trikke eV. It also provides information about setup, inspection, operation and riding, maintenance, safety and warranty.
In case this manual is not complete or damaged or not well understood, be sure to contact your Trikke dealer or representative to confirm you have read and understood all information completely before using your eV.
Enjoy your ride!

Trikke Technology



The unique 3CV technology developed by Trikke Tech uses a mechanism that allows the eV frame to camber and the suspension to adapt to the surface and lean into turns while keeping three points always in contact with the ground to ensure optimal stability at any speed. This cambering mechanism is elegantly simple and provides the necessary rigidity, geometry and assistance to the rider's motion to allow a greater control, comfort, durability and above all the full confidence of riding.

Patent & Trademark Information

The Trikke eV is a product developed, patented and property of Trikke Tech, Inc. protected by the following International Patents:
U.S. 6,220,612; 6,499,751;6,827,358,;6,976,687; 1235709
Europe, Canada 2,390,224; China ZL 00 8 18040.7
Other patents pending.

TRIKKE and TRIBRED are trademarks of Trikke Tech, Inc.

Contact Information

Most inquiries can be addressed to the authorized dealer, distributor and service center. You can also find additional information on our website with product information, accessories, videos, photos and more.
If you can not find a replacement part on our website, please contact Trikke Europe via e-mail at info@trikke.eu

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1.1 Overview

fig. 1

1.2 Specifications

- purposes
  personal transport over dry, flat, hard surfaces in forward direction
- dimensions (cm):

	L	W	H
folded:	34	71	144
unfolded:	71	127	128-140
box:	147	48	34

- weights
  eV5.1: 18kg - eV6.0 19,6kg
  Batterij: 4kg
  eV5.1 incl. Bat.: 22 - eV6.0 incl. Bat.:23,6kg
  maximum rider weight: 135kg
- speed and range *
  range at 20km/h: 35km
  range at 25km/h: 25km
- materials
  frame and cambering system: 6061 T6 aluminum
  fairings and skirts: ABS plastic
- motor
  48V 350W brushless geared hub motor with free-wheel clutch
- battery
  48V 11250mAh 540Wh Li-Ion Panasonic cells
- brakes
  2 x disk brake 386mm, rear wheels, dependent (1 brake lever) or independant (2 brake levers)
- wheels
  alloy rim with sealed bearings
- tires
  non-marking motorcycle grade high pressure inflatable tire with inner tube
  front: 65/85 - 6 (10"x 2.5")
  rear: 65/80 - 5,2 (9.5"x2.5")
- charger: 54.6V 2A
- charge time: 5h
- controller: PWM 48V-17A
- speed-throttle:
  1/3 twistgrip with State of Charge indicator

eV6.0 additional specifications

• Head light:
45LUX-LED, single high power LED

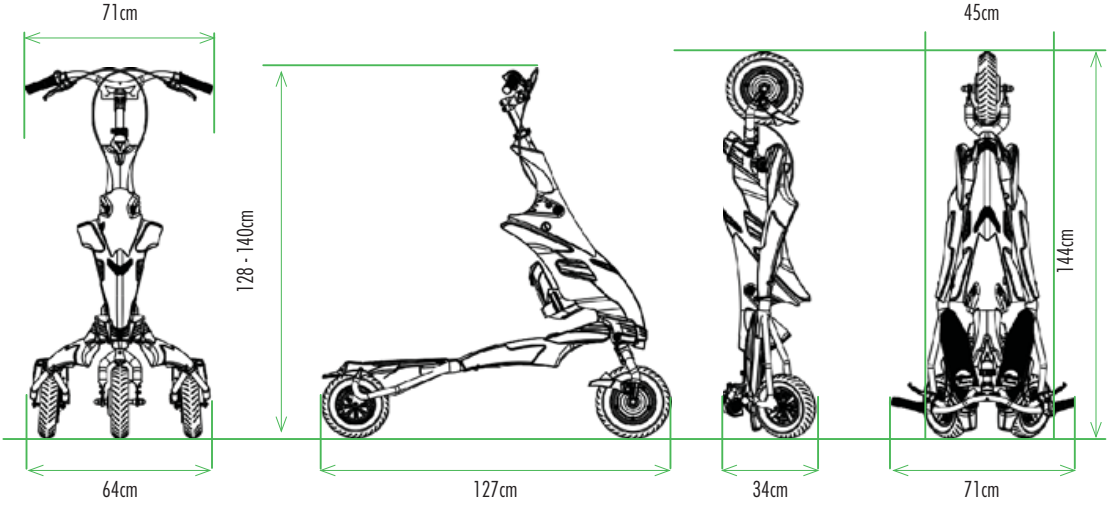
• Tail/Brake lights:
Red ultra slim 8 Led (1Watt)

• Display:
LCD cockpit display with background lighting and 8 functions

• Adjustable rear view mirror

* *accelaration, speed and range will vary with topography, rider's weight, wind, riding style, tire inflation. Ranges listed above depict an average with a rider weighing 80kg.*

1.3 Vehicle Dimensions



2. Preparing the Trikke eV for your first ride

2.1 Unpacking the box

Lay the box on a flat and dry surface. Lift the lid and put aside. Remove loose interior packing from the box and take out the eV. Remove all protection and check all contents.

The box contains:

- 1 x Trikke eV + manual
- 1 x toolset
- 1 x battery with 2 keys + manual
- 1 x charger

2.2 Unfolding and folding the frame

Unfolding: the folding mechanism can be found at the front of each arm and has knob that must be pulled and twisted to keep the lock open, to allow the folding process *(fig. 3)*.
Position the vehicle so that it is standing on its rear wheels to access and operate the folding levers *(fig. 4)*.
Once unlocked, put the vehicle on the ground and lift the front structure.
Twist the knobs back to release the folding mechanism, allowing them to lock in place (frame mounted) *(fig. 5)*. You should hear (and feel) two clicks indicating the locking of each arm *(fig. 6)*.

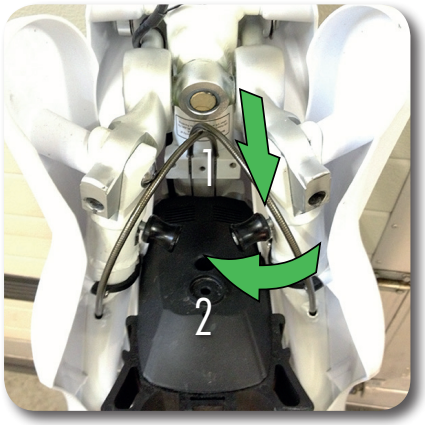


fig. 3


fig. 4


fig. 5

fig. 6

Folding: position yourself between the two arms of the Trikke eV holding the front structure with one hand. With the other hand, pull back the folding knobs on both sides into the unlocked position *(fig. 7)*. Start folding the frame and then release the levers from the unlocked position *(fig. 7)*. Fold the frame fully by pulling the handlebar back and down towards the platforms until the folding mechanism locks into folded position - you'll hear (and feel) a click for each side locking individually *(fig. 9)*.

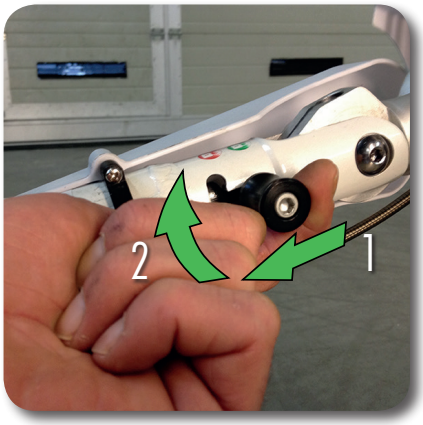


fig. 7


fig. 8

fig. 9

2.3 Mounting the handlebar

The vehicle must be positioned in its standing position to mount the handlebar. We recommend that you lock the parking brakes (see 3.7)before putting on the handlebar to keep the vehicle stationary during installation.

Position the handlebar with brake cables ahead *(fig. 10)*.
Note: The throttle cable is attached to the brake cable.

Loosen the two bolts on the handlebar stem with 4mm hex wrench provided. Slide the handlebar stem (with handlebar pre-attached) onto the top of the steering post and tighten the two bolts loosely. The top bracket should be flush with the top of the steering post *(fig. 11)*.


fig. 10


fig. 11

Aligning the handlebar

Align the handlebar perpendicular to the front wheel (or parallel to the axis of the front wheel) *(fig. 12)*. Once positioned, tighten the two bolts evenly. The final torque should be given after the alignment is correct.

After learning to ride, you can adjust the position of the handlebar (angle and height) to better suit your riding posture. You can also adjust the angle of brake levers for comfort of use (but do not position too far back to avoid interference when folding the arms of your eV). See 4.1

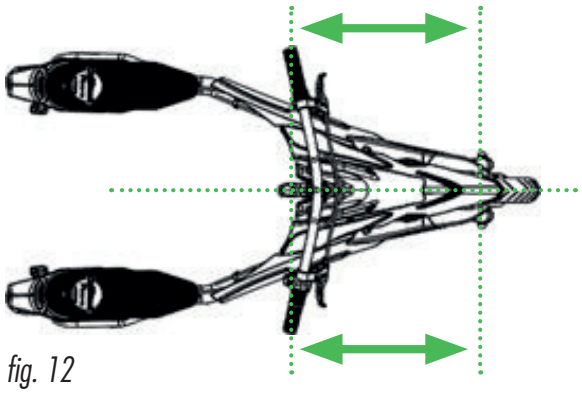


fig. 12

2.4 Installing the battery *(fig. 13 & 14)*

Make sure the battery key is set to unlocked (OPEN) position before installing.

Slide the battery down on the rail until it sits on the tray. Do not force the battery in an angle - make sure it will slide straight on the rail.

Turn the key clockwise to locked position (OFF) while pushing the battery down (the battery is pre-adjusted for a tight fit).

Turn the key to the next position clockwise, to turn the battery ON.

fig. 13

Removing the battery

Turn the key counterclockwise to OFF position. Push the key in and turn counterclockwise again to unlock the battery. Pull the battery up by the handle the entire extension of the rail until it's free.
Be careful to not drop the battery on the ground during installation and removal. Battery can remain either installed to the Trikke eV or removed for charging.

fig. 14

3 Operating your eV

As the eV is a totally new vehicle, with a unique handling, we recommend that you take time to familiarize yourself with the vehicle and to gradually explore the limits of performance with each ride.
For the safety of friends and others who will try your new eV it is your responsibility to guide them how to ride safely. Make sure you have read and understood all warnings and safety information contained in this owner's manual before riding. Please wear a safety helmet for riding.

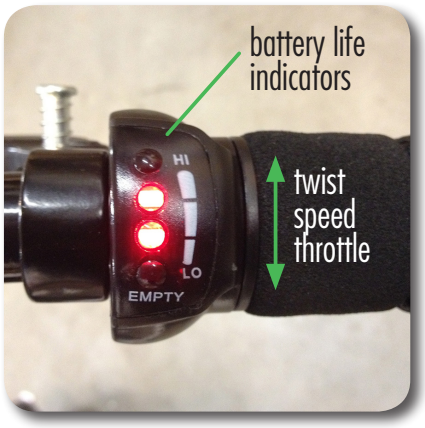


fig. 15

3.1 Pre-ride inspection

After completing the assembly process, check the vehicle again and compare it to the photograph in figure 1.
Check the battery for State Of Charge (SOC), cracks, other damage, leakage or burning (see 4.1)
Check the bolts that secure the front fork and handlebar (see 4.2). Push forward and pull back on the handlebar strongly; this should immediately indicate if it is securely fixed or not (see 4.3).
Check the folding mechanism to ensure that the arms are locked in the riding position. Use the lever lock/unlock sticker on top of the folding mechanism as reference (see 4.3).
Check the brakes by turning the rear wheels. They should spin freely until you apply the brakes. It must be possible to vigorously squeeze the brake levers without the brake levers touching the handlebar (see 4.5).
Check tires for tear and wear and check pressure (see 4.4).

fig. 16

3.2 Power on/off

To turn power ON, turn the battery key to "ON" position (see 2.4). The battery charge lights on the throttle should turn on, indicating that the vehicle is ready
for use. These lights show the estimate level of battery charge. The lights will fade as the battery charge decreases (fig. 15). There is also a state of charge (SOC) indicator on the battery cover. Press the button the lights will show for 2 seconds indicating 0-33-66-100% of charge level (fig. 16).
To turn the eV OFF, turn the key to the off position. The indicator lights for battery charge level will turn off, signaling that the system is off. The eV should be turned OFF when not in use to prevent accidental activation of the vehicle. The eV will shut off automatically after 5 minutes of inactivity.

A speed limiter switch is located on the cover of the controller box. When set to "1" (Turtle), speed will be limited to a walking pace of 6 km/h. When set to "2" (Eco), the maximum speed is 16km/h. When set to "3 "(Express), the maximum speed is 25km/h
The eV can travel faster on descents because it has a freewheel inside the motor. Beginners should use the speed control and limit their speed to 20 km/h or less, until they feel safe to operate at higher speeds.

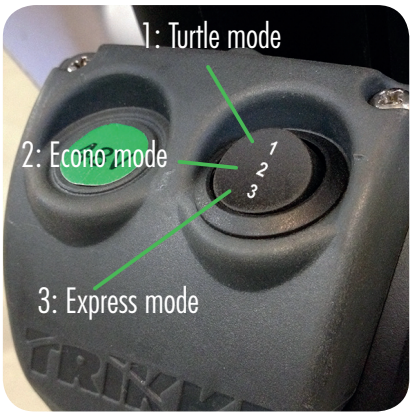


fig. 17

3.3 Accelerating

To accelerate turn the throttle back gradually, like on a motorcycle (using the thumb and forefinger) (fig. 18). The accelerator is sensitive and must be rotated to progressively increase the torque and speed. Be careful at the start cranking the throttle slowly until the vehicle starts to move. Lean your body forward and force your weight onto your toes (fig. 19). This ensures the necessary weight on the front wheel, which is the traction wheel. Once in motion, distribute your weight evenly between the front and rear wheels. When moving, you can
turn over the throttle to increase speed and control. Avoid burning of rubber (spinning the motor freely) at the start to not leave marks on the floor and prevent motor damage and premature tire wear.
Avoid accelerating with the handlebar turned, since you can lose balance and fall. Start with the front wheel aligned forward and then initiate the turn of the handlebar once already in motion.


fig. 18

The eV can accelerate quickly, so try to ride at speeds appropriate to your skill level and circumstances.
Crossing streets from a stand still requires well controlled acceleration.
Reducing speed (or stop) when riding at high speed, requires brake control and a safe distance.


fig. 19

3.4 Display (eV6)

The LCD display of the Trikke eV6.0 has several functionalities that can be managed with colored buttons:

Live energy consumption, the more lines the more energy you consume.

Modes: current speed, maximum speed or average speed. To switch modes press and hold the yellow button.

Modes: total distance, trip distance, battery voltage (V)
To switch modes, short press of the blue button

5 stage speed limiters initial speed 16km/h (not adjustable)
Yellow button increase speed limiter
Green button lower speed limit

Battery status six dashes interval of 16.6%

3.5 Lights (eV6.0)

The head & tail lights can be switched 'on' and 'off' with the light switch positioned on the handlebar.

Assembly

After assembly of the handlebar (follow instructions in your manual) you need to adjust the headlight to the correct angle. As the rider/owner of the vehicle you are responsible and need to make sure that the light does not blind oncoming traffic. The best position can be found by aligning the back of the collimated beam 5 meters ahead of the front wheel. This gives you optimum distribution of light without blinding oncoming traffic. Do you have the lamp in the correct position, you can tighten it if necessary so that it can not tilt back.

Maintenance

The front fairing needs to be removed for several maintenance tasks. Before loosening the bolts to first unplug plug the cable powering the headlight. You can find this connector next to the battery on the inside of the front fairing. You do this by pressing the release lever and then pull the plug.

3.6 Riding

The basics (Swap left and right for UK)

Trikke eV riders basically have the same responsibilities as the drivers of other vehicles using the road. These responsibilities are specifically defined under local Traffic Laws. Make sure you are familiar with your local Traffic Laws and regulations before using your Trikke eV on public roads.

Trikke eV riders who ride predictably, following the rules of the road and behaving like other vehicles, are likely to be treated like regular vehicles and are also more likely to be seen by other road users. Reducing conflicts among road users reduces the risk of collisions.

Additionally every rider must master basic Trikke eV handling skills such as riding in straight lines, stopping, shoulder checking and correct signaling, before venturing into traffic.

Positioning

Ride on the right side of the road, not on the left side or on the sidewalk. Riding in the wrong direction is a major cause of vehicle collisions. Riders who drive facing traffic are vulnerable because motorists don't expect to meet traffic coming the wrong way.

Riding on the sidewalk is dangerous for similar reasons. Pedestrians don't expect to meet Trikke eV riders. As well, each driveway becomes a potential intersection. Local bylaws often set out the age limit or the size of vehicles allowed to drive on sidewalks.

According to most European Traffic Laws any vehicle moving more slowly than normal traffic must drive in the right hand lane, as close as practicable to the right edge of the road. The best position for a Trikke eV rider depends on the width of the lane and the speed. Trikke eV riders should ride far enough from the curb, to travel in a straight line and avoid sewer grates, potholes, debris and the doors of parked cars. If the lane is too narrow to share safely, it's legal to occupy the whole lane. Although courtesy should prevail, Trikke eV riders should not compromise their safety for the convenience of motorists. It may be safer to take a different route. Increasingly, bike lanes are providing a good alternative.

Trikke eV riders should never squeeze between moving cars and the curb.

Yielding to crossing traffic

eV riders and motorists must decide who has the right of way at an intersection. The two rules that govern intersection behavior are a) the driver on the minor street yields to the driver on the major street. b) If arriving simultaneously, the driver on the left yields to the driver on the right.

Same direction yielding

When traveling in the same direction as other traffic,drivers of all vehicles (including Trikkes) must yield to traffic already in the lane. Before changing lanes, a rider must look behind to make sure conditions are safe, signal the lane change and negotiate with the driver behind to make sure the motorist sees the Trikke eV rider and agrees to let the Trikke eV rider in. Lane changes should be started early, with plenty of distance between vehicles.

Intersection positioning

At simple intersections, begin left turns from near the centerline and right turns from near the curb. In multiple-lane intersections, choose the right-most lane that serves your destination. A rider should always signal and keep out of motorists' blind spots.

Vulnerability

Because a Trikke eV is smaller and more vulnerable than most other (motor) vehicles, Trikke eV riders must ensure that all moves can be made safely, even if the rider has the right of way. In collisions, Trikke eV riders are at greater risk.

Riding style

eV riders should drive defensively and anticipate that other road users may make errors or not see them. Sometimes, dismounting and crossing an intersection on foot is the safest solution.
Riding confidently in traffic takes practice and skill. Trikke eV riders should wear approved safety wear (helmet) and highly visible clothing. Your Trikke eV should be properly maintained, equipped with working brakes, bell or horn, white front light and red rear lights and reflectors for nighttime driving.

Rain/wet surfaces

Avoid riding on wet or slippery surfaces (also surfaces covered by sand, gravel or mud) because the wheels may skid and braking distance can be affected causing loss of control and a possible crash. If necessary travel on slippery surface, try to travel in a straight line and avoid leaning the vehicle to maximize stability and control.
The Trikke eV can withstand a small amount of moisture, however, is not recommended for continuous use in rain or wet. In the case the vehicle gets wet, remove the battery and keep it in a dry and ventilated environment to dry the components. Avoid using the Trikke eV with wet parts. If the front wheel (motor) has been submerged, water will get in and remain inside the motor. You will have to drain the motor by removing the drain plug and spinning the motor off the ground. The centrifugal force will force the water out. Keep the drain hole open for several hours preferably in the sun to remove all moisture. If water or moisture is not removed from the inside of the motor case, the motor will be permanently damaged after some time.

Bumpy roads

Avoid impacts that can damage the motor, brackets, battery, and the frame. For example, going at speed over potholes, bumps, curbs or any obstacles.

Uphill

When you're climbing, it is important to assist the motor by riding in a "S" path. This is comparable to using a lower gear to avoid overloading the motor.

Stuck motor and high temperatures

The Trikke eV automatically stops the power supply to the motor if the motor is stuck and cannot rotate. An example would be to put the front wheel against a wall and press the accelerator. Another example of abuse would be the motor stalling when climbing a steep ramp. The motor will not turn, even with the power being supplied. This action will cause the electronic controller to disarm. Once the throttle is returned to the starting position, the system starts working again. Avoid overloading the motor repeatedly because the electrical components will overheat and possibly it will be damaged permanently. Operation at very high external temperatures can cause the electronic motor controller to disarm or fail intermittently. When cooled, the system will function normally again. This is a thermal protection to avoid damage to electronic components. The controller is located inside the tower behind the battery. Do not obstruct the cooling vents for the motor controller.
When the batteries are almost empty, there will be a pause, and intermittent power will be supplied to the motor until the battery shuts down permanently. Battery will need to be re-charged as soon as possible.

3.7 Taking turns

Proper use of the handlebar, and especially how to push it to the left and right is vital for your safety. Because the front wheel is designed to trail the fork, the handlebar tends to turn in the direction you tilt the vehicle. Unlike a bicycle, which tends to follow a straight line, the front wheel will actually accentuate the turn. Because of this condition, less experienced riders should pay special attention while driving. Turning the handlebar too far, and allowing the front wheel to move quickly to the side, may cause the vehicle to stop suddenly ("jack-knifing"), throwing the rider from the vehicle, which may cause injury. Always maintain firm control over the handlebar with both hands, never drive with just one hand or no hands. The Trikke eV requires both hands on the handlebar at all times.

3.8 Slowing down / braking

To brake more effectively, shift your weight back over your heels, over the rear wheels, as shown in the picture, but be careful not to lean too far back. Apply the brake(s) actuated by the lever on the handlebar. Distributing your weight evenly over each rear wheel is crucial for maximum braking efficiency. If you take the weight off of the platforms during braking you will cause the wheel to lose contact with the ground and lock.
The best way to ensure you are always well positioned and to minimize the risk of the vehicle pull a wheelie, is to distribute your weight evenly between the front and rear wheels, keeping your weight on your toes and putting your feet up to the front of the platforms.

fig. 20

3.9 Parking, locking

The Trikke eV should be turned OFF when not in use to prevent accidental activation of the vehicle. The Trikke eV will shut off automatically after 5 minutes of inactivity.
The Trikke eV has parking brakes to keep it still and balanced. In the manual brake lever there is a pin that locks the actuated lever (fig. 21).

fig. 21

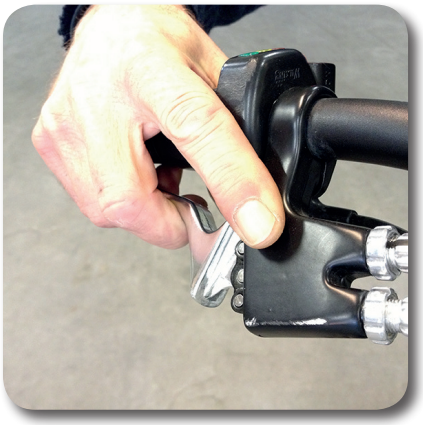


fig. 22

fig. 23

Squeeze the brake lever all the way and push down the lock pin with the index finger (fig. 22).
Release the brake lever after pressing the pin down so that the tension of the brake lever will keep the lock-pin triggered (fig. 23). To release the brake, squeeze the brake lever and the lock- pin will jump and release from the locked position.

Preferably, find a flat surface for parking (fig. 24). If the parking spot is in an incline, point the front wheel up. Do not park across the ramp. Try to find a shoulder or lip to rest the front wheel against, in order to prevent unexpected movement due to the incline. Lock the parking brakes for safety.
If the above methods do not work, fold your Trikke eV and rest it against the wall or lay on the floor (fig. 25 & 26).

To lock/secure your Trikke eV we recommend the use of a certified chain lock. Attach the chain through one of the rear forks to a fixed object so it can not be carried away. Lock the battery as well or take it with you. Only park or stall your eV in public environments that you know to be safe.

3.10 Storage

When storing your Trikke eV for a longer period of time, take the following steps: take the battery out and store it in a dry place at room temperature. Release pressure from the tires to 20 psi. Store the Trikke eV in a dry and dust free environment, folded or unfolded, laying flat or standing on the rear wheels with the front wheel resting against a wall. Fully charge your battery every month, even when not in use. Not fully charging the battery of your Trikke eV once every month may result in a significantly reduced life span or overall failure of the battery.
When you retrieve your Trikke eV from a longer period of storage, make sure to do a thorough pre-ride inspection before starting to use it again (see 3.1).


fig. 24


fig. 25


fig. 26

3.11 Transport

To transport your eV in a regular car, we recommend you take out the battery first and put it in a safe dry location in the car not in contact with other metal objects. Take the key out of the battery to prevent it from breaking during transport. Good practice would be to set the handlebar to it's lowest position, then fold the eV and lock the arms.

Releasing the front fork with motor

To make your eV even more compact, the front fork with wheel (motor) can be released. With the handlebars in the lowest position, put your eV in an upright position, standing on the rear wheels. Disconnect the motor cable from the controller box and re-twist it from the cable holder spiral. Next open the quick release clamp and push the pushpin to pull up the front fork from the steering axle. Retighten the quick release and put the fork in a safe dry location in the car. Make sure it's not in contact with your eV frame to prevent scratches.
Make sure the battery, fork and the eV sit tight and will not slide or jump when the car is moving.

To re-install the front fork put your eV upright again. Open the quick release on the fork and slide it over the steering axle. Push the push pin and align the hole in the fork to the pin. Make sure the pin fits in the hole. Close the quick release completely to ensure a solid fix, this must require some strength. Next twist the motor cable through the motor cable holder spiral. Align the two white arrows and reconnect to the connector on bottom of the controller box pan.

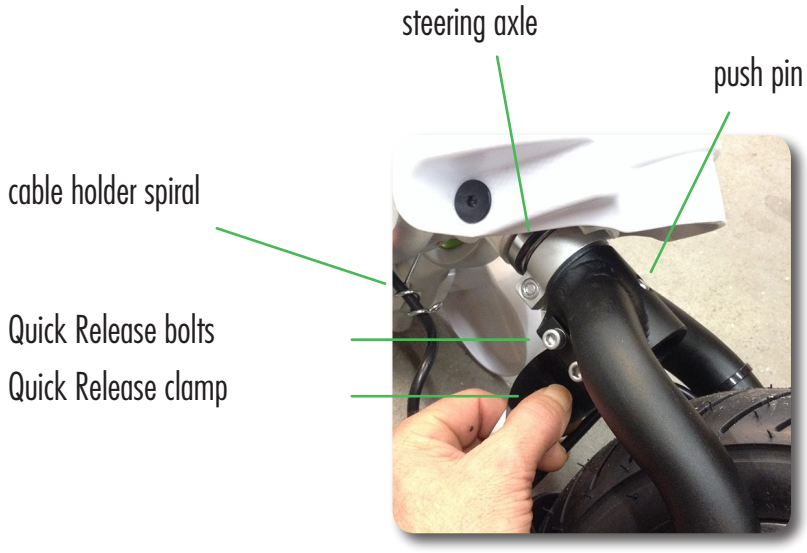


fig. 26a


fig. 26b

4. Inspection, maintenance and adjustments

4.1 Battery

Handling the battery

The battery, a piece of high end technology, is the power station of the eV. It should be handled with care (fig. 27). Never touch the contacts at the bottom at any time. Please refer to the Li-ion battery manual for detailed information: specifications, operation, security, etc. For installation of the battery on the Trikke eV (see 2.4)

fig. 27

Inspection

Before and after every ride, as well as before every charge, visually inspect your battery for cracks or other damage. Look for signs of burning or leaking. See to it regularly that the red light of the charger after fully charging the battery turns green. Check the SOC display on top of the battery to see 100% charge. Do not ride your Trikke eV when the SOC of the battery indicates 0%, it needs to be charged first! Attempts to ride with empty battery may cause damage! Fix all irregularities before you ride. If you do not know how, always contact your Trikke dealer or representative for help.

Charging the battery:

To charge the battery, first plug the charger to the charging port on the battery top cap. Then plug the power cord from the charger to a 110V ~ 220V 50 ~ 60Hz power outlet.

When the battery is charging, the charger light stays red. When the battery is fully charged, the charger light turns green. Note that when the charger is disconnected from the battery, the charger will turn green too. Green light can also mean a bad connection.

Good practice would be plugging in the battery at every opportunity and keep the battery always with a good level of charge. Always disconnect the power cord and charger by pulling the plug, not the cord.

Unplug the charger when not in use.

3 hours and 0.7 kWh are necessary to fully charge a discharged battery 48V-11.25Ah.

Storing/not using the battery for a long period of time

If the battery will not be used for a long period of time, it must be fully charged once a month. Not fully charging the battery of your Trikke eV once every month may result in a significantly reduced life span or over all failure of the battery.

Cleaning the battery

Never use water or any other fluid to clean the battery. Use a damp cloth to clean the casing and the State Of Charge display. Never touch the contacts at the bottom at any time.

Battery disposal

Watch for regulations in place for recycling batteries. Find out about recycling centers in your area. Do not dispose batteries in the trash.

4.2 Handlebar

Inspection

Check for cracks and bends. Check all bolts. Check if height adjustment latch clamp is securely locked. Check if both handgrips are fixed. Loose and/or rotating handgrips are dangerous and may slip off during ride. Check housing of throttle for cracks. Check if throttle rotates freely and functions normally.

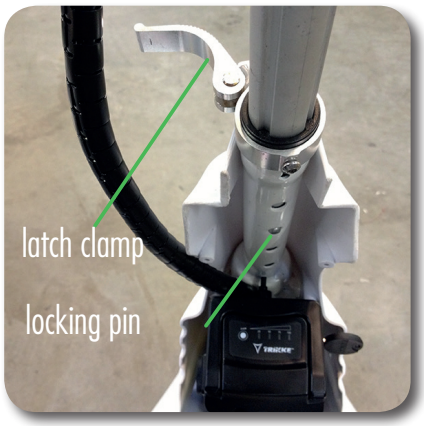


fig. 28

Height adjustment

To adjust the handlebar height, it is necessary to unlock the clamp. Note that there are holes in the back of the steering shaft establishing a number of positions for height positioning. There is a locking pin (fig. 28) that fits these holes to provide a second level of security while driving. Push the locking pin to release the steering post and slide (up and / or down) to the desired height (fig. 29). Once positioned, close latch clamp, making sure it is securely locked.
If the clip is a little loose, tighten the adjusting nut manually. Adjusted properly, it requires a steady hand to clamp.


fig. 29

Fine tuning

After learning to ride, you can adjust the position of the handlebar (angle and height) to better suit your riding posture. You can also adjust the angle of brake levers for comfort of use (but do not position too far back to avoid interference when folding the eV).

4.3 Frame

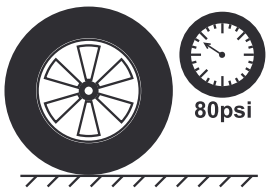
Keep bolts and fixtures clean to prevent corrosion and for good view during inspection. Check for cracks, bends and other damage. Check all bolts. Check function of folding mechanism. Fix all irregularities before you drive.

4.4 Tires

Inspection

Tire pressure (fig. 30) affects energy consumption and range. Lower pressure makes a smooth ride, but will require more energy due to increased rolling resistance. Higher pressure reduces rolling resistance and increases range, but it makes a bumpier ride. Check tire pressure once a week - using a tire gauge. Do not run with very low pressure, as this can damage the

tires and increase the risk of a fall.
Particularly the front wheel (motor wheel) should not be calibrated with a pressure higher than recommended, as this can damage the engine due to the reduction in impact cushioning.



TIRE		USER PREFERENCE COMFORT	RANGE
Front	75kg	2.1 bar (30 psi)	4.8 bar (70 psi)
	100kg	2.7 bar (40 psi)	5.5 bar (80 psi)
Rear	75kg	2.7 bar (40 psi)	4.8 bar (70 psi)
	100kg	3.5 bar (50 psi)	5.5 bar (80 psi)

fig. 30

Replacing the front tire (motor) *(fig. 31)*

1. Disconnect the motor cable by pulling the connector on the bottom of the controller box pan, re-twist the cable from the cable holder spiral and cut the zip-tie that attaches the cable from the motor to the front fork. Remove the wheel from the fork and take it to a workbench.
2. It is recommended to use a tire lever to remove the tire from the wheel. A nylon lever helps to prevent damage to the rim.
3. Use soapy water or grease to help the process of removal and mounting of the tire. Pay attention to the direction of rotation of the tire marked with an arrow on the side wall of the tire. Make sure the inner tube isn't twisted inside the tire and the valve is pointed outwards.

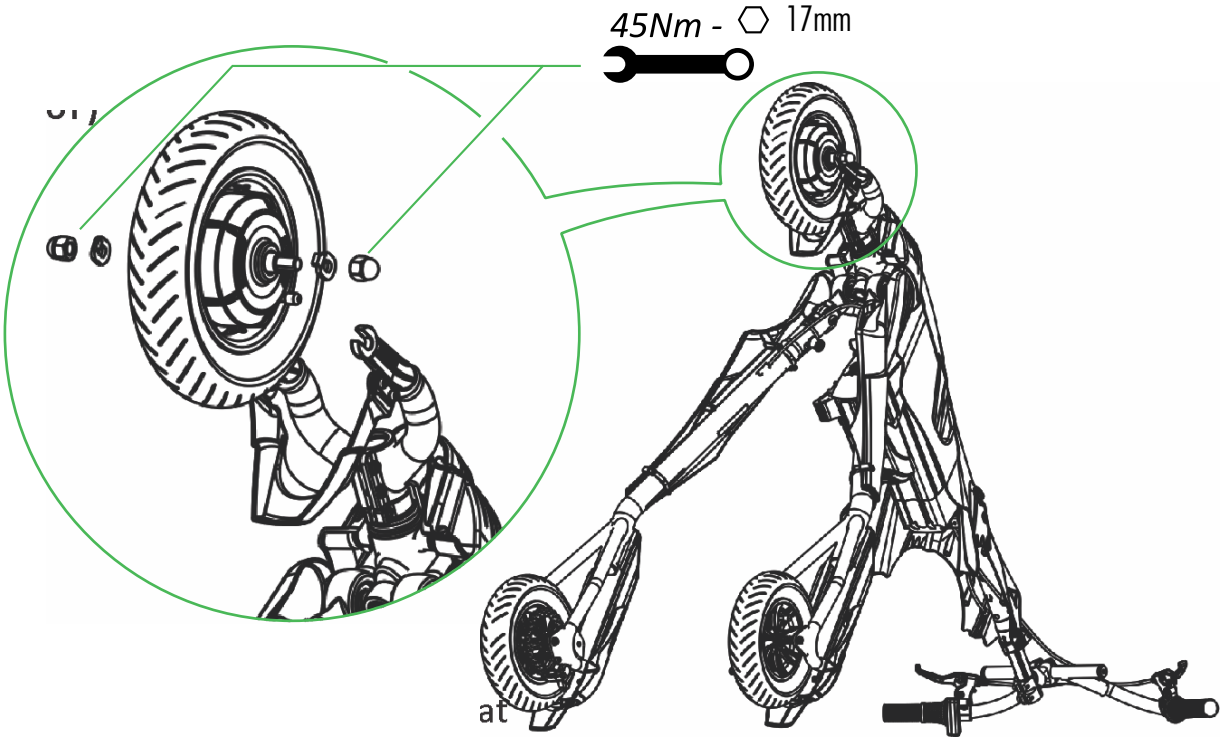


fig. 31

4. Once the tire is replaced, fill it with low pressure to center the tire to the rim, and then calibrate with the recommended pressure. Re-assemble the motor to the fork positioning the motor cable on the left side - make sure that the motor cable goes up and behind the fork. The spacers of the motor axle must be mounted on the inside of the fork. Make sure that the motor shaft is pushed firmly against the fork to the bottom of the notch. Notice the flat areas on the shaft and align with the flat areas of the notch of the fork.
5. The washers have a locking small projection (tooth) to fit in the notch of the fork. These projections help to lock the axle in the fork to prevent rotation.
6. Tighten the nuts with a 17mm wrench to a torque of 45 Nm.
7. Retwist the motor cable through the motor cable holder spiral and make sure there is enough slack in the cable for the front wheel to turn fully without pulling at the cable.

Replacing the rear tires *(fig. 32)*

1. Remove the wheel from the rear fork: first deflate the tire. Loosen and remove the wheel axle bolt, remove the axle. The discs need not be removed to replace the tire.
2. It is recommended to use appropriate tire lever to remove the tire from the motor. A smooth finish lever prevents damage to the wheel rim.
3. Use soapy water or grease applied to the tire bead and rim to help in the process of removing and mounting tires. Pay attention to the direction of rotation of the tire to not mount it backwards.
4. When reinstalling the inner tube, be sure to insert the valve facing outside the vehicle when the wheel is mounted (not to the disc side). Make sure the inner tube isn't twisted inside the tire.

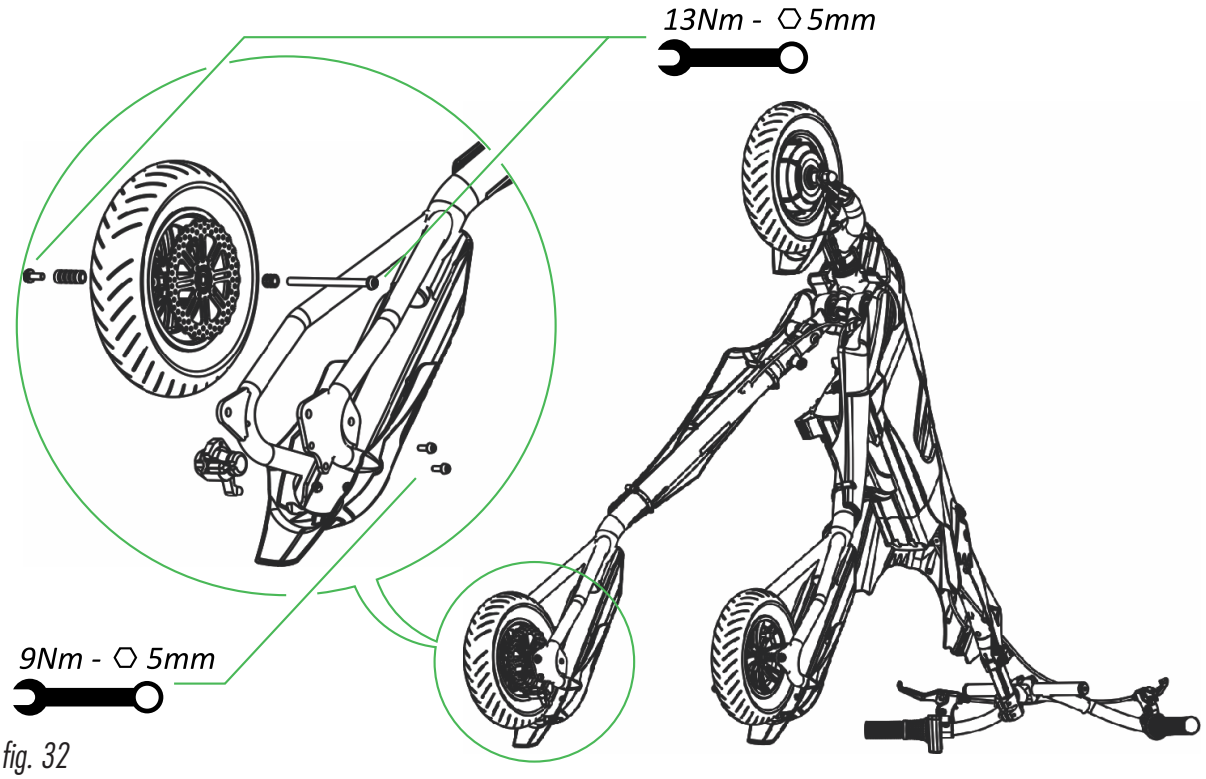


fig. 32

Attaching the motor cable to controller box and to the motor cable guide

The motor cable must be connected to the contoller box socket and to the motor cable guide. Notice the white arrows on the socket and on the connector of the motor cable. The arrows must be aligned properly when inserting the connector in the socket. Important: route the cable pointing to the back, keeping a slack (tummy) to the back, to allow sufficient length for turning the front wheel without stretching and/or damaging the cable (fig. 33).

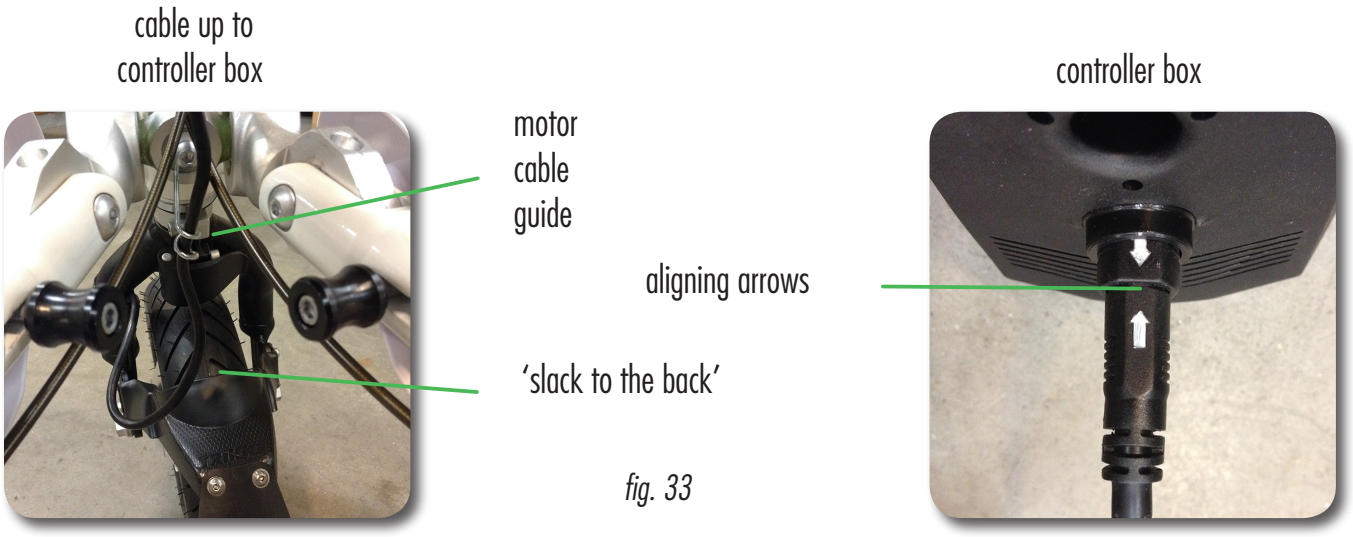


fig. 33

4.5 Brakes

Inspection

The disc brakes come preset from the factory. We recommend that you check the brakes before the first use (and before every ride), squeezing the brake levers repeatedly to feel the tension in the brake cable. Then check if the rear wheels spin freely, or if there is some noise when the brake is not being applied. Check the disks (rotors) for corrosion and damage. Make sure that the brakes work enough to stop the moving vehicle and parking brakes hold up well when locked. Fix all irregularities and adjust brakes when needed before you ride.

Adjusting the brakes

The following describes the basic procedures: the images below show a disc brake installed correctly. There should be a gap on both sides of the brake disc to the inside and outside brake pads (fig. 35).
Before adjusting disc brakes, squeeze the brake levers a few times to stretch the brake cable and seat the brake pads.

Outer pad adjustment (this pad moves towards the disc when applying brake) (fig. 37):

Move the outer brake pad in or out as necessary (use 3 mm hex wrench) - note that the adjustment screw is inside the hole at the bottom - do not loosen the 5mm hex bolt.

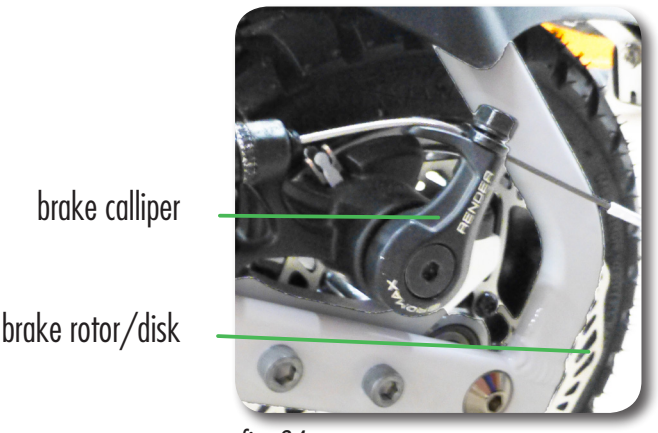


fig. 34

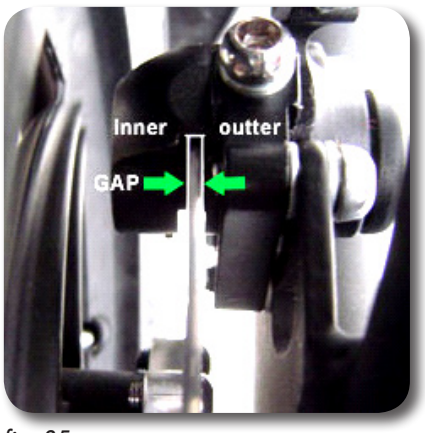


fig. 35

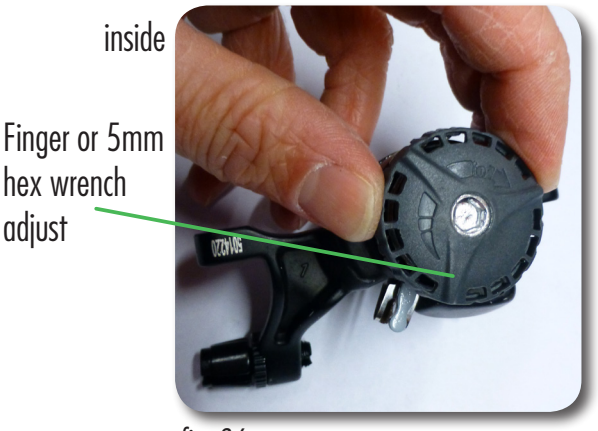


fig. 36

fig. 37

Adjust the inner pad (this pad is fixed and doesn't move when applying brake) (fig. 36):
Move the inner pad in or out against the disc as required (use 5 mm hex wrench). As close as possible without rubbing, spin wheel to test.

After some time of use, the brake pads will wear out a little and the brake cable will stretch and the brake will need to be adjusted tighter in order to work efficiently. Readjust the brake by turning the fine adjustment screw of the brake lever at the handlebar (fig. 38); or the adjustment screw of the cable stay at the brake caliper (fig. 34 & 39).


fig. 38

Adjusting the brake cables
First, make sure that the brake cables are in place in the fine adjustment screws and that these screws are set to the minimum on the brake lever at the handlebar (fig. 38) and on the brake caliper (fig. 36). The brake cables should be in proper positions and show no kinks. The pulling lever of the caliper must be set to the maximum to have sufficient travel for the brake caliper to function. The bare minimum is 45mm from the cable stopper (fig. 39). Make sure to pull the brake cable tight before tightening the cable block bolt, to prevent rattling cables.
Spin each wheel. If there is a visible warping on the rotor, mark where the rotor is off and use your fingers to bend the rotor in or out to straighten it. Repeat this procedure until the disk rotates without oscillations. (This is a common procedure, because the discs are thin and can deform easily. With use, and consequent increase in temperature, the disc tends to straighten itself).

fig. 39

4.6 Fairings and skirts

Inspection
Check fairings and skirts for cracks and/or other damage. Check if screws and bolts are fixed. Fix or remove before you ride.

4.7 Maintenance

We recommend to have your Trikke eV serviced twice a year by an authorized Trikke Service Point.

5. Warnings, safety information and riding tips

READ AND UNDERSTAND the sections of assembly, maintenance and safety in the owner's manual before riding. Always follow the directions and read all warnings.

- Always use proper safety equipment when riding the eV including a helmet approved by ANSI, Snell, CPSC, ASTM or DIN EN1078. Use proper footwear and make sure that shoes with laces are properly tied before riding.
- Avoid water, bumps, gravel, sand, cracks, uneven surfaces or obstacles that may suddenly block your way or cause you to lose control. The eV is not intended for off road use. Avoid using at night.
- Riding with only one hand or no hands can be extremely dangerous. Use both hands to hold the handlebar firmly at all times. Do not push too hard or apply uneven pressure to the two different sides of the handlebar. Do not make sudden sharp turns or apply your body weight on the handlebar when turning. Such actions can make the front wheel of the vehicle quickly turn to one side and causing the vehicle to "jack-knife" or stop suddenly, which can cause fall and injury to the rider.
- Tricks, riding or rolling backwards and/or extreme riding are not recommended on the eV. Riding this way you can damage the product, voiding your warranty and may result in injury.
- Do not pull up on the handlebar because in doing so the rider can slip off the foot platforms, resulting in serious injury. The rider must keep his weight within the area delineated by the three wheels and step on the center of the deck, never on the back of the deck.
- Riding down hills is not recommended, especially for novice riders. The eV is designed primarily for use on flat, dry asphalt. Extreme caution should be used when riding on any inclined surface.
- We recommend that you do not exceed the 135kg maximum total weight limit.
- A rider should be constantly on the lookout for obstacles, debris, cracks or holes in the riding path, allowing them to be anticipated and avoided.
- Because of the speed increase, the risk of injury is increased when riding with the electric motor. Attention to the ride is a constant.
- The braking distance required for a full stop will increase with speed. Practice braking with full stop at high speed in a safe environment, to assess the distance required to stop.
- Be aware of low objects. You are taller than you think when you ride the eV. Be ready to duck for tree branches, street signs, etc..
- Whenever you ride, follow the traffic rules, including traffic signs, traffic lights and crosswalks. If you want to know all the special laws governing the operation of the Trikke eV, please contact the regulatory agency in your area.
- Tire wear, puncture, or blowout may result in sudden loss of control, which can cause serious injury. Always make sure that the tire maintenance is being done correctly.
- Braking and locking or skidding with the rear wheels will damage the tires, and such damage is not covered under warranty. Rider may lose control and fall when locking the wheels during braking. Control braking power by the force applied on the brake lever.
- If you do not have the proper tools or find that you are unable to understand the assembly instructions, contact an authorized dealer to assemble your Trikke eV for you. Be sure to read the sections of riding and safety manual and

watch the riding and safety video before riding the first time.

- Stop riding immediately if you suspect that some part of the vehicle is not working properly. Inspect the vehicle to confirm what the problem is. Contact your dealer or Trikke Service Point directly if you suspect that there is a malfunction or defect that affects safe operation.
- If you do not understand how to operate the eV properly, do not use it. Contact your dealer or Trikke Service Point for proper training.
- Always inspect your vehicle before each use and make sure the handlebar clamp and folding mechanism of the arms are locked in place. Read the important assembly and maintenance section in this manual.
- Test the brakes properly before each use; always engage the brake(s) with your weight evenly distributed over the rear wheels.
- The eV is not recommended for children under 16 years of age or less than 1.50 meters tall. Children must be supervised by an adult while driving. The parent is responsible for proper maintenance and vehicle inspection before each use.
- Always use caution when you are riding close to other vehicles, pedestrians, and especially near cars if you're riding on a street. Obey all traffic laws. Be courteous to drivers of other vehicles and pedestrians. Share the road!
- Do not modify your eV. Use only original Trikke parts or accessories. See limited warranty for restrictions on use of non-original parts.
- Any modification of the electrical system will void the warranty, including but not limited to attempts to increase the speed or the motor performance, using wheels or tires not recommended by Trikke Europe, and / or retrofit motor with components that are not originally from Trikke Europe.
- The electrical system of the eV is designed to operate at 48 volts Using any other batteries than the original lithium-ion battery and its charger can result in system failure. Any modification will void the warranty. Trikke Europe is not liable for injuries or any other damages caused by such changes.
- The use of the electric motor will propel you to speeds you may not be accustomed to, and may be beyond your skill level. Begin by practicing at lower speeds for your own safety.
- Unlike a bicycle, the front wheel of the Trikke cambering vehicle stays behind the main shaft of the fork. Reversing this configuration will change the vehicle's performance.
- Riders who appear in photographs and videos produced by Trikke are highly skilled and specially trained. Do not try these tricks, or you may lose control and crash, causing serious injury or other damage.
- The eV is an electric vehicle and as such there is potential for shock or fire, if the electrical system is tampered with or exposed to conditions of high humidity.
- Using a charger other than the original Trikke charger can cause overheating of the electrical system and/or fire.

COMMON SENSE AND EDUCATION ARE VERY IMPORTANT IN THE OPERATION OF YOUR eV. DRIVERS SHOULD USE COURTESY WHEN USING AND SHARING THE ROADS AND SIDEWALKS. PEDESTRIANS ALWAYS HAVE THE RIGHT OF WAY. WHEN RIDING ON PUBLIC ROADWAYS, KEEP ON THE RIGHT SIDE OF THE ROAD AND REDUCE YOUR CARVING ACTION TO MINIMIZE CAUSING CONFUSION WITH THE OTHER DRIVERS ON THE SAME ROUTE.

REMINDER: TRIKKE VEHICLES ARE DESIGNED TO RIDE FORWARD ONLY. PLEASE, DO NOT RIDE BACKWARDS AS THERE IS THE POSSIBILITY OF DAMAGING THE FRAME.

6. Warranty

Limited Warranty Trikke eV

1. Warranty

1.1 If during the warranty period the product is faulty because of construction and / or material faults, Trikke Europe or any other Trikke Europe designated dealer of the product into the Guarantee Area will, without charge for labor or parts to charge, in its sole discretion repair or replace the product or defective parts under the conditions below.

1.2 Trikke Europe may change defective products or parts with new or refurbished products or parts. All replaced parts and products become the property of Trikke Europe. Any costs for (de-)installation shall be borne by the owner.

1.3 If a particular component is eligible for warranty and the original has been discontinued, Trikke Europe will provide an equivalent alternative.

1.4 This guarantee is only granted within the warranty period and upon presentation of the original invoice or receipt (including date of purchase and model name) and only if the product, complete with battery and charger, is returned in the original packaging. Trikke Europe may be free to refuse warranty service if these documents are not submitted or if the original packaging is incomplete or illegible. This Warranty is void if the model name or serial number is altered, deleted, removed or made unreadable.

1.5 The guarantee can only be invoked by the first owner of the product.

1.6 This warranty does not cover transportation costs or risks associated with transporting your product to Trikke Europe. Costs for return to the owner, in case of warranty, is covered by Trikke Europe.

1.7 The warranty ends in accordance with Articles 3.1 and 3.2.

1.8 For additional warranty information see the product manual.

2. Warranty period

2.1 Owner may only claim the warranty upon registration of the product on the website of Trikke Europe.

2.2 The warranty for aluminum frames is 5 years.

2.3 The warranty period for parts is 24 months, except for parts mentioned in articles 2.4, 2.5 and 2.6.

2.4 No warranty for parts subject to wear and tear such as tires, gears, bearings, cables, handles, folding-mechanism, steering axle, brake pads, etc.

2.5 No guarantee for the lock on the battery and the corresponding key.

2.6 The warranty for the battery and other electronics parts is 2 year. Taking into account the following additional provisions relating to the capacity and the residual value of the battery: Batteries lose capacity over time. Trikke guarantees that after 2 years the battery still has at least 70% capacity (15% capacity loss per year). For warranty service by replacement of the battery Trikke Europe will, only compensate the “residual value” based on the already used capacity of the battery.

2.7 Batteries that are charged less than 10% should be charged immediately or they will be irreparably damaged and are not covered by the warranty. Batteries that are stored unused longer than one month can self-discharge.

3. Warranty Exclusions

3.1 In the following cases the warranty expires:

- a Incorrect and / or careless use of the product and use not in accordance with the destination, including semi-professional, professional and commercial use;
- b Technical repairs are not done in a professional manner;
- c Afterwards mounted components do not match the technical specification of the model or are incorrectly installed;
- d The product is cleaned with water under pressure as with garden hose and / or high pressure water guns;
- e The housing of electronic components is opened, short-circuit, damaged exterior, damaged cable (s), damage to housing, damage to motor nylon gears (indicates abuse) and / or water damage in motor housing;
- f If the model name or serial number is altered, deleted, removed or made unreadable.

3.2 Furthermore, Trikke Europe is expressly excluded from liability for damage to (parts of) the vehicle due to:

- a Incorrect adjustment / tension of handlebar, stem, quick release of handlebar, brakes, axles of the wheels, axle and folding mechanism, steering axle, bolts, nuts and / or tire pressure;
- b Failure to replace parts like brake cables, brake pads and tires on time;
- c Incorrect or insufficient lubrication of moving parts and or parts for which this is specified in the Trikke owner manual;
- d Climatic conditions such as abnormal weathering of paint, rust or chrome rust;
- e Normal wear / decrease in battery capacity is not covered under warranty.

4. Submission of Claim

4.1 Claims under this warranty must be combined with the product being submitted to Trikke Europe for inspection. Simultaneously, the proof of purchase to be delivered.

4.2 Inspection and warranty requests are only covered after a request via the website or by email (see page 35).

5. Guarantee area

5.1 The warranty area is restricted to the country of first purchase, within Europe.

6. Liability

6.1 A warranty claim honored by Trikke Europe does not mean that Trikke Europe also accepts liability for any damages. The liability of Trikke Europe never extends further than stated in this warranty. Any liability for consequential damages Trikke Europe is explicitly excluded. The provisions of this clause shall not apply if and insofar as the result of a mandatory legal provision.

7. Exclusions and Limitations

7.1 This warranty requires Trikke Europe only to repair or replace products under the terms of this warranty.

7.2 Trikke Europe is not responsible for any loss or damage relating to products, service, this warranty or other, including - economic or intangible losses - the paid price for the product - loss of profit or income, loss of data, enjoyment of the product or any associated products - indirect, secondary or consequential damage or loss. This is true regardless of whether such damage or loss related to faulty or malfunctioning of the product or associated products through defects or because the product is not available, leading to downtime, loss of use time or an interruption of work.

7.3 This applies to loss and damages under any statutory interpretation, including negligence and other irregularities, breach of contract, express or implied warranty, and strict liability (even if Trikke Europe is aware of the possibility of such damages). If applicable law prohibits such exclusions or limits of liability, Trikke Europe closes its liability, or limit it to only the maximum extent permitted by applicable law.

7.4 Trikke Europe's liability under this guarantee will in no circumstances exceed the price paid for the product, but if the legislation permits only higher liability limitations, the higher limitations apply. Your legal rights reserved.

7.5 Consumers have legal rights under applicable national laws relating to the sale of products to end consumers. This warranty does not affect the legal rights you have in this respect nor rights that can not be excluded or limited, nor rights against the person who purchased the product.

Trikke Owner & Warranty registration form

Register online at http://trikke.eu/registration or fill in the form below and mail to:
Trikke Europe, P.O. Box 93016, 2509 AA Den Haag, Netherlands

VIN (17 digits) :

Trikke model :

Place of purchase :

Date of purchase :

Name :

Address :

Postal code : City:

Country :

E-mail :

Age : male female

SENDER:

POSTAGE
REQUIRED

TRIKKE EUROPE
OWNER & WARRANTY REGISTRATION
P.O. BOX 93016
2509 AA DEN HAAG
NETHERLANDS

Accessories

Trikke offers the following accessories:

Protection gear:
- helmet
- knee and elbow pads
- gloves
- mud flap

Safety:
- bell
- light set basic
- light set deluxe
- blinking light
- anti-theft cable lock

Transportation:
- bag holder
- baskets
- glove box
- cargo net
- towing trailer

Electrical accessories:
- spare battery
- spare charger
- car charger (from12V dc)

Trikke basic spare parts (wheels & brakes)
- hand grips
- brake pads
- tires
- tubes

For more information: visit your dealer or http://www.trikke.eu

Other products by Trikke

Trikke SKKI

With the Trikke SKKI, the rider simply leans the handlebars in the direction of the turn and the three ski blades draw the curves. It's much easier to learn comparing to skis or snowboard, and beginners are always going to have fun at the first attempt. A single vehicle can be shared by riders of different ages, sizes and levels of ability. Freedom to ski with no attachment or special boots! It is like driving a race car in the snow with total control.

Trikke hpV

Trikke hpV are vehicles that use just human power/body movement for propulsion. An excellent form of low impact exercise that involves the entire body while providing fun combined with transportation. This simple and elegant frame provides a stable 3-point platform that leans into the turn with the rider while all three wheels remain in contact with the ground for maximum stability. Riding is described as skiing on the streets.

TRIKKE™

Your Trikke dealer:

ELECTRIC VEHICLES