



e-Tuk

User Manual & Maintenance guide

Keep this booklet with your vehicle

Congratulations on purchasing your e-Tuk!

You probably cannot wait to start driving. But, before you get started, read this manual carefully. We have put it together to let you take full advantage of the capabilities of the vehicle.

For your safety and the safety of your passengers, please read the instructions carefully. They provide you with helpful information, what to do in case of an error and how to get the most out of your e-Tuk.

Also, if you take good care of your vehicle, it will always be in the upmost condition. Keep track of your maintenance in this booklet and follow the maintenance schedule.

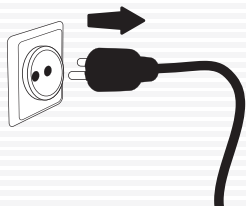
Thank you and enjoy your driving experience!

- The Tuk Tuk Factory team

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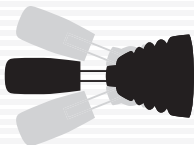
QUICK START GUIDE

Unplug



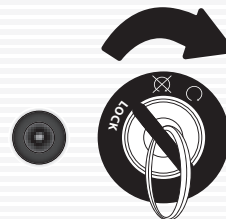
Make sure the vehicle is not being charged, the e-Tuk should not be able to drive while you are charging. Place the charging cable securely under the rear seats.

Direction switch



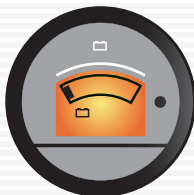
Put the direction switch in neutral **N**, and make sure the throttle is not engaged.

Key



Turn the key clockwise.

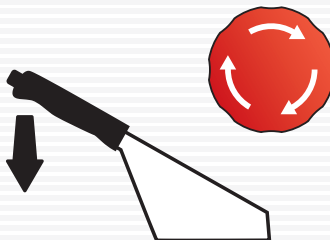
Display turns on



The display will switch on and you will hear two *clicks*, one louder than the other.

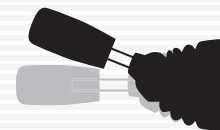
Check the state of charge and if possible the Ub or system voltage. If it is around 76V your battery is full.

Parking brake



Make sure that the red emergency button is released.

Also make sure the parking brake is released. The early (before 2013) e-Tuk models will not drive when it is engaged.

Put in **D** of **R**

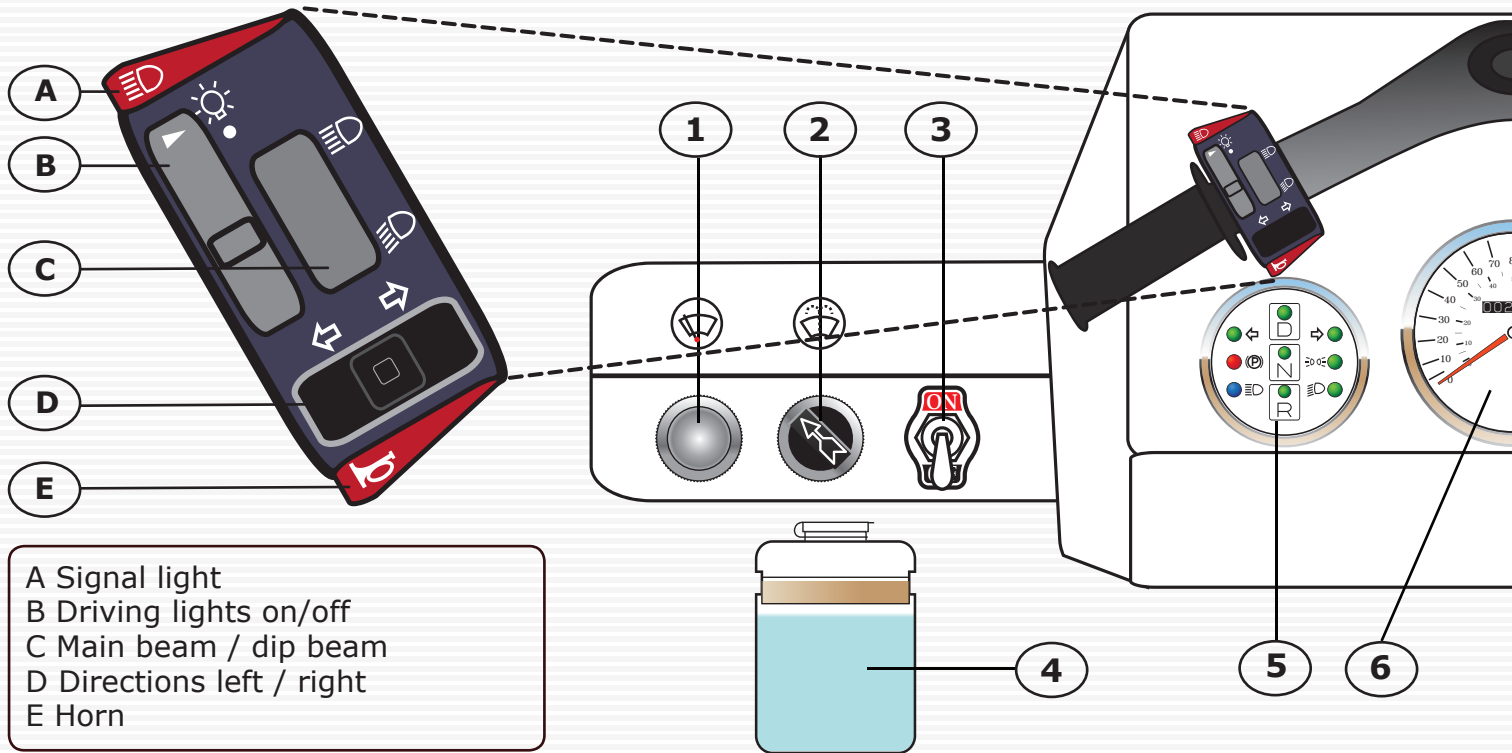
Put the direction switch in **D** to drive forwards and **R** to drive backwards.

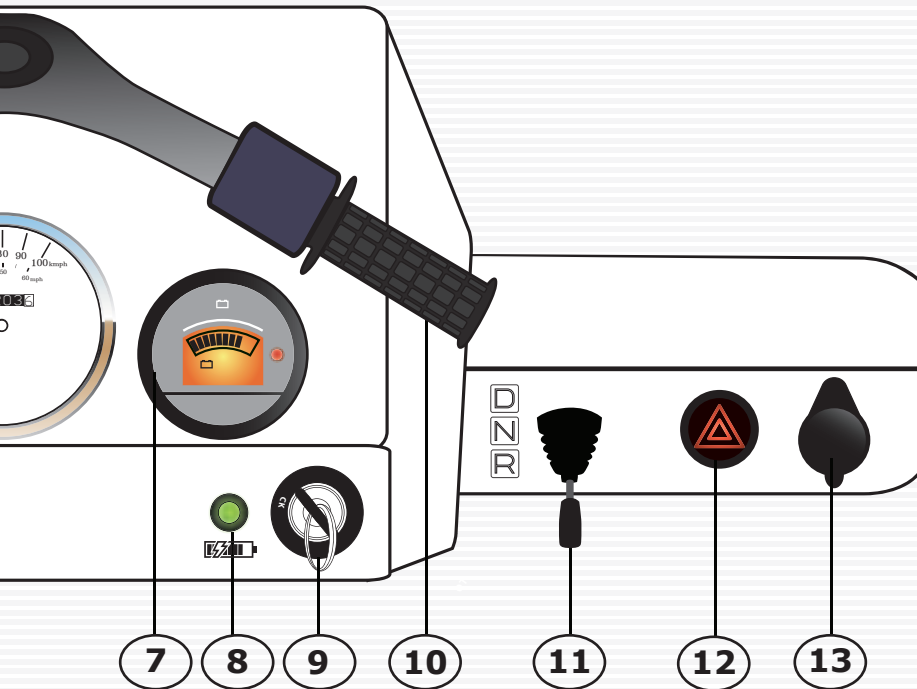
Do not forget to put on your seat belt before you start driving.

Gently twist the throttle and enjoy your ride!

GETTING FAMILIAR

Dashboard & handlebars





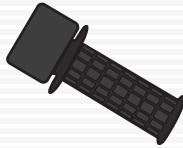
- 1 Windscreen washer
- 2 Windscreen wiper
- 3 Taxi sign light
- 4 Windscreen washer fluid
- 5 Tell-tales display
- 6 Speedo- & Odometer
- 7 Battery Display Indicator
- 8 Charger LED
- 9 Key switch
- 10 Throttle
- 11 Direction Switch
- 12 Hazard light switch
- 13 Outlet 12V

*2011 model. Layout may change for newer models

Controls



By pressing the brake pedal with your right foot you will engage the friction brakes. Slowing down and stopping your vehicle can also be done by braking with the motor alone. You can slow down without even using the brake pedal. This will also regain energy and save kilometres.



Turn the throttle to accelerate. By releasing the gas handle the vehicle will automatically use the motor to slow down and stop. The easier you are on the throttle and brakes, the further one single battery charge will take you.



Familiarize yourself with the controls on the steer switch before you start driving. Be sure you know where the horn is and use it every 10 seconds if you want to drive Thai-style.



Please note that, for safety reasons, the position lights are always on. Don't worry, they use very little energy and will not affect your vehicle's range. You'll notice that the centre headlight cannot be switched on. EU-regulation states that you are not allowed to drive on public roads with three head lights.

BDI



This is the Battery Display Indicator (BDI). It shows you the battery level and up to date driving information. The number of bars on the display is an estimation of the battery level, not an exact calculation.

The display alternates between 4 values: **U**_b, **r**, **A** and **H**. You can use the display button to select the a parameter if it does not scroll automatically

U _b	The amount of volts drawn from the battery
r	RPM (Rotations Per Minute) of the engine
A	Total number of ampere drawn from the battery
h	Total driving time of the vehicle in hours
T	Temperature of the controller (on some models)
O	Total mileage of the vehicle in km (on some models)

The BDI also displays codes in case of an error. To know what these error codes mean, please refer to troubleshoot section on page 33.



There is a 12V outlet on the dashboard that is compatible with any 12 Volt car appliance (max 10A). Be careful with any wires that might get entangled in the steering wheel. Please note that the range of your vehicle may be influenced by the type of device that is being used. A phone charger will hardly affect the range, but a heater will be a drain on the battery. There is a 12V outlet in the back of the vehicle too, next to the bench.

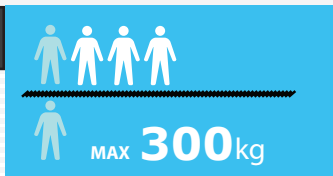
GETTING FAMILIAR

Maximum load

Please do not exceed the indicated load capacity of the e-Tuk. Doing so may cause damage to the vehicle and could be dangerous to you and your fellow passengers.

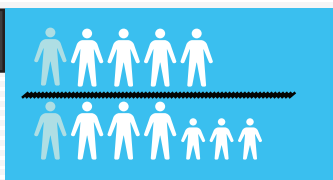
Please be aware that your e-Tuk's driving behaviour and range change when driving around with more passengers or higher loads.

e-Tuk Classico



- Driver plus passenger seats for 3 adults

e-Tuk Limo



- Driver plus passenger seats for 4 adults
- or 3 adults & 3 children
- or 6 children

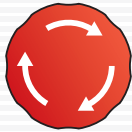
e-Tuk Cargo



- Driver plus 380kg cargo

e-Tuk Vendo

Safety



Please note that there is a emergency switch located left from the driver seat. Pressing it will disable the battery and motor and it will make the e-Tuk shut down immediately. Keep in mind that this will not stop the vehicle. You will still have to use the foot brake for that.



The Vehicle Identification Number Plate can be found above the brake pedal. This plate contains the e-Tuk's serial number and other manufacturing information. The serial number is the number that is stamped into the plate. When contacting your service engineer, make sure you have the serial number ready.



Your e-Tuk is equipped with a steering column lock. To engage the lock, turn the handlebars all the way to the right, then turn the key all the way to the left (counter clock wise). Now remove the key and the handlebars are locked into position.

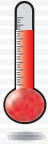


Wear your seat belt at all times. You are obligated to wear one, just like in a car. Make sure your passengers wear them too because the ride can get bumpy, especially in the back. And hey, it is the law.

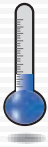
If you want to use a child seat in your e-Tuk, first read your child seat manual to see if it can be secured using 3-point seat belt.

DRIVING CONDITIONS

Temperatures

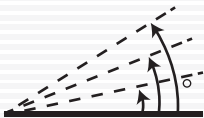


Weather conditions may have affect on performance and vehicle range. High temperatures (35+ °C) combined with high payloads may cause the motor and controller to get very warm. Drive calmly and at a steady pace and give the motor time to cool down every now and again.



Cold weather reduces the range of your vehicle, as cold batteries hold less energy. Your vehicle will drive normally but keep in mind that you may get a few kilometres less on a single charge. Tuk Tuk Factory recommends you park your vehicle inside and in a warm environment. The ideal temperature for your battery is 27 °C.

Hill inclination



Driving uphill draws more energy from the batteries and requires more power from the motor. Keep in mind that while driving in a hilly area, the range of your vehicle will be less than usual. Your vehicle will get you up a hill inclination of 20%. When you are stationary on a hill, do not use the throttle to prevent the vehicle from rolling down the hill. This will cause the controller to get very hot. Instead, use the brake pedal as you would in a normal car.

When driving away on a hill, apply throttle and release the foot brake. Your vehicle may roll back slightly before taking off.

Tips to extend your range



takes you
further
//////➔

Take a break every once in a while. Your battery pack is just like the human body. You can go further if you rest every now and then. Give the battery some time to recover.



Properly inflated tires reduce road friction. The recommended tire pressure is 3bar / 44psi. Check your e-Tuk's tire pressure every month.



More weight means more power from the batteries. For maximum range, leave stuff you do not need at home.



Driving to a place with electricity? Charge on the spot!



Lower your maximum speed and acceleration, the batteries will last longer if you take it easy on the throttle.



By anticipating traffic you can make the ride more comfortable. If you release the throttle you slow down quite rapidly. You regain energy and you do not wear your vehicle's brakes.

BATTERY INFORMATION

Battery health

Your e-Tuk's battery is one of the major components of the vehicle. It gives you the energy to get where you need to go. If you can rely on your battery, you can rely on your vehicle.

To keep your battery in the best condition you need to take good care of it. Following some basic maintenance rules keeps your battery in good shape.

These rules have been set up by the battery manufacturer*. Not following them will void battery warranty. Additional information can be found on the next few pages.

Safety

- All battery maintenance, except for cleaning and watering, should be done by an authorised service mechanic. Always wear protective clothing, gloves and

goggles when handling batteries

- Keep flames, sparks or metal objects away from batteries (use insulated tools)
- Neutralize acid spills with baking soda immediately
- Charge with vent caps securely in place
- Provide proper ventilation during charging to prevent explosive gas build up

Inspection & Cleaning

- Keep batteries clean and dry
- Check that all vent caps are tight
- Check that all connections are tight (fastening torque is 11 Nm)
- Use a solution of baking soda and water to clean if there is acid residue on batteries or corrosion on the terminals
- Terminal protectors or protective spray can be applied to reduce corrosion

Storage

- Batteries should be fully charged prior to and during storage
- Never store discharged batteries
- Store batteries in a cool, dry place to minimize self-discharge
- Recharge batteries prior to putting them back into service to ensure they are fully charged

Watering

- Add distilled water to cells
- Never add acid to cells this is dangerous and will alter the chemistry
- Only add water to fully charged batteries. Let the batteries cool down after charging before adding water
- If the plates are exposed in discharged batteries, add water to a level just above the lead plates

- Add water to the maximum level indicator
- Do not overfill the batteries

Charging

- Batteries should be charged after every use to ensure they are never stored in a discharged condition
- If batteries are stored for extended periods of time they should be charged approximately every 6 weeks
- Lead-acid batteries DO NOT have a memory affect (they do not need to be fully discharged prior to charging)
- The charging cycle should always be finished completely to ensure battery life
- If charging cycles have been cut off, equalization should be done. See "Equalization" on page 20.

* Source: Trojan batteries

BATTERY INFORMATION

Battery specs

Your e-Tuk has been fitted with 12 Lead-Acid Deep Cycle batteries. Each battery produces 6 Volt and around 185Ah. The total battery pack gives your vehicle 72V to power the motor and electronics.

e-Tuks can be fitted with a variety of battery brands. They all work the same and should be serviced in the same manner. However, they cannot be used simultaneously. One broken battery should be replaced with the same type and brand.



Watering the battery

Your e-Tuk's battery needs regular watering. The water is an essential part that makes the battery work. During heavy use the batteries heat up and the water evaporates. TTF recommends regular filling (see "Maintenance schedule" on page 37 for more info). Monitoring the amount of water that goes in during filling will give you a good indication of your water use. Experience will teach you if you can extend the filling schedule.

Watering can be done per battery cell or, if you have a filling system in one go for the entire pack.



- **Only add water to fully charged batteries, except when battery plates are above the water.**
- **Let the batteries cool down after charging before adding water.**

Watering the battery manually

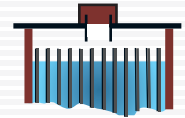
- Make sure your vehicle is turned off
- Make sure that your batteries are fully charged and cooled down
- Remove the rubber mat and floor plate in the passenger compartment
- Open the vent caps and look inside the fill wells
- Check the liquid level; the lead plates in the battery should be submerged.
- If necessary, add water until the liquid level is 0.3cm below the bottom of the fill well
- A piece of rubber can be used safely as a dip stick to help determine this level
- Clean, refit, and tighten all vent caps



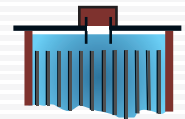
- **Never add acid to a battery.**
- **Battery fluid is hazardous!** Always protect your clothes, skin and eyes.



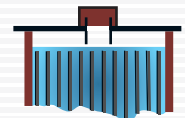
Always use distilled or de-ionized water to refill the battery.



Not enough



Too Much



Just right!

BATTERY INFORMATION

Refilling the battery using the water filling system

If your e-Tuk is fitted with a water filling system. This system lets you fill all batteries at once through a single hose.

Installing a filling system can always be done after delivery. Feel free to contact your distributor for more information.

- Make sure your vehicle is turned off
- Make sure that your batteries are charged and cooled down
- Locate the filling hose
- Fill your filling tank with de-ionised or distilled water
- Connect the hose of your filling tank to the battery hose
- Place the filling tank high above the batteries. The e-Tuk's roof is a good location for this. Gravity will pour the water in the batteries
- You will see the water flowing through the

red flow indicator in the tank's hose

- When the liquid stops flowing the batteries are full

i The battery filling system has an indicator for each single battery cell. The indicator shows if the battery is filled and automatically cuts the water feed.

Full cell



Cell needs filling



Advanced watering tools

With a de-ionizing unit you can make your own battery water directly from tap water. Feel free to contact your distributor for more information. The de-ionising unit uses special cartridges that can produce up to 2400 litres of battery water.

3P-051-101

Battery de-ioniser unit

3P-051-102

Battery de-ioniser cartridge



The de-ionising unit can be used directly with battery watering guns. Connect the watering gun to the hose of the de-ionizing unit. Put the nozzle of the watering gun in the battery fill wells and squeeze the trigger. It stops automatically when the battery liquid has reached the correct level.



3P-051-103

Watering gun

CHARGING

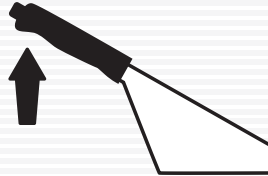
Standard charging sequence

Turn off



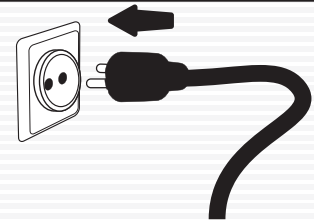
Remove the key from the key lock.

Parking brake







Apply the parking brake to make sure your vehicle does not roll away.

Plug in



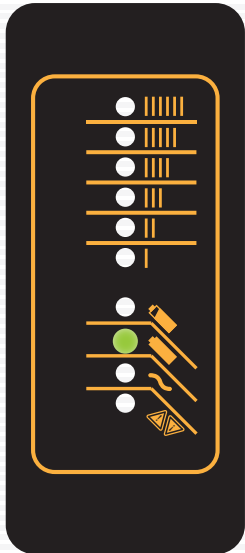
Insert the plug into your home socket.

-  **The electrical plug that is needed to charge your e-Tuk can be found underneath the rear seats. It is connected to the yellow/black charger box.**
-  **Wait at least 15 minutes before driving off after charging, your batteries need to cool down. Driving immediately after charging will damage your batteries and affects range.**
-  **Always finish the charging sequence. Cutting off a sequence will damage batteries and affects range.**
-  **If you use an extension cord, make sure it's fully unwound. Rolled up cords can generate heat.**

Time to charge

The Delta Q 72V @ 12Amp (5A nominal) is standard equipment on every e-Tuk. You can find it underneath the rear bench. Charging your e-Tuk from 0 to 100% takes about 14 hours. That long? Yes, it takes a while to

charge such a huge battery. TTF offers faster chargers, please contact your distributor for more info.



i Charging your e-Tuk requires high current. Make sure each socket has its own power 'group'. Only connect ONE QuiQ charger to a single 15A circuit or the circuit may become overloaded.

Equalization

Whenever your battery's performance reduces, or if you were not able to complete a charging sequence, your battery needs to be equalized. Additionally, TTF recommends regular equalization of your battery pack (see "Maintenance schedule" on page 37 for more info).

- To equalize your battery, simply charge it until the charger indicates that the battery is full
- Pull out the charger plug from the wall socket and put it back in again to start the equalization process
- Equalization can take up to 6 hours, depending on the state of your batteries



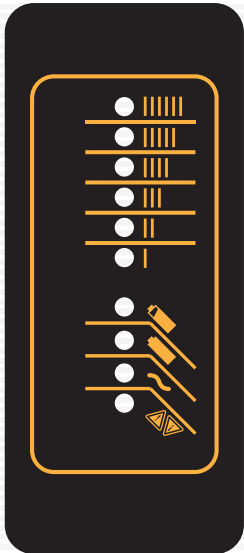
Is it not charging?

- Check for red lights on the charger
- Check your outlet/plug connection fuse.

CHARGING

The charger display

The e-Tuk's standard charger is located underneath the rear bench. It has a display on which you can check the progress of the charging sequence. Cutting off an unfinished charging sequence will lower your battery lifetime. So, waiting for the 100% green light to turn on is the best thing to do.



Ampere meter	Solid:	Displays approximate scale of charge during the first 80%.
	Flashing:	High internal charger temperature. Charging speed is reduced
80%	Solid:	First 80% charged, the last 20% will go more slowly
	Flashing:	Contact your service supplier
100%	Solid:	Fully charged
	Flashing:	Charging almost complete, finishing
Charger turned on	Solid:	AC power good
	Flashing:	Low AC Voltage, check voltage and extension cord length
Error	Flashing:	Charger error. Reset charger , contact your service provider

Dashboard charging LED

If you do not need detailed charging information, but just want to know if the charging sequence is finished, you can easily check the charging LED on the dashboard. It is located next to the key switch.



Green	Constant:	Fully charged
	Flashing:	Short: <80% Charge
		Long: >80% Charge
Not constant: Contact your service supplier		
Yellow	Flashing:	Reduced Power Mode: Low AC Voltage or High internal charger temperature. Use a shorter extension cord
Red	Flashing:	Charging error. Re-plug the charger plug in the socket or contact your service supplier

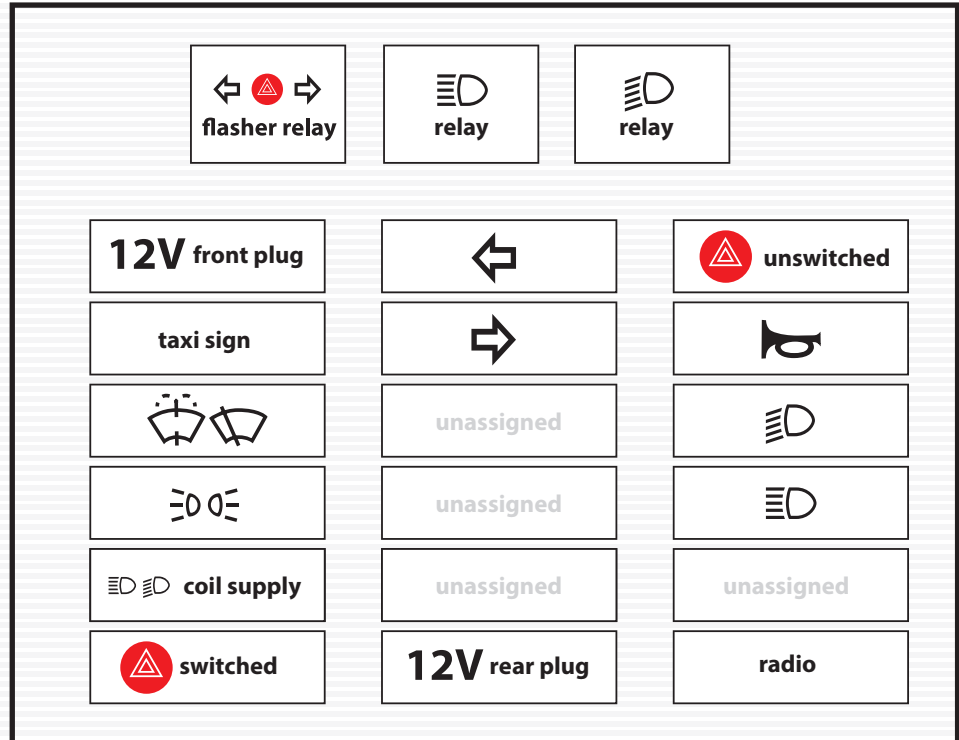
The fuse box

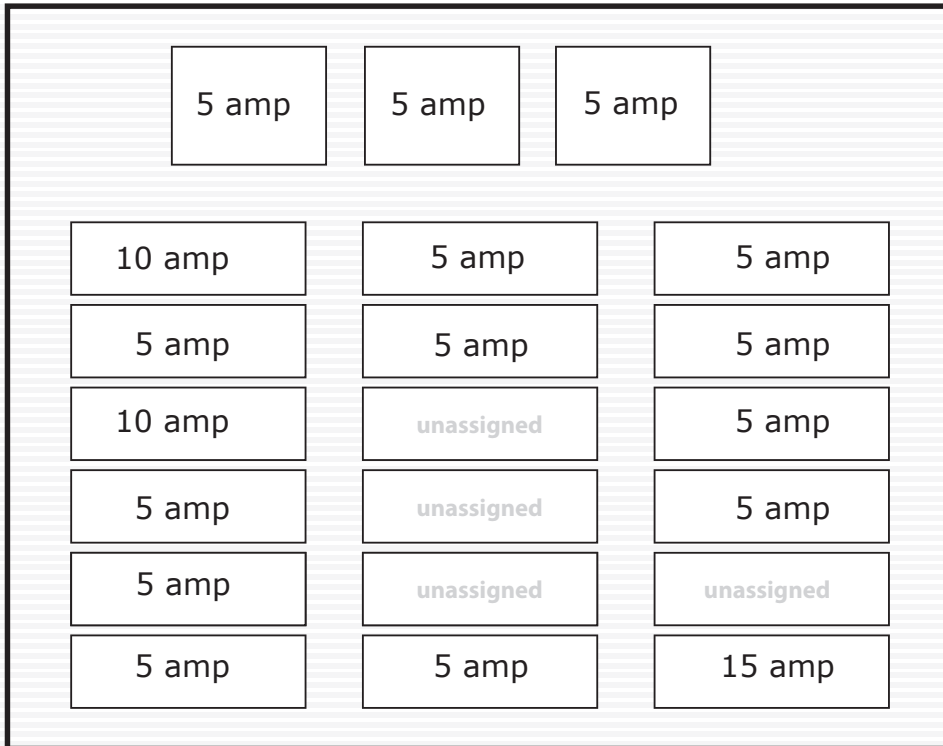
The e-Tuk contains several fuses.

All of the 12V fuses are located in the fuse box underneath the driver seat.

To reach the fuse box you will have to remove the driver seat and the cover below it.

The illustration shows the location and function of the fuses.





When you are replacing fuses, only use blade fuses with amps according to the schedule below.

In order to check if a fuse is broken, carefully remove it from the fuse box. If the metal wire between the 2 poles is broken, the fuse is blown.



Blown fuse



Ok to use!

12V Battery

The 12V battery can be found underneath the driver's seat, in front of the fuse box. The battery should give at least 11V. When measuring the voltage, make sure the vehicle is switched off. If the battery voltage is 10V or less, it is time to replace the battery.

WARNING

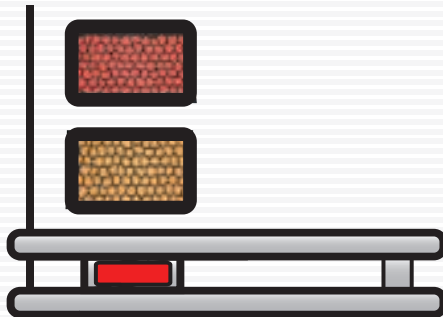


**!NEVER CONNECT THE
12V BATTERY TO THE CHASSIS (B-)!**

The 12V battery and the 72V battery have common ground.

When you connect the ground to the frame, as can be done with regular cars, you will connect the 72V system to the frame. This is very dangerous and should be avoided!

Tail lights



The tail lights and rear direction indicator lights are highly durable LED light units. If they are not working, please make sure to check the connections and fuses first. If the light is indeed broken, you need to replace the entire unit.

Changing front light bulbs

If one of your lights is not working, first check if the wiring is properly connected and that the fuse is not broken. To replace the light bulb in the headlights, first remove the entire headlight assembly:

- Unscrew the two screws inside the dashboard that holds the headlight in place.
- Slide the black rubber protection cap back to reveal the white fitting
- Rotate the white fitting to remove it from the metal housing
- Do not touch the bulb with your hands, wear gloves or use a handkerchief to unscrew the bulb
- Press and turn the light bulb clockwise to remove the bulb from its fitting



Use a **BA20D 12V 35W** bulb.

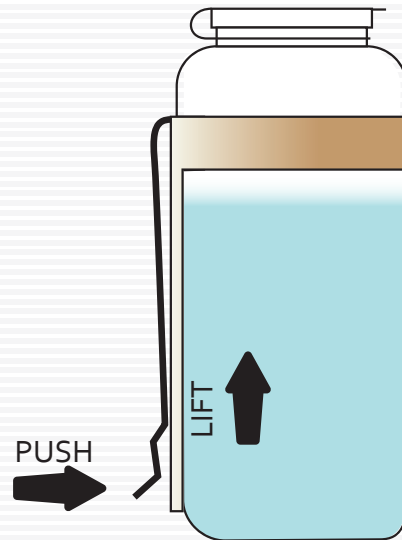
Oil

Your e-Tuk uses different types of oil for different parts of the vehicle.

Regularly check the ground underneath your vehicle for any traces of fluid that may have leaked. Report any leakage to your local service provider immediately.

Differential oil	<p>Check the state of your differential oil every 3 years and replace if necessary.</p> <p>Use about 750ml of 85W90 oil to fill the differential.</p>
Brake fluid	<p>Check the level of brake fluid every year. Unscrew the body panel that covers the brake pedal. This gives you easy access to the two reservoirs that hold the brake fluid. Check if the level of fluid is between the indicated levels on the reservoirs. Check for any visible leaks.</p> <p>Use DOT 3 or DOT 4 type fluid.</p>
Front fork	<p>Visually check for any leakage. Replace the oil in the front fork when you have spotted leakage or when damping becomes less. Also make sure you replace the forks seals.</p> <p>Use 15W type oil.</p>

Refill the washer reservoir

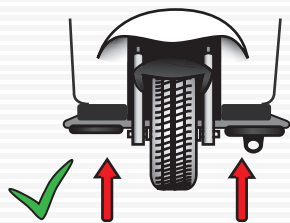
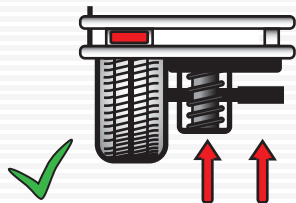


Your windscreen washer can easily be filled with washer fluid. Best way to do it is to lift it out of its holder. This way the opening cap is easy to reach and you won't spill a drop.

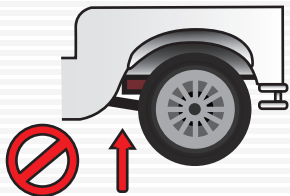
TROUBLESHOOTING

Jacking

Jack up the vehicle only underneath the rear suspension spring or rear axle.



Only jack up the vehicle on the allocated jacking points. These are the cylindrical blocks underneath the frame.



Never jack up the vehicle on the diagonal beam near the rear axle. This will damage the suspension.

Changing tires

To change a rear tire, jack up your vehicle. Remove the screw of the plastic wheel cover. Remove the 4 nuts that hold the wheel in place. Take off the wheel. Make sure you put the new wheel in place and secure the bolts while the vehicle is still jacked up.

Use a thread locking material on all the bolts before putting the new wheel back in place. We advise using Loctite Blue 242 Nut & Bolt Locker.

To change the front tire, jack up the vehicle. Remove the brake calliper and loosen the bolt of the front axle. Remove the front axle to release the front wheel. Pay attention to the right assembly order of the several spacers and other parts. Reassembly is the reverse order of removal.

Vibrating front wheel

Try to adjust the steering damper if your front wheel is vibrating while driving. The steering damper is located on the right side of the front fork underneath the front fender.

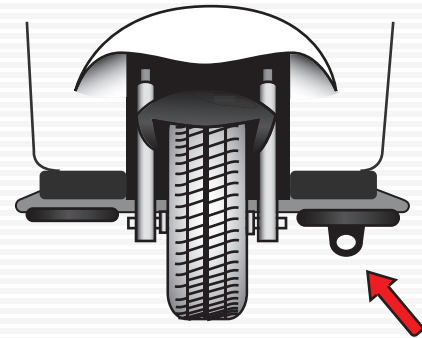
There are multiple damping settings. Rotate the adjuster on the end counter clockwise to switch to a heavier setting. A heavier setting means less 'wobbling' and more stability, but also means heavier steering.



Towing

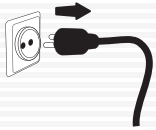
In case your vehicle needs to be towed, only use the towing ring at the front of the vehicle. Switch on the vehicle and press the red emergency switch located left of the driver's seat to disable motor resistance. Make sure your hazard lights are turned on while being towed.

If you being towed at night, make sure your tail lights are turned on as well.



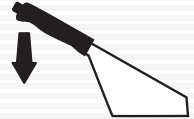
TROUBLESHOOTING

It's not working!



Check the charger cable. Whenever it is plugged in the e-Tuk will not drive.

Make sure the parking brake is released. The e-Tuk will not drive when it is engaged.



Makesurethattheredemergency button is not pressed. Rotate the button clockwise to release.



Do a re-run of the starting sequence. Check if the direction switch is in **N**



Check the battery display for the battery level. Remember that the indication bars are an estimation, not an exact representation of your battery's charge.

BDI error messages

Error	What does it mean?	What happened?	What do I do?
16	Extreme overheating of the controller. Vehicle will not drive.	Heat sink temperature reached +95°C.	Prevent aggressive driving. Allow the controller to cool down.
17	Battery indicates that it is almost empty. Driving speed is reduced.	Battery is almost empty.	Get to a power outlet and recharge immediately.
22	The controller is overheated. Driving speed is reduced.	Heat sink temperature reached +85°C.	Drive slowly. Accelerate & decelerate little by little. The controller will slowly cool down.
23	Battery power is getting low. Driving speed is reduced.	Battery power is getting low.	Get to a power outlet and recharge soon.
28	The motor is too hot. Driving speed is reduced.	The motor is overworked. There was too much weight on the vehicle or the hill inclination was too steep.	Allow the motor to cool down. Reduce the weight on the vehicle or take a route with less hills.

29	The motor temperature sensor is not connected. The vehicle will not drive.	The motor temperature sensor is loose.	Check the 2 pin connection by the motor.
36	Encoder error.	The encoder is loose.	Check the 4 pin connection by the motor.
37	The motor face is open. Vehicle shuts down.	There was a short circuit in the wiring of the motor.	Check the wiring of the motor.
38	The main contactor is welded shut. Vehicle shuts down.	The main contactor does not open anymore.	Replace the main contactor.
39	The main contactor did not close. Vehicle shuts down.	The main contactor did not close or the tips are oxidized.	Check pins on contactors or replace main contactor.
44	There is an error in the throttle.	The throttle broke or the wiring is faulty.	Check wiring on the throttle, or replace throttle.
47	Vehicle will not drive while direction switch is in D or R.	You started the vehicle without putting the direction switch in neural.	Shut down the vehicle, put the direction switch in neural (N) and start it again.
73	Stall detected. The motor is stalled. The vehicle will not drive.	Something blocks the motor and prevents it from turning.	Check if something is blocking the motor, wheels or drive train. Check the 4 pin connection on the motor. The driving angle is too steep.

VEHICLE INFO

			3+1	Stretched	Cargo & Vendo	Cargo & Vendo XL
Vehicle	Driver comfort seat		●	●	●	●
	Passenger seats		3	6	●	-
	Cargo space (ltr)		-	-	2000	3000
	Maximum payload (kg)		300	300	380	300
	Maximum speed (km/h)		45	45	45	45
	Range** (km)		70-80	60-70	70-80	60-70
	EU vehicle category		L5	L5	L5	L5
Battery	Deep cycle Lead-Acid		●	●	●	●
	Capacity (kWh)		15	15	15	15
	Charging time 0-100% (hrs)		14	14	14	14
	Lifetime (years / km)		3/100.000	3/100.000	3/100.000	3/100.000
	Charger type <i>Delta Q</i>		●	●	●	●

- Standard
- Not available
- * Vendo height may differ
- ** In a standard e-Tuk city cycle

			3+1	Stretched	Cargo & Vendo	Cargo & Vendo XL
Drive train	Motor type AC		●	●	●	●
	Motor power (kW)		7	7	7	7
	Reverse speed (km/h)		10	10	10	10
	Controller Curtis 300A		●	●	●	●
Size and weight	Size	Length (mm)	2980	3980	2980	3980
		Width (mm)	1410	1410	1410	1410
		Height (mm)	1850	1850	1850	1850
	Cargo space	Length (mm)	-	-	850	1850
			-	-	1400	1400
		Height (mm)	-	-	1200*	1200*
	Track (mm)		1255	1255	1255	1255
	Wheelbase (mm)		2270	2700	2270	2700
	Kerb weight (kg)		700	850	700	850
	Tyre size rear wheels		155/80R13	155/80R13	155/80R13	155/80R13
	Tyre size front wheel		145/70R12	145/70R12	145/70R12	145/70R12

MAINTENANCE SCHEDULE

<p><i>Proper maintenance is key to long vehicle life time. To ensure performance and expected use of the vehicle, stick to this maintenance schedule.</i></p>	Tyre pressure check**	Clean steer damper	Apply silicone lubricant on rain cover zippers	Tyre profile check	Lights check***	Water batteries*	Brake pads and shoes check	Equalize batteries	Clean motor	Flush brake fluid	
	Maintenance done by	U	U	U	U	U	U	U	M	M	
	Weekly or 200km	x	x				x				
	Monthly or every 800km	x	x	x	x	x	x	x			
	Yearly or every 12.500km	x	x	x	x	x	x	x	x		
Every 2 years or 25.000km	x	x	x	x	x	x	x	x	x	x	

Storing the vehicle

Make sure your vehicle is stored indoors, in a dry environment. Make sure any water left on the vehicle is dried off before storing the vehicle. These are the best conditions for keeping the body and roof cover as good as new.

U You can do this yourself with some basic technical skills

M This needs to be done by an authorized service and maintenance engineer

	Replace brake discs												
	M	M	M	M	M	M	M	M	M	M	M	M	M
		x	x		x	x	x	x					
	x	x	x	x	x	x	x	x	x	x	x	x	x

*The battery manufacturer recommends that batteries be checked once a month. Check the water level of the batteries monthly until you get a feel for how thirsty your batteries are. Also, check all battery pole connections for corrosion. Only fill batteries one hour after charging them.

**The optimal tire pressure is 3bar / 44 psi.

***Check to see if all the lights (front, rear, direction indicators) work every week.

YOUR E-TUK'S DNA

VIN

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Type

Classico/Limo/Cargo/CargoXL/Vendo/VendoXL

Colour

.....

Licence plate nr.

.....

Installed Options

.....

Country

.....

Distributor stamp

.....

SERVICE & MAINTENANCE HISTORY

In this section we have reserved space for your service and maintenance provider to keep track of service and repairs on your e-Tuk. Please keep in mind that your vehicle needs regular maintenance. Regular checks need to be done on your battery. You can find the maintenance schedule on page 37.

We advice you to keep all invoices you receive for these repairs. They will give additional insight in your vehicle's history.

Date / / km

Comments

.....

Service stamp:

Next service km/date

Date / / km

Comments

.....

Service stamp:

Next service km/date

SERVICE & MAINTENANCE HISTORY

Date / / km

Comments

.....

Service stamp:

Next service km/date

Date / / km

Comments

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SERVICE & MAINTENANCE HISTORY

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Service stamp:

Next service km/date

Date / / km

Comments

Service stamp:

Next service km/date

BATTERY ANALYSIS TOOLS

Battery analysis table

When your battery performance reduces, your service provider could help you to locate the problem. In this section you can find tables that could help you track your battery's performance. If you copy these blank pages you can use them more than once.

To be able to quantify the performance it is advised to perform a field test, measuring range and voltages. The drive logging form can be used for this.

Measuring each battery cell can be done to determine which specific cell underperforms. Each measurement can be filled in the battery logging form. Appropriate values can be found below.

% Charge	6 Volt	72 Volt	Gravity
100	6.37	76.44	1.277
90	6.31	75.72	1.256
80	6.25	75.00	1.238
70	6.19	74.28	1.217
60	6.12	73.44	1.195
50	6.05	72.60	1.127
40	5.98	71.76	1.148
30	5.91	70.92	1.124
20	5.83	69.96	1.098
10	5.75	69.00	1.073

Drive logging form

Before drive			After drive			Charging	
Time	Voltage	Km	Time	Voltage	Km	Start time	End time

BATTERY ANALYSIS TOOLS

Battery logging form

Battery logging form												
B01				B02				B03				VIN
sg1	sg2	sg3		sg1	sg2	sg3		sg1	sg2	sg3		
B04				B05				B06				Date
sg1	sg2	sg3		sg1	sg2	sg3		sg1	sg2	sg3		
B07				B08				B09				Time
sg1	sg2	sg3		sg1	sg2	sg3		sg1	sg2	sg3		
B10				B11				B12				Total Voltage
sg1	sg2	sg3		sg1	sg2	sg3		sg1	sg2	sg3		

Notes

A large, empty, rounded rectangular box with a black border and horizontal dotted lines, intended for taking notes. The box is positioned below the 'Notes' header and occupies most of the page's width and height.

Notes

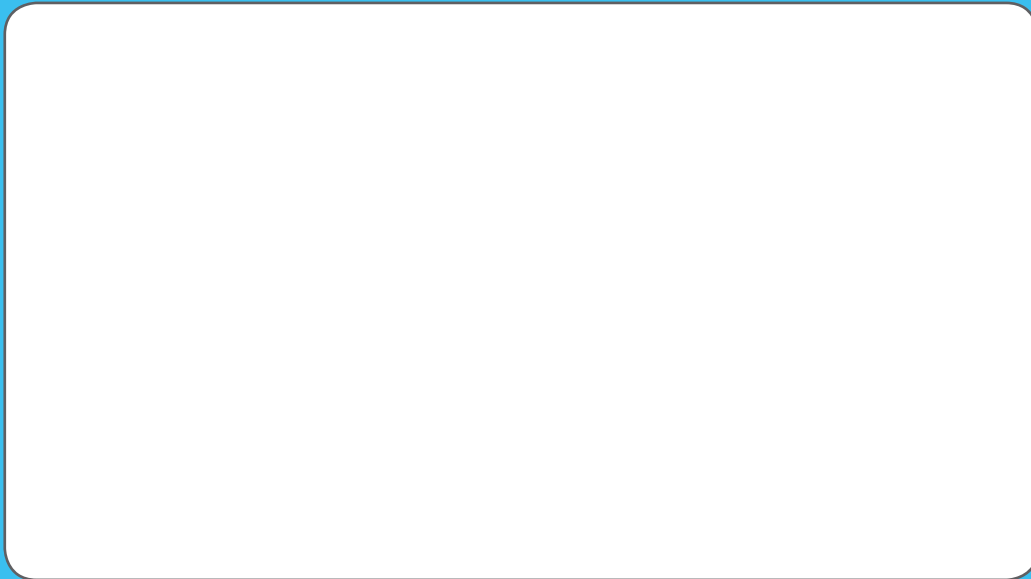
A large, empty rectangular area with rounded corners and a black border. It contains ten horizontal dotted lines, providing a template for writing notes.

Notes

A large rectangular area with a black border and rounded corners, containing ten horizontal dotted lines for writing notes.

If you are having issues with your vehicle, please contact your local service provider. Before you do, please make sure you have read this manual carefully. If the manual does not give you an answer to your problem, please contact the following:

Your local service provider:





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service@tuktukfactory.com*