



BOZEMAN

Owner's Manual

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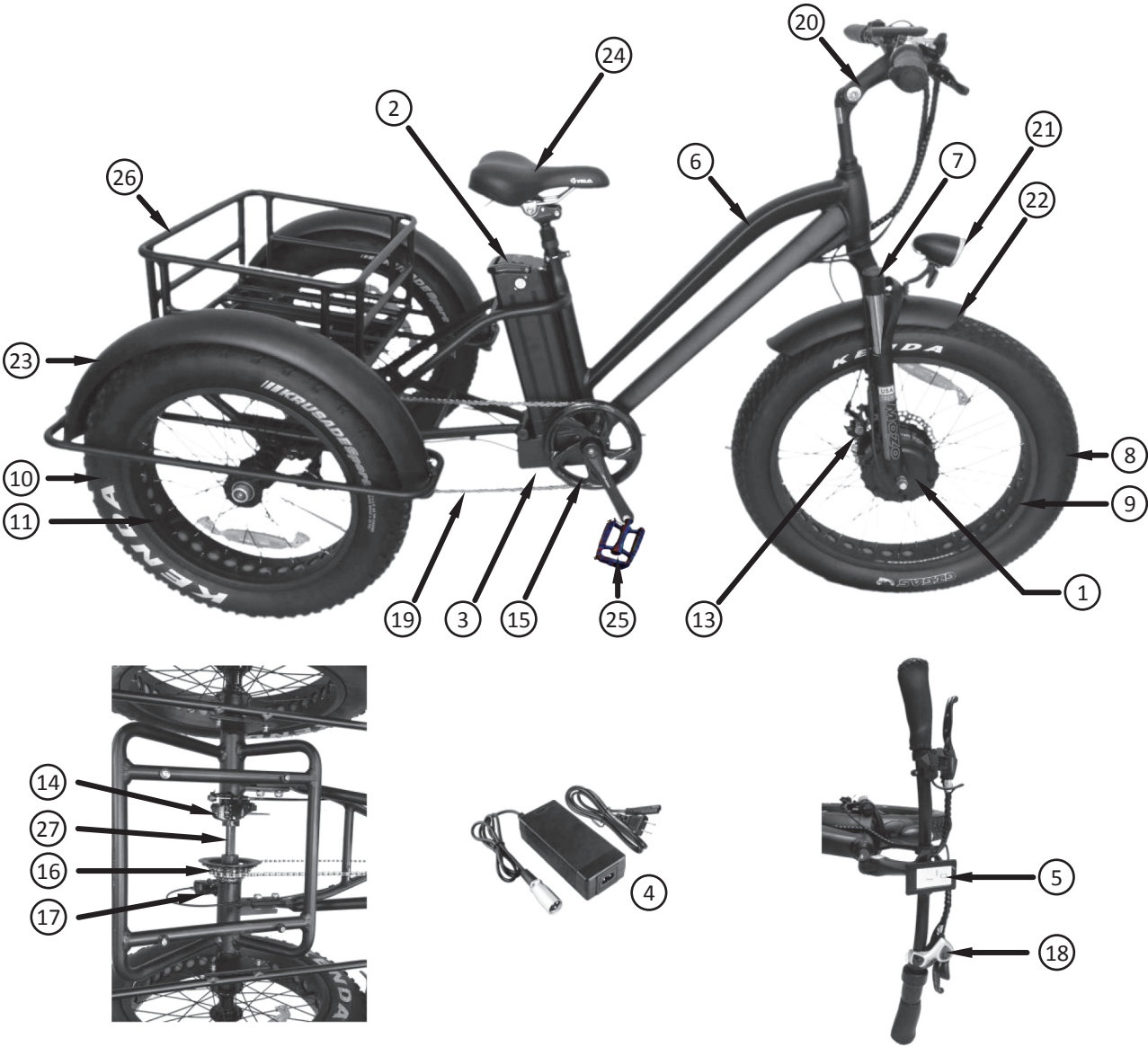
PEDAL ASSISTED ELECTRIC TRIKE

Save this manual for future reference. Read and understand all instructions and safety precautions before use.

- This pedal assisted electric tricycle is NOT a moped or motorcycle, it is a tricycle that is equipped with an electric pedal assist drive system (PAS).
- The drive system includes a drive motor, a battery, a computer control, sensors, harness wiring, and switches.
- The drive system activates only when you are pedaling, while the pedal assist drive unit is turned on, and when the accelerator is operated. The amount of power provided to the drive motor depends on the amount of pedaling and the mode/level set on the LCD display.
- Once pedaling has stopped, the drive motor will dis-engage. The computer control will progressively reduce power and cut off upon reaching the maximum allowable speed.
- When the speed drops below the maximum, and if the pedals are still turning, power will be re-engaged.
- With the pedal assist drive unit turned off, the tricycle may be peddled normally and the drive system will not engage.
- Do not attempt to modify the tricycle or drive system. Doing so may result in severe damage, faulty or dangerous operating conditions, or violate local laws.
- Contact authorities in your area for information regarding regulations laws and directives for operating a pedal assisted electric tricycle.
- This tricycle is NOT a toy. Follow all local laws regarding minimum age requirements for operating, including speed, lights, safety equipment, licensing, signal lamps, etc.
- Familiarize and understand your tricycle, the pedal assist system, and the intended use of both prior to operating.
- Use the tricycle ONLY for its intended use.
- Using an approved helmet and protective gear COULD SAVE YOUR LIFE!

- Keep your hands on the handle bar at all times.
- When not in use, turn the key to the OFF position, unlock and remove the battery and key, and use a bicycle lock to prevent unauthorized use.
- This Tricycle is not intended for performing stunts, or for “jumping” by either curb hopping or dropping off of a curb. Doing so may damage the frame or other parts of the tricycle.
- Only use the charger that is supplied with the vehicle. Using a different charger may result in fire or explosion.
- If replacing the battery, only use exact replacements. Contact the seller for more information.
- Do not drop the battery or battery charger.
- Do not open, disassemble, or modify the battery or charger.
- Keep the battery away from heat or flame. Remove the battery if the tricycle is left in intense sunlight.
- Do not allow water onto the battery.
- Avoid shorting the battery terminals and contacts. Shorting may cause electrocution, severe burns, fire, or explosion.
- Always remove the battery before performing maintenance, repair, or transporting the tricycle.
- Charge the battery indoors, in a clean, dry, and well ventilated area.
- Allow the battery to come to room temperature prior to charging.
- Unplug the charger from the outlet when not in use.
- Do not discard the battery or charger into fire, water, or ordinary household waste. Dispose of a used battery or charger in accordance with national and local laws.
- Do not overload the basket or exceed the weight capacity of the tricycle.
- Maintain proper air pressure in the tires at all times. Check for excessive wear, bulges, or cuts in the tires before use.
- Never operate the tricycle if any of the rims are bent, wobble, or do not run true.
- Prior to using, check that all fasteners are tightened and mounted accessories are securely in place.
- Do not operate this tricycle in traffic, on wet, frozen, oily, or unpaved surfaces.
- Avoid uneven surfaces, potholes, surface cracks, and obstacles.
- Do not operate this tricycle under the influence of drugs and/or alcohol.
- Wear appropriate clothing and approved personal protective gear such as gloves, knee and elbow pads, and helmet. Wear high visibility reflective vest or jacket if riding in low light or night conditions.
- Never carry passengers on the tricycle.
- Children must be supervised by an adult at all times while operating.
- Always ensure the brakes work and do not have excessive wear prior to operating. If the discs or brake pads become wet, stopping distance may increase.
- Do not operate the tricycle if any part is malfunctioning or requires repair. Operating a poorly maintained or malfunctioning tricycle may result in severe injury or death.
- Do not use a pressure washer or compressed air to clean the tricycle or any of the electrical parts. Use soapy water and wipe down with a rag, then use clean water on a sponge to rinse.
- Do not spray water directly on the controls, the drive motor, or drive controller.
- Always remove the keys from the battery lock after switching the battery to ON, OFF, or UNLOCK position to prevent the key from breaking off in the lock.

PEDAL ASSISTED ELECTRIC TRIKE

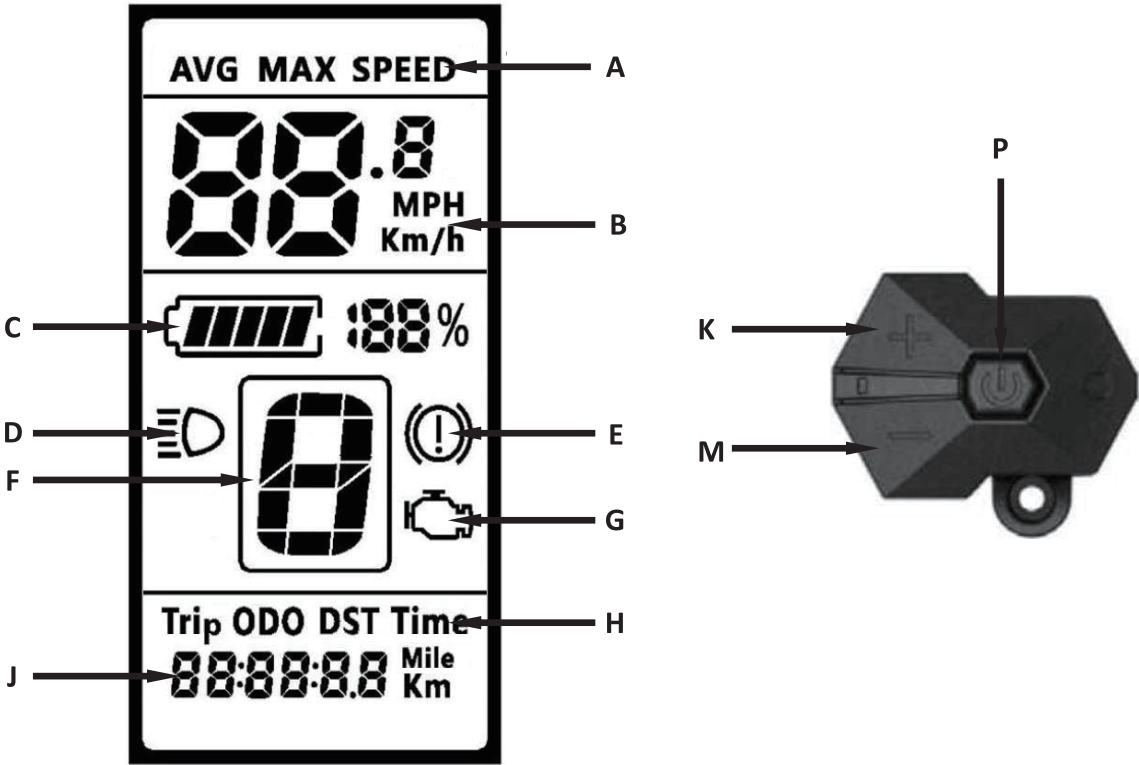


Parts List and Specifications

No.	Name	Specification
1	Motor	48V 500 W Front Drive Bafang FMG06, CE
2	Battery	48V 17.5 Amp/Hr Li-ion, Samsung
3	Drive Controller	Durable, Low-noise 48V 11A
4	Charger	100-240V, 50/60 Hz, Single-Phase
5	Display PAS	APT 800s 0-5 Level Adjustable Display Pedal Assisted System 1:1
6	Frame	6061 Aluminum Alloy
7	Fork	Adjustable Travel Locking Suspension Fork (80 mm)
8	Front Tire	24 in x 4.0 Pneumatic Tube Type Tire
9	Front Wheel	24 in x 4.0 Spoked Double Alloy Aluminum
10	Rear Tire	20 in x 4.0 Pneumatic Tube Type Tire
11	Rear Wheels	20 in x 4.0 Spoked Double Alloy Aluminum
12	Wheel Spokes	Stainless Steel, Front 12 ga. /Rear 13 ga.
13	Front Brake	Tektro Aries Mechanical Disc Brake

14	Rear Brake	Tektro Aires Mechanical Disc Brake
	Brake Operation	Aluminum Alloy Caliper, Steel Disc, Power-Off When Braking
15	Drive Sprocket	48T x 170mm Steel with Plastic Guards
16	Driven Sprockets	Shimano 7-Speed
17	Derailleur	Shimano Derailleur
18	Shifter	Shimano Thumb Shifter, Right Hand
19	Chain	Rust-Free Chain
20	Handlebar & Quill	Aluminum Alloy, Adjustable 1 in Stem
21	Front & Rear Lights	LED Lights
22	Front Fender	Aluminum Alloy
23	Rear Fenders	Aluminum Alloy
24	Saddle	Velo Saddle with ProMax stem
25	Pedals	Aluminum Alloy with Reflectors
26	Rear Basket	Aluminum Alloy Tube, 18 x 15 x 8.5 in
27	Rear Axle	Carbon Steel

Controller Specifications	
Power Requirement	48 VDC
Rated Operating Current	10mA
Max Operating Current	30mA
Shutoff Leakage Current	<1μA
Max Controller Current	50mA
Operating Temperature	-30°C to 70°C
Storage Temperature	-40°C to 70°C
Material	ABS with High Strength Clear Acrylic Display Panel
Dimensions (L x W x H)	3-9/16" x 2-1/8" x 1/2"
Backlight	Five level adjustable backlight



LCD Display Information		
A	Speed display modes	Average Speed, Maximum Speed, Actual Speed
B	Speed display scale	Selectable Between Kilometers/Hour or Miles/Hour
C	Battery indicator	Five levels, equaling 20% per level
D	Front Lamp indicator	Indicates when the Front Lamp is ON
E	Brake indicator	Indicates when braking
F	Pedal Assist Level indicator	Up to Five Pedal Assist Levels
G	Error Indicator	Indicates when an error is detected
H	Mileage modes	Selectable Between Odometer, Trip Distance, and Riding Time
J	Mileage readout	Displays the selected mileage mode

Thumb operated switch		
K	Embossed (+) button	Selects / moves to the next level or screen
M	Embossed (-) button	Selects / moves to the previous level or screen
P	Power ON/OFF, SELECT button	Main power ON/OFF and selection button

UNPACKING THE TRICYCLE

- Unpacking and assembly should be done on a clean, well-lighted, and LEVEL surface.
- Allow sufficient workspace so the packaging and other parts may be easily organized.
- Assembly should only be performed by a competent adult who is familiar with basic safety and tools required for assembly.

Remove packaging materials and dispose of in a responsible manner. Remove all materials and set parts aside for assembly.

Package contents:

Frame assembly with battery and keys (1pc)
 Front wheel (1pc)
 Rear wheel (2pcs)
 Front fender (1pc)
 Rear fender with fender frame (2pcs)
 Accessory box (1pc)
 Rear Basket (1pc)
 Rear Basket bag (1pc)
 Saddle and saddle stem (1pc)
 Handlebar & Handlebar Stem (1pc & attached to frame assembly)

Accessory package contents:

Rear Light with AA Battery (1pc)
 Pedals (2pcs)
 Handlebar Stem Dust Cover (1pc)
 Battery Charger (1pc)
 Hex Key Set (1pc)
 Hex Key, 6mm (1pc)
 User Manual (1pc)

Check that package contents are complete.

ASSEMBLING THE TRICYCLE

Start the assembly by placing the Handlebar

Stem Dust Cover onto the Handle Bar Stem with the small diameter end facing towards the Handle Bar.

Place the Handle Bar Stem with the Handle Bar into the hole at the top of the forks.

Set the height of the Handle Bar Stem to be at least past the minimum insertion height mark on the stem. Ensure the Handle Bar is parallel with the plastic shipping axle on the front forks.

Use the 6mm Hex Key to tighten the hex nut on top of the Handle Bar Stem to secure it in place.

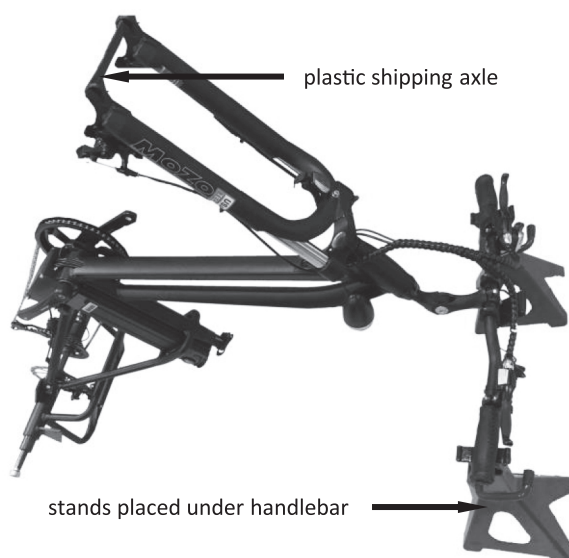
The tricycle can be assembled with the forks in the down or up position. If working with the forks in the up position, be sure to use stands under the handlebar to prevent the damage to the LCD display from the weight of the tricycle (see photo below).

Install each rear wheel onto the rear axle.

One wheel is the drive wheel and has a square hole on one side of the wheel hub and must be installed on the driven side of the axle which has a square shaft.

Unscrew the fastener with spacer on the end of the axle, place the wheel onto the axle, and push the wheel until it is fully seated. replace the fastener and spacer onto the end of the axle and tighten it with the 6 mm Hex Key.

Repeat these steps for the other, free-spinning, wheel.



ASSEMBLING THE TRICYCLE (cont'd)

Install the Front Wheel onto the Front Forks. Remove the plastic shipping axle on the front forks.

Loosen the nuts on the front wheel so there is enough space to place onto the ears of the front forks.

When installing the front wheel, pay attention to the position of the front reflector/lamp bracket so the wires are not between the tire and forks.

Carefully place the front wheel axle into the fork ears, while working the brake disc between the front brake pads.

The fork ears should be placed between the spacer and washer on the axle.

Make sure the tabs on the spacers are aligned with the gap in the fork ears (see photo).

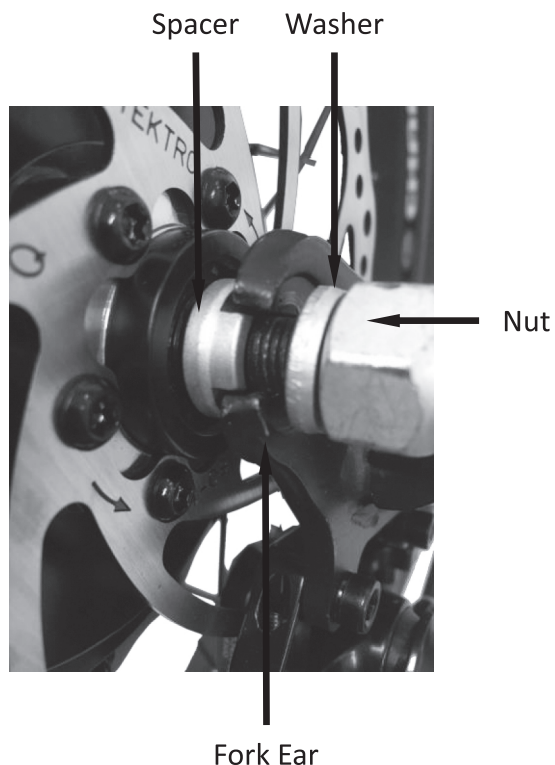
Use a $\frac{3}{4}$ " or 19mm box end wrench and tighten each nut.

Turn the wheel by hand to check that the front wheel is free spinning and that there is no binding at the mechanical disc brake.

Plug the Drive Motor connector into the Drive Controller output cable on the front fork. Align the arrow on the connector with the arrow on the output cable and press the cable and connector together until the arrows are nearly touching.

Install the Front Fender by removing the screw that holds the front reflector and Front Lamp bracket on the Front Forks. Place the Front Fender tab onto the screw, behind the fork crossbar. Replace the nut and tighten it.

Install the Rear Fenders by removing the screws and washers on the Rear Fender Frame. Align the Rear Fender Frame to the fender bracket above the Rear Axle on the tricycle frame. Use the screws and washers to secure the fender in place. Repeat for the other side.



Install the Rear Basket by removing the four screws and washers from the frame. Place the basket onto the frame with the rear light holes towards the back. Align the four slots over the mounting holes on the frame, and use the screws and washers to secure the basket in place.

Install the Saddle. Loosen the quick release latch on the frame saddle tube, and insert the saddle stem into the tube. Set the desired height and engage the quick release latch.

Install the Pedals. The pedals have a reverse thread and tighten by turning counter-clockwise. Screw the Pedals into the holes on the crank and tighten using an open end wrench.

Install the Rear Light. Remove the nuts from the back of the Rear Light. Insert the two threaded studs into the holes on the rear basket and use the nuts to secure the light in place. Pull the plastic shipping tab out and operate the light by operating the switch at the bottom of the light. The AA battery can be removed and replaced by removing the four screws on the lens cover.

ASSEMBLING THE TRICYCLE (cont'd)

Remove the battery and charge it. Insert one of the two keys into the ON/OFF/UNLOCK keyholes on the battery and rotate it to the UNLOCK position. Note while turning that the locking tab at the rear of the battery retracts. Remove the key. Use the latch under the Saddle to flip the Saddle forward. Grab the Battery Handle and pull upward on the battery to remove it. Plug the charger's three pin cable into the battery, then plug the charger's AC cord into a 100-240VAC outlet. Allow the battery to charge for at least 8 hours prior to use.

Test the battery charge. While charging, the LED on the charger will be RED. Once the battery is fully charged the LED will turn GREEN to indicate charging is complete. The battery level can be checked by pressing the button and viewing the LEDs on the top of the battery.

Install the battery. After charging, unplug the AC cord of the charger from the outlet, then unplug the three pin charging cable from the battery. Check that the key switch is in the UNLOCK position and the locking mechanism is retracted. Operate the lever under the saddle and flip the saddle forward. Lift the battery by the handle and align the slot on the back of the battery with the battery support bar on the frame. Do not allow the battery to drop. Gently lower the battery until it is fully seated. Use the key to lock the battery in place.

GET FAMILIAR WITH THE TRICYCLE

A tricycle offers more stability than a bicycle and eliminates the need for the rider to constantly maintain balance, but do not become complacent.

Turning sharply may cause the tricycle to tip over, especially at higher speeds. ALWAYS slow down before turning.

Before operating, adjust the seat so that both feet can touch the pedals while the

body is upright.

Adjust the height and angle of the handlebar into a comfortable position. Be sure to tighten the screws after making adjustments.

Familiarize yourself with the tricycle before attempting to use the Pedal Assist feature.

Pedal the tricycle slowly and test the brakes. Change gears with the thumb Shifter while pedaling. Select one of the seven gear ratios that is comfortable for you. Lower gear numbers make it easier to pedal, and higher gear numbers have more torque. Gear selection does not affect the Pedal Assist.

When turning, always look over your shoulder and use a hand signal to alert anyone behind you of your intent.

Check your local rules regarding operation of tricycles. Different governments have different rules about when and where you are allowed on the sidewalk and when you are required to use the streets.

OPERATING THE PEDAL ASSIST

The Pedal Assist System (PAS) is intended to give a boost when riding uphill or when traveling a long distance.

Be sure the battery is fully charged prior to each use.

Insert the key into battery key switch. Turn the key clockwise to the ON position.

Press the ON/OFF/Select button on the PAS Thumb Operated Switch and hold it for one second. The PAS LCD Display will come on.

Note: The PAS will automatically shut off to save power if there is no pedaling sensor input after a few minutes (See Auto Off Parameter Settings).

Pressing the Embossed (+) or (-) Buttons on the Thumb Operated Switch will select one of the assist levels. The assist levels are numbered from 0 to 5. The zero (0) level is neutral with no pedal assist.

OPERATING THE PEDAL ASSIST (Cont'd)

Changing the speed and mileage mode.

Quickly pressing the ON/OFF/SELECT button will scroll through the different speed, and mileage modes.

If there is no operation after 5 seconds, the display will return to the default, real-time, speed display.

Turning the Front Light ON. Press and hold the Embossed (+) Button for one second to turn the Front Light ON. The light will turn on and the light indicator will show on the display. Repeat to turn the Front Light OFF.

6km Walk mode. Press and hold the Embossed (-) Button for one second to activate the 6km Walk mode. This mode limits the speed of the pedal assist to 6km per hour.

Resetting recorded data. Simultaneously holding down both the Embossed (+) and (-) Buttons will reset the recorded data which includes AVG Speed, Max Speed, Trip, and Time.

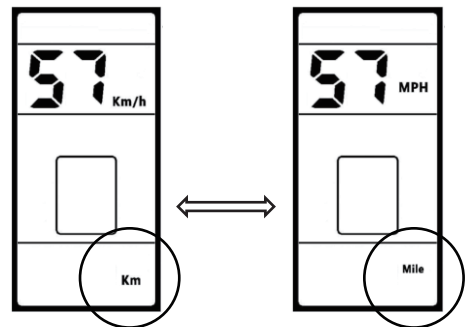
PAS Parameters Setting Mode. Quickly double pressing the ON/OFF/SELECT Button will place the PAS into the parameter setting mode. While in this mode, the selected parameter will flash. Quickly pressing either Embossed (+) or (-) Buttons will change the parameter value.

Quickly press the ON/OFF/SELECT button to move to the next parameter:

- Kilometers/Miles
- Backlight Brightness
- Auto Off Time
- Wheel Diameter
- Voltage Setting
- Password
- Speed Limit Setting
- HD
- HAL
- CLr

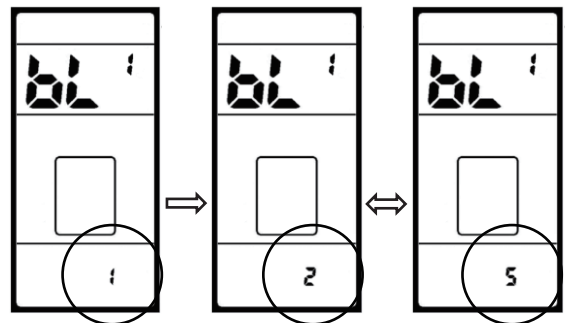
Quickly double pressing the ON/OFF/SELECT Button will exit the parameter setting mode. The display will automatically return to normal operation if there is no input after 10 seconds.

Changing between Km/h and MPH. Follow the procedure to enter the PAS Parameter Setting Mode, and move through the parameters until “S7” is displayed in the Speed Display box.



Quickly press either Embossed (+) or (-) Buttons to change the parameter value (circled). Exit the parameter setting mode.

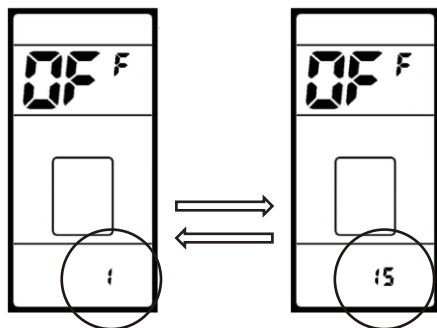
Changing the Backlight Brightness. Follow the procedure to enter the PAS Parameter Setting Mode, and move through the parameters until “bL1” is displayed in the Speed Display box.



Quickly press either Embossed (+) or (-) Buttons to change the parameter value (circled). There are five brightness levels. Exit the parameter setting mode.

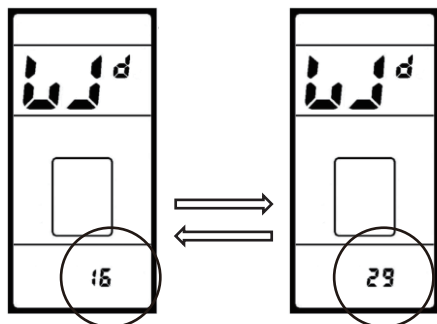
Changing the Auto Off Time. Follow the procedure to enter the PAS Parameter Setting Mode, and move through the parameters until “OFF” is displayed in the Speed Display box.

OPERATING THE PEDAL ASSIST (Cont'd)



Quickly press either Embossed (+) or (-) Buttons to change the parameter value (circled). Auto Off Time can be between 1 minute and 9 minutes. Exit the parameter setting mode.

Changing the Wheel Diameter. Follow the procedure to enter the PAS Parameter Setting Mode, and move through the parameters until “Wd” is displayed in the Speed Display box.

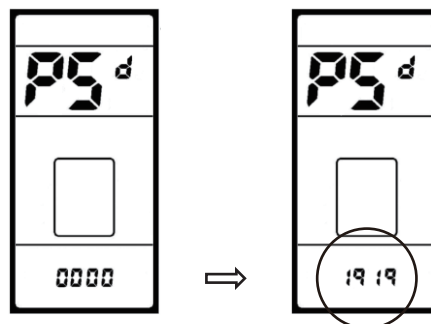


Quickly press either Embossed (+) or (-) Buttons to change the parameter value (circled). Wheel diameters can be set to 16”, 18”, 20”, 22”, 24”, 26”, 27” 700C, 28” and 29” . Exit the parameter setting mode.

Changing the Voltage. This setting should always be set to UbE because the voltage is fixed and programmed into the controller at production. Changing this setting will cause the battery level to be mis-represented and always showing it to be fully charged. When in this parameter setting, “bU0” is displayed in the Speed Display box.

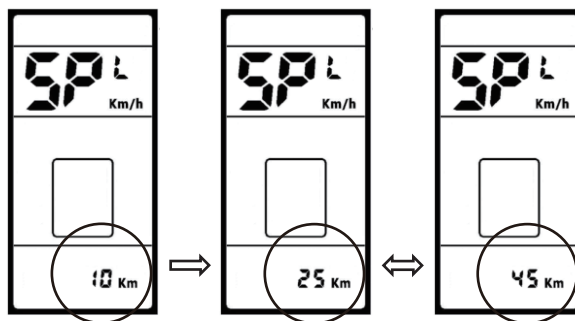
Entering and Changing the Password.

Follow the procedure to enter the PAS Parameter Setting Mode and move through the parameters until “PSd” is displayed in the display box. Use the Embossed (+) or (-) Buttons to scroll the numbers 0 through 9. Quickly press the ON/OFF/SELECT Button to enter a digit and move to the next password digit. The password is pre-set at production to **1919**.



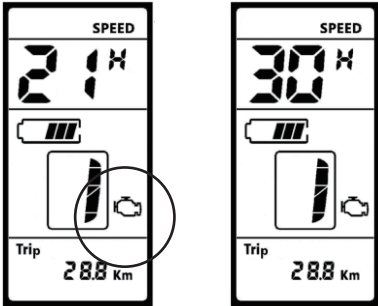
If an incorrect password is input, the display will return to the Voltage Setting screen. Entering the correct password will allow access to the Speed Limit Setting, HD, HAL and CLr Parameter displays.

Changing the Speed Limit Parameter. Follow the procedure for Entering and Changing the Password. If the correct password is input, then the display will move to the Speed Limit Set display and “SPL” will be displayed in the Speed Display box.



Quickly press either Embossed (+) or (-) Buttons to change the parameter value (circled). Speed Limit can be between 10 and 32 km/h. Press the ON/OFF/SELECT button to set. Note: This will only set the speed where the PAS stops assisting and not the speed of the tricycle.

Error Codes and Meaning		
Code	Description	Resolution
0x21	Current Abnormal	Check the connection between the display unit and controller.
0x22	Throttle Error	Check the throttle and connection.
0x23	Motor Phase Loss	Check motor connection.
0x24	Hall Sensor	Check the hall sensor connection.
0x25	Brake Error	Check the brake connection.
Others	Reserved.	Contact manufacturer for details.



Error Code Display

OPERATING THE PEDAL ASSIST (Cont’d)

The HD Parameter switches the throttle OFF or ON, and should be set to 1. The HAL Parameter defines the number of magnets used by the hall sensor and should not be changed. CLr should not be used.

Error codes. The screen may display an error code and the Error Indicator will be displayed if there is a problem. See above for the list of Error Codes and their meaning:

More information about the PAS. When braking, the pedal assist will automatically disengage.

Continuously using the PAS will drain the battery faster. Conserve battery power and rely on the PAS only when needed. One battery charge should last between 25 and 45 km (15-25 miles) and depends on many factors including the amount of PAS use, terrain, rider and cargo weight, stop/start time, tire pressure, temperature, etc.

The Front Light is LED and has a long service life.

The Rear Light is NOT controlled by the PAS and must be switched on manually. It is NOT a brake light and should be switched on in low light conditions for higher visibility. This light has a single AA battery that may need to be replaced after extended use.

When not in use, the trike battery should be stored indoors in a dry area. Be sure to turn the battery key switch to OFF. The battery

should not be exposed to extremes of heat (more than 40°C) or cold (less than -10°C) such as storage in a garage, shed, or attic. The battery should never be fully discharged. During the winter, or long storage periods, charge the battery to at least half full every two months.

DO NOT use a damaged battery.

OPERATING THE TRICYCLE

The tricycle has a rear basket which can carry light loads of up to 30 kg (60lbs). Do not allow other people to ride in or on the rear basket.

Ensure anything placed in the basket will not fall out, slide around, or get caught in any of the moving parts of the tricycle.

Do not use the tricycle to move long objects that overhang from the front, back, or sides of the rear basket.

The tricycle is not designed or intended for pulling things such as a trailer, cart, or luggage.

The maximum rider weight is 128 kg (280lbs).

Always remove the battery when cleaning the tricycle.

MAINTENANCE

Keep your tricycle in good working conditions at all times. Follow the maintenance checklist and lubrication schedule below:

Maintenance Checklist	
Frequency	Checklist
Before each ride	Battery fully charged
	Tire pressure is correct
	Brakes operate normally
	No loose screws, nuts, parts
	No items that may get entangled
After each ride	Wipe off any moisture grime or dust
	Recharge the battery
Monthly	Brake cables are not bent, worn, or broken
	Electrical connectors are all clean and fully plugged in
	Derailleur operates correctly and properly adjusted
	Disc brakes are functioning and do not require adjustment
	Tire wear and pressure are good
	Wheels are not bent and spokes are tight
	Wheel bearings are free-running without noise
	Handlebar, Saddle, and Pedals are all tightened and adjusted properly
	The frame and front forks are damage free
	Safety check per local regulation, law, requirement is complete
Every six months	Perform six-month lubrication
	Inspect and replace brake pads, if necessary
	Chain is not worn and does not need replacement
Annually	Perform annual lubrication

Lubrication Schedule		
Frequency	Component	Method
Weekly	Chain	Spray or brush chain lube or light oil
	Derailleur Pulleys	Spray or brush chain lube or light oil
	Derailleur	Use an oilcan to add machine oil
	Brake Handles	
	Brake Calipers	Use an oilcan to add machine oil, DO NOT oil the pad or disc.
Six Months	Brake cables	Disassemble and use lithium grease to coat the cable and prevent rusting
	Derailleur Cable	
Annually	Pedals	Disassemble and use lithium grease
	Rear axle	
	Wheel bearings	
	Saddle and saddle stem	

THIS VEHICLE IS A POWER ASSISTED BICYCLE AND
MEETS ALL THE REQUIREMENTS UNDER
SECTION 2(1) OF THE CANADA MOTOR VEHICLE
SAFETY REGULATIONS.