VOLCON
EPOWERSPORTS

BRAT

Rev B

OWNER'S MANUAL

Please read this manual in its entirety before taking your first ride!
For assistance, contact Volcon Support.

Support Contact: support@volcon.com

NOTE: Manual graphics are for demonstration purposes only. Graphics may not show exact appearance of actual product.

TABLE OF CONTENTS

SAFETY WARNINGS

Please take note of the following symbols:

DANGER: MEANS IF THE DANGER IS NOT AVOIDED, IT WILL CAUSE DEATH OR SERIOUS INJURY.

WARNING: MEANS IF THE WARNING IS NOT FOLLOWED, IT CAN CAUSE DEATH OR SERIOUS INJURY.

Q **Quick Tip**: Means a helpful recommendation or additional information.

California Proposition 65

WARNING: THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING ARSENIC, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. FOR MORE INFORMATION, GO TO WWW.P65WARNINGS.CA.GOV.

California Perchlorate Advisory

WARNING: CERTAIN COMPONENTS OF THIS MOTORCYCLE SUCH AS LITHIUM BATTERIES MAY CONTAIN PERCHLORATE MATERIAL. SPECIAL HANDLING MAY APPLY FOR SERVICE OR END-OF-LIFE DISPOSAL. SEE WWW.DTSC.CA.GOV.

This handbook was originally written and published in English and may have been translated into other languages as applicable. This handbook contains information about the Volcon electric bicycle the BRAT. Always store this Owner's Manual with your Volcon vehicle and refer to it for information whenever necessary. The information contained in this publication is based on the most up-to-date information available at the time of publishing. Please note that all instructions and notices are subject to change and update without notice. **Please visit www.volcon.com for all technical updates.**

Legal obligation

Riders should abide by all local traffic laws and regulations and take care to ride safely!

WARNING: PLEASE CHECK YOUR LOCAL REGULATIONS ON ELECTRIC BIKES BEFORE RIDING. THERE ARE DIFFERENCES FROM ONE STATE TO THE

NEXT CONCERNING LICENSING AND INSURANCE REQUIREMENTS, AGE LIMIT, SPEED, MAXIMUM MOTOR WATTAGE, AND ROAD ACCESSIBILITY.

VISIT THIS WEBSITE FOR MORE INFORMATION:
https://www.ncsl.org/research/transportation/state-electric-bicycle-laws-a-legislative-primer.aspx#intro

- Please obey **ALL** traffic laws and regulations. Such as, but not limited to:
  - Do not go in any direction no allow by traffic regulations.
  - Do not run red lights or stop signs.
  - Do not ride recklessly through traffic.
  - Do not park electric bikes in building entryways, evacuation routes, walkways, or stairways.
  - Do not block sidewalks or emergency exits.
- Every Brat e-bike comes programmed as a Class-2 e-bike, which allows for throttle operation and pedal-assist riding up to 20mph. This allows the Brat to be legally ridden on most bike paths without a license, insurance, or registration.
- Always check local laws and regulations before riding.
- In addition, there is one additional ride mode available, for areas where throttle-powered electric bicycles are not allowed. The Brat can be operated using pedal assist only with the throttle deactivated as a Class-1 e-bike while in Mode-1. This mode allows for pedal-assist-only operation up to 20mph.
- Additionally, an "Off-Road" mode enables full power with throttle operation and can reach speeds of 28mph **+**. This mode is exclusively for riding off public roads and on private property. Download the Volcon App for more information on how to unlock off-road mode.

⚠ **WARNING: NEVER RIDE AND ADJUST SETTINGS ON YOUR APP WHILE IN MOTION. PULL OVER AND PRACTICE SAFE RIDING. BY OPERATING YOUR BIKE AND THE APP SIMULTANEOUSLY, YOU PUT YOURSELF AND OTHERS AT RISK FOR COLLISION AND SERIOUS INJURY.**

Safety Message

Your safety, and the safety of others, are very important, and operating this e-bike safely is an important responsibility.

- To help you make informed decisions about safety, we have provided you with operating procedures and other information regarding safety labels in this manual.
- This information alerts you to potential hazards that could harm you or other riders.
- It is not possible to warn you about all hazards associated with operating or maintaining your e-bike, so you must use good judgment.
- You will find important safety information in a variety of forms.

Please visit www.volcon.com for all technical updates.
Customer support & Inquiries, email: support@volcon.com

BEFORE YOU BEGIN

DANGER: IF THE USER RIDES THE BRAT OUTSIDE OF ITS INTENDED USE, THEY MAY BE AT RISK OF AN ACCIDENT, SERIOUS INJURY, OR DEATH. THEY WILL ALSO INCREASE THE RISK OF INJURY TO THOSE AROUND THE USER.

Please read this owner's manual carefully before riding and retain it for future reference.

- Do not operate or ride your Brat until you have completely read this manual. Please read the important safety items in this manual before your first ride.
- While riding, you are responsible to abide by all local laws and regulations and to ride in a safe manner.
- If any of the instructions are beyond your mechanical ability, we recommend taking your Brat to a certified e-bike specialist or professional cycle mechanic for assembly.

WARNING: THIS OWNER'S MANUAL INCLUDES ASSEMBLY INSTRUCTION AND MAINTENANCE WORK, WHICH MAY NEED TO BE PERFORMED AT DIFFERENT INTERVALS TO MAINTAIN YOUR VOLCON BRAT. NEVER PERFORM WORK ON YOUR BRAT OUTSIDE OF THE INSTRUCTIONS IN THIS OWNER'S MANUAL. THIS OWNER'S MANUAL IS NOT INTENDED AS A COMPREHENSIVE SERVICE, REPAIR, OR MAINTENANCE MANUAL.

WARNING: DO NOT RIDE YOUR BRAT IF IT HAS NOT BEEN ASSEMBLED CORRECTLY. RIDING AN INCORRECTLY ASSEMBLED E-BIKE CAN PUT YOUR SAFETY AT RISK AS WELL AS THE SAFETY OF OTHERS.

WARNING: MAINTENANCE BEYOND WHAT THE OWNER'S MANUAL MANDATES SHOULD BE HANDLED BY AN E-BIKE SPECIALIST OR PROFESSIONAL CYCLE MECHANIC.

Warranty void if:

- Use of the Brat deviates from its intended use.
- Safety instructions are not followed.
- Overloading past the maximum allowance.
- Any display faults are not properly rectified.
- Any assembly errors, willful intent or accidents occur, and/or if the care and maintenance specifications are not followed.
- There are any modification or alterations to the electrical system (tuning).

- Using third-party Non-Volcon-Approved parts or aftermarket accessories.
- Riding over stairs, performing wheelies, taking it off jumps or doing stunt/trick-like activities.
- Used in competitions or for commercial use.

This vehicle is IP54 rated and is water resistant but cannot wade through excessive water or snow. Wading through water forcibly when the water level exceeds 4 inches in depth, may cause electrical components to short circuit.

⚠**WARNING: PLEASE OBSERVE THE PERMITTED MAXIMUM WEIGHT OF 308 LBS (140 KG).**

TIPS FOR SAFE RIDING

For your safety and others around you, please read the following carefully.

- Please read the owner's manual in its entirety before handling.
- **DO NOT** use the electric bicycle without fully understanding its capabilities and limitations.
- **DO NOT** use any non-Volcon-approved third-party accessories, alter, or disassemble any OEM parts without direct consent from Volcon. If you do, your warranty will be invalid.
- **DO NOT** use other electronic devices while riding.
- Read the Owner's Manual carefully and check whether all parts and components are in good condition to ensure your riding safety. For any problem found, please contact your dealer or after-sales service center promptly.
- For any questions about the usage, repair, or installation of the vehicle, please contact your dealer or after-sales service center. Or contact us directly at service@volcon.com
- Be aware of your surroundings, pedestrians and cyclists that may be on or near the paths and lanes you might be using.
- To ensure your safety, please wear a helmet, gloves, and other protective equipment during riding. Avoid wearing loose-fitting clothing as it might catch within moving parts of the electric bike, creating unsafe riding conditions.
- **DO NOT** ride under the influence of drugs or alcohol.
- This vehicle is IP54 rated and is water resistant but cannot excessively wade through water or snow. Wading through water forcibly when the water level exceeds 4 inches in depth, may cause electrical components to short circuit.
- When charging, make sure the electric vehicle is far away from any combustibles.
- **DO NOT** disassemble any components by yourself, as a certified e-bike Technician should do this.
- Make sure all; hardware is properly fastened, tires are properly inflated, brakes are working and handlebars are adjusted and secured.
- Always perform a safety check before each use, as described in the "Pre-Ride Inspection" section.
- **DO NOT** leave the charging battery, unsupervised.

Riding Your Brat

- Always wear appropriate safety gear.
- Obey all local traffic laws and respect motorists, pedestrians, and other cyclists on the road.
- **DO NOT** race or instigate other cyclists.

Be Alert and Aware:

- Cars turning in front of you.
- Parked car doors opening.
- Children and pets.
- Bad conditions such as potholes, sewer grates, railroad tracks, and other obstructions.
- Ride in lanes and trails designated for bikes only.
- Obey all traffic stop signs and lights.
- Use caution when approaching all intersections.
- Use appropriate hand signals for turning and stopping.
- **DO NOT** wear headphones while riding.
- **DO NOT** carry a passenger.
- **DO NOT** carry anything that obstructs your vision or compromises control of the e-bike.
- **DO NOT** hold on to any moving vehicles.
- **DO NOT** weave in and out of traffic.

Avoid riding:

- When visibility is poor.
- In bad weather.
- When you are extremely fatigued.
- When e-bike maintenance is needed.

Off-Road Riding

Off-road riding requires paying close attention and having specific skills. Make sure to practice riding in easier terrain to build up your skills before attempting terrain that is more difficult. Always seek training and guidance when possible.

- Obey local laws relating to off-road riding.
- Always wear appropriate safety gear.
- Always ride with a companion in remote areas.
- Always carry a form of identification so others know who you are in case of an accident.
- Yield when pedestrians and animals are present.

Wet Weather Riding

⚠ **WARNING: ACCIDENTS INCREASE IN WET WEATHER CONDITIONS DUE TO IMPAIRED VISIBILITY, BRAKING AND TRACTION OF YOUR E-BIKE AND OTHERS SHARING THE ROAD. AVOID RIDING IN WET WEATHER IF POSSIBLE.**

Tips for wet weather riding:

- Reduce your speed when riding in wet weather.
- Slowdown in snow and slippery areas.
- Increase the braking distance when braking to ensure safety.

Night Riding

☠ **DANGER: ALWAYS USE YOUR VOLCON BRAT'S HEADLIGHT SYSTEM WHEN RIDING AT NIGHT OR AT ANY OTHER TIMES OF POOR VISIBILITY. RIDING AT NIGHT OR AT ANY OTHER TIME WITHOUT AN ADEQUATE LIGHTING SYSTEM AND WITHOUT REFLECTORS MAY RESULT IN DEATH OR SERIOUS INJURY.**

Night riding is more dangerous than riding during the day so always wear reflective clothing and verify that you comply with local laws about night riding.

Reflectors are not a substitute for required lights. Reflectors help others see you by picking up and reflecting light emitted by car lights and streetlights.

DO NOT remove the reflectors from the e-bike and be sure the reflectors are in good condition before riding at night.

Extreme Riding

⚠ **WARNING: THIS E-BIKE DESIGN HAS LIMITATIONS REGARDING STRENGTH AND INTEGRITY. EXTREME, STUNT, OR COMPETITION RIDING CAN EXCEED THOSE LIMITATIONS. WE DO NOT RECOMMEND THESE TYPES OF RIDING. IN ADDITION, EXTREME, STUNT, AND COMPETITION RIDING INCREASES THE RISKS OF DEATH AND SERIOUS INJURY AND WILL VOID YOUR WARRANTY.**

Electric Bike Safety

Cycling involves the risk of injury, and is the rider's responsibility to assume those risks. By choosing to ride, you are automatically assuming responsibility for that risk. To reduce the risk of injury, you must know and follow the rules and safety regulations for riding and proper maintenance. In addition, you should check your local state or country laws regarding electric bikes before riding.

TIPS:

- For maximum stability, avoid accelerating or braking while turning.
- Do not ride in extremely wet conditions.
- Do not leave the e-bike in the rain.
- **DO NOT** use the e-bike if the battery pack is damaged due to a crash or a drop.
- **DO NOT** ride up or down extremely steep inclines.
- Always use the kickstand stand when parking the bicycle.
- **DO NOT** exceed the carrying capacity of 308 lbs (140 kg).
- Use caution when riding off-road.
- **DO NOT** touch the body of the motor for at least 2 hours after riding, as it gets very hot.
- **DO NOT** touch the Brake disc rotors after use, they can get very hot after braking.
- Always wear a helmet.
- Always make sure your e-bike is adjusted and properly maintained.
- Always check the brakes before riding (see Pre-Ride Safety Check).
- Always make yourself visible for traffic and other riders by wear appropriate safety gear including reflective clothing.
- Avoid biking at night if possible.
- Always be aware of your surroundings.
- Always bike in the same direction as traffic, never towards on-coming traffic.
- Learn the rules of the road and always obey traffic laws.

COMPONENT LOCATION

Figure 1 - Component Location A

1. Display
2. Throttle
3. "Tank" Storage compartment
4. Headlight
5. Electronic speed controller (ESC)
6. Battery
7. Bottom bracket
8. Pedal
9. Crank set
10. Kickstand
11. Swing arm
12. Motor
13. Rear shock
14. Taillight

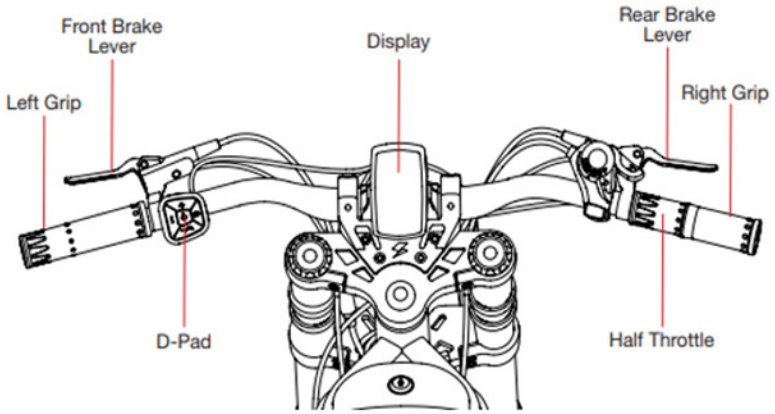

Figure 2 - Component Location B

DISPLAY & D-PAD

NOTE: If the e-bike is not used for more than 10 minutes, the display will automatically shut down

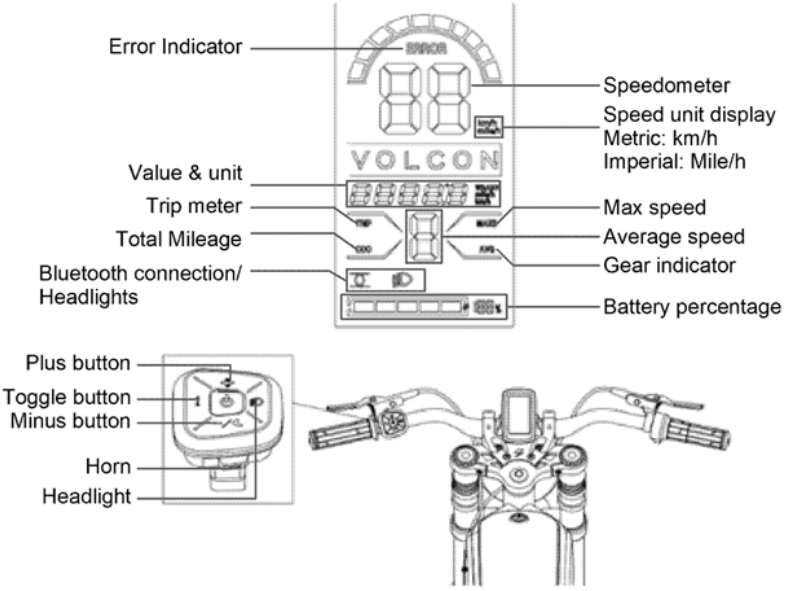

Figure 3 - Display & D-Pad

IDENTIFICATION NUMBERS & SAFETY LABEL LOCATIONS

Figure 4 - Identification Code Locations

1. Manufacture Label
2. Vehicle QR Code (under storage compartment cover)
3. Display QR Code
4. Controller QR Code (on battery cradle underneath battery)
5. Battery QR Code (bottom side of battery)
6. Motor QR Code

Figure 5 - Class 2 Label Location

Figure 6 - Warning Label Location

Figure 7 - Safety Label Location

TECHNICAL SPECIFICATIONS & FEATURES

Top Speed	*28+ mph
Range	**70+ miles
Weight	86 lbs.
Motor	750w/1200w max
Battery	48V/15.6ah removable
Charge Time	6-7 hrs. (3 amp)
Tires	20x4.0
Tubes	20x4
Front Suspension	Adjustable inverted fork
Rear Suspension	Adjustable mono-shock
Brakes	Hydraulic disc
Display	4 ride modes, Bluetooth compatible, D-Pad connected
Classifications	***The Brat is a Class 2 e-bike with multi-mode capability
Weight Capacity	340 lbs. (154 kg)
* Fully unlocked in unlimited off-road mode	
** In ECO mode. However, variables such as rider weight, temperature, terrain, pedal input and usage will affect the overall range.	
*** Class 1 will be available on each bike when in mode 1. A fully unlocked/unlimited off-road mode will also be available in the app (after each customer confirms waiver of acknowledgment).	

Table 1 - Technical Specifications

Model Features

- Bluetooth Compatible
- USB Charger
- 4 Ride Modes
- Storage Compartment
- Headlight/Taillight
- Horn
- App-Based Vehicle Controls
- Half Grip Throttle
- Chain Drive

ACCESSORIES/OPTIONS (Visit www.volcon.com for all available accessories)

- Rear Gear Cassette
- Handlebar Options
- Phone Holder
- Graphics Kits

UNBOXING INSTRUCTIONS

DANGER: PLEASE READ THE INSTRUCTIONS IN THEIR ENTIRETY BEFORE ASSEMBLY. THIS WILL ENSURE THE PROPER ASSEMBLY AND FUNCTION OF YOUR BRAT. FAILURE TO DO SO COULD RESULT IN DAMAGE TO THE BIKE AND SERIOUS PERSONAL INJURY OR DEATH!

Q **Quick Tip**: Check out our how-to assembly video on our website www.volcon.com for systematic instructions.

Instructions:

1. Remove the six locking tabs (three on each side) that are at the bottom of the box, by pinching the two center tabs and pulling the entire locking tab away from the box.
2. Lift the entire box top up and away from the bike and bottom base of the box.
3. Leave the Brat in the base for more stability until you have installed the kick stand.
4. Install the kickstand before removing the Brat from the base of the box.
5. Please read the assembly instructions in full before beginning the assembly of your new e-bike.

If any serious damage has occurred to your Brat during shipping, please submit photos to your original dealer or VOLCON directly by emailing us at customer care service@volcon.com

This page intentionally left blank.

WHAT'S IN THE BOX

NOTE: If your Brat is delivered directly to you, it will come partially assembled and will need to be assembled with the following parts.

Tools and Hardware Included

Parts	Fasteners	Tools
1 x Handlebar set	4 x 5mm Allen Bolts	2.5mm Allen Wrench
2 x Pedals	2 x 14mm Hex Head bolts	3mm Allen Wrench
1 x Headlight	5 x 3mm Allen Bolts	5mm Allen Wrench
1 x Front Fender	1 x 8mm Allen bolts	8mm Allen Wrench
1 x Rear Fender		14/15mm Box Wrench
1 x Kickstand		Phillips Head Screwdriver

Table 2 - Tool and Parts List

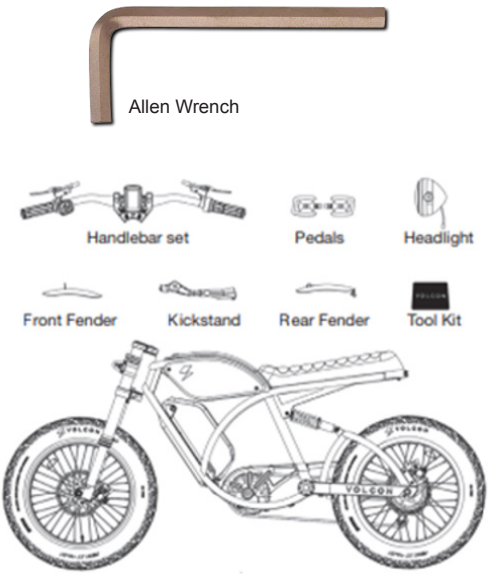

Figure 8 - Bike Assembly

ASSEMBLY & SETUP

1. Leave your Brat in the base of the box for added support until kickstand is installed.
2. Remove and open the small box under the bike, which contains the parts and tools needed to assemble your Brat.
3. Follow the Kickstand Installation steps next.
4. After installing the kickstand, you can then fully remove the Brat from the box and lean it on the kickstand.
5. Make sure to remove all the protective foam and zip ties from all around the Brat before you continue to the rest of the assembly process.

Kickstand Installation

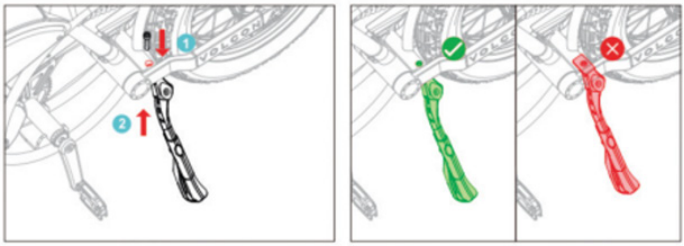

Figure 9 - Kickstand Installation

1. Find the kickstand bolt hole below the rear shock on the left side of the bike (non-chain side) the hole will have a small rubber plug, remove that plug.
2. Install the kickstand into the slot on the bottom of the swing arm.
3. Insert the 8mm Allen bolt into the screw hole from top to bottom.
4. Torque the kickstand bolt at 7.37 ft lbs (10.00 Nm) with the 8mm Allen wrench provided.
5. Re-install the rubber plug over the kickstand bolt hole.

Handlebar Installation

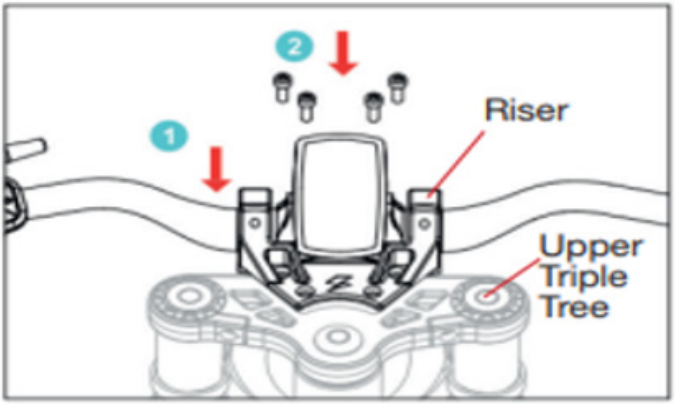

Figure 10 - Handlebar Installation

1. Attach the handlebar by placing the riser assembly into the mounting slot of the upper triple tree.
2. Then insert 4 x 5mm Allen bolts into the holes from the top.
3. Torque the screws at 7.37 ft lbs (10.00 Nm) with the 5mm Allen wrench provided.

Fender Installation

FRONT FENDER

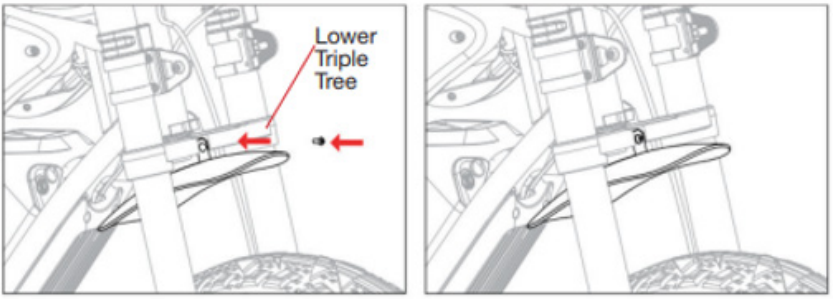

Figure 11 - Front Fender Installation

1. Secure front fender bracket, with a 3mm screw to the lower triple tree, in front of the lower triple tree.
2. Use the 3mm Allen wrench to torque the screw to 1.47 ft lbs (2.00 Nm).

REAR FENDER

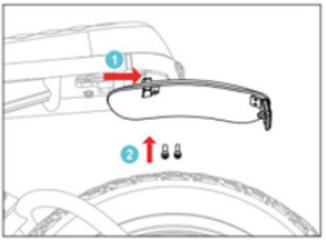

Figure 12 - Rear Fender Installation

1. Locate the mounting site under the seat to the rear, push the rear fender into the slot, and pull the fender to the rear of the bike.
2. Align the holes and install 2 x 3mm bolts.
3. Use the 3mm Allen wrench to torque the screws at 1.47 ft lbs (2.00 Nm).

Headlight Installation

Figure 13 - Headlight Installation

1. Remove the mounting bolts from the headlight using the 14mm box wrench.
2. Loosen the headlight bracket bolts using the 4mm Allen wrench.
3. Slide the headlight in between the mounting brackets with the wire connection pointing down.
4. Secure the headlight to the mounting brackets using the mounting bolts from the headlight, then plug into the wire harness.
5. Torque the headlight mounting bolts at 7.37 ft lbs (10.00 Nm) using the 14mm box wrench.
6. Tighten the headlight bracket bolts using the 4mm Allen wrench.

Pedal Installation

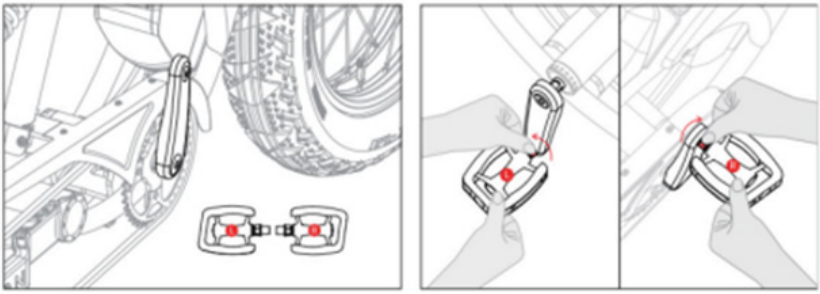

Figure 14 - Pedal Installation

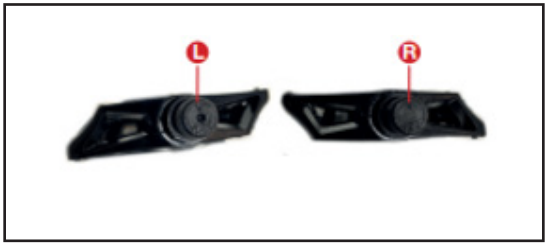

Figure 15 - Left and Right Pedal

1. Separate the left and right pedals marked with (R) and (L). (Figure 15)
2. Install the left pedal (non-chain side) by spinning it counter clockwise.
3. Install the right pedal (chain side) by spinning it clockwise.
4. Rotate the pedal slowly by hand first to avoid cross threading.
5. Tighten the pedal with the 15mm box wrench.

TIRE INFLATION

NOTE: The tires are partially inflated when shipped from the factory. After completing the assembly steps, please refer to the following instructions to inflate you tires.

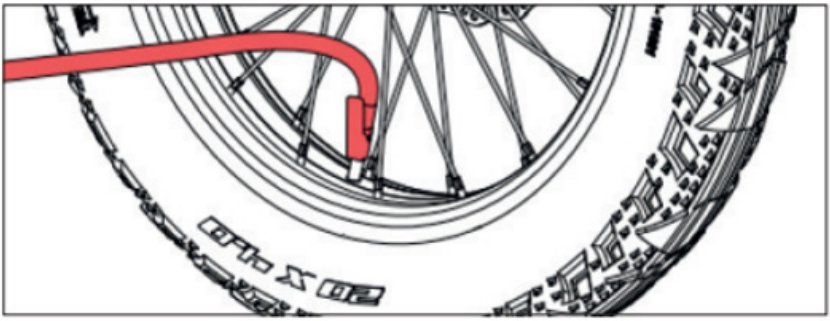

Figure 16 - Tire Inflating

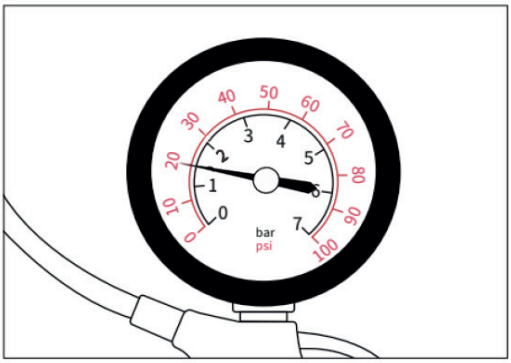

Figure 17 - Tire Pressure

- Make sure the tire is properly centered and seated on the rim correctly.
- Make sure the valve stem is perpendicular to the rim and not leaning in one direction more than the other is.
- Inflate both tires to the proper PSI.
- PSI preference will change according to the rider's weight and terrain.
- Recommended tire pressure is **20 PSI MAX** (Figure 17)

BATTERY & CHARGER

Battery

Figure 18 - Battery

- Make sure your battery is fully charged, as it will be shipped at 20-30% level to conform to industry regulations for battery shipment.
- Charging your battery to 100% will help maintain overall life of the battery.
- Always turn off the power to both the e-bike and the battery before connecting or disconnecting the battery.

⚠ **WARNING: DO NOT USE ANY OTHER BATTERY BRANDS OR OTHER MODELS FOR YOUR E-BIKE. CONFIRM THAT THE BATTERY IS THE ORIGINAL BATTERY. FAILURE TO DO SO CAN LEAD TO INJURY OR DAMAGE TO YOU OR THE BIKE.**

- Check that the battery is in good condition and ensure that there is no damage, leakage or heat generation.

BATTERY RANGE

Battery Range:

The maximum range of a full charge depends on many variables such as the age of the battery, type of terrain and incline, rider weight, speed, outside temperature, driving style, amount of pedaling, or tire pressure.
In case of extreme cold, the range of your battery is reduced. As the battery warms or temperatures increase, the energy level will increase.
Store and charge your battery in a heated garage, warehouse, or shelter.
Plan for shorter trips or the use of pedals with a lower level of assistance.

Conditions that affect your battery's range:

- **Temperature:** Extreme cold and heat can affect the battery's capacity.
- **Total Number of Charge Cycles:** As the battery ages, total capacity can decrease.The Battery will maintain 60% or higher capacity for at least 500 charge cycles.
- **Wind:** Riding into a strong headwind or riding against the wind can decrease range.
- **Road conditions:** Excessively rough or hilly terrain requires consuming more power
- **Load:** Carrying extra cargo on the bike or in a backpack will use consume more power.
- **Rider Weight:** Please observe the weight limit of 308 lbs (140 kg). NOTE: This is rider/cargo combined.
- **Repeated acceleration:** from a standing start
- **Poor Maintenance:** Under-inflated tires, non-adjusted or badly adjusted brakes, and a dry or dirty chain are a few maintenance items that can decrease range.

Tips for Maximizing Range:

- Charge the battery at a temperature range between 65°F - 75°F (18°C - 24°C)
- Lithium-ion batteries have no chemical memory. It is not necessary to discharge the battery completely for the best performance or range.
- Maintain proper tire pressure and lube the chain regularly.
- Operating temperatures between 40°F - 85°F (4°C - 30°C) will significantly increase the range.

NOTE: The battery percentage displayed is based on the voltage reading of the battery. As mentioned above, several factors similar to range variables can affect the battery voltage.

The battery will not power or "die" at approximately 5%-15% state of charge. Please plan accordingly. Plan your route and conserve your power when possible.

Charger

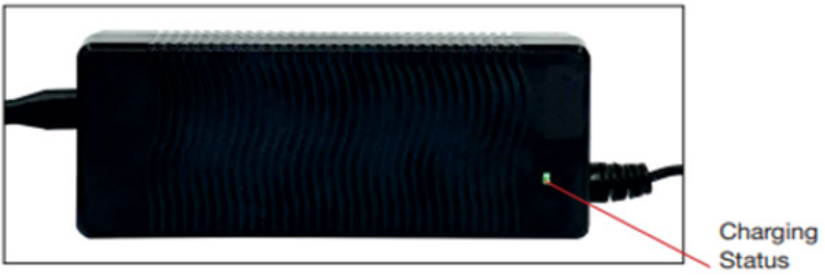

Figure 19 - Charger

NOTE: The charger is a switched-mode power supply so it will work with both 100v - 240v.

How to install the battery in the bike

- Use the battery key to unlock the battery from the frame to remove battery.
- Disconnect the battery from the battery holder by sliding the battery up and pulling away from the frame.

Q **Quick Tip**: We recommend charging the battery for 6-8 hours on the first charge. This will help balance the lithium-ion cells for optimal performance. We also recommend powering off the bike, then powering off the battery when the bike is not in use. Remove the battery from the bike when storing the bike or not using the bike for extended periods of time.

Charging the Battery

1. Plug the charger into a standard wall outlet.
2. Lift the small rubber charge port cover on the battery.
3. Plug the charger cable into the charge port.
4. The charger has an LED status indicator:
5. When charging is complete, remove the charger from the battery.
6. Unplug the charger from power outlet and properly store it.

NOTE: Always ensure the battery charger is unplugged from the power source when not in use.

GREEN Light without battery connected	Ready to charge
RED Light with battery connected	Battery charging
GREEN Light with battery connected	Battery fully charged

Figure 20 - Charging Level

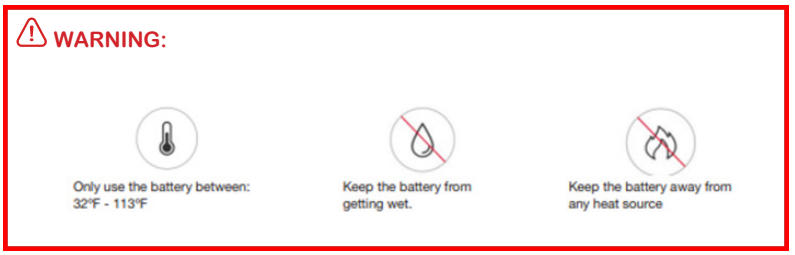

Figure 21 - Battery Warning

Tips for Charging

- The charger should only be used indoors.
- Do not charge the battery in a confined space, direct sunlight or extreme temperature.
- Do not put the charger in the bike's storage compartment for charging.
- Do not charge the battery for more than 12 hrs.
- Plug the charger into a power source first then plug the charger into the battery.
- When the battery is fully charged, remove the charger and unplug it from the wall socket.
- During the charging process, if there is any abnormality or peculiar smell coming from the charger, or overheating of the charger case, stop charging immediately and replace the charger.
- Do not disassemble or replace the components of the charger by yourself.
- In the event you are charging cable needs to be replaced, contact your local dealer or Volcon service and warranty at service@volcon.com for a replacement. The charger must be replaced to match the battery model of your Brat.
- If the battery smells, heats up, distorts or other abnormal conditions, stop using it immediately, stay away from the battery and contact the after-sales department or Volcon directly at **service@volcon.com**.
- The Battery is not repairable by users. If there is any abnormal occurrence, please contact the after-sales department for maintenance or Volcon directly at **service@volcon.com**.
- Disassembling the battery without permission will void your warranty.

⚠ **WARNING: UNAUTHORIZED DISASSEMBLY OF THE BATTERY MAY CAUSE THE BATTERY TO PRODUCE HEAT, SMOKE, FIRE, OR EXPLOSION.**

⚠ **WARNING: AT LOW TEMPERATURES, THE AVAILABLE CAPACITY OF THE BATTERY WILL EXPERIENCE ATTENUATION TO DIFFERENT DEGREES. SPECIFIC REFERENCE DEGREES ARE AS FOLLOWS.**

The available capacity is:
70% at 14°F-(-10°C)
85% at 32°F- (0°C)
100% at 77°F- (25°C)

PRE-RIDE SAFETY CHECK

NOTE: Make sure the brakes are applied before getting on to your bike. If the pedal assist mode is turned on, the e-bike will start moving as soon as you push on the pedal. This unfamiliar push can otherwise cause a fall, hazard, or accident. Applying the brake will disable the assistance mode.

ENSURE POWER IS OFF

Mount bike first BEFORE powering or applying throttle. If either brake is applied as you power your bike, the display will show an Error.

Code E005 - This code will immediately disappear once the brake is released. If the error code remains on the display, refer to Table 6. (pg. 62)

CHECKLIST:

1. **Wheels**

- □ Check the condition of both tires making sure the tread is in good condition free from punctures, cracks, and deformations.
- □ Maintain proper tire pressure. We recommend a range of 18-20 PSI, MAX 20 PSI dependent on the weight of the rider and the type of terrain.
- □ Ensure wheels are true and properly spinning without binding.

2. **Battery**

- □ Check that the battery is fully charged and inserted securely: push the battery into its holder until it clicks into the lock. Remove the key from the lock and pull the battery to check if it has indeed locked into place.
- □ Check the charge status of the battery. Familiarize yourself with battery charging and storage best practices.

3. **Brake System**

- □ Squeeze both brake levers. You should feel an obvious pressure and the levers should not be able to touch the handle.

4. **Lighting**

- □ Check if the front and rear lights are working properly. Do not cover any lighting or reflectors.

5. **Cables**

- □ Look out for any loose cables. Make sure the male and female plugs are properly connected.
- □ There should be no strain on any wiring near the fork when turning the handlebars from the left to the right.
- □ Verify that wiring on the frame is secure and free from any moving parts that may damage the wiring. This includes any wires and brake cable lines near the wheel or other moving parts.

6. **Display**

- □ Check that your display turns on and functions properly.

7. **Kickstand**

- □ Make sure that the kickstand is tightly secured, and not rubbing against the ground or tires.

⚠ **WARNING: DO NOT SIT ON THE BIKE WITH THE KICKSTAND ENGAGED.**

PROPER RIDING GEAR

Helmet

A properly fitting approved bicycle helmet that covers the forehead should be worn at all times when riding your bicycle. Look for these two approved stickers on the back of your helmet. CPSC (U.S. Government's Standard, which has been U.S. Law since March 10, 1999) or SNELL (B-95 is a Premium Standard; B-90 is comparable to CPSC) or CE if you are located in Europe. Always check your local laws and regulations to ensure you are using the required form of safety equipment. Many states require other specific safety devices. It is your responsibility to familiarize yourself with the laws of your state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires.

Gloves

A sturdy set of full-fingered gloves is always recommended while riding. Motorcycle gloves will offer added protection, safety, comfort, and style. They help protect your hands from serious injury, offer added grip strength for better control of your handlebars, and dampen vibrations from the road.

Reflectors

Reflectors are an important safety device that are designed as an integral part of your bicycle. Federal regulations require every bicycle to be equipped with front, rear, wheel, and pedal reflectors. These reflectors are designed to pick up and reflect streetlights and car lights in a way that helps you to be seen and recognized as a moving bicyclist. Check reflectors and their mounting brackets regularly to make sure they are clean, straight, unbroken, and securely mounted.

⚠ **WARNING: WARNING DO NOT REMOVE THE REFLECTORS FROM THE BIKE.**

OPERATING INSTRUCTIONS

DANGER: ALWAYS CONFIRM THAT THE BATTERY IS FULLY INSERTED AND LOCKED IN PLACE BEFORE RIDING. A LOOSE BATTERY CAN FALL OUT WHILE RIDING AND COULD LEAD TO A CRASH AND DAMAGE TO THE BATTERY.

DANGER: NEVER INSERT ANYTHING METAL, LIKE KEYS, TOOLS, OR OTHER SMALL OBJECTS INTO THE BATTERY TERMINALS OR CHARGE PORT. THIS MAY CAUSE A SHORT CIRCUIT AND COULD RENDER THE BATTERY INOPERABLE AND VOID THE WARRANTY.

Pedal Assist

What is Pedal Assist?

Pedal assist, also referred to as pedelec, is an operating mode on an e-bike where the motor kicks in while you are pedaling. This design helps you pedal easier using a combination of sensors that measure the torque and cadence (force and speed) of your pedaling. This information transfers to the bike's controller, which generates the needed power. With pedal assist, you will feel a little extra push propelling you forward while you pedal, allowing you to go farther and faster with less effort and more enjoyment, making it easier to ride long distances without getting tired.

Understanding the Battery

Figure 22 - Battery Level

NOTE: The battery level will display as a percentage and can vary due to factors such as temperature and humidity.

Q **Quick Tip**: If the battery power is low (20% or less), change to a lower power mode to conserve power. The battery will drop into a limp mode at 15% SOC. NOTE: pace of power drain is higher with high modes compared to lower modes.

⚠ **WARNING: RIDING DOWNHILL OR PEDALING WHEN NOT USING THE THROTTLE WILL NOT RECHARGE THE BATTERY PACK.**

Range

NOTE: It is important to remember all electric bicycles have a riding range that can vary greatly depending on the age of your battery, riding style, amount of pedaling, speed, terrain, tire pressure, temperature, payload, and wind.

FACTORS THAT WILL DECREASE YOUR RANGE

- Rapid accelerations using the motor
- Uphill riding
- Heavy payloads
- Headwinds
- Underinflated tires
- Extreme hot or cold weather

HOW TO INCREASE YOUR RANGE

- Start by pedaling instead of only using the motor.
- Avoid rapidly accelerating using the throttle.
- Pedal to help the motor up steep hills. Use the gears (optional accessory).
- Reduce payload weight.
- Properly inflate the tires between 18-20 PSI MAX 20 PSI.
- Lithium-ion batteries have no chemical memory, and it is not necessary to discharge the battery completely for the best performance. Charging a partially full battery will have no negative effect.
- Make sure to lube the chain regularly.
- Operating temperatures between 40°F-85°F (4°C-30°C) will significantly increase range.

Powering On the Bike

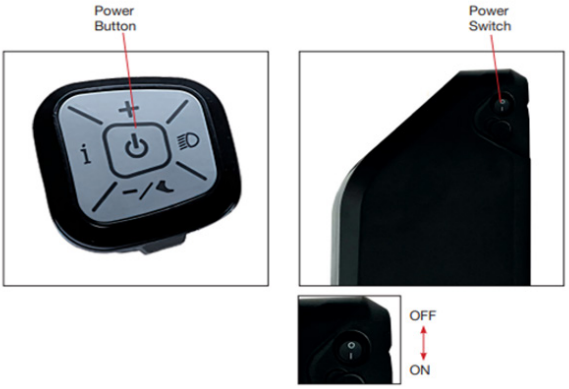

Figure 23 - Powering Bike

Before powering on the e-bike, always ensure that you are firmly seated on the bike; the kickstand is fully retracted parallel to the ground and both hands on the handlebar grips.

How to Power on the Bike

1. Ensure that the battery is fully seated and locked into the battery holder (remove battery key).
2. Flip the power switch to the "ON" position, on the right side of the battery.
3. Press the power button on the D-Pad until the display illuminates the Volcon name.
4. After the display is powered on, it shows the real-time speed and the single trip mileage by default.
5. By pressing the (i) button on the D-Pad, the display information switches between single mileage (Trip), total mileage (ODO), maximum speed (MAX) and average speed (AVG).

Turning Off the Bike

⚠ WARNING: IF THE ELECTRIC BIKE IS NOT USED FOR MORE THAN 10 MINUTES, THE DISPLAY WILL AUTOMATICALLY SHUT DOWN. ALWAYS POWER DOWN THE BATTERY AS WELL WHEN NOT RIDING!

After every ride, remember to turn off the bike properly.

- Turn off the bike by pressing and holding the power button on the D-pad. This will power down the display.
- Next reach down and turn the battery off, by switching the power switch to the off position.
- Remember you can charge the battery while it is on the brat, or by removing the battery from the frame mount and charging it separately.

Selecting a Ride Mode

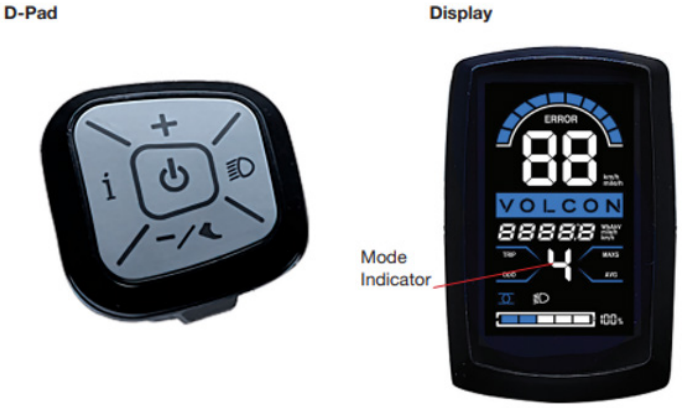

Figure 24 - Ride Mode Selector

1. When you power on your e-bike for the first time, the bike will be on level 2 ride mode.

NOTE: If you shift down to mode 1, this mode is a pedal assist only mode and the throttle will not be activated when this mode is being used.

2. Press the (+) button on the D-Pad to change up to the next ride mode (press the (-) button to go down a ride mode).
3. Repeat this process eventually going up to mode 4.

MODE	INPUT	PEDAL ASSIST OUTPUT (PAS)	THROTTLE OUTPUT	TOP SPEED (MPH)
1	PEDAL	50%	0%	20
2	PEDAL/THROTTLE	75%	50%	20
3	PEDAL/THROTTLE	95%	75%	20
4	PEDAL/THROTTLE	95%	100%	20

Table 3 - Ride Modes

LOCKED			
MODE	**Functionality**	**Performance Level**	**Top Speed**
1	Pedal Assist Only	Mild Acceleration	20 MPH
2	Pedal Assist and Throttle Enabled	Mild Acceleration	20 MPH
3*	Pedal Assist and Throttle Enabled	Medium Acceleration	20 MPH
4*	Pedal Assist and Throttle Enabled	Max Acceleration	20 MPH
UNLOCKED			
MODE	**Functionality**	**Performance Level**	**Top Speed**
3	Pedal Assist and Throttle Enabled	Medium Acceleration	28 MPH
4	Pedal Assist and Throttle Enabled	Max Acceleration	28+ MPH

* - Top speeds above 20 MPH are available for modes 3 and 4 only when "Off-Road" mode is unlocked.

Table 4 - Unlocked Ride Modes

The Brat APP

The Brat App is available on the Apple App Store or Google Play. With the app, scan the QR code located on the frame in the storage compartment. Follow instructions to connect to your Brat. Locate the waiver under "Vehicle Details".

Unlocking Off-Road Mode

- This e-bike is equipped with Multiclass Mode options and defaults to a Class 2 e-bike.
- It is the rider's responsibility to follow all local e-bike laws and regulations. Always make sure you are aware and up to date with your local e-bike laws and regulations.
- You can find links to more information on e-bike regulations in the Legal Obligations section on pg. 4 of this Owner's Manual.

After unlocking your bike in the Brat app, you can change between the following riding classes:

- **Class 1** - In mode 1, the bike is pedal assist only at 20 mph max speed.
- **Class 2** - In mode 2 the bike has throttle operation and pedal assist at 20 mph max speed.
- ****Off-Road Mode** - In modes 3 & 4 the bike has speeds of 28 mph+

****This mode is exclusively for riding off of public roads and on private property.**

⚠ **WARNING: NEVER RIDE AND ADJUST SETTINGS ON YOUR APP WHILE IN MOTION. PULL OVER AND PRACTICE SAFE RIDING. BY OPERATING YOUR BIKE AND THE APP SIMULTANEOUSLY, YOU PUT YOURSELF AND OTHERS AT RISK FOR COLLISION AND SERIOUS INJURY.**

Every Brat comes programmed as a Class-2 e-bike, which allows for throttle operation and pedal-assist riding up to 20mph. This allows the Brat to be legally ridden on most bike paths without a license, insurance, or registration.

Always check local laws and regulations before riding

There is an additional ride mode available, for areas where throttle-powered electric bicycles are not allowed. The Brat can be operated using pedal assist only with the throttle deactivated as a Class-1 e-bike while in Mode 1. This mode allows for pedal-assist-only operation up to 20 mph.
Additionally, **"Off-Road"** mode enables full power with throttle operation and can reach speeds in excess of 28 mph. This mode is exclusively for riding off of public roads and on private property.

To unlock the off-road riding mode, follow the instructions detailed in our mobile app.

Lights

Figure 25 - Headlight Button

The Brat comes equipped with a Front Headlight and Rear Tail / Brake Light.

Front headlight activation

1. Press the headlight button on the D-pad and the headlight will illuminate.
2. Press the headlight button once more to shut off the headlight.

Rear light activation

1. The rear taillight will automatically illuminate when the bike is powered.
2. The brake light will illuminate when the brake levers are engaged.

Throttle

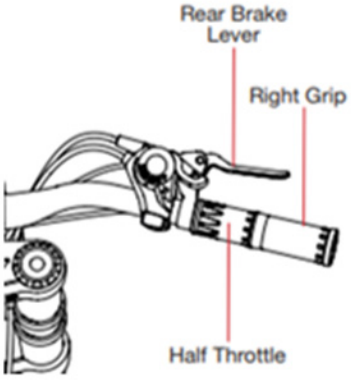

Figure 26 - Throttle

⚠ **WARNING: THE THROTTLE IS EXTREMELY SENSITIVE. ALWAYS USE CAUTION WHEN ACCELERATING.**

How the throttle works

- Rotate the throttle backward (towards you) to accelerate.
- Rotate the throttle forward (away from you) to decelerate.
- Release throttle - bike will return to Neutral (no acceleration). Use your brakes to decelerate.

Half-twist throttle

Only the inward half of the handle will rotate. A Half-twist throttle helps reduce fatigue by encouraging you to rest your hand while still applying throttle.

Braking

Q **Quick Tip**: Be alert when riding on wet or sandy surfaces. Loss of traction between tires and the road can occur under these conditions. Be careful when braking, turning, and accelerating under adverse conditions.

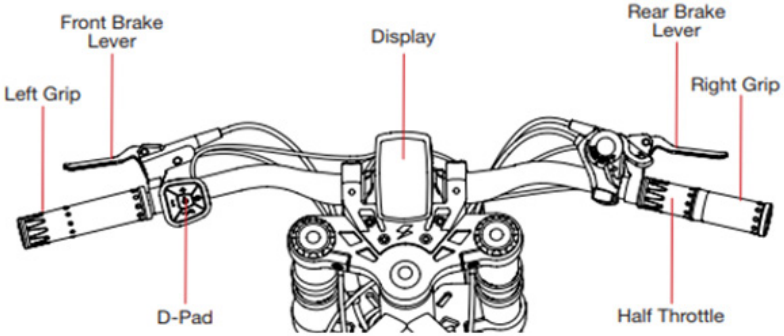

Figure 27 - Handlebar features

- The Brat has both front and rear hydraulic brakes. The brake levers are equipped with brake sensors that cut power to the motor when either of the levers are compressed.
- Squeeze the Right Lever to activate the Rear Brake.
- Squeeze the Left Lever to activate the Front Bake.
- To slow down, roll off the throttle, stop pedaling and apply equal pressure to both brake levers.
- Application of both brakes at the same time is essential to achieve maximum braking potential.
- Always use a firm progressive squeeze when applying both breaks and practice your braking before heading out.

USB Port

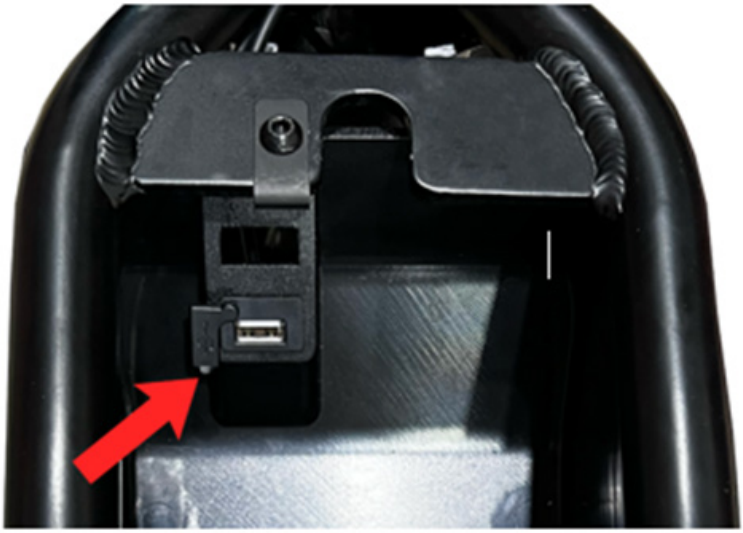

Figure 28 - USB Port

USB Charge Port – This feature is located inside the storage compartment.

Q **Quick Tip**: Use the open slot above the USB connection to route your cables forward, if you are mounting a phone or other wired accessory to the handlebars.

Horn

Figure 29 - Horn

Activating horn

- Press the Horn Button on the bottom of the D-pad as shown in Figure 29.

SUSPENSION

DANGER: CHANGING SUSPENSION SETTINGS CAN CHANGE THE HANDLING AND BRAKING OF YOUR E-BIKE. NEVER MAKE SUSPENSION ADJUSTMENTS WITHOUT BEING FAMILIAR WITH THE SUSPENSION SYSTEM FUNCTIONS, INSTRUCTIONS, AND RECOMMENDATIONS. ALWAYS CHECK FOR CHANGES IN THE HANDLING AND BRAKING AFTER YOU MAKE ANY SUSPENSION ADJUSTMENTS.

WARNING: IF ANY OF THE FOLLOWING INSTRUCTIONS ARE BEYOND YOUR MECHANICAL ABILITY, WE RECOMMEND TAKING YOUR BRAT TO A CERTIFIED E-BIKE SPECIALIST OR PROFESSIONAL CYCLE MECHANIC FOR ADJUSTMENTS.

NOTE: The Brat is equipped with an adjustable inverted fork and adjustable mono-shocks for the rear.

Front Suspension

NOTE: Compression damping helps the suspension absorb bumps or road irregularities as the wheel moves upward in the stroke. The LEFT fork handles rebound and the RIGHT fork handles compression.

Figure 30 - Front Suspension

Adjusting front suspension

- To increase the compression dampening, turn the adjustment knob counterclockwise, which will allow the shock to compress faster and feel softer. This is great for rough or uneven terrain.

- To decrease the compression dampening, turn the adjustment knob clockwise, which will allow the shock to compress slower and feel stiffer and supportive. This will make uneven or rough terrain more noticeable.

Rear Suspension

Preload

Essentially, preload means that the spring is pushing outward on the shock before the shock has even started compressing. To make the shock start to compress, you have to overcome that preload force. The more preload force there is, the more force you have to exert on the shock to get it to move

Adjusting Preload

Adjust Preload by turning the spring nut at the top of the spring.

- Turn the spring nut at the top of the spring clockwise to increase pressure on the spring.
- Turn the spring nut counterclockwise to decrease pressure on the spring.

NOTE: When adjusting the pressure on the spring coil, you may need a spanner tool to adjust the spring nut if you cannot hand tighten to the desired pressure.

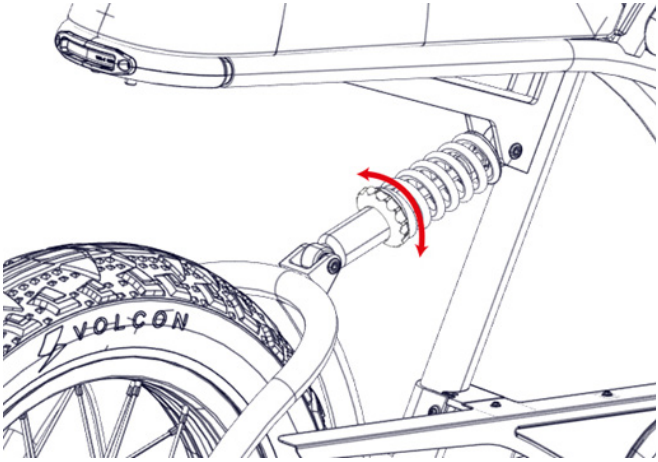

Figure 31 - Rear Suspension

MAINTENANCE

⚠ **WARNING: FAILURE TO PROPERLY CHARGE, STORE OR USE THE BATTERY WILL VOID YOUR WARRANTY.**

Battery Maintenance & Storage

⚠ **WARNING: ALL LITHIUM BATTERIES HAVE A TECHNICAL STANDARD FOR THEIR ELECTRIC CONSUMPTION DURING STORAGE. FOLLOW THESE INSTRUCTIONS FOR SAFE STORAGE & USE.**

How to optimize your battery

- Make sure that the battery is completely exhausted when you use the battery for the first time after fully charging the battery. Then charge it fully again and repeat this process two or three times to ensure that the actual capacity of the battery is consistent with the displayed capacity.
- Always store the battery at an ambient temperature of 32°F-77°F (0°C-25°C). Do not store the battery in an environment higher than 104°F (40°C) or below freezing 32°F (0°C); otherwise, the battery will experience irreversible capacity attenuation.
- Do not leave your battery exposed to high temperatures or direct sunlight for long periods.
- Ensure that the battery power is no less than 30% when you stop riding. If the battery level is below 30% charge the battery to at least 50% before storing the e-bike, this will prolong the battery life during storage.
- Do not store a discharged battery. It could go into deep discharge which will reduce its life.
- Over time, there may be a slight deviation between the actual capacity of the battery and the displayed capacity.
- Discharge and recharge the battery regularly (At least once every 3 months). The internal battery management system will automatically calibrate the individual cells to improve your experience.
- Make sure to check the power plug connections on the battery and the controller every two months for carbon deposition and oxidation blackening. Do not insert metal objects into those connections.
- All batteries should be stored with a battery percentage of no less than 50%.
- Long periods of inactivity with the battery stored in the vehicle (without disconnecting the battery), the safe storage period will be 1 month at most.
- If the battery is stored for longer than a month connected to the vehicle, excessive battery depletion may occur that cannot be repaired.

- If the e-bike is not used for a long period and the battery is stored separately (disconnected from the e-bike). The maximum safe storage period is 3 months.
- Any battery under voltage caused by the above-mentioned improper behaviors will void the warranty.

Avoid storing the battery in a place where there is a risk of falling, which may cause uncontrollable damage to the battery and may lead to leakage, heating, smoking, fire or battery combustion.

DANGER: Do not dispose of the Brat battery in your trash. There are proper disposal methods for lithium-ion batteries. Please check your local waste management regulations.

WARNING: PLEASE FOLLOW THE PROPER CHARGING INSTRUCTIONS LOCATED ON PAGE 30, BEFORE CHARGING THE BATTERY. TO CHARGE THE BATTERY, ONLY USE THE ORIGINAL CHARGER. REMOVE THE BATTERY FROM THE CHARGER AND DISCONNECT THE CHARGER FROM THE POWER SUPPLY WHEN CHARGING IS COMPLETE.

WARNING: DO NOT OPEN THE BATTERY. OPENING THE BATTERY WILL VOID THE WARRANTY AND A SHORT CIRCUIT MAY OCCUR. PROTECT THE BATTERY AGAINST MECHANICAL DAMAGE, HEAT (PROLONGED EXPOSURE TO SUNLIGHT), FIRE, AND IMMERSION IN WATER AS THERE MAY BE A RISK OF EXPLOSION. IN CASE OF DAMAGE AND IMPROPER USE OF THE BATTERY, VAPORS MAY EMANATE. KEEP CHILDREN AWAY FROM THE BATTERY.

Recommended Maintenance

Schedule

1. BEFORE AND AFTER EACH RIDE

- □ Check the alignment of the wheels.
- □ Check the state of charge of the battery. If it is below 30% after riding, charge the battery before storing it.
- □ Check that both front and rear brakes function properly.
- □ Check tire pressure and look for any puncture holes, bulges or any tire abnormality.
- □ Store the bike carefully in a clean and dry place.
- □ Check that your kickstand is tightly secured.
- □ Check the cables and wires for any binding that may cause strain when turning the front wheel from left to right.

2. EVERY MONTH

- □ Inspect the handlebar and steer tube for any unusual movement.
- □ Check the cables, tires, and brake levers.
- □ Check the wear of brake rotors, and brake pads, and replace them if necessary.
- □ Check all brake component fasteners.
- □ Check the tension of the spokes and ensure that the wheels are true and properly centered.
- □ Lube the chain and check the chain tension.
- □ Inspect suspension components for wear and make any necessary adjustments.

3. EVERY SIX MONTHS (depending on frequency and type of use)

- □ Inspect the frame, and the front suspension, and look for any signs of cracks in the metal or welds.
- □ Check the bottom bracket and crankshaft and tighten the bolts on each crank.
- □ Check and grease the wheel hubs, headset, and all parts that experience excessive friction.
- □ Grease suspension components and tighten any necessary hardware.

Cleaning

⚠ WARNING: DO NOT CLEAN YOUR BRAT WITH A STRONG WATER JET OR STEAM JET LIKE ONE FROM A POWER WASHER. THE WATER CAN PASS THROUGH THE SEALS AND GET INSIDE THE BEARINGS AND DILUTE THE LUBRICANTS WHICH COULD INCREASE FRICTION. THIS WILL REDUCE THE LIFESPAN OF THE BEARINGS AND OTHER PARTS.

- Excessive dirt, salt, and other elements can damage the bike. Make sure to regularly clean the e-bike and take steps to protect it against corrosion.
- Use clean water for cleaning and gentle soap if necessary to dissolve grease and other residues. Do not spray water directly onto the bike, especially on the electrical components. Instead, use a damp cloth to wipe down any dirt or debris. After drying, treat surfaces with a care product. Finally, wipe all parts with a clean, soft cloth.

COMPONENT MAINTENANCE

Tires / Wheels

- The front and rear wheels are laced 20" x 4" wheels.
- The tires are 20" x 4.0" low rolling resistance hybrid tires suitable for mixed terrain use with inner tubes and a rim liner.
- The tube size for both the front and rear tires is 20" x 4".
- The tires are designed for durability and safety for regular cycling activities but must be checked before each ride for proper inflation and condition.
- Tires must be inflated using a pump with a Schrader valve tip.

NOTE: Recommended tire pressure is 20 PSI MAX. Always check the condition of the tires and rims for damage, cracks, or deformation.

The torque of the front wheel axle nuts is 14.50 ft lbs (19.65 Nm).

1. It is essential that the proper air pressure be maintained in the tires all the time. Do not under-inflate or over-inflate your tires. Low pressure can cause reduced range and loss of control and tires that are over inflated can burst.
2. Failure to maintain the proper air pressure rating indicated in the handbook may at any time result in the tire and/or wheel failure. Inflate your tires from a regulated air source with an available tire gauge. Inflating your tires with an unregulated air source could over-inflate them, resulting in an exploded tire.
3. When tire wear becomes obvious or a hole in the tire is found, you must re place the tires and/or tubes before using the bike, otherwise injury to operators and/or damage to your bike could occur.
4. Proper inflation, good maintenance, and quick replacement will help ensure that the operational characteristics of your bike will be maintained and dangerous conditions avoided. In addition to proper inflation, correct wheel alignment helps to decrease tire wear. If you find a tire that is worn unevenly, have a professional cycle mechanic check the wheel alignment.

FRONT TIRE REPLACEMENT

**If parts or fasteners are removed, put them aside for later use.

1. Use a 4mm Allen head to loosen hardware at the fork axle clamp. Both sides. DO NOT remove.
2. Use a 6mm Allen head to loosen the axle on the throttle side (rounded head). NOTE: The opposite side will remain in keyway space until enough threads have been loosened, pushing the keyed fastener out just enough to finish spinning by hand to remove.
3. Pull the axle completely out. NOTE: The tire will drop if elevated, be prepared for movement. If the bike is not elevated, pull up on the handlebars enough to let the tire drop out of place.
4. Make needed repairs or replacements. NOTE: Make sure to line up the disc brake between brake pads when placing the tire back in position for reassembly.
5. Push the axle back in place. NOTE: Round Head side of the axle is on the Throttle side of the bike.
6. Hand tighten the axle nut, removed in step 2. Pull and turn the axle lightly to seat the nut in the proper keyed position. Hold firm in place. Use a 6mm Allen head to tighten the axle from the opposite side, until snug. Torque 22 N-m.
7. Use a 4mm Allen head to re-tighten the axle clamp fasteners from step 1. Torque 7-10 N-m.
8. Spin the wheel to ensure the tire is moving freely without binding.

REAR TIRE REPLACEMENT

**If parts or fasteners are removed, put them aside for later use.

1. Remove the faux caps from the rear axle, on both sides.
2. Use a 6mm Allen head to loosen the fastener at the tensioner assembly. NOTE: Tensioner is on the Chain side of the bike. Make sure to hold/grasp the tensioner as you loosen the fastener. This will keep the chain from pulling, putting too much force on the fastener, as it backs out.
3. Disconnect the hub motor plug, located on the kickstand side, behind the swingarm. To disconnect, unscrew the barrel and then unplug. NOTE: There may be a zip tie holding the plug wire in place. Clip to aid in disconnecting.

REAR TIRE REPLACEMENT CONT.

4. Position the bike to elevate the back tire only.

5. Use an 18mm socket to loosen and remove the domed bolt cap from each side of the rear axle.

6. Remove the wedge washer from the axle. NOTE: This is a "wedge" washer and may not come out easily or appear to be stuck. If the washer will not loosen, slightly wiggle/move the tire to help break the washer from position. You may use a small flathead screwdriver to GENTLY pry the washer from position. Be careful not to damage the washer or the keyway channel as this can prevent proper function or damage the bike.

7. Slide the chain off the rear wheel sprocket. Remove the tire from the swingarm bracket grooves. Make sure the spacer washer on the sprocket side of the tire remains in place.

8. Make needed repairs or replacements. NOTE: Make sure to line up the disc brake between brake pads when placing the tire back in position for reassembly. Also, make sure the spacer washer on the sprocket side is STILL in place.

9. Place the rear tire in position and pull up into swingarm bracket grooves.

10 Holding the tire in place, replace the wedge lock washers on both sides to keep the tire in position. Hand-tighten the Dome nuts onto each side of the axle to fasten.

11. Use an 18mm socket to tighten the Dome nuts firmly. Torque 60-70 N-m. Replace the black caps removed in step 1.

12. Place the chain on the rear wheel sprocket.

13. Put the tensioner in place. NOTE: Make sure the small tab on the rear of the tensioner is behind the notch on the bike frame, BEFORE tightening the tensioner in place. This tab keeps the tensioner from pulling forward.

14. Use 6mm Allen head to tighten the tensioner fastener removed in step 2. Torque 7-10 N-m.

15. Place the chain around the tensioner.

16. Use the pedal crank to spin the rear tire by hand. Ensure the chain is not binding and the tire is spinning with no wobble or drag.

17. Re-connect the motor hub plug in step 3. Screw ends together to keep the connection secured. Zip tie wire to the swingarm. NOTE: This is to ensure the wire stays protected from rubbing or damage.

Complete a pre-ride inspection before you ride.

Chain Care

The Brat comes equipped with a chain tensioner. We recommended that you inspect the chain tensioner for wear and periodically clean and lube the chain and tensioner.

Brakes

⚠ **WARNING: BRAKES ARE ESSENTIAL TO THE SAFE OPERATION OF YOUR E-BIKE AND MUST BE PROPERLY MAINTAINED, ADJUSTED, AND REPLACED REGULARLY. IF ANY OF THE BELOW IS NOT WITHIN YOUR SKILL LEVEL, WE RECOMMEND TAKING YOUR BIKE TO AN E-BIKE SPECIALIST OR PROFESSIONAL CYCLE MECHANIC. HYDRAULIC BRAKES REQUIRE MAINTENANCE NOT ONLY ON THE PADS AND ROTORS BUT ALSO ON THE HYDRAULIC BRAKE LINE. IF YOUR BRAKES FEEL SOFT OR SPONGY YOU MAY NEED TO BLEED THE SYSTEM.**

⚠ **WARNING: IF ANY OF THE FOLLOWING INSTRUCTIONS ARE BEYOND YOUR MECHANICAL ABILITY, WE RECOMMEND TAKING YOUR BRAT TO A CERTIFIED E-BIKE SPECIALIST OR PROFESSIONAL CYCLE MECHANIC FOR ADJUSTMENTS.**

Check to see if the rotor and pads have contact with each other. On a hydraulic disc brake, pad wear is compensated automatically. Check the alignment of the pads with the brake disc. Good alignment and a clean braking system will ensure the absence of noise and promote normal wear of the pads.

To ensure the maximum service life of your brake components, avoid contaminating the pads and the disc with greasy substances. Regularly check the condition of your brake cables and the wear of your pads.

For better ergonomics and safety, we advise you to adjust the brake levers in a position that places them as a natural extension of the user's arms. If you have any questions or concerns, please contact us at support@volcon.com.

New Brake Pad & Rotor Bed-In Process

⚠ **WARNING: ANY TIME YOU REPLACE YOUR BRAKE PADS, ROTORS, OR BOTH, IT IS IMPORTANT THEY BE PROPERLY BEDDED FOR OPTIMAL PERFORMANCE. MAKE SURE YOU HAVE ADEQUATE SPACE AND DISTANCE TO PERFORM THE FOLLOWING STEPS.**

1. Start pedaling and accelerate your bike up to a good speed, approximately 20mph. Apply your Rear Brake and squeeze evenly until almost stopped (About a walking speed). Use care not to come to a complete stop or to lock up the brake and skid. Doing this can deposit an uneven amount of material on the rotors. You may notice very poor stopping power at the beginning of this process, which is perfectly normal. There may also be excess noise created during this process, which is also normal.

2. Repeat this process between 8 to 10 times. You will know that you are done when you are able to stop smoothly and quickly, you should be able to skid if you were to try. However, do not skid until you are finished with this process.
3. When the rear brake is properly bedded in and you are able to stop smoothly and quickly, you are finished.
4. Repeat the process for the Front Brake making sure not to lock the front brake or skid the front tire.

Replacing the Pads

⚠ WARNING: WHEN PADS ARE WORN, MAKE SURE TO ADJUST BOTH CLEARANCES BETWEEN THE ROTOR AND PAD SO THAT THEY ARE EQUAL AND BALANCED. IF ONLY ONE SIDE IS ADJUSTED, IT WILL CAUSE BRAKING FAILURE.

1. Remove the brake caliper from the brake bracket, using the 5 mm Allen wrench.
2. Pads and pad holders are held in place with a cotter pin on the caliper.
3. Remove the cotter pin, and then gently push the pads and holder out of the caliper.
4. Once free of the caliper, the pads may be easily removed from the pad holder.
5. Install new pads in the holder and reinstall the pads and holder into the caliper.
6. Align the holes then install a new cotter pin.

Lighting System

The Brat lighting system is wired into the main harness of the electric bike.

Replacement

1. Disconnect the cable going to the headlight and replace the entire headlight assembly.

NOTE: There are no batteries in the lights.

2. Make sure the front and rear lights are clean before riding. If they are dusty, or dirty, clean them with a damp cloth for optimal visibility and safety.

Seat

It is not possible to adjust the seat height of the Brat. It is fixed to the frame by bolts. The minimum seat clamping torque on the frame is 3.00 ft lbs (4.07 Nm). For maintenance, use a cloth and water with gentle soap for cleaning. Avoid leaving in direct sunlight for long periods of time as this can damage the seat. Avoid wearing clothes or objects that may puncture or tear the seat.

Suspension

Suspension components will require regular maintenance, cleaning, and greasing in order to keep the movement of the use components in good working order. It is recommended to inspect each component of the suspension for signs of wear regularly.

⚠ **WARNING: FAILURE TO MAINTAIN, CHECK AND PROPERLY ADJUST THE SUSPENSION SYSTEM MAY RESULT IN SUSPENSION MALFUNCTION, WHICH MAY CAUSE YOU TO LOSE CONTROL AND FALL.**

⚠ **WARNING: THE BIKE IS SUBJECT TO WEAR AND TEAR, LIKE ALL MECHANICAL PARTS. MATERIALS AND PARTS REACT DIFFERENTLY TO WEAR AND ABRASION. IF THE INTENDED LIFE OF A PART IS EXCEEDED, IT IS POSSIBLE THAT IT WILL SUDDENLY FAIL, WHICH REPRESENTS A CERTAIN DANGER FOR THE RIDER. ANY TYPE OF CRACKS, STREAKS, OR COLOR CHANGES IN HIGHLY STRESSED AREAS INDICATES THE MAXIMUM WEAR OF A PART. THEREFORE, BE REPLACED IMMEDIATELY. IT IS IMPORTANT TO USE GENUINE VOLCON-APPROVED PARTS FOR SAFETY-CRITICAL COMPONENTS DURING THE REPLACEMENT OF WORN PARTS.**

TROUBLESHOOTING

Problem	Potential Cause	Troubleshooting
Turn the power on, but the vehicle has no power	1) No power to the Vehicle 2) Battery has a low state of charge	1) Check battery switch power is on 2) Check that the power is connected properly, and the battery is fully seated and locked in place 3) Battery under voltage. Charge the battery
Turn the power on and twist the throttle, and the motor does not engage.	1) The vehicle brakes are engaged 2) Start switch failure	1) Check that the brake handle is not in the braking state 2) Refer to the "Operating Instructions" section of this Owner's Manual (pg. 36) 3) Check the start switch 4) Contact the service department
Insufficient mileage (reduced range)	1) Low battery 2) Insufficient tire pressure 3) Frequent brake/start or overloading 4) Battery aging or normal electric quantity decay 5) Low ambient temperature or reduced battery capacity	1) Check the charger for damage 2) Check the tire pressure before use 3) Develop good driving habits 4) Replace the battery 5) This is normal
The battery will not charge	1) The charger plug is not connected properly 2) The battery temperature is too high 3) The battery temperature is too low	1) Check the charger plug, and make sure the connections are not loose 2) Wait for the battery to recover to a normal temperature

Table 5 - Troubleshooting

Display Error Codes

Contact us directly at service@volcon.com if any of the following error codes in Table 6 are showing.

Error code and fault handling			
Error code	**Describition**	**Possible reason**	**Maintenance and treatment**
E001	Controller fault	①Disconnected cable ②Controller MOS is damaged or abnormal	① Check whether the cable is plugged in ② Replace controller
E002	Communication fault	①Backwards conntected cable or broken cable ②Protocal dismatch between controller and display ③Display communication cable destory	① Check whether the cable is plugged in correctly and if cable are in perfect condition ② Replace controller, and check status ③ Replace display if ② is not working
E003	Motor Hall fault	①Damaged motor hall ②Disconnection of motor hall cable	① Check whether the cable is plugged in correctly ② Replace motor
E004	Throttle fault	①Unreset throttle ②Disconnected throttle ③Damged throttle	①Reset throttle ②Disconnected throttle and re plug in ③Replace throttle
E005	Brake fault	①Unreset brake lever ②Disconnected brake cable ③Damaged brake	①Reset brake lever ②Disconnected throttle and re plug in ③Replace brake
E006	Motor phase deficiency	①Disconnected cable ②Short circuit by damaged or broken cable	① Check whether the cable is plugged in correctly ② Replace motor

NOTE: Please see the troubleshooting section (pg.61) for instructions. If an error code persists or cannot be cleared, please take your bike to an authorized Volcon dealer or service center.

This page intentionally left blank.

CONTACT US

For service and warranty - email: service@volcon.com

For support/questions - email: support@volcon.com

FOLLOW US ON SOCIAL MEDIA

https://www.instagram.com/volcon.EV/
https://www.facebok.com/volcon.EV/
https://www.youtube.com/c/VolconePowersports
https://www.twitter.com/volcon_ev/
https://www.linkedin.com/company/volcon-ev/mycompany

Make sure to Tag us!
@Volcon.ev #volconEv #EmpoweringAdventure