

Bowhead

REACH Adventure Ebike

OWNER'S MANUAL



Read this manual carefully as it contains important safety & maintenance information.

WARNING

Please read, understand, and follow all the instructions and safety precautions in this manual and on all product labels prior to operating your new Bowhead Reach.



Copyright 2021 Bowhead Design Corp. All information contained within this publication is based on the latest product information at the time of publication. Due to constant improvements in the design and quality of production components, some minor discrepancies may result between the actual Bike and the information presented in this publication. Depictions and/or procedures in this publication are intended for reference use only. Bowhead makes every effort to ensure the accuracy of its documentation and assumes no responsibility or liability if any errors or inaccuracies appear within. Any reprinting or reuse of the depictions and/or procedures contained within, whether whole or in part, is expressly prohibited. The original instructions for this Bike are in English.

Welcome!

Thank you for purchasing your REACH Adventure Ebike from Bowhead!

We take pride in bringing you a quality product that will offer years of enjoyment. Although your Reach comes pre-assembled in a crate, it has travelled a great distance to reach you and needs a bit of extra attention prior to riding. Please read and understand this manual fully before riding your Reach and check out our “how to” videos on our YouTube channel (<https://www.youtube.com/channel/UCqZii12qtvKGZOnqSHkXGQg>).

Be sure to check all hardware for correct torque (see “Tools and recommended torque values” on page 10-12). Before each ride, follow the recommendations in the “Safety checklists” on page 24. And finally, take care of your new Reach by following the guidelines in “Recommended service intervals” on page 27. If you are not sure you have the skills, experience, and special tools required for assembly and maintenance, get help from a local, certified, and reputable bike mechanic, or contact Bowhead at service@bowheadcorp.com.

We are here to help!

If you have questions after reading this manual and watching the videos, please consult the Bowhead Team via:



Service Inquiries: service@bowheadcorp.com



General Inquiries: info@bowheadcorp.com



Visit our website to chat with our virtual Bowhead Bot

WARNING

Incorrect assembly, maintenance, or use of your Reach can cause component or performance failure, loss of control, serious injury, or death. Even if you are an experienced bike rider, you must read and understand the entire manual and any documentation provided for subcomponents or accessories before riding. If you are not sure you have the experience, skills, and tools to correctly perform all assembly steps in the manual, consult a local, certified, reputable bike mechanic, or contact Bowhead at service@bowheadcorp.com.

WARNING

To reduce the risk of injury, close supervision is necessary when the product is used near children.

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Using this manual

Riding any bike or other vehicle involves some risk of serious injury or death. Your safety depends on many factors including your bike knowledge, your bike's maintenance, foreseeable riding conditions, etc. There are also factors we cannot control or anticipate in every situation or condition while riding. This manual makes no representations about the safe use of bikes under all conditions. If you have any questions, you should contact Bowhead immediately.

First adjustment and inspection of your bike requires specific tools and attention. Keep this manual and any other documents that came with your Bowhead REACH. All content in this manual is subject to change or withdrawal without notice. Visit www.bowheadcorp.com/help to view and download the latest version. Bowhead makes every effort to ensure the accuracy of its documentation and assumes no responsibility or liability if any errors or inaccuracies appear within.

SAFETY SYMBOLS & WARNINGS

The following signal words appear throughout this manual. Your safety is involved when these words and symbols are used. Become familiar with their meanings before reading the manual.

DANGER

DANGER indicates a hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, COULD result in minor to moderate injury.

NOTICE

NOTICE provides key information by clarifying instructions

IMPORTANT

IMPORTANT provides key reminders during disassembly, assembly, and inspection of components.

VEHICLE IDENTIFICATION NUMBERS

Record your Reach's identification number and date of sale in the spaces provided. Remove the spare throttle key and store it in a safe place. The throttle must be replaced if all keys are lost.

Bike identification number:	
Date of sale:	

BEFORE YOU RIDE

This Bowhead REACH Adventure Ebike may be used as an Off-Road Vehicle. Familiarize yourself with all laws and regulations concerning the operation of this bike in your area.

WARNING

Failure to heed the warnings and safety precautions contained in this manual can result in severe injury or death. Your REACH Adventure Ebike is not a toy and can be hazardous to operate.

- Read this owner's manual and review the safety information contained within. Understand all safety warnings, precautions and operating procedures before operating the Adventure Ebike.
- Never operate this bike without proper instruction.
- Always wear a helmet, eye protection, gloves, long-sleeve shirt, long pants and over-the-ankle socks.
- Never operate this bike under the influence of drugs or alcohol.
- Never permit a guest to operate this vehicle unless the guest has reviewed the owner's manual and all safety labels.



Post crate Pre-Ride check

1. Open the crate and remove the 2 boards locking the wheels in place. With the help of another person, slowly roll the bike out of the crate. Remove anything else (accessories, additional components, packaging materials) from inside the crate and recycle the packaging wherever possible.

2. Carefully unwrap the charger from in front of the seat and **ensure all the following pieces are included with your Bowhead REACH:**

- Charger
- Battery
- Seat cushion (if ordered)
- Informational hang tags (attached to bike)
- Leg strap & Rear axle pin

If anything is missing, please contact Bowhead immediately.

NOTICE

If you are located outside of North America, your battery and charger will be shipped separately. Your bike will come with an empty Pelican 1200 case pre-drilled and ready for your battery to be installed. Please see New International Battery Installation Instructions on page 18.

3. We also recommend the following (not included) for post crate pre-ride check and maintenance:

- Strong friend or work stand to lift your bike when required
- 18mm socket wrench
- T25 drive-style screwdriver
- Bicycle grease
- H4 & H5 Hex Key
- Torque wrench (3Nm-30Nm) with Hex bits
- Adjustable flat edge pliers
- Clean shop towel or paper towel for cleaning excess grease
- Bike pump with pressure gauge

Now that your bike is un-packed, and you have checked to make sure you have all the required components (List 2 above) for your REACH, it is time for the pre-ride check!

PRE-RIDE CHECK

1. Ensure you read and understand all hang tags attached to your bike. If you have any questions, please contact us via email at service@bowheadcorp.com.

2. Please remove and replace your battery a few times following the “[Battery removal instructions](#)” on page 14 to get accustomed to the locking mechanism.

3. Complete all sections in ‘[Adjusting for comfort and Safety](#)’ in the next chapter.

4. Complete the appropriate “[Safety Checklists](#)” in the ‘[Maintenance](#)’ Chapter on page 25.

Adjusting for comfort and Safety

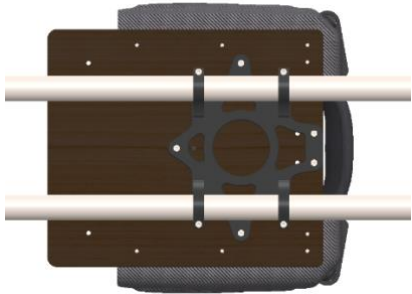
The following steps are critical for your comfort and safety and must be performed before your first bike ride.

ADJUSTING THE SEAT POSITION



The seat is adjustable to slide along the frame rails to accommodate various user height requirements.

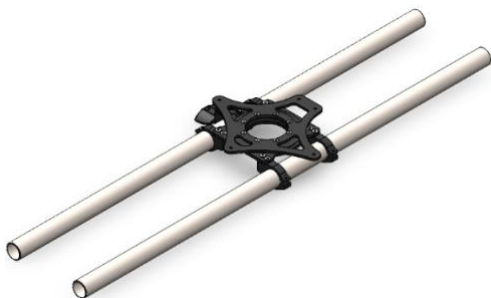
It is secured in place by 4 screws.



To move the seat plate:

- i. The 4 screws located on the bottom of the rail mount must be loosened.

A **5 mm** Hex Key should be used to loosen these screws.

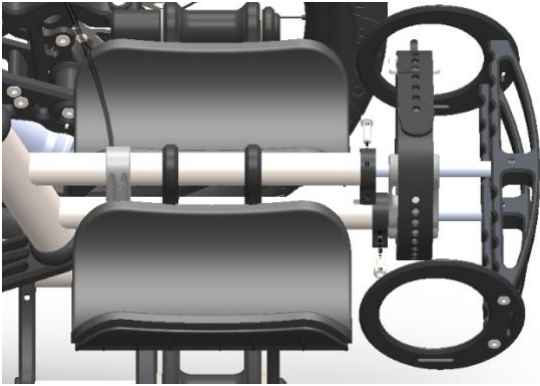


- ii. The entire seat assembly may now be slid forward and backward to reach a comfortable position.
- iii. After locating the seat in the appropriate position, the 4 screws must be torqued to **12Nm** to secure the seat in its' new location.

ADJUSTING THE FOOTREST POSITION

Similar to the seat, the footrest may also be adjusted to an appropriate length for each individual user.

It is secured in place by 2 screws.



To move the footrest:

- i. The 2 screws located on either side of the footrest frame must be loosened.

A 5 mm Hex Key should be used to loosen/remove these screws.



- ii. The footrest may now be slid forward or backward to lengthen or shorten this distance.

- iii. Once the footrest is in a comfortable location for riding the 2 screws must be tightened (10Nm torque) to secure the new position.

FINE-TUNE THE HANDLEBAR & BRAKE LEVER POSITIONING

Most riders will be comfortable with the handlebar angled so that the handlebar grips are roughly parallel with the ground. Others may prefer the handlebar grips to be angled slightly downwards.

The angle of the brake levers can also be adjusted for the most comfortable hand position possible. To do so, loosen the brake lever clamp bolt, adjust the angle, and then re-tighten according to the torque specifications in “Tools and recommended torque values” on the next page.

However you prefer your handlebar and brake levers, make sure that you can twist your handlebar 90° left and right without the handlebar or brake levers touching your body or the frame of the bike. Ensure there is enough cable slack to allow the handlebar to turn fully to each side without pulling cables taut.

If you adjust your handlebar or brake levers, be sure to tighten them according to the specifications in “Tools and recommended torque values” on the next page.

NOTICE

Please contact Bowhead at service@bowheadcorp.com for additional instructions on Quadriplegic handlebar and brake lever positioning.

ENSURE ALL HARDWARE IS TIGHTENED PROPERLY

Ensure all hardware is tightened properly according to the values in “Tools and recommended torque values” on the next page. **This is a critical safety step that you must not skip.** If you do not own a torque wrench or do not have the skills to check the tightness of your hardware, consult a local, certified, reputable bike mechanic for help, or contact Bowhead.

Tools and recommended torque values

The tool sizing listed below is a general guide, but it is possible that the head of a particular bolt on your bike may vary, requiring a different tool (e.g., a 4 mm Allen wrench instead of a 5 mm Allen wrench). If so, use whatever tool fits the bolt head. Such differences will not affect the recommended torque for that piece of hardware.

WARNING	
Failure to follow the below recommended torque values can cause component or performance failure, loss of control, serious injury, or death. If you are not sure you have the experience, skills, and tools to correctly perform all Pre-ride Safety checks and maintenance steps in the manual, consult a local, certified, reputable bike mechanic, or contact Bowhead at service@bowheadcorp.com . Damages resulting from incorrect torque settings will void your warranty.	

		<i>Tool</i>	<i>Required Torque</i>
<i>Handlebar area</i>	Stem clamp bolts	4 or 5mm Hex	10Nm
	Stem faceplate bolts	5mm Hex	6Nm
	Brake lever clamp bolts	T25 Torx	6Nm
<i>Brake area</i>	Throttle clamp bolt	2.5mm Hex	3Nm
	Caliper adapter to frame	4mm Hex	6-8Nm
	Caliper to adapter	T25 Torx	6-8Nm
<i>Seat area</i>	Brake rotor to hub	T25 Torx	7Nm
	Seat adjustment bolt	5mm Hex	12Nm
<i>Rear Suspension area</i>	Idler bolt	5mm Hex	10Nm
	Rear axle	18mm socket	30Nm

ADDITIONAL TORQUE SPECIFICATIONS

- Check the rear frame clamp screws **(6)** to ensure they are sufficiently tight **(12 Nm or 106 inlb torque)**.
- Check the steering pin pivot screws **(2)** to ensure they are sufficiently tight **(5 Nm or 44 inlb torque)**.
- Check the rear axle to ensure it is sufficiently tight **(30 Nm)** and the locking pin is still in place.
- Check all screws involved in the seat plate adjustment and footrest adjustment to ensure they are sufficiently tight.
- Check the front articulation screws **(6)** on the very front face of your bike to ensure they are sufficiently tight **(3 Nm or 20 inlb torque)**.

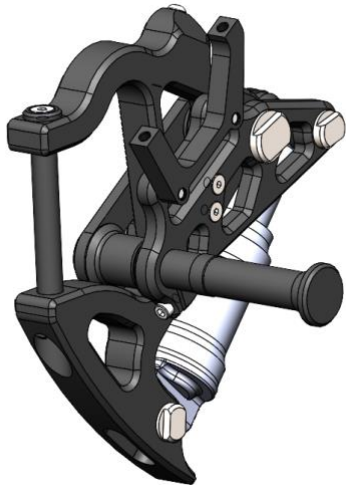
Articulation: 20inlb or 3Nm



Rear Axle: 30Nm



Steering pivot: 5Nm



Idler Gear: 12Nm



If you are installing accessories from Bowhead on to your REACH, any necessary instructions, important safety information, and torque specifications will come with your accessory and/or will be available online at <https://www.bowheadcorp.com/info>.

Battery

The battery that comes with your Bowhead REACH is a state-of-the-art, lithium-ion battery that's designed to give you years of power with proper care and use.



WARNING

Charging your battery with a charger other than one supplied by Bowhead and designed for your specific bike can cause damage to your bike's electrical system or create a fire hazard. Only use a battery charger designed for your bike and supplied by Bowhead.

- The battery should be fully recharged after each use. That way, you'll get the maximum range on your next ride and reduce the chance that you'll over-discharge the battery, which can reduce its lifespan. There is no memory effect on this type of battery, so charging after short rides will not cause damage.
- Charging the battery after a ride generally takes 3 to 7 hours (see [“Estimated charging time”](#) on page 17) unless you're performing battery balancing (see [“Balancing the battery”](#) on page 16). In rare cases, charging may take longer to allow the battery management system to balance the battery, particularly when the bike is new, after long periods of storage, or if the battery has been completely depleted.

NOTICE

Failure to follow the battery-charging best practices outlined here and in the following sections could result in unnecessary wear to the charging components, battery, and/or charger, and could lead to an underperforming or non-functional battery. Batteries damaged due to improper care will not be replaced under warranty.

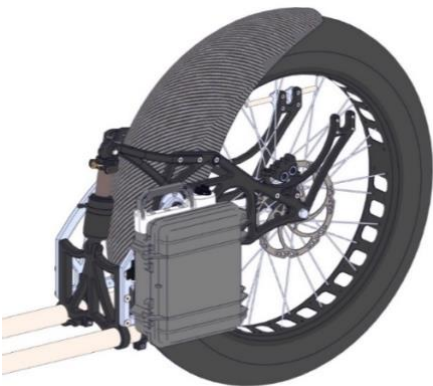
WARNING

Using a damaged battery or charger can create additional bike damage or a fire hazard. Stop using your battery and charger and contact Bowhead immediately if any of the following occur:

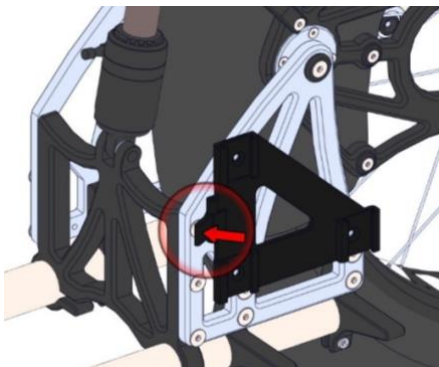
- (1) Your battery or charger is physically damaged, non-functional, or performing abnormally,
- (2) Your battery or charger experienced a significant impact from a fall or crash, with or without obvious signs of damage, or
- (3) Your charger becomes too hot to touch (it's designed to get warm with normal use), makes a funny smell, or shows other signs of overheating. Store the damaged battery in a safe location and, as soon as possible, recycle or otherwise dispose of it according to local rules.

REMOVING THE BATTERY

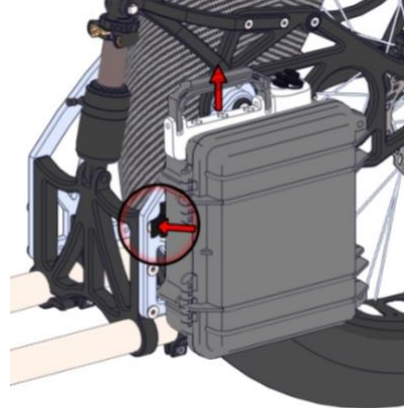
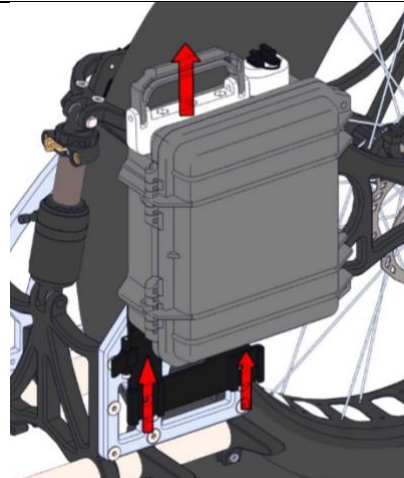
- To remove the battery, first turn off your bike and unplug your battery from the power extension cable and follow the remaining steps in the table to follow.
- Be careful not to drop or damage the battery when loose from the bike.



The battery is locked in place via a secure magnetic locking system under typical operating conditions. User input is required to remove the system and recharge the battery.



- To remove the battery:
- i. Press down (the direction indicated by the red arrow in the diagram) on the self-locking tab

	<p>ii. While pressing down on the self-locking tab, grab the handle mounted on the top of the battery case and pull upwards.</p>
	<p>iii. Once the case begins to move along the case slots it is no longer necessary to manually engage the tab. The battery will slide up and out of the slots.</p>

BEFORE YOU CHARGE

Any time you charge your battery, whether you’re following the instructions in “[Balancing the battery](#)” on the next page or “[Routine charging procedure](#)” on the next page make sure you first check the battery, charger, and electrical cables for signs of damage, and follow the guidelines below.

CHARGE IN A SAFE, APPROPRIATE LOCATION

Store and use the charger in a safe place—away from children, direct sunlight, dirt, debris, tripping hazards (including electrical cords), or any materials that could ignite in the unlikely event of a charger or battery malfunction. Position the charger and battery where they are not at risk for falls or other impacts.

WARNING

Letting the charger’s plug contact metal objects could cause a power discharge (a spark), which could injure you or create a fire hazard.

WARNING

Letting a battery charge unattended increases the risk that a charging problem will go undetected and lead to component damage or a fire hazard. Always charge your battery where you can monitor it.

Your battery needs to charge at room temperature or a bit cooler (**10° C-25° C (50° F-77° F)**). It generates heat while charging, but it's designed to air-cool; keep it uncovered and facing upward on a flat, stable, hard surface.

NOTICE

Charging your battery in excessively hot or cold conditions or interfering with its ability to air-cool can damage your battery or charger. Always charge your battery in temperatures between **10° C-25° C (50° F-77° F)**, keep the battery and charger uncovered, make sure the charger is on a hard, flat, stable surface, and use the charger right-side-up.

BALANCING THE BATTERY

After each of your first three rides, follow the special charging procedure outlined below, which will ensure the cells that power the battery are balanced. After the third balance charge and your fourth ride, begin routine charging procedures as described in “[Routine charging procedure](#)” below.

NOTICE

Your battery should arrive with between **50%** and **75%** of a charge, so it is ready for a first ride.

1. Begin this and every charging procedure by following the advice in “[Before you charge](#)” on the previous page.
2. Charge your battery for as close as possible to **12 hours** (but not longer), regardless of how far you travelled. This might require leaving the charger attached to the battery and outlet even after one of the charger's red lights turns green (during routine charging, this green light will be your indicator that charging is complete—see “[Routine charging procedure](#)” below for more information).
3. Disconnect the charger first from the outlet, and then from the battery. Store the bike until you're ready to ride.
4. Ride the bike again as normal, discharging part (or all) of the battery capacity. Repeat battery balancing steps only after a period of long-term battery storage (see “[Long-term battery storage](#)” on page 18), if experiencing noticeable range decline, if instructed to do so by Bowhead Customer Support, or up to once per month with frequent use as explained in “[Recommended service intervals](#)” on page 27. Do not perform battery balancing more than once per month. For routine charging, follow the steps in “[Routine charging procedure](#)” below.

ROUTINE CHARGING PROCEDURE

When you first get your bike, follow the special charging instructions in “[Balancing the battery](#)” above. For routine charging, mind the advice in “[Before you charge](#)” on the previous page and then follow these steps.

1. Ensure your bike is turned off.

2. Unplug your battery from the power extension cable. Please ensure to pull on the yellow connectors when unplugging electronics and not the cables.
3. Remove the plastic cover from the charger port and plug the charger into the battery's charging port. With the battery removed from the bike, place the charger on a flat, secure surface and connect the DC output plug from the charger to the charging port.
4. Plug the charger into a power outlet. Connect the charger input plug (**110/220-volt plug**) to the power outlet. Charging should initiate and will be indicated by the LED charge status light on the charger turning red. When charging is complete, one indicator light will turn green.
5. Unplug the charger from the outlet, then the charging port. Once fully charged, indicated by the light turning green, unplug the charger from the wall outlet first and then remove the charger output plug from the battery charging port. Be sure to pull gently on the plugs, not on the cables themselves.

NOTICE

The charger is designed to stop charging automatically when the battery is full. Nevertheless, leaving your battery charging longer than necessary can cause needless wear. We recommend you remove the charger from the battery within one hour of the green light indicating a complete charge. Store the charger carefully, making sure its plug does not come in contact with liquids, dirt, debris, or metal objects, which can damage the plug and interfere with future operation.

WARNING

Charging your battery with a charger other than one supplied by Bowhead and designed for your specific bike can cause damage to your bike's electrical system or create a fire hazard. Only use a battery charger designed for your bike and supplied by Bowhead.

ESTIMATED CHARGING TIME

The time the charger takes to fully charge the battery depends on distance travelled, riding characteristics, terrain, payload, battery age, and other factors. However, the typical charging range for our batteries is provided below.

17.5 Ah- ~3-5 hours

21.5 Ah- ~5-7 hours

23.5 Ah- ~6-8 hours

NOTICE

The battery may take longer to charge when fully depleted, when very new, and after **3-5 years** of regular use. If your battery doesn't seem to be charging normally, is taking longer to charge than expected, or you're experiencing substantial reduction in range, discontinue use and contact Bowhead.

LONG-TERM BATTERY STORAGE

If storing your bike from Bowhead for longer than **two weeks** at a time, follow the recommendations below to maintain the health and longevity of your battery.

- Charge (or discharge) the battery to approximately **75% charge**, which is the equivalent of approx. **79 V** on your battery display located on your handlebar.
- Power off the battery and remove from the frame for storage.
- Store the battery in a dry, climate controlled, indoor location between **10° C-25° C (50° F-77° F)**.
- Check the battery monthly, and if necessary, use the charger from Bowhead to charge the battery to **75% charged**.

NOTICE

Incorrect storage of your battery can result in a damaged or non-functional battery. Follow the above instructions to reduce such risk. Batteries damaged by improper use, charging, or storage will not be replaced under warranty.

NEW INTERNATIONAL BATTERY INSTALLATION

All international customer bikes come with a pre-drilled Pelican case that is already mounted to the battery rails. All that remains is installing the blue battery shipped to you direct from LiTech Power. This is performed via the following simple steps:

1. Remove all packaging on the LiTech battery. You should be left with a blue outer battery shell.
2. Place the battery inside the case and thread the wire connectors through the 2 holes predrilled in the case.
3. Open the small plastic bag containing the 4 half plugs you will need to completely seal the connectors.
4. Start by applying silicone to the outer edges of each half.
5. Insert one side of each plug and press the connector wires into the grooves of the plug.
6. Insert the other half of each plug using care to not crimp or cut the wires.

Operation

WARNING

Incorrect assembly, maintenance, or use of your REACH can cause component or performance failure, loss of control, serious injury, or death. Even if you are an experienced bike rider, you must read and understand the entire manual and any documentation provided for subcomponents or accessories before riding.

GUARD AGAINST RUST, WATER DAMAGE, AND CORROSION

Like any vehicle used outdoors, your Reach needs care to ensure it is not damaged by the elements. Follow these steps for a long, healthy life for your bike:

- Store under shelter and in an upright position; avoid leaving the bike in the rain or exposed to corrosive substances such as water, salt, or de-icing substances. If exposed to rain, dry your bike afterward, and apply an anti-rust treatment to the chain and other unpainted steel surfaces.
- To clean your Reach, turn the bike and battery off and wipe the frame with a clean, damp cloth. If needed, apply a mild, noncorrosive detergent mixture to the damp cloth and wipe the frame. Dry by wiping with a clean, dry cloth. Never use high-pressure water on your bike. Wipe down your bike frequently and wipe or spray all unpainted mechanical parts with anti-rust treatment.
- If painted metal parts become scratched or chipped, use touch up paint or nail polish to prevent rust.
- Never immerse or submerge the bike or any components in water or liquid, which can damage the electrical system.
- Avoid riding on the beach, in coastal areas with high-salinity fog, or on surfaces treated with salt or de-icing compounds. Doing so exposes your bike to salt or other substances that are very corrosive. Corrosion of electrical components can lead to permanent, irreversible damage that can cause battery failure, electrical system failure, or electrical fire. Damage from corrosion is not covered under warranty.

WARNING

Damage to your Reach's electrical system caused in any manner, including water intrusion, can lead to battery failure, electrical system malfunction, or electrical fire and consequent property damage, injury, or death. Follow all recommendations to minimize chance of water damage. If you have any questions, contact Bowhead Customer Support.

HOW THE ELECTRICAL SYSTEM WORKS

This bike is equipped with a throttle to provide power assistance from the motor to propel the bike forward and requires no pedal action.

Throttle key positions

Familiarize yourself with the keyport and key positions before riding the bike. Always remove the key after riding and store in a safe location.

CAUTION

Always ensure the key is in the off position when unplugging or plugging in any electrical components.

How the throttle works

The throttle is located on the right side of the handlebar. The rider can use it with a twist of the throttle grip to propel the bike forward without pedaling. To engage the throttle while riding, slowly and carefully rotate it toward yourself. The more you twist, the more powerfully the throttle will propel the bike forward. Once you release the throttle or apply the brakes, the throttle will no longer propel the bike forward. Always keep one hand on the brake lever and be prepared to squeeze the lever if needed. Thumb throttles from Bowhead are equipped with an on/off switch for the throttle.

IMPORTANT

The throttle displays battery life in voltage (V) **NOT percentage**. This display will **never** reach **0V**. It is strongly recommended that riders head back to a charging zone once the throttle display reads **72V**.

How the charger works

Charging the battery should be at room temperature ($\pm 20^{\circ}\text{C}/68^{\circ}\text{F}$). Charging below 0°C or above 40°C ($32^{\circ}\text{F}-104^{\circ}\text{F}$) can lead to insufficient charging and can be harmful to the battery life cycle.

You should always remove your battery from your bike prior to charging.

CHARGER

- Not connected: Charger LED is green (constant).
- During charging: Charger LED is red (constant)
- Charging issue: Charger LED is red (blinking)
- Charging is completed (100%): Charger LED is green (constant)

CONTROLLER

Controller LED Codes

Green LED Codes

LED Code	Explanation	Solution
Green Off	No power or switched off	1. Check if all wires are correct. 2. Check fuse and power supply
Green On	Normal operation	That's great! You got a solution!
Green & Red are both On		1. Software needs upgrading. 2. Supply voltage too low or battery too high 3. The

		controller is damaged. Contact Kelly about a warranty repair
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Red LED Codes

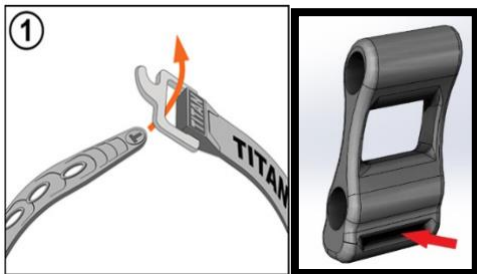
LED Code	Explanation	Solution
1,2	Over voltage error	1. Battery voltage is too high for the controller. Check battery volts and configuration. 2. Regeneration over-voltage. Controller will have cut back or stopped regen. 3. This only accurate to $\pm 2\%$ upon Overvoltage setting
1,3	Low voltage error	1. The controller will clear after 5 seconds if battery volts returns to normal. 2. Check battery volts & recharge if required.
1,4	Over temperature warning	1. Controller case temperature is above 90°C. Current will be limited. Reduce controller loading or switch Off until controller cools down. 2. Clean or improve heatsink or fan.
2,1	Motor did not start	Motor did not reach 25 electrical RPM within 2 seconds of start-up. Hall sensor or phase wiring problem.
2,3	Over temperature	The controller temperature has exceeded 100°C. The controller will be stopped but will restart when temperature falls below 80°C
2,4	Throttle error at power up	Throttle signal is higher than the preset 'dead zone' at Power On. Fault clears when throttle is released
3,1	Frequent reset	May be caused by over-voltage, bad motor intermittent earthing problem, bad wiring, etc.
3,2	Internal reset	May be caused by some transient fault condition like a temporary over-current, momentarily high or low battery voltage. This can happen during normal operation.
3,3	Hall throttle is open or short-circuit	When the throttle is repaired, a restart will clear the fault
3,4	Non-zero throttle on direction change	Controller won't allow a direction change unless the throttle or speed is at zero. Fault clears when throttle is released.
4,1	Regen or Start-up over-voltage	Motor drive is disabled if an over-voltage is detected at start-up or during regen. The voltage threshold detection level is set during configuration.
4,2	Hall sensor error	1. Incorrect or loose wiring or a damaged hall sensor. 2. Also be caused by incorrect hall angle configuration (60 degree or 120 degree)

4,3	Motor over-temperature	Motor temperature has exceeded the configured maximum. The controller will shut down until the motor temperature cools down.
The Red LED flashes once at power on as a confidence check and then normally stays Off. “1, 2” means the Red flashes once and after a second pause, flashes twice. The pause time between multiple flash code groups is two seconds.		

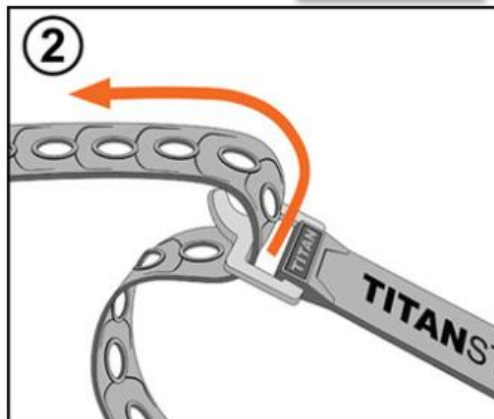
ADDITIONAL PRECAUTIONS REGARDING ELECTRICAL COMPONENTS

WARNING
<p>Using a damaged battery or charger can create additional bike damage or a fire hazard. Stop using your battery and charger and contact Bowhead immediately if any of the following occur:</p> <ul style="list-style-type: none"> (1) Your charger’s flexible power cord or output cable or any of the electrical cables on your bike is frayed, has broken insulation, or any other signs of damage, (2) Your battery or charger is physically damaged, non-functional, or performing abnormally, (3) Your battery or charger experienced a significant impact from a fall or crash, with or without obvious signs of damage, or (4) Your charger becomes too hot to touch (it is designed to get warm with normal use), makes a funny smell, or shows other signs of overheating. <p>Store any damaged battery or charger in a safe location and, as soon as possible, recycle or otherwise dispose of it according to local rules. Contact Bowhead if you have any questions or to purchase a compatible replacement battery or charger.</p>

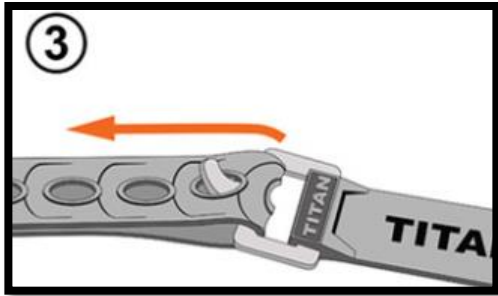
LEG STRAP USAGE



Ensure the logo is facing outward and thread through the slot in the plastic footrest spacer.



Thread the end around both of your legs and then through the buckle.



Stretch and secure the strap over flange. The tension in the strap is what secures it in place.

BIKE RANGE

The range on one charge strongly depends on several circumstances, such as (but not limited to):

- Weather conditions such as ambient temperature and wind;
- Road conditions such as elevation and road surface;
- Bike conditions such as tire pressure and maintenance level;
- Bike usage such as acceleration;
- Rider and luggage weight;
- Charge and discharge cycles.

PARKING, STORAGE, AND TRANSPORT

Please follow these tips to ensure your bike is well cared for when you are not using it.

Parking and storage

- Park in accordance with local rules and regulations if you are in a public place.
- Park indoors whenever possible. If you must park outdoors in rain or wet conditions, do not do so for an extended period, and afterward park in a dry location to allow the bike systems to dry out. When any bike is exposed to wet conditions, it will need a more frequent maintenance schedule to prevent rust and corrosion and to ensure all systems work safely. See “[Guard against rust, corrosion, and electrical damage](#)” on page 19 for more information.
- Avoid parking or storing your bike in direct sunlight and/or excessive heat, such as inside of a parked car on a hot day.
- Switch the power and any lights off to conserve battery power. Remove the key from the bike and remove the battery and bring it with you for security.
- Lock up your bike to reduce risk of theft.

Transporting

- When pushing or carrying the bike, turn off the throttle to avoid accidental acceleration from the motor, e.g. by mistakenly twisting the throttle.
- Only use racks (i.e., a bike rack for your car or other vehicle) designed for the size and weight of your bike. Pay particular attention to whether the rack can accommodate the width of your bike tires.

- When carrying your bike on a rack for transport, remove the battery, and place/wrap it securely inside your vehicle, making sure it can't roll around and that its plugs and connectors are protected. This will reduce the weight of the bike, make lifting and loading it easier, and keep your battery safer.
- Do not leave a battery in direct sunlight or any location that is or may become excessively hot or cold, like a parked car, for extended periods.
- Before using public transportation—buses, trains, etc.—to transport your bike, check with the relevant transportation authority for any rules governing weight limits, tire widths, lithium-ion batteries, or any other rules that might pertain to bikes.
- Avoid transporting bike(s) from Bowhead on a vehicle rack during rain, which may cause water damage to the electrical components and affect warranty. Contact Bowhead Customer Support if you have questions.

Maintenance

To ensure safe riding conditions you must properly maintain your bike. Follow these basic guidelines to ensure your bike is safe and fun to ride.

Check and service your bike regularly. On any bike, certain parts need to be replaced periodically due to wear, and sometimes parts become damaged for various reasons. Check your bike before each ride by following the directions in “[Safety checklists](#)” on this page. Have your bike regularly serviced by a certified, reputable bike mechanic. See “[Recommended service intervals](#)” on page 27 for more information. Components of the Bowhead REACH are subject to higher wear when compared to bikes without power assistance. This is because the REACH can travel at higher average speeds than regular bicycles and has a greater weight. Higher wear is not a defect in the product and is not subject to warranty. Typical components affected are the tires, brake pads and rotors, bushings, spokes, wheels, and the battery. If you need to replace a part on your bike, visit www.bowheadcorp.com. If you want something that is not listed there, contact Bowhead Customer Support. Be extremely careful about using parts or accessories that Bowhead has not tested for safety and compatibility with your specific bike model.

WARNING

Using aftermarket accessories or components (trailers, stands, vehicle racks, etc.) that have not been tested by Bowhead for safety and compatibility with your specific bike may void your warranty, create an unsafe riding condition, result in bike/property damage, or cause serious injury or death. If you use replacement parts or accessories not tested or attempt to modify your bike in any way not recommended by Bowhead, you do so at your own risk.

SAFETY CHECKLISTS

Before your first ride

- Make sure handlebar cables were routed correctly when the handlebar was installed. Turn the handlebar fully to the left and right and make sure this doesn't pull any of the cables or wires taut.
- Check that the cable connectors on the bike are all plugged in securely and that nothing loosened in shipping.
- Check the brake functions per the directions in “[Tire and wheel care](#)” on page 23 but note that brakes can rub a little the first few times you ride. This is okay and normal; any squeak or noise should go away with use. Check everything on the “[Before every ride](#)” list below.

Before every ride

Before every ride or every **40-72 km (25-45 miles)**, follow the safety checklist in the table below. If you find anything amiss with your bike, don't ride it until you're sure it's fixed. Consult a local, certified, and reputable bike mechanic or call Bowhead Customer Support if you have any questions.

Fasteners

- Ensure all fasteners are correctly tightened according to the specifications in “[Tools and recommended torque values](#)” on page 10-12.
- Check that the fasteners on any accessories you’ve added are properly tightened according to the manufacturer’s instructions.

Brake system

- Check brake pads and ensure the brake pad material isn’t thinner than the backing plate it attaches to.
- Ensure brake pads are correctly positioned in relation to the brake rotors.
- Ensure brake cables are lubricated, correctly adjusted, and show no obvious wear.
- Ensure brake levers are properly positioned and tightly secured to the handlebar.
- Use the techniques in “[Checking brakes](#)” on page 29 to test the brake levers, and brakes.

Wheels & Tires

- Ensure tires are holding air and inflated to within the recommended limits displayed on the tire sidewalls.
- Ensure tires have good tread, have no bulges or excessive wear, and are free from any other damage.
- Ensure rims run true and have no obvious wobbles, dents, or kinks. Contact Bowhead for support if unsure how to perform.
- Check each wheel spoke. If any are loose or broken, seek help from a certified, reputable mechanic.
- Check the rear axle on the rear wheel to ensure it is correctly tightened with the axle pin securing it in place (see “[Tools and recommended torque values](#)” on page 12).

Steering

- Ensure the handlebar and stem are correctly aligned, adjusted, and tightened for proper steering.
- Perform a handlebar twist test to ensure the stem clamp bolt is secure. See “[Handlebar twist test](#)” on page 31.
- Ensure the handlebar is set correctly in relation to the wheels and the direction of travel.
- Ensure the handlebar grips are secure and undamaged.

Bearings & Bushings

- Check that headset, wheel, suspension bearings are lubricated, run freely, and display no excess movement, grinding, or rattling.
- Check that the front articulation and steering bearing are intact and display no obvious signs of damage or excess wear.

Battery

- Ensure the battery is charged.
- Ensure there is no damage to the battery.
- Lock the battery to frame and check that it is secured using the locking pin.
- Ensure the battery voltage on the LED display reads a full charge of **83-84V**.

Cables

- Look over electrical cable connectors to make sure they are fully seated and free from debris or moisture.
- Check cables and cable housing for obvious signs of damage.
- Ensure cables are secured away from moving parts.

Accessories & safety gear

- Ensure all accessories and components installed on the bike are properly secured and functioning according to their manufacturer's specifications.
- Check all safety gear, clothing, cargo, and accessories for loose or potentially loose straps/elements and secure them.
- Ensure rider is wearing a helmet and other required riding safety gear and inspect these items for signs of damage.

WARNING

Riding your bike when any component's useful life is surpassed can cause that component to fail, resulting in loss of control, serious injury, or death. Pay attention to signs of wear such as cracks, scratches, component colour change, and operational changes that could indicate a component needs replacing. Before each ride, check your bike using the "Safety checklists" on the previous page. Perform regular maintenance according to "Recommended service intervals" on the next page. If you are not sure you have the experience, skills, and tools to perform safety checks and regular maintenance, consult a local certified, reputable bike mechanic for help, or contact Bowhead.

After every ride

- Store your bike and battery in a dry location and take other sensible precautions as described in "Parking, storage, and transport" on page 23.
- Guard against damage from the elements by following the recommendations in "Guard against rust, corrosion, and electrical damage" on page 19.
- Charge your battery in a temperature-controlled location between **10° C-25° C (50° F-77° F)** and follow the other charging recommendations in "Before you charge" on page 15.

Recommended Service Intervals

Regular maintenance of any bike is key to ensuring the best possible performance and reducing wear and tear on systems. Ideal service intervals vary depending on use conditions. We generally recommend inspections, service, and necessary replacements be performed at the time and distance intervals described below, but you should have your bike serviced more frequently if you ride aggressively, with heavy payloads, or in harsh conditions. Have your bike inspected immediately if you notice problems or your bike has been involved in a fall or other accident.

WARNING

Have your bike inspected by a certified, reputable bike mechanic after any fall, crash, or accident, as these can cause damage (visible or internal/not readily apparent), make your bike unsafe, and lead to serious injury or death. Be particularly cautious about using a battery that has experienced a significant impact from a fall or crash; a damaged battery may not show external signs of damage. Using a damaged battery or charger can create additional bike damage or a fire hazard. For more information, see [“Battery information”](#) on page 9.

AFTER BREAK-IN PERIOD OF 80-160 KM (50-100 MILES)

Inspect

- Check all cables and the chain for stretch.
- Check spoke tension and the trueness of the wheels.
- Check all bolted connections for loosening and ensure they are tightened to recommended torque values (see [“Tools and recommended torque values”](#) on page 10-12).

Service

- Have a certified, reputable bike mechanic perform a thorough tune-up.

WARNING

Certain components can stretch or loosen during any bike’s break-in period, which can lead to component failure and potential injury or death. Be sure to have a certified, reputable bike mechanic perform a thorough tune-up after this break-in period or sooner if you notice any problems or ride aggressively, with heavy payloads, or in harsh conditions.

WEEKLY, 160-320 KM (100-200 MILES)

Inspect

- Check hardware for proper torque—see [“Tools and recommended torque values”](#) on page 10-12.
- Check drivetrain for proper alignment and function (including chain, freewheel, chainring, and idler gear).
- Check wheel trueness and spoke tension, and check for quiet wheel operation (without spoke noise).
- Check tire pressure for adequate setting.
- Check frame for any damage.

Service

- Clean frame by wiping frame down with damp cloth. If needed, adjust the brake cable tension.

- Clean and grease the chain.

Replace

- Replace any components confirmed to be broken or damaged beyond repair by Bowhead Customer Support or a certified, reputable bike mechanic.

MONTHLY, 400-1200 KM (250-750 MILES)

Inspect

- Check brake pad alignment and brake cable tension.
- Check chain stretch.
- Check chain alignment and drivetrain functioning.
- Check brake cables for corrosion and fraying.
- Check wheel trueness and spoke tension, and check for quiet wheel operation (without spoke noise).
- Check tire pressure for adequate setting.

Service

- Clean and lubricate drivetrain.
- Clean brake cables. Tension spokes and true wheels if any loose spokes are found.
- Optional: Balance the battery. This is not necessary if you've been charging your battery after nearly every use and haven't been storing it long term. See "Balancing the battery" on page 16 for more information.

Replace

- Replace brake cables if necessary.
- Replace brake pads if necessary (typically when the pad material is thinner than the backing plate).

EVERY 6 MONTHS, 1200-2000 KM (750-1250 MILES)

Inspect

- Inspect drivetrain (chain, chainring, freewheel, and idler gear).
- Inspect all cables and housings.

Service

- Standard tune-up by certified reputable bike mechanic.
- Grease required components.
- Check tire pressure for adequate setting.

Replace

- Replace brake pads.
- Replace tires if necessary.
- Replace cables and housings if necessary

CHECKING BRAKES

All vehicles, including your REACH, need reliable brakes. Test your brake levers, and brakes for proper functioning before every ride. If anything seems wrong, take your bike to a local, certified, and reputable bike mechanic, or refer to our Bowhead Customer Support (<https://www.bowheadcorp.com/contact>).

1. Test the brake levers.

- a. Fully squeeze each lever and ensure neither the front nor rear brake lever touch the handlebar grips.
- b. Ensure both brake levers are properly lubricated. If they are, they will be reasonably easy to squeeze without feeling as though there's grit in the mechanism, and when you release them, they will immediately go back to their original position.
- c. Make sure each lever is properly oriented and firmly secured to the handlebar.

2. Test each brake.

- a. Squeeze the left brake lever to lock the front brake, and then try to push the bike forwards using the handlebar. The front wheel should not spin.
- b. Squeeze the right brake lever to lock the rear brake. Again, push against the handlebar to try moving the bike forwards. The rear wheel should not spin.

NOTICE
The left and right brake levers on the handlebar may actuate EITHER the front or rear brake depending on customer location and preference. Keep this in mind when performing the brake test and contact Bowhead if you have any questions.

Do not touch the brake rotor

WARNING
Touching the brake rotor, which has sharp edges and can get extremely hot while you're riding, can cause serious injury, slicing damage, or burns. The brake rotor heats up from normal friction when the brake pads press against the brake rotor to slow or stop the bike. Touching the brake rotor with bare skin can also transfer natural oils to the rotor, which can decrease braking performance. Do not touch the brake rotor, especially when it is in motion or after you've been riding your bike. Touch the brake rotor only for necessary maintenance when it is cool, not moving, and while you are wearing gloves or using other appropriate protective equipment.

TIRE AND WHEEL CARE

The Bowhead REACH uses 2x 20" front wheels and a 26" rear wheel with inner tubes. The tires are designed for durability and safety for regular mountain biking activities. Wheels and tires need to be checked before each use for proper condition. Always replace tires and inner tubes with punctures, cuts, bulges, damage, or excessive wear before you ride.

Tire Inflation

Inflate tubes and tires to within the pressure range printed on the tire sidewall. For additional information about tire pressure, please consult our customer support at service@bowheadcorp.com.

WARNING
Underinflating your tires can result in loss of control. Overinflating can make tires burst. Either scenario can lead to serious injury or death. Always maintain the correct air pressure

of your tires, which is listed on the tire's sidewall, and use a regulated air source with pressure gauge so that you can measure pressure accurately.

Tire Replacement

All tires can and do get flats from punctures, pinches, impacts, and other causes. If you get a flat tire or can see evidence of tire wear, you must replace your tires and/or tubes before operating the bike again. Otherwise, you risk bike/property damage, serious injury, or death.

CAUTION

Removing a tube from your wheel rim before the air has been released from it can cause the tube to burst, potentially causing serious injury. Always release air pressure before removing your tube.

WARNING

Aftermarket tires or inner tubes not provided by Bowhead may not be compatible with your wheels or the performance requirements of your REACH. Such tires can fail or create unsafe riding conditions, causing serious injury or death. Always use replacement tires and tubes that are sized to be compatible with your bike. For safety, and if required by law, ensure replacement tires have sufficient reflective sidewall striping.

For more information on tire or tube replacement or about tire inflation please contact Bowhead Customer Support at service@bowheadcorp.com or visit www.bowheadcorp.com/contact.

HANDLEBAR TWIST TEST

WARNING

An improperly secured wheel and/or handlebar stem can cause loss of control, accidents, serious injury, or death.

Check that the front wheel and handlebar stem are properly secured during assembly and before each ride.

1. **Brace the front wheels.** Stand at the front of the bike, facing the handlebar, and brace the front wheels between your feet and lower legs.
2. **Try to twist the handlebar.** Hold both handlebar grips and push forward with one hand while pulling back with the other. Push and pull at the same time with about **20 lb of force** with each hand.
3. **Ensure the handlebar and wheel stay properly aligned.** The handlebar and handlebar stem should be tightly secured perpendicular to the front wheels.
4. **Repeat the twist test pulling/pushing with the opposite hands,** using about **20 lb of force** pushing with one hand and 20 lb of force pulling with the other hand.

5. If needed, align the handlebar and stem, and torque the stem clamp bolts evenly. Be sure to torque the stem clamp bolts evenly to the specification listed in “Tools and recommended torque values” on page 10. After torquing the stem clamp bolts to the proper specification, perform the twist test again. If the handlebar still moves, contact Bowhead Customer Support.

WARNING

If you are not sure you have the experience, skills, and tools to correctly perform all steps to secure and verify the security of the handlebar, front wheel, and handlebar stem you MUST consult a certified, reputable bike mechanic to check your work and/or secure those components to the bike properly.

Safety

We strongly advise you to strictly follow the recommended maintenance program outlined in your owner’s manual.

SAFE RIDING GEAR

Always wear a helmet, eye protection, gloves, long-sleeve shirt, long pants, over-the-ankle socks and elbow pads at all times. Protective gear reduces the chance of injury.

OPERATOR SAFETY

WARNING

Serious injury or death can result if you do not follow these instructions and procedures.

Read this entire manual and all labels carefully. Follow the operating procedures described.

- Never allow anyone under the age of 16 to operate this bike.
- The rider must wear helmet, eye protection, gloves, long-sleeve shirt, long pants, over-the-ankle socks and lap belt at all times.
- Always keep both hands on the handlebar and both feet strapped during operation.
- Never permit a guest to operate this vehicle unless the guest has read this manual and all product labels.
- This vehicle is for off road use only. Never operate on public roads (unless marked for off-road use).
- Never consume alcohol or drugs before or while operating this vehicle.
- Never operate at excessive speeds. Always travel at a speed proper for the terrain, visibility and operating conditions, and your experience.
- Never attempt jumps or other stunts.

- Always inspect the vehicle before each use to make sure it's in safe operating condition. Always follow the inspection procedures described in this manual.
- Always travel slowly and use extra caution when operating on unfamiliar terrain. Be alert to changing terrain.
- Never turn at excessive speeds.
- Always have this vehicle inspected by an authorized Bowhead employee, or other qualified technician, if it has been involved in an accident.
- Always use the proper size and type of tires specified in this manual. Always maintain proper tire pressure as specified on safety labels.
- Never modify this vehicle through improper installation or use of non-BOWHEAD approved accessories.
- Always remove the throttle key when the bike is not in use to prevent unauthorized use by someone under the age of 16 and proper training, or accidental starting.

EQUIPMENT MODIFICATIONS

Your Bowhead REACH is designed to provide safe operation when used as directed. Modifications to your bike may negatively impact stability. Failure of critical machine components may result from operation with any modifications, especially those that increase speed or power. This vehicle may become less stable at speeds higher than those for which it is designed. Loss of control may occur at higher speeds. Do not install any non-Bowhead-approved accessory or modify the bike for the purpose of increasing speed or power. Any modifications or installation of non-Bowhead-approved accessories could create a substantial safety hazard and increase the risk of bodily injury. The Bowhead limited warranty on your bike will be terminated if any non-Bowhead approved equipment and/or modifications have been added to the bike. Use only Bowhead-approved accessories and familiarize yourself with their function and effect on the REACH. Use only Bowhead-approved accessories.

AGE RESTRICTIONS

Operation is prohibited for anyone under 16 years of age.

OPERATING WITHOUT INSTRUCTION

Operating this bike without proper instruction increases the risk of an accident. The operator must understand how to operate the bike properly in different situations and on different types of terrain. All operators must read and understand the owner's manual and all warning and instruction labels before operating the bike.

PROTECTIVE APPAREL

Riding in this vehicle without wearing a helmet and protective eyewear and footwear increases the risk of a serious injury in the event of an accident. Operator must always wear a helmet that fits properly, gloves, long-sleeve shirt, long pants, over-the-ankle socks, and eye protection.

USING ALCOHOL OR DRUGS

WARNING

Never consume alcohol or drugs before or while operating your bike. Operating this bike after consuming alcohol or drugs could adversely affect operator judgment, reaction time, balance and perception.

FAILURE TO INSPECT BEFORE OPERATING

WARNING

Failure to inspect and verify that the bike is in safe operating condition before operating increases the risk of an accident. Always perform the Safety checklists outlined in the Maintenance chapter before each use of your REACH to make sure it's in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in this owner's manual. See the Recommended Service Intervals chapter.

RECHARGING

- Always turn off the ignition and remove your battery before recharging.
- Always exercise caution when unplugging electrical components and be sure to pull from the connector itself and not the wires.

OPERATING WITH A LOAD

Always follow these guidelines:

UNDER ANY OF THESE CONDITIONS:	DO ALL OF THESE STEPS:
Operating in rough terrain	1. Slow down.
Operating over obstacles	2. Verify tire pressure.
Climbing an incline	3. Use extra caution when operating.
Towing	

OPERATING A DAMAGED BIKE

CAUTION

Operating a damaged REACH can result in an accident. After any accident, have a qualified service dealer inspect the entire machine for possible damage, including (but not limited to) bushings, brakes, throttle, steering systems, and general bolt check.

OPERATING AT EXCESSIVE SPEEDS

CAUTION

Operating the REACH at excessive speeds increases the operator's risk of losing control. Always operate at a speed that's appropriate for the terrain, the visibility and operating conditions and your skills and experience.

OPERATING ON PUBLIC ROADS WARNING

CAUTION

Operating this bike on public streets, roads or highways could result in a collision with another vehicle. Never operate the REACH on any public street, road or highway, including dirt and gravel roads (unless designated for offhighway use).

TURNING IMPROPERLY

Avoid sharp turns. Never turn while applying heavy throttle. Never make abrupt steering maneuvers. Practice turning at slow speeds before attempting to turn at faster speeds.

OPERATING IN UNFAMILIAR TERRAIN

CAUTION

Failure to use extra caution when operating on unfamiliar terrain could result in an accident.

CAUTION

Unfamiliar terrain may contain hidden rocks, bumps, or holes that could cause loss of control or rollover.

Travel slowly and use extra caution when operating on unfamiliar terrain. Always be alert to changing terrain conditions.

SAFETY JUMPS AND STUNTS

CAUTION

Exhibition riding increases the risk of an accident or rollover. DO NOT do power slides, “donuts”, jumps or other driving stunts. Avoid exhibition riding.

Troubleshooting

<i>Problem</i>	<i>Description of Potential Cause</i>	<i>Most common solutions</i>
No power: Bike is not moving.	One or more of the connections may be loose, not plugged in, or damaged. Battery has been drained to unsafe levels.	Check the throttle connection. Check the battery/controller connection. Unplug and re-plug all connections if necessary. Test the battery with a multi-meter to determine voltage
The LED on the charger does not illuminate.	Is the battery fully charged? Is the recharging plug of the charger securely inserted into the battery? Is the charger fuse switch flipped to the correct voltage?	If the battery is fully charged, the LED on the battery charger turns off, but this is not a malfunction. Disconnect and then reconnect the power plug of the charger, and then repeat the recharging operation. If the LED on the charger still does not illuminate, contact the place of purchase. Check the connection for any foreign objects before reinserting the charging connector. If there is no change, contact the place of purchase. Flip the fuse switch on the side on the charger.
The battery won't charge.	Charger not well connected Charger damaged Battery damaged Wiring damaged Charge fuse issue	Adjust the connections Replace Disconnect and store battery in a safe location and recycle or dispose of as soon as possible according to local rules. Contact Bowhead customer support to replace battery. Repair or replace Replace the 5A charge fuse
Reduced range.	Low tire pressure Low battery Battery discharged for long period without regular charges	Inflate tires to recommended PSI Charge battery Balance the battery (see “Balancing the battery” on page 16); contact Bowhead Customer Support if range decline persists

	Faulty, damaged, or aged battery	Contact Bowhead Customer Support to replace battery. Disconnect and store damaged battery in a safe location and recycle or dispose of as soon as possible according to local rules
	Brakes rubbing	Adjust the brakes
Irregular acceleration and/or reduced top speed.	Insufficient battery power	Charge or replace battery
	Loose or damaged throttle	Replace throttle

Warranty

Your bike's warranty and other binding legal terms (e.g., terms of purchase, etc.) are subject to change at any time. The warranty period begins at the date of receipt of the Reach by the customer. The latest version of the warranty terms is available at <https://www.bowheadcorp.com/legal>.