

X-Treme [™] Electric Scooters

XB-420M

Electric Mobility Scooter



Read this manual completely before riding.



BATTERY MAINTENANCE and CHARGING INSTRUCTIONS

- You MUST charge completely prior to initial use. (Follow charging instructions in your Product Handbook)
- 2. Charge immediately after each use.
- Charge before storage. You must charge every 30 days if not in use.
- Charge the unit for 6-8 hours or until the light on the charger turns red & green.
- 5. **DO NOT** allow this unit to deep discharge the battery.
- 6. For safety purposes, **DO NOT** charge for over 8 hours.
- 7. Turn the unit **OFF** when not in use.

Failure to follow these INSTRUCTIONS will VOID YOUR WARRANTY!

This PRODUCT IS NOT INTENDED FOR EXTREME or

OFF-ROAD Use! Please take care of your scooter!

DO NOT JUMP or ABUSE THIS PRODUCT!

DO NOT RIDE IN WET/ICY CONDITIONS!

Failure to follow these instructions will VOID YOUR WARRANTY

IMPORTANT

PLEASE READ THIS BEFORE USING THIS PRODUCT READ THIS FIRST!

WARNING

This product does not conform to Federal Motor Vehicle Standards and is not intended for operation on public streets, roads or highways. Serious injury can result from the unsafe operations of this product. Operator can minimize these risks by using certain safety equipment such as: safety helmet, goggles, gloves, elbow and kneepads and appropriate footwear.

DO NOT operate this product in traffic, on wet, frozen, oily or unpaved surfaces or under the influence of drugs and/or alcohol. Avoid uneven surfaces, potholes, surface cracks and obstacles.

DO NOT use a water hose to clean this product. See Product Handbook for more information.

This product is recommended for riders <u>16 YEARS OF AGE and</u> older.

SAFETY

- Persons without excellent vision, balance, coordination, reflex, muscle and bone strength and good decision-making capabilities should not use this product.
- Minors without adult supervision should not use this product.
- Persons unwilling or unable to take responsibility for their own actions should not use this product.
- The user of this product assumes ALL risks associated with its use. To minimize these RISKS, the user must wear safety helmet, goggles, gloves, elbow and kneepads and appropriate footwear.
- This product is ELECTRIC! DO NOT ride this product in wet conditions, puddles or rainy weather.

QUICK REFERENCE SAFETY GUIDE

SAFETY GUIDE

- The recommended minimum age for riding this scooter is 16 years old.
- To avoid damage to the motor and footplate, do not overload the scooter.
- Never ride with more than one person.
- Inspect your scooter thoroughly before each use for loose or missing parts.
- Avoid unintentional starts by turning the scooter off while not in use.
- To avoid the risk of a short circuit in the electrical parts, do not use your Electric scooter in the rain and never spray or wash off your scooter with water.
- Do not place the battery near fire or heat.
- To avoid damage to the battery, do not use the charger if it has been damaged in any way.
- Keep hands, face, feet and hair away from all moving parts.
- Do not touch the motor or wheels while they are rotating.
- Brakes are designed to control speed as well as stop the scooter. Practice braking for proper slowing down and smooth stops.
- Maintain your scooter as recommended in this Product Handbook.
- Use only quality replacement parts as recommended by the manufacturer.
- Inspect the entire scooter prior to each use. Replace any part that is cracked, chipped or damaged before use.

*NEVER ALLOW CHILDREN TO OPERATE THE SCOOTER WITHOUT ADULT SUPERVISION.

*NEVER ATTEMPT TO OPERATE THE SCOOTER WHILE UNDER THE INFLUENCE OF ALCOHOL.

If a situation arises that is not covered in the manual, proceed with caution and use good judgment.

DO NOT RETURN TO STORE!

Do not use this vehicle for the first time until you have inflated the tires to the correct PSI and completely charged the battery. Failure to follow these instructions may damage your vehicle and void your warranty.

CALL TOLL FREE OR GO ONLINE

1-800-772-3852 www.x-tremescooters.com/support/

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The XB-420M is a highly stylish, environmentally friendly, fossil-fuel-free personal transportation device, incorporating these advanced-design components:

- Highly efficient High torque DC motor.
- Controller with battery indicator and protection from over voltage and under voltage.
- Brake system with power cut-off, for safe riding.
- ➤ 48V 20Ah high performance battery, delivering stronger current and longer range.

RIDING SAFETY

This is NOT your typical Mobility scooter!

This is a fast and powerful scooter that is capable of bringing the front wheel up and off the ground if not careful. Having the seat slid completely back as well as the **speed control dial at its highest adjustment, increases its ability to "Pop a Wheelie" when the throttle is engaged. Use caution!

Like any sport, cycling carries the risk of injury and damage. By choosing to ride the XB-420M, you assume all responsibility for these risks. Thus, you need to know and practice the rules of safe and responsible riding.

YOUR INSURANCE POLICIES MAY NOT PROVIDE COVERAGE FOR ACCIDENTS INVOLVING THE USE OF THIS CYCLE. TO DETERMINE IF COVERAGE IS PROVIDED YOU SHOULD CONTACT YOUR INSURANCE COMPANY OR AGENT.

Safety Basics: Do's and Don'ts

The Do's

- Always conduct a Safety Check before you ride your XB-420M. Be thoroughly familiar with the controls of your XB-420M.
- Always wear an approved helmet when riding your XB-420M. Follow the helmet manufacturer's instructions for fit, use and care of your helmet.
- Always keep body parts and other objects away from the spinning wheels of your XB-420M.
- Always wear shoes that will stay on your feet and will stay on the floorboard.
- Wear bright, visible clothing that is not so loose that it can catch on moving parts of the XB-420M or objects at the side of the road or trail.
- Think about your speed, and keep your speed consistent with safe operating conditions.

The Don'ts

- Never ride with headphones. They mask traffic sounds, distract you from concentrating on your surroundings, and their wires can tangle in the moving parts of the XB-420M, causing you to lose control.
- Never carry a passenger. The maximum carrying capacity is 350 lbs.
- Never ride barefoot or wearing sandals.
- Don't jump with your XB-420M. It puts great stress on everything from frame and forks to drive train. Riders

- who jumping their XB-420M risk serious damage to their XB-420M and will void their warranty.
- Never carry anything which obstructs your vision or your complete control of the XB-420M or which could become entangled in the moving parts of the XB-420M.
- o Never hitch a ride by holding on to another vehicle.
- Never ride your XB-420M while under the influence of alcohol or other drugs.
- If possible, avoid riding in bad weather, when visibility is obscured, at dusk or in the dark, or when you are very tired. Each of these conditions increases the risk of accident.
- Never allow children to ride. Never allow others to ride without reading and understanding these instructions.

Operating Reminders and Suggestions

- Review all instructions carefully before riding the XB-420M.
- Follow all rules and regulations in your area for operating a motorized bicycle. Obey the same road laws as all other road vehicles, including yielding the right-of-way to pedestrians, and stopping at red lights and stop signs.
- Ride predictably and in a straight line. Never ride against traffic.
- Use the signal lights to indicate turning or stopping.

- o Ride defensively. To other road users, you may be hard to see.
- Concentrate on the path ahead. Avoid potholes, gravel and dirt, wet road, oil, curbs, speed bumps, drain grates and other obstacles.
- Be alert for unexpected events, such as opening car doors or cars backing out of concealed driveways.
- Be extra careful at intersections and when preparing to pass other vehicles.
- Familiarize yourself with all the bike's features.
 Practice signal lights, braking and use of the horn.
- Don't carry packages or passengers that will interfere with your visibility or control of the bike. Don't use items that may restrict your hearing.
- Maintain a comfortable stopping distance from all other riders, vehicles and objects. Safe braking distance and forces are subject to the prevailing weather and road conditions.

Wet Weather Riding

Wet weather impairs traction, braking and visibility, both for the rider and for other vehicles sharing the road. The risk of accident is dramatically increased in wet conditions. In wet weather you need to take extra care. In wet conditions, the stopping power of your brakes (as well as the brakes of other vehicles sharing the road) is dramatically reduced. This makes it harder to control speed and easier to lose control. To make sure that you can slow down and stop safely in wet

conditions, apply your brakes earlier and more gradually than you would under normal, dry conditions.

Decrease your riding speed, avoid sudden braking, and take corners with additional caution. Keep in mind that there is a direct, but inverse, relationship between speed and controllability.

Be more visible on the road. Wear reflective clothing and use safety lights.

Potholes and slippery surfaces such as lane markings and train tracks all become more hazardous when wet.

Night Riding

A rider is very difficult for motorists to see at dusk, at night, or at other times of poor visibility. If you must ride under these conditions, check and be sure you comply with all local laws about night riding; follow the Rules of the Road, and take the following precautions:

Make sure that your XB-420M is equipped with correctly positioned and securely mounted reflectors. Make sure your clothing or cargo does not obstruct a reflector or light. Ensure that the front lights are on.

Wear light colored, reflective clothing and accessories, any reflective device or light source that moves will help you get the attention of approaching motorists, pedestrians and other traffic.

Ride slowly. Avoid hazards, such as potholes and curbs.

Avoid areas of heavy traffic, dark areas, and roads with speed limit over 35 mph. If possible, ride on routes already familiar to you.

Ride at night only if necessary. Slow down and use familiar roads with street lighting, if possible.

Other Reminders

The XB-420M works best on level ground. Use caution while going down an incline, such as a hill or a ramp. Hill climbing and repeated acceleration/braking will exhaust the battery much more rapidly.

The XB-420M has an electrical brake cutoff system. When you engage either brake, the throttle becomes inoperative. Release the throttle before braking. Do not "ride" the brakes.

The XB-420M has a **speed control dial** to regulate the speed output. The rider can turn it from low to high and set it anywhere in between. On the first ride, set the knob to its slowest position until the rider feels comfortable and safe.



The battery does NOT require deep discharging. If your XB-420M is put into storage, re-charge its battery at least once every 90 days.

Do not store your XB-420M in direct sunlight for an extended time.

Store your XB-420M in a dry place. Exposing your XB-420M to rain, snow, or other precipitation may result in damage.

SPECIFICATIONS

Product size (L x W x H): 64" x 28" x 40"

Net Weight: 195 lbs

Carrying capacity: 350 lbs

Maximum range: ~40 miles

Maximum speed: 20 mph

Motor type: Geared brush

Motor power: 500W

Battery: 48V 20 Ah

Battery type: Sealed lead acid battery

Battery cycle life: Approximately 300 cycles

Charger input: AC 110V

Charging time: 2-6 hours

Charger output: 50V/1.8A

Tire size: 16 x 3.0

COMPONENTS



- 1.Battery Storage Access (tilt seat forward)
- (4 batteries total)
- 2. Seat Recline Adjuster
- 3. Drop Down Arm Rests

- 4. Forward/Reverse switch
- 5. Instrument panel
- 6. Throttle
- 7. Brake lever
- 8. Ignition Switch

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- 1. Brake lever
- 2. High/low beam selector
- 3. Rearview mirror
- 4. Instrument Panel
- 5. Rearview mirror
- 6. Headlight switch
- 7. Throttle
- 8. Ignition switch
- 9. Forward/Reverse switch
- 10. Turn Signal
- 11. Speed Control Knob

ASSEMBLY AND SETUP

- **1)** Remove your XB-420M from its shipping carton. The XB-420M weighs about 150 lbs, so get help, and use care. Cut away any residual packing materials with a knife or scissors. Tools needed for setup are included in the XB-420M tool kit.
- 2) Attach the front wheel:
 - a. Place a support under the floor board section to raise the front of the scooter just enough to easily install the front wheel.
 - b. Remove the nut on the axle bolt.
 - c. Slide out the axle bolt and spacer.
 - d. Slide the brake assembly (that is hanging down) into the wheel cavity.
 - e. Position the wheel between the forks with the spacer on the side of the wheel that does <u>not</u> contain the brake assembly.
 - f. Slide the axle bolt back in, this time through the center of the wheel.
 - g. Tighten the nut on the axle bolt and insert the cotter (safety) pin.
 - h. Inflate the front and rear tires to 35 psi.
- **3)** To make sure the alignment is correct, stand in front of the vehicle, using both legs to hold the front wheel in a straight-forward position. Use both hands to grab the handle bar and turn it into normal driving position (90 degree angle from the front wheel).
- **4)** Attach the Rear View Mirrors to the mounting holes. A wrench can be used to tighten the lock nuts at the base of each mirror.

- **5)** Check if the brakes are properly adjusted. The brake handles should stop short of touching the handgrip, when fully engaged. The rear brake cable can be adjusted in two places:
 - At the cable end bracket, just before the lever, with 8 and 10 mm wrench adjustments, and
 - At the end of the lever, with a 10 mm nut fastener.

The front brake is adjusted at the end of the cable, at the saddle nut.



- **6)** Install the cargo basket. Attach the cargo basket to the four bolts on the back of the seat and secure it tightly.
- **7)** Circuit Breaker. Using the ignition key, open the rear storage compartment located under the seat. Locate the circuit breaker and switch it from off to on
- **8)** Your XB-420M has been in transit and storage. You must charge the batteries before riding it. Charge the battery by plugging the charger into the XB-420M's Charger Ports.

ROUTINE OPERATION

A) Pre-Ride Check

- 1) Be sure the tires have enough air. A low tire pressure risk rim pinching (tube failure) and lowers your range (distance per charge).
- 2) Be sure the battery is fully charged. Riding on a low state-of-charge will reduce range, and can damage the battery.
- **3)** Verify the proper adjustment and function of the brakes.
- **4)** Make sure the XB-420M is in good mechanical order. Visually inspect and hand-check the vehicle, and snug any loose bolts, screws, or other fasteners.
- 5) With the XB-420M visually inspected, turn the key switch and apply the throttle, to verify the motor's smooth operation. Apply the brake to stop the motor. Verify that the throttle is inoperative when either brake is applied.

B) Steps to Startup

- 1) Adjust the Rear View Mirrors so that you can see clearly behind you.
- **2) ADJUST THE SPEED CONTROL KNOB!** Adjust to slow for the initial ride until you feel comfortable.
- **3)** Insert the key into the key switch and turn the key from OFF to ON.

- 4) The XB-420M has an onboard Voltmeter, indicating the Battery's approximate state-of-charge. It is normal for this reading to "sag" somewhat during acceleration. Excessive Voltage "sag" is a sign of a depleted or damaged battery. When a battery is exhausted, if you force it to supply energy, it will dramatically damage the battery. At this time, the low-voltage protector will shut off the power automatically, protecting the battery from further damage.
- a well-balanced position. Your right hand will control the accelerator. Twist the accelerator slowly to avoid a sudden rush of speed forward. The speed of the bike will increase as you twist the accelerator more. Release the accelerator and apply the brakes to stop your bike. You will control the speed of the bike by using both the accelerator and the brakes. When the brake handle is squeezed it cuts power to the accelerator.
- 6) Give the XB-420M some acceleration and speed by first applying the throttle gently. Try not to brake and accelerate needlessly.
- **7)** Return the key to the OFF position and take out the key after riding, to secure your property and to save battery power.

Battery Care and Maintenance

What to Expect of Your Batteries, Ideally

The battery is a sealed lead-acid type, with a gel electrolyte. With normal use, it can last for well over 300 charge/discharge cycles.

Know that normal use should mean partial, and not complete discharging. If you employ "shallow" discharge cycles, using less than 30% of battery's capacity, the battery can achieve up to 1,200 charge/discharge cycles.

Thus, it is good to charge the battery after each ride. A partial discharge will require less time on the chargers.

What to Expect, Realistically

The battery can keep its performance for about 200 charge/discharge cycles, with high current and deep (80%) discharging. The storage capacity of the battery will decline after 200 times recharging. If you re-charge the battery before it is exhausted, you will dramatically extend the battery's cycle life.

In Summary

Always try to recharge the Battery Pack within 24 hours after use to maximize battery cycle life and prevent damage.

What's Inside Your XB-420M Battery

The Battery is composed of four 12 Volt, 20 Amp-hour capacity batteries, in series, for a total capacity of 48 V, 20 Ah.

The component batteries are a standard, commercially available size. Keep three things in mind, however, should you choose to service your battery.

- The batteries are soldered into place. Replacing batteries will require soldering equipment and skills.
- 2) Batteries can be extremely dangerous. If allowed to short-circuit, they can cause burns, create blinding arcs, or explode, causing serious injury. If you accept this risk, work slowly, and exercise utmost care! Work with only one wire at one time.
- 3) Batteries solder, and soldering vapors contain lead, a toxic substance that can build up in your body. Minimize your exposure to lead by wearing gloves, providing good ventilation when soldering, and washing hands after soldering or handling batteries. You should NEVER simultaneously solder and eat snack foods!

Battery Trouble

Should a battery ever leak, do not touch the battery liquid. If you are exposed to the solution, flush the affected area with water. If you must handle the battery, wear disposable gloves.

Replace the battery if there are leaks, visible breaks or cracks.

Dispose of used batteries by taking them to a recycling center, or according to state and local laws.

Battery Temperature Sensitivity

Ambient temperature will affect almost every kind of battery. Usually, the battery shows good discharging capability at higher air temperature. When the air temperature is under 0 °F, the battery power will decline more than one third. So it is natural that the XB-420M will not reach its normal mileage in winter or in cold weather. When the air temperature is up to 68 °F, the XB-420M will achieve its normal range capability.

When the ambient temperature is over 110 °F (as when exposed to summer sunshine for a long period), batteries and other electric components usually run in an abnormal fashion.

What Does "Maximum Range" mean?

To determine the XB-420M's maximum per-charge distance, the testing environment was:

Rider weight: 180 lbs

Air temperature: 77 °F

 No headwind, smooth, level road, infrequent braking and steady speed.

Under these conditions, the XB-420M's maximum range is up to 35 miles.

Frequent braking and acceleration, driving into headwinds, up hills or with cargo will all cost a lot of battery energy. In these conditions, the XB-420M will not reach its normal range.

Battery Charging

Be sure to charge the battery completely if you will not use it for a long period. Ideally, you should charge it every 20 days. Even a healthy battery will discharge itself slowly. Even with its power off, the XB-420M Battery state-of-charge will decline gradually over time.

Remember to fully charge the battery before your first ride. The battery may be low when you receive your new XB-420M.



- 1) While charging the Battery, keep the key switch OFF.
- 2) Verify that you are using the correct charger for your vehicle, and that the charger input power is compatible the "house current" in your area.

- **3)** Keep the charger and battery away from water to prevent electrical shock and shorting. The charger is intended for use in a covered dry area only.
- **4)** Plug the end of the charger's cord into the socket of the **adaptor** first. Next connect the adaptor to the XB-420M (the charger port in located below the front of the seat). Then plug the chargers' AC cords into the wall outlet.
- **5)** Read the charger label to learn about the charger indicator lights, and their meanings.
- 6) Generally, a short drive will require a short time to re-charge, and a long ride will require a longer time. A complete (90%) discharge may require 6 hours to recharge. To prevent electrolysis (battery fluid loss by hydrogen generation,) do not charge for longer than eighteen hours.

Before riding the electric bike for the first time, you must charge the batteries for 4-6 hours using the supplied charger. To charge, pull the protective cover from the charging sockets. Then plug the charger into the charging socket, and plug the charger into a wall outlet.

IMPORTANT

The electric bike is powered by four 12V/20Ah batteries wired in series to provide 48 volts of potential. All batteries charge simultaneously. You should charge your XB-420M after each ride. You should charge your XB-420M if it has not been used for 30 days or more.

WARNING

Do not place the battery near heat or fire. Do not expose the chargers to water.

OTHER MAINTENANCE

Your XB-420M should be checked once a year for a thorough inspection and adjustment. This can guarantee the comfort, safety and the normal operating life of the XB-420M.

Front and Rear Brakes

The adjustment of the front brake is the same as in a common motorcycle. It is very important to brake effectively and to be sure that the battery shut-off device is in good condition. When the brake lever is released, the wheel should spin without resistance. If it drags, it will waste a lot of electric power. You should change the brake's shoes when they are worn to one-third of their original thickness.

The rear drum brake is very similar to the brakes on electric scooter products. When this brake is exhausted, a squealing sound will be heard upon brake application.

Front and Rear Tires

The changing method of the front tire is the same as common bicycle. It is more complex to change the rear tire because of the motor and brake assemblies, and associated wiring and cabling. If you are not comfortable with undertaking this operation, you can ask your servicing dealer or mechanic to change it.

Fuse

The XB-420M comes with one 10A Glass Fuse. The fuse is located under the headlight fairing.

Lubrication

You should inspect and maintain your XB-420M and lubricate the mechanical power transmission components. The brake cables may also need lubrication

Lubricate the brake cables with silicone or graphite lubricant. Maintenance period: one month.

Lubricate the fork Shock Absorber tube, axle rim, and the axle ball bearing with SH/T0386 lubricant, bicycle or lithium grease. Maintenance period: one year.

Cleaning

- 1) Never wash the bike using high-pressure water, as it will cause damage to the electric bike.
- Never use lubricant to clean the metal parts of the bike and never apply lubricant to the drum brake and the tire.

Scheduled Maintenance

XB-420M should be checked from time to time. Refer to the maintenance schedule in the following chart:

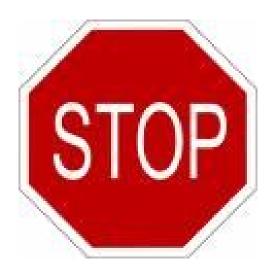
Check • adjust ◆ change	▲ lub	ricate 	
Parts	daily	30 days	180 days
Bolts, nuts, screws etc-to ensure that nothing is loose.	•	• •	•
Footboard-to ensure it is not worn out	•	•	•
Tire pressure-to ensure good tire pressure	•		
Drive equipment-to ensure good position; not too loose, nor too tight.	•	• •	•
Brake pads-to ensure it is not worn out.		• •	• •
Wheel rim- to ensure it is not distorted.		•	•
Steering Linkage- to ensure it is not distorted.		•	• ■
Front light, bugle-to ensure functioning properly.	•		
Brake-to ensure it is working properly.	•	• •	• •
Throttle- to ensure that it is working properly.	•		
Steering system-to ensure operation is normal.	•		
Wheel axle- to ensure if it is loose	•		
Motor-to see if it is working properly.	•	•	•

If you find problems that you cannot solve them yourself during your inspection and maintenance, please send your bike to your servicing dealer for help. Never take apart or repair the bike by yourself. If it causes any problem and voids the warranty, a service fee will be imposed.

TROUBLESHOOTING GUIDE

Problem	Cause	Solution
Battery gauge does not register anything when vehicle is on.	Loose connection near the power switch or battery pack. Battery is completely discharged.	Check the connections, reconnecting any that are loose. Charge the battery.
Battery gauge registers but vehicle still does not work.	 Motor wire is loose or disconnected. Throttle is defective. Controller is defective. 	Send to service to repair the wiring. Replace Throttle Replace Controller.
Clicking noise coming from motor.	Chain is loose. Magnets in motor have come loose.	Adjust the chain. Send to customer service to replace a new motor.
Vehicle does not stop when Throttle returns to original position.	Controller or Throttle is defective.	Replace Controller or Throttle. Customer service can assist in diagnosis.
Vehicle is losing speed.	 Battery is low. Defective battery. Defective Throttle. 	 Charge battery. Replace battery. Replace Throttle
Distance per charge is reduced.	1. Tire pressure is low. 2. Battery is not fully charged. 3. Battery is damaged. 4. Headwind, slopes, overloading, etc.	Fill Tires with sufficient pressure. Charge battery for 6-8 hours. Replace Battery Reduce these factors.
Battery could not be charged.	1. Loose wiring near the charging socket. 2. Loose wiring in battery pack. 3. Defective Charger.	Check the wiring, reestablish connection. Send to a qualified service technician. Replace Charger.

NOTE: if other problems occur, do not attempt to disassemble the electric bike on your own, please contact your retailer or www.x-tremescooters.com/support.



DO NOT RETURN TO STORE!

IF YOU NEED HELP

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For General Information or Parts Visit www.x-tremescooters.com