



**ENVO**

# LYNX-20 FOLDING EBIKE

USER MANUAL

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## **WARNING**

Read, understand, and follow all of the instructions and safety precautions in this manual and on all product labels. Failure to follow the safety precautions could result in serious injury or death.

# 1. INTRODUCTION

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## WELCOME TO THE ENVO FAMILY

Thank you for choosing an ENVO Electric Bike. As a leader in electric bike design and distribution in Canada, we are passionate about our customers riding their bikes more and driving their cars less. We are focused on ensuring that you have a safe and enjoyable riding experience for years to come. At ENVO, we are committed to developing sustainable zero emission mobility systems and work hard to maintain the satisfaction of our customers. Please stay connected and share anything that can help us improve our products and service.

### 1.1. USE OF MANUAL

For safe and enjoyable operation and installation of all ENVO Drive Systems products please carefully read and follow the recommendations outlined in this manual. It is critical that you clearly understand all general operations of various parts of your ebike.

Please pay extra attention to any information marked with a caution or warning symbol:

 **WARNING**

 **CAUTION**

### 1.2. SERVICE & TECHNICAL SUPPORT

Please contact us regarding any technical issues that you encounter, we are here to help. Give us a call, visit our help centre at [support.envodrive.com](https://support.envodrive.com), or refer to the tutorial videos on our website. This manual is not intended to be an extensive service guide. If you are in need of in-depth immediate service contact your local bike shop.

### 1.3. ILLUSTRATIONS

The illustrations in this manual may not be perfect representations of your ebike, and some of the components may differ. The models illustrated are for instructional purposes only.

# 2. SAFETY & GENERAL TIPS

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## 2.1. STREET LEGALITY

- Electric bikes or conversion kits considered street legal under Canadian and US Federal Electric Bike Regulations are viewed as bicycles, not motorized vehicles and do not require an insurance license plate or driver's license. It is important to check your province/state, county, and local laws to ensure that your ebike complies with local regulation provisions
- ENVO ebikes general settings comply with 32km/h (20mph) max assisted speed, 500W max mechanical power, equipped with brake cut-off switches and options to control assist power while riding. These provisions suffice all Canadian federal and provincial regulations. Parks and other privately managed properties might have different rules. ENVO ebikes are considered ebike Class II in the US
- Please note street legal does not mean cyclists can ride an electric bike or trike on bicycle pathways and trails that restrict the use of electric assist bikes
- There may be components such as throttle that have a different legal definition depending on the province/state you are located in. Because of this we have provided controller settings that can adapt to a variety of specifications
- By modifying an electric bike or conversion kit's settings, upgrading a component's capacity, such as the controller or motor, the product may lose its street legality even if modifications are done by a professional. If at any point ENVO Drive Systems is asked to implement upgrades, we will notify you if the modifications exceed street legal limits
- ENVO may offer non-street legal conversion kits, scooters, ebikes, or other products for off-street use. ENVO is not liable for the legality of use of products in various locations

## 2.2. BEFORE YOUR FIRST RIDE

- If you have an impairment or disability such as visual impairment, hearing impairment, physical impairment, cognitive impairment, and/or a seizure disorder, consult your physician before riding any ENVO Drive Systems product
- Before going on your first ebike adventure, take time to get familiar with your ebike
- Make sure everything on the bike is secured and tight, the battery is locked, and there is no play in any screws or bearings
- Check if you are able to turn the handlebar while the wheel is held in place **Figure 2A**
- Check if the handle bar is secured to the stem by trying to twist the bars forward and backward **Figure 2B**
- Ride around a quiet area at the lowest PAS (Pedal Assist LCD) setting, get familiar with your brakes and settings
- Be sure to bed in the brakes (See Brakes, Section 5.6.). Failure to do so will result in lower than optimum braking performance and can lead to squealing

Figure 2A



Figure 2B



## 2.3. BATTERY & CHARGER SAFETY

- Please keep the battery away from excessive heat and moisture, do not spray with high pressure water, and do not store outdoors in freezing temperatures below 0°C
- Always store your battery in a well ventilated, cool, dry room at room temperature
- Keep away from children and pets
- Store and recharge battery in a fire safe place, away from combustible and high fire risk materials
- The charger may get hot while charging. This is absolutely normal. Make sure charge surrounding is open for natural heat dissipation
- If you notice any SMOKING OR SPARKS while charging, immediately disconnect the battery

### **WARNING**

**NEVER** disassemble the battery, there is significant risk of shock and damage to the battery. Doing so will also void the warranty. **DO NOT** puncture or crush the battery, or expose to server vibrations and impacts.

- In order to minimize chance of sparking, plug the charger to battery gently first, then plug the charger to the wall
- Always fully charge the battery prior to storage and continue to check on and charge every 2 months. Failure to do so can result in a loss of capacity to the battery and even permanent damage of the battery cells and will void the warranty
- Always unplug the charger when not in use
- Always be gentle when pulling the charging pin out. Rough use of the pins can cause irreversible damage to the pins and battery
- Do not use any other chargers to charge the ENVO battery other than ones provided by ENVO for the specific product you purchased
- Make sure you always seal the USB port when not in use
- The USB port is only designed for charging low voltage electronics. The output of the USB port is 5V 1A

## CAUTION

Do not use the ENVO battery charger for any purpose other than charging your ebike. Do not use the ENVO battery as a power source for any other devices than your ENVO ebike. If you do so the warranty will not be applicable, and ENVO Drive Systems will not be liable for any damage to the system or injury to the persons.

### 2.4. FIRST CHARGE

- When you first receive your battery it will have about 50-70% of charge
- After your first few rides charge your battery fully, as close to 12 hours as possible but no longer
- This may require you to leave the battery in charge even when the charger light is green. Doing so ensures that each cell is charged to its full capacity
- The full voltage of the battery pack should be slightly under 42V, and can be checked in the LCD display

## WARNING

Do not drop the battery. Damaged batteries can cause fire and may explode which can lead to damaged property, injury or even death.

## 2.5. BATTERY REMOVAL & INSTALLATION

The battery is located inside the seat post stem and can be removed if you wish to charge your battery separately.

Figure 2C



To remove the battery:

- The battery is located inside the post seat stem
- Disconnect the cable under the post seat stem by turning the connector counterclockwise **Figure 2C**
- Unlock the clamp on the seat post **Figure 2D**
- Gently pull out the seat post **Figure 2E**

Figure 2D



Figure 2E





## 2.6. CHARGING YOUR BATTERY

- Avoid storing the battery in a discharged state. After every ride, As soon as the battery has reached room temperature, charge the battery. This will keep the battery healthy
- The charging port is under the saddle (protected by a rubber dust cover). Pull aside the dust cover and gently plug the charger into the port and carefully insert it all the way **Figure 2E**
- Always be gentle as damages from rough handling are not covered by the product's warranty
- If you want to charge your battery separately remove the battery from the seat post by following the instructions outlined in Section 2.5.
- Disconnect the cable under the seat post stem by turning the connector counterclockwise
- Unlock the clamp on the seat post and gently pull out the seat post
- Always charge in a well ventilated, cool room
- Do not leave unattended for long periods of time
- You can maximize the life of battery by charging it up to 90% after each use. When the charger LED turns green unplug the charger. If you leave the charger connected, it will continue charging to 100%.

Figure 2F



### IMPORTANT NOTE:

As your battery ages, it will gradually lose capacity. With proper care and maintenance, your lithium ion battery will retain up to 70% of its capacity for about 500 full discharge/recharge cycles. As capacity diminishes, you will notice a gradual drop off in max range capability. When range falls to an unacceptable level, contact your local ENVO dealer to purchase a new battery.

## CAUTION

Please make sure you are gentle when inserting or removing the charging cable from the charging port. Failure to do so can result in damaged pins and poor connections.

### **2.7. BATTERY TRANSPORT**

- Lithium-ion batteries are subject to many regulations and are often considered dangerous or hazardous materials by carriers. Be sure to check for relevant laws and ask the carrier for approval prior to shipping a Lithium-ion battery or transporting it by air

### **2.8. BATTERY DISPOSAL**

- Be friendly to the environment. Recycle your old batteries at a local battery recycle centre
- Batteries should never be thrown in the garbage

### **2.9. LOCAL REGULATIONS**

Generally, the regulations for ebikes throughout North America follow the same guidelines; however, there may be local differences such as where you can ride, minimum rider age, or required equipment and registration. Please follow the specific regulations for the use of an electric bicycle in your local municipality. It is the rider's responsibility to know the local regulations that apply to an electric bicycle and to obey them.

## 2.10. GENERAL RIDING TIPS

### **⚠️ WARNING**

Read, understand, and follow all of the instructions and safety precautions in this manual. Electric Bikes can be dangerous to use. The user or consumer assumes all risk of personal injuries, damage, or failure of the bicycle or system and all other losses or damages to themselves and others and to any property, arising out of or as a result of using the bicycle. As with all mechanical components, your bicycle is subjected to wear and high stresses. Different materials and components may react to wear or stress fatigue in different ways. If the design life of a component has been exceeded, it may suddenly fail, possibly causing injuries to the rider. Any form of crack, scratches or change of coloring in highly stressed areas indicate the life of the component has been reached and should be replaced.

### **⚠️ WARNING**

The pedal assist is activated as soon as you spin the pedals or stimulate the throttle, make sure you are firmly seated on the bike and have at least one brake engaged prior to engaging the motor. Failure to do so may result in injury or even death.

### **⚠️ WARNING**

Electric bikes, like any other vehicle, require regular maintenance by mechanically inclined persons to guarantee safety of use. Screws and nuts are subject to become loose due to road vibration, especially within the first few kilometers of use. Make sure you inspect your bike often and have it serviced by a professional regularly.

- Always ride at a speed that's appropriate for the conditions. Higher speed means higher risk
- Ensure brakes and motor cut off switch are working prior to every ride
- Ensure nothing is loose (ie bolts, battery, wheels, pedals, and handlebar) and everything is secured on the bike prior to every ride
- Always keep both hands on the handlebars and both feet on the pedals

- Do not operate if you are sleepy, sedated or while under the influence of drugs and/or alcohol
- If motor speed is noticeably dropping while climbing a hill, assist the motor by pedaling
- Do not pedal around a corner as you may gain too much speed and lose control
- Always keep the brakes covered, and be prepared to stop in case of emergency
- Apply both brakes simultaneously and smoothly
- Make sure you clearly understand that it is very difficult for any vehicle to notice your presence, ALWAYS assume that you cannot be seen and dress in bright colours, reflective gear and use bright lights.
- Ebikes are silent and move faster than people and traffic expect them to. Ensure those around you are aware you are approaching by ringing your bell and verbally address pedestrians when passing by, or when riding in areas where wildlife are located
- Wet weather impairs traction, braking and visibility, both for the cyclist and for other vehicles sharing the road. The risk of an accident is dramatically increased in wet conditions
- Reflectors are not a substitute for required lights. Riding at dawn, at dusk, at night or at other times of poor visibility without adequate bicycle lighting systems and without reflectors is dangerous and may result in serious injury
- Ensure your wheels are TRUED before each ride. Spin each wheel and check for brake clearance and side to side wobble. If a wheel wobbles side to side even slightly or rubs against or hits the brake pads, take the bike to a qualified bike shop to have the wheel trued
- Never ride with headphones. They mask traffic sounds and emergency vehicles sirens, distract you from concentrating on what is going on around you. Headphone wires can tangle in the moving parts of the bicycle, causing you to lose control
- Wear proper attire, including bright clothing, protective glasses, and sturdy shoes. Never wear a loose-fitting dress or long dress when riding as it can get caught in the moving parts of the bike and cause serious injury or even death
- Always wear an approved helmet and ensure it fits according to the manufacturers' instructions. Ensure your helmet meets the latest certification standards and is appropriate for the type of riding you do and if there are any special requirements for riding an electric bike
- At temperatures below -10°C the motor grease might be too stiff for sudden throttle, high speed and high-power rides. Give the motor some low speed and low power spins and warm up the gears before going full power
- Avoid changing gears very rapidly from first gear to the last gear, or vice versa. If you change multiple gears too quickly, the chain may come off the front sprocket

- Never pedal backwards while shifting, this could jam the chain and cause serious damage
- Never shift gears under heavy loads, this may break the chain. You must only apply just enough force so that the gear can shift

## **2.11. SAFE OPERATING CONDITIONS**

### **2.11.1. CARRYING CARGO**

- Always make sure that any luggage or child seat is securely attached to the bike and there are no loose cables. Carrying a load requires getting accustomed to. Practice maneuvering and braking on a flat, hazard and traffic free street with and without a load before going out into the road. Carrying a seated passenger or heavy load involves risks, foremost of which can be decreased braking power and increased stopping distance. The maximum weight capacity is 310lbs (140kg) shared between the rider and cargo

### **2.11.2. WEIGHT CAPACITY**

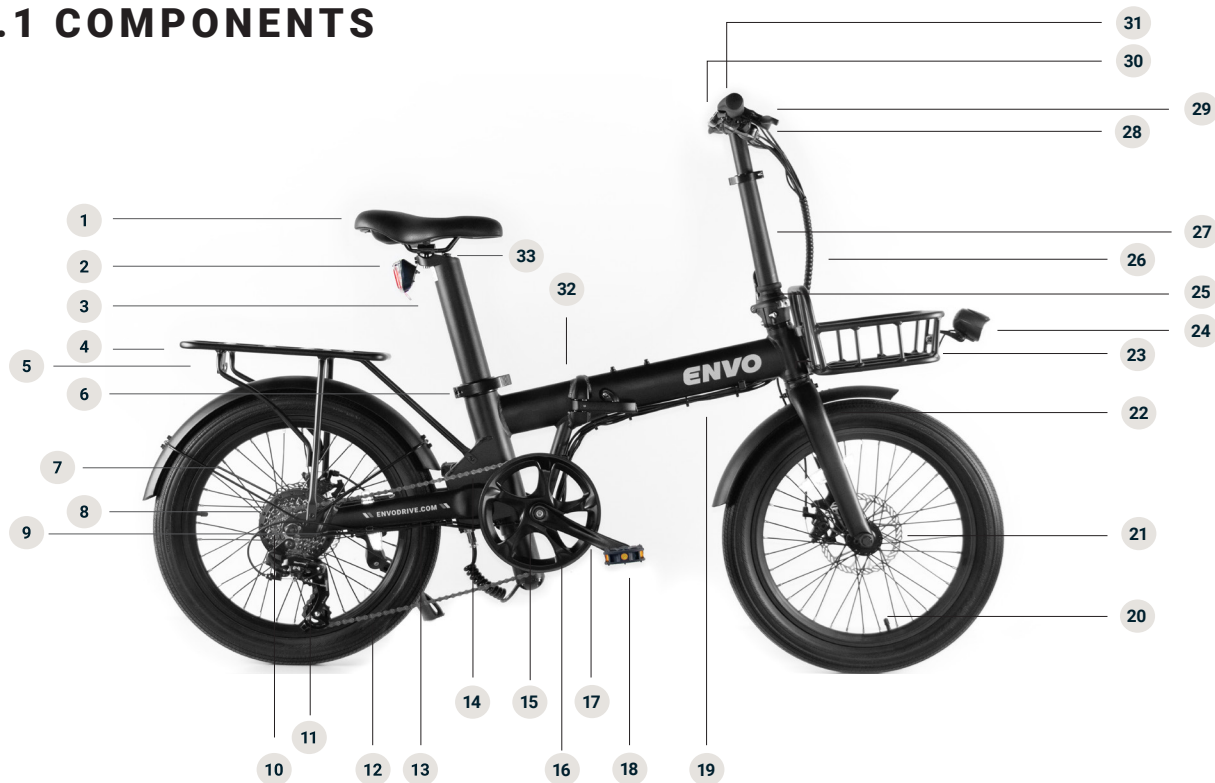
- The ENVO Lynx-20 is designed with a maximum weight capacity of 120 kg or 265 lbs. The rear rack maximum weight capacity of a is 20 kg or 44 lbs. Exceeding the maximum weight capacity can result in damage to the bike, which can lead to serious injury or death

### **2.11.3. UNSAFE USE**

- DO NOT use this bike for jumping over curbs, riding on technical mountain trails, or any use other than for commuting and cruising in a relaxed and safe manner
- Understand that ebikes travel much faster when riding down hills, be responsible with speed
- Never ride without securing the folding clamp, battery, handle bar and other adjustable components

# 3. PRODUCT DESCRIPTION

## 3.1 COMPONENTS



1	Saddle	18	Folding Pedal
2	Reflector	19	Downtube
3	Seat Post (Battery)	20	Front Wheel
4	Rear Rack	21	Front Disc Brake
5	Tail Light	22	Front Fork
6	Seat Post Clamp	23	Front Rack
7	Rear Wheel	24	Headlight
8	Rear Disc Brake	25	Folding Head Stem
9	Waterproof Motor Cable Connector	26	Brake Cables
10	Motor	27	Telescopic Handlebar Height Adjustment
11	Derailleur	28	Handle Bars
12	Chain	29	Brake Lever
13	Chain Stay	30	LCD Display
14	Controller Housing	31	Thumb Throttle
15	Pedal Assist Sensors	32	Folding Clamp
16	Chain Ring/Sprocket	33	Charging Port
17	Crank		

## 3.2. SPECIFICATIONS

<b>Model:</b> ENVO Lynx-20 Folding eBike	<b>Wheel Base:</b> 1067mm
<b>Size:</b> 1680×590×1120mm	<b>Battery Capacity:</b> 460Wh
<b>Folded Size:</b> 930 × 480 × 700mm	<b>Ride System:</b> 5 level PAS + Throttle
<b>Net Weight:</b> 21kg	<b>Frame:</b> 20 inch 6061 Al-Alloy
<b>Range:</b> PAS>65km	<b>Front Fork:</b> 6061 Al-Alloy
<b>Standard Load:</b> 150KG Passenger + Cargo	<b>Rim:</b> 20inch Al-Alloy 12G36H
<b>Top Speed:</b> 32km/h	<b>Chain Wheel:</b> Prowheel 52T
<b>Motor:</b> 500W max power	<b>Freewheel:</b> DNP 11-28T
<b>Max Torque:</b> 60N	<b>Derailleur:</b> Shimano 7 Speed
<b>Tire:</b> 20×2.35	<b>Rear Hub:</b> Sigma Al-Alloy
<b>Brake:</b> JAK 160mm disc brake	<b>Chain:</b> KMC
<b>Battery:</b> Lithium-ion	<b>Handle Bar:</b> Silicon Grip
<b>Battery Capacity:</b> LG/Panasonic	<b>Controller:</b> BLDC 36V 17A
<b>Noise :</b> ≤62db(A)	<b>Display:</b> LCD
<b>Motor Efficiency:</b> ≥80%	<b>Brake Lever:</b> Al-Alloy ebike lever
<b>Rated RPM:</b> 400r/min	<b>Saddle:</b> KNUS
<b>Rated Voltage:</b> 36V	<b>Pedal:</b> Foldable Pedals

### 3.3.PRODUCT FEATURES

ENVO Lynx-20 is equipped with several high performance features including:

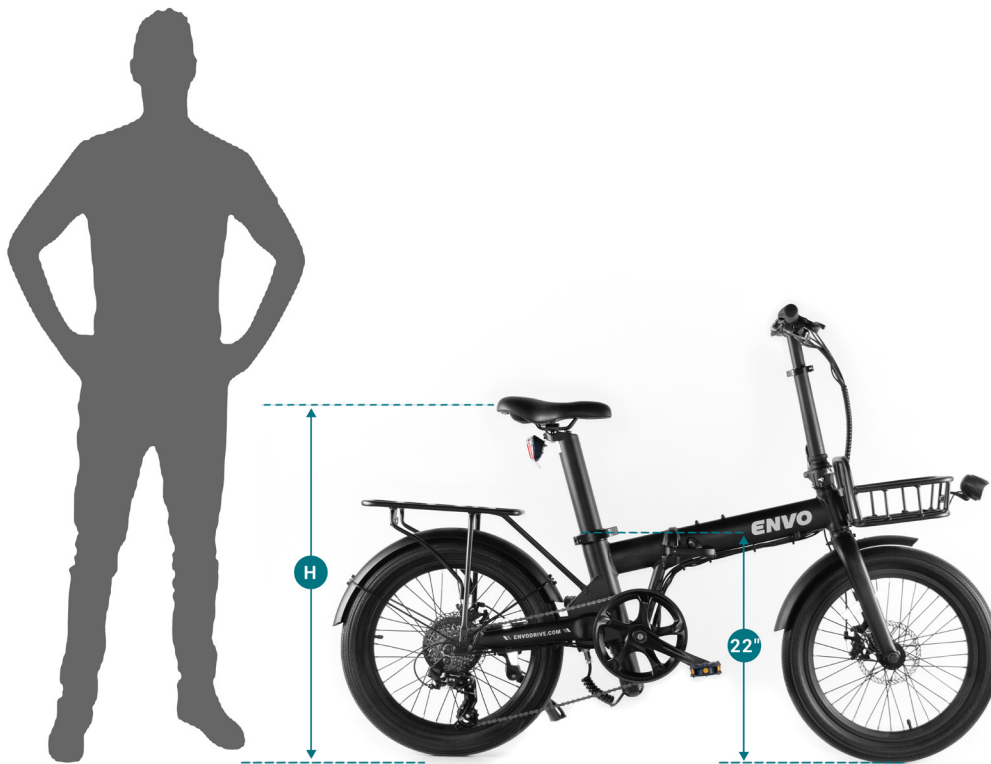
- Folding capabilities for easy transport and storage
- The small sized motor is lightweight with a long-lasting life. It provides a maximum power of 500W with a 60 N m max torque making hills virtually effortless
- The stylish and removable, A-grade lithium ion battery pack is the key feature of ENVO Lynx-20. Although the battery is hidden in the seat post making the design clean and minimal, it is easily accessible for replacement, transport and repairs. It provides an average 50km round trip range on level 4-5 of assist or more than 100km on level 1-2

### 3.4.SIZING CHART

The top tube of the bicycle and the ground plane : 22" (55.84 cm)

Note: This is a non-traditional bike so minimum leg length does not necessarily guide the bike sizing. We suggest minimum height of the rider to be 5 feet and maximum height to be 6'2"

<b>Standover Height</b>	22"	55.84 cm	<b>H</b>	<b>Minimum Seat Height</b>	30"	76.2 cm
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# 4. ASSEMBLY INSTRUCTIONS

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## 4.1. GENERAL REQUIREMENTS

ENVO Lynx-20 components need to be installed professionally, as they require fine-tuning and adjustment after installation. It is highly recommended to get help from an experienced mechanic, refer to your local ENVO dealer (a list of ENVO dealers can be found on our website). If you choose to do it yourself, please make sure you refer to the online guides on [envodrive.com](http://envodrive.com) for your own safety.

### Required tools:

- Allen key set
- Cutter/Scissor
- 15mm wrench

## CAUTION

Some Bicycle accessories may present a choking hazard and other hazards to small children. Keep any bike parts accessories, tools away from small children.

## 4.2. UNBOXING

- Open the box from the top side
- Be careful when pulling the frame out and protect the cables from getting tangled or damaged

## 4.3. UNPACKING

- Carefully remove all packaging wrap
- Cut all zip ties

## ⚠ CAUTION

While cutting zip ties be careful not to scratch or damage your bike, be extra cautious while cutting zip ties around wire connections and cable housings. The battery is mounted on the bike frame. Do not damage the battery when removing it the frame from the box.

## ⚠ WARNING

Before every ride make sure the lockring is holding handlebar clamp in place, always ensure that fasteners on lockring and handlebar clamp are tightened as they may come lose overtime.

### 4.4. UNFOLDING/FOLDING

Figure 4A



#### 4.4.1. UNFOLDING

- Unfold the handlebar/stem by simply pulling it up into place **Figure 4A**
- Pull up on the clamp to secure the stem and secure the clamp with the lock ring
- Adjust handlebar to desired angle by loosening the handlebar clamp. Make sure the clamp is firmly secured **Figure 4B**
- Adjust seatpost to desired height **Figure 4C**

Figure 4B



Figure 4C



# ⚠ WARNING

Never adjust the seat height beyond the maximum sign on seat post

Figure 4D



Figure 4E



Figure 4F



Figure 4G



## 4.4.2. FOLDING

- While holding the seat post, loosen the clamp. Slowly push the seat post all the way down and tighten the clamp to secure in place **Figure 4D**
- Loosen the clamp in the stem
- Bring the handlebar down gently. Tighten the clamp to secure it in place **Figure 4E**
- Release the lock clamp and fold the head tube down **Figure 4F**
- Push the pedal inwards to fold them up
- Pull the safety cap up. pull the lock bar out and fold in the frame **Figure 4G**
- Ensure that handlebar is between the both wheel as shown in **Figure 4H**

Figure 4H



## 4.5. FENDER & RACK MOUNTING

- The fenders are unattached and located in the box
- The rear rack is located on the bike

**Note:** Allen Key Set is required

### 4.5.1. FENDERS

- The smaller fender is for the front and the larger is for the rear
- Install the smaller front fender on the fork bridge. **Figure 4H**
- Securely Screw the fender and headlight together in place using M5 bolt, make sure to use washers on both bolt and nut faces
- For the rear fender you must first secure the fender stays to the fender using the small clamp provided **Figure 4I** then use the M4 screws to fasten it
- The longer fender stay must be connected to the shorter end of the fender
- The shorter fender stay must be connected the longer end of the fender
- You can use M4 screws with washer to fasten the fender onto the frame
- Make sure the stay is evenly placed on the fender
- Align the longer fender stay and secure it in place
- The shorter stay will have the rack stay placed over top so the fender must be installed before the rack, both of these are then fastened in place using M4 screws and washer as shown in **Figure 4J**

Figure 4H



Figure 4I



Figure 4J



## 4.5.2. RACKS

### Front Rack

- Max payload 22 lb / 10 kg
- Front rack is secured onto the front of the head tube headtube using three M5 screws
- Make sure the screws are securely fastened and the rack is not loose

### Rear Rack

- Max payload 44 lbs / 20 kg
- First install the rack by aligning the screw holes as shown in **Figure 4K**
- For the front side of the rack, use M4 screws with washers **Figure 4L**
- For the back side, align with the rear fender stay and use M4 screw with washer as shown in **Figure 4M**
- Make sure rack is firmly secured onto the bike

Figure 4K



Figure 4L



Figure 4M



## 4.6. PEDAL INSTALLATION

- Take the pedals out of the small box
- Apply a small amount of grease to the screw portion of the pedal
- Look for the letters displayed on the side of the pedals **Figure 4N**
- “L” indicates left and “R” indicates right.
- Tighten the pedals using a size 15mm wrench.
- The right pedal tightens in a clockwise motion
- The left pedal tightens in a counterclockwise motion.
- ENVO Lynx comes with folding pedals, you need to push them inside to fold it **Figure 4O**

Figure 4N



Figure 4O



## 4.7. SADDLE INSTALLATION

- Use a 6mm Allen key to loosen up the bolt in **Figure 4P**
- Swivel to top piece to 90 degrees so that you can place the saddle
- Place the clamp as shown in the **Figure 4Q** and tighten it.

Figure 4P



Figure 4Q

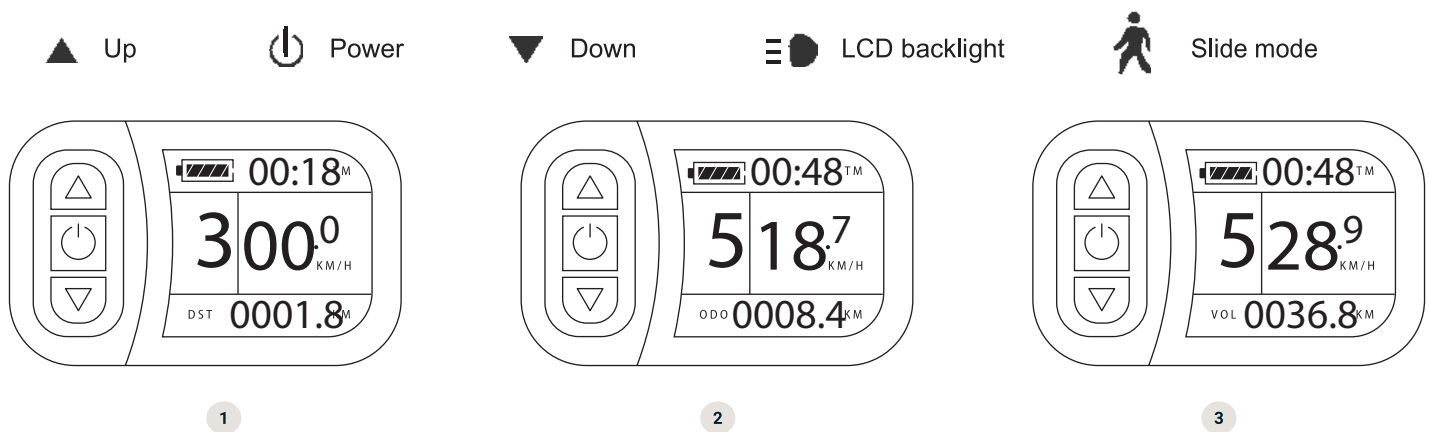


# 5. OPERATING YOUR PRODUCT

## 5.1. OPERATION

1. Press and hold the power button for 1 seconds to turn on your ebike (do the same to turn off).  
Data on screen: single riding distance, PAS (pedal assist system) class, single-speed range.
2. Quickly press the power button again for the second display. Data on screen: total riding time; PAS (pedal assist system) class; average speed-total range
3. Another quick press on the power button for a third display. Data on screen: voltage riding time; PAS (pedal assist system) class; maximum speed-total range

**Note: Battery Life will appear on every screen**



## 5.2. MODES (LCD'S)

1. **Slide mode:** If you are walking with your ebike and you need a little assistance, press and hold the DOWN button until ( 🚶 ) flickers. Your ebike will slide at a fixed speed of 6 km/h, release the button to quit
2. **Cruise mode:** Ride at your desired speed (must be over 7 km/h), then press the DOWN button for 3 seconds to enter cruise mode. To quit, press any button or take a break
3. **PAS mode:** To change the Pedal Assist System mode, press the UP or DOWN button to choose classes from
4. **LCD Display Light:** Press and hold the UP button to turn on display light. Press and hold the UP button again to turn off

- Your ENVO ebike LCD meter monitors pedal assist, speed, odometer, trip distance, riding time, and battery energy level. To turn the meter on, make sure the battery is fully inserted into the ENVO ebike and the ON/OFF switch is “ON”
- With the display ON you are ready to ride in Throttle or Pedal Assist mode. The throttle will be active and the Pedal Assist Mode will be operative if the assist level is 1 or higher
- ENVO ebikes are equipped with a Pedal Assist Sensor, which is installed on the bottom bracket, and senses pedal crank rotation electronically
- Using the UP and DOWN arrows you can set Pedal Assist from 0 - 5 speed modes, with 1 being the lowest and 5 the highest
- With non-zero Pedal Assist mode, the motor will now turn on when you begin pedaling, and you will not need to use the throttle. You do have the ability; however, to increase your speed with throttle application while using Pedal Assist mode. Full throttle will be comparable to using the system on level 5 of assist; hence the throttle will not have any noticeable effect on level 5
- Please note that it takes about a quarter of pedal rotation before Pedal Assist kicks in and turns on the motor

## CAUTION

The acceleration provided by the electric motor may feel uncomfortable at first. It is best to start out in PAS mode 1 and move up to the faster modes as you become more comfortable with the acceleration. If you start out using the higher modes 3, 4 or 5, the motor kick might cause panic. In 0 mode the pedal assist and the throttle are NOT active.



### 5.3. ACTIVATING SYSTEM LIGHTS

- To turn the head and LCD lights ON and OFF, simply press and hold the UP arrow on the LCD display for 2 seconds until you see the display light up

### 5.4. LCD METER PROGRAMMING & USE

- The LCD meter on your ebike can be programmed to change various functions
- If you have any questions about the parameter settings, please give us a call or visit our help centre at [support.envo-drive.com](https://support.envo-drive.com)

## CAUTION

We do not recommend changing the parameters if not necessary. Wrong settings may stop the system from functioning properly and may harm or reduce the component's life.

### 5.5. HAND THROTTLE CONTROL

- The ENVO Lynx-20 is equipped with a thumb throttle, which is located on the right side of the handlebar
- Like on a motorcycle, a bike throttle is designed to let the user apply 0-100% of the motor's power at will. The throttle can act independently or in tandem with or without the Pedal Assist System
- When the Pedal Assist mode is set to "1 or higher", the throttle will accelerate the bike forward. You control the throttle by pushing on the thumb attachment. The farther the throttle switch is from its resting position, the more power is delivered to the motor to accelerate the ebike
- When you want to slow down, you simply release the throttle and let it return to its resting position and simultaneously apply the brakes

## 5.6. BRAKES

- Your Electric Bike is equipped with mechanical disc brakes for maximum reliability. Applying pressure to the brake levers will cause the brake pads to cause friction against the brake rotors, slowing the wheel. The more pressure that is applied to the brake lever, the faster the ebike will come to a stop
- ENVO ebike brakes are equipped with microswitches which cut-off the motor power whenever either of the brake levers are squeezed. Please check the operation of your brake disconnect switch before every ride. While riding slowly in a controlled environment (like your driveway), engage the motor then squeeze each brake separately. The motor should lose power immediately and remain off, as long as a brake lever is depressed

### CAUTION

The cable switch can be disconnected, come loose or malfunction. Always perform a brake check before you ride. Always pull both brakes in an emergency or when you need the motor to disengage.

- A circular brake sign will show up on the screen when you brake
- Always apply both brakes simultaneously. Applying only the front brake to slow or stop at high speeds may result in the rider being ejected from the saddle and continuing forward over the handlebars. It is best to apply even pressure to both brake levers when slowing or stopping
- Make sure that the brake lever does not contact the handlebar when full hand pressure is applied. If so, then the brakes must be adjusted by increasing the tension on the cable

### CAUTION

Brakes need a bedding in period before reaching max power. This is where the material on the pads gets transferred onto the rotors, increasing friction. This is essential for any bike, especially a motorized one. Before any serious riding, please bed in your brakes in a safe location. If not taken seriously, your brakes can make noise and will have reduced power, which can lead to injury or even death.

- To bed-in brakes simply roll down a hill or pedal to about 15 km/h and apply brakes until the ebike slows down and repeat about 15 times per lever. DO NOT let the bike come to a complete stop or let the wheels lock up
- Disc brake rotors become hot during use. Do not touch or come in contact with the disc rotor shortly after use
- Wet weather will require a longer distance to stop. Brake earlier and avoid sudden stops when riding in wet conditions

## 5.7. OPERATING RANGE

Expect a range of about 70 km with medium motor use, flat ground, light wind and for an average weight person.

The range on ebikes can vary greatly and are heavily dependent on these factors:

- Battery age
- Rider and luggage weight
- Road conditions (gravel or smooth)
- Tire condition and PSI
- Wind speed and direction
- Bike usage (heavy acceleration and high speeds will drain the battery faster)
- Road slopes or hills
- Pedaling power and gear selection
- Weather and temperature

## 5.8. MAXIMIZE YOUR RANGE

- Fully charge your battery before each ride
- Ride in Pedal Assist mode as much as you feel comfortable. The more you assist the motor, the longer it will assist you
- Service your bike periodically, ensuring bearings run smoothly, and the brakes do not rub the rotors or rims
- Minimize the weight you carry
- Lubricate the chain every few rides, more so if riding in the rain
- Clean the drivetrain as often as you can and thoroughly clean it at least once a month

- Avoid sudden starts and stops
- Minimize use of throttle
- Check and adjust the tire pressure

## 5.9. RIDING YOUR EBIKE IN RAIN OR SNOW

- The ENVO Lynx-20 LCD system is rain proof and is safe to use in wet or snowy weather; however, power washing your ebike or parking/storing it in rain or snow will result in water penetrating the electronic components and cause damage
- After using the ebike in rainy or snowy conditions, park the bike in a dry and covered place, wipe the display, throttle, motor gland and other electrical systems and let it dry overnight
- Letting water, ice or snow sit on your ebike without wiping it down after each use may cause gradual penetration of water onto the motor cable or housing cables and cause damage within only a few weeks time
- Always check the motor cable gland to ensure it is in place. Apply grease or silicon glue under cable gland if you ride a lot in wet conditions

### **WARNING**

Never ride into deep water. Always ensure the motor cable gland is properly positioned to stop water and ice from entering the motor axle. Disassembly of the motor, battery or controller by non-professionals may impact water resistance.

# 6. ACCESSORIES

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## 6.1. PANNIERS

- To effectively balance the weight on your bike, it is recommended that you use 2 panniers. This ensures weight is evenly distributed on both sides of the bike
- To install panniers simply pull the clips open **Figure 9A** and position the clips onto the top rail of the rack **Figure 9B**. Make sure they lock into place
- Wrap the Velcro straps around the rack stay **Figure 9C**

Figure 9A



Figure 9B

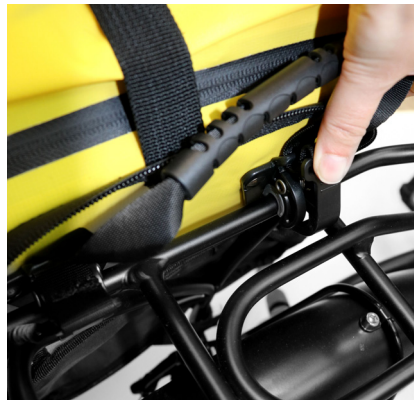
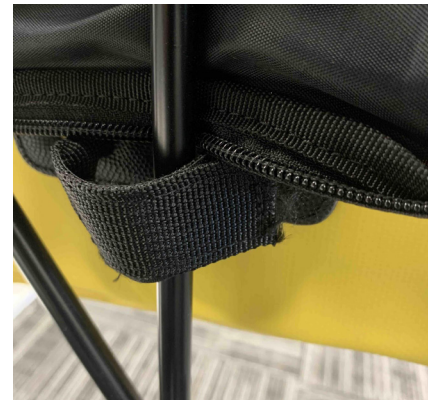


Figure 9C



# 7. MAINTENANCE & REPAIR

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## 7.1. MAINTAINING PARTS

- Electric bikes like normal bikes need regular maintenance. The drivetrain needs cleaning and lubrication, the brake pads need to be changed periodically, and levers need to be bled if hydraulic or cables are changed
- In this manual we provide important basic guidelines on how to maintain and inspect your bicycle. We cannot teach you everything you need to know to properly inspect and service your bicycle. That is why we repeatedly urge you to take your bicycle to your bike mechanic for professional care and attention
- Make sure the tires are correctly inflated, check them by using a tire pressure gauge
- Your bike should be periodically cleaned, and tires should be changed when tread is below manufacturers recommended tread depth
- It is very important that you understand the type of wheel securing method on your bike, that you know how to secure the wheels correctly, that you know how to apply the correct clamping force that safely secures the wheel. Ask a bike mechanic to instruct you in correct wheel removal and installation and ask him to give you any available manufacturers instruction
- We highly recommend that you carry a spare inner tube when you ride your bike. Have an authorized mobile mechanic's number handy when riding
- Never inflate a tire beyond the maximum pressure marked on the tire's sidewall. Exceeding the recommended pressure may blow the tire off the rim which could cause damage to the bike and serious or fatal injury to the rider and injury to bystanders
- We recommend that you frequently check the kickstand and tighten the bolt as the high stress put upon by the spring can cause the bolt to loosen over time

## 7.2. SPARE PART LIST AND SPECIFICATIONS

- Tube: 20" × 1.75" - 2.25"
- Tire: 20" × 2.125"
- Brake Pads: Avid Elixir R style pads We  
*recommend that you change your brake pads once they are worn down to 25% or about 1.5mm. Make sure you bed in your new pads once installed*

## 7.3. IN CASE OF ACCIDENT

### **WARNING**

If you have an accident, drop your ebike or your ebike falls over, your ebike is unsafe to ride until you follow the instructions included in this section. Failure to follow these instructions could lead to component or bike operation failure which could lead to serious injury or death.

1. Remove the battery before performing any additional service, inspection, or maintenance on your electric bike. Failure to remove the battery could lead to the bicycle turning on unexpectedly, causing serious damage or injury
2. Read, understand and comply with the drive system user manual. Do not disassemble or attempt to service components unless you have been advised how to do so, explicitly in writing, by the ENVO Drive Systems
3. Check whether the wheels are still firmly fixed in the dropouts and whether the rims are still centered with respect to the frame or fork. Spin the wheels and observe the gaps between the frame and tire and between the brake pads and the rim sides
4. Check the handlebars and stems to confirm that neither are bent or broken, and that they are level and upright. Make sure the stem is firmly fixed on the fork by trying to turn the handlebars relative to the front wheel. Briefly lean on the brake levers to make sure the handlebars are firmly fixed in the stem
5. Realign the components if necessary and carefully tighten the bolts to ensure reliable clamping of the components. The maximum torque values are printed directly on the components and/or specified in the enclosed operating instructions. If neither are available, contact ENVO support for assistance
6. Check whether the chain still runs on the chain rings and sprockets. If your bike fell over onto the chain side, check that the gears function properly. Ask someone to lift the bike by the saddle and carefully shift through all the gears. Make sure the rear derailleur does not get too close to the spokes as the chain climbs onto the larger sprockets
7. If the rear derailleur or the dropout/derailleur hanger is bent, the rear derailleur may collide with the spokes. This can result in damage to the rear derailleur, the rear wheel and/or the frame. Check the function of the front derailleur. A displaced front derailleur can throw off the chain, which will suddenly interrupt the drive of the bike, potentially leading to an accident, injury or death

8. Confirm the saddle is not out of alignment, using the top tube or the bottom bracket shell as a reference. If necessary open the clamp, realign the saddle and re-tighten the clamp.
9. Let your bike bounce on the ground from a low height. If there is any rattling, see where it comes from. Check the bearings, the bolts and the proper seating of the battery and the connectors, as necessary
10. Keep an eye on the removed battery and ensure it is kept on a fire safe surface. Check for any signs of damage on the battery case, listen for rattling or the sound of loose particles inside, look for smoke, and ensure the battery or its parts do not get warm on their own. If nothing suspicious is detected after 15-20 minutes, try connecting the battery and turning on the system for an electricity check.
11. Check the display. Are all the values displayed as usual? Do not use your bike if the display shows an error message or a warning. If necessary, switch off the system and wait at least 10 seconds before turning it on and checking it again
12. Take a good look at the whole bike to detect any deformation, colour changes, cracks. Ride back very carefully or walk your bike back to a professional mechanic and have the mechanic check the bike and help resolve any issues

## **WARNING**

**Do not set off on your bike with drive assistance if the control element shows a warning. Doing so could lead to serious injury or death.**

13. If you have had an accident and are unsure whether your bike will function properly, leave your bike rather than risk riding and endangering yourself and others
14. If you do ride your bike, do not accelerate or brake hard until the bike has been checked by a bike mechanic
15. Deformed components, especially those made of aluminum, can break without previous warning. If this occurs, they may not be repaired, i.e. straightened, as the imminent risk of breakage will remain. This applies in particular to the fork, the handlebars, the stem, the cranks, the seat posts and the pedals. When in doubt, you should replace these components
16. At no time should you make any modifications to your ebikes electrical systems, unless they are explicitly approved by the manufacturer in writing
17. Contact your dealer or ENVO support for repairs and replacement parts in case of damage



## 7.4. QUICK TROUBLESHOOTING

If your ENVO ebike is not working, check the Quick Disconnect Fittings to make sure it did not come loose, unplugged or have any wear and tear.

There are 2 Disconnect Fittings to check:

### 1. Battery

The battery disconnect fitting is located underneath the seat post. **Figure 7A** Make sure the battery is inserted fully into the bicycle and is screwed into place. If it is not, the bicycle will not turn on.

### 2. Motor

The motor disconnect fitting is located beside the front fork near the motor. **Figure 7B** Make sure the connection to the motor is correctly inserted and securely in place. Do not force the pins into place as you may cause damage, be gentle and make sure you are lining the pins up correctly.

Figure 7A

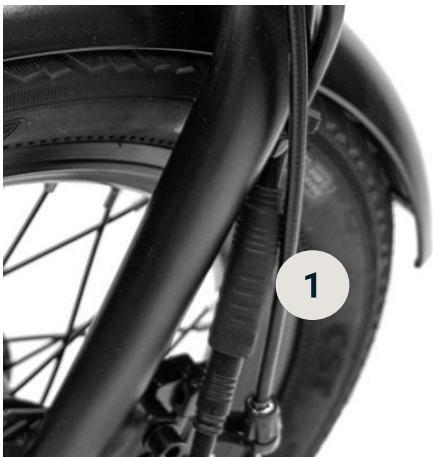


Figure 7B



## 7.4. TROUBLESHOOTING TABLE

COMPONENT	ISSUE	CAUSE	SOLUTION
Charger	Charger gets hot	This is normal	Give the charger plenty of space in a well ventilated room
Battery	Power cuts and screen turns off	Low charge	Charge the battery
		LCD display connector is loose	Reconnect and check all other connections inside the controller housing
Battery	Battery cable connector is melted	Dust and dirt may cause loose connections between connection pins which can cause sparking that leads to melting	Make sure to frequently keep connections clean and secured. Order replacement parts
Battery	Battery does not charge up with standard charger	Battery is already fully charged	Check battery voltage by pressing the power button two times after turning on the display. You will see the voltage on the right bottom corner. Above 41V for 36V is considered fully charged, and above 53V for 48V is considered fully charged
		Charger does not function	Green LED may turn on when charger is plugged into battery but not connected to the wall. Check all connections are tight Try different plugs as well as different charger cables
Pedal Assist	System is on, Pedal Assist is not working, but the throttle is working	PAS sensor is disconnected	Check wires and connections or restore parameters to default

<b>Throttle</b>	System is on and the throttle not working but the Pedal Assist is working	<p>Throttle has a connection issues</p> <p>Throttle magnet can see interference from any nearby metal objects</p> <p>Error info 01</p>	<p>Check connections</p> <p>Try moving metal objects further away from throttle</p> <p>Check throttle positioning. Clean throttle area. It may be stuck on something, make sure you leave some space around the throttle</p>
<b>Motor</b>	Motor making noise	<p>This is normal when motor is under heavy load (hills, heavy cargo)</p> <p>Motor vibrations causing resonance on other bicycle components</p>	<p>Try giving motor more assist under heavy loads</p> <p>Reposition parts and add vibration damping between parts, make sure motor is secured</p>
<b>Motor</b>	System is on but motor has no power	<p>Loose connections</p> <p>Brake cut off sensor is malfunctioning</p> <p>Battery not sufficiently charged</p>	<p>Check connections and reconnect, make sure to align arrows</p> <p>Disconnected the brake cut off sensor, check if motor is powering</p> <p>Check battery voltage,. If below 34V the system will turn on but motor will not give power</p>
<b>LCD Display</b>	Display showing error 03	<p>Motor cable connector might be stretched</p> <p>Motor cable is scratched or torn</p> <p>Water penetrated inside the motor casing</p> <p>No visible sign of damage is observed</p>	<p>Check arrows alignment then push the connector back in firmly</p> <p>Contact ENVO support</p> <p>Dry motor by putting it in a hot and dry place for 48 hours</p> <p>Contact ENVO support</p>

<b>Gear shifter</b>	Gears skipping	Derailleur not in optimal position for gear	Adjust derailleur position with barrel adjuster located on the shifter
<b>Brakes</b>	Brakes making noise	Brake pads are rubbing on the rotor	Pads need to be adjusted. Adjust the cable tension to shift the left pad, use an Allen key to adjust the right pad. The pads should be adjusted so the rotor spins freely in the middle of the two pads
		Brakes not bedded in properly, material buildup is causing noise	Lightly sand and clean rotors and pads. Bed in your brakes, see section 5.6.
		Frame folding clamp is loose	Makes sure the frame folding clamp is secure. Tighten if necessary
<b>Fenders</b>	Front fender is making noise	Front fender is too close to the tire and is rubbing	Fender needs to be adjusted, try lifting it up and moving it away from the tire, may need some slight bending, make sure you have secured it in its highest position

For any additional troubleshooting help, refer to [support.envodrive.com](https://support.envodrive.com) or contact your local ENVO Electric Bike dealer.

# 8. TRANSPORTATION & STORAGE

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## 8.1. TRANSPORTATION

- Please be careful when loading your ebike onto a vehicle rack
- Be aware of battery cables and other wires when loading and unloading
- Misuse of vehicle racks could result in a potentially hazardous situation that could result in injury or even death

## 8.2. STORAGE

- Always fully charge the battery prior to storage
- Check and charge your battery at least every 2 months
- Always store your ebike somewhere where it is protected from rain, snow, or sunlight
- Always store the battery in a cool, well ventilated room away from freezing temperatures
- You may also seal the terminals with tape to protect against any short circuit
- Make sure the charging port is covered

# 9. GENERAL TERMS & WARRANTY

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## 9.1. WARRANTY

- All products including ebikes and conversion kits, as well as components purchased including motor, controller, display, battery, charger, throttle, PAS sensor, brake sensors are covered by 12 months FREE warranty unless otherwise specified. You can purchase an extended warranty up to 24 months where offered
- Although our warranty is designed to ensure you receive a perfect product at the time of purchase your product will still require maintenance by the user
- Replacement mechanical parts such as chain, brake, tire, gear adjustment or loose screws or connectors are not covered under the warranty. The warranty is for intrinsic parts defects only
- We do not offer bicycle service and tune up as a part of warranty service

- The warranty supports you if you have intrinsically defective parts such as a cracked frame weld seam or controller circuit failure. It does not include labour or delivery
- Delivery of the defective products or parts for repair or replacement to our service shop is the customer's responsibility
- An ebike is a vehicle that functions in real working conditions and is exposed to unwanted impacts, shocks, vibrations, heat and cold, accidents, water penetration, salt splash etc. which may cause damage. These damages are not covered under the warranty
- If you find a defective product or part within the eligibility period, we supply will supply a free replacement part for you. You might be billed for the cost of delivery or installation fee
- If the problem is caused by an accident, wrong or careless installation by the customer, wire stretch, bad storage or not following the instruction manual, the customer will pay the cost of the part and replacement. The cause of the failure and warranty eligibility should be verified by the head of our technical department
- Our warranty terms and conditions apply to all customers purchasing our products through dealers, 3rd party or second hand
- To claim a warranty, please submit an application through our customer service ticketing system at [support.envodrive.com](https://support.envodrive.com)
- If a warranty extension is offered for any of our products, you can pay the fee and get covered for the extension through the same terms and conditions. You may apply up to 1 day before the regular warranty period expires

#### **IMPORTANT NOTE:**

ENVO does not offer tune-up and bike mechanical services beyond limited installation or repairs of electrical system.

## **9.2. REGISTERING YOUR PRODUCT WARRANTY**

Please register your ENVO Drive Systems product by submitting filling out our product warranty registration form at [envodrive.com/warranty-registration](https://envodrive.com/warranty-registration).

#### **IMPORTANT NOTE:**

You must register your electric bike with ENVO Drive Systems within 30 days of purchase for warranty to be valid.

### **9.3. EXCLUSIONS**

ENVO is released and discharged of any liability for any damages, injuries or claims occurring as a result of neglect, the owner is responsible for the maintenance and safety of all structural and mechanical components of their ebike such as brakes, headset, forks, etc.

### **9.4. SATISFACTION GUARANTEED**

We offer guaranteed satisfaction on all our products and services. We provide in-depth free technical sales support to ensure you choose the product that best suits your needs.

### **9.5. CUSTOMER SERVICE**

Our highest priority is to provide the best customer service possible and cultivate a long lasting relationship with each client built on trust and respect. Our customer service is not passive; we are available to actively support you through all ordering or service procedures. We are happy to have in depth conversations with our customers about their requirements or problems. Our personal connection with each client is what differentiates us from common “No-Question” customer service models offered by Amazon or department stores. At ENVO we are real hardworking people trying to bring great products and services to you in a way no one else does.

### **9.6. TROUBLESHOOTING, REPAIRS & TECHNICAL SERVICE**

- We have a dedicated Help Center including a troubleshooting guide and user manuals to help customers maintain and fix their system in case of errors or failure. You are required to go through the guides and if the solution is not achieved contact our customer service through our ticketing system, providing all observations for our technicians to help figure out the issue
- 90% of cases can get to a solution at this stage by knowing the problem even without need for sending any replacement parts
- In case the issue is not diagnosed by standard ways; for our hub motor kits, ENVO ebikes, and other house brand products, since the electrical system is modular and has easy access. We would be able to easily send you replacement parts such as a controller to swap and test and return the defective one. You may be required to purchase the parts initially and pay for the shipping costs. You can return the unused parts for full refund later on
- Customers are required to have a level of technical knowledge with tools to recover their system remotely and safely without our assistance
- If at any stage of the diagnostics or even after parts replacement, it turns out to be a part intrinsic defect within the warranty criteria; we will refund the cost of the purchased component as accepted by warranty validated by the head of technical debt

# CONTACT

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## LOCATION

ENVO Drive Systems Inc.  
1685 Ingleton Avenue  
Burnaby, BC V5C 3V6  
Canada

## BUSINESS HOURS

Monday – Friday: 10am – 5pm PST  
Saturday: 11am – 3pm PST  
Sunday: Closed

*Please check online to see our most up to date hours*

## PHONE

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Toll free: (888) 229-2980

## WEBSITE

[envodrive.com](http://envodrive.com)  
[support.envodrive.com](http://support.envodrive.com)