



# USER MANUAL

## LMX 56

*English - 2025*







The whole LMX team thanks you for adopting the LMX 56, the 45 km/h speed bike is now in your hands and ready to take you over all the obstacles !

Your LMX was manufactured and assembled entirely in France, thanks to our passion and experience.

In this manual, you will find all the useful information concerning how your LMX 56 works.



## **WARNING**

Like any vehicle, your LMX 56 needs regular and appropriate maintenance to ensure proper operation and a good lifespan.

Failure to perform maintenance or make personal modifications can compromise the safety and performance of your vehicle.

This user manual therefore contains valuable information regarding the maintenance and verification of your LMX.

Check your LMX before riding by carefully reading the instructions given.

Indeed, a fall in a motorized vehicle can inflict serious and irreparable injuries.

By following the instructions provided, you reduce the risk of injury to yourself or the safety of your LMX.



## **SECURITY NOTICE**

The owner of the LMX must act responsibly and follow the instructions given in this manual. Particular attention should be paid to the section on safety and legal regulations.

By signing this document, the owner acknowledges that he has read the safety instructions set out in this document and that he will act responsibly and in accordance with applicable laws.

- LMX 56H : for a road legal model, a gray card and insurance are necessary for use on public roads in France, and on paths authorized for 50cc mopeds.
- LMX 56T : non-approved models are strictly prohibited for use on public roads in France. Use authorized only on private roads/circuits.

The data and illustrations in this manual are not exact representations of MS Systemes / LMX Bikes, which reserves the right to make changes and improvements to its models at any time and without notice.

**Signature of owner :**

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## GENERAL DESCRIPTION

### 1. NOTES FOR THE OWNER

Congratulations ! You are now the owner of one of the most powerful 45 km/h electric mountain bikes on the market. At LMX, we are proud to design and **manufacture** our models in **France**, and to launch the electric revolution for motorsports.

As an all-terrain vehicle, the LMX 56 is built in accordance with the construction and safety requirements of the 168/2014 standard for L-category vehicles. It is strongly recommended to follow the instructions in this manual relating to safety, pre-ride checks and general maintenance.

### 2. THE PRODUCT

Each LMX frame is identified by a serial number engraved above the engine block, right side. If you encounter an LMX frame without this number, please report it to us directly (*see Technical Support p. 49*).

### 3. WARRANTY

LMX 56 frames are guaranteed against manufacturing defects for 2 years from the date of invoice. Electronic systems, motor and battery are also guaranteed under normal use. Refer to the T&Cs applicable on the date of validation of the order for more information relating to the warranty.

In the event of modifications made to the equipment and use that does not comply with the instructions in this manual, the warranty will no longer apply and the manufacturer cannot be held liable in the event of malfunction or accident.

## 4. DELIVERY AND ASSEMBLY

The LMX 56 has been delivered to you pre-assembled. Upon receipt, you still have to install the front wheel, pedals and handlebar/stem.

1. Install the front wheel using the quick release axle. *Refer to your fork manual.*
2. Position the stem and the handlebars at 90° in relation to the front wheel then tighten the 2 stem screws located on either side of the steering tube to lock the stem in relation to the fork.  
Tighten to 8 Nm.
3. Install the pedals with a 15mm spanner.  
Install the pedal marked L on the left and the pedal marked R on the right.  
Tighten firmly by hand using the 15 mm spanner to a maximum tightening torque of 35 Nm.

## 5. LOAD CAPACITIES

The LMX 56 frame was designed for off-road use. However, to maintain the durability of the frame and technical elements, the load must remain within the following limits :

- Maximum weight of the LMX ready for use (without bags) : 37 kg
- Maximum weight of the equipped pilot : 120 kg, including 30 kg max on the luggage rack (bags included)

### **WARNING**

Only 1 pilot is authorized to use the LMX 56 ⇒ passenger transport prohibited

- Maximum motor power (peak) : 2.5 kW
- Maximum speed : 45 km/h for both versions (the LMX 56T is not authorized on public roads).

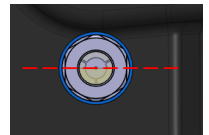


## WORKING CONDITIONS

### 1. CHECKLIST

Before using the LMX, check the following points :

- The battery is charged and locked to the frame,
- All nuts and screws are properly tightened and locked (*use medium thread lock resin if necessary*),
- Wheels, suspension, handlebars, stem and saddle have no play and are tight,
- Cables and electrical wires are fixed to the chassis and do not move,
- The brakes are working properly (*storing or transporting the LMX in an abnormal position may cause the brakes to malfunction temporarily*),
- The chain and belt have adequate tension. The belt must have a tension of > 55 Hz (*Tension measurement applications: Gates Carbon Drive or Easy Tension Hutchinson*),
- The wheels are in good condition and the tires are inflated with the correct pressure (*consult the tire manufacturer for the nominal pressures*),
- The accelerator handle has a functional return spring and does not present any hard point or slowdown on its stroke,
- The pedal seals do not rub or make noise (*apply oil to the seals if necessary*),
- The engine oil level is above the red line (*visible through the window ⇒ see image*),
- The charging port cap is closed. Risk of water infiltration and securing the LMX during outings if it is not properly closed.
- Sound signatures emit normal sounds (*start-up music, changing modes*).
- If the LMX beeps regularly (every 2 seconds) : warning because attempt to start the engine in neutral mode or with the stand lowered.
- If the LMX beeps continuously : it is a throttle problem. Contact the support service (*see Technical Support p.49*).



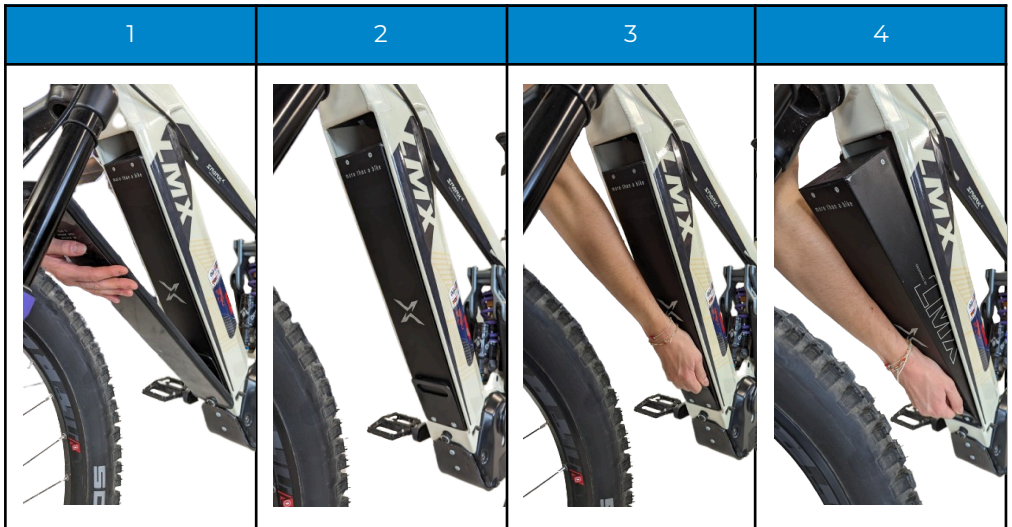


## 2. TURNING THE LMX 56 ON AND OFF

To turn on the LMX 56, the battery must be installed in the frame and locked properly.

### **BATTERY INSTALLATION**

- *Install the battery* : position the battery at the top and at the bottom of the rail. Slide it up and down to lock it.
  - Remove the battery : using the handle located at the bottom of the battery, pull upwards to remove the battery from the block. Carefully follow the natural alignment of the battery in the rail (positioned at the bottom).
- The battery hatch allows the battery to be locked in place.  
**Do not drive without the battery cover.**



## **TURN ON/OFF**

- 1) Press briefly on the right side of the down tube to turn on the battery. The LEDs light up one by one, first the red LED, then the 3 green LEDs. After 2 seconds, the LEDs indicate the remaining battery level.



- 2) Magnetize the safety contactor (circuit breaker) to start the LMX. This emits its starting melody.








### **WARNING**

⇒ Do not press the pedals when starting as this could cause the torque sensor to be incorrectly calibrated. Also, do not use the throttle grip until the LMX has completed its startup sequence.

- 3) To turn off the LMX : remove the circuit breaker to turn it off. Then switch off the battery by making a long press on the button, in the same place as at start-up. The LEDs then turn OFF.

## **BATTERY LEVEL INDICATOR (AUTONOMY AND CHARGE LEVEL)**




	<b>Battery off:</b> short push off the switch to power ON
	<b>Red LED blinking:</b> < 10% remaining <b>Red LED solid:</b> < 25% remaining
	<b>Green LED 1 blinking:</b> battery charging and < 50% remaining <b>Green LED 1 solid:</b> <50% remaining
	<b>Green LED 2 blinking and Green LED 1 solid:</b> battery charging and <75% remaining <b>Green LED 2 and 1 solid :</b> <75% remaining
	<b>Green LED 3 blinking and 1 and 2 solid:</b> battery charging and <100% remaining <b>Green LED 3, 2, 1 solid:</b> <100% remaining

### **COMMENT**

The available power gradually decreases to avoid an abrupt cutoff when the battery goes:

- Below 10% charge level, OR
- Below -5°C, OR
- Above 55°C.

## **BATTERY ERROR CODES**

	<b>Red LED and Green LED 3 solid</b> High Temperature Protection
	<b>Red LED and Green LED 2 solid</b> Low Temperature Protection
	<b>Red LED and Green LED 1 solid</b> High Intensity Protection

### 3. CHARGE THE BATTERY

#### **GENERAL**

The LMX 56 comes with a 4A fanless charger.

Normal charging time is 360 minutes at 100% and 240 minutes at 80%.

Good practice: to charge, start by plugging in the mains socket before plugging in the battery. At the end of charging, carry out these operations in reverse.



#### **IMPORTANT**

- 1) USE THE ORIGINAL CHARGER ONLY** (do not use the LMX 64 one)
- 2) BATTERY MUST BE ON WHEN CHARGING**
- 3) DO NOT OPEN THE BATTERY UNDER ANY CIRCUMSTANCES: RISK OF LOSS OF WARRANTY**



The battery voltage gives an indication of its level of charge :

0%	20%	50%	80%	100%
39V	46V	52V	56V	58V

#### Lifetime

After 300 to 500 full charge cycles, the battery will only provide 70% of its original capacity. This number of cycles will be strongly influenced by the number of bike rides, the riding style and the storage temperature.

#### Storage

For optimal storage, it is recommended to store the battery in a dry and temperate place (between 10 and 30°C).

Below 10°C, the useful capacity of the battery can be reduced by 30%.

In the event of a long period of non-use, it is advisable to store it in a state of charge at 2/3 of its capacity (no-load voltage of 52 V).

### Maintenance

It is recommended to perform a 24-hour maintenance charge every 5 cycles to ensure cell balance and optimal battery performance.

### **CHARGING MODES**

#### Battery inside the LMX 56

The battery can be charged directly on the LMX 56. A charging port is located at the bottom of the down tube, on the left side. Plug the charger directly into this port. Be careful to close the rubber cap on the charging port before using the LMX. The battery must be lowered and placed correctly in the down tube.



#### Battery outside the LMX 56

The battery can also be charged outside the frame using an external charging adapter (reference LMX-01032). To do this, remove the battery from the down tube (see page 8). Mechanical shock during handling must be avoided (dropping of the battery). Plug the adapter into the charger. Plug the charger into the mains. Finally, connect the battery to the charger.



## 4. POWER MODES

The change of power modes is done via the Smart LED on the handlebars, or directly via the application (see page 47).

The LMX 56 has a Neutral (N) mode and 3 power modes: an ECO mode, a MID mode and a HIGH mode. An N (neutral) mode is also present.

These modes can be configured directly on the application via the motor tuning tab (see page 50).



### ON THE SMART LED

- Manage the 4 modes of your LMX by pressing the “MODE” button on the LED. Each press advances one mode in a cycle. The modes are identified by these colors :
  - WHITE for N/O (Neutral) mode
  - GREEN for mode 1 (Eco)
  - BLUE for mode 2 (Mid)
  - RED for mode 3 (High)

When the LMX 56 powers up, it is automatically in N (Neutral) mode.

The Smart LED also gives access to the battery level when you ride : without clicking on the MODE button, the Smart LED displays the battery level by default.

- 75-100% = GREEN
  - 50%-75% = YELLOW
  - 25%-50% = ORANGE
  - 10%-20% = RED
  - 10%-25% = FLASHING RED
- When the LMX 56 has just connected to the app, the Smart LED turns BLUE for 5 seconds.

## **ON THE APP**

Possibility to switch between modes directly via the application by clicking on the arrows on the Dashboard (see page 48).

**COMMENT** : On street legal models, as long as the kickstand is down, it is impossible to change modes and start the LMX. Lowering the kickstand automatically returns to N mode.

## **MOTOR TUNING - APP**

The modes of your LMX can be configured directly on the Navie app through the Motor Tuning section.

Set for each mode :

- The max power (W)
- The max speed (km/h)
- The max torque (%)
- The level of acceleration (%) - Twist grip on the handlebar

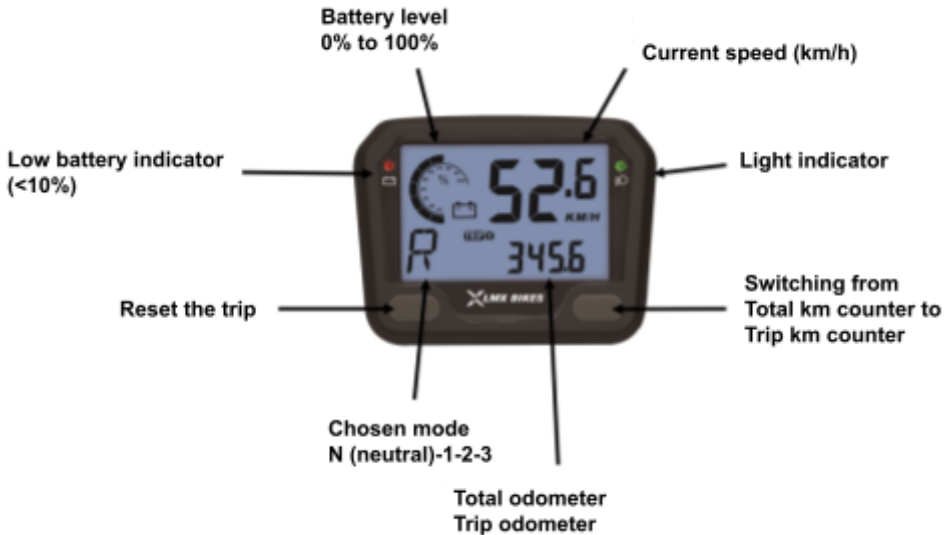


## **IMPORTANT**

**IN MODES 2 or 3, AVOID FULLY OPENING THE THROTTLE IF THE LMX ENGINE IS STALLED ⇒ RISK OF DAMAGE TO THE CONTROLLER**

*Example : rear wheel locked with the brake.*

## 5. USE THE SCREEN (if present)



The screen allows you to see the following data without using the mobile app:

- Battery charge level (%)
- Current speed (km/h)
- Chosen mode (N-1-2-3)
- Number of kilometers traveled in total and on the trip

To reset the trip counter, press the left button.

To switch from the total odometer to the trip odometer, press the right button.



## 6. USE THE DROPPER SEATPOST

Unlock the seat post :

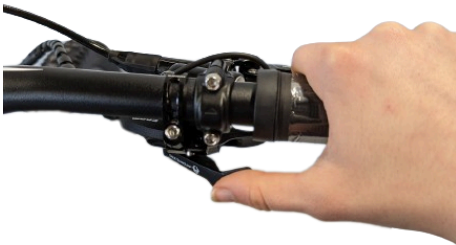
- Press the lever located on the left side of the handlebar.
- The saddle then rises automatically.

Lower the seat post :

- Push down on the saddle while pressing the lever to lower it to the desired level.



## 7. USE THE SPEEDS



The LMX 56 comes with a 12-speed drivetrain.

Use the handlebar controls to adapt the gear engaged to the terrain.

⇒ As a general rule, to limit power consumption, it is better to turn faster when climbing than to press very hard on the pedals. Motor assistance is proportional to pedaling power.

## 8. BREAKING IN THE BRAKES

Attention, it is important during the first use to carry out a bedding-in of the brakes, in order to ensure efficient and noiseless braking.

Bedding-in forms the wear layer of the brake disc. To avoid surface glazing, which can cause noise during braking, it is important to follow the break-in recommendations:

- When using for the first time, avoid continuous braking at low power, for example on a descent.
- Focus on short braking spurts, which will deposit a layer of pad dust on the disc and prepare the braking surface for optimal, noise-free performance.

Be careful, the braking performance will increase significantly once the break-in has been carried out correctly. Particular attention is required during this step, especially at the front brake.



## SAFETY INSTRUCTIONS

Before riding, the owner of the LMX should read the following safety instructions:

The LMX 56H is a 50cc moped approved vehicle. It must therefore be used on land authorized by the regulations in force in your country (L1e-B).

The LMX 56T is not homologated and is designed for use on private land only. It should not be used on public roads.

Off-road riding can be dangerous. Control your speed and always be prepared for the unexpected. Wearing safety equipment is mandatory: helmet and protective gloves are the mandatory minimum.

Wearing back armor is highly recommended. Before riding, find out where you are riding and stay out of restricted areas.

Although electric and pedal-operated, the LMX 56 is still a motor vehicle and should not be used in areas where motorized vehicles are prohibited.

Electrical systems such as batteries, motors and controllers can get hot, so avoid touching them after a ride. Batteries and systems can catch fire if impacted or misused. In this case, stay away from fire. Do not breathe vapors and use dedicated extinguishers. Powder (CO<sub>2</sub>) extinguishers are recommended for battery and electrical fires.

If the frame is damaged in an accident, do not use your LMX 56. A damaged frame can cause a dangerous failure at an unexpected time. Please contact us as soon as possible to replace your frame and ride safely.

Always test your LMX on a smooth surface with suitable protective equipment. Do not let inexperienced pilots test your LMX if it is in a high power mode.



## **WARNING**

When working on your LMX and performing maintenance or cleaning, **always unplug the main power or remove the battery.** Always keep in mind that an electrical fault can cause the engine to run at any time if the vehicle is powered on.



## GENERAL MAINTENANCE

### 1. AFTER THE FIRST HOURS OF USE

After your first outings, for your safety and the proper functioning of the LMX 56, check the following points :

Component	Tightening torque /points of attention
Tightening the front and rear brake discs	Front: 6 screws x 6 Nm Rear: M32 nut 50 Nm
Stem clamp	8 Nm
Front and rear wheel spoke tightening	Check that the spoke tension is still correct  <b>ADVICE</b> Tapping the spokes with a wrench, they should make a similar sound
<u>Do braking check before each ride</u>	

As an electric vehicle, the required maintenance of the LMX 56 is simple. Maintenance consists mainly of :

- Clean and grease the chain after each ride,
- Keep the nuts tight,
- Maintain correct tire pressure.

Suspension components require regular maintenance in accordance with the manufacturer's recommendations. Drivetrain components such as chain, belt and sprockets should be replaced preventively every 2 years or 1500 km in off-road use, unless there is abnormal wear.

Brake maintenance is also very important to keep braking performance at peak performance. Refer directly to the brake manufacturer's recommendations.

## 2. TIGHTENING TORQUE

By visual inspection or using a torque wrench, make sure that the various screws on your LMX are properly tightened.

This check must be carried out without forcing beyond the indicated torque at the risk of damaging the thread lock.

Checkpoint	Torque
Dropper Post Lever	3 Nm
Shifter Brake lever Accelerator handle + grip	4 Nm
Saddle rail	8-10 Nm (SRAM AXS : 12 Nm)
Seat post clamp	9 Nm
4 stem/handlebar bolts	8 Nm
2 stem/fork bolts	8 Nm
Front/rear brakes + calipers and adapter	9 Nm
Formula brake disc / 203 mm (6 bolts)	6 Nm
Formula brake pads (retaining screw)	2 Nm
<b>Disc nut (to be checked regularly)</b>	50 Nm + strong thread lock
Rear wheel axle	12 Nm
Cassette	40 Nm

Rear hub M32 nut (disc brake)	50 Nm
Belt tensioner on swinging arm	8 Nm
Upper and lower shock absorber axle (CHC M8 screw)	17 Nm
CHC M8 low head (LMX-00905)	17 Nm + strong thread lock
2 rocker spacer screws (LMX-00904)	8 Nm + strong thread lock
2 screws toggle bottom (LMX-00903)	12 Nm + medium thread lock
3 M8 motor screws (13 mm socket)	25 Nm
R/L cranks	50 Nm
Swingarm axle	25 Nm
M5 motor pinion screw	6 Nm + medium thread lock

### 3. WASH THE LMX 56

- Remove the battery when washing your LMX,
- Use a specific liquid soap, a specific brush and a damp towel to clean the LMX.
- **It is essential to keep the water jet at a minimum distance of 40 cm, avoiding delicate parts** (battery, battery rail, bearings, axles, etc.).



#### **GOOD PRACTICE**

Wash your LMX with the hatch in place to limit the presence of water near the electronic / electrical components.

⇒ Risk of damage to components

### **TO AVOID**

- Use as little water as possible on all electronic elements to reduce the risk of water infiltration (battery rail, battery, motor, seat switch/input charger),
- Avoid watering the screen, because even waterproof, fog may appear on it between the outer shell and the inner part,
- Do not use a high-pressure washer, as this may damage the decals or internal components and thus affect the performance and durability of the vehicle.

## **4. LUBRICATION**

The lubrication of your vehicle always comes after a good wash.

- A **first cleaning phase** can be carried out using a WD40 type penetrating product (*do not put it on the discs: risk of contamination of the pads*),
- Wipe the chain with a cloth,
- Lubricate the necessary parts.



### **TIP - TYPE OF LUBRICANT TO USE**

Use a “dry” and non-sticky product = WD40, Muc-Off Dry Chain Lube Motorcycle.  
You absolutely must turn to specific greases for this purpose.  
= Risk of deterioration of the material and presence of residues.

The places to lubricate regularly on your LMX are as follows :

- Derailleur pulleys
- The chain on the pedaling side only (caution: the belt does not lubricate!)

The frequency of greasing depends on the type of terrain you ride on and the conditions of use.

## 5. REMOVE THE REAR WHEEL

### **WARNING**

**Never bend or twist the belt** when removed from the LMX.

⇒ Risk of material embrittlement.

### **NECESSARY TOOLS**

- Allen key of 5 or a 15 spanner
- Torque wrench

To change an inner tube or a tire, you may have to remove the rear wheel. In this case, please follow the following steps :

- Lock the derailleur in the maintenance position (slack chain), using the cage lock button,
- Take the chain off of the cassette,
- Remove the sprocket cover from the engine block (3 screws to remove),
- Pass the Allen key or the spanner in the correct screw pattern between the swingarm and the tension wheel to deactivate the belt tensioner,
- Remove the belt from the crown wheel then from the engine pinion,
- Remove the wheel axle using the Allen key,
- Take out the wheel,
- For reassembly: carry out the operations in reverse order.



*Flash here to access the  
Knowledge Base tutorials*




## 6. ADJUST THE FORK

### A. Air pressure

It is necessary to adapt the pressure according to the style of riding and the weight of the pilot.

*Formula Selva S model :*

 **WARNING: When pump (12) is connected, pressure will (16) read 2-8 PSI (0.114-0.55 BAR) less than the actual reading due to the air that enters the pump hose. Consult table 1 to obtain information about the pressure to be used.**

RIDER WEIGHT		AIR PRESSURE	
KG	LBS	BAR	PSI
50	110	3,1	45
60	125	3,5	55
70	150	4,5	65
80	175	5,2	75
90	200	5,9	85
100	225	6,5	95
110	250	7,2	105
120	275	7,9	115

### B. Fork settings

Refer to your fork manual.

*Formula Selva S model :*

[https://www.rideformula.com/wp-content/uploads/2018/10/Manuale\\_SELVA\\_S\\_G B.pdf](https://www.rideformula.com/wp-content/uploads/2018/10/Manuale_SELVA_S_G B.pdf)

## 7. CLEAN AND DRAIN THE FORK

Recommended suspension cleaning and lubrication intervals :

- **After the first 50 hours of use** : cleaning and lubricating the sliders
- **Every year** : Complete disassembly, cleaning, lubrication, checking of seals and guidance.

It is important to clean and lubricate the inside of the fork to ensure optimum performance.

## 8. ADJUST THE REAR SHOCK

### A. Rear shock settings

Refer to your shock manual.

Formula MOD 160 mm model :

<https://www.rideformula.com/wp-content/uploads/2020/09/MOD-Manuel-Utilisateur.pdf>

### B. Spring weight/rate table

The spring rate is usually indicated directly on it.

<b>USER WEIGHT</b>	<b>STIFFNESS (in lbs inches)</b>
< 60 kg	450
60 kg - 70 kg	500
70 kg - 80 kg	550
80 kg - 90 kg	600
+90 kg	650

- Spring length : 130mm
- Inner diameter of the spring : 35 mm

For other shock absorbers, refer to the corresponding manuals.

## 9. BRAKING

### A. When to replace your pads ?

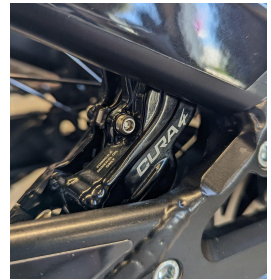
To find out if you need to replace your pads, measure their total thickness.

These should measure at least 2.65mm in total thickness with the backing, measured at the center groove. If you can no longer see the groove, your pads are worn out.



### B. Replacement of brake pads

Unscrew the two M6 screws from the bracket.  
Then remove the caliper from its housing.



Remove the pin which prevents the rod from coming out of its housing.



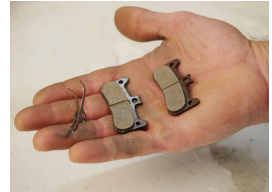
Hold the caliper firmly in the palm of your hand and unscrew the rod holding the pads.



Push the pads down onto the caliper.



We get the following three parts to change.



**ATTENTION**

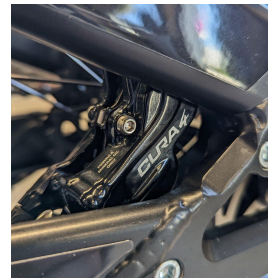
*Never activate the brake lever when the caliper and disc are not installed. Risk of pulling the pistons out of the caliper.*

Install new pads and replace pin and circlip.



Install the caliper on the LMX and tighten the two M6 screws so that the rear wheel rotates without friction.

Tighten the two screws to 9 Nm.



## 10. DISASSEMBLE THE ENGINE BLOCK

Turn the LMX 56 upside down to carry out this operation in order to hold the engine block once the screws have been removed. Risk of the block falling.

### **NECESSARY TOOLS**

- Allen keys size 3, size 4 and size 5
  - 13 pipe/socket wrench
- 
- Make sure that the LMX 56 is not powered on,
  - Remove the battery from its support (see page 8),
  - Remove the belt cover (Image 1), the engine guard (Image 2), the engine belt and the pedal chain,
  - Disconnect the main cable (Image 3),
  - Unscrew the 3 screws (Images 3 and 4),

To reassemble, reverse the steps.



Image 1



Image 2

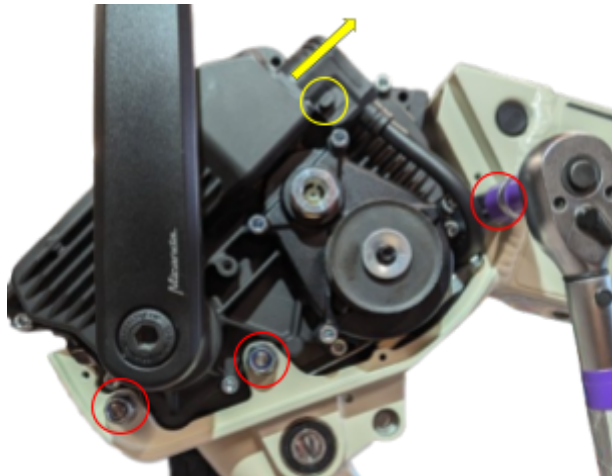


Image 3



Image 4

## 11. TRANSPORT / MAINTENANCE - LMX 56H

Approved versions are assembled and delivered fully equipped for use on public roads. The LMX 56H is shipped with a steel luggage rack that also serves as a license plate holder, rear light, reflectors and mudguard.

### Dismantling the luggage rack

Note: the presence of a license plate, reflectors and rear light is mandatory for riding on public roads in France and Europe.

However, competition use or maintenance of the LMX may force you to remove this support. The luggage rack is attached to the swingarm with 4 M6 screws (2 on each side).

- In the lower left tube is the light connector. Unplug the connector.
- Unscrew the 4 M6 screws.
- Remove the plate support and collect the 4 nylon washers.



## 12. REPLACE THE LMX 56H FUSE

LMX 56H vehicles are equipped with fuses.

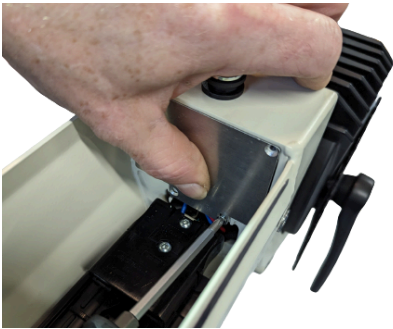
- 1 fuse is located under the plate, under the battery.  
It protects the main electronic board of the LMX 56 on the 60 V circuit, in the event of a problem or short circuit on it.

**Reference : 5x20 mm, type F, 500 mA.**

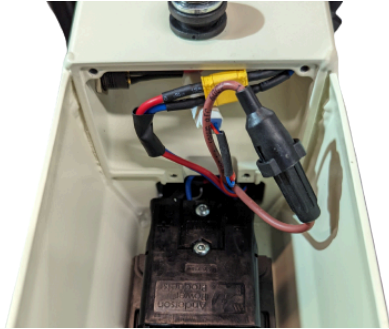


To replace a blown fuse, here are the steps to follow :

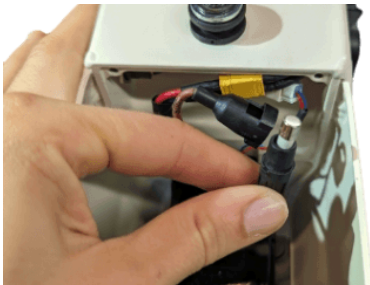
- Remove the 4 screws using a small cross-shaped tool to remove the plate,
- Under it, you will find different cables including the one with the in-line fuse holder which contains the fuse to be replaced,
- Tighten the two halves of the fuse holder and make a quarter turn to open it,
- Remove the blown fuse and replace with the new fuse (5x20 mm, type F, 500 mA),
- Then close the fuse holder by doing the operation in reverse,
- Replace the hatch, taking care not to pinch the cables under it.



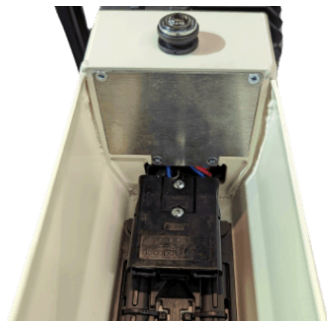
*Image 1*



*Image 2*



*Image 3*



*Image 4*

### 13. ENGINE BLOCK OIL LEVEL

- Volume in case of oil change 15mL of 75W90 engine oil

#### A. CASE 1 : Topping up

To do if : the oil level is too low (see image 1).

- Fill to the top of the porthole (see image 2).  
(the red line corresponds to the level when leaving the factory)

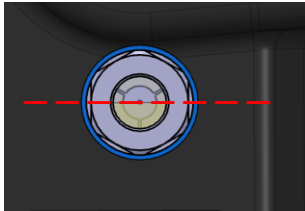


Image 1

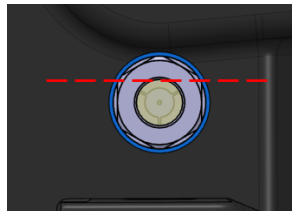


Image 2

#### B. CASE 2 : Complete emptying

To do if : you can see that the oil has darkened significantly.

- Lay the LMX on the right side,
- Open the drain port with a size 20 spanner,
- Place a clean cloth to absorb the oil and rock to the left side,
- Wipe well,
- Check the bearings : must not make any noise, abnormal play or hard spots,
- Check the condition of the used oil : if there are metallic particles, contact LMX Support, as a pinion or bearing replacement may be necessary,
- Re-tilt on the right flank,
- Fill with 15mL,
- Refit the drain window,
- Tightening : 5 N.m

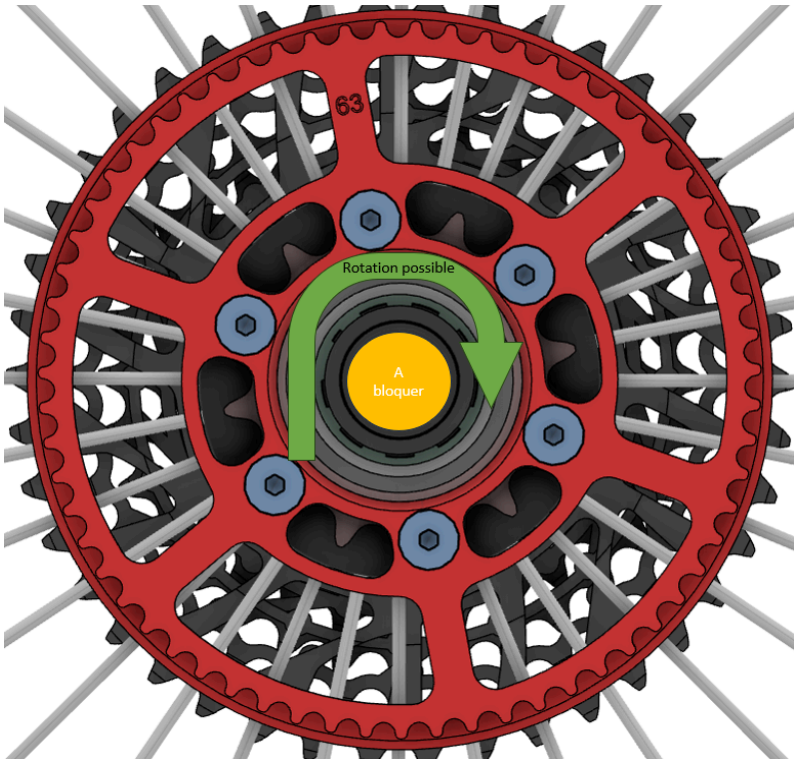
#### **WARNING**

Make sure that nothing (no dust, pebbles, metal filings) enters the motor during this operation.

## 14. REPLACE THE DRIVE FREE WHEEL

### NECESSARY TOOLS

- Specific disassembly socket (reference LMX-00758)
  - Allen key size 4
- 
- Remove the rear wheel (see page 23),
  - Remove the disc nut with the appropriate tool,
  - Remove the disc and disc carrier,
  - Remove the 6 screws from the motor ring gear using the size 4 allen key,
  - The freewheel is now accessible to change it.
  - To reassemble, reverse the steps, paying attention to the direction of the freewheel (see diagram below).



## 15. CHANGE THE BELT

### **NECESSARY TOOLS**

- Allen key of 3
- Allen key of 6
- Disc nut removal tool (provided upon delivery)
- Torque wrench 5-25 N.m

1

- Relax the chain by pushing forward on the derailleur cage,
- Push on the Cage Lock button.



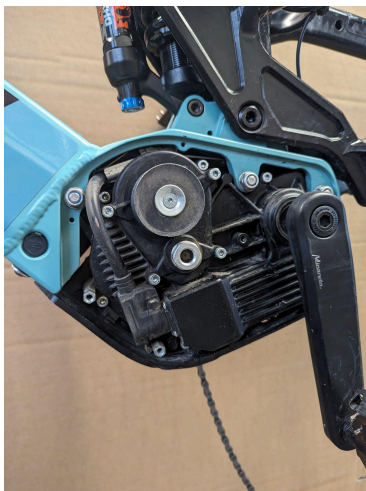
2

- Unscrew the rear wheel axle with an Allen key of 6.

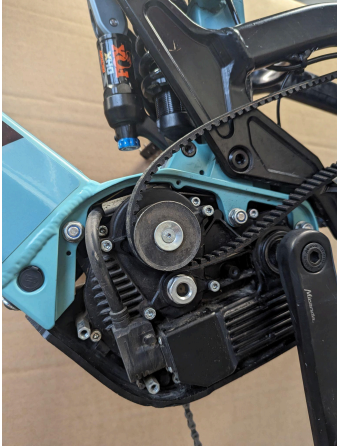


3

- Undo the protection cover of the motor gear (beltside), with the help of the Allen key of 3.



- Pass the new belt inside of the swingarm.
- Follow the path of the belt tensioner.
- Guide the belt around the motor gear.
- Guide the belt outside of the swingarm.



- Remount the rear wheel :

- Pass the chain over the cassette.
- Lift the rear wheel and align it with the rotor and the brake pads.

**WARNING**

*Pass the brake disc into the caliper without damaging the pads*

- Insert the rear wheel axle after cleaning and greasing it.
- Tight the axle at 12N.m with a torquewrench.

**WARNING**

*The pads must not touch the disc (caliper centered in relation to the disc)*



- Place the belt hub side by the wheel center.
- Install the spring into position.



7

- Use the rotor dismounting tool (shipped with the bike) to loosen the belt.
- Turn and push to the front of the LMX.
- Place the belt by firstly passing from above then follow the path of the pulley.





8

- Push the derailleur cage forward to unlock the cage lock.



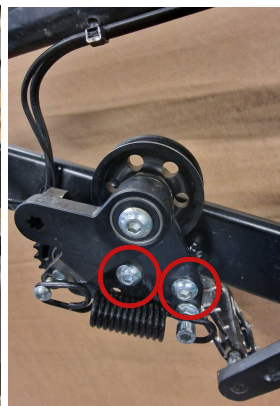
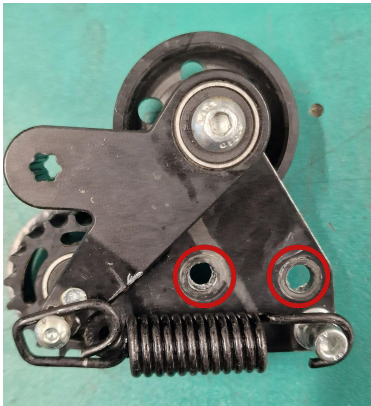
9

- Replace the engine casing (pinion protection cover).
- Secure it with the 3 TBHC M5x12 screws.

### BELT TENSIONER ASSEMBLY ON SWING ARM

The belt has to be placed in the belt tensioner before remounting the LMX.

- Fix the swing arm on those plots (circle in green).
- Screw the 2 bolts M8x14 at 8N.m, with blue thread locks.





## KNOWLEDGE BASE - LMX BIKES

This Base is accessible on our website, from the [Resources](#) page or via the QR code below. It brings all the PDF tutorials and videos available for the mechanics and electronics of your LMX.

- The available articles are displayed in front of you.
- To find a specific article, please use the search magnifying glass.
- Articles are translated into english and french





## ERRORS AND DEFECTS OF USE

SITUATION: the power supply is abnormally cut off during use.

### 1. BATTERY PROTECTION

The system has several security features. In general, the battery is automatically reset.

If not, remove the battery from the LMX and then reinstall it.

### 2. LOW BATTERY SAFETY

The battery automatically shuts down if the voltage drops below 40V. Recharging the battery restores the shutdown.

### 3. INSTANT OVERCURRENT PROTECTION

The battery will automatically shut down if the current exceeds 88A. To reset, turn the battery off then back on from the LED panel.

### 4. CONTINUOUS OVERCURRENT

To prevent battery overheating, the battery is protected if the current output exceeds 60 A for 3 seconds. The battery then shuts off the power. To reset, turn the battery off then on again from the LED panel.

### 5. EXCESSIVE TEMPERATURE

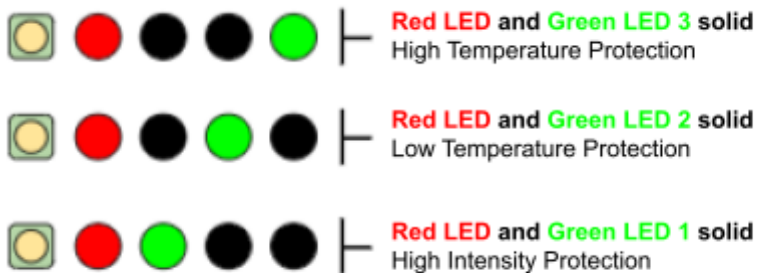
The battery has temperature sensors.

- If the temperature  $> 60^{\circ}\text{C}$   $\Rightarrow$  the LMX switches off.
- If the temperature  $< 50^{\circ}\text{C}$   $\Rightarrow$  the battery resets and the LMX 56 restarts.
- If the temperature  $> 55^{\circ}\text{C}$   $\Rightarrow$  the battery refuses charging.

## 6. LOW TEMPERATURE

- If the temperature  $< -15^{\circ}\text{C}$   $\Rightarrow$  the LMX switches off.
- If the temperature  $= -10^{\circ}\text{C}$   $\Rightarrow$  the battery resets and the LMX restarts.
- If the temperature  $< -15^{\circ}\text{C}$   $\Rightarrow$  the battery refuses charging.

## 7. BATTERY ERROR CODES



## 8. MOTOR AND CONTROLLER OVERHEATING

The motor and controller are equipped with thermal protection limits.

- Motor temperature limit =  $135^{\circ}\text{C}$ .
- From  $105^{\circ}\text{C}$   $\Rightarrow$  the power is reduced.
- As the temperature drops, power becomes available again.

### ADVICE

- Cooling from  $135$  to  $75^{\circ}\text{C}$  should take less than 5 minutes.
- To reduce overheating, be sure to maintain a high speed during the ascent.
  - Ideal speeds for good efficiency  $\Rightarrow$  25 and 30 km/h
  - Climbing speed  $< 10$  km/h without pedaling  $\Rightarrow$  heat production and energy loss.

## 9. FAILSAFE MODE

If you're experiencing sudden interruption of the LMX 56 begin by rebooting the bike.

- If the cut off is linked by a disconnection of the master module and is not going back up after the reboot, the LMX 56 is automatically going into failsafe mode.
  - The configuration of the failsafe mode is the same as the mode 1 set from the factory. 750w 25 km/h max and without throttle. This mode allows you to head back home in the middle of a ride.
- If the issue persists after 2 tries of rebooting it, please contact the LMX team.



## OTHER DEFECTS

### 1. CLICK NOISE IN THE ENGINE SIDE TRANSMISSION

- Check the tension of the belt and the state of wear of the pulleys

#### **ADVICE**

Change the tensioner spring or the complete tensioner in case of belt resonance frequency <55hz

### 2. SOFT BRAKE LEVERS

If the operation of the brake levers does not allow satisfactory braking or if the play of the levers becomes insufficient, the free play adjustment at the level of the levers must be checked.

- Using an allen key, tighten the adjustment screw located between the lever and the handlebar until the desired play is obtained.
- If this operation is not sufficient, change the pads and bleed the brakes (see page 26).

### 3. N MODE REMAINS ACTIVATED

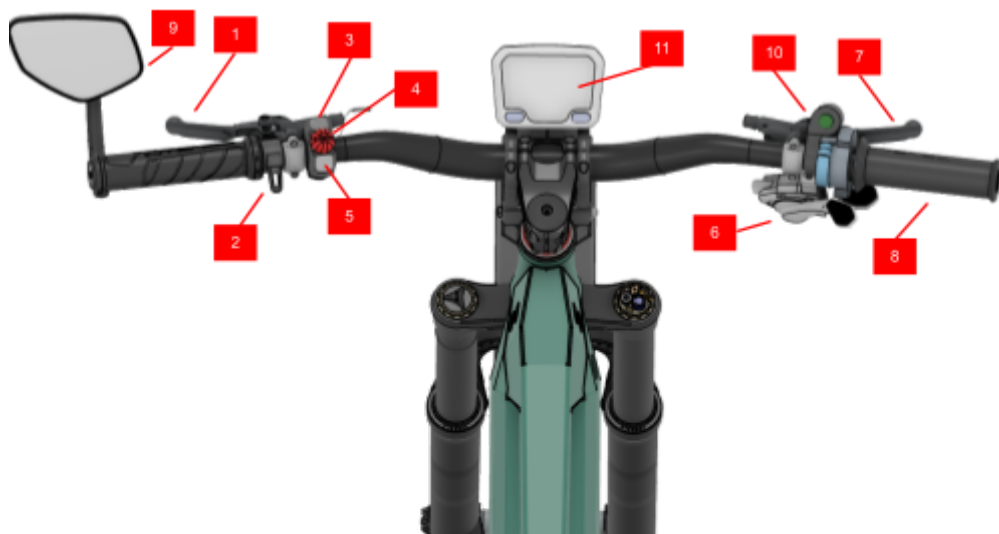
- Check that the modes pass on the application.
- If so, the Smart LED is definitely faulty.
- If not, check the operation of the kickstand sensor.

## EXPLODED VIEWS

Exploded views are accessible on our **Knowledge Base** via the following QR code:



## COCKPIT

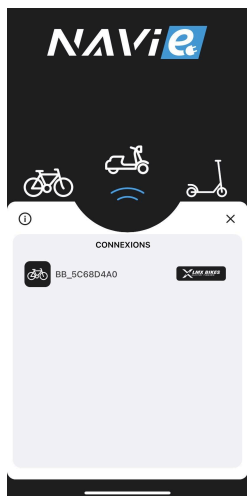


- |          |                     |          |                      |           |                 |
|----------|---------------------|----------|----------------------|-----------|-----------------|
| <b>1</b> | REAR BRAKE          | <b>5</b> | MODE BUTTON          | <b>9</b>  | REARVIEW MIRROR |
| <b>2</b> | TELESCOPIC SEATPOST | <b>6</b> | CLASSIQUE BIKE GEARS | <b>10</b> | HONK            |
| <b>3</b> | SMART LED           | <b>7</b> | FRONT BRAKE          | <b>11</b> | SCREEN          |
| <b>4</b> | CIRCUIT BREAKER     | <b>8</b> | THROTTLE             |           |                 |



# MOBILE APP - MANUAL

## VIDEO TUTORIAL >



### APP INSTALLATION

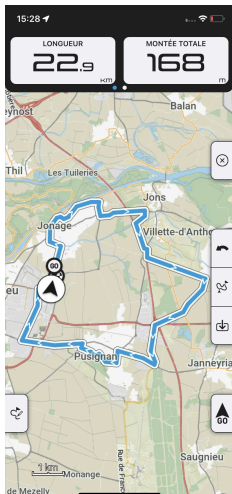
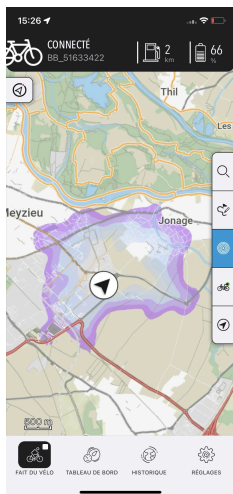
- Search for the NAVIE application from the Android or IOS app store,
- Launch the installation.

### CONNECT APP TO LMX

- Create an account on the application,
- Activate your phone's bluetooth,
- Turn on your LMX so that it is detected by the application,
- When the application is opened, if the automatic vehicle search does not start, press "CONNECT".
- Once your LMX is detected, you can connect.

**Possible to change to an imperial system of measurement.**

**Please note, you must be connected to the network during the first connection in order to register your LMX in the license database.** The license is perpetual and free of charge, it is included in the price of your LMX.



## NAVIGATE IN THE APP

### 1) Riding

The "Riding" page displays a map. On the right, several buttons are accessible by pressing the three small dots.

The first "Magnifier" tab allows you to search for a destination. 3 itineraries are then proposed: the suggested, the + economical, the + short.



Activate your geolocation and draw the route of your choice to be offered an existing route (tab 2).

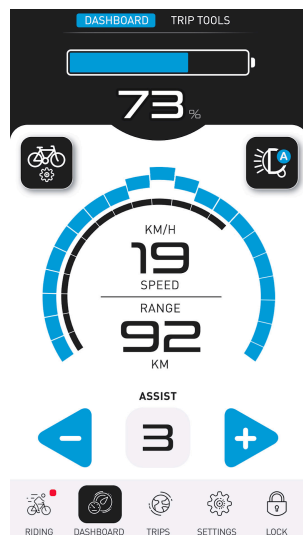
When you have chosen your route (using tabs 1 or 2), press GO to launch the route.

Tab 4 allows you to recenter the map on the current position of the LMX.

## 2) **Dashboard**

The “Dashboard” page is separated into two different tabs, available at the top of the screen: Dashboard and Tools for route calculation.

- **Dashboard** gives you access to several useful information :
  - Battery remaining percentage
  - Current speed
  - Remaining range in km
  - Assistance mode activated
  - Mode change buttons



The screenshot shows the 'TABLEAU DE BORD' settings page. It features a large bicycle icon with a checkmark. Below it, there is a 'FIRMWARE UPDATE' button. The 'BATTERIE' section displays: Tension: 5.5 V, Tension nominale: 0 mV, Capacité max batterie: 0 mAh, and Courant: 0 mA. The 'PARAMÈTRES SPÉCIAUX' section shows 'Facteur de poussée'. At the bottom, a navigation bar includes icons for FAIT DU VÉLO, TABLEAU DE BORD (active), HISTORIQUE, and RÉGLAGES.

### SYSTEM UPDATES

The button on the left of the screen representing a Bike + a gear gives access to system updates. By pressing the update button, your LMX benefits from the latest performance and security software developments.

It is mandatory to be connected to the internet and close to the LMX to perform the updates.

**Note:** This update button is always present and clickable even if your LMX is already on the latest available software version.

Flash here to access the Changelog.



### • **Trip Tools**

This page allows you to view different data during the route :

- Remaining distance
- Effective riding time
- Current altitude
- Speed
- Average speed

### 3) **History**

The “History” page shows data from your past rides.

- The duration of your ride
- The weather
- Calories burned
- The average speed
- The drop
- Average battery consumption



#### 4) Settings

The “Settings” page gives access to different tabs.

- **System**

- Set the desired language for the application
- Set the desired unit (in meters or in feet)
- Choose how to download large files

- **Navigation**

- Choose the desired navigation elements (notification, voice command, etc.)

- **Supported Systems**

- **Maps**

- Download country maps based on your geographic location. The remaining space on the app is shown on the right.

- **Account**

- Set up the Account tab with driver information.

#### 5) Motor tuning

The “Motor Tuning” tab allows you to configure the motor assistance modes according to your preferences.

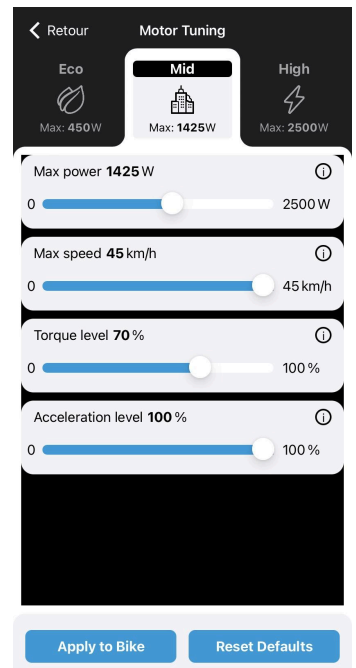
Set the 3 Eco, Mid and High modes to :

- The max power (W)
- Max speed (km/h)
- The max torque (%)
- Acceleration level (%)

- Switch the LMX to Neutral mode before doing the configuration.

- Press “Apply to bike” to save the settings.

- Press “Set as default” to apply the default settings.





## TECHNICAL SUPPORT



### IMPORTANT

For any support request, please follow the QR code below to create a nominative ticket.

**ANY REQUEST SENT ON ANOTHER CHANNEL WILL NOT BE TAKEN INTO ACCOUNT**



### TO NOTE

⇒ For any maintenance and after-sales service carried out at your dealer or at LMX, please bring the following items :

- **Copy of the bill**
- **Battery key**
- **Original charger**

⇒ If the vehicle is shipped to our premises under warranty, the vehicle must be returned in the original packaging, under penalty of additional invoicing.

Workshop phone : **+33 4 69 31 04 29**

Open Monday through Friday. French and English spoken.

#### APPOINTMENT BOOKING

<https://lmbikes.com/reservation/>

#### LMX OWNERS GROUP ON FACEBOOK

<https://www.facebook.com/groups/LMX.Owners>



## MAINTENANCE SCHEDULE - LMX 56

Congratulations on the purchase of your LMX 56, this speed bike has been designed by us to offer you incomparable performance on all terrains.

Even though your LMX has been designed to be both reliable and durable, it is very important to carry out regular scheduled maintenance and regular checks to ensure that everything is running well. The performance of your LMX depends on regular maintenance for the guarantee.

Regarding the maintenance part, please refer to the user manual included in your receipt package. For repairs and regular checks, these services should be carried out at the LMX workshop directly or by your local dealer who knows the mechanics of your LMX.

Color code : **Mandatory operations** / **Operations if necessary**

<b>1st check</b> <b>General control</b>	Current mileage	Date	LMX Buffer
3 months / 1000 km <ul style="list-style-type: none"> <li>- Play and tightening</li> <li>- Transmission noise</li> </ul>			
<b>2nd check</b>	Current mileage	Date	LMX Buffer
12 months / 3000 km <ul style="list-style-type: none"> <li>- Suspension maintenance</li> <li>- Belt and its 18T roller</li> <li>- Transmission kit (chain)</li> <li>- Brake pads</li> </ul>			
<b>3rd control</b>	Current mileage	Date	LMX Buffer
24 months / 5000 km <ul style="list-style-type: none"> <li>- Transmission kit (chain)</li> <li>- Brake pads</li> <li>- Bleeding brakes</li> <li>- Belt and its 18T roller</li> <li>- Change tires if needed</li> <li>- Suspension maintenance</li> </ul>			

Most parts are guaranteed for 2 years, excluding wear parts.  
The battery is guaranteed for 1 year.  
(Refer to the GCS applicable on the date of validation of the order)

**Version**

- 56H
- 56T

**Chassis number**

VG956H2MPPJ041 \_\_\_\_ \_\_\_\_ \_\_\_\_

**Delivery date** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

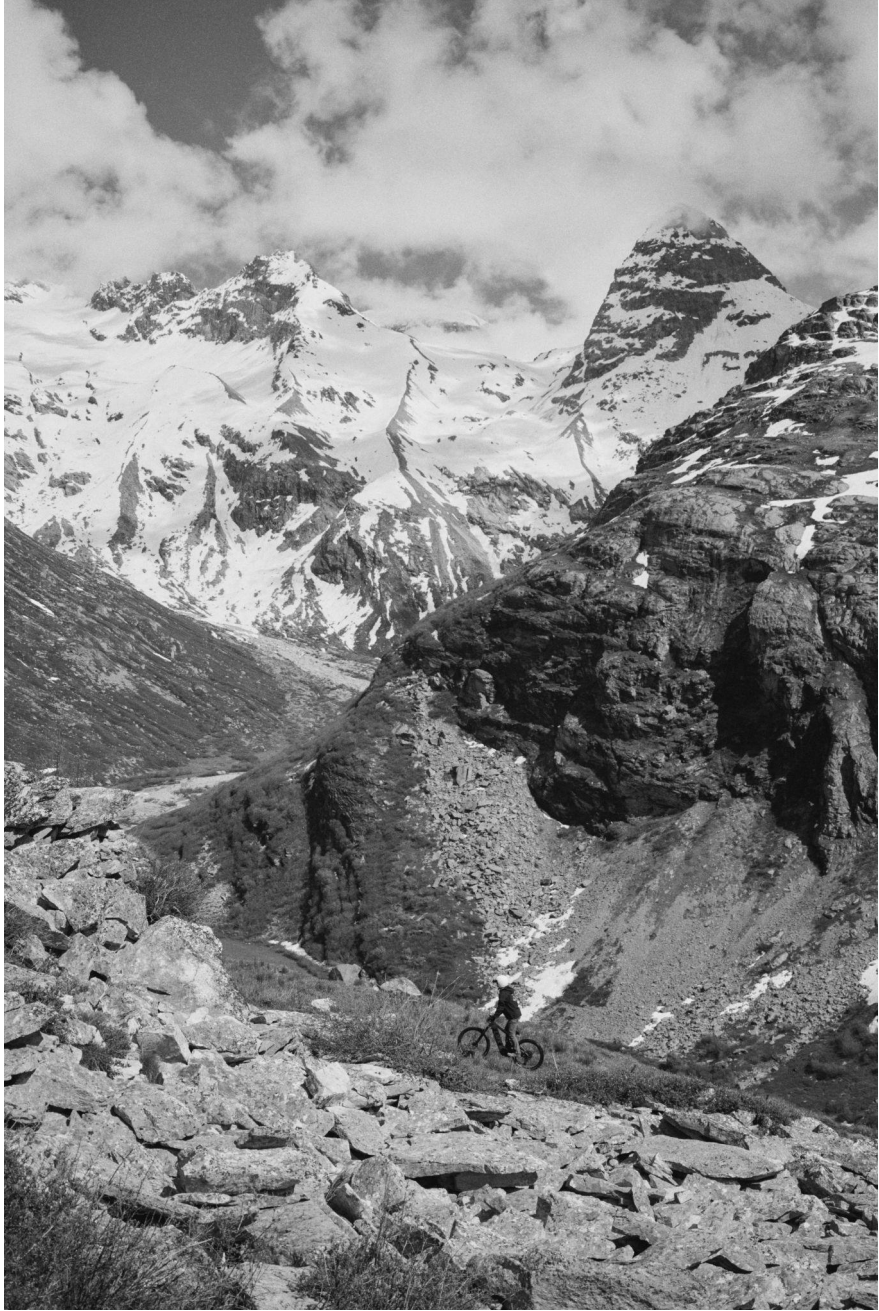
**Owner's Name/Surname** .....

**Owner's email** .....

**Address** ..... **Postal code** .....

**City** ..... **Country** .....

Signature of LMX Bikes or LMX dealer :





**LMX Bikes**

1623 avenue Henri Schneider  
69330 Jonage  
France

[www.lmxbikes.com](http://www.lmxbikes.com)

+33 4 69 31 04 29

