

2. Maintenance and adjustment

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2.1. Inspection before delivery

Before delivering the vehicle, the following points are checked:

- Brake operation: During a short ignition, check that the brakes are functioning properly, without feeling spongy or leaking.
- Checking the steering.
- Checking the side stand switch: With the side stand on, the motorcycle cannot be started.
- Tyre pressure and visual condition of tyres → Checking the tyres 2.3.5.
- Lighting: low beam, high beam, position light, indicators, hazard lights, brake light, tail lights and licence plate lighting
- Checking the shock absorbers → Checking the front/rear shock absorbers 2.3.3./2.3.4.
- Checking the dashboard
- Adjusting the mirrors → Adjusting the mirrors 2.3.7.

2.2. Periodic maintenance programme

The first inspection of the vehicle at 500 km (or 2 months of use, whichever occurs first) is fundamental in order to correct the parameters of the new vehicle and ensure its proper functioning for a long period.

The following table summarises the operations to be carried out during maintenance inspections of the NERVA EXE electric scooter.

ELEMENT	DISTANCE TRAVELLED/TIME ELAPSED (whichever comes first)					
	500 km/2 months	5000 km/12 month	10.000 km/24 month	15.000 km/36 months	20.000 km/48 months	Following
Transmission gearbox oil (→ 4.9.)	R		R		R	Every 10,000 km/2 years
Belt tension (→ 4.6./4.7.)		RV	RV	RV	RV	Every 5.000 km/1 year
Tightening of screws and nuts (→ 2.3.1.)	RV	RV	RV	RV	RV	Every 5.000 km/1 year
Steering and bearings (→ 7.11.)	RV	RV	RV	RV	RV	Every 5.000 km/1 year
Front suspension (→ 2.3.3.)	RV	RV	RV	RV	RV	Every 5.000 km/1 year
Rear suspension (→ 2.3.4.)	RV	RV	RV	RV	RV	Every 5.000 km/1 year
Brakes: pads and discs (→ 7.4.-7.6.)	RV	RV	RV	RV	RV	Every 5.000 km/1 year

Brake fluid (→ 2.3.2.)	RV	RV	RV	RV	RV	Inspection every 5,000 km and replacement every 15,000 km/2 years from last change
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KEY: **R** : Replace **RV**: Review

2.3. Adjustment

2.3.1. Tightening screws and nuts

Carry out a general tightening of the main chassis nuts and screws. Here are the most important chassis connections.

Screw/nut	Net	Tightening torque
Front/rear disc brake screw	M8x25	25 Nm
Rear axle nut	M16	95 Nm
Right swingarm screw with electric engine	M8x35	25 Nm
Left shock absorber lower mounting screw	M8x50	25 Nm
Right shock absorber lower fixing screw	M10x35	45 Nm
Engine joint shaft nut	M10	45 Nm
Shock absorber upper mounting screw	M10x40	45 Nm
Rear caliper fixing screw	M8x30	25 Nm
Brake pipe screws	M8x35	20-25 Nm
Fork to rod tube fixing screw	M10x45	45 Nm
Front axle		55 Nm
Front right/left caliper fixing screw	M10x60	45 Nm
Rear handle screws	M8x30	25 Nm
Fork leg screws axle fixing	M6x25	10 Nm
Handlebar fixing bridge screws	M8x30	25 Nm

2.3.2. Brake fluid level



Mount the scooter on its centre stand and turn the handlebars so that the brake pump reservoir whose level you want to check is horizontal. Check each level by sight, checking that the brake fluid level is above the low level marked LOWER.

If the level is near the LOWER mark, this indicates that the brake pads in the caliper(s) associated with this pump are near the wear limit and need to be replaced. Another symptom is the presence of brake fluid leaks, which requires a solution.

Avoid brake fluid going under the LOWER mark, as air will enter the hydraulic system and reduce braking power. Fill with DOT -4 brake fluid from a sealed container and follow the directions in section 7.13.

Brake fluid filling.

2.3.3. Checking the front suspension



Lower the scooter from its centre stand, fully apply the front brake and apply pressure on the handlebars to compress the front fork, then release the pressure to check that it returns to its initial position.

Check the sealing of the fork retaining seals by checking for the presence of oil leaking from the top of the cylinders.

2.3.4. Checking the rear suspension



Lower the scooter from its central stand, fully activate the rear brake and exert pressure on the passenger seats to compress the two rear shock absorbers, then release the pressure to check that they return to their initial position.

Check the sealing of the shock absorber retaining joints by checking for the presence of oil leaks.

2.3.5. Checking the tyres

The tyres are the most critical part of the vehicle because they are the only point of contact with the road surface and the safety of the scooter driver depends on them.

Visually check the tyre tread and sidewalls for cracks, irregular wear and damage, as well as embedded objects such as gravel, glass pieces, nails, etc.

Check if the running surface is worn and is flush with the wear indicator located in



some of the grooves. If so, replace the tyres with new ones of the “tubeless” type, maintaining the following dimensions, load code and speed code.

	Dimensions
Front	120/70-15 M/C 56S
Rear	140/70-14 M/C 62S

Another way to know if the tyre is worn in the absence of a wear indicator is to insert a one euro coin into several grooves of the tire, checking that the surface exceeds the circular crown of the coin (approximately 2mm).



When the tyres are used for the first time, take into account that they must be broken in, since they are covered with an exterior varnish which can be very slippery. During the first 100~120 kilometres of tyre break-in, avoid braking or accelerating suddenly, or leaning too much.

Maintaining the correct tyre pressure, measured when cold, when the tyres have barely been driven, is also very important. A tyre with excess pressure minimises the contact footprint of the tread, reducing the tire's grip, leading to skidding and loss of control, and causing faster wear of the centre portion of the tyre.

Conversely, a tyre with low pressure increases the contact area of the tread, increasing rolling resistance (braking) and making its profile more irregular when you lean.

Pressurised air in a tyre tends to escape over time and we therefore recommend checking the pressure every 2 to 3 weeks.

The following table shows the recommended pressures for the Nerva Exe when driving alone or with a passenger.

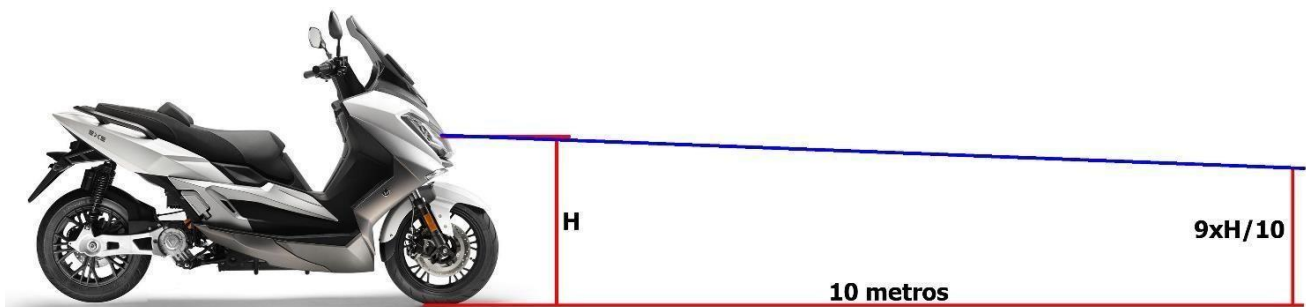
	Driver alone	Driver and passenger
Front	2.2 atm	2.4 atm
Rear	2.4 atm	2.6 atm



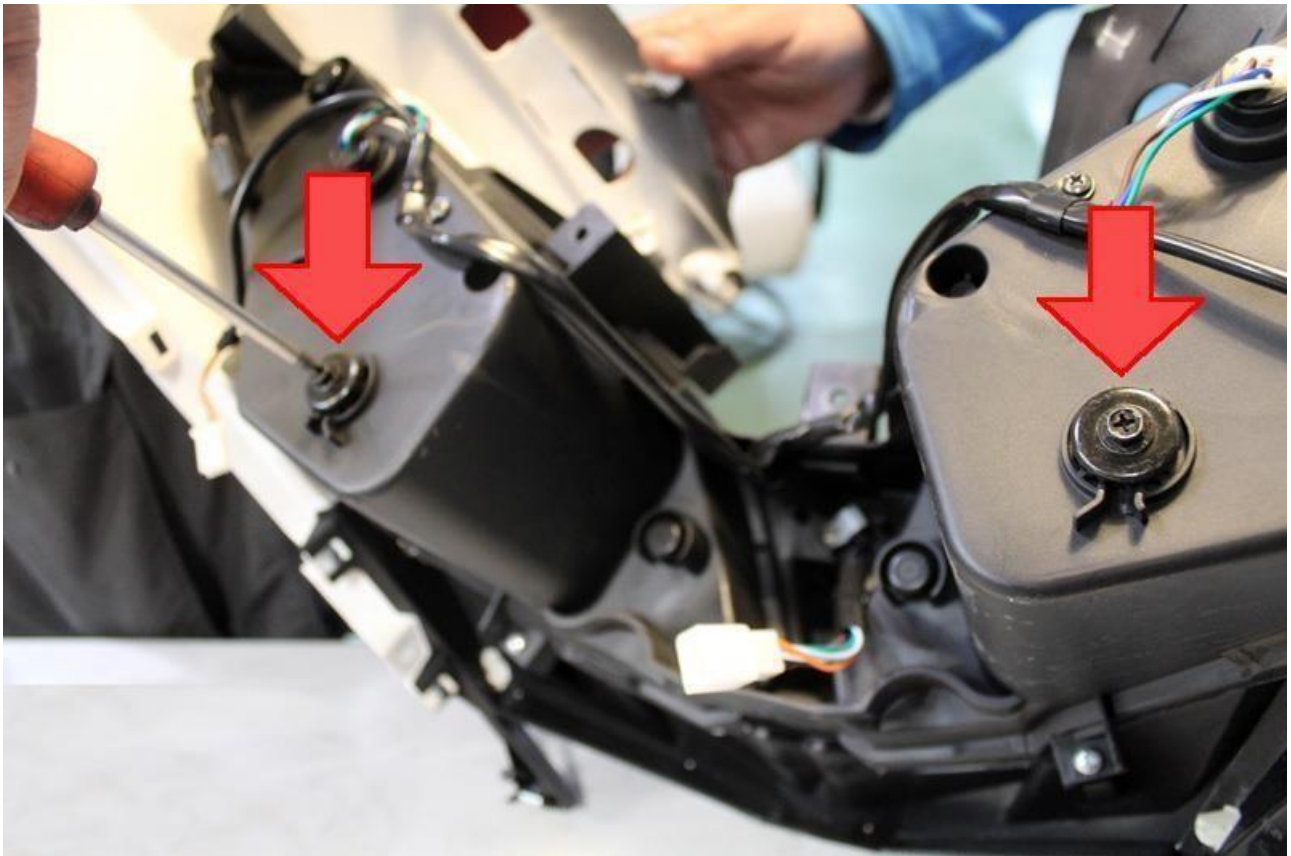
2.3.6. Headlight beam adjustment

Locate a white wall in a dimly lit area (a garage wall) and approach the scooter perpendicular to the wall until the front wheel touches the wall. The scooter must not be resting on any of its stands; a person must be seated on it with one foot resting on the ground.

Turn the headlight on to low beam and ask someone else to mark (with a piece of tape, for example) the upper beam area on the wall. We will call H the height between the mark on the wall and the floor.



Make another mark just below it at a height of $9xH/10$ and move the scooter 10 metres back from the wall. Adjust the headlight so that the upper area of the low beam is at the height of the second mark.



The headlight is independently adjusted for the right and left optics by adjusting the screws marked with red arrows using a no.2 Phillips screwdriver on the back of the headlight. To do this, you will need to access the screws through the front wheel arch.

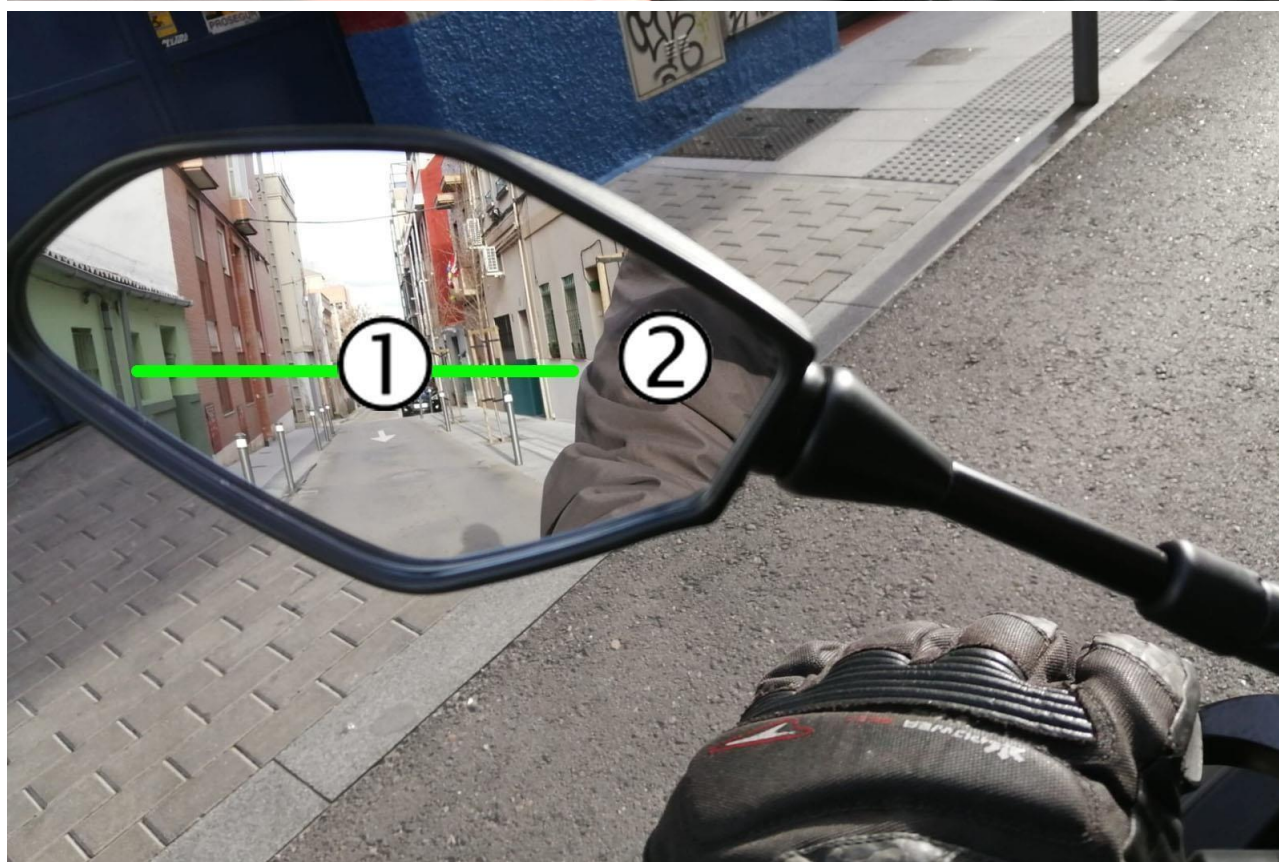
It is important that the scooter supports the weight of a person with a similar build to the usual rider in order to achieve the best adjustment with the suspensions compressed to the required load.

2.3.7. Adjusting the mirrors

Loosen, using a 14 mm open-end wrench, the upper locknut located at the base of each mirror support and position the mirror supports perpendicular to the longitudinal axis of the scooter in order to position the rearview mirror at the farthest point.

Once the mirror brackets are positioned, tighten the lock nut to secure them in this position.

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2.3.8. Adjusting the seat opening cable tension

The seat opening control cable starts from the ignition lock (SEAT button) and ends at the lock located under the front part of the seat. This cable has a tensioner located just behind the horn, and it will need to be adjusted if the lock does not work correctly: by loosening the tensioner if the lock remains open and does not close the seat, or by tightening the tensioner if the seat can not be opened.



Logically, it will be easier to access the tensioner if the body components in this area have been removed (as illustrated in the photographs), but to do it more quickly, the best access is the front wheel arch, in moving the horn out of its position either by loosening the screw that holds its bracket to the chassis, or by removing the nut that holds the horn to the bracket. In both cases a 10mm wrench is required.

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Once access is possible, the rubber dust covers covering the tensioner should be moved apart, moving them away from each other up and down the cable.



Using two 8 mm spanners, release the lock nut and play on the tensioner by loosening or tightening it to adjust the seat lock. Once done, lock the lock nut and put the horn back in its place.

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2.3.9. Adjusting the tension of the charging socket opening cable

The access hatch to the charging socket (type 2) is achieved via a control cable which pulls a lever when the CHARGE button on the ignition lock is pressed. As with the seat opening cable, this cable includes a tensioner almost at the end of the lever (as shown in the following figure) but, unlike the first, it does not have a dust cover.

The tensioner is also located just behind the horn. The latter will have to be moved



aside if the bodywork has not been removed, in order to access it through the front wheel arch, distinguishing it by touch due to the absence of a rubber dust cover.



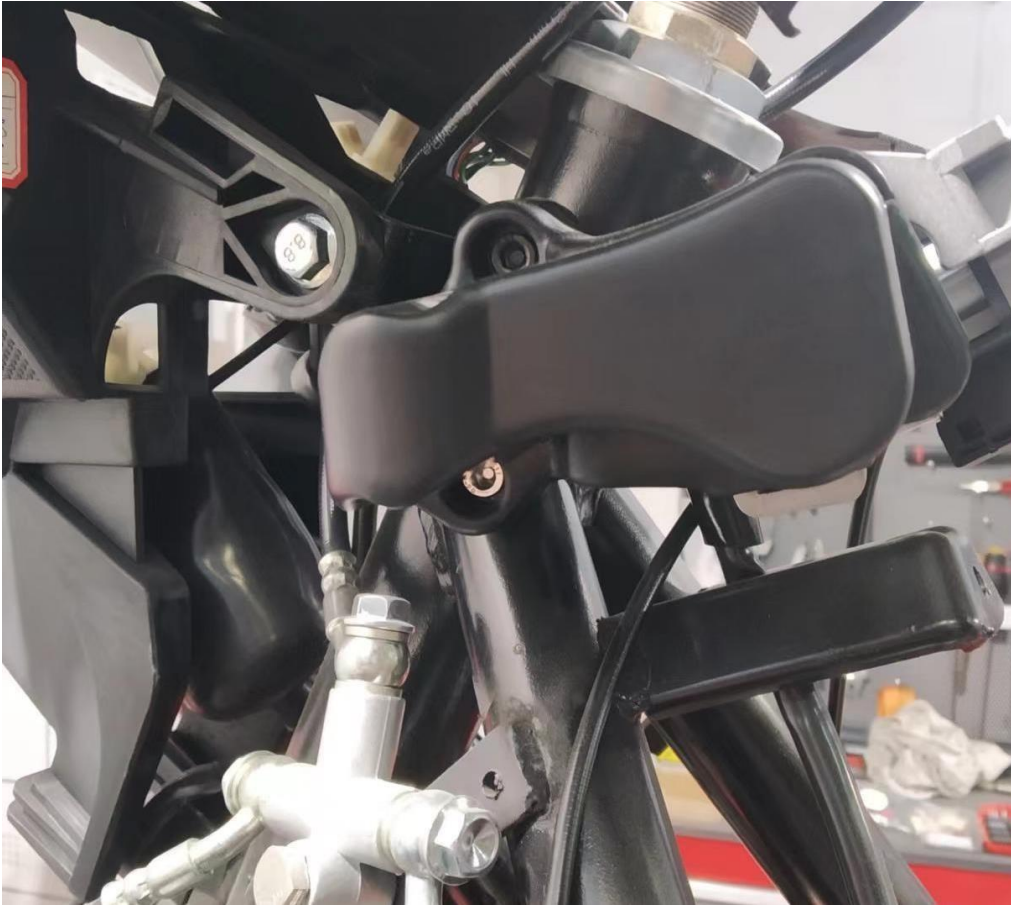
Again, use two 8mm spanners to release the locknut and play on the tensioner until the cover opens properly. Once done, lock the lock nut and put the horn back in its place.

2.3.10 Adjusting the steering block

The lock contains a rod that enters an orifice in the steering of the motorcycle to lock it. If the rod encounters resistance, the locking process will not take place or will be very complicated.

The locking adjustment consists of minimising the assembly clearances of the rod activation system in order to centre its axis on that of the orifice. To do this, identify the two screws that attach the locking system to the steering:

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These screws are accessible from the front wheel arch. No plastic parts of the bodywork need to be removed, although removal of the front grille is recommended for greater manoeuvrability.

Loosen these screws using a no.5 Allen key until the mechanism offers more play. Do not completely remove the screws.

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When the locking mechanism has some play, bring the handlebars to the locking position by turning the steering all the way to the left.



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Once the handlebars are turned, lock the steering by placing the key in the lock position. To do this, with the key in the OFF position, push the key into the lock and turn it counterclockwise.



With the play generated by loosening the screws, the rod axis should be centred on the steering orifice. Once you have ensured that the steering locks correctly, re-adjust the locking mechanism mounting screws using the no.5 Allen key.

