

2. Maintenance and adjustments

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2.1. Pre-delivery check

Before delivery of the vehicle, carry out the following checks:

- Brake performance: check on a brief inspection that the brakes are working properly without spongy feel or leakage.
- Steering check
- Check the side kickstand switch: the bike should not be able to move off while the side kickstand is down.
- Tyre pressure and visual condition of tyres → Tyre check 2.3.5.
- Lighting: dipped beam, main beam, position light, indicators, hazard warning flashers, brake light, rear light and number plate light
- Suspension check → Checking front/rear suspensions 2.3.3./2.3.4.
- Instrument cluster check
- Adjustment of mirrors → Adjustment of mirrors 2.3.7.
- Opening and closing the seat and charging connector cover → Adjusting the seat opening cables and charging connector cover 2.3.8.

2.2. Periodic maintenance plan

The first service of the vehicle at 500 km (or 2 months of use, whichever comes first) is essential to correct adjustments of the new vehicle and to ensure its smooth operation over a long period of time.

The following table summarises the operations to be carried out during maintenance checks on the NERVA CARGO electric scooter.

	Whichever comes first	Distance travelled (Time)									
	km	500	2,500	5,000	7,500	10,000	12,500	15,000	17,500	20,000	Following
Component	Months	2	6	12	18	24	30	36	42	48	
Gearbox oil (80W90, 130 cc)		C				R				C	Every 15,000 (or every 2 years)
Belt tension				R		R		R		R	Every 15,000 (or every 2 years)
Nuts and bolts		R		R		R		R		R	Every 5,000 (or every 1 year)
Steering and bearings		R		R		R		R		R	Every 15,000 (or every 2 years)
Front and rear suspension		R		R		R		R		R	Every 15,000 (or every 2 years)
Brake system: pads and discs		R		R		R		R		R	Every 5,000 (or every 1 year)
Brake fluid		R		R		R		C		R	Service every 5,000 km and change every 15,000 km (or every 2 years) since the last change.

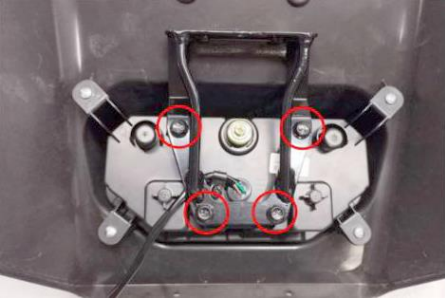
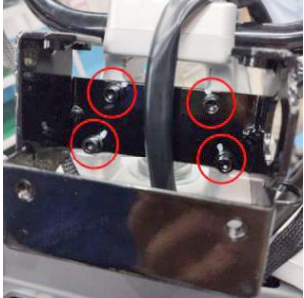
KEY: **C:** Change **R:** Review, Change and/or Adjust if necessary

2.3. Settings

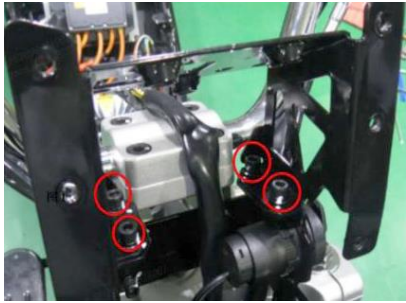
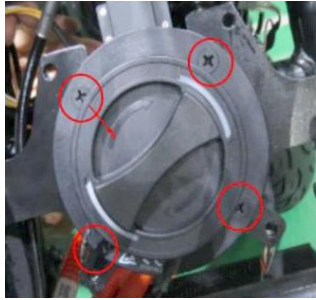
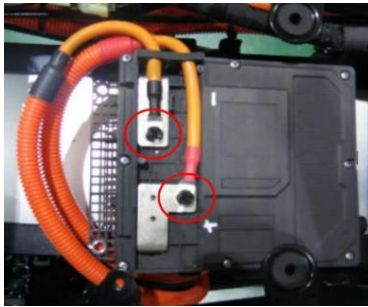
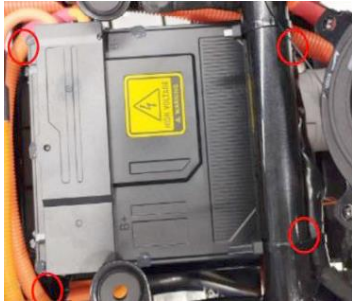
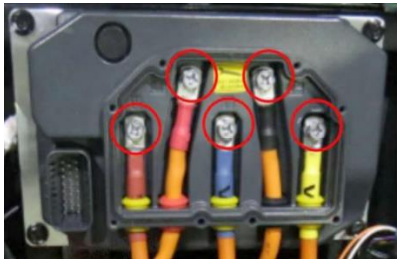
2.3.1. Tightening of screws and nuts

Carry out a general tightening of the main frame screws and nuts. The most important frame connections are listed below.

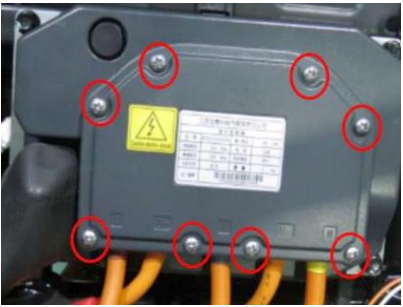
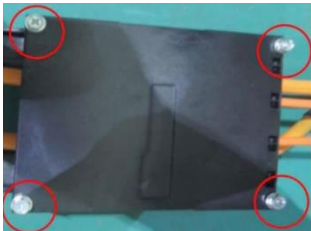
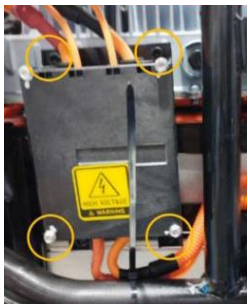
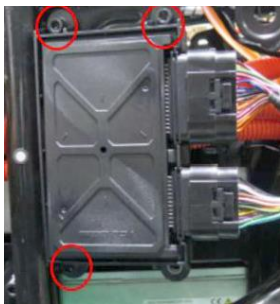
Code	Screw	Thread	Tighten	Image
1	Front/rear disc fixing screws	M8x25	25±3 Nm	
2	Contact lock fixing screws	M6x20	10±2 Nm	
3	Steering axle nut	M27	First: 40±4 Nm Loosen ¼ turn and tighten 12±2 Nm	
4	Steering shaft locknut	M27	Tighten to align the crenellations	
5	Upper seatpost steering bolt	M27x20	90±10 Nm	

Code	Screw	Thread	Tighten	Image
6	Left and right switch pinion fixing screws		1.5 ± 0.5 Nm	
7	Front caliper fixing screws	M10x55	45 ± 5 Nm	
8	Front mudguard extension plate fixing screws		1.5 ± 0.3 Nm	
9	Headlamp fixing screws	M6x12	5 ± 1 Nm	
10	Headlamp support fixing screws	M6x16	10 ± 2 Nm	

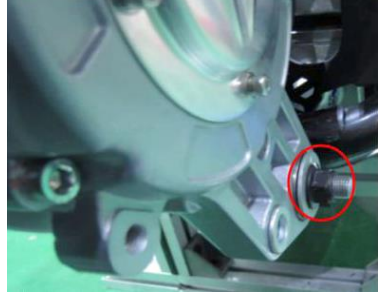
2. MAINTENANCE AND ADJUSTMENTS

Code	Screw	Thread	Tighten	Image
11	TFT screen support bracket	M6x16	10±2 Nm	
12	Fastening screws for Type 2 charging connector	M6x16	2±0.4 Nm	
13	BDU cable fixing screws	M6x12	9±2 Nm	
14	BDU cover fixing screws	ST2.2x9.5	0.3±0.1 Nm	
15	BDU fixing screws	M6x12	9±2 Nm	
16	MCU controller cable fixing screws		4.8±0.2 Nm	

2. MAINTENANCE AND ADJUSTMENTS

Code	Screw	Thread	Tighten	Image
17	MCU controller cover fixing screws		1.8 ± 0.2 Nm	
18	Junction box?	M4x10	2 ± 0.4 Nm	
19	Screws for securing cables in junction boxes	M6x16	9 ± 1 Nm	
20	Screws for fixing the junction box cover	M4x10	2 ± 0.4 Nm	
21	Junction box fixing screws	M6x20	9 ± 2 Nm	
22	VCU unit fixing screws	M6x20	9 ± 2 Nm	

2. MAINTENANCE AND ADJUSTMENTS

Code	Screw	Thread	Tighten	Image
23	Battery-to-frame fixing screw	M8x20	25±3 Nm	
24	Auxiliary battery terminal screws		0.8±0.2 Nm	
25	Charging compartment fixing screws	M6x16	10±2 Nm	
26	Keel fixing screws	M6x12	5±1 Nm	
27	Engine-transmission swingarm shaft nut	M12	75±8 Nm	
28	Right swingarm fixing screws	M8x35	25±3 Nm	

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Code	Screw	Thread	Tighten	Image
29	Rear wheel axle nut	M16	95 ± 10 Nm	
30	Plastic transmission cover fixing screws		3 ± 1 Nm	
31	Screw for mounting number plate holder skirt	M6x20	5 ± 1 Nm	
32	Self-tapping screw A	ST4.2x12.	0.8 ± 0.2 Nm	
33	Self-tapping screw B	ST4.8x16	1 ± 0.2 Nm	
34	T30 Torx key screw	M6x12	10 ± 2 Nm	

2.3.2. Brake fluid level



Raise the scooter onto its centre kickstand and turn the handlebars so that the brake pump reservoir whose level you want to check is horizontal. Check each level through the sight glass, verifying that the brake fluid level is above the MIN level mark.

If the level is close to the MIN mark, it indicates that the brake pads of the caliper(s) associated with that pump are close to the wear limit and should be replaced. Another symptom is brake fluid leakage, which needs to be rectified.

The brake fluid must not drop below the MIN mark, because air will enter the hydraulic system and reduce braking power. Fill with DOT-4 brake fluid from a sealed container and follow the instructions in section 7.15. Hydraulic system purging.

2.3.3. Checking the front suspension



Lower the scooter from its centre kickstand, fully apply the front brake and apply pressure on the handlebars to compress the front fork and release the pressure to check that it recovers correctly.

Check the tightness of the fork seals by checking that there are no oil leaks from the upper parts of the cylinders.

2.3.4. Checking the rear suspension



Lower the scooter from its centre kickstand, fully apply the rear brake, apply pressure on the passenger seat to compress both rear shock absorbers, then release the pressure to check that the shock absorbers recover correctly.

Check the seals of the shock absorber seals for leakage of oil.

2.3.5. Checking the tyres

Tyres are the most critical element of the scooter, as they are the only point of contact with the road and the safety of the scooter driver depends on their condition.

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



Check the running surface for wear by checking the wear indicator located in some of its grooves. If there are indeed signs of wear, replace the tyres with new tubeless tyres maintaining the following dimensions, load code and speed code.

	Measurements
Front	120/70-15 MC 56 S
Rear	140/70-14 MC 68 S

Another way to detect a worn tyre – if it does not have a wear indicator – is to insert a 1 Euro coin into several of its grooves and check that the surface comes to above the circular crown of the coin (approximately 2 mm).



When tyres are used for the first time, please note that they need to be run-in, as they have a coating varnish on the outside which can be very slippery. During the first 100~120 km of tyre service life, avoid hard braking, hard acceleration or hard leaning.

It is also essential to check and maintain tyre pressure when the tyres are cold — that is, before the scooter has been ridden. A tyre with too much pressure minimises the tread contact patch, reducing tyre grip, leading to skidding and loss of control, and causing the tyre to wear faster in its centre area.

Conversely, a tyre with low pressure increases the tread contact area, increasing rolling resistance (braking) and making the tyre profile more uneven on inclines.

The pressurised air contained in a tyre tends to escape over time and it is therefore recommended that you check the pressure every 2 to 3 weeks.

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

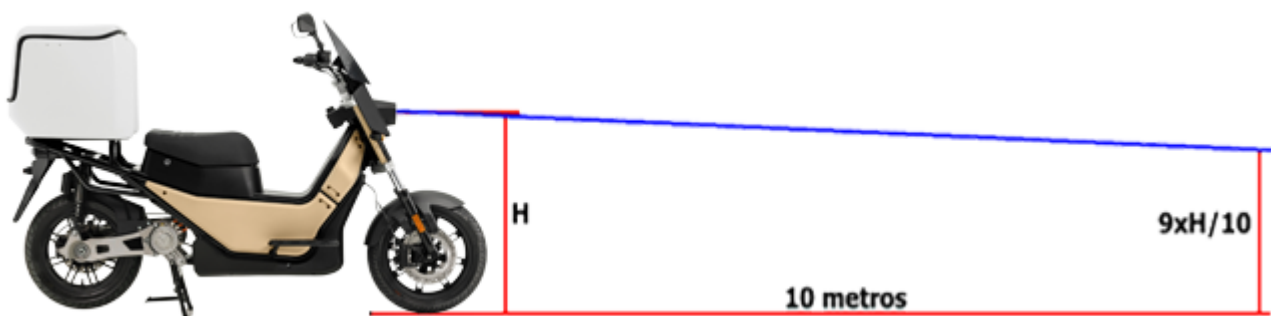
	Driver only
Front	250 kPa, 2.50 bar (atm.), 36 PSI
Rear	250 kPa, 2.50 bar (atm.), 36 PSI



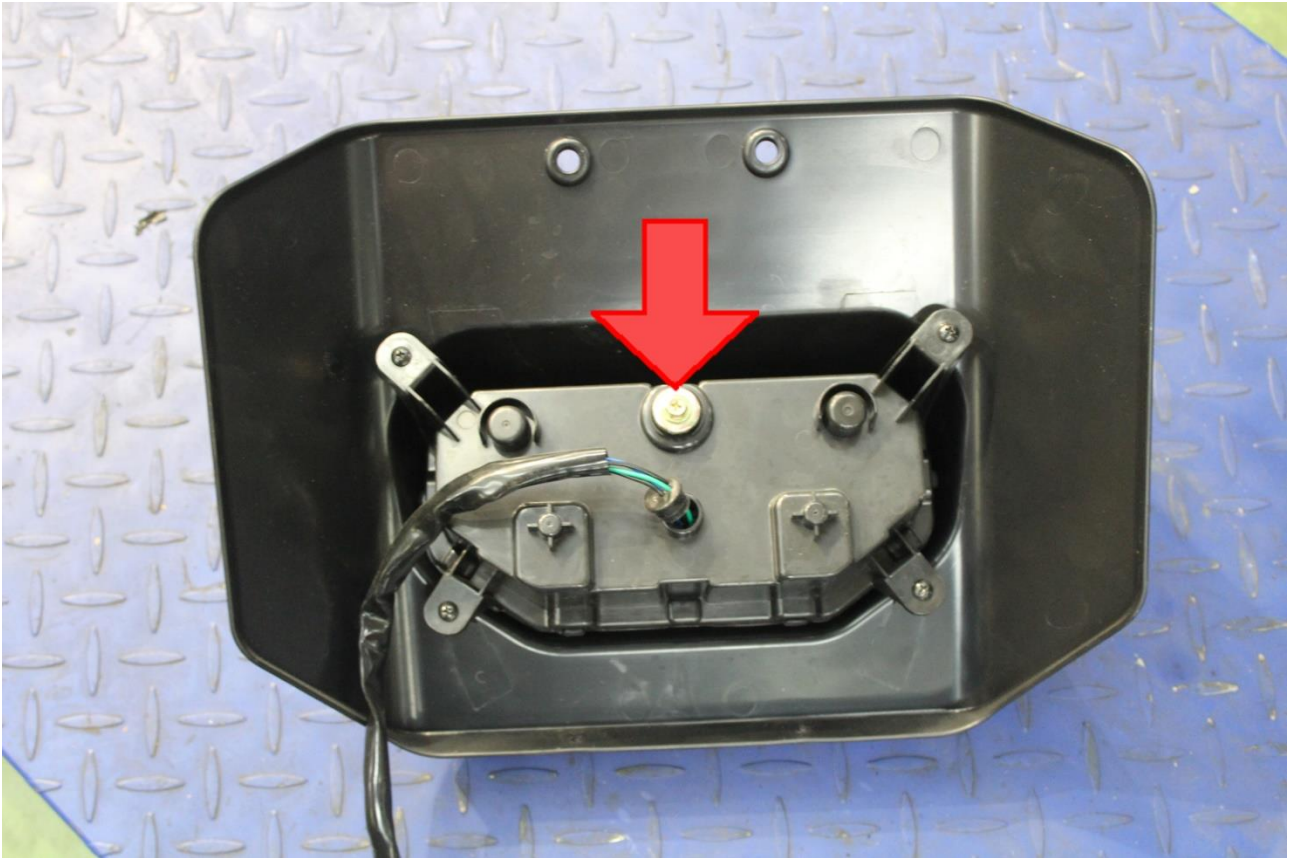
2.3.6. Headlamp beam adjustment

Locate a white wall in a dimly lit area (a garage wall) and move the scooter perpendicular to the wall until the front wheel touches the wall. The scooter must have the kickstands retracted with the weight of one person on the seat and one foot resting on the ground.

Turn on the headlights by selecting the dipped beam, and ask someone to mark the upper area of the beam on the wall (with a piece of electrical tape, or similar). The height between the wall mark and the floor is referred to as H.



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



Adjustment of the headlamp is made for both the low beam and high beam headlamps together by acting on the screw marked with the red arrow in the picture with a #2 Phillips screwdriver on the back of the headlamp. To do this, the headlamp shall be removed from its housing as described in paragraph 1.13. Disassembly of the headlamp, reassembling it to check the fit. This process shall be repeated as many times as necessary until the adjustment is correct.

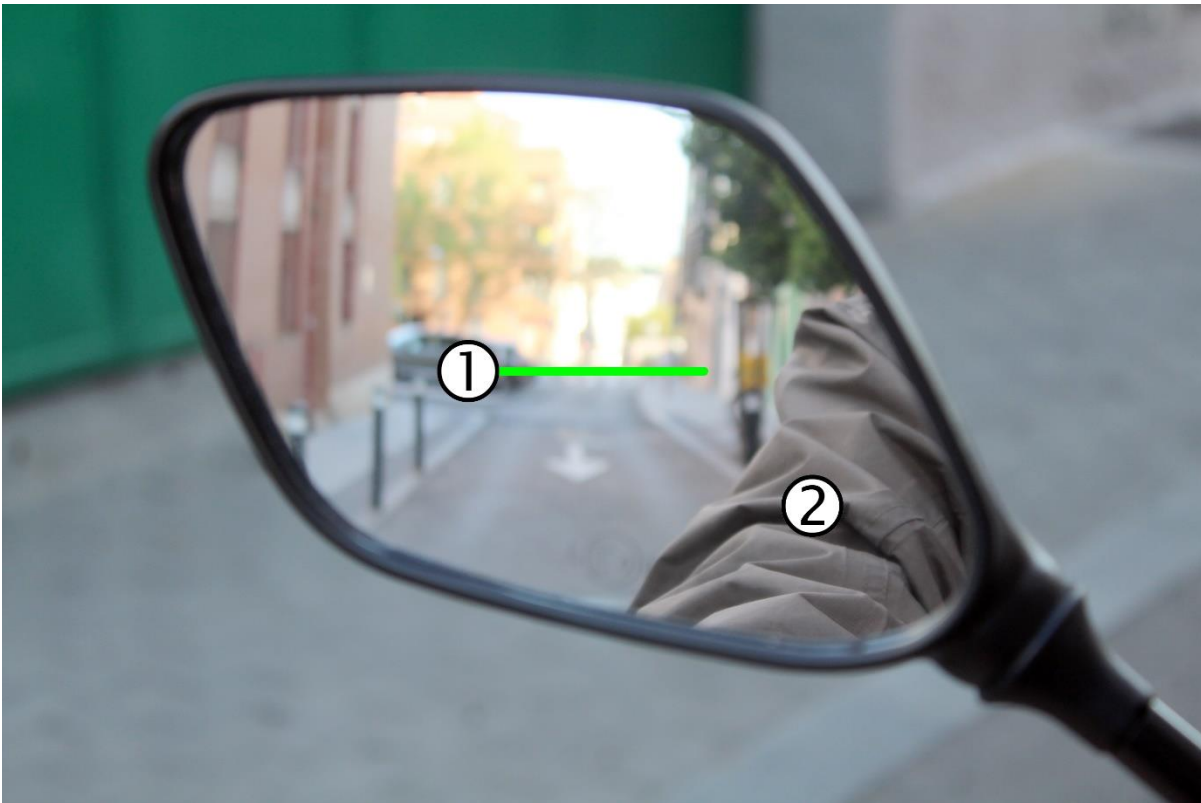
The scooter must support the weight of a person of a similar build to the regular rider in order to achieve the best fit with the suspensions compressed to the required load.

2.3.7. Adjustment of mirrors

Loosen the upper locknut at the base of each mirror mast with a 17 mm open-end spanner, then align the mirror masts perpendicular to the longitudinal axle of the scooter to position the mirror at the furthest point.

Once the mirror masts have been aligned, re-tighten the locknut to secure them in that position.





Adjust the mirrors to get the best possible rear view, so that the horizon in mirror ① appears in the middle of the mirror, and part of your arm is visible on the inside edge ② – this helps you judge the position of vehicles behind you.