Paxster AS

OPERATING INSTRUCTIONS

Applicable for all Paxster vehicles Gen 2.2

Rev: 06 – 05.05.2023

Foreword

Notes on the operating instructions

The present original operating instructions are designed to provide sufficient instruction for the safe operation of the Paxster electric vehicle.

The operator manual details different Paxster models. When operating and servicing the Paxster, make sure that the section applies to your Paxster model.

Our vehicles are subject to ongoing development. We reserve the right to alter the design, equipment, and technical features of the system. No guarantee of particular features of the Paxster should therefore be assumed from the present operating instructions.

Safety notices and text mark-ups

DANGER

Indicates a very hazardous situation. Failure to comply with this instruction will result in severe irreparable injury and even death.

WARNING

Indicates a very hazardous situation. Failure to comply with this instruction may result in severe irreparable injury and even death.

CAUTION

Indicates a hazardous situation. Failure to comply with this instruction may result in slight to medium injury.

NOTICE

Indicates a material hazard. Failure to comply with this instruction may result in material damage.

INFORMATION

Indicates a procedure or information to reduce the ecological footprint and act ecofriendly.

Content

1 Correct use and application

1.1 General

The Paxster must be used, operated, and serviced in accordance with this present operating instruction. All other types of use are beyond its scope of application and may result in damage to personnel, property or the Paxster vehicle.

1.2 Correct application

The Paxster electric delivery vehicle is designed to carry loads in two compartments, the front cargo area and the rear cargo cabinet. Additional spaces for personal belongings are situated on both sides of the operator.

NOTICE

The maximum loads for the rear cargo area and front cargo area must not be exceeded.
Do not carry passengers.

1.3 Approved application conditions

The Paxster is designed to operate in the following conditions:

- Operation in industrial and commercial environments.
- Operation on public roads
- Permissible temperature range -20°C to 40°C.
- Operation only on secure, level surfaces with sufficient capacity.
- Negotiating of slopes up to a maximum of 18%.
- Do not travel across or at an angle on inclines of more than 18%

WARNING

Use under extreme conditions.
Using the Paxster under extreme conditions can result in malfunctions and accidents.
Special equipment and authorization are required if the Paxster is to be constantly used in extreme conditions, especially in dusty or corrosive atmospheres.

The Paxster cannot be used in areas at risk of explosion.

Driving in winter conditions requires winter tires and special attention to safe speed, braking distance, and steering capabilities.

Driving in severe weather with wind gusts of more than 80km/h may lead to instable driving behavior.
Do not drive in weather conditions with wind gusts of more than 110km/h. The vehicle might tilt.

WARNING

Depending on the height of the center of gravity driving on inclines of **25%** may lead to tipping to the rear!

Depending on the height of the center of gravity driving across inclines of **30%** may lead to tipping to the side!

WARNING

Do not drive under the influence of alcohol, drugs or medications.
Do not drive if you are wearing a plaster cast or orthosis / leg or arm brace.

1.4 Proprietors' responsibilities

For the purposes of the present operating instructions the "operating company" or owner is defined as any natural or legal person who either uses the Paxster himself, or on whose behalf it is used. In special cases (e.g. leasing or renting) the proprietor is considered the person who, in accordance with existing contractual agreements between the owner and user of the Paxster, is charged with operational duties.
The proprietor must ensure that the Paxster is used only for the purpose it is intended for and that danger to life and limb of the user and third parties are excluded. Furthermore, accident prevention regulations, safety regulations and operating, servicing and repair guidelines must be followed. The operating company must ensure that all users have read and understood these operating instructions.

NOTICE

Failure to comply with the operating instructions invalidates the warranty. The same applies if improper work is carried out on the Paxster by the customer or third parties without the permission of the manufacturer.

1.5 Adding attachments and/or optional equipment

The mounting or installation of additional equipment which affects or enhances the performance of the Paxster requires the written permission of the manufacturer. Local authority approval may also need to be obtained. Local authority approval however does not constitute the manufacturers approval.

2 Vehicle description

2.1 Application

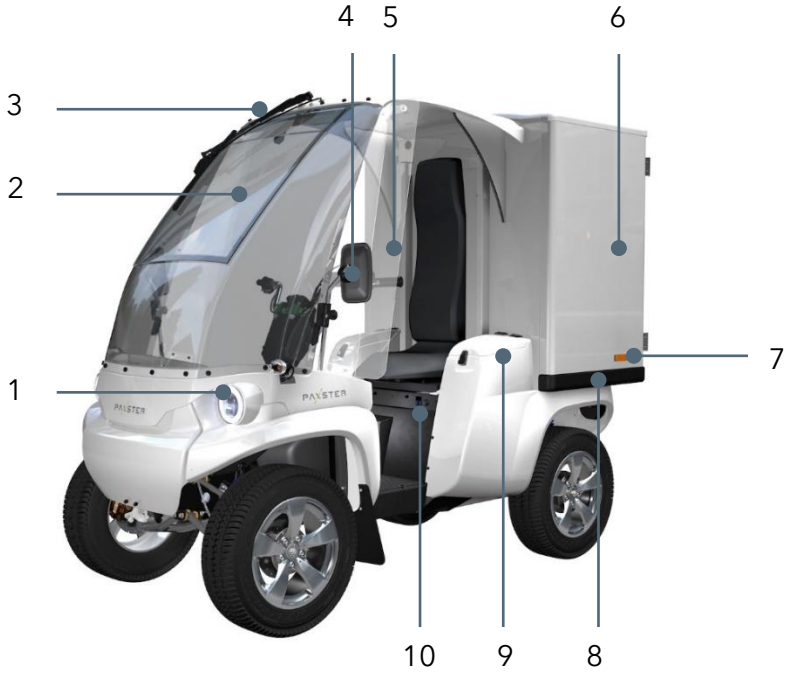
The Paxster Gen 2.2 electric vehicle is designed for last mile logistics and postal- and packaging distribution and in customized versions for other distribution and delivery types like hospital supply, food delivery, battery transport, and film camera platform.

The Paxster is designed for outdoor and indoor use and is road approved.

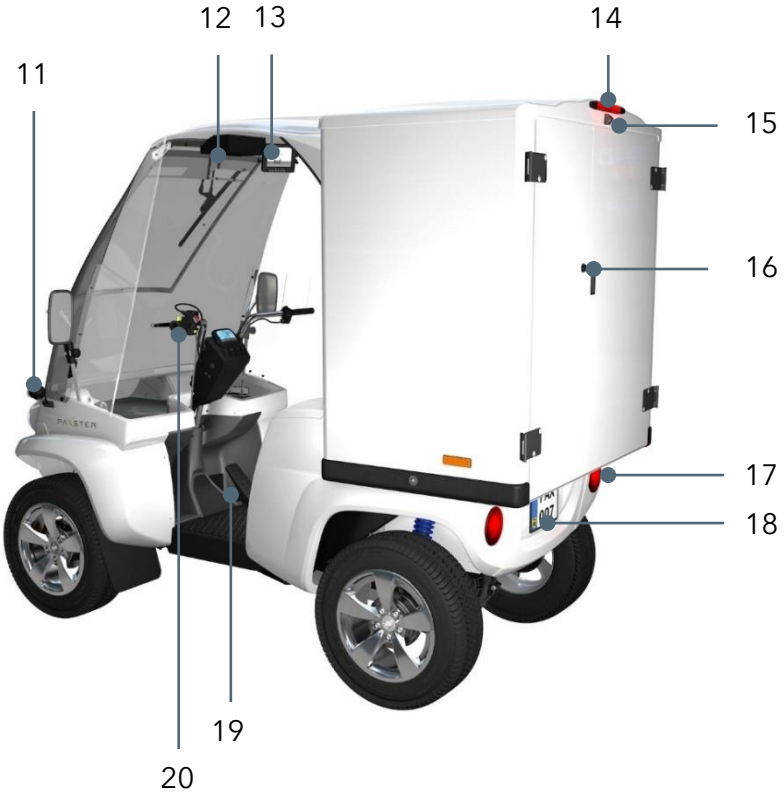
The maximum permissible load is stated on data stickers in the cargo cabinet and on the front cargo area.

2.2 Assemblies and functional description

2.2.1 Assembly overview



Item	description
1	Headlights LED or Halogen
2	Heated windscreen
3	Windscreen wiper
4	Mirror
5	Wind deflector
6	Rear cargo compartment
7	Reflector
8	Door magnet
9	Side compartment
10	Jump start switch



Item	description
11	Direction indicator front
12	Cabin light
13	Rear view display
14	3rd brake light
15	Rear view camera
16	Rear door opener and handle
17	Rear lights LED
18	Registration plate
19	Brake pedal
20	Steering bar

2.2.2 Loading areas

The Paxster offers three loading areas:

- Cargo compartment
- Front cargo area
- Side compartments (left and right)
- Optional side cargo compartment

Item	description
6	Rear cargo compartment
21	Optional side cargo compartment
22	Front cargo area
23	Right side compartment
24	Left side compartment

2.2.2.1 Rear cargo compartment

The Paxster vehicles can be ordered with to different rear cargo compartments:

- Type delivery → rear compartment volume app. 750liter
- Type cargo → rear compartment volume app. 950liter

The rear cargo compartments can be accessed via to rear doors. The standard cargo compartment's load capacity is 190kg. See chapter 7.8.1 for further information.

WARNING ⚠

The maximum loads for the rear cargo area and front cargo area must not be exceeded.

If your Paxster is a special build, the cargo capacity might deviate from above mentioned standard values. Please refer to the sticker on the vehicle and the special build manual if applicable.

2.2.2.2 Front cargo area

The front cargo area between steering column and windscreen is a customized area. Depending on regional post box sizes or load type, this area may look different. The standard load capacity for the front cargo area is 50kg. See chapter 7.8.2 for further information.

WARNING ⚠

The maximum loads for the rear cargo area and front cargo area must not be exceeded.

2.2.2.3 Right side compartment

This compartment houses the washer tank for the windscreen wiper as well as the diagnosis plug. The resulting space can be used for light weight personal equipment. See chapter 7.8.3 for further information.

The compartment can be locked by a key.

NOTICE

Do only place light weight components here. Water hoses, cables and other components placed within this compartment shall not be damaged by sharp items or heavy items.

Please note that this compartment is not waterproof, only water repelling.

2.2.2.4 Left side compartment

This compartment can be used to store personal belongings, tools, and safety gear.

The compartment can be locked by a key.

NOTICE

Do only place light weight components here.

Please note that this compartment is not waterproof, only water repelling.

2.2.3 Functional description

2.2.3.1 Safety mechanisms

The Paxster is approved as 4-wheel light motorcycle and increases safety compared to other 2-wheel motorcycles.

Operators' safety:

- increased stability using 4 wheels
- crumple zone
- 3-point safety belt
- rigid seat belt structure up to operator's head
- safety glass main windscreen

Pedestrian safety

- soft plastic impact zone frontal and on side compartments
- flexible plastic windscreen around the main windscreen
- optional warning beacon on roof
- reverse signal if ordered
- optional reverse camera

brake systems

The Paxster Generation 2.2 vehicle offers 4 brake systems:

System	operates	Type
Brake pedal brake	All 4 wheels	Hydraulic
Brake handle brake	Front wheels	Hydraulic
Regenerative brake	Rear wheels	Electrical
APBU*	Rear wheels	Electromagnetic

*APBU: automatic park brake unit

NOTICE

The APBU is controlled by the motor controller and is automatically engaged if

- the speed is zero and no throttle input is given
- the speed is zero and no person is detected on the seat
- the speed is less than 5km/h and no person is detected on the seat

Regenerative braking is applied automatically if:

- the brake handle or pedal is just slightly operated
- the throttle is released beyond idle area
- on declines if the vehicle speed exceeds maximum allowed speed
- switching from forward to reverse while keeping the throttle pulled
- switching from reverse to forward while keeping the throttle pulled
- the speed is above 5km/h and a severe error in the drive train is detected

Drive system

The Paxster vehicle is propelled by a 3 phase 48V electric PMAC motor acting on the rear wheels via a differential gear box. The maximum output power depends on the vehicle homologation variant:

Homologation variant	Maximum motor power
L6e-BU	6kW
L7e-CU	7,48kW

Steering

The Paxster is steered by the operator via steering bar, like ATVs (Quads).

The steering system is a direct mechanical system without power steering.

Electrical system

The Paxster traction battery (LiFePo4) operates on nominal 48V and powers the drive train via motor controller. The auxiliary battery (Lead acid / AGM) powers all other consumers with 12V. Outlets and illumination are of 12V DC type.

3 Technical specifications

3.1 Performance data

3.2 General

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Homologation variant	22	23	22	23
Top speed	45km/h		60km/h	
Maximum power	6kW		7,48kW	
Energy consumption*	84Wh/km		107Wh/km	
Seats	1 (center seat)			

*Energy consumption is depending on driving pattern, load, weather and topography.

3.3 Dimensions

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Length	2290mm	2365mm	2290mm	2365mm
Width	1180mm			
Height**	1860mm	1880mm	1860mm	1880mm
Wheelbase	1530mm			
Track width	940mm			
Front cargo area	0,59m²			
Total loading volume	1.000liter	1.250liter	1.000liter	1.250liter

**If warning beacon is installed on the roof, overall height will increase depending on beacon height.

3.4 Weights

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Max permissible mass	770kg		845kg	
Max front axle mass	270kg		295kg	
Max rear axle mass	500kg		550kg	
Mass ex. battery	325kg	340kg	325kg	340kg
Mass incl. battery with 75kg operator	487kg	502kg	487kg	502kg
Max payload	240kg			

NOTICE

Mass ex. Battery and mass incl. battery are valid for standard configuration of the Paxster. Additional equipment and special cargo-holds may increase the mass ex. battery and mass incl. battery.

3.5 Battery data

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Chemistry	LiFePo4			
Voltage	48V			
capacity				
Small battery	6.0kWh			
Medium battery	8.1kWh			
Large battery	10kWh			

3.6 Range

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Small battery	40-60km		35-50km	
Medium battery	50-85km		45-70km	
Large battery	70-110km		60-90km	

3.7 Tire types

Type	Tire designation	comment
Summer	145/70 R13 155/70 R13	Use spacer Paxster art. No. 15015513 on rear axle if using alu rims
Winter without studs	145/70 R13 155/70 R13	
Winter with studs	155/70 R13	Use spacer Paxster art. No. 15015513 on rear axle
Tire pressure	1.8 -2.0bar	

WARNING

All aluminum rims and tires of size 155/70 R13 require spacers 15015513 on the rear axle. Not following this instruction causes damage to the tires.

NOTICE

Check your tires regularly. Minimum profile depth varies in between countries.

Country	Summer tire	Winter tire
Norway	>1,6mm	>3,0mm
Germany	>1,6mm	>1,6mm and snowflake marking
Austria	>1,6mm	>4mm

3.8 Noise emission level

Noise level during operation: 65dB (A)

3.9 Electromagnetic compatibility (EMC)

The manufacturer confirms that the vehicles adhere to the limits for electromagnetic emissions and resistance in accordance with UN/ECE R10 as well as the standardized instructions contained therein.

WARNING

Medical equipment can be damaged by non-ionized radiation.
Electrical equipment on and within the vehicle emitting non-ionized radiation (e.g., wireless data transmission) can affect operators' medical equipment (pacemakers, hearing aids etc.) and result in malfunctions. Consult a doctor or the manufacturer of the medical equipment to clarify whether it can be used near or in the vehicle.

3.10 Specification acc. to radio equipment directive

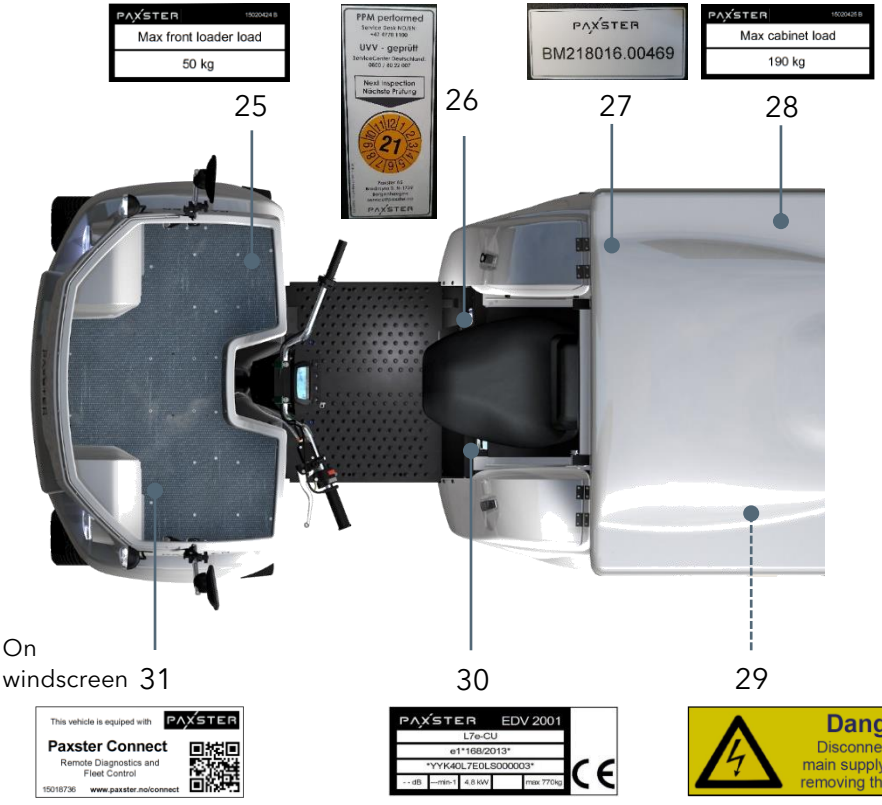
The table contains any components installed according to the European Directive 2014/53/EU. The table shows the affected frequency range and the emitted transmission power for each component.

Component	Frequency (range)	Transmission power
Transponder keyless go	433,92MHz	Complies with 199/5/EC (98/13/EEC)

Keyless drive system	868MHz | 125kHz | 125kHz	
PaxCon GSM module	GSM1800: 1710-1785MHz WCDMA: 1920-1980MHz 880-915MHz LTE FDD: 1920-1980MHz 1710-1785MHz 2500-2570MHz 880-915MHz 832-862MHz 703-748MHz	

4 Identification points and data plate

4.1 Identification points and data plates

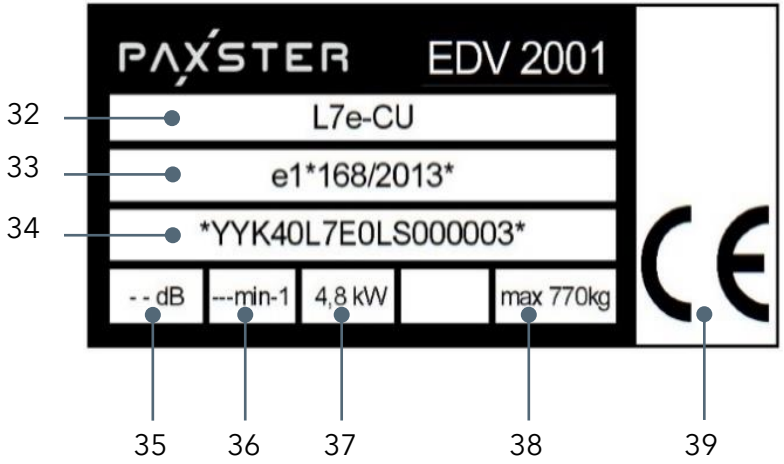


Item	description
25	Max front load
26	Next service
27	Battery type plate
28	Max rear load
29	Danger high voltage
30	Vehicle identification plate
31	PaxCon information

4.1.1 Vehicle identification plate

Each Paxster has a unique vehicle identification number (VIN). This number is required for service request and spare part orders. It can be found on the vehicle identification plate and on the right-hand side of the front end of the chassis.

The vehicle identification plate informs about homologation and registration type, type approval identification and motor power.



Item	description
32	Homologation type
33	EC type approval number
34	**V**ehicle **I**dentification **N**umber
35	Sound level stationary
36	Sound level @ engine speed
37	Maximum continuous rated power
38	Tech. permitted laden mass
39	CE conformity label

5 Transport and commissioning

5.1 Preparing for first time use

Arriving at customers site the Paxster is usually on a pallet and wrapped in plastic foil. To avoid deep discharging of the battery the 12V main fuse (F1) is not inserted into the fuse holder. Mirrors are not adjusted, and the seat is not in the operators individual and optimal position.

NOTICE

The traction battery is pre-charged but must be charged completely before the vehicle is set in operation.

It is allowed to drive the Paxster from the pallet and up to 3km prior to first time charging.

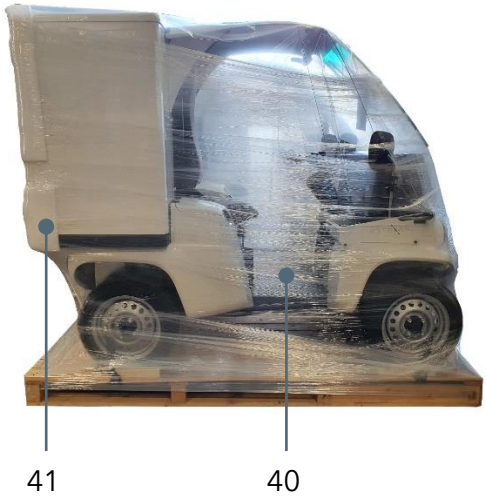
The battery indicator will not provide correct information until a complete charge cycle is executed.

The indicated state of charge is higher than the actual state of charge!

Please refer to chapter 6.4 for further information about when the charging is finished.

5.1.1 Removing the wrapping

Paxster vehicles are mainly delivered on a wood pallet and are wrapped into protection foil.



Item	description
40	PE-LD foil
41	PE foam corner protectors

Remove the foil and assure proper recycling.

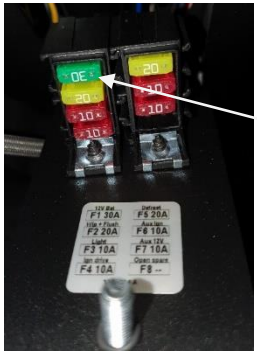
INFORMATION

Proper recycling of the plastic material is crucial for the environment. Please recycle it properly. Think of what to do best with the Scandinavian wood pallet.

5.1.2 Inserting main fuse

For transport and long-term storage of the Paxster, the main 12V fuse F1 is taken out of the fuse box Pos. 42 on the left-hand side of the steering column to avoid draining the traction battery below safe level

.



Item	description
42	12V fuse box

For initial startup and startup after long term storage insert fuse F1 into its fuse holder.

To open the fuse box, unscrew the lock screw. No tools are required, the screw possesses a star head to grab it.

5.1.3 Adjusting mirrors

Loosen the mirror adjustment screw of the mirror rod to flip the mirror rod about 90degrees from the side wall of the window.

Grab the black mirror cover and tilt the mirror horizontally and vertically until you see the rear edge of the rear cargo compartment and the road besides the Paxster.

Fasten the mirror adjustment screw manually.

Mirror adjustment screw

WARNING

Adjust the mirrors properly to see obstacles aside the Paxster and behind it.
Take care to see the cargo compartment side wall to avoid collisions when maneuvering in narrow areas.
Note that object in the mirror might appear further away than they are.

5.1.4 Starting the Paxster

Please refer to chapter 7 for safe preparation and start of the vehicle.

5.1.5 Removing the Paxster from the pallet

WARNING

Place the pallet on a plane surface with sufficient load bearing capacity. Ensure sufficient space (> 3,0m) in front of the pallet to completely remove the Paxster from the pallet. Make sure the area in front of the vehicle is clear of obstacles and persons. Paxster recommends using ramps to remove the vehicle from the pallet. Remove all belts securing the wheels to the pallet. Remove the wood bars from the pallet enabling free ride. Do not exceed 3km/h.

CAUTION

Do not use the brake pedal when the rear wheels are on the edge of the pallet to avoid the pallet flipping upwards.

5.2 Lifting by jacks

Lifting the front of the Paxster by jacks requires preparational steps:

- Ensure the Paxster is on leveled ground

DANGER

The vehicle must stand on levelled ground with sufficient load bearing capacity to support the vehicle on the jack.

Ensure the vehicle cannot roll / move while being lifted. Be aware that the brakes alone might not be sufficient. Always use wheel chocks of proper size for the wheel size of the Paxster vehicle.

Always use stands to secure the vehicle in lifted position.

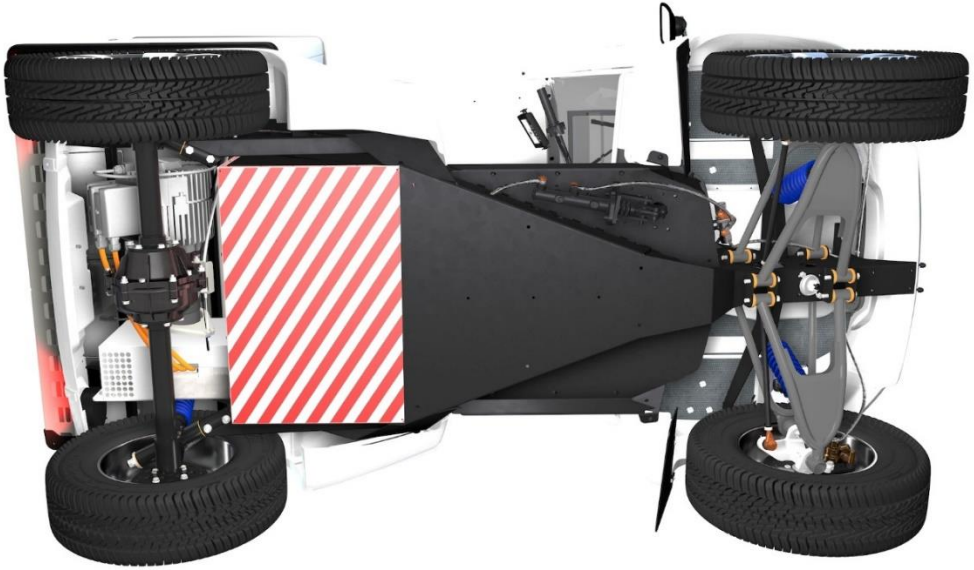
Do only use jacks and stand with a safe working load higher than the vehicle weight stated in chapter 3.4.

Do only use equipment which is designed for lifting and supporting vehicles.

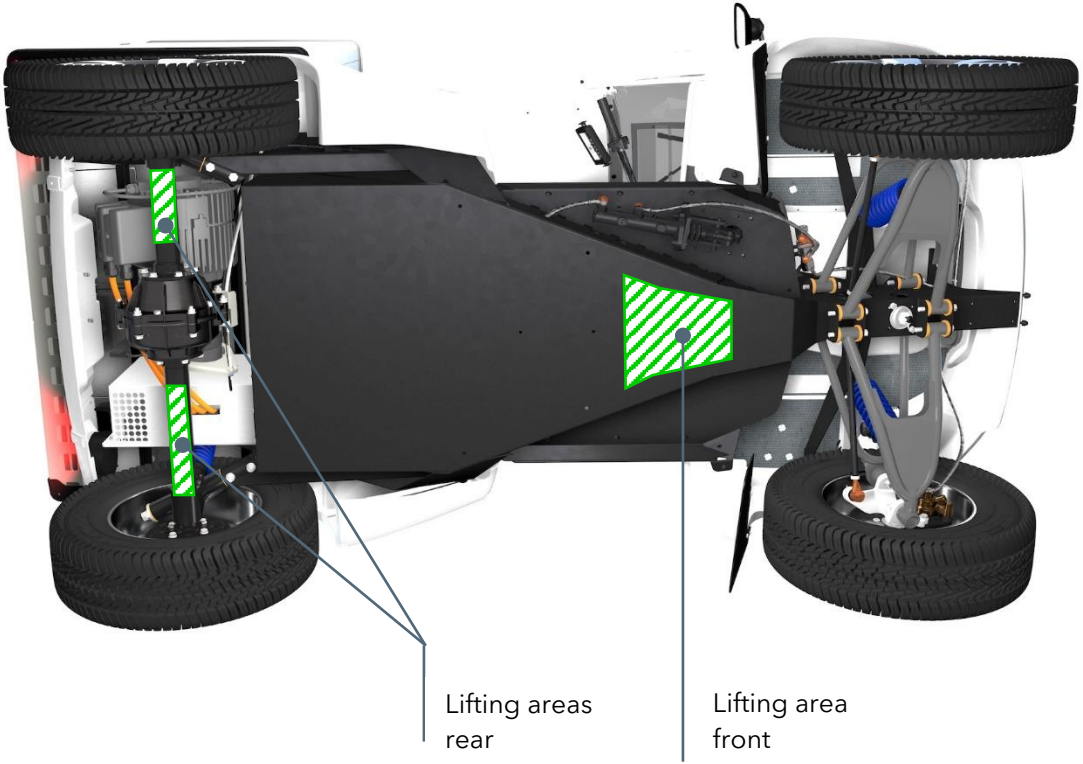
If your equipment shows signs of damage, leakages or is deformed, do not use it.

WARNING

Do not place a jack or stand in the red-white marked area below. This area is not designed to bear any loads. Damage to the vehicle, in this case to the battery is likely.



The designated lifting areas for jacks are shown below. Do only use these for lifting and support stands.



Lifting the vehicle front, the rear wheels need to be secured by wheel chocks. Vice versa if the rear shall be lifted.

5.3 Lifting by forklift

If required, the Paxster can be lifted with a forklift from any of both sides.

CAUTION

Ensure that the rear cargo compartment is emptied before lifting the Paxster.

Forks must be longer than the vehicle width (>1,2m).

The forklift truck must have a sufficient load bearing capacity at 600mm center of gravity distance to lift the Paxster. Paxster recommends at least 800kg @600mm to cover all Paxster variants.

CAUTION

Be aware that the center of gravity of the Paxster vehicle is close to the rear axle.

Use a tension strap between Paxster floor and the fork below it.

Lifting must be done straight vertically.

It is not allowed to tilt the boom away from the forklift truck while lifting a Paxster.

It is not allowed to tilt the boom more than 5° towards the forklift truck.

5.4 Transport

5.4.1 Transport on wheels

The Paxster vehicle can be driven in/on and transported by:

- Closed transporters / vans like a front driven 2021 Mercedes Sprinter ot IVECO daily with sufficient internal height
- Closed box trailer
- Canvas covered trailers
- Open trailers
- Train
- Ship

CAUTION

Air transport is not allowed and might lead to damage on the vehicle or components due to accelerations.

WARNING

Especially air transport in non-pressurized airplanes is not permitted above 3000m (10.000ft).

The Paxster can be driven onto the above stated means of transport on its own wheels.

To secure the Paxster to the transporting vehicle, special wheel straps are highly recommended on all 4 wheels:

CAUTION

Due to higher accelerations during transport, do not transport loaded Paxster vehicles on trains and on ships.

Empty Paxsters are allowed for ship and train transport.

Maximum allowed transport speed of an unprotected Paxster is 80km/h. Higher transport speeds require an enclosed cargo compartment the Paxster is placed in.

5.4.2 Transport on a pallet

Paxster vehicles can be transported on oversize pallets.

Ensure the vehicle is tied down to the pallet on all 4 wheels.

CAUTION

Charge the vehicle before transport and take out the fuse F1, see chapter 7.13

Ensure the pallet I slightly bigger than the vehicle to avoid collisions and transport damage.

Wrap the Paxster vehicle to protect it during transport.

6 Battery

6.1 Safety regulations for handling the traction battery

The Paxster traction battery is a LiFePo4 (LFP) battery. It contains between 6 and 10kWh of energy. The nominal battery voltage is 48V, fully charged it reaches about 53V.

WARNING

Unsuitable batteries that have not been approved by Paxster for the vehicle can be dangerous.

The design, weight and dimension of the battery have considerable effect on the operational safety of the vehicle, in particular stability and capacity. The use of not approved batteries can lead to:

- Deterioration of braking characteristics
- Fire hazard during charging or regenerative braking
- Damage to the motor controller
- Damage to the battery management system (BMS)
- Deterioration of motor power

The following hazards can arise in the event of improper use of accident:

- Physical damage:

  If the battery is deformed through pressure (e.g., in an accident) mechanical damage to the battery housing might occur. The battery cells might be affected, too. In case of cracked or penetrated battery cells gases might be released that are hazardous. Heat can be produced in such events that can melt plastic components around the battery cells.

- Short circuit

  Short circuiting may be caused in accident scenarios when battery poles are directly connected by a metal component or in case of mechanical pressure by internal cell short circuits. In both cases the electrical energy stored within the affected cell will produce heat than might crack the battery cell housing and might release hazardous gases.

- Temperature effects

  High temperatures, e.g., caused by fire close to the battery can cause the battery cells to crack and release hazardous gases. Plastic components of the battery might catch fire.

6.1.1 Fire hazard

WARNING

Burning LiFePo4 battery cells can be hazardous.

Physical damage, thermal effects, or incorrect storage in the event of a defect can result in fire. If the inside of LiFePo4 battery cells burns, the fire cannot be put out by common extinguishing methods.

- Avoid contact with combustion products.
- Use protective equipment.
- Use carbon dioxide extinguishers (Co2) to cool the fire and reduce the chemical reaction.
- Use carbon dioxide extinguishers (Co2) to cool the area around the battery and prevent the fire from spreading.

NOTICE

There are often regional / local regulations to be met when working, handling and transport of the Paxster traction battery.

Battery service personnel

All service and maintenance personnel require proper training and education prior to working on and with the traction battery.

Battery disposal

Batteries may only be disposed of in accordance with national environmental protection regulations or disposal laws. The manufacturer's disposal instructions must be observed.

Paxster offers repair and disposal service for the Paxster traction battery. Please contact your local Paxster service partner or Paxster AS for further information.

6.1.2 Extinguishing fires

WARNING

Contact with combustion products can be hazardous.

Fires produce combustion products.
Combustion is a chemical process by which a flammable material combines with oxygen under heat and light (fire).
The resulting combustion products can occur in the form of smoke, through leaking fluids, escaping gases, debris as well decomposition products of certain chemicals. These combustion products are substances that enter the body through the respiratory tract and/or the skin, where they can produce adverse effects, such as choking.

- Avoid contact with combustion products.
- Use protective equipment.

The following risks may occur:

– Hydrogen fluoride (HF) Hydrofluoric acid = extremely corrosive
– Risk of toxic substances produced by pyrolysis
– Risk of highly flammable gas mixtures.
– Other combustion products: Carbon monoxide & carbon dioxide.

6.1.3 Special protective equipment for firefighting

- Use self-contained breathing apparatus
- Use protective overalls (chem suits)

6.1.4 Additional firefighting information

Paxster traction batteries do not explode in case of fire, deformation / crash, penetration by metal objects and short circuiting. It is highly unlikely that the battery will burn. But fires around the battery may incorporate the battery. Short circuiting, wire harness fires and physical damage may lead to toxic gases and liquids exiting the battery.

Cooling down the battery and binding toxic gases and fluids should be of high priority.

Water is sufficient for cooling down and binding toxic acid gases and water down acids.

Water is not sufficient to extinguish a burning battery.

Suitable fire extinguishing agent:

Carbon dioxide extinguisher (CO_2)

6.2 Safety regulations for handling the auxiliary battery

The 12V lead battery contains dissolved acid, which is toxic and caustic. Avoid contact with the battery acid.

WARNING

- Dispose used batteries in accordance with regulations
- Do not let battery acid come into contact with skin or eyes. If necessary, rinse with plenty of water and seek medical assistance if required.
- Spilled battery acid shall be neutralized immediately with plenty of water.
- Follow national guidelines and regulations

6.3 Battery types and position

The Paxster vehicle is equipped with 2 batteries:

- Traction battery: 48V to propel the vehicle and charge the 12V battery
- Auxiliary battery: 12V to power 12V consumers like light, outlets, switches, windscreen washer,…

6.3.1 Traction battery

The Paxster vehicle is equipped with one of the following 3 battery sizes. All of which offer the same protective battery housing.

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Chemistry	LiFePo4			
Voltage	48V			
capacity				
Small battery	6.0kWh			
Medium battery	8.1kWh			
Large battery	10kWh			

6.3.2 Auxiliary battery

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Chemistry	AGM			
Voltage	12V			
capacity	18Ah			

6.3.3 Battery locations

The 48V LiFePo4 traction battery is located beneath the seat and can be accessed removing the seat including cover plate.

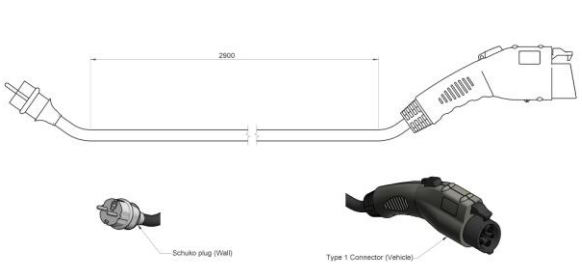
The 12V lead acid auxiliary battery is located behind the vertical panel in front of the seat, close to the vehicle charging plug. It can be accessed by removing the vertical panel.

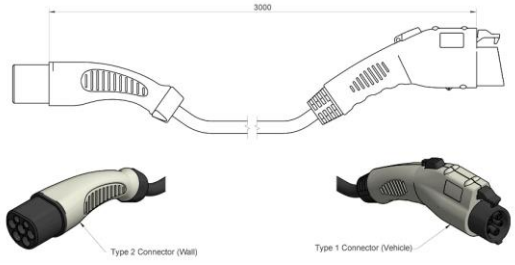
Item	description
43	Traction battery LiFePo4 48V
44	Auxiliary battery 12V AGM

6.4 Charging the traction battery

Paxster Gen 2.2 vehicles are equipped with an onboard charger. The charger is connected to a grounded 230V AC grid by one of the following original Paxster charging cables:

- type 1 to Schuko cable 3m
- type 1 to Schuko cable 5m
- type 1 to type 2 cable using a type 2 charging station
- type 1 to UK plug cable 3m





In case of charging errors, please refer to chapter 8.2 for trouble shooting.

CAUTION

Only connect the charging cable to grounded 230V outlets!

The outlet must be capable of delivering 1200W / 5,5A for about 8hours. The outlet should be secured by a10A fuse.

Please contact your house electrician for further information about local regulations regarding the charging of vehicles and an evaluation of the circuits the Paxster shall be connected to.

For new installations Paxster recommends 3x2,5mm² lines between fuse and outlet.

DANGER

Check the charging cable for defects before plugging it into the vehicle or 230V outlet.

Damages cables shall not be used. Mark such cable as defect and report the issue to your supervisor or electrician.

Charging cables are part of the 230V system. Defective cables are life threatening.

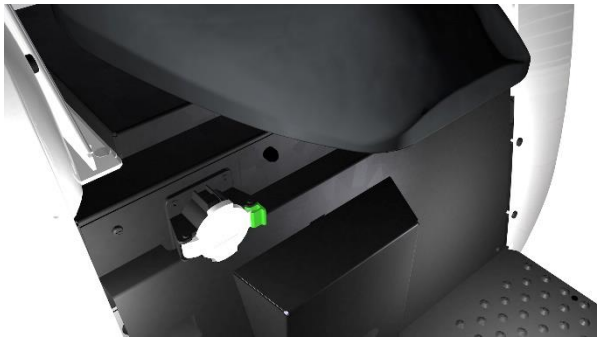
6.4.1 Connecting the vehicle to the grid

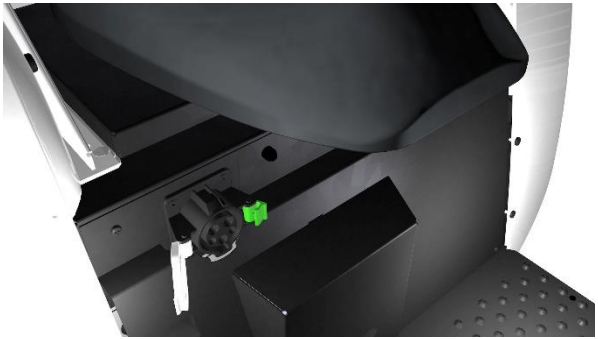
Always plug the charging cable into the 230V outlet / type 2 charging point first.

Remove the rubber cap from the cable plug.

Open the charging port hatch (highlighted white below) of the Paxster

- Push the lock mechanism (green) to the center of the vehicle



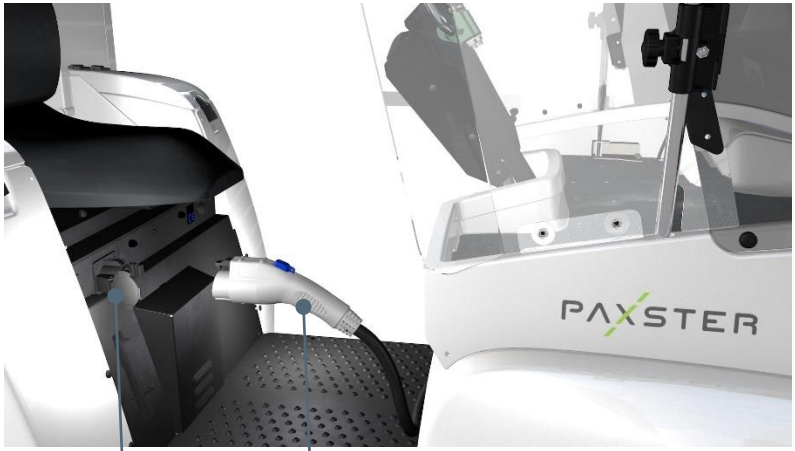


- The hatch is spring supported and opens automatically

NOTICE

If very dusty or wet, please clean / dry the charging port before charging

Insert the charging cable plug into the charging port of the Paxster



Vehicle charging port and hatch

Charging cable with cable plug

NOTICE

When inserting the cable plug or when releasing it, always and only grab the plug. Do never pull on the cable. Pulling on the cable will damage the wires inside the cable and damage the sealing between cable and plug. The plug has a profiled hand grip area to use.

After inserting the charging cable plug into the vehicle charging port, vehicle and charger start communicating. After some seconds they agree on charging mode and charging current.

The charging indicator (61) starts flashing, see chapter 7.2.5.

Observe the charging indicator flash code to ensure the vehicle is charging and no charging error is present.

NOTICE

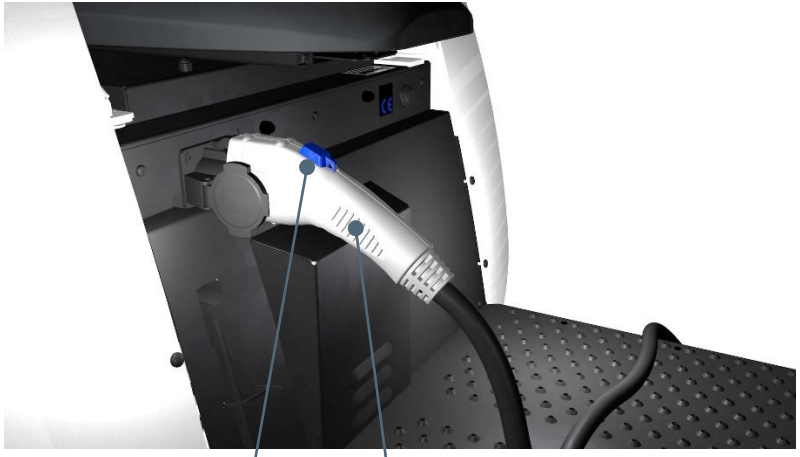
Some charging errors occur immediately after connecting a charger to the vehicle, some occur after some seconds, e.g., if a component gets hot or the grid voltage is unstable.

If possible, check the charging indicator (61) after 2 minutes to discover charging errors early. For charging error identification see chapter 7.2.5

6.4.2 Disconnecting the charging cable

To disconnect the charging cable plug from the vehicle:

- Grab the charging cable plug
- Press the release button of the plug
- Pull the plug out of the vehicle charging port
- Close the vehicle charging port hatch by pressing it close
- Store the cable safely



6.5 Charging the auxiliary battery

The 12v auxiliary battery is usually charged by a vehicle internal DCDC converter and requires no external charging.

The internal charging will interrupt automatically if:

- The 12V battery fails
- The internal charging power exceeds 600W
- The DCDC converter gets too hot (resets itself after a cooling down)
- The 48V traction battery is drained below a certain level

The 12V system is required to start up charging the traction battery. If the traction battery is drained or deep discharged, the 12V system must be established first to start up the BMS (battery management system) enabling communication between traction battery and charger.

6.5.1 Forced internal charging

In case of discharged traction battery, the DCDC converter (48V to 12V) can be forced operational by pressing the jump start switch (highlighted green in the figure below) and keeping it pressed for a while. As long as it is kept pressed the DCDC converter will charge the 12V battery.

Item	description
10	Jump start switch

NOTICE

Forcing the DCDC to charge the 12V battery will furthermore drain the traction battery. Only force the DCDC as long to charge the 12V battery as necessary to establish charging of the traction battery.

In case of vehicle not charging or display not starting up when switching the vehicle on with the ignition key, please follow the procedure below.

Procedure:

- Connect charging cable to the vehicle
- Press the jump start switch and keep it pressed for about 20sec.
- Keep it pressed and connect the charging cable to the 230V grid / charging station
- Check if charging symbol in the display starts to blink (2 times, 3 times or 4 times is okay, fast flashing means charging error)
- If charging symbol blinks, release the jump start switch and check further 20sec if the symbol keeps blinking.
- If it stops, press the jump start switch further 1-2minutes and recheck symbol blinking after releasing the jump start switch

6.5.2 External 12V charging

The 12V battery can be charged by an external charger after removing the vertical cover below the seat.

This procedure requires tools and technical knowledge.

Required charger specification:

- 12V
- Designed for lead acid and AGM batteries

Ensure correct connection of + and – cable. Mismatch of polarity can lead to fire, explosion, and acid vapors. Only use chargers designed for vehicle batteries and suitable for AGM batteries.

7 Operation

7.1 Safety regulations for the operation of the Paxster vehicle

Driver authorization

The Paxster vehicle is road legal and requires an according drivers-licenses. Please consult your local Paxster dealer or the registration administration for detailed information about the required driver's license type.

Usually within the EU the following drivers' licenses are required:

Vehicle registration category	Driving license class
L6e-BU	AM, B or higher
L7e-CU	B or higher

Operator's rights and responsibilities

The operator must be informed of his duties and responsibilities and be instructed in the operation of the vehicle and shall be familiar with this operating manual. Safety equipment required by local traffic regulations must be provided.

Prevention of unauthorized use

Do not allow unauthorized persons to drive the vehicle. Make sure the operator is trained and keeps the required driver's license.

Do not leave the key in the ignition lock when leaving the vehicle unintended.

Use the key FOB to lock the vehicle when leaving it to prevent unintended use by unauthorized persons.

Damage and faults

The supervisor must be informed immediately of any damage or faults to the vehicle or attachment. Vehicles which are unsafe for operation (e.g. wheel or brake problems) must not be used until they have been rectified.

Repairs

The operator must not carry out any repairs or alterations to the truck without authorization and the necessary training to do so. The operator must never disable or adjust safety mechanisms or switches.

Safety on the road

WARNING

Do not use mobile phones when driving the Paxster vehicle.

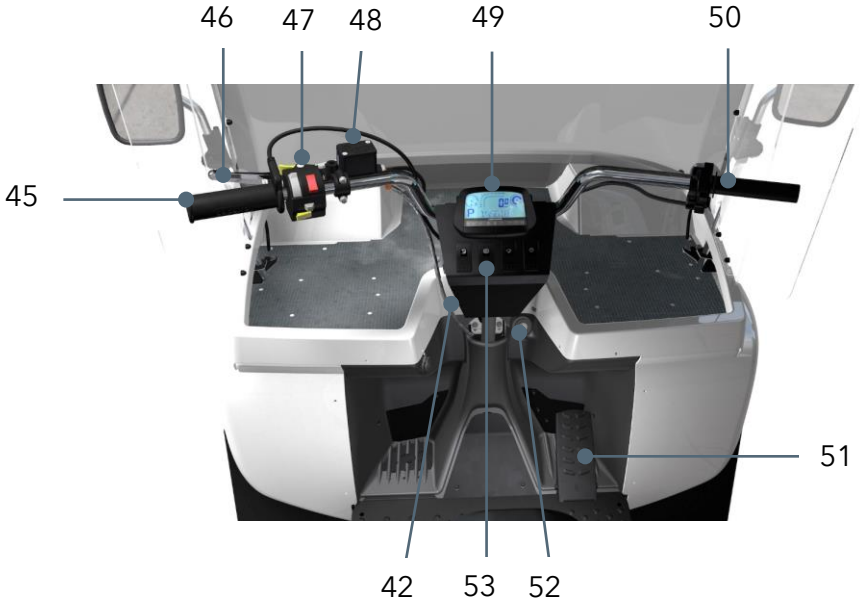
Use the safety belt.
For last mile delivery services: Make yourself familiar with national regulation for the use of safety belts in postal and last mile distribution.

Do not drive in severe weather conditions → see chapter 1.3

Adjust mirrors and the seat according to your size.

7.2 Display and controls

Operators' workspace controls overview:



Item	description
45	Left handle (optionally heated)
46	Brake handle
47	Left control unit
48	Brake handle reservoir
49	Main instrument
50	Throttle (optionally heated)
51	Brake pedal
52	Ignition lock
53	Switch board
42	12V fuse box

7.2.1 Left handle

The left handle can be equipped with an optional hot grip to keep your fingers warm in cold weather conditions.

The heated grip (together with the right-hand side heated grip) is activated by pressing down the lower end of the defrost switch (78) see chapter 7.2.11 for further information about the switch

It will provide heat for 15min and deactivate automatically to save energy. Set the defrost switch to “OFF” and back down to “heated grip” to activate for further 15minutes.

CAUTION

Do not activate the heated grip in summertime. It can get very hot, and the material of the grip can get damaged.

INFORMATION

Use the heated grips with care to save energy but use them as often as it is required to make your workspace comfortable.

7.2.2 Brake handle

The left brake handle is an additional brake operation device in addition to the brake pedal which is the main service brake system. The brake handle operates the front brakes only. → see chapter 7.11.2 for further information

This brake lever is supplied with brake fluid from the small brake handle reservoir (48) on the left steering bar side. → see chapter 7.2.4

INFORMATION

Use the regenerative brake = motor brake by adjusting the throttle to 0-5% or 15-99%. Slowing down the vehicle using the throttle charges the battery and avoids wear of the brakes.

7.2.3 Left control unit

With the left control unit, you operate the direction indicator, the full beam lights, the warning lights, the horn, and the reverse gear.

Item	description
54	Reverse switch
55	Ful beam switch
56	Warning lights switch
57	Direction indicator switch
58	Horn switch

54 reverse switch

Press and hold the reverse switch to reverse the vehicle. If your vehicle is equipped with a warning buzzer, a reverse signal will be activated as soon as you press the reverse switch.

Use the throttle as usual to start moving the vehicle.

Set the throttle to zero and release the reverse switch to stop reversing.

NOTICE

If you release the reverse switch and keep the throttle in any position other than zero, the vehicle will slow down and softly increase torque n forward direction, even if the throttle is set to 100%. This is a safety feature and reduces wear and tear on the gear box, motor, and axle parts.

If you are driving in forward direction and press the reverse switch, the vehicle will gently slow down and slowly accelerate in reverse direction even if the throttle is set to 100%. This is a safety feature and reduces wear and tear on the gear box, motor, and axle parts.

55 full beam switch

Push the switch to the front to activate the full beam. The full beam indicator (60) lights up to visualize that full beam is activated.

Pull the full beam switch towards you to deactivate the full beam light. The Light will turn back to low beam light.

NOTICE

Low beam light will automatically switch on when the ignition is switched on. Only old Paxster vehicles have a separate low beam light switch below the main instrument.

Follow the legal regulations of your country for the use of full beam lights.

56 warning lights switch

Warning light switch activates all direction indicators. Press in upper side of the switch to activate the warning lights. Both direction indicator LEDs of the main instrument will flash to indicate activated warning lights.

NOTICE

Warning lights can be activated when ignition is on, or ignition lock is set in “park light position”. See chapter 7.2.6 for ignition lock positions.

57 direction indicator switch

To activate a direction indicator, push the switch to the desired direction that shall be indicted. Push the switch to the right to activate right direction indicators, push it to the left to activate left direction indicators.

To deactivate the indicator, press the switch.

NOTICE

Pressing the switch will deactivate the direction indicators.

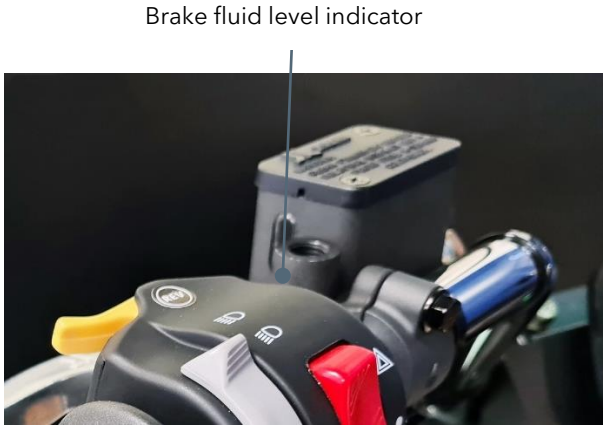
58 horn switch

Press the horn switch to activate the acoustic signal to warn others. Test the horn before starting a trip to ensure proper function in case you need it.

7.2.4 Brake handle reservoir

The brake handle reservoir feeds the brake handle and the brake line down to the s-block with brake fluid.

On the left-hand side of the reservoir containment the brake fluid level can be checked through the indicator glass. Maximum level is the upper end of the glass, Minimum level is the lower end of the glass.



To refill DOT4 brake fluid, unscrew the top-lock and temporarily remove the rubber sealing.

WARNING

Wear protective clothing when working with brake fluid. Brake fluid is a hazardous substance.

7.2.5 Main instrument

The main instrument (49) displays speed, motor temperature, state of charge, mileage, and drive state on the multi-functional display area. Additionally, below that multi-functional display area, several warning and indicator lights are positioned. The two switches: „reset" and „mode" enable browsing through different display modes and settings. The main instrument is background illuminated

WARNING

Do not browse the main instrument or execute changes in settings while driving. Focus on the street ahead!

Main instrument indicators:

Item	description
59	Left direction indicator LED
60	Full beam indicator
61	Charging indicator
62	Rear door open warning
63	Seat switch indicator
64	Regenerating indicator
65	Fault indicator
66	Brake fluid indicator
67	Right direction indicator LED

59 | 67 direction indicator control LED

The green arrows are blinking as the direction indicator on the left control unit (47) is active.

Both direction indicators are flashing as the warning lights of the vehicles are activated using the warning light switch of the left control unit (47)

60 full beam indicator

This indicator is active when the full beam is activated on the left control unit (47).

61 charging indicator

The charging indicator flashes if an original Paxster charger cable is connected to the vehicle and 230V supply. The flash codes indicate the charging mode and probably charging errors.

NOTICE

Always wait a few seconds after connecting the charging cable to the vehicle and 230V grid to confirm that

a) The charging indicator flashes

b) The charging indicator does not fast flash = charging error

Charging indicator codes are a sequence of flashes than end with a longer pause and be repeated after that pause.

sequence	State	Visual representation of the flash code
1 flash	Pre heating the battery	
2 flashes	Pre charging= charging with limited current	
3 flashes	Main charging state with full power	
4 flashes	Balancing	
Long on, short interruption	Charging finished	
Continuous fast flashing	Charging error	

In case of charging error, please try the following before contacting your Paxster service partner:

- Try to disconnect and reconnect the charging cable
- Check that contacts are dry and clean and 230V is established
- Before calling for assistance, note the last 4 digits of the VIN (see chapter 4.1.1) and the reg nr.

62 rear door open

If the rear door is open or not properly closed / locked, this symbol is illuminated.

Check doors and door lock to avoid losing cargo.

63 seat switch

The Paxster is equipped with a seat switch recognizing persons sitting or not sitting on the seat. This safety feature is logically combined with different other safety functions and surveilled by the motor controller to avoid unintended movement or dangerous situations.

Safety functions using the seat switch signal are e.g.:

Startup order:

The seat switch must recognize a person on the seat before the throttle is turned. If no person is detected and the throttle is turned, the Paxster will not start moving and show an error in the display. → this might occur if a third person outside the Paxster tries to move it by turning the throttle.

To delete the error code in the display and start the vehicle switch off the ignition and turn it on again.

Lost operator braking:

In case the seat switch does not detect a person on the seat while it is driving, the vehicle will gently slow down using the regenerative brake. As it slowed down to about 6km/h the APBU (automatic park brake unit) will engage and block the rear axle to stop the vehicle and keep it from further movement.

Info: short loss of driver weight on the seat (e.g., when driving over a bump) will not engage the brakes.

64 regenerating indicator

This indicator shows up when regenerative braking is active.

INFORMATION

Use the regenerative brake = motor brake by adjusting the throttle to 0-5% or 15-99%. Slowing down the vehicle using the throttle charges the battery and avoids wear of the brakes.

65 fault indicator

The fault indicator will illuminate in case of any severe faults. Additionally, a fault code will appear in the multi-functional area (73) of the main instrument to indicate the fault source. Please write down the code or take a photo to ease communication with a technician.

NOTICE

The Paxster motor controller is self-protected. In some fault cases the Paxster will slow down or stop. As long as it continuous to drive (maybe just with reduces speed) the vehicle can be driven to a workshop or depot.

If you are uncertain or the vehicle feels not safe to drive, please contact your manager or local Paxster service partner for assistance and state your location, the last 4 digits of the VIN (see chapter 4.1.1) and the fault code.

66 brake fluid

In case of low brake fluid level, this indicator turns on. This is a severe fault indicator, the vehicle shall not be driven and assistance shall be called.

WARNING

The brake fluid indicator shows a low level of brake fluid. This might affect the braking capability of the Paxster for the brake handle and the brake pedal. Last remaining brakes are APBU and regenerative braking.

Stop the vehicle and call assistance.

APBU and regenerative braking alone are no proper means of brakes. Driving with brake fluid indicator on might lead to accidents!

NOTICE

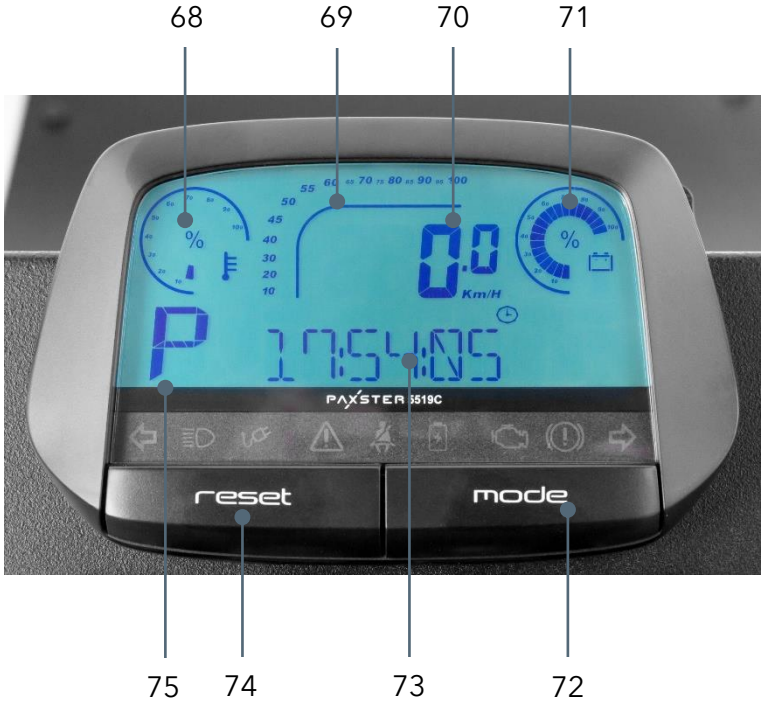
The Paxster Gen 2.2 has 2 separate brake fluid reservoirs:

One small one on the left handle that only feeds the brake line from the handle to the s-block (brake line distribution device placed behind the right front wheel).

One big one placed behind the vertical cover below the seat, beneath the charging plug that feeds all brake lines to the wheels.

Tools are required to check and/or refill brake fluid.

Main instrument display areas:



Item	description
68	Motor temp in % of max temp
69	Eco meter
70	Speed
71	Battery discharge indicator
72	Mode button
73	Multi-functional area
74	Reset button
75	Drive mode indicator

68: Motor temperature

The motor temperature is shown in % of the maximum allowed temperature within the motor.

INFORMATION

Energy efficient driving reduces motor temperature and wear of components.

69: eco meter

The eco-meter shows the energy consumption of the vehicle and the recuperation energy stored back into the battery.

INFORMATION

Using the regenerative brake = motor brake when throttle position is 0-5 or 15-99%. Slow the vehicle down using the throttle charges the battery and avoids wear of the brakes.

70: speed

The speed is displayed in km/h or mph depending on your choice. To change between the units, please refer to 72 / 74 further down for further information.

71: battery discharge indicator

This indicator shows the traction battery state of charge. On upstart of the vehicle, it might take a few seconds to adjust the displayed value.

NOTICE

The state of charge is calculated by a current sensor measuring current flowing into the battery and out of the battery. The state of charge is reset when a charging cycle is completed including balancing. The Paxster vehicle shall be charged whenever it is not in use. If not charged at least every second day, the state of charge might fade and not show the correct state of charge.

72 | 74 mode and reset button

Use the mode button (66) to brows the menu and the reset button to reset or chose a value.

The menu you browse is displayed in the multi-functional area (67) of the instrument. The menu order is:

Clock – Trip – ODO – RunTime – TotalTime – MAX Speed – TempMotor – BAT (Volt) – TempController – BAT (Amps) – Throttle (Volts)

NOTICE

Trip and RunTime can be reset by holding «Reset" for 3 seconds

On new installations, you can also set the ODO reading (mileage) to the correct value the vehicle had before the exchange was required. See chapter 7.2.14 for detailed adjustment information.

73: multi-functional area

This area can display different data which can be browsed using the mode button (66).

The displayable information is:

Clock – Trip – ODO – RunTime – TotalTime – MAX Speed – TempMotor – BAT (Volt) – TempController – BAT (Amps) – Throttle (Volts)

In case of faults and fault indicator (60) flashing, a fault code might be shown in the multi-functional area of the main instrument. Please note the last 4 digits of this code. This information is crucial for service technicians to find the root cause.

Please refer to chapter 8.4 for a fault code overview.

75 drive state

The drive state indicator shows the 4 relevant drive states of the vehicle:

P: park	APBU (automatic park brake unit) engaged on the rear axle
D: drive	throttle signal and / or speed signal are present
N: neutral	coasting
B: brake	brake pressure is applied, or the regenerative brake is active

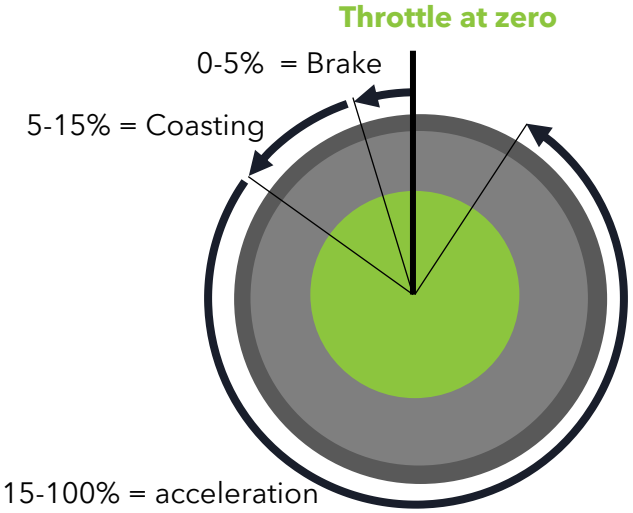
7.2.6 Throttle

The throttle (50) is integrated into the right handle grip. Turning it will activate the drive motor and accelerate the vehicle. Switch the vehicle on and sit down on the seat. A seat switch recognizes you sitting. Prepare for driving, put on the safety belt, and adjust mirrors.

Turn the upper part of the grip slowly towards you to start the vehicle.

NOTICE

To reverse, press the yellow reverse button on the left control unit and use the throttle as driving forward.



Accelerating:

preparation: turn on ignition | sit on the seat | take on safety belt | adjust mirrors

Turn the throttle slowly towards you. between 0 and 15% of the possible turning angle of the throttle, the vehicle will not start turning, but you will hear the automatic park brake unit (APBU) disengage.

Proceed turning the throttle and the vehicle starts moving.

The higher the turning angle, the faster the acceleration. → and the more energy is required.

INFORMATION

Accelerate gently to save battery and environment. Gentle acceleration saves energy and reduces wear on the tires and drive train components.

Coasting:

If you turn back the throttle to 5-15% the vehicle will roll freely.

Decelerating:

Release the throttle slightly to gently decrease speed. The more you release the throttle, the more the vehicle will brake regeneratively. Keeping the throttle between 0% and 5% will give maximum regenerative braking which charges the traction battery.

INFORMATION

Deceleration / braking with the regenerative brake is the most energy efficient way of reducing speed. The kinetic energy of the vehicle is used to charge its battery. This increases the range and prevents from wear and tear of the usual brakes.

WARNING

The regenerative braking force is depending on the drive mode you chose! Under normal conditions, eco mode is the correct mode to drive in. Regenerative braking is optimized in this mode.

In winter mode, regenerative braking is reduced to a minimum to prevent the rear axle from blocking and wheels from sliding.

In High mode the regenerative braking is on maximum. This should only be used on dry road with optimum grip. On wet roads or sandy ways or if leaves are present on the road, the High mode might lead to blocking the rear axle!

7.2.7 Brake pedal

The brake pedal operates the brakes on all 4 wheels. This is the main service brake device of the Paxster vehicle.

The service brake system is a 2-circuit system, where one circuit operates the front wheels, the second one operates the rear brakes.

Operating the brake pedal will additionally activate the regenerative brake and charge the battery. The regenerative braking force depends on the chosen drive mode. → see chapter 7.2.11 for drive mode selector stages.

INFORMATION

Deceleration / braking with the regenerative brake is the most energy efficient way of reducing speed.

NOTICE

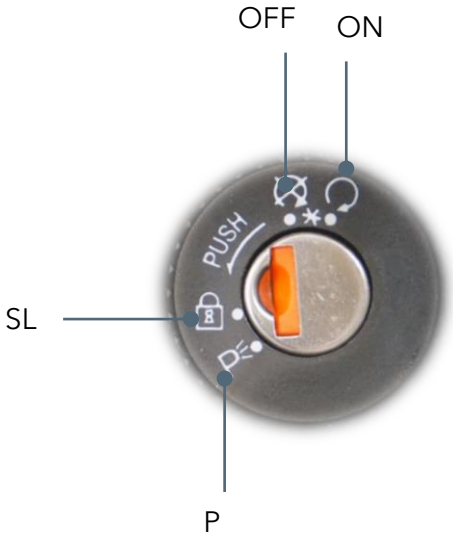
In the unlikely event of loss of brake fluid in one circuit the second circuit will still offer brake force.

WARNING

Be aware that in case of failure in one circuit the brake pedal feels extremely soft over a big angle. Keep pressing it further down and the vehicle will bake!

7.2.8 Ignition lock and keys

The Paxster vehicle is activated and deactivated by a key inserted into the ignition lock. The ignition lock has different stages as shown below. The kye can be extracted in position "0" and park light position.



position	description
P	Park lights on, key can be extracted in this position
SL	Steering lock can be engaged in this key position, steer completely to the left to engage the mechanical steering lock.
OFF	Vehicle off, key can be extracted in this position
ON	Vehicle on

The Paxster is delivered with a set of 3 keys, unique to your vehicle. The key can be identified by the key code on the metal id plate. Save this 4-digit code to order spare keys in case of loss.

7.2.9 Key fob

The optional key fob remote control system acts parallel to the ignition lock and can activate and deactivate the vehicle without a key being set into the ignition lock.

Item	description
I	Indicator LED. On when pressing a key and battery okay. If not illuminated pressing the key: change battery
ON	Unlock the vehicle.
OFF	Lock the vehicle, big switch to easily lock the vehicle leaving it.

NOTICE

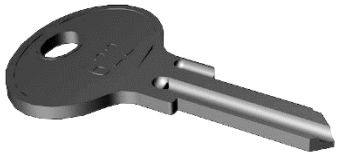
If an ignition key is set to "on position" within the ignition lock, the remote control (key fob) can not deactivate the vehicle. The vehicle keeps active and unintended use is possible when leaving the vehicle.

7.2.10 Other keys

The Paxster vehicle is delivered with 2 keys for the side compartments Pos 23 & 24. These are not unique, they fit all vehicles. On new vehicles, these keys can be found within one of the side compartments. See chapter 7.8.3 for further information.

Paxster vehicles equipped with the rear cargo compartment type “delivery” will find another pair of keys delivered with the vehicles to lock and unlock the rear doors manually.

These keys are unique. In case of loss the lock must be replaced. Usually, the locks of both left and right door can be operated with the same key.



7.2.11 Switch board

The switch board contains 4 switches to operate the drive mode, the heated wind screen and grips, the washer and the wiper.

Item	description
76	Wind shield wiper switch
77	Wind shield washer switch
78	Defrost switch for wind shield and heated grips
79	Drive mode selector

76 wiper switch

The wiper switch has three positions

- INTERVALL ↑
- OFF →
- PERMANENT ↓

77 washer switch

The washer switch activates the wind shield washer pump which is located directly on the water tank within the right-side compartment (23). After long time storage or if the tank was completely drained, it might take some seconds until water reaches the wind shield.

NOTICE

If no washing water reaches the wind shield, check washing fluid level in the right-side compartment.

Fill up washer tank with anti-freeze detergent if ambient temperatures might reach freezing point.

INFORMATION

Use environmentally friendly washing agents / defrost agents to save the planet. Every effort counts.

78 defrost switch

The defrost switch has 3 stages:

- ACTIVATE WINDOW DE-ICER ↑ Turns of automatically after 15 minutes
- OFF →
- ACTIVATE HEATED GRIPS ↓ Turns of after 15 minutes ↓

After 15 minutes the chosen function deactivates automatically, but the switch keeps its position. To reactivate the chosen function, set the switch to "OFF" and to your chosen option again, to get another 15minutes of heating.

NOTICE

It is not possible to simultaneously heat the wind shield and the heated grips.

INFORMATION

Use the heated grips with care to save energy but use them as often as it is required to make your workspace comfortable.

For wind screen heating: Safety first! Use the heater whenever it is indicated to defrost or de-fog it.

79 drive mode selector

The drive mode selector offers three positions = modes:

- High ↑
- Eco →
- Winter ↓

Select the mode after your requirement. Eco-mode is the recommended driving mode with best energy efficiency



Drive mode	High	Eco	Winter
Low speed torque	High	Normal	Normal
Energy balance	Poor	Optimal	Poor
Regenerative braking force	high	normal	Low

The drive modes effect the range of the vehicle. Choose eco mode whenever possible to gain maximum range.

NOTICE

High mode is only recommended when driving on steep inclines or starting on inclines and a speed up to 6km/h | 4mph. Above that speed limit the high mode consumes much energy but offers no advantage over eco mode.

You can switch modes while driving!

WARNING

On slippery ground (leaves on the road, icy or snowy conditions, wet road with pollen,…) winter mode offers the highest level of safety.

In winter mode, the regenerative braking is reduced to avoid blocking of the rear axle. Additionally, the acceleration is reduced. You will still get the same torque than in eco mode, but the ramp up to reach this torque is reduced, it takes longer to establish the torque. This avoids spinning wheels.

Winter mode increases the vehicle stability on slippery roads.

NOTICE

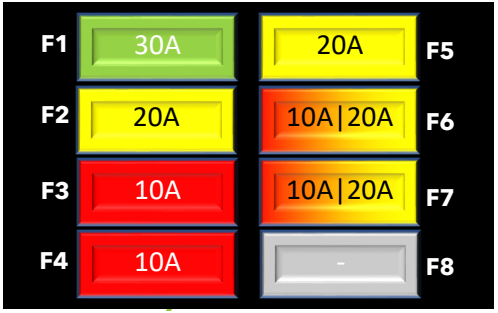
Use High mode on ramps and driving onto trailers.

7.2.12 12V fuses

The 7 most important 12V fuses are located in a hatch on the right side of the steering column. These fuses can be changed by the operator in case of fuse failure.

Unscrew the star-lock screw manually and open the hatch to access the fuses.

Fuse	Size	Function
F1	30A	Main fuse
F2	20A	Wiper / washer
F3	10A	Lights
F4	10A	Ignition
F5	20A	Defrost / heated grips
F6	10/20A	Aux power via ignition
F7	10/20A	Aux power permanent
F8	N/A	free



WARNING

Only replace defect fuses by same type / size fuses.

On standard vehicles fuses F6 and F7 are 10A 12V fuses. Special builds and vehicles with added 12V consumers might have a 20A fuse here instead.

CAUTION

If a replacement fuse fails immediately or after a few minutes, please contact your local Paxster service to find the root cause of the failure.

NOTICE

Technicians find further fuses below the seat. These fuses shall not be accessed or replaced by the operator or untrained staff.

7.2.13 Outlet 12V

A 12V outlet (80) can be found left of the steering column on the black plastic cover. The outlet is connected to fuse F7 on the steering column. Vehicles are delivered with a 10A fuse. The maximum output of the outlet is depending on your vehicle configuration. If output power is not sufficient, the fuse F7 can be increased to 20A.

The outlet is designed to support telephones, tablets, and GPS systems.

The outlet is not designed for heaters!

Item	description
80	12V power outlet

7.2.14 Setting the time and units

To enter the programming mode, press both “mode” (74) and “reset” (72) for about 3 seconds.

The order of adjustments is:

- 24/12h
- Hours (time)
- Minutes (time)
- Speed unit (mph or km/h)
- On initial setup of a new main instrument only, odometer count can be set here

24 |12h

h | min

Km/h | mph

Browse the adjustments using the “mode”-button (74).

Change a value by pressing the “reset”-button (72).

Holding the “reset”-button pressed will increase a value faster.

Exit the programming mode by switching off the vehicle and switching it on again.

7.3 Preparing the Paxster for operation

7.3.1 Checks and operations to be performed before daily use

Prior to starting a ride, the vehicle shall be checked for damages and proper condition. Especially all safety relevant systems and devices shall be checked.

WARNING

Risk of accident due to defects or damage to the vehicle or optional equipment.

If damage or extended wear are detected on the vehicle, the Paxster needs to be taken out of service until it has been repaired.

- Report defects immediately to your supervisor
- Mark the defect vehicle and take it out of service

Test the warning devices

Test the horn by pressing the yellow horn button (58) on the left control unit. The horn must react immediately and give a clear sound as long as the switch is pressed. See chapter 7.2.3.

Test the full lights by pressing the full light switch (55) on the left control unit forward. The blue full beam indicator must switch on and the beam shall be visible on a wall or obstacle in front of the Paxster. Check the proper deactivation, too. See chapter 7.2.3.

Test the warning lights by activating the warning lights switch (56) on the left control unit, see chapter 7.2.3. Check that both frontal and both rear indicators are flashing.

Test safety relevant devices

Check ignition switch and key fob for proper function (on/off)

- Switch on ignition using the ignition key
    - Observe the display for indicated issues
        - Fault indicator (65) indicates no fault
        - Brake fluid indicator (66) does not light up
        - Seat switch indicator (63) recognizes driver = does not light up
        - The multi-functional area (73) does not show any error code

Test the seat belt, see chapter 7.6

Test the steering, see chapter 7.11

Test the brakes, see chapter 7.12

Check the reverse switch (54) on the left control unit for proper activation and deactivation

- Slowly (3-5km/h) drive forward having plenty of space in front of you and behind you
- Keep the throttle at this speed
- Activate the reverse switch → the vehicle shall slow down and reverse
- Deactivate the reverse switch → the vehicle shall slow down and start moving forward

General vehicle check

- Check the whole outside of the vehicle for damages, especially sharp edges, or cracks
- Check the vehicle / floor beneath the vehicle for leaks
- Check the wheels for damages:
    - Tires have no visible cords or deep cuts
    - No obstacles in the tires like screws, nails, stones
    - No bulks visible on the tires
    - Sufficient tread depth → see local regulations for summer and winter tires
    - No cracks in the rims visible
    - All wheel bolts present and in the same depth of the rim (loose screws / nuts)
    - No deformations of the rims visible
- All lights are functioning and clean
- Wind screen wiper is not causing stripes, cleaning fluid is filled up
- Safety equipment is present and in proper condition

NOTICE

There might be local or company internal regulations for your safety equipment, this might also depend on the registration class of the Paxster (L6e or L7e). Make yourself familiar with such regulations.

7.3.2 Preparing the Paxster for operation

Before preparing the Paxster for operation, please read and execute chapter 7.3.1.

Procedure of preparing the Paxster for operation:

- Disconnect the charging cable from the vehicle and store it safely, see chapter 6.4.
- Close the charging plug hatch
- Activate the vehicle by switching in the ignition by turning the ignition switch to “ON”-position, see chapter 7.2.8 or by using the key fob, see chapter 7.29

The vehicle is now operational.

7.4 Entry and exit

Intentionally the Paxster has no doors to enter or exit the vehicle to ease the procedure of delivering goods.

You can enter and exit the Paxster nearly upraised.

You can enter and exit the Paxster to both sides.

NOTICE

Mind your head entering and exiting the Paxster vehicle, the roof edges are bended downwards.

Mind the optional wind deflectors as they are transparent.

Do not grab the wind deflectors when entering or exiting the vehicle. They are not designed to deal with such forces.

Do not lean on the side compartments (23 +24) when entering and exiting the Paxster.

WARNING

Before exiting the vehicle observe the ongoing traffic around the Paxster to exit safely.

If possible, exit the vehicle to the sidewalk side, not to the roadside.

Park the Paxster securely before leaving it, see chapter 7.7

WARNING

Before exiting the vehicle make sure it made a complete stop and the parking brake is engaged.

- The display shows “P” when the park brake is engaged

Especially on slopes Paxster recommends the following order for safe parking:

- Stopp completely
- Release the brake pedal
- Make sure “P” is shown in the display
- Make yourself ready to exit the vehicle
- Observe ongoing traffic and pedestrians
- Exit the vehicle

7.5 Adjusting the operator seat

7.5.1 Adjusting the seat

The seat can be horizontally adjusted in different positions by pulling up the seat adjustment bracket and pressing the seat forward or backward.

NOTICE

It is easiest to move the seat while sitting on it.

To choose the optimal sitting position, make sure that the seat is I a position where:

- Your right foot can operate the brake pedal
- Your knees are free from contact with the plastic parts left and right of the steering column
- You can steer to both utmost steering positions with both hands safely on the steering bar.

NOTICE

If affected by dirt or wear, the seat might get stuck and moves only with higher forced applied. Please ask your service provider to lubricate the guides and check for wear.

- Pull the seat adjustment bracket (81) upwards
- Pull the seat forward or backward
- Release the seat adjustment bracket
- Pull/push again on the seat to ensure the bracket locked

Item	description
71	Seat adjustment bracket

CAUTION

Crushing hazard.

Watch your hands and fingers when adjusting the back rest, especially pushing it backwards.

7.5.2 Seat switch function

The Paxster is equipped with a seat switch recognizing a person sitting on the seat.

The Paxster will not enable driving functions when it does not recognize a person (weight) on the seat.

NOTICE

For proper function of the seat switch the seat must be able to vertically move.

It is intended to have vertical free play to engage / disengage the seat switch.

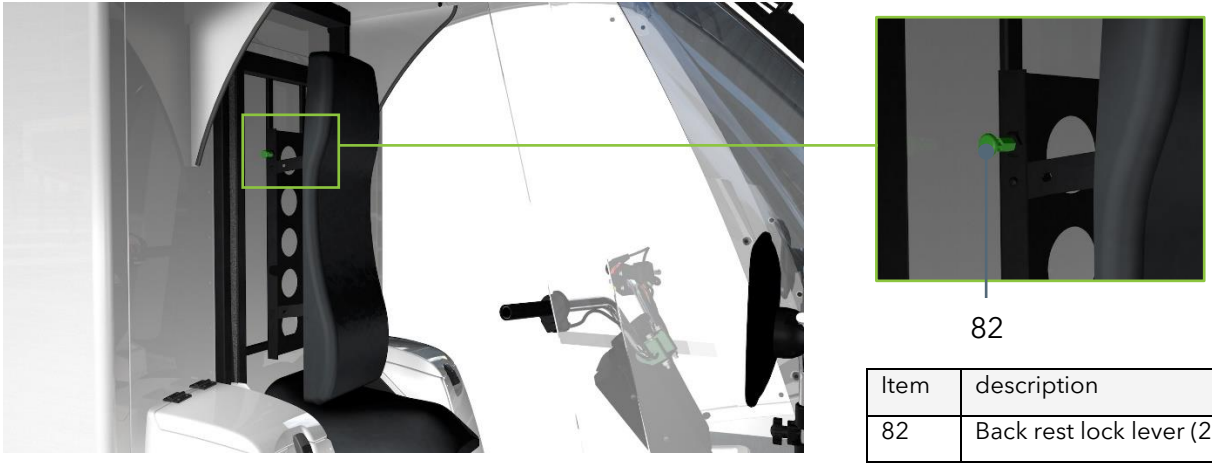
Make sure no items are placed below the seat compromising this function.

7.5.3 Adjusting the backrest

If the seat needs to be pulled to the front to enable you a comfortable seating position, the backrest can be adjusted in some positions.

To adjust the backrest:

- Pull out the lock levers on both sides of the backrest and turn them 90° to block them
- Pull the backrest to the front
- Release both lock levers by turning them 90° and pressing them in
- Move the backrest further to a position the lock levers lock or the backrest is in end position



Item	description
82	Back rest lock lever (2 pcs)

CAUTION

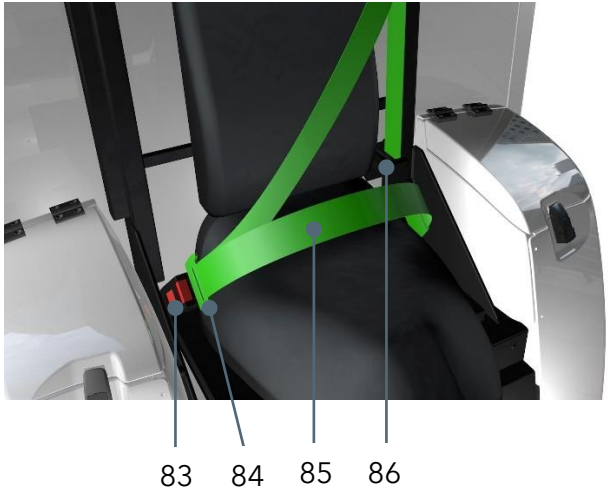
Crushing hazard.

Watch your hands and fingers when adjusting the back rest, especially pushing it backwards.

7.6 Seatbelt

The Paxster is equipped with a 3-point seatbelt to increase driver's safety. Generally, the use of the seatbelt is mandatory.

There might be national or local exceptions for delivery services. Please make yourself familiar with these regulations applying to your use of the Paxster.



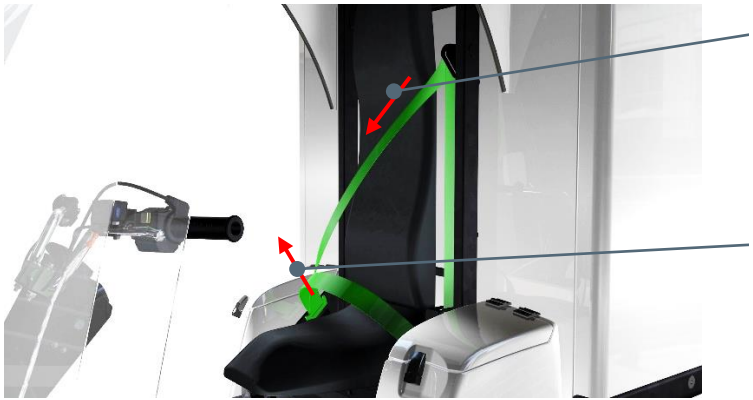
Item	description
83	Seat belt buckle
84	Latch plate
85	strap
86	retractor

DANGER

Not using the seatbelt might lead to severe injuries in case of an accident!

As being a safety feature the seat belt shall be checked daily for proper function and wear.

- The edges of the strap shall not show wear / be fringed
- The latch plate shall glide into the buckle easily
- The buckle locks and keeps the latch plate locked under load → lock it and pull on the latch plate
- The buckle releases the latch plate properly
- The retractor locks when rapidly pulling on the strap



Retractor test: rapidly and strongly pull,

→ retractor must engage / lock

Buckle test: rapidly and strongly pull,

→ buckle must keep holding the latch plate

WARNING

If any of the checks above fail, please contact your supervisor and call Paxster for repair / assistance.

CAUTION

Do not high-pressure wash or spill water into the retractor.

Do not use any abrasive or corrosive cleaning agents for the seat belt components.

7.7 Parking the Paxster securely

The Paxster Gen. 2.2 is equipped with an automatic parking brake unit (APBU) to support you quickly parking safely.

The intentions of parking safely are:

- Disable the vehicle from moving
- Disable the vehicle from being driven / moved by third parties
- Unintended drive input by turning the throttle (exiting the vehicle or by other persons)

WARNING

Not following this instruction for safe parking might lead to other persons (including children) being able to move the vehicle, damage to the vehicle and damage to vehicles / objects close to the Paxster as well as injuries to persons. Always think twice where you want to park. Safety first!

Procedure for short term parking:

- Push the steering to the **right = sidewalk side** (if brakes fail, the vehicle will roll toward the sidewalk)
- Switch off the ignition and take the keys with you
- If equipped with key fob:
  - Do not insert the ignition key, but use the remote control
  - press the big “OFF” button, see chapter 7.2.9

Procedure for long term parking:

- Push the steering to the **left = roadside**
- Switch off the ignition and push the ignition key further in and turn it to the “SL” position (steering lock), see chapter 7.2.8
- Move the steering bar slightly to the left and right to engage the mechanical steering lock
- Pull out the ignition key and take it with you

NOTICE

Both procedures can be combined with activating the park light by switching the ignition key to the “P” position before extracting the ignition key.

In the “P” position the warning lights can be activated without ignition on.

7.8 Loading and unloading the Paxster

For loading the Paxster some general rules apply as to all vehicles:

- Place heaviest load lowest
- Secure your load, applies especially to the front cargo area (22) and optional side cargo compartment (21)
- Do not overload the Paxster
- Distribute the load evenly between right and left side
- Counterbalance heavy weight in the rear cargo compartment (6) with weight on the front cargo area
- Weight / Load affects the range of the vehicle
- Weight / Load affects the braking distance
- Load distribution affects driving behavior in swings

WARNING

Not following the above stated general rules may lead to instable driving behavior, elongated braking distances and accidents.

Please think twice about your safety before driving.

INFORMATION

Do not carry load / items with you that you do not need.

The less the Paxster weighs the less energy it consumes… and that saves money and environment.

DANGER

How to recognize wrong load distribution that might lead to instable driving behavior:

- Heavy load placed in the rear and no load in the front
- Operating the steering bar is extremely easy → **danger for front axle losing ground contact**
- The vehicle does not follow the steering input
- Heavy items stored highest → **leads to instable cornering and the vehicle might tip**

WARNING

The following situations must be avoided. They lead to unstable and dangerous driving behavior of the vehicle.

- Too much heavy load in the rear, no load in the front
- Front axle loses ground contact

- Too much heavy load in the front
- Increased steering forces
- Rear wheels can block when braking

- Too much heavy load high in the rear
- Vehicle can tip in curves
- Vehicle gets instable when driving

7.8.1 Rear cargo compartment

The rear cargo compartment (6) is the main cargo area and stores items not immediately used. Items that shall be used immediately are stored in the front cargo area (22).

There are two different rear cargo compartments available:

- Type delivery → 3 plastic hinges per door
- Type cargo → 2 metal hinges per door

The rear compartment (6) may be equipped with different shelf types, according to the customer's requirements.

Technical data:

Dimension	Cargo compartment	
	Delivery	Cargo
Inner max. length	620mm	678mm
Inner max. width	972mm	1115mm
Inner max. height	1115mm	1135mm
Light door opening (w x h)	880 x1017	960 x 1049
Usable volume	app. 670 liter	app. 858 liter
Max permitted load	190kg	190kg

7.8.1.1 Type „cargo“

The rear cargo compartment can be accessed by pressing the door lock opener 16 on the left door. The right door will then open.

- Press the round rubber switch for about one second to open the right rear cargo compartment door.
- Pull the right door open until it hits the door magnet (8) on the right cargo compartment wall to keep it open safely

CAUTION

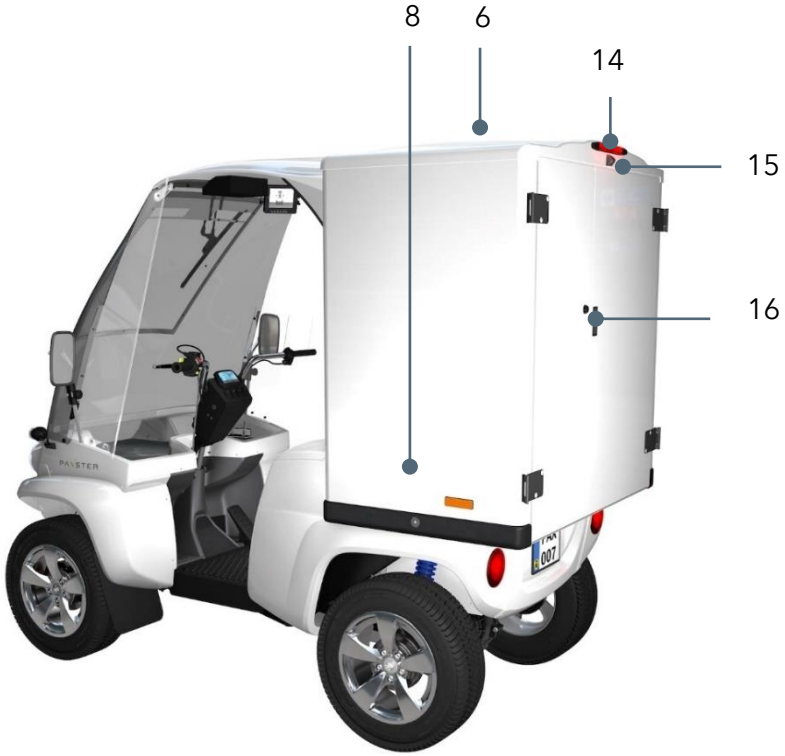
Always open the door completely to secure it by the door magnet (8) of the side wall. Otherwise, wind could move the door and cause harm to persons or material.

NOTICE

The rear door lock opener is only active if the ignition is switched on by the ignition key or the key fob.

If the ignition is switched off, the rear door lock will not open the doors.

If the rear door open warning (62) in the main instrument is illuminated, the left rear door is not closed properly! See chapter 7.2.5.



Item	description
6	Rear cargo compartment
14	3rd brake light
15	Rear view camera
16	Rear door opener and handle
8	Door magnet

CAUTION

Be careful opening a door in severe weather as wind might push it open or close. Freely swinging doors can lead to injuries and damage to the material.

Always open the door completely until it is secured by the door magnet.

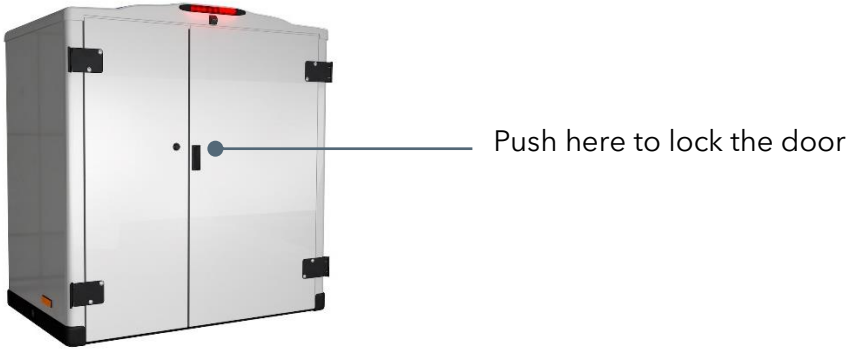
To close the door pull it away from the door magnet and guide the door until it is locked.

Pull here to release the door from the magnet

NOTICE

To release the door from the magnet, always and only pull it on the lower edge of the door. Do not pull on the upper edge of the door as is might lead to deformation of the door.

Guide the door until it reaches the closed position and press it into the door lock.



NOTICE

To lock the door push it close to the door handle to avoid deformation of the door.

Before opening the left door, the right door must be opened.

To open the left door, pull the left door lever (77) on the inside of the door towards the center of the vehicle and pull the door open.

77

Item	description
77	Left door lever

7.8.1.2 Type „delivery“

The rear cargo compartment type delivery ist he smaller version and offers two mechanically lockable doors.

If your Paxster is equipped with the key fob system, the cargo compartment doors will be electronically locked by this system, too. Nevertheless, each door can be manually locked additionally.

To open a delivery door:

- Turn the door key 90° to the left if the door was manually locked
- Pull the plate of the handle towards you and pull the door open
- Open the door 180° to lock it open. A ball catch holds the door open.

Left and right door can be opened and closed independently from each other.

NOTICE

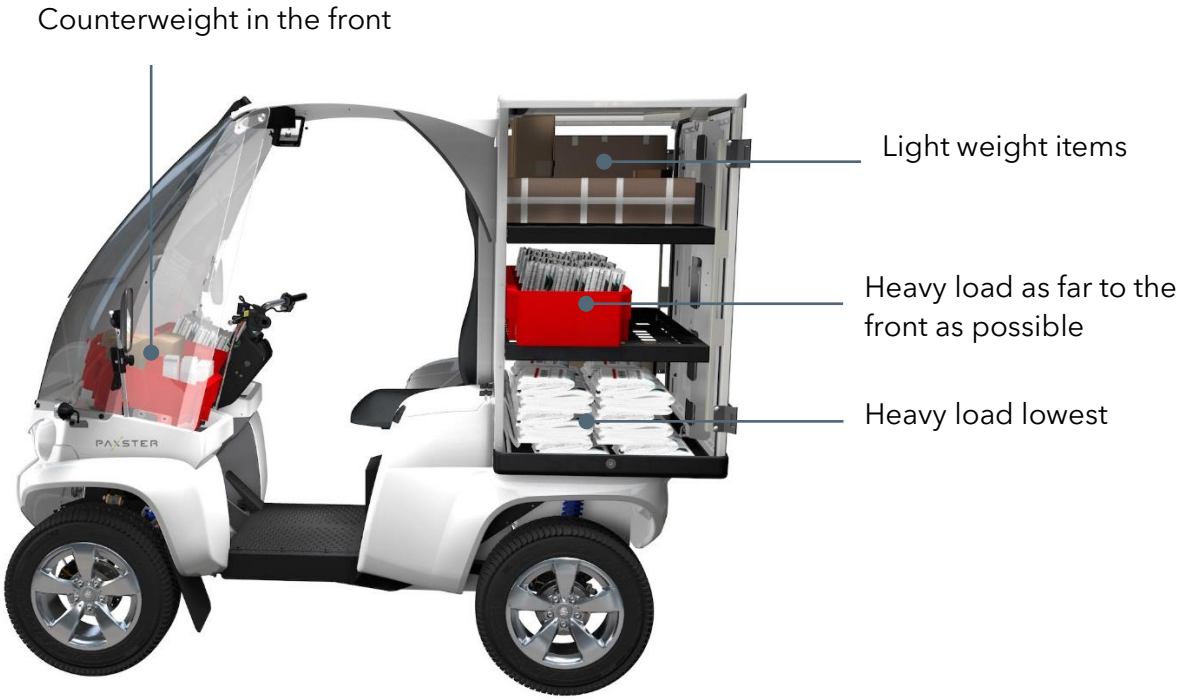
To lock the door push it close to the door handle to avoid deformation of the door.

CAUTION

Always open the door completely to secure it by the door catch of the corner post. Otherwise, wind could move the door and cause harm to persons or material.

7.8.1.3 Load distribution

For proper load distribution and increased vehicle stability, always place heavy items as low as possible and as far to the front as possible and place light weight items on the upper shelves.



WARNING

The correct load distribution is essential for safe and stable driving.

The following rules apply for load distribution for safe driving:

- Pack heavy items as low as possible
- Position heavy items as far to the front of the rear cargo compartment as possible
- Counterbalance heavy load in the rear cargo compartment with load in the front compartment
- More weight in the front equals more stable driving when cornering

WARNING

Never overload the vehicle! **Max 190kg** in the rear cargo compartment, max 50kg in the front cargo area.

Watch the center of gravity carefully.

7.8.2 Front cargo area

The front cargo area (22) is meant to be the primary cargo area for quick access. This area can be equipped with attachments for postal boxes, with a free area for parcels or other equipment, or it can be equipped with a front parcel box.

Special build Paxsters can also be equipped with customized support, e.g., for batteries for electric bikes or scooters.

Technical data:

Dimension	Front cargo area	
	Delivery	Cargo
Max amount letter containers	3	3
Usable floor space	0,59m²	0,59m²
Usable volume	150 – 250 liters	150 – 250 liters
Max permitted load	50kg	50kg

Most commonly the front cargo area is equipped with three supports for letter containers / post boxes.

These are customized and differ between countries and customers.

NOTICE

If equipped with supports for letter containers, please ensure that the rubber strap is hooked onto the letter box to secure it under transport.

WARNING

Never overload the vehicle! Max 190kg in the rear cargo compartment, max **50kg** in the front cargo area.

Watch the center of gravity carefully.

If your Paxster is equipped with a front parcel box, the parcel box hatch only opens if the ignition is switched on by the ignition key or the key fob.

To open the front parcel box, press the lock button about 1sec. The hatch pops open and can than be lifted up vertically.

Pull the hatch open and push it to the front of the vehicle to secure it in open position.

Front parcel box, handle of the open hatch

Front parcel box lock switch

To close the hatch, guide the hatch against driving direction and lower it until it reaches the lock latch. Press down the hatch firmly to engage the lock mechanism.

NOTICE

If not locked properly, the vehicle will activate a warning buzzer as the ignition is turned off.

If your Paxster is equipped with a canvas to protect the front letter boxes from weather and unauthorized access, make sure the canvas is locked when leaving the vehicle.

NOTICE

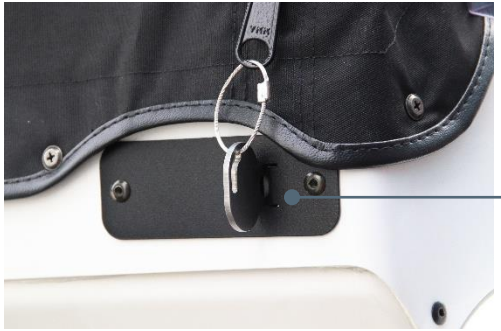
The zipper must be operated on its latch. Do not pull the canvas open by pulling the canvas itself. The zipper will be damages by this action.

Lubricate the zipper with zipper lubricant whenever it is harder to operate it.

Vehicles equipped with canvas and key fob have a key on the zipper and a lock on the right-hand side to secure the canvas zipper. This lock is activated and deactivated by the key fob and by the ignition key.

The zipper key can be inserted into the lock at any time

The zipper key can be pulled out of the lock when the ignition is turned on by the key fob or the ignition key.



Canvas zipper lock with inserted zipper key

7.8.3 Side compartments

The side compartments offer additional storage space for tools and personal equipment.

NOTICE

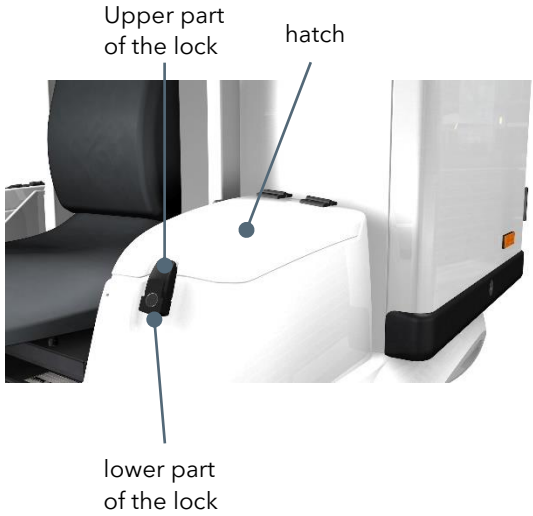
The side compartments (23 and 24) are not watertight or rain proof. Small amounts of water might penetrate these compartments.

Both side compartments can be locked by the same key.

These keys are not unique to one vehicle. One key can open the side compartments of any Paxster.

To open the compartment:

- If locked, insert the key and turn it 90° → see chapter 7.2.10
- Lift the lower end of the lock (that includes the key lock)
- Lift the upper part of the lock and pull it in driving direction
- The lock is now released, the hatch can be opened



Right side compartment

This compartment (23) houses the washer tank for the windscreen wiper as well as the diagnosis plug.

The resulting space can be used for light weight personal equipment. The compartment can be locked by a key.

NOTICE

Do only place light weight components, in total up to 2kg here. Water hoses, cables and other components placed within this compartment must not be damaged by sharp items or heavy items.

Please note, that this compartment is not waterproof, only water repelling.

Left side compartment

This compartment (24) can be used to store personal belongings, tools, and safety gear up to 10kg.

The compartment can be locked by a key.

NOTICE

Do only place light weight components here. Paxster recommends limiting the weight within this compartment to **10kg.**

Please note, that this compartment is not waterproof, only water repelling.

7.9 Travel

WARNING

Collision hazard when driving and operating the vehicle.

Do not start driving when the rear doors are not properly closed. Vehicles equipped with the cargo compartment type “cargo” will warn you when the rear doors are not properly locked by lighting up the warning light (62) in the main instrument.

Vehicles equipped with the cargo compartment type “delivery” do not have this feature.

WARNING

Collision hazard.

In case of limited visibility to the rear use the rearview camera as additional feature to ensure no person or obstacle is hidden behind the vehicle. If in doubt, stop the vehicle, go to the rear, and ensure that safe reversing is possible.

If still in doubt, ask a person for assistance.

CAUTION

Crushing hazard.

Do not leave the vehicle until it has completely stopped and the APBU is engaged.

7.10 Steering

The Paxster Gen 2.2 offers a direct acting steering bar (20). This requires no power steering. The steering bar is connected to the wheels via steering links.

NOTICE

If possible, roll slightly forward or reverse when operating the steering bar. This reduces friction and eases steering significantly.

WARNING

Reduce speed before cornering. Enter the swing with the sped appropriate for that swing.

Braking while cornering will reduce the stability of the vehicle.

The Paxster vehicle is not equipped with an ABS system. Avoid braking and cornering simultaneously. → see chapter 7.11 for further information

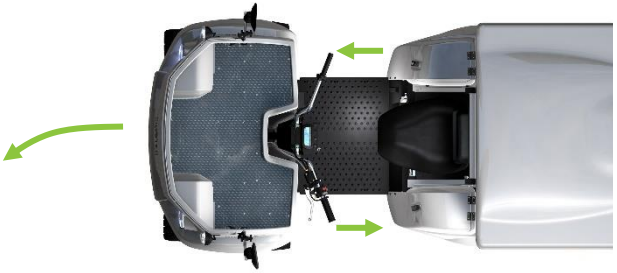
Start accelerating after cornering, when the vehicle is straightened (steering bar in neutral position) to keep the vehicle stable.

INFORMATION

Smoothly reduce your speed, mainly using regenerative braking. This charges the battery and reduces fine dust due to wear of the tires.

Accelerate slowly to save energy. Spinning wheels create fine dust.

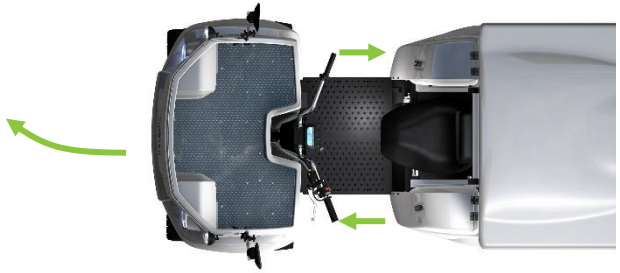
Swinging to the left



Keep both hand on the grips of the steering bar. If possible, use the throttle to move the vehicle some centimeters while steering.

Pull the left side of the steering bar towards you and press the right side of the steering bar away from you to perform a left-hand swing.

Swinging to the right



Keep both hand on the grips of the steering bar. If possible, use the throttle to move the vehicle some centimeters while steering.

Pull the right side of the steering bar towards you and press the left side of the steering bar away from you to perform a right-hand swing.

WARNING

The vertical load distribution has significant impact on the stability of the vehicle when cornering! Keep heavy load as low in the vehicle as possible to keep down the center of gravity. See chapter 7.8.

WARNING

When cornering, lateral forces are generated and need to be transferred to the ground.

Road surfaces with reduced grip only allow lower cornering speeds!

Cornering-speed reducing factors are

- Snow
- Leaves
- Wet road surface
- Oily road surface
- Dirt
- Gravel instead of asphalt / concrete

WARNING

Worn tires or inappropriate tires will reduce the maximum possible cornering speed.

7.11 Braking

The Paxster Generation 2.2 vehicle offers 4 brake systems:

System	operates	Type
Brake pedal brake	All 4 wheels	Hydraulic
Brake handle brake	Front wheels	Hydraulic
Regenerative brake	Rear wheels	Electrical
APBU*	Rear wheels	Electromagnetic

*APBU: automatic park brake unit

NOTICE

The APBU is controlled by the motor controller and is automatically engaged if

- the speed is zero and no throttle input is given
- the speed is zero and no person is detected on the seat
- the speed is less than 5km/h and no person is detected on the seat
- the speed is less than 5km/h and a severe error in the drive train is detected

NOTICE

Regenerative braking is applied automatically if

- the brake handle or pedal is just slightly operated
- the throttle is released beyond idle area
- on declines if the vehicle speed exceeds maximum allowed speed
- switching from forward to reverse while keeping the throttle pulled
- switching from reverse to forward while keeping the throttle pulled
- the speed is above 5km/h and a severe error in the drive train is detected

7.11.1 Braking

INFORMATION

Use the regenerative brake system as often as possible to charge the battery and reduce wear and tear on the other brake systems.

Drive anticipatory! This is the safest way to drive and brake. Use the brakes as little as possible, let the vehicle roll and brake regeneratively to reduce wear and increase range by using the brake energy produced by the regenerative brake to recharge the vehicles battery.

Choose the brake you use according to the situation you face.

If you need maximum brake force, use the service brake!

Consider your speed to avoid unnecessary braking.

WARNING

The Paxster vehicle is not equipped with ABS systems. Simultaneously braking and steering might lead to loss of friction and steering ability. If you need to steer, do not brake, or at least reduce braking force.

In emergency braking situations in swings, use interval braking = press and release the brake pedal while steering.

WARNING

The braking distance is depending on the actual weight of the vehicle.

More weight = longer braking distance

The braking distance is depending on the force applied to the brake pedal (or handle).

The more force applied, the shorter the braking distance will be.

The braking distance is depending on the road conditions.

- Snow
- Leaves
- Wet road surface
- Oily road surface
- Dirt
- Gravel instead of asphalt / concrete

will increase the braking distance.

The condition of the

- Tires
- brake pads / brake disc / drum brake

will affect the braking distance. Worn parts will increase the braking distance.

NOTICE

Use winter tires in cold, wet, snowy weather. Use summer tires in warm dry conditions.

Make yourself familiar with local legislatives regarding use of tires and required profile depth.

7.11.2 Service brake

The service brake of the Paxster Gen 2.2 is operated by the brake pedal (51) which operates all 4 wheels. The service brake is a 2-circuit brake system, one circuit operates the front axle, the other one the rear axle. In case of one circuit failing, the other is still available.

WARNING

If one brake circuit fails, the pedal will feel soft. Press the pedal far more down than usual to apply brake force to the remaining circuit.

The brake distance will increase in cases one circuit is compromised.

INFORMATION

A slight press to the pedal activates the regenerative brake to support the service brake and reduce wear.

Use the regenerative brake system as often as possible to charge the battery and reduce wear and tear on the other brake systems.

The service brake shall be used whenever regenerative braking does not create sufficient braking force.

The service brake is comparable to the brake pedal of usual cars.

WARNING

Use this service brake in any emergency braking situations to gain maximum brake force.

7.11.3 Brake handle

For Paxster users used to drive mopeds / quads (ATVs) / motor bikes or older generations of the Paxster vehicle, the Paxster Gen 2.2 offers a brake handle (46) for the left hand. This operates the front wheels only.

This brake is connected to the service brake front circuit via a special separator unit called S-block.

Only applying force to the front wheels, this brake system is less powerful than the service brake operated by the brake pedal.

WARNING

In any cases of emergency braking or requirement of high brake forces the **service brake** must be used.

INFORMATION

A slight press to the lever activates the regenerative brake to support the brake handle and reduce wear.

Use the regenerative brake system as often as possible to recharge the battery and reduce wear and tear on the other brake systems.

Technical information:

The brake handle possesses an own brake fluid reservoir. The brake fluid of this reservoir has no direct connection to the main brake reservoir. The brake fluid of the brake handle only oscillates in the hose between brake handle and S-block.

NOTICE

See chapter 7.2.4 for brake fluid reservoir and brake fluid check.

7.12 Tires and rims

The tires are your only connection to the road!

NOTICE

Only use tires of approved size, load index and speed index.

Type	Tire designation	comment
Summer	145/70 R13	Use spacer Paxster art. No. 15015513 on rear axle if using alu rims
Winter without studs	145/70 R13	
Winter with studs	155/70 R13	Use spacer Paxster art. No. 15015513 on rear axle
Tire pressure	1.8 -2.0bar	

For load index and speed index see chapter below.

NOTICE

All aluminum rims and tires of size 155/70 R13 require spacers 15015513 on the rear axle. Not following this instruction causes damage to the tires.

Rims

Paxster Gen 2.2 steel rims are defend as:

- 4,5 JX
- 4 x 100 hole number and diameter
- 13mm hole diameter
- ET30 wheel offset.

Paxster Gen 2.2 aluminum rims are defend as:

- 13x4,5 J
- 4 x 100 hole number and diameter
- 13mm hole diameter
- ET30 wheel offset.

Tires

Paxster Gen 2.2 **summer tires** and **winter tires** are defend as:

Dimension	L6e-BU	L7e-CU
Tire size	145/70 R13 155/70 R 13	145/70 R13 155/70 R 13
Min load index front axle	36	42
Min. load index rear axle	64	64
Minimum speed index	B	D

CAUTION

Check your tires regularly. Minimum profile depth varies in between countries.

Country	Summer tire	Winter tire
Norway	>1,6mm	>3,0mm
Germany	>1,6mm	>1,6mm and snowflake marking
Austria	>1,6mm	>4mm

NOTICE

All aluminum rims and tires of size 155/70 R13 require spacers 15015513 on the rear axle. Not following this instruction causes damage to the tires.

On some special builds different tire dimensions might be present. Please contact Paxster in case you need information on further approved tire dimensions for special builds or non-standard vehicles.

7.13 Long term storage

If the Paxster vehicle will not be used for some days, it shall be connected to the grid by the charging cable.

The Paxster will only charge if required and stop and start automatically different charging stages / methods to maintain optimum battery protection and optimize battery life. This is the most energy efficient method of keeping the Paxster off duty for some days.

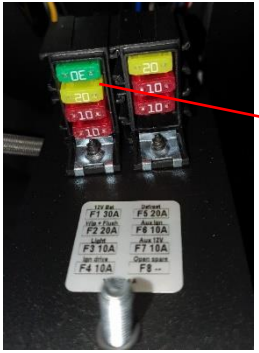
NOTICE

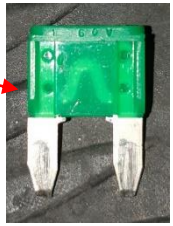
Especially in cold conditions below +4° the Paxster shall be connected to the charger whenever it is not in use.

In cold conditions the battery will be slightly heated as the vehicle is connected to the 230V grid. This protects the battery from freezing and elongates the lifetime of the battery.

If the Paxster vehicle will not be used for more than 1 week without being connected to the 230V grid, please execute the following steps:

- Charge the Paxster completely, including balancing state, see chapter 7.2.5: charge indicator (62)
- remove the main fuse F1 (see chapter 7.2.12) from the fuse holder (42). This will protect the battery from deep discharging





7.14 Range and battery consumption

The real-life range of a Paxster vehicle is stated in the table below.

Dimension	L6e-BU		L7e-CU	
	Delivery	Cargo	Delivery	Cargo
Small battery	40-60km		35-50km	
Medium battery	50-85km		45-70km	
Large battery	70-110km		60-90km	

The range is mainly affected by:

- Drive mode: eco mode is the optimal mode
- Regenerative braking: the more regeneration, the more recharging the battery
- Load: less load equals more range
- Terrain: flat terrain equals more range
- Weather: snow reduces the range due to increased roll resistance
- Driving behavior: smooth driving saves energy
- Consumers: electrical consumers like wind screen heating reduces the range

Safety first: use these features if required!

8 Troubleshooting

This manual only describes the troubleshooting procedures that can be executed by the customer / driver. For Paxster technicians and Paxster partner workshop further trouble shooting guides are applicable.

CAUTION

Do only execute trouble shooting work you are comfortable with! If in doubt, call roadside assistance or the Paxster service.

Do only trouble shoot the vehicle if the working condition allows safe working. Safety first. Do not work in unsafe conditions.

8.1 Paxster does not start

8.1.1 Charger not disconnected

To start driving, the charger needs to be disconnected from the vehicle.

- Switch off ignition
- Remove the charging plug → see chapter 6.4.2
- Sit down on the seat
- Switch ignition on
- Turn the throttle to accelerate

8.1.2 Throttle fault

Symptom:

The vehicle does not start and show error 0x4981 in the multi-functional area (73) of the display.

Solution:

Revert throttle to neutral position (zero) switch ignition off and on again.

Cause:

The vehicle is equipped with a safety function that deactivates the motor if the throttle is not in the 0-position when the ignition is activated. This is to ensure that the vehicle does not accelerate unintentionally. The same function goes into effect if you twist the throttle immediately after activating the ignition.

Correct procedure:

- Sit down on the seat
- Make sure the throttle is in neutral position
- Switch on the ignition (by key or key fob), wait 2seconds for the vehicle to start up.
- Operate the throttle to accelerate

8.1.3 Seat fault

Symptom:

The vehicle does not start and show error 0x4881 in the multi-functional area (73) of the display.

Solution:

Switch off ignition and on again to reset the error. Make sure you are sitting on the seat and no obstacle prevent the seat switch from activating (the seat must be able to move downwards to activate the seat switch)

Cause:

The vehicle is equipped with a safety function that deactivates the motor if the seat is empty. This to prevent the vehicle from being operated without a driver on the seat. This is to prevent the vehicle from accelerating unintentionally.

8.1.4 No reaction of the vehicle at all

Symptom:

The vehicle does not start up, the display keeps dark. No driving is possible.

Solution:

- Make sure you are using the correct key / key fob transmitter. Only the correct key / transmitter will start the vehicle
- Press the jump start switch and keep it pressed→ see chapter 6.5.1
    - Switch on ignition
    - If display lights up, keep the jump start switch (10) pressed about 30seconds
    - The display should now light up
- Charge the vehicle immediately and completely including balancing → see chapter 7.2.5 for charge indicator

Cause:

Most often the main traction battery is empty, the DCDC converter is switched off automatically by the battery management system to avoid damage to the traction battery and the 12V battery ran out of power.

Charge the vehicle whenever you are not driving it.

8.2 Paxster does not charge

8.2.1 Charge indicator flashing

Symptom:

The vehicle does not charge, the charge indicator (61) flashes rapidly. See chapter 7.2.5

Solution:

- Disconnect the charging cable and reconnect it.
- If the error is still present, call a Paxster technician

Cause:

A communication error between the charger and the BMS might have occurred, the 230V gris was unstable due to lightning in the area or voltage drop in the grid, the charger fuse might be broken.

8.2.2 Charge indicator not flashing

Symptom:

The vehicle does not charge, the charge indicator (61) does not show any flashes. See chapter 7.2.5

Solution:

- Disconnect the charging cable and reconnect it.
- Check if the 230V outlet of the building has power
- If the error is still present, call a Paxster technician

Cause:

230V is not detected and the charger can not provide current. The cause might be within the charger, the charging cable or the main grid (230VC) of the building.

8.3 Paxster gets slower and / or stops

8.3.1 Slowing down: power issues

Symptom:

The fault indicator (65) on the main instrument panel comes on and it turns off after a short while. The vehicle has reduced performance. In the event of serious overheating, the vehicle may come to a sudden stop. A fault-code can be read in the display.

Solution:

- Turn the ignition off and wait 5 minutes so that the vehicle can cool down.

Cause:

- The vehicle is exposed to heavy loads, e.g., fully loaded cargo zones in hilly terrain.
- Demanding starts on hills with a heavy load.
- One or more wheels have low tire pressure.
- The brake does not release properly
- Other motor malfunctions
-

If the malfunction does not stop, contact your Paxster partner for further diagnosis and repair.

8.3.2 Slowing down: battery low

Symptom:

The fault indicator (65) on the main instrument panel comes on. The vehicle has reduced performance. A fault-code can be read in the display. The vehicle stops or only reverses.

NOTICE

The main instrument might not show an empty battery. This happens if the vehicle is subject to improper charging routine or charging errors.

Solution:

- Turn the ignition off and wait 1 minute. Start up again.
- If the error occurs again and you are not in close vicinity to a charging plug, the vehicles need to be rescued, see chapter 8.9.

Cause:

The vehicle runs out of battery capacity. The last warning to the driver is that the Paxster only reverses to be driven out of the traffic and parked on a safe sidewalk location or parking lot.

Root causes:

- The vehicle had not been charged before driving commenced.
- The vehicle had heavier work than normal and consumed more energy
- Other malfunctions with the charger (e.g., defective charger cable).
- Check that the charger is plugged into 230 V AC.
- Tip: always check that the charger starts normally after completed driving. The charge indicator shall flash (1) /2 / 3 or 4 times, see chapter 7.2.5
- Tip: Ensure that the charging cycle is completed before driving.

8.4 Error messages in the display

The Paxster internal diagnosis system in capable of differentiating about 200 different errors related to the drive train including the motor controller. Additionally, the BMS can send error messages, or it leads to certain error messages.

Only a few error messages are known to occur. These are stated below to help you identifying the problem.

NOTICE

Please write down the error code or make a photo of it as it appears in the display to support your local Paxster specialist in finding the root cause and helping you.

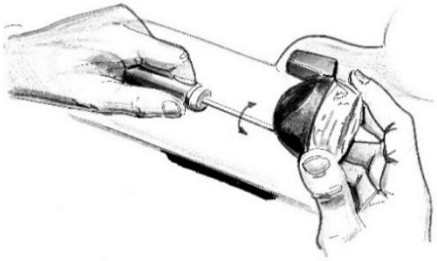
Do only make photos if it is safe to do so and the Paxster is parked.

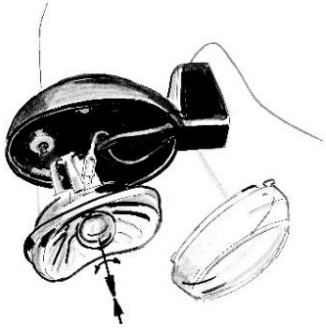
Code	Fault	Description and possible solution
0x45C3	Low battery cut	Traction battery empty, charge the vehicle immediately
0x45C9	Motor in low voltage cutback	Traction battery empty, charge the vehicle immediately
0x4602	Device too hot	Motor controller hot. Let vehicle cool down
0x4603	Motor too hot	Motor high temp. Let vehicle cool down
0x46C3	Fault ride through	Temporary. Could result in stop. Ignition off/on.
0x4881	Seat Fault	Activate seat-switch by sitting down before operating the throttle.
0x4882	Two-direction fault	Low 12Volt battery. Try Jump-Start-Switch.
0x4981	Throttle fault	Throttle not at 0% when ignition turned on.
0x52C1	Encoder fault	Ignition off/on. Alt. call for service.

8.5 Changing a direction indicator bulb

The frontal direction indicators are powered by a common 12V orange colored indicator bulb that can be exchanged by nonprofessionals.

- Unscrew the small screw on the rear edge of the indicator housing.
- Remove the lens.
- To remove the old light bulb: Press the bulb in and turn about 45° to the left.
- Remove the old bulb.
- Reverse the process to replace the light bulb.





8.6 Changing headlight bulbs

On vehicles with halogen headlights, the bulbs can be replaced by nonprofessionals.

NOTICE

Only use 12V / 35W HS1 type bulbs. Other bulbs will lead to damage on the vehicle.

- Turn the handlebars for easier access to the underside of the front fender.
- Disconnect the electrical plug of the head light by pulling it against driving direction
- Pull back the rubber collar covering the rear of the light bulb.
- Tilt the clip to the side.
- Pull the light bulb out.
- Reverse the process to mount the light bulb.

NOTICE

Ensure proper seat of the rubber collar to prevent dirt and water from penetrating and damaging the head light.

8.7 LED headlight or taillight not working

LED headlights, taillights, 3rd brake lights and registration plate illumination have no exchangeable parts. In case of damage, these cuse a cloth or micro fiber clothomponents need to be replaced completely.

If no physical damage can be found, check the electrical plug and wiring before changing the light itself.

The exchange of LED lights is subject to professionals.

8.8 Cleaning and changing the window wiper blade

Wiper blades are subject to wear and shall be replaced regularly, latest when cleaning them does not prevent from stripes on the wind shield.

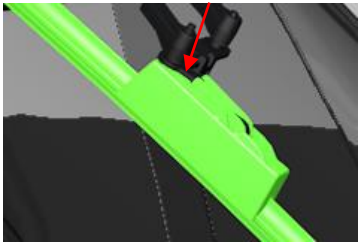
To clean the wiper blade:

- Use a humid microfiber cloth or standard cloth
- Pull the wiper upwards from the wind shield and hold it preventing it from crashing into the wind shield
- Wipe the cloth along the wiper blade edge to wipe away any residues
- Repeat this several times until the blade no longer leaves black marks on the cloth
- Guide the wiper slowly blade back onto the windshield

To exchange a wiper blade:

- Pull the wiper arm and blade upwards away from the wind shield

- Some blades have a release lever: press down the release lever (see red arrow indicating the lever position



- Pull the wiper blade out of the arm-attachment (to the rear and upwards)

- Hold the wiper arm tight so it can not crash into the wind shield
- Insert the new blade
- Guide the wiper slowly back onto the wind shield

8.9 Rescuing the Paxster

NOTICE

Towing a Paxster is only allowed for some meters in lowest possible speed.

Towing a Paxster creates electricity within the vehicle and can damage the motor controller and battery system.

Pulling the Paxster onto a rescue vehicle is allowed.

The Paxster Gen. 2.2 vehicle has an automatic park brake unit (APBU) jamming the rear axle in the following rescue-relevant cases:

- Drained traction battery
- Drained 12V battery
- No operator on the seat and no throttle signal
- Ignition off

To release the APBU lift the emergency brake release lever.

8.9.1 Preparations to release the APBU

WARNING

Danger of unintended movement.

Releasing the emergency brake release lever disengages the parking brake. The Paxster can now move freely. Make sure to secure the vehicle properly before releasing the APBU.

- Make sure the brakes are functioning by pressing down the brake pedal. A resistance must be recognizable, and the pedal shall not siege in.
- If the brakes are functioning, one person shall sit down on the seat and operate the brake pedal and steering under towing / pushing
- If the brakes are not functioning properly, the vehicle must be secured by wheel chocks

8.9.2 Releasing the APBU

To release the APBU:

- Cut the 3,6x150mm cable tie (87) which secures the APBU emergency release handle
- Lift the APBU release handle (88) firmly
- The APBU is now released

87 88

WARNING

Do not forget to lower the APBU release lever (88) after towing and securing it by a new cable tie (87) of 3,6 x 150mm.

NOTICE

Danger of overvoltage within the Paxster

Towing the Paxster generates voltage within the drive motor. This can damage the motor controller, battery management system and the battery of the vehicle.

To remove the Paxster from a road to reduce risk to the vehicle and third parties (ongoing traffic) the Paxster can be towed or manually pushed at very low speed, max 10km/h.

To reduce the risk of electrical damage, switch on the ignition before towing.

8.9.3 Manual pushing

Manual pushing is recommended to be done by at least two persons. One person sits inside the vehicle and operates the brakes if required and steers. A second or more persons push the vehicle on the rear corner posts of the cargo compartments.

Ensure pushing staff stays aside the vehicle, not behind the vehicle.

WARNING ⚠

Do not manually push the Paxster on inclines due to its weight.

Always ensure that one person operates the brakes.

8.9.4 Vehicle operated towing out of dangerous areas

WARNING

Danger of collision

Do only use vehicle operated towing if the brake system of the Paxster (brake pedal or hand lever) are not affected and work properly.

Connect the Paxster to the towing vehicle by a strap or tow bar mounted to one of the lower front axle suspension arms.

Please note that is kind of towing is limited to removing the vehicle from exposed / dangerous areas and should be limited to some 100m.

8.9.5 Vehicle operated towing over longer distances (> 500m)

Use a flatbed towing truck to transport the Paxster.

Secure the Paxster on the platform like all cars by clamping / strapping the wheels down to the platform.

9 Optional equipment

Paxster offers a variety of original accessories to ease your working day and make your work safer. All equipment can be added to any existing vehicle if not stated otherwise in the according chapter.

Some options require vehicle specific cables or attachments. Therefore, we will not state the item numbers here.

Please ask your local dealer for an offer for below shown options.

9.1 LED cargo compartment light

Cargo compartments of type “delivery” and type “cargo” can be equipped with an LED stripe to illuminate the interior of the cabinet.

The light is activated by opening the rear doors.

The picture to the right shows a type “delivery”. In cargo compartments type “cargo” the strip is placed behind the right rear corner post.

9.2 Cabin light

A LED spotlight can be mounted to the roof of the cab to illuminate the front cargo area.

The switch is located to the left of the wind screen wiper motor housing.

9.3 Lateral working light cab

LED working spotlights are available for the left side and for the right side of the vehicle's cabin. They are attached to the wind deflector / wind screen frame.

This working light illuminates the frontal right / left side which is a preferred option for postal distribution.

The light is adjustable in all directions.

9.4 Lateral working light cargo box

This LED bar mounted to the side wall of the cargo compartment illuminates the right side of the vehicle and sidewalk.

This working light may only be used when the vehicle is standing still.

9.5 Front parcel box

Instead of the standard post box holders a front parcel box can be installed. This is lockable and can be connected to the key fob system. A warning buzzer reminds you if the box is not locked when leaving the vehicle / switching it off.

The front parcel box is illuminated by a LED light, being activated by opening the box.

9.6 Canvas front

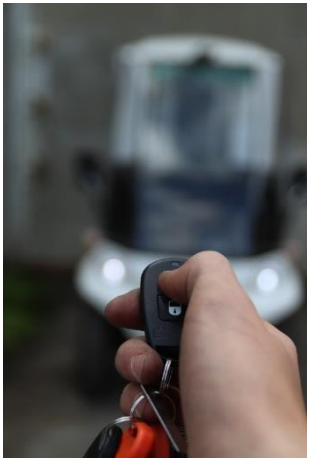
The front cargo area can be protected from weather and unintended access using a canvas cover with a zipper.

This option cannot be combined with the front parcel box.

Optionally to a manual lock system, the canvas zipper can be attached to an electronic lock, controlled by the key fob system.

In this case you lock and unlock the canvas simultaneously to locking or unlocking the vehicle / ignition.

9.7 Key FOB



The key fob system is one of our best-selling options and offers you a convenient solution for switching the ignition on and off without using a key and without a key being inserted into the ignition lock.

A big switch on the remote control switches the ignition off and locks the rear doors. If installed, the canvas lock will be activated, too.

A smaller switch switches on the ignition, unlocks the rear doors and if installed, the canvas lock, too.

Transponders are programmed to just one vehicle, so that the system will only lock and unlock one vehicle, even if many Paxsters are in one location and range of the transmitter.

9.8 Wind deflectors

Wind deflectors are made to guide wind and rain / snow away from the driver.

Transparent deflectors attached to the wind screen are especially helpful in windy and snowy conditions where the wind hits the vehicle frontally.

Smaller triangular deflectors between roof and cargo compartment protect the drivers head against side wind and rain / snow.

If you order the wind deflector option, all deflectors will be delivered in one set.

9.9 Rear-view camera

The rear-view camera system consists of a HD wide angle camera and color screen, mounted to the roof of the cabin.

The screen and camera are automatically activated by the vehicles reverse signal.

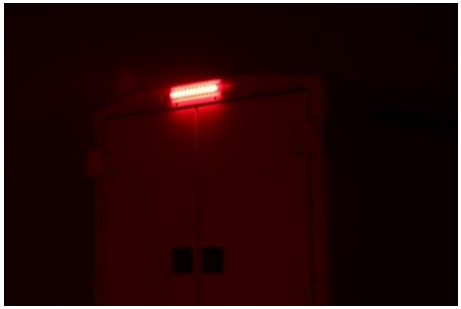
The system is designed for cargo compartments type “cargo” and can be installed on compartments type “delivery” if there is no third brake light installed only.

For cargo compartments type “cargo” the options rear-view camera and third brake light can be combined.

This option is recommended when driving in crowded areas like inner cities and pedestrian areas or if the Paxster needs to reverse in narrow industrial areas, especially indoors.

9.10 3rd brake light

A third brake light can be installed on cargo compartments type „cargo” in combination with all other available options.



On cargo compartments type „delivery”, this option cannot be combined with the rear-view camera.

A third brake light increases the visibility and safety of the vehicle when braking.

9.11 PaxCon

Our fleet management solution PaxsterConnect or PsxCon is built around the specific, unique needs of drivers and fleet owners in the last mile industry, and continuously refined and developed in strategic partnerships with our customers. The solution is truly unique because of a deep integration with vehicle systems, allowing us to create innovative, new features not found in competing systems.

Paxster Connect will provide optimal support to drivers and managers in Operations, and thanks to its deep integration, driver apps, sensors and an open API, enable innovation by using any data in proprietary systems.

Please visit our website for actual information and app-download: https://paxster.no/paxster-connect/

9.12 Third-party equipment

There is a lot of third-party equipment available which can be installed in and on a Paxster vehicle.

WARNING

All electronic equipment installed in a Paxster or attached to it might disturb Paxster vehicle systems.

This applies to all not Paxster-approved equipment.

Third party equipment mounted into a Paxster must be approved for vehicle use.

The vehicle offers an interface beneath the seat to connect 12V consumers to the vehicle's battery and the reverse signal. Please contact your Paxster service provider for more information about this interface.

WARNING

All installation of non Paxster approved items is at own risk. This applies especially to equipment that is emitting radio frequencies, like GPS trackers, third party fleet management systems and warehouse management systems with communication interface.

The installation of equipment that is not approved for vehicle use, is prohibited.

10 Maintenance

10.1 Spare parts

To ensure safe and reliable operation, use only the manufacturer's original spare parts.
The manufacturer’s original spare parts are consistent with the manufacturer’s specifications and guarantee the highest possible quality of safety, size accuracy and material.
The installation or use of non-original spare parts can negatively affect the specified properties of the product and impair safety. The manufacturer cannot be held liable for damage caused by the use of non-original spare parts.

The product-related electronic spare parts catalogue can be found at our homepage, accessible for Paxster partner workshops after login.

NOTICE

Only original spare parts are subject to the manufacturer's quality control. To ensure safe and reliable operation, use only original spare parts provided by Paxster or Paxster certified partners.

10.2 Maintenance safety regulations and environment

10.2.1 Maintenance regulations

Paxster has customer service department specially trained for these tasks. A maintenance contract with the manufacturer will support trouble-free operation.
Vehicle maintenance, repair work and changing of parts requiring replacement must only be carried out by specialist personnel.
In several countries Paxster has an own service network of mobile specialists.
In addition, Paxster qualifies and certifies Paxster partner, workshops that are trained on troubleshooting, maintaining, and repairing Paxster vehicles. These Paxster partners have direct access to diagnosis tools, original spare parts, and special tools.

NOTICE

In addition to the requirements sett up by Paxster for qualifying Paxster partner workshops, different countries have different requirements for working on electric vehicles, especially vehicles with high voltage components.

Only staff trained and certified by Paxster and fulfilling the local general requirements for working on high voltage electric vehicles is allowed to execute work on a Paxster.

10.2.2 Working on the electrical system

WARNING

Electrical current can cause accidents
Ensure the electrical system is de-energized before starting work. The capacitors in the controller must be completely discharged. The capacitors are fully discharged approx. 10 minutes after disconnecting the electrical system from the battery.
Before starting maintenance on the electrical system:

- Only suitably trained electricians may work on the truck's electrical system.
- Before working on the electrical system, take all precautionary measures to avoid electric shocks.
- Park the vehicle securely (see chapter 7.7).
- Switch off the ignition and prevent it from unintended activation.
- Disconnect the battery (only trained staff!)
- Remove any rings, metal wristbands etc.

10.3 Consumables and used parts

CAUTION

Consumables and used parts are an environmental hazard
Used parts and consumables must be disposed in accordance with the applicable environmental-protection regulations. Oil changes should be carried out by the Paxster or Paxster partner workshops, whose staff are specially trained for this task.

Consider local safety and environmental regulations for working with

- lubricants
- oil
- sealants
- glue
- cleaner
- brake fluid
- and other hazardous agents.

Consider local safety and environmental regulations for working with hazardous components like

- the 12V AGM / lead battery
- brake components containing brake fluid
- cells of the traction battery (LiFePo4)
- electronic components

10.4 Wheels

WARNING

The use of wheels that do not match the manufacturer's specifications can result in accidents

The quality of wheels affects the stability and performance of the vehicle.
Uneven wear reduces the vehicle stability and increases the stopping distance.

- after replacing wheels, make sure the vehicle is not skewed.
  - If skewed, check wheel dimensions as they might differ
- Always replace wheels in pairs, e.g., left and right at the same time.

Please refer to chapters 10.8 | 10.9 and 10.7.6 for further information

Please make yourself familiar with local regulations for the disposal of tires.

10.5 Lubricants and lubrication schedule

Consumables must be handled correctly and according to the manufacturer's instructions.

WARNING

Improper handling is hazardous to health, life and the environment

Consumables can be flammable.

- Keep consumables away from hot components and open flames.
- Always keep consumables in prescribed marked containers.
- Always fill consumables in clean containers.
- Do not mix up different grades of consumable. The only exception to this is when mixing is expressly stipulated in the operating instructions.

CAUTION

Spilled consumables can cause slipping and endanger the environment

Risk of slipping from spilled consumables. The risk is greater when combined with water.

- Do not spill consumables.
- Spilled consumables must be removed immediately with an appropriate bonding agent.
- The bonding agent / consumable mixture must be disposed in accordance with local regulations.

WARNING

Improper handling of oils can be hazardous

The Paxster gear box is filled with gear box oil. Oils are flammable and poisonous.

- Dispose of used oils in accordance with regulations. Store used oil safely until it can be disposed of in accordance with regulations.
- Do not spill oil.
- Spilled oils must be removed immediately with an appropriate bonding agent.
- The mixture consisting of the bonding agent and oil must be disposed in accordance with local regulations.
- Observe national and local regulations when handling oils.
- Wear safety gloves when handling oils.
- Prevent oil from coming into contact with hot parts.
- Do not smoke when handling oil.
- Avoid contact and digestion. If you swallow oil do not induce vomiting but seek medical assistance immediately.
- Seek fresh air after breathing in oil fumes or vapors.
- If oil has come into contact with your skin, rinse your skin with water.
- If oil has come into contact with your eyes, rinse them with water and seek medical assistance immediately.
- Replace oil-soaked clothing and shoes immediately.

WARNING

Improper handling of brake fluid can be hazardous

The Paxster uses DOT 4 brake fluid. Brake fluid is poisonous.

- Dispose of used oils in accordance with regulations. Store used brake fluid safely until it can be disposed of in accordance with regulations.
- Do not spill brake fluid.
- Spilled brake fluid must be removed immediately with an appropriate bonding agent.
- The mixture consisting of the bonding agent and brake fluid must be disposed in accordance with local regulations.
- Observe national and local regulations when handling brake fluid.
- Wear safety gloves and goggles when handling brake fluid.
- Prevent oil from coming into contact with hot parts.
- Do not smoke when handling brake fluid.
- Avoid contact and digestion. If you swallow brake fluid do not induce vomiting but seek medical assistance immediately. Drink plenty of water and rinse the mouth with water.
- Seek fresh air after breathing in fumes or vapors. Seek medical assistance, oxygen might be required.
- If brake fluid has come into contact with your skin, rinse your skin with water.
- If brake fluid has come into contact with your eyes, rinse them with water for at least 15min and seek medical assistance immediately.
- Replace brake fluid-soaked clothing and shoes immediately.

10.6 Preparing the Paxster for maintenance

All necessary safety measures must be taken to avoid accidents when carrying out maintenance and repairs. The following preparations must be made:

- Park the vehicle on a level surface
- Park the vehicle securely, see chapter 7.7
- Place the keys or key fob safely and secured against unintended use
- When working under the raised vehicle, secure it to prevent it from lowering, tipping, or sliding / rolling away.
- Make sure the working area is safe and offers sufficient safety for the work to be executed
- Assure proper means to contains spills and residues of chemicals, oil, and cleaning agents.
- Make sure the loading areas are empty and no items can fall off the vehicle

WARNING

Always secure the vehicle against:

- Unintended activation
- Rolling, sliding, or tipping
- Lowering when working under a raised vehicle.

10.7 Cleaning

Cleaning the vehicle is essential for safe driving, especially cleaning the windscreen and lights.

A clean floor is important for safe entering and exiting the vehicle and prevent sliding and falling.

10.7.1 Preparation for cleaning

Prior to any cleanings, execute the following preoperational steps:

- disconnect the charging cable from the vehicle and 230V grid store it safely and dry
- park the vehicle safely
- make sure you are in a place sufficient for vehicle cleaning and cleaning is allowed
- remove all load from the vehicle
- remove personal belongings from the vehicle

NOTICE

Cleaning of any electrical outlets, intakes or cable plugs is not allowed to nonprofessionals!

10.7.2 Cleaning plastic surfaces

All colored plastics are made of ABS. Do only use mild car shampoo and plenty of water to clean those surfaces.

Outside plastic surfaces can be cleaned with high-pressure cleaner.

NOTICE

Keep a distance of at least 30cm between high pressure cleaning nozzle and the vehicle.

Do not use a high-pressure cleaner in and internal areas.

Do not use an automated car wash!

Paxster recommends using low pressure cleaners or manual washing:

- Remove groove dirt with a low-pressure cleaner / garden hose with nozzle
- Remove dirt with a soft sponge or microfiber cloth and car shampoo with plenty of water
- In case of asphalt or tar use car approved agents for plastic parts
- Wax the vehicle after cleaning to protect the plastic surfaces and keep it glossy

NOTICE

Do not use strong chemicals to clean the vehicle.

10.7.3 Cleaning the wind screen and wind deflectors

The wind screen is a composite of soft, elastic plastic material to safeguard pedestrians in a collision, and a safety glass insert to safeguard the driver in case of collisions.

The wind deflectors are made of transparent plastic material.

NOTICE

Keep a distance of at least 30cm between high pressure cleaning nozzle and the vehicle.

NOTICE

Do not use strong chemicals to clean the vehicle.

Paxster recommends using low pressure cleaners or manual washing:

- Remove groove dirt with a low-pressure cleaner / garden hose with nozzle
- Remove insects using car insect remover and a soft sponge
- Remove remaining dirt with a soft sponge or microfiber cloth and car shampoo with plenty of water
- In case of asphalt or tar use car approved agents for plastic parts
- Wax the vehicle after cleaning to protect the plastic surfaces and keep it glossy

10.7.4 Cleaning the floor

Paxster recommends the following measures to clean the floor:

- Remove groove dirt with a broom / swab
- Remove remaining dirt with a soft sponge or microfiber cloth and car shampoo with plenty of water
- In case of asphalt or tar use car approved agents

10.7.5 Cleaning the interior

The interior contains electronic components and sensitive surfaces. Pay attention to not use too much water here.

NOTICE

Do not use strong chemicals to clean the vehicle.

Seat and back rest:

Use a wet sponge and soft soap or cleaner for artificial leather to clean the seat cushion and back rest.

Use a wet sponge or microfiber cloth with textile cleaner to clean the seat belt.

WARNING

Do not use running water here. The battery and electronic components are situated below the seat and might be damaged. This might result in accidents.

Displays, switches and handles

Paxster recommends the following measures to clean the displays and switches:

- Remove groove dirt with compressed air or soft swab
- Use a clean, moisturized microfiber cloth to clean the surfaces
- Apply only slight pressure to the cloth
- On displays window cleaner applied to the cloth (not to the display) can be used

NOTICE

Do not use running water here.

Other interior surfaces

Other interior surfaces are e.g., steering bar, metal interior covers, plastic interior covers, wood-based plate of the front cargo area (22), the side compartments (23 | 24) and windscreen.

Paxster recommends the following measures to clean the other interior surfaces:

- Remove groove dirt with compressed air or soft swab
- Use a clean, moisturized microfiber cloth to clean the surfaces
- A mild cleaning agent (car shampoo, car interior cleaner) can be applied to the cloth
- Apply only slight pressure to the cloth
- On the inner side of the windscreen window cleaner applied to the cloth can be used

10.7.6 Cleaning the wheels

Tires and rims can be cleaned with common tire and rim cleaning agents. In case of aluminum rims, special cleaning agents are available on the free market.

WARNING

Make sure the brake discs and brake pads are not affected by the cleaning procedure.

10.8 Replacing wheels

The following rules apply changing wheels:

- Tires on one axle must be of same manufacturer and type
- All wheels on the vehicle must be of the same dimension
- All wheels must have whether steel or aluminum rims.
- All tires must be whether summer or winter tires

Changing wheels require lifting the vehicle. The Paxster shall be lifted on the front or rear. It shall not be lifted only left or only right. Always lift one axle. See chapter 5.2 for lifting by jacks.

- Secure the vehicle as stated in chapter 5.2.
- Slightly loosen the wheel nuts on the wheel (s) to replace. Just loosen them half a turn!
- Lift the vehicle as stated in chapter 5.2
- Using a power tool, you can lift the vehicle prior to loosening a wheel.
- Loosen all wheel nuts
- Take off the wheel
- Inspect the brake for wear and damage
- Inspect the wheel bolts and nuts for damage

- Apply copper paste or similar to the wheel bolts preventing them from rusting
- Exchange the tire or complete wheel
- Check if the new tire has a direction indicator and that the eventually marked inside is facing towards the vehicle
- Tighten the wheel nuts → see chapter 10.9

After lowering the vehicle check tire pressure and assure that both wheels of one axle have the same pressure.

NOTICE

Air pressure in the tires shall be between 1.8 and 2.1 bar. Too low pressure will reduce the vehicle's range considerably. Be aware that the air pressure can decrease in proportion to the outdoor air temperature.

10.9 Tightening the wheel nuts

Wheel nuts shall be tightened like this:

- Tighten all nuts slightly = “hand screwed”.
- Adjust a torque wrench to **100Nm** (tolerance +0 – 20Nm)
- Use a torque wrench to tighten all nuts properly in the order stated below:
- Start with any nut you like

NOTICE

Always cross-tighten the nuts.

Use a torque wrench and apply 100Nm (+0 -20Nm).

WARNING

Do not apply more than 100Nm to the wheel nuts. This would weaken the bolt material and can lead to accidents by losing a wheel.

If wheel nuts are tightened accidently with more than 100Nm, call Paxster to replace the wheel bolts / wheel hub / brake drum.

10.10 Checking brake fluid level

The Paxster vehicle possesses two brake fluid reservoirs.

For the left handle brake fluid reservoir please refer to chapter 7.2.4 for further information.

The main brake fluid reservoir can only be checked by service staff removing the vertical cover below the seat.

For the user a low brake fluid level will be indicated by the red brake fluid indicator (66), see chapter 7.2.5.

WARNING

If the brake level indicator (66) is illuminated, stop the vehicle, and call for road assistance. The brake fluid reached a critically low level and brake failure might occur.

NOTICE

On each PPM the service technician will check the main brake reservoir (and the left handle reservoir) and refill it if required.

10.11 PPM planned preventive maintenance

As a condition of your Paxsters warranty, you are responsible for properly maintaining your electric vehicle. In maintaining your electric vehicle, you should either follow Schedule 1 or Schedule 2 as listed below. Use these guidelines to determine which maintenance schedule to use.

NOTICE

Maintenance must be executed by Paxster or a Paxster certified Partner and reported to Paxster Norway to keep up the vehicles warranty and assure your safety by following Paxster guidelines, using original spare parts and having access to software updates and diagnosis systems.

10.11.1 Maintenance schedules

SCHEDULE 1	**SCHEDULE 2**
Use Schedule 1 if you primarily operate your EV under any of these conditions: • Driving mainly in dusty conditions or on rough, muddy, or salt-spread roads. • Last-mile applications, such as, but not limited to, post, parcel or newspaper distribution.	With Schedule 2 fewer maintenance items are regularly checked or replaced than with Schedule 1. Use Schedule 2 if you primarily operate your EV under less demanding conditions than those listed in Schedule 1.

10.11.2 6-month maintenance

The first maintenance must be executed 6 months after first registration / use. The replacement of reduction gear oil is crucial at this stage and must be executed independent from schedule or kilometers driven.

SCHEDULE 1
☐ Rotate tires ☐ Replace reduction gear oil [SAE 70W 80 – 0,8L] ☐ Inspect the following items: ○ Axle and suspensions ○ Brake pads/shoes and rotors/drums ○ Front suspension and ball joints ○ Steering linkage and ball joints

SCHEDULE 2
☐ Rotate tires ☐ Replace reduction gear oil [SAE 70W 80 – 0,8L]

10.11.3 12-month maintenance

SCHEDULE 1

- ☐ Safety check
- ☐ Replace Key-Fob battery
- ☐ Rotate tires
- ☐ Drive test
- ☐ EV System Analysis & Report
- ☐ Inspect the following items:
  - ○ Axle & suspensions
  - ○ Brake lines and cables
  - ○ Brake pads and rotors
  - ○ Charging port and charging cable
  - ○ Reduction gear oil
  - ○ Front suspension ball joints
  - ○ Steering linkage and ball joints

SCHEDULE 2

- ☐ Safety check
- ☐ Rotate tires
- ☐ EV System Analysis & Report
- ☐ Inspect the following items:
  - ○ Brake pads and rotors
  - ○ Charging port and charging cable
  - ○ Reduction gear oil

10.11.4 24-month maintenance

SCHEDULE 1
☐ Safety check ☐ Drive test ☐ Replace Key-Fob battery ☐ Rotate tires ☐ EV System Analysis & Report ☐ Inspect the following items: ○ Axle & suspensions ○ Brake lines and cables ○ Brake pads and rotors ○ Charging port and charging cable ○ Reduction gear oil ○ Front suspension ball joints ○ Steering linkage and ball joints

SCHEDULE 2
☐ Safety Check ☐ Drive test ☐ Replace Key-Fob battery ☐ Rotate tires ☐ Inspect the following items: ○ Axle & suspensions ○ Brake lines and cables ○ Brake pads and rotors ○ Charging port and charging cable ○ Reduction gear oil ○ Front suspension ball joints ○ Steering linkage and ball joints

10.11.5 36-month maintenance

SCHEDULE 1
☐ Safety check ☐ Drive test ☐ Rotate tires ☐ Replace brake fluid [Dot.4] ☐ EV System Analysis & Report ☐ Inspect the following items: ○ Axle and suspensions ○ Brake pads and rotors ○ Charging port and charging cable ○ Front suspension and ball joints ○ Steering linkage and ball joints

SCHEDULE 2
☐ Safety check ☐ Rotate tires ☐ EV System Analysis & Report

10.11.6 48-month maintenance

SCHEDULE 1
☐ Safety check ☐ Drive test ☐ Replace reduction gear oil [SAE 70W 80 – 0,8L] ☐ Replace Key-Fob battery ☐ Rotate tires ☐ EV System Analysis & Report ☐ Inspect the following items: ○ Axle & suspensions ○ Brake lines and cables ○ Brake pads and rotors ○ Charging port and charging cable ○ Reduction gear oil ○ Front suspension ball joints ○ Steering linkage and ball joints

SCHEDULE 2
☐ Safety check ☐ Replace brake fluid [Dot.4] ☐ Drive test ☐ Rotate tires ☐ Inspect the following items: ○ Brake pads and rotors ○ Charging port and charging cable ○ Reduction gear oil

10.11.7 60-month maintenance

SCHEDULE 1
☐ Safety check ☐ Drive test ☐ Replace Key-Fob battery ☐ Rotate tires ☐ EV System Analysis & Report ☐ Inspect the following items: ○ Axle & suspensions ○ Brake lines and cables ○ Brake pads and rotors ○ Charging port and charging cable ○ Reduction gear oil ○ Front suspension ball joints ○ Steering linkage and ball joints

SCHEDULE 2
☐ Safety check ☐ Replace Key-Fob battery ☐ Rotate tires ☐ Inspect the following items: ○ Axle & suspensions ○ Brake lines and cables ○ Brake pads and rotors ○ Charging port and charging cable ○ Reduction gear oil ○ Front suspension ball joints ○ Steering linkage and ball joints

10.11.8 Further maintenance intervals

Paxster Gen 2.2 vehicles have defined maintenance intervals of 1 year. Maintenance checklists are set up until the 96 months maintenance. Please refer to the service and maintenance guide for further information.

If your vehicle is older than 96month service plans repeat every second year.

11 Inspection after accidents

Paxster vehicles often face a challenging live within the last mile logistics and accident occur. Especially in the last mile sector downtime must be reduced and the Paxster vehicle needs to be operational. But: safety first!

WARNING

After an accident it is recommended to contact Paxster for a check of the vehicle to approve road worthiness and safety.

Please contact your Paxster partner especially when an accident involves safety critical components like:

- Collision between a wheel and a hard obstacle like concrete or stone
- Getting off the road
- Landing in the ditch
- Hit by another vehicle on a wheel

WARNING

Independent from what happened in a small-scale accident, carefully observe the vehicle. In case of:

- Deviation in drive train sounds
- Uneven brake performance
- Drag to one side
- Damage to the wind screen
- Sharp edges on the plastic components that could hurt the driver or third persons
- Failure or dislocation of lights
- Change in directional stability

inform your supervisor immediately and take the vehicle out of service.

Paxster technicians are trained to find hidden damages and usually we can fix all problems on the first visit.

12 Disposal – second drive program

If you do not longer need your Paxster or if it got too old for your purpose, Paxster will take it back and refund a rest value or marked value.

Please contact your local Paxster partner for a rest value assessment.

INFORMATION

As part of our company environmental policy Paxster takes back all vehicles.

INFORMATION

If possible, the vehicle will be part of the Paxster 2nd Drive program, where vehicles will be completely stripped down and refurbished to get a second life and not getting send to a scrap yead. If, e.g., due to an accident it is not possible to refurbish the vehicle, components might be used in refurbished vehicles.

INFORMATION

This reduces the environmental footprint of the Paxster further and reduces waste.

To ease the procedure for you, Paxster can take care of assessing the vehicle, picking it up and delivering it back to Norway for refurbishment.

For further information, please visit: https://paxster.no/second-drive/