

Instruction manual



hoss R1

Personal assistance robot

English

Version 2023-07

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This manual is valid for the models:

- Hoss R1

Translation of the original instructions

The original document was written in German. The translation was done in all conscience but errors can not be ruled out.

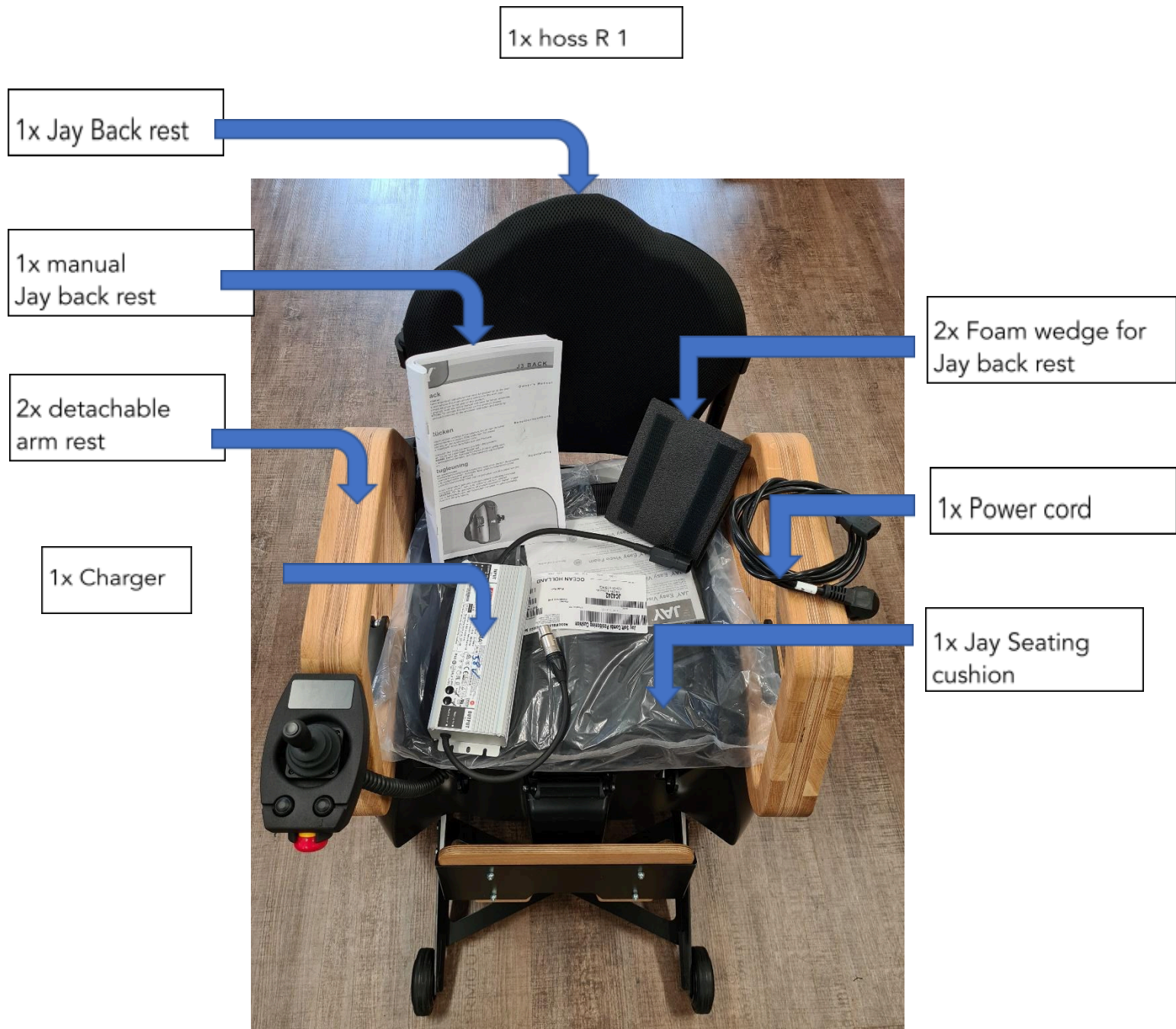
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Package contents



For special orders such as special back pieces, special seat cushions or armrests/footboards in special colors, the package contents may differ from the illustration shown.

Foreword

Read this entire manual carefully before operating the product. The information contained in this manual is essential for the safe use and proper maintenance of the hoss R1. For ease of reading, the hoss R1 is referred to only as hoss in this manual. Hoss R1 is the product name! Hoss Mobility GmbH is the inventor, developer and manufacturer of the hoss R1.

In addition to this manual, you will also receive a manual for the "Jay" backrest. If the manual for the "Jay" backrest is not included in the delivery, please contact your dealer.

Intended use

The hoss (personal care robot) is intended exclusively for people for personal use indoors and outdoors on paved surfaces. Sufficient cognitive, physical and visual skills are required to drive a hoss. The user must be able to assess and correct the effects of actions when operating the hoss. The hoss cannot transport more than 1 person at a time. The maximum weight (the user's body weight and the weight of the accessories installed on the wheelchair) must not exceed 120kg. The user must read and understand the contents of this manual before riding the hoss. Therefore, all users of the hoss must be thoroughly instructed by qualified professionals before participating in road traffic. After instruction and handover, the user must practice his/her first rides on open and free surfaces until the driving characteristics of the hoss are understood and internalized.

The user of the hoss is at all times fully responsible for compliance with locally applicable safety regulations.

The user has to be capable of judging the condition of the drivable surface. Only surfaces that offer sufficient stability and traction are safe to ride on.

Anyone who has taken medication or been treated with medication that could impair their ability to drive the hoss must not operate the hoss.

Good eyesight is essential to safely operate a hoss.

Never allow more than one person to sit on the hoss at a time.

Children must never ride the hoss without adult supervision.

Pressing the emergency button is not within the intended use case. As the name suggests, this is an emergency operation.

The hoss may only be used by persons of legal age. Minors only under adult supervision.

General safety instructions



The safety instructions help you understand the features of the hoss. For safe use, it is essential that you read and understand the safety instructions before taking your first ride. Failure to do so may result in personal injury or property damage. The order of the instructions does not indicate their importance.

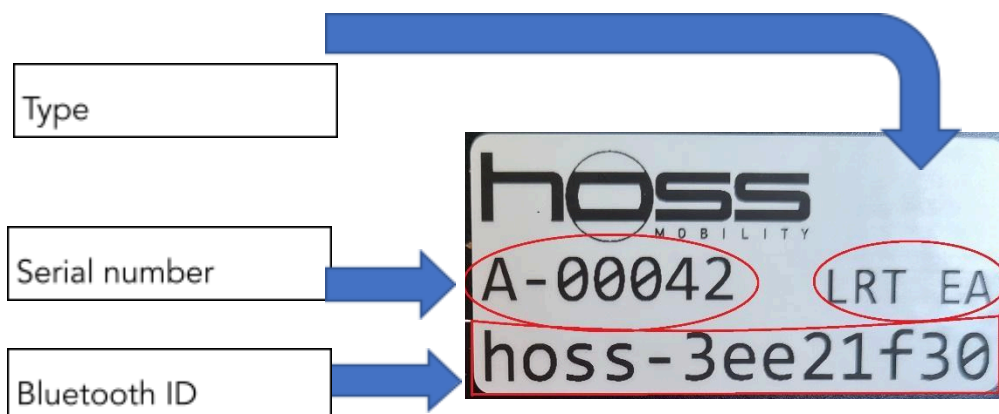
Cautionary / warning signs



- The instructions marked with such a warning/cautionary sign must be carefully observed! Failure to follow these instructions carefully may result in personal injury or death and damage to the hoss and its surrounding.
- Regardless of the special marking of the warning notes, the entire contents of this operating manual must be applied to ensure safe operation!
- The product has been carefully developed and tested to minimize the risk. However, it is not possible to completely eliminate the residual risk.

Stickers and notices affixed to the robot

The signs, symbols and notices attached to the hoss are part of the protective devices. These must therefore never be covered or removed. They must be present and clearly readable / recognizable during the entire service life of the hoss. Replace or repair all illegible or damaged signs, symbols and notices immediately.



Release of Jay
backrest



Advice to wear shoes



KEEP DISTANCE
← 0,5m →

Minimum safety
distance to other
objects/people



Hazard of pinching



Speed

The hoss has a maximum speed of 15 km/h. As with all vehicles, you must adjust the speed according to the situation. Especially in narrow places and also when driving on slopes or curves it is necessary to reduce the speed. Always remember that you have a longer braking distance when going downhill.



- Reduce speed to walking speed on steep inclines/declines or ramps!
- Use turtle mode if necessary!
- Drive no faster than walking speed in pedestrian zones.
- Drive with foresight: Always observe the necessary braking distance.
- Reduce speed on curves

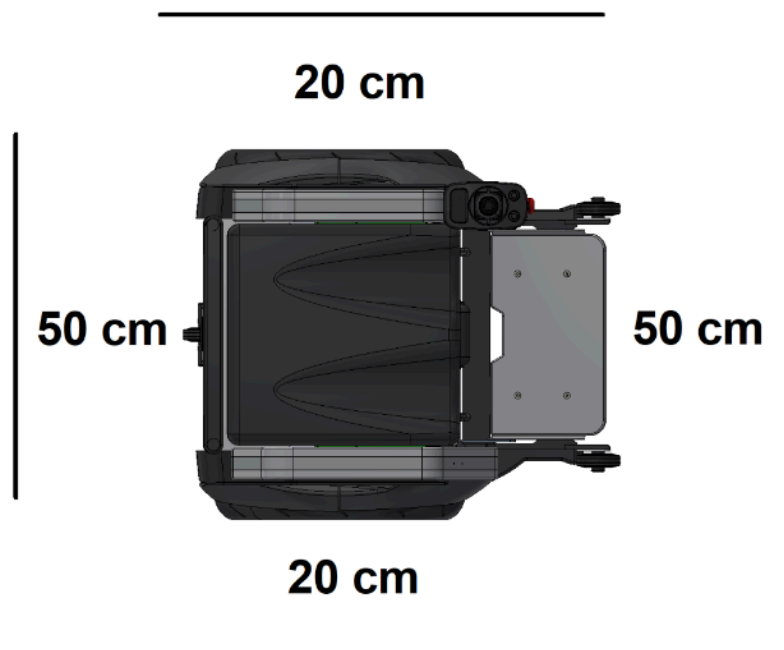
Minimum distance

The special feature of the hoss is that it dynamically stabilizes itself. That is, it always strives to keep the center of gravity on its axis. This is achieved by the hoss constantly adjusting the angle (vertical axis). If you move forward, the hoss has to take up some forward travel to counteract your center of gravity change. To do this, the hoss must be able to move a bit at any time. Therefore, it is extremely important that you always maintain the minimum distances to obstacles/people/precipice. When the hoss is in balance mode, it can move within the safety distance at any time.

The minimum distance also applies to the parking / starting routine. When parking or starting, the hoss has to change from one stable condition to another (dynamically balanced / mechanically stable). During this operation the hoss needs to be able to move in either direction. The necessary distance depends on the seating position and movement of the user, condition of the road-surface, temperature, etc.



Attention: Never park your hoss close to precipice or water. During the park / start operation the hoss needs to be able to move in either direction.



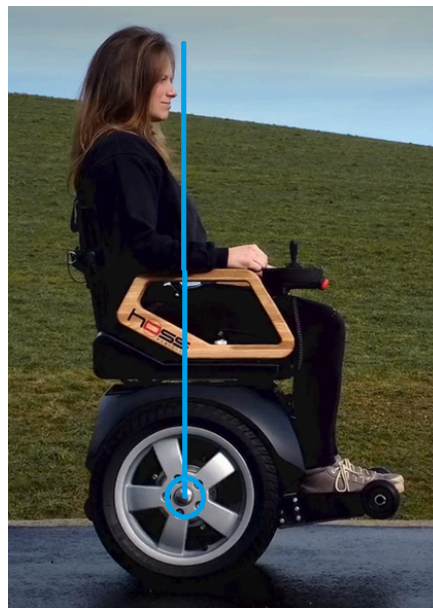
If it is not possible to maintain the minimum distances, e.g.: when driving through a doorway or in the checkout area of a supermarket, steer with special care and drive at minimum speed.

Correct sitting position

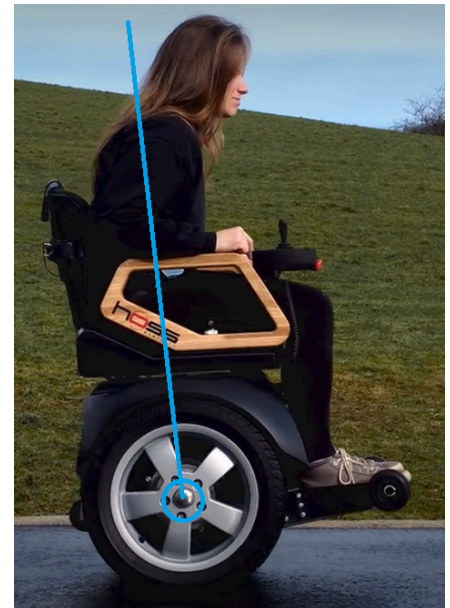
- The hoss can lean forward 8 degrees and backwards 12 degrees. This angular range is needed for accelerating and braking.
- Sitting off-center reduces the possible angular tilt forward or backward.
- Sitting too far forward increases braking distance, sitting too far back reduces acceleration. It is therefore extremely important to sit centrally.



Too far back



Correct position



Too far forward

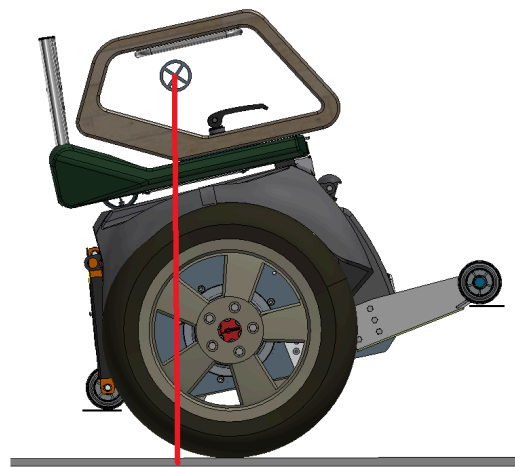


- The braking distance can increase drastically if the seat is in the wrong position
- Make sure that both armrests are firmly mounted on the hoss. This ensures that you are also seated centrally to the side.
- Driving without an armrest or with only one armrest is not permitted.
- Your seat position must be adjusted to suit you during initial setup. Your standard seating position must be set so that the hoss is horizontal when you sit on it.
- When lending your hoss to others you must make sure that the seating position is adapted to their needs.

Braking distance



Note the braking behavior on which the system is based! The self-balancing system reacts differently than conventional four-wheeled wheelchairs! Get to know the braking distance of the hoss on an open area before you participate in road traffic. Even during the braking process the hoss has to keep you in balance. Thus the hoss must shift the center of gravity backwards before the actual braking process by accelerating the wheels briefly. The strength of the braking depends on how far the center of gravity can be shifted backwards. A heavier driver will therefore have a shorter braking distance. If you also lean backwards when braking, you will shorten the braking distance. It is extremely important to understand the braking behavior of the hoss precisely.



- The braking distance depends on the load, seat position, incline and decline.
- Practice braking extensively in a safe environment before participating in traffic with the hoss!
- The self-balancing system results in different braking behavior than conventional power wheelchairs. Therefore, always drive with increased caution and anticipation. The braking distance may be longer than with conventional powered wheelchairs.
- On downhill slopes, you have a longer braking distance than on level road surfaces due to gravity and dynamic balance. Travel down slopes slowly and familiarize yourself with the braking behavior. Move your center of gravity as far back as possible to increase the braking effect.
- Never drive on slopes with loose gravel or sand. The drive wheels may lose traction during braking, resulting in an emergency stop. In the event of an emergency stop, you may skid and fall if the traction of the wheels is uneven.

Settings

- Do not make any settings or changes to the hoss that are not described in these instructions. No liability or warranty is assumed for damage resulting from improper settings.

Solar Radiation

- In direct sunlight, parts of the hoss can become very hot. Risk of burns.

Bring your phone along

You can cover long distances with the hoss.

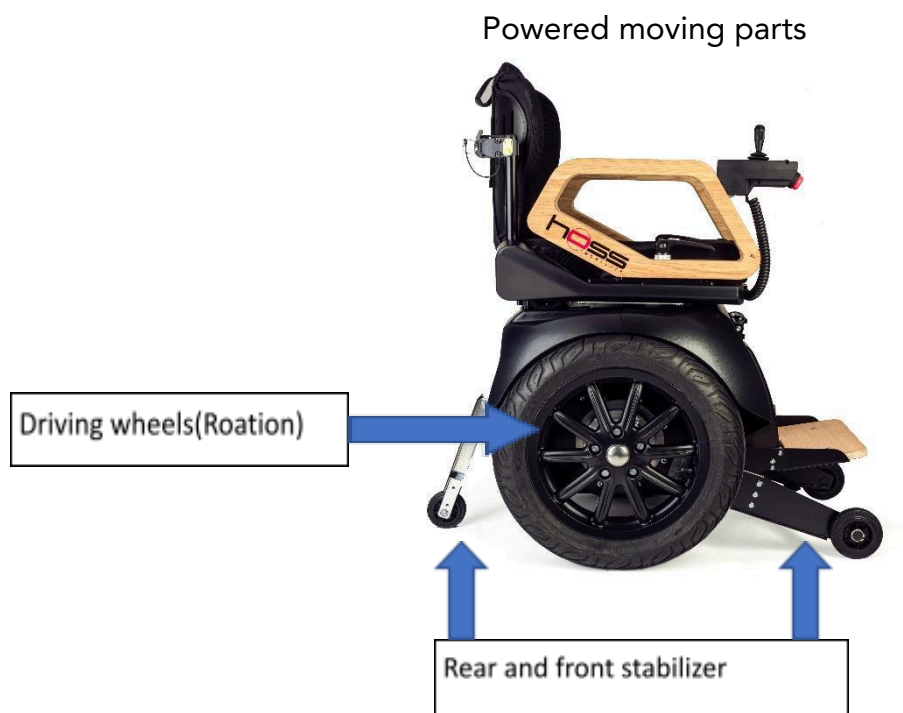
Always carry a cell phone so that you can call for help in an emergency.



Do not talk on the phone while driving!

Movable parts

The hoss contains powered moving and rotating parts. Contact with these parts can cause serious bodily injury or damage the wheelchair. Contact with the moving parts of the hoss must be avoided at all times.



Temperatur

The operating temperature of the hoss is between 0°C and 45°C (temperature of the hoss!). If the operating temperature has been exceeded or has fallen below, the lithium battery can no longer deliver or absorb the necessary power. Therefore, safe operation outside this temperature range is not possible.

The ambient temperature can be significantly below the operating temperature as long as the temperature of the hoss (temperature of the lithium ion battery) is within the permissible range. To ensure that the operating temperature (temperature of the hoss) is not undercut, never park the hoss at temperatures below 4°C or above 40°C.



- If the operating temperature comes close to its limits, the maximum speed is reduced to 5km/h.
- If the temperature of the hoss exceeds or falls below the operating temperature, the balance mode cannot be activated.
- The hoss must never be stored in a car when it is exposed to direct sunlight. The interior of cars under direct sunlight can quickly reach temperatures above 60°C (140°F). This can damage the hoss's lithium batteries.
- Storage temperature: -10°C to +60°C
- Attention! Storage temperature is not equal to operating temperature!
- Never drive to remote places where help can not reach you. Always carry a cellphone with you.

Operating temperature: +0°C to +45°C

Operating altitude: 0 m to 2000 m

Exceeding/falling below the storage temperature may damage the battery and void the battery warranty.

When the hoss is not in use, make sure that it is not exposed to direct sunlight. Some parts of the hoss, for example the seat, backrest and armrests can heat up when exposed to direct sunlight. This can cause burns or allergic skin reactions.



Whenever you operate the hoss at temperatures below 4°C you must exert caution. Specifically you have to be sure that the ground is providing sufficient traction. Reduce your speed! Cold weather conditions can quickly lead to loss of traction. Even though the hoss comes with emergency stabilizers and traction detection, loss of traction may cause an accident.

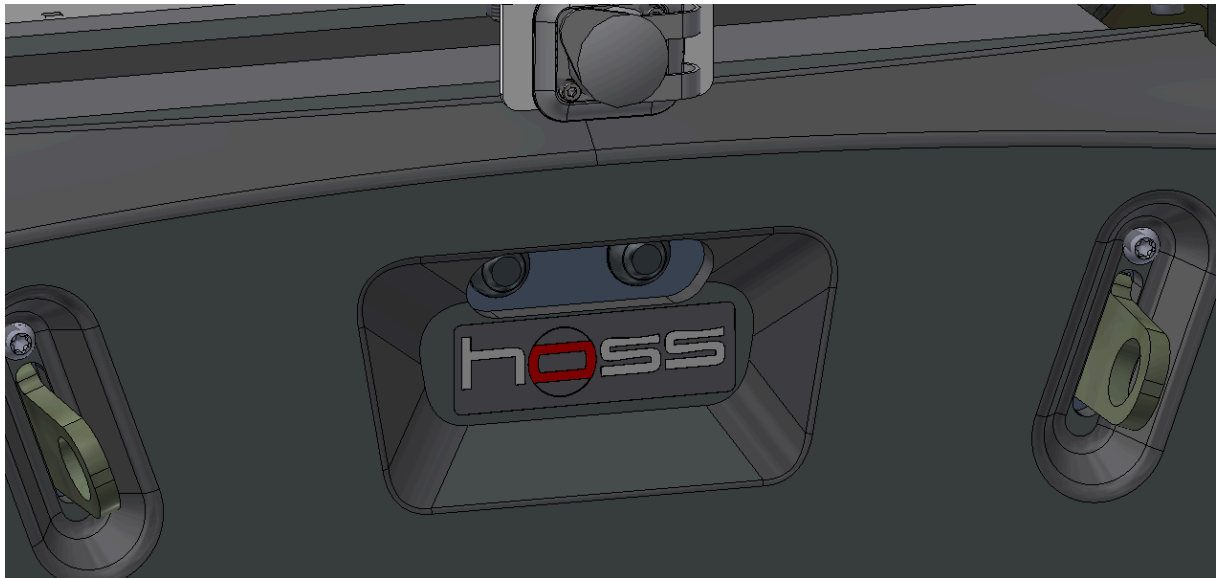
The user is responsible to judge if the ground is providing sufficient traction and stability.

Emergency parking brake release / emergency mode

The hoss has a mechanical parking brake installed. This means that when the hoss is in park mode, the drive wheels are locked. You can therefore not push the hoss.

If you need to push the hoss when it is switched off, there is an emergency release. This release is decoupled from the main drivetrain, meaning it has its own power supply and will work even when there is a defect on the electronics.

You can find the 2 emergency release buttons on the front panel.



The emergency unlocking function only works when the hoss is switched off.

There are 2 modes for unlocking the brakes. The first mode is manual with no software logic behind it. This is made to ensure that the break can still be released even when there is a defect on the electronics.

Manual mode:*

- Make sure that the hoss is switched off.
- press and hold both buttons simultaneously. The breaks are released as long as the buttons are pushed. There is no processor controlling any logic. The power for releasing the breaks comes from an extra set of batteries. Once the buttons are released, the breaks will lock again.

*this mode is available only for serial Number A-00112 and above

Logic mode:

- Make sure that the hoss is switched off.
- Press and hold both buttons simultaneously.
- After about 5 seconds you will hear a continuous clicking sound from the hoss.
- The emergency mode is active
- Press both buttons twice simultaneously
- The stabilizers will move up a few centimeters. The brakes will be released.
- You can now push the hoss.
- The mode remains active until you exit it or power on the hoss via the control panel.
- To lock the brakes again, press both buttons simultaneously 1x.
- To return the stabilizers to the normal position, press both buttons 2x in quick succession.
- The hoss will continue to make a clicking sound for about 30 seconds. After that, the hoss is back in the normal deactivated state.



- Caution: when the brakes are released, the hoss can roll away. All safety functions are deactivated. Always hold the hoss firmly.
- Only use the emergency release in an emergency.
- When the emergency release is used, the brakes are deactivated and there is then no further braking option. The hoss must now be pushed and braked purely manual.

Danger in crowds or high winds

A third party bumping into the vehicle results in external driving commands. The hoss may start moving a short distance.

If there is a risk of being bumped by third parties, drive with particular care. When stationary or waiting, be sure to extend the stabilizers (parking mode). Passers-by could touch the joystick and cause unwanted driving commands. Keep a sufficient distance.

On platforms or in subways, a strong suction can occur and displace the hoss. Keep a sufficient safety distance from the track. Always activate the stabilizers when at standstill.

Transporting objects, animals or people

The hoss is only approved for transporting one person.

If you wish to transport luggage, use only bags designed for the hoss. Please contact your dealer.



- Never hang a backpack over the backrest. The backpack can block the function of the rear support. The rear support would thus not function either in normal operation or in emergency operation. Risk of falling!!!
- Never transport a second person or animals with the hoss.
- Never fix the leash of your pet to the hoss. The pet can cause an unintended drive command or knock the hoss over by pulling on the leash. The leash can get caught in the drive wheels! Risk of injury!
- Never fix the leash of your pet to your body. The pet can cause an unintended drive command by pulling on the leash. The leash can become entangled in the drive wheels and injure you or the pet.
- If you wish to keep a pet on a leash while using the hoss, keep the leash in your hand at all times. Make sure you can let go of the leash at any time in case of an emergency.
- Make sure your pet keeps a safe distance from the hoss.
- Make sure that the pet does not jump onto the hoss! Risk of injury to you and your pet!

Disinfection

- If you want to disinfect the backrest and or the seat cushion follow the instructions of the Jay backrest /seat cushion.
- The armrests are made of wood. This natural building material is sensitive to disinfectant. Apply disinfectant only in a thin layer and wipe immediately with a dry cloth.
- The armrests are not lacquered, but oiled. You can roughen the armrests, if they are worn, with a fine sandpaper and re-oil them with a suitable oil. Suitable oils for outdoor wood are available in specialized stores / hardware stores

Tires

- Check the tire pressure regularly. This must be between 1.0 bar and 2.5 bar. The tire pressure has a significant influence on the range and driving comfort. High pressure results in a high range. Lower pressure results in a softer, more comfortable ride.
- Make sure that both tires have equal pressure. Unequal tire pressure leads to changed driving behavior! The hoss can drift left or right. Danger of falling!
- Only use tires with the dimension 120/70 - R12. The drive train and the safety devices have been designed for this dimension. Failure to observe this can result in damage to the hoss and poses a considerable safety risk. No liability or warranty is assumed for damage resulting from the use of incorrect tires.
- Tire repairs may only be performed by qualified personnel. Since the hoss is equipped with common rims and tires, you can also contact tire shops or motorcycle dealers for tire repairs.
- To guarantee good traction, the profile depth must be checked regularly. The minimum profile depth is 2mm. Observe the winter tire obligation. Driving in winter conditions is only permitted with winter tires.

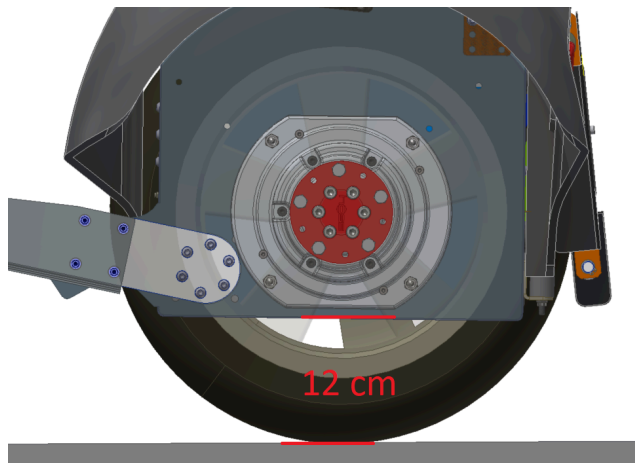
Ground clearance

The ground clearance strongly depends on many factors

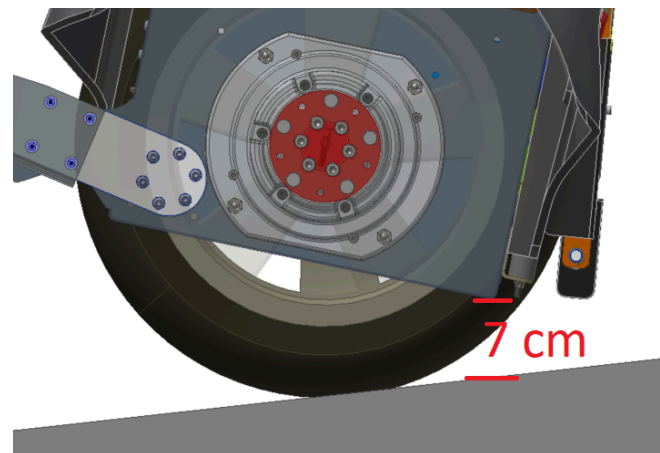
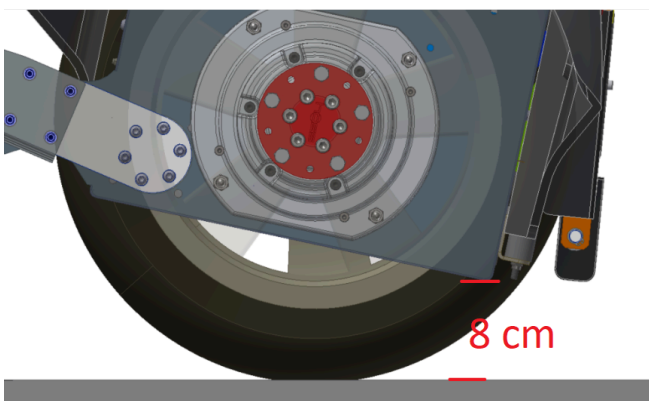
- tire pressure
- condition of road surface
- inclination, slope
- angle of hoss
- payload

On level road surfaces with a level hoss, the clearance is 12 cm. When breaking the hoss tilts back and thus the clearance gets reduced to 8 cm (2 bar, level road).

The clearance can be further reduced by slope, low tire pressure, payload etc.



12 cm clearance on level surface and level hoss at 2 bar tire pressure



Maximal angle of tilt backwards on level surface and 11% slope. Clearance is reduced significantly.

Check before each trip

- Only operate the hoss if you feel capable and fit to do so. Never drive under the influence of alcohol or medication.
- Make a visual check of the tire pressure! (The tire pressure must be equal).
- Before each journey, check the backrest, footrest, armrest and seat belt for damage. If the vehicle is damaged, do not use it.
- The correct tire pressure is 1.0 bar - 2.5 bar.
- Make sure that you are sitting correctly. (See item "Correct seating position")
- Make sure that the minimum clearances are maintained before operating the hoss.
- Make sure that any payload is properly stowed and does not interfere with the moving parts of the hoss (body parts, objects, belts, etc.). Must not touch the supports / wheels).
- Check the charge level of the batteries! Do you have enough charge for the planned trip?

*Range strongly depends on load, terrain, tire pressure, temperature.

- Check that the control panel is in good condition and firmly seated.
- Check that the armrests are correctly fitted and firmly seated
- Make a visual inspection of the front and rear stabilizer! Can the stabilizers move freely? Is there any visible damage?
- Always wear sturdy shoes when using the hoss.
- Check that there is no damage to the lighting system, armrests, drive wheels, back section and footboard.
- Make sure you have a working cell phone with you for planned trips to remote areas so you can call for help in case of an emergency.
- Use the seat belt.
- Make sure that the back is locked in its fixed upright position..
- No objects such as: Backpacks, bags, or clothing may be hung over the backrest. The objects could block the rear stabilizer -> The function of the stabilizer can therefore no longer be guaranteed -> Risk of falling!
- It must be ensured that neither your clothing nor any other objects or body parts touch the wheels, stabilizers or other moving parts or otherwise impede their function in any way!



Pinching fingers

Due to the design, there is a gap of approx. 10 mm between the wheel housing and the wheel. Danger of pinching!



In drive mode, do not let your hands hang off the side of the hoss.



Feet on footrest



Always keep your feet on the footrest. There is a risk that you will pinch your feet between the track/obstacle and the footrest.

Narrow points

The hoss has a width of 67 cm. If the minimum distances cannot be maintained, be sure to drive with extra care. In such situations, reduce your speed to below walking speed!

Road surface / Foundation

The hoss is designed for indoor use as well as for outdoor use. Care should be taken to ride only on paved, load-bearing surfaces with sufficient traction (roads, sidewalks, walkways, bike paths, etc.).



Do not drive on unpaved surfaces! Due to the well-dimensioned tires, the hoss also tempts you to drive on soft ground to a limited extent. If you drive on unpaved surfaces, you are outside the safety parameters. On unpaved surfaces, safe driving and safe braking are not guaranteed, and therefore safe emergency stops are not guaranteed. Risk of falling!

On wet surfaces, low temperatures or generally slippery surfaces you have to pay special attention and make sure that sufficient traction is provided. Drive with heightened attention and reduce speed. Even though the hoss is equipped with emergency stabilizers and loss-of-traction- detection, accidents can still occur in these conditions.

Let's consider driving on a snowy road. Whether a snowy road can safely be driven on depends on many factors like inclination, type of snow, temperature, tires, etc. . Depending on the type of snow it can provide no traction to great traction.

Even an asphalt road can provide poor traction in case it is wet and has chips on it.

Judging if a surface is safe to ride on is at all times solely up to the user.

Exercise caution and reduce speed if in doubt.

User environment

- Only drive on paved surfaces with sufficient traction
- Max. Gradient/slope: 11%
- Max. Cross slope: 11%
- Protection class IP54
- The hoss should be protected from salt water: Salt water is corrosive and can damage the hoss.
- The hoss should be protected from sand: Sand can penetrate right into the moving parts of the hoss and accelerate their wear quite considerably.
- In bad weather or darkness, turn on the front headlight.
- Extra caution is required at higher speeds. Always drive on sight to be able to brake or swerve in time.
- Additional caution is required indoors. The speed must be adjusted according to the space conditions. We recommend using the turtle mode indoors.
- In pedestrian areas, do not drive faster than walking speed. We recommend using the turtle mode!
- Do not drive off high edges.
- Do not hang any objects/weights on the hoss without first consulting a qualified expert (hoss dealer; hoss Mobility GmbH) and obtaining their approval. Additional weights may affect the stability and handling of the hoss.
- Do not push objects with the hoss.
- Never open doors using the footrest.
- Avoid puddles and potholes.
- Obstacles higher than 2 cm may only be crossed at walking speed and with special care.
- Do not drive over obstacles that are higher than 3 cm!
- Neither animals nor things may be tied to the hoss. This can lead to unwanted driving commands by pulling on the leash! When leading dogs or pulling things, hold the leash / cord exclusively with the hands to be able to let go quickly in case of danger..



Emergency stabilizer system

Vehicles with 3 or more wheels are inherently stable. This means that they remain stable even when switched off.

This is not the case for vehicles with only two wheels. The motors must constantly compensate for any change in the center of gravity in order to keep you stable. We call this "dynamic stability." As soon as the drive motors are switched off, the dynamic stability no longer works. The hoss would tip over. Therefore, mechanical stabilizers are built in to stabilize the hoss when the motors do not.

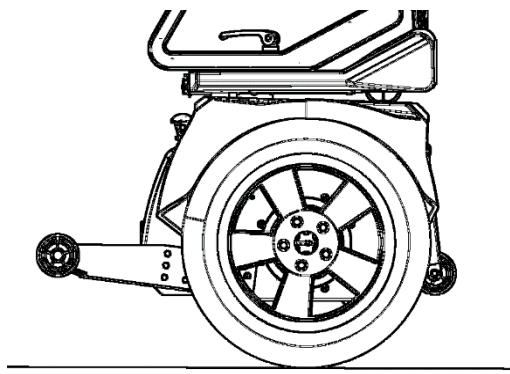
The hoss has two safe modes:

1. Dynamically Stabilized
2. Mechanically Stabilized

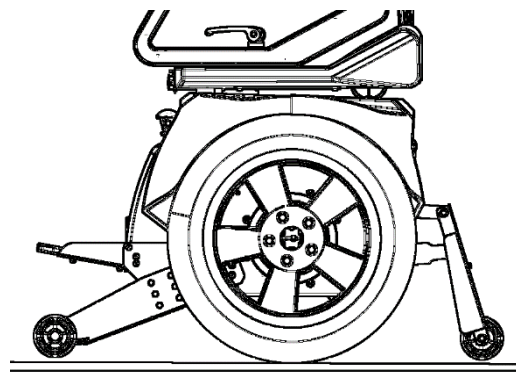
One of the two modes always keeps you stable.

In the switched-off mode, you are mechanically stabilized. As soon as the hoss changes into balance mode, you are stabilized dynamically.

The mechanical stabilizers have an additional safety monitoring function. Should the drivetrain, for whatever reason, no longer be able to balance you, the stabilizers extend automatically within a fraction of a second to stabilize you mechanically.



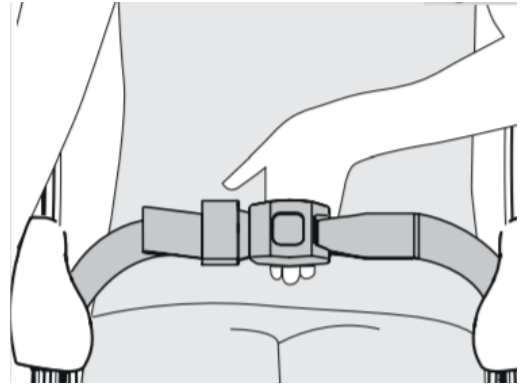
Dynamically Stable



Mechanically stable

Seatbelt

- The use of the seat belt is mandatory.
- Always ensure that the lap belt is correctly fitted and adjusted before putting it on.
- If the belt is too loose, the user may slide down and injure himself.
- Check the lap belt and fasteners periodically for signs of fraying or damage. It may need to be replaced depending on its condition.
- Verify that the buckle is functioning properly. Look for signs of wear on the material or plastic mounts.
- As with all positioning parts, adjustments may be necessary as the person changes seating position over time.
- Periodically check the straps for proper fit to ensure the safety and comfort of the user.
- Make sure that the belt never touches the wheels or the stabilizers.



Clothing / Footwear



- When using the hoss, make sure that your clothing does not interfere with its operation. Do not allow any part of your clothing to touch the moving parts of the hoss or otherwise interfere with its function.
- Always check that your body parts, clothing, bags, backpacks, etc. do not come in contact with the wheels and/or other moving parts before use.
- Make sure that reflectors and or lights are not covered.
- Always wear sturdy shoes.

Electromagnetic radiation

Your hoss has been tested for compliance with the applicable EMC directives with regard to electromagnetic interference emission and susceptibility to interference according to the DIN EN 61000-6-2:2019 standard. Despite these tests the following applies:

- It cannot be completely ruled out that electromagnetic radiation can also have effects on the hoss. For example:
 - large medical devices
 - other electromagnetic radiation sources
- it cannot be completely ruled out that the hoss may cause interference with electromagnetic fields. For example:
 - Store doors
 - Burglar alarm systems in stores
 - Garage door controls

In the unlikely event that such problems occur, please inform your dealer immediately.

Thunderstorm / strong wind

During thunderstorms, high voltages can build up in the air (lightning) and suddenly discharge. Never use the hoss during thunderstorms. Safe operation can no longer be guaranteed and the hoss could be damaged.



Only drive at walking speed in strong winds. Strong winds can move you while driving. Danger of accidents!

Adjusting the hoss

The correct seating position is not only important for your health, but also for the correct function of the hoss.

Only make adjustments to the seating position on level ground.

Only qualified and capable personnel are allowed to make adjustments to the hoss.



If the seating position of the hoss is incorrectly adjusted, then this can lead to you no longer being able to accelerate / decelerate properly. Danger of falling!!! All adjustments must only be made when the hoss is switched off.

Correct seat adjustment

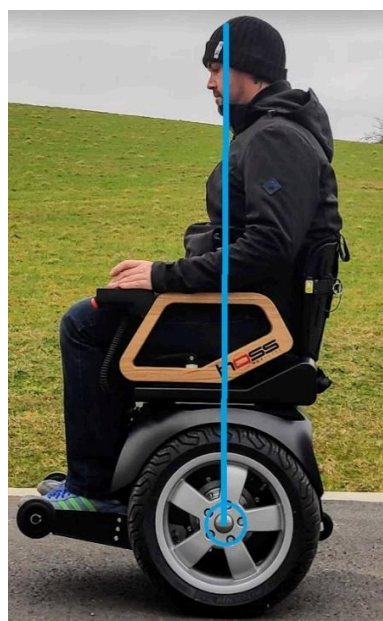
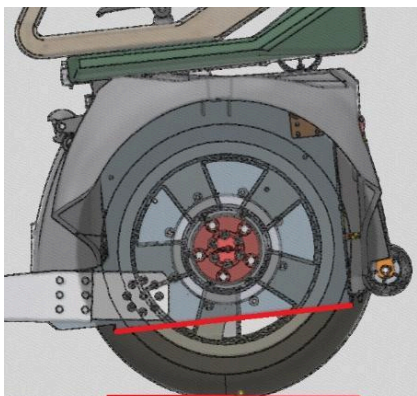
The hoss can lean 8 degrees forward and 12 degrees backward. This range in tilt is needed for accelerating and braking. If you sit off-center, the hoss needs to compensate for the shift in center of mass by tilting forward / backward. This then decreases the range available to accelerate / decelerate. If you sit too far forward, the braking distance will increase, if you sit too far back, the acceleration will decrease. Therefore, it is extremely important to sit centrally.



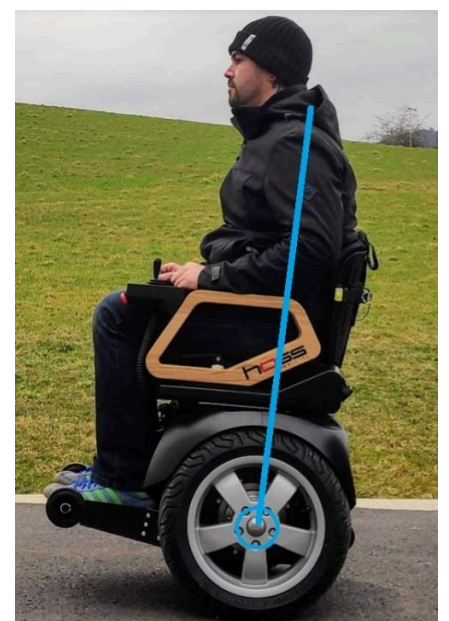
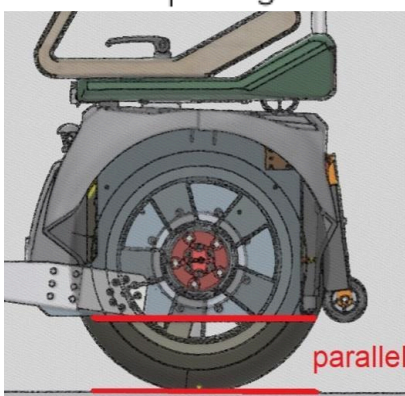
During initial setup, the seating position must be adjusted to suit you. Your standard seating position must be such that the hoss is horizontal when you sit on it.



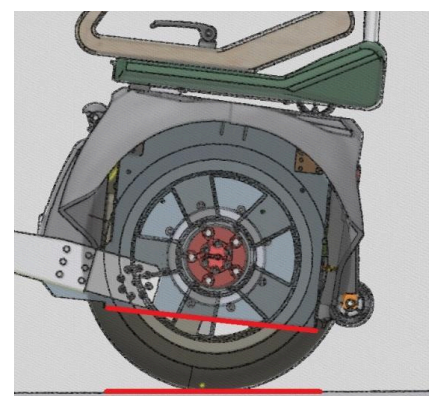
Seat too far back.
hoss hangs forward.



Seat adjusted
correctly. hoss
stands up straight.

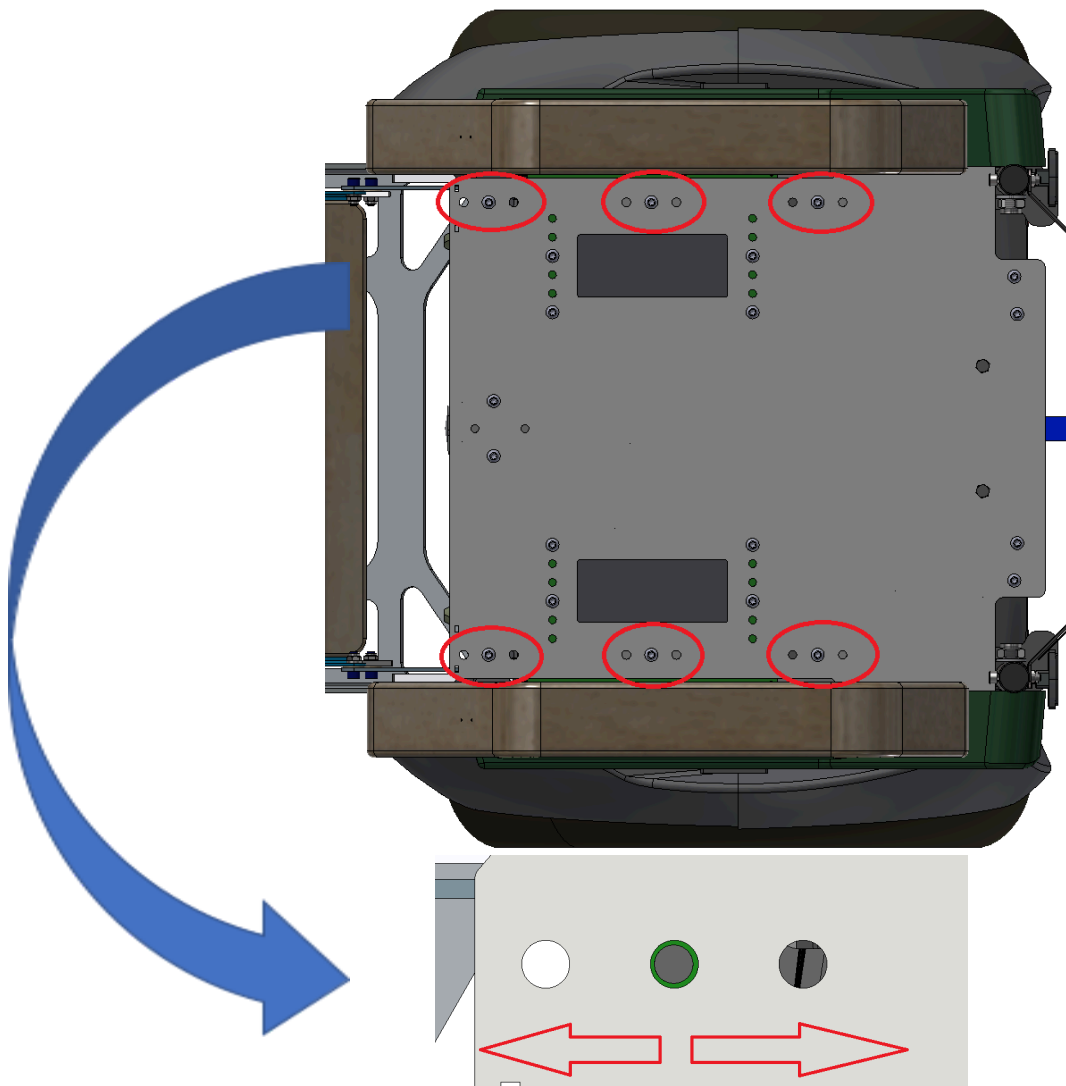


Seat too far forward.
hoss hangs back.



Adjusting the seat position

- Remove the seat cushion.
- Open the screws marked in red in the illustration. (TX 30) (6 pieces).
- Set the desired position (three possibilities).
- Tighten the screws marked in red in the illustration. (8 Nm)
- The seating position has to be adjusted in combination with the backrest.
- Check the change by having a third person check the inclination of the hoss as described in the point "correct seat adjustment".
- The seat has to be adjusted individually. If a third party uses your hoss, make sure the seat is adjusted correctly.



Adjusting backrest

- Adjusting the seat position affects your seating position and thus the center of gravity.
- In addition to the entire seat surface, the back can also be adjusted.
- After you have roughly adjusted the seating position, carry out the fine adjustment via the back.
- To do this, follow the instructions for the Jay back. Make sure that the seat adjustment screws are tightened.

The backrest can be adjusted in the following degrees of freedom:

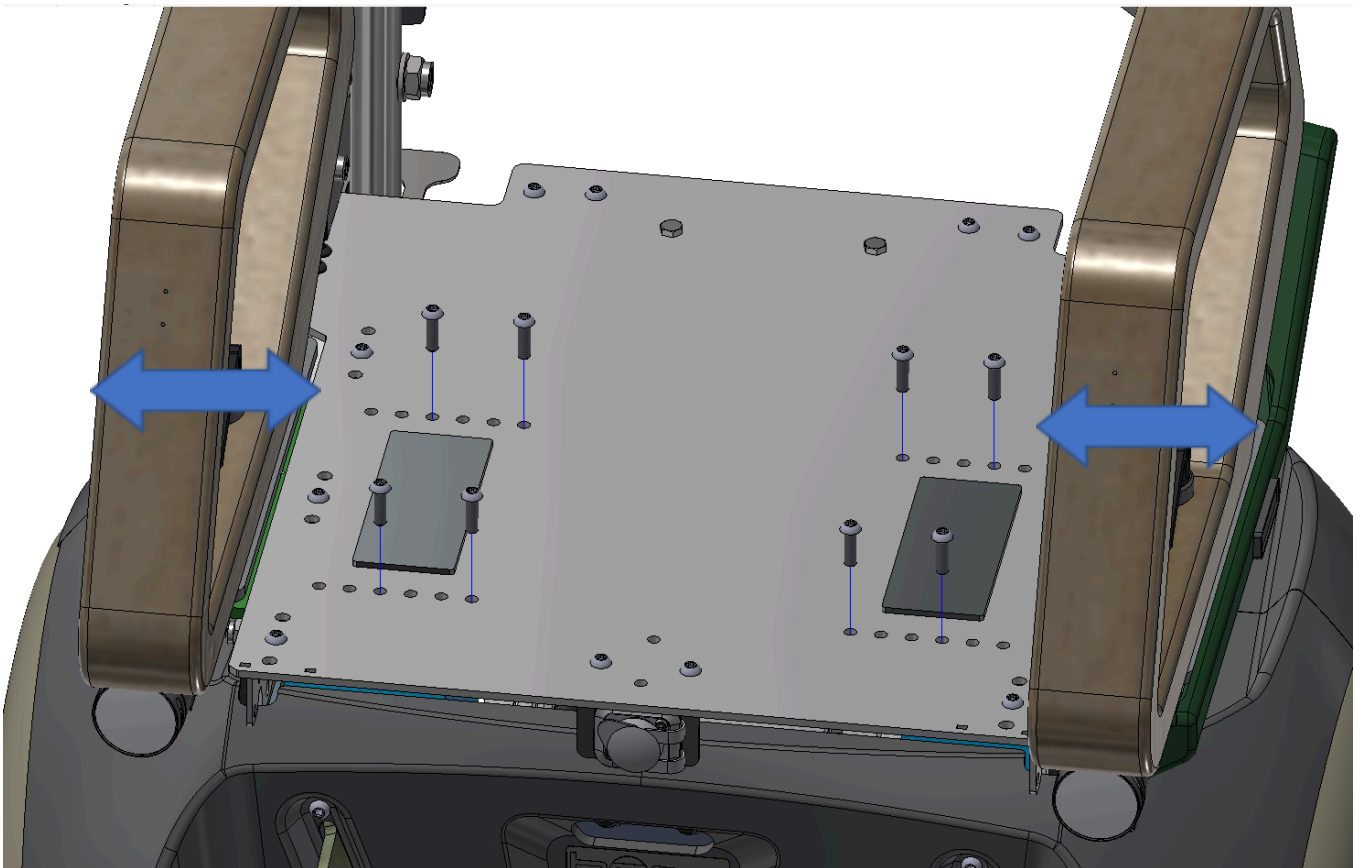
- Height
- Angle/Tilt
- Forward/Backward



Adjusting seat width

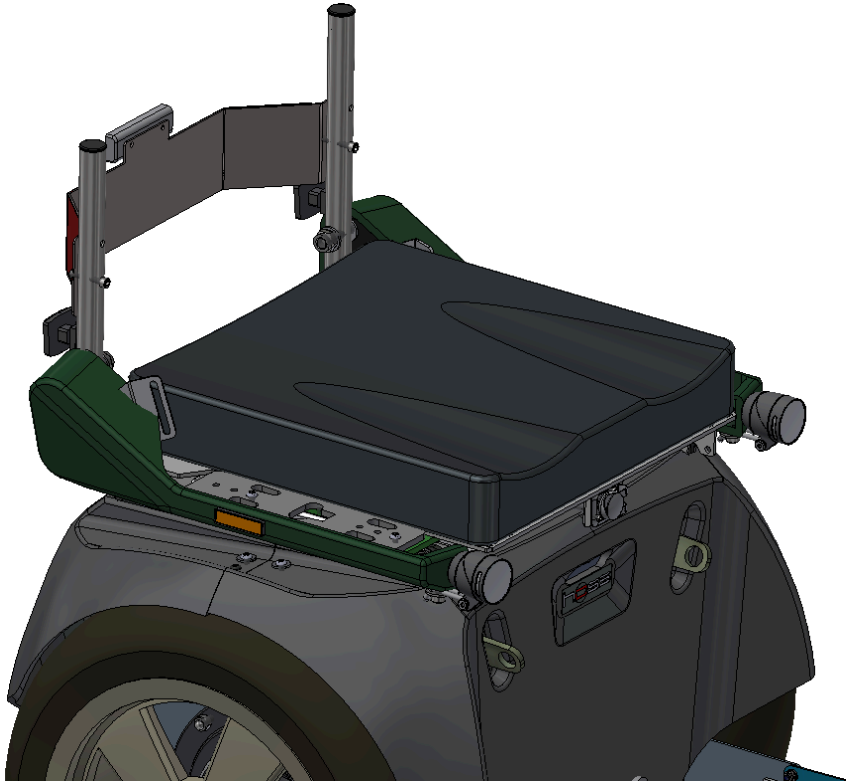
The seat width can be adjusted from a width of 40 cm to 46 cm. There are only 3 possible settings: 40 cm; 43 cm; 46 cm

- Pull off the seat cushion.
- Loosen the marked screws. (Torx TX30)
- Adjust the width to the desired position.
- Retighten the screws in the illustration. (8 Nm)
- Always set both armrests to the same position.
- **Danger of tipping! Unequal adjustment of the armrests means that you are not sitting in the center.**

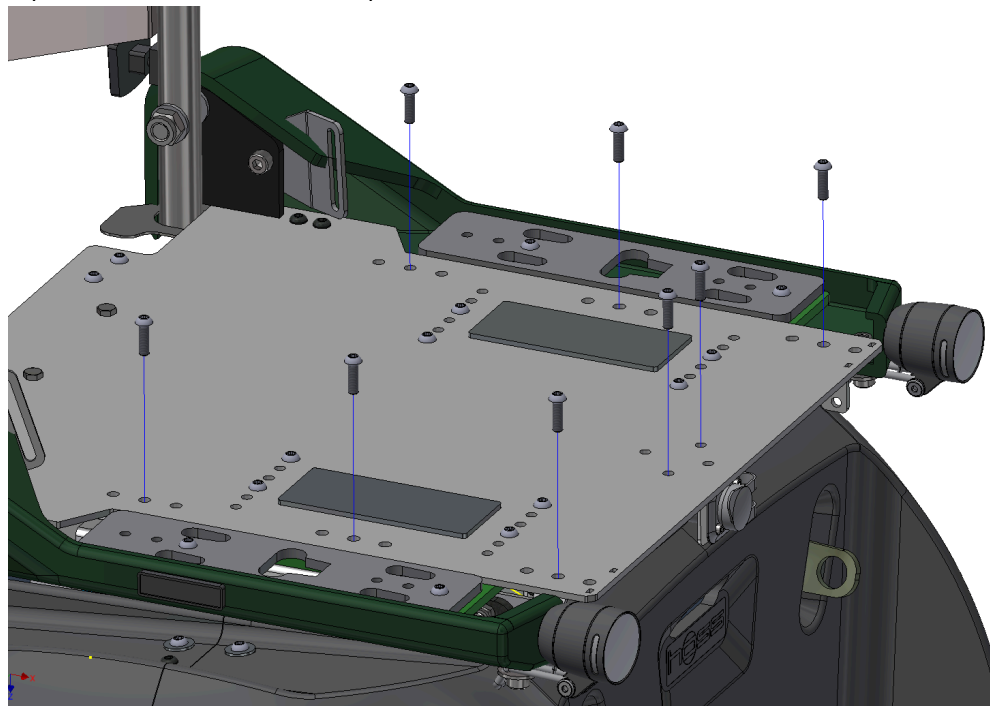


Adjusting seat height

- Remove the control panel and place it on the footrest.
- Remove Armrests and seat cushion



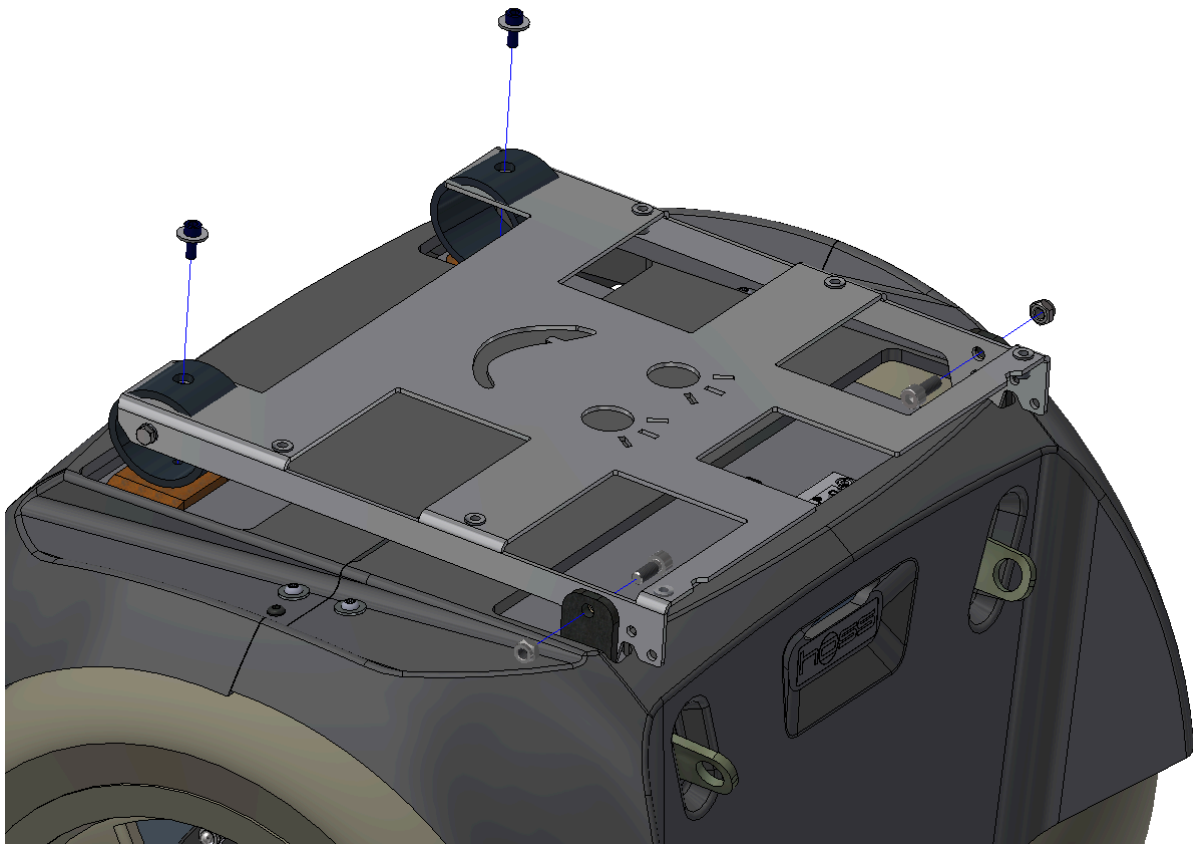
- Remove screws (Torx TX30):
 - 6 pcs holding the platform.
 - 2 pcs holding the charge port.



- Disconnect the headlights

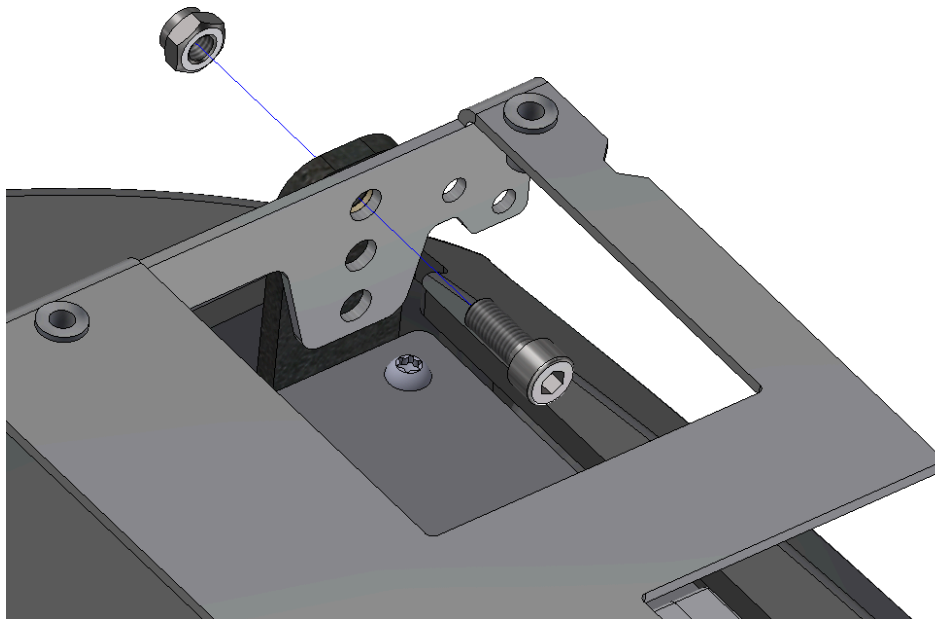


- Remove the whole seat assembly. Attention: the assembly weighs more than 10kg.
- Now you see the hoss maskot. Remove the 2 screws going through the dampers.



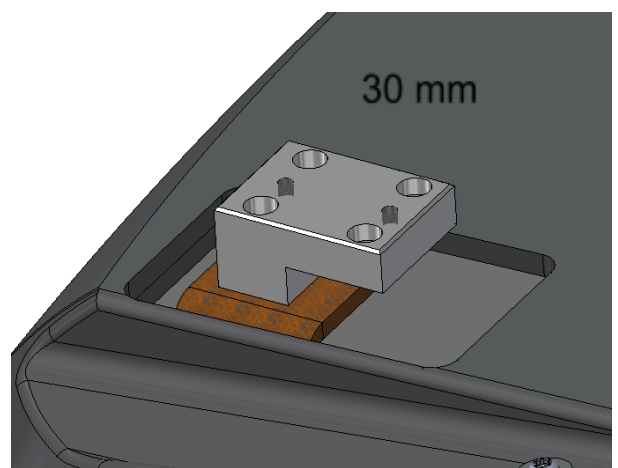
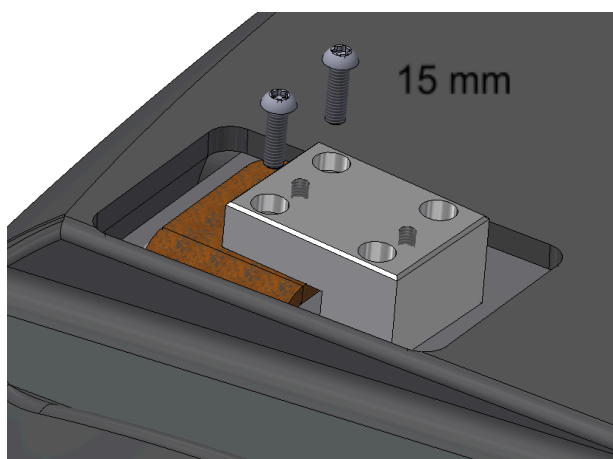
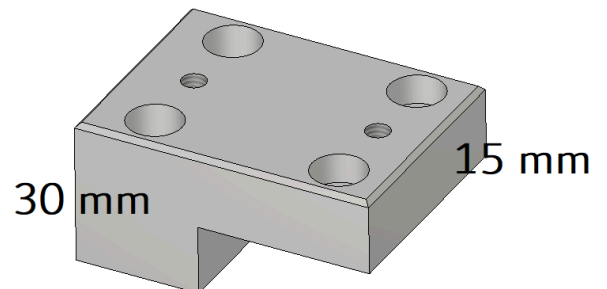
- The front mount has 3 settings.

Set the desired seat height. Each step has 15 mm. To do this, open the screw with a 6 mm Allen key and a 13 mm box wrench.

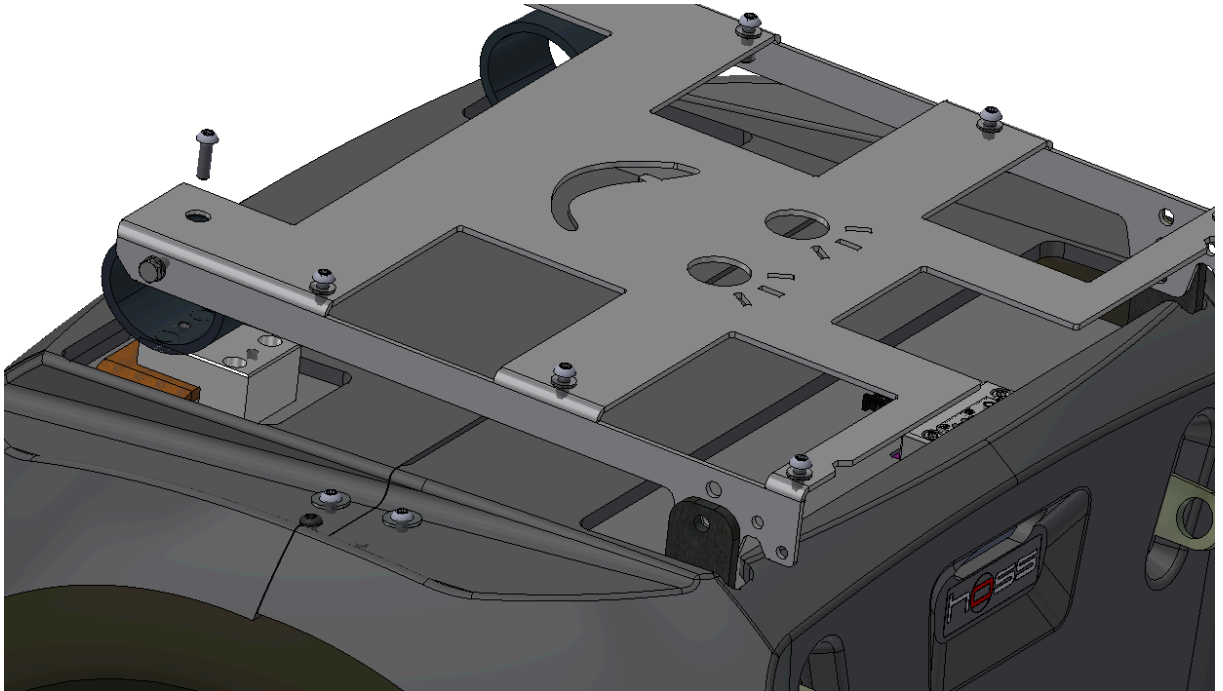


- 2 aluminum blocks are shipped with your hoss. Those are for adjusting the seat height. The height of the block is 30 mm and 15 mm respectively.

This block needs to be mounted under the dampers. Depending on the desired height it needs to be installed on the 15 mm side or 30 mm side.



Make sure that both the front and back mounts are at the same height.

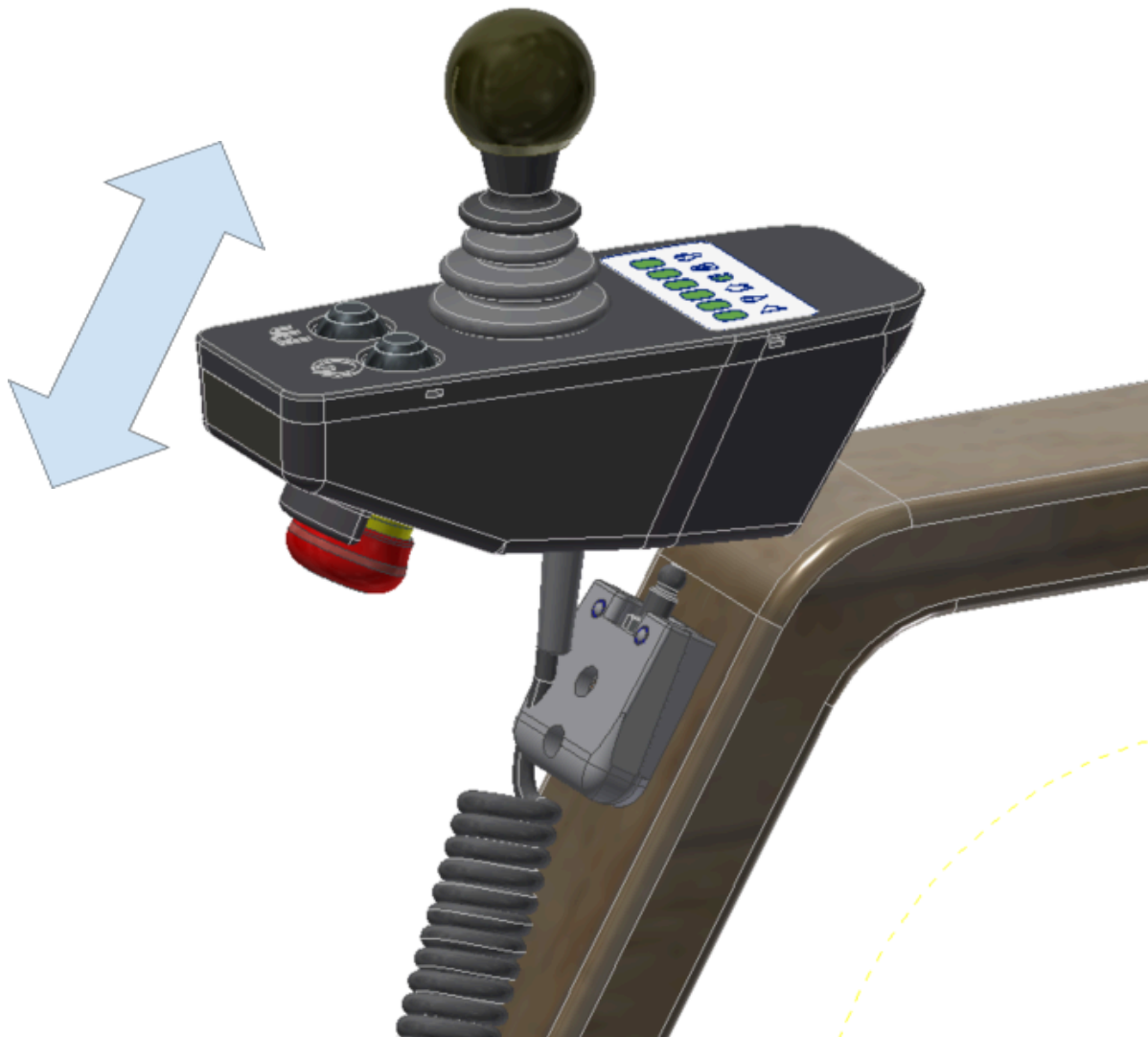


This picture shows the middle setting.

- Assemble the seat construction in reverse order

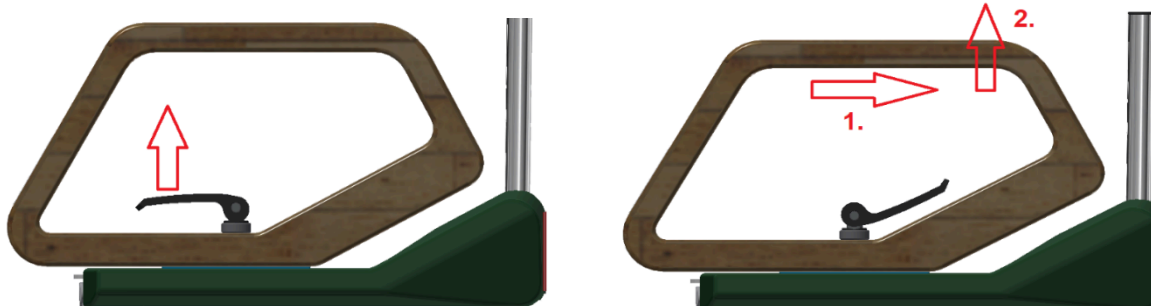
Attach / detach control panel

- To attach: Use a little force to push the control panel onto the holder until you feel it clearly locks into place.
 - When pulling slightly upwards on the control panel, it must not come loose.
- Removal: Use a little force to pull the control panel upwards from the holder.
- **Caution! Danger of pinching when attaching / detaching the control panel.**
- **Caution! Do not control the hoss with the control panel removed. Loss of control can lead to serious injury or death.**



Attaching / removing armrest

Removal: Pull the black locking lever upwards and let it fall backwards.
Now slide the entire armrest backwards and lift it up.

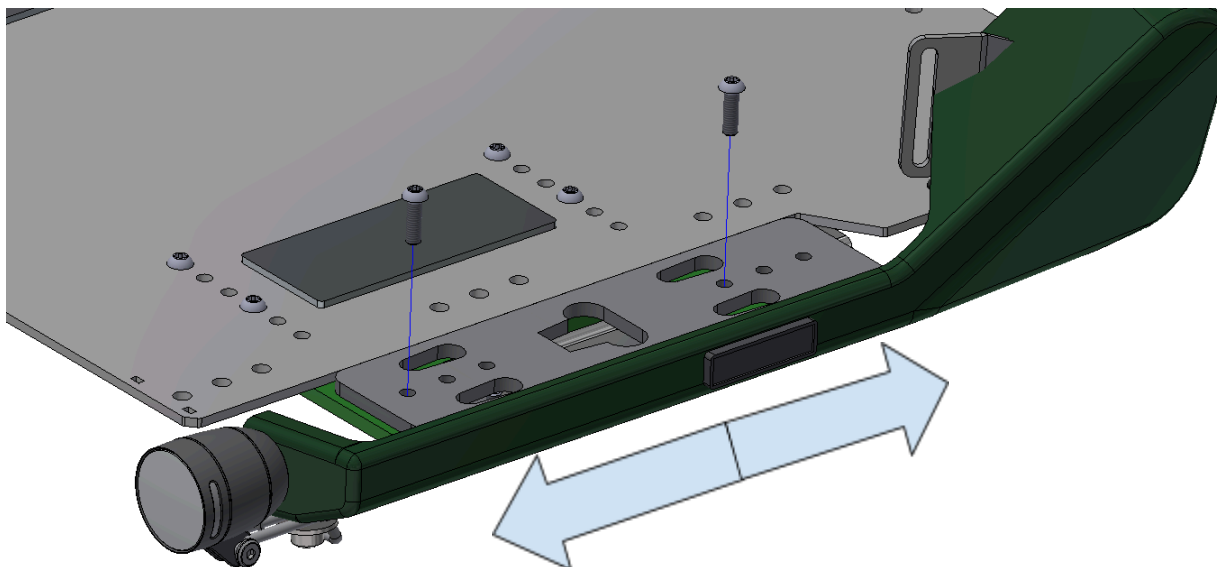


Attaching the armrest: Proceed in reverse order to attach the armrest.

Caution: Confirm that the armrest is seated correctly by pulling firmly on it.

Adjust armrest in vertical direction

- Remove the armrests.
- Open the two screws in the figure below. (Torx TX30)
- Adjust to the desired position. (Three possibilities)
- Tighten both screws again. (6 Nm)
- Always set both armrests to the same position.



Operating the hoss

Main components of the hoss



Black Box

The hoss has a built-in tachograph which continuously records critical telemetry data. This data is automatically transmitted via the Internet to the company Hoss Mobility GmbH. The data is subject to data protection. Our privacy policy can be found on www.hoss-mobility.com

Control Panel



ON/OFF Button:

- 1x long: switch hoss on or off.
- 2x short: switch to travel mode
- 1x short: deploy stabilizers

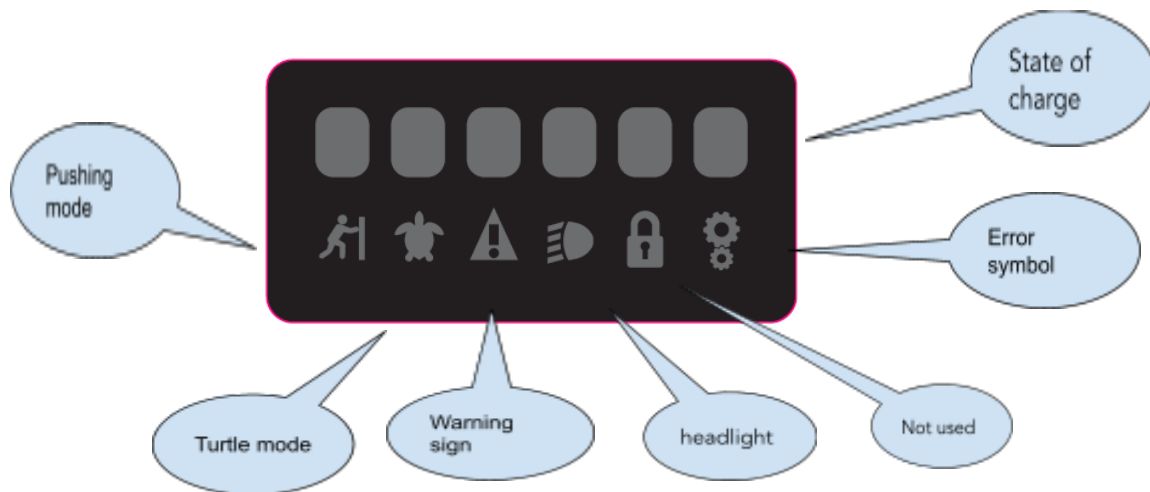
Function Button:

- 1x short: headlight on/off
- 2x short: push mode
- 1x long: activate/deactivate turtle mode

Emergency stop:

- Activates the emergency brake in a fraction of a second and switches off the drive. The hoss is stopped with electromechanical brakes. Only press in the event of an emergency situation.

Display



Pushing mode:

The hoss always strives to maintain speed at 0 km/h without joystick input. Thus, the hoss will not pick up speed when you shift your body weight. To make loading and opening doors easier, there is the push mode. If you press the function button twice, the hoss will maintain the current angle for 5 m (max. 5km/h). Thus the hoss can be moved easily by shifting weight. Activation of the mode is indicated by a short vibration and by the control lamp lighting up. Moving the joystick full back or full forward deactivates this mode.



Turtle mode:

By pressing the function button for a long time, the hoss switches between turtle mode and normal mode. In turtle mode the speed is limited, the sensitivity of the steering remains the same.



Warning:

The warning triangle lights up when the hoss is in a critical situation. Example: power demand too high, temperature too low/high, etc. Reduce speed. Drive carefully.



Headlight:

Indicates whether the headlight is switched on.



Lock:

Currently not in use.



Error:

Indicates when the hoss has a critical error. If the icon is lit then the hoss needs to go to service. The icon will also illuminate if the emergency stop has been activated. Restart the hoss to clear the error.

Getting on / getting off



Before getting on or off, make sure that the hoss is switched off!

From the front:

- Fold up the footrest
- Lean on the armrests and sit on the hoss so that your back is in contact with the backrest.
- Fold down the footrest and place your feet on the footboard.

From the side:

- Remove the armrest on the side where no control panel is mounted.
- You can now also perform a transfer using a sliding board or other aids.
- Sit in the hoss so that your back is in contact with the backrest.
- Fold down the footrest and place your feet on the footrest.
- Put the armrest back on.

Caution!



- Check that the armrests are firmly in place before using them to support yourself!
- Use only approved and suitable transfer aids.
- Never activate the hoss with the footrest folded up. Danger of entrapment!
- Never drive without the armrest. Risk of falling
- Never drive with only one armrest! Risk of falling!
- After getting on, always check that neither body parts nor clothing are touching the moving parts of the hoss!

Switch on / switch off

Switch on:

- Make sure that you do not touch the joystick when switching it on. The center position is checked at startup.
- Press and hold the On/Off button until the display starts to light up.
- Release the button.
- The hoss is now active and in park mode.

Switch Off:

- Press and hold the On/Off button until the display starts flashing.
- Release the button again.
- The LEDs will stop flashing. The hoss is now turned off.
- If the hoss is in park mode for more than one hour, it will turn itself off



The joystick is calibrated when it is switched on. For this purpose, the joystick must be in the center position. If you move the joystick during power up, the calibration cannot be completed. The drive mode cannot be activated, the gear wheel symbol lights up.

If the joystick deviates only minimally from the center position when switched on, it may be possible to activate the hoss but since the center position is calibrated incorrectly the hoss will slowly turn one direction. The joystick has been calibrated incorrectly. Restart the hoss to repeat the calibration.

During startup the gyros are being calibrated. This requires the hoss to stand still for 2 seconds. If you wiggle the hoss during this 2 second startup or if the hoss is on a public transport like a bus or train which is experiencing some G-force, the gyro calibration may be aborted. The red gears will light up on the display. Restart the hoss to repeat the calibration.



power button

function button

The hoss has 2 modes:

- Parking mode: the stabilizers are lowered. The parking brake is activated. The hoss is mechanically stable.
- Drive mode: the stabilizers are raised. The hoss maintains its balance electronically. You can drive with the hoss.

Activate/Deactivate Driving mode



Read the entire operating instructions before activating the driving mode!

Before activating the drive mode, make sure that:

- you are sitting correctly on the hoss (see "Correct sitting position")
- you have sufficient distance around the hoss (see Minimum distances).
- No body parts or objects are hanging from the hoss and do not touch any moving parts of the hoss!
- The battery has sufficient capacity

Activate:

- Seat yourself on the hoss
- Switch on the hoss.
- Press the On button 2x in succession at intervals of one second.

The front and rear stabilizer will move up. You are now in drive mode

It is a deliberate difference to a usual double click with a PC mouse. Not too fast and not too slow.

To get a feel for how to press the button it is helpful to count out loud: ONE, TWO... This is done as a deliberate press to make sure you want to start the hoss.

Deactivate:

- Bring the hoss to a standstill. (Parking mode cannot be activated while the hoss is moving).
- Make sure that the hoss is on solid ground.
- Press the on/off button once.
- The stabilizers will move down. The hoss is now park mode.



Never get off the hoss in drive mode. Danger of falling!

Never make sudden movements while driving. You could influence the balance and cause an emergency stop.

Error reaction: Stabilizers can no longer be extended

- The stabilizers are continuously subjected to a system-internal function test during travel operation.
- In the unlikely event that one or both stabilizers are found to be malfunctioning during one of these tests, the hoss will signal this with a continuous vibration alarm and the lighting up of the red gears on the display.
- You will be automatically slowed down to 5km/h in a controlled manner. Triggering the emergency stop is not possible, because the stabilizers are without function in this case.
- Even if the hoss vibrates strongly, it remains in balance mode. You can still drive to a safe place at 5km/h. You are still in a safe condition. Keep calm. You cannot fall.
- Get help and assistance from third parties. If you are riding in remote areas, use your cell phone to get help.
- Once help arrived, remove the free armrest (the armrest without the control panel). While seated, turn your body (and legs) in the direction where you removed the armrest. Make sure that you are not in contact with the drive wheel. Make sure that your legs are in contact with the ground.
- If you are physically able to stand, support yourself with one hand on the seat cushion and the other on the back tube. Push yourself away from the hoss evenly and slowly with both arms. If you are unable to stand up on your own, instruct your assistants to support you.
- If you cannot stand on your legs, instruct your assistants to lift you sideways away from the hoss.
- Do not be irritated by the vibration alarm. You are always in a safe condition. It is necessary to point out this situation with a clear vibration alarm
- In order to turn the hoss off a strong person should slowly and carefully tilt the hoss to the side until it powers itself off. The hoss has a maximum tilt angle. If this angle is exceeded then it will turn itself off. Make sure that you have plenty of open space around the hoss when doing this.



- **Caution. Do not try to leave the hoss forward under any circumstances. The hoss would try to balance you and pick up speed! Danger of falling!**

Run-away protection

The hoss can also be activated without a user.

The hoss can be pushed at walking speed for a short distance of approx. 7m. After approx. 7m the vibration alarm is activated. After another 3 meters the emergency stop is activated automatically. Move the joystick in the desired direction to push the hoss longer than the 10m.

This function secures the hoss from running away unintentionally.



Always hold the hoss when activating it without a driver.



Push mode

- Switch on the hoss.
- Activate the drive mode
- Press the function key 2x briefly.
 - You will get a short vibration signal as feedback.
 - The push mode symbol lights up on the display.
- The speed can now be controlled by shifting your body forward and backward.
- You can use this mode for example to open doors with one hand. You can drive forward or backward only by shifting your weight. Steering is still done via joystick. Moving the joystick to the far front or back deactivates this mode.
- This mode makes it easier to load or push the hoss because it does not counter-tilt.
- This mode is limited to 5 meters. Once the distance has been reached the hoss strives to keep the position.
- In push mode, the sensitivity of the steering is reduced to avoid aggressive steering maneuvers.

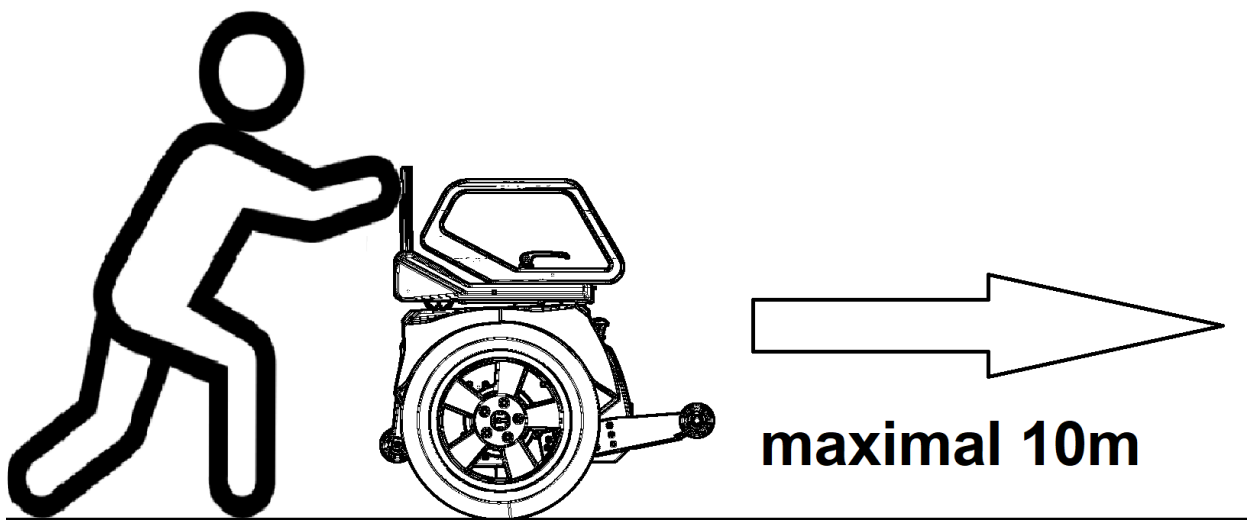


- If you activate the push mode without sitting on the hoss, always make sure that you hold the hoss firmly.
- If you let go of the hoss in push mode it will roll up to 5 m before the hoss tries to hold the position. If the terrain is too steep the hoss may roll a few more meters before the emergency stop is automatically triggered.

Pushing the hoss

You can easily push the hoss when it is in drive mode. When doing so, make sure that

- you have the hoss firmly under control at all times
- If you push the hoss further than 10 meters it will vibrate and activate the emergency stop. This prevents the hoss from running away unintentionally.
- If you want to push the hoss further, you have to control it with the joystick so that the hoss can recognize that you have the hoss under control.



- For short distances of up to 5 meters, the hoss also has a push mode in which it does not oppose you. In this mode, the hoss is particularly easy to push because it does not change the angle while the mode is active.
- To activate the 5 m push mode, you must briefly press the function key 2 x.

- This push mode symbol  lights up. The mode is limited to 5 meters and is used for easier loading or to open doors more easily.



- When pushing the hoss, always make sure that your feet are not under the rear or front stabilizers. If the emergency stop is triggered, there is a risk of injury!

Function button



power button

function button

headlight on/off

To switch the headlight on or off, press the function key once. The light symbol on the display appears.



Turtle mode

The maximum speed of the hoss is 15 km/h.

There are 2 speed modes:

- Normal mode. 15 km/h
- Turtle mode. 6 km/h

For both modes, the maximum speed can be adjusted in the hoss app.

To switch between the modes, press and hold the function button until the turtle symbol appears / disappears on the display.

You can only switch modes when the hoss is at a standstill.

The mode does not affect the sensitivity of the steering.

Riding the hoss

- You cannot drive the hoss until you have activated the drive mode (stabilizers in upper position).
- The hoss must keep the center of gravity on its axis at all times. If you shift your weight forward or backward, the hoss compensates for the shift in the center of gravity by adjusting the tilt (yaw axis) of the hoss.
- To adjust the tilt, the hoss must travel a short distance. However, you are not picking up continuous travel in the process.
- Make sure that you are sitting centered on the hoss and that the hoss has no tilt. (See "Correct seating position")
- The hoss is controlled by a joystick. The joystick direction sets the direction of travel. The zero position of the joystick brakes the vehicle.
- The max. speed of the hoss is 15km/h
- Always drive at walking speed in pedestrian areas, shopping centers, etc. We recommend the use of the turtle mode
- When braking / accelerating, the hoss must change its center of gravity. This is done by changing the tilt. The tilt of the hoss is limited to a maximum of 12 degrees to the rear and 8 degrees to the front.
- In narrow places reduce speed accordingly.
- Check with the charge level indicator whether the batteries are sufficiently charged for your planned ride.
- If the seat position is incorrectly adjusted, the adjustment range for braking/accelerating is no longer available to the full extent. This can lead to a considerably longer braking distance or the inability to accelerate. Risk of accident!
- The self-balancing system reacts differently than conventional four-wheeled wheelchairs.
- Never drive on soft ground.
- Never use the hoss on stairs, escalators, conveyors, or similar!
- Never drive on icy or slippery surfaces!
- Only drive on surfaces that provide sufficient traction
- Avoid significant and sudden movements with your body while the hoss is in balance mode.

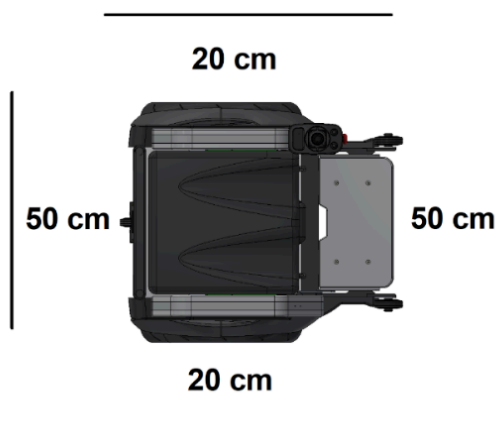


Driving on level road

- Sit down in the hoss
- Make sure that no parts of your body or clothing, bags, etc., are in contact with the moving parts of the hoss.
- Fasten the seat belt
- Turn on the hoss
- Check the charge level indicator to make sure the batteries are charged enough for your planned ride.
- Activate the drive mode
- Steer with the joystick in the desired direction.
- To brake, pull the joystick back until you are at a standstill. When the hoss is stationary, you can release the joystick.
- To drive backwards, pull the joystick back.
 - Never let go of the joystick while driving.
 - The stabilizers must always be unobstructed and must not be blocked by any parts of the body, clothing or other objects! Danger of falling!
 - At the beginning, only make careful driving commands with the joystick.
 - As a new driver, practice on open terrain to get to know the driving characteristics of the hoss.
 - Reduce speed according to your surroundings.
 - Adjust speed to your ability and road conditions.
 - When reversing, make sure there are no obstacles or people behind you.
 - Observe the minimum distances!



Minimum distances:



If it is not possible to maintain the minimum distances, e.g.: when driving through a doorway or in the checkout area of a supermarket, steer with special care and drive at minimum speed.

Reverse driving

- The hoss is limited to 1 km/h when reversing.
- You should avoid driving in reverse due to the limited visibility to the rear.
- Driving forward is mostly the better option.
- Always make sure there is no one behind you before reversing.
- If you are unsure if there is someone behind you, call attention to yourself before backing up.
- If you push the hoss backwards faster than 5 km/h, it will automatically activate the emergency support.

Driving on slopes

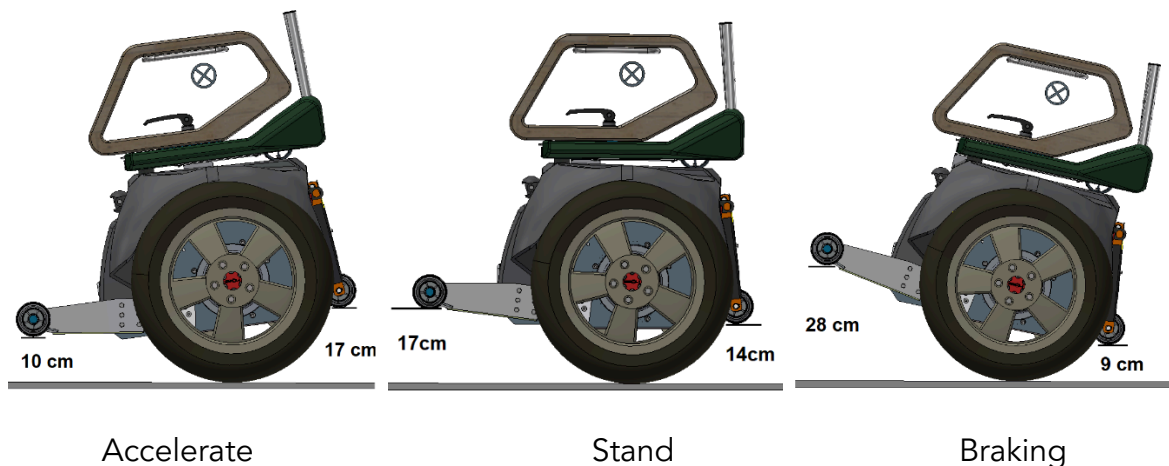
- When driving on slopes, always exercise maximum concentration and caution.
- Avoid jerky changes of direction!
- Avoid turning on a slope.
- Drive at walking speed
- Do not drive on slopes greater than 11% -> danger of tipping over!
- When driving on a slope, always lean towards the slope to prevent tipping sideways.
- Activating the park mode is not permitted when the ground shows an inclination greater than 4% in any direction. Make sure to find a suitable spot when parking.



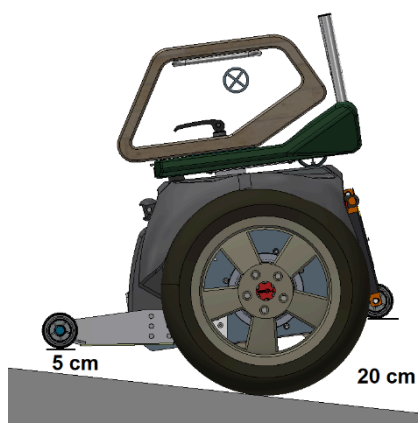
Ascent/descent

- The hoss was designed to be able to drive on maximum gradients / slopes of 11%.
- If you drive on slopes greater than 11%, the safety of the hoss can no longer be guaranteed.

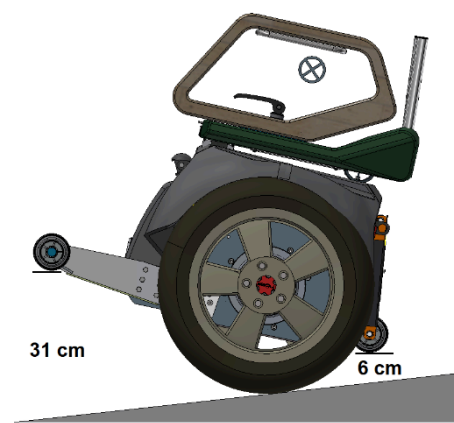
If you drive on ramps or steeper roads, there is a risk that the wheels of the safety stabilizers will touch the road surface. This causes the hoss to lose the ability to stabilize itself. In such cases, the emergency stop is triggered automatically. Be especially careful and drive on steep sections at walking speed.



The vehicle must shift its center of gravity for acceleration / braking. The maximum angle allowed by the software is 8 degrees to the front and 12 degrees to the rear. This changes the distances between the support wheels and the road considerably. This is important to understand so that you never get into a situation where the support wheels touch the road.



11% slope, max. forward inclination

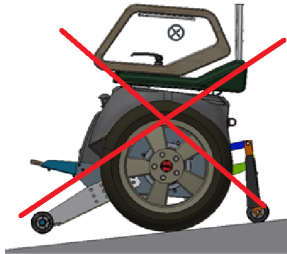


11% slope, max. inclination to the rear.

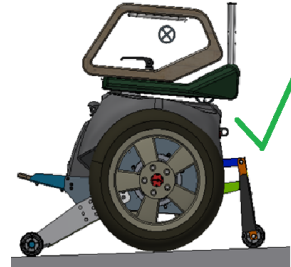
- Note that you have a significantly longer braking distance on a downhill slope.
- Make sure that the support wheels always have sufficient clearance.
- If the stabilizer wheels touch the ground while driving then the hoss is not able to balance properly. You might experience a sudden acceleration in the opposite direction followed by an automatically triggered emergency stop. You are outside the defined safety parameters.
- Avoid jerky changes of direction on steep inclines/descents! Risk of falling!
- Avoid parking on steep inclines. (Always park in places with the lowest possible slope). Never park on slopes greater than 4%.
- Never drive on inclines with loose gravel or sand. The drive wheels may lose traction, resulting in an emergency stop.
- Never drive on slopes / gradients greater than 11%.
- Slopes greater than 8% may only be driven on at walking speed, otherwise a safe emergency stop cannot be guaranteed. Risk of falling!
- The braking distance on slopes is considerably longer! In case of an emergency stop, you must also expect a considerably longer braking distance.
- Reduce the speed on steep slopes to walking speed!
- On steep slopes a safe emergency stop can not be guaranteed.

How to properly park on slopes

The stabilizers adapt to the ground. However, not unlimited. Therefore, always park on level, solid ground.



parked at 11% slope



parked at 4% slope



- Do not park on slopes greater than 4%, otherwise the stabilizers will no longer reach the roadway. The hoss can tilt slightly when switched off.
- When raising the stabilizers the hoss needs to balance itself. The hoss therefore picks up speed briefly due to the tilted position. You could collide with an object.
- Do not park on slopes greater than 4%. If this is not possible, park perpendicular to the slope.
- The rear support must extend a minimum distance to guarantee a safe stand. If an obstacle (e.g. wall or steep slope) obstructs the rear stabilizer before it is extended to the minimum safe distance, the park operation is aborted and the stabilizers are retracted. A vibration alarm will sound. Check if the rear stabilizer was blocked, find a new place to park and try again.
The vibration alarm will stop once the chair has been parked successfully.
- Depending on the situation, the hoss may move slightly (up to 0.5m) during the parking process. Be extra careful and maintain the minimum safe distance.

Vibration alert

The hoss has a vibration alarm. You can hear and feel it clearly. The alarm is triggered in various situations.

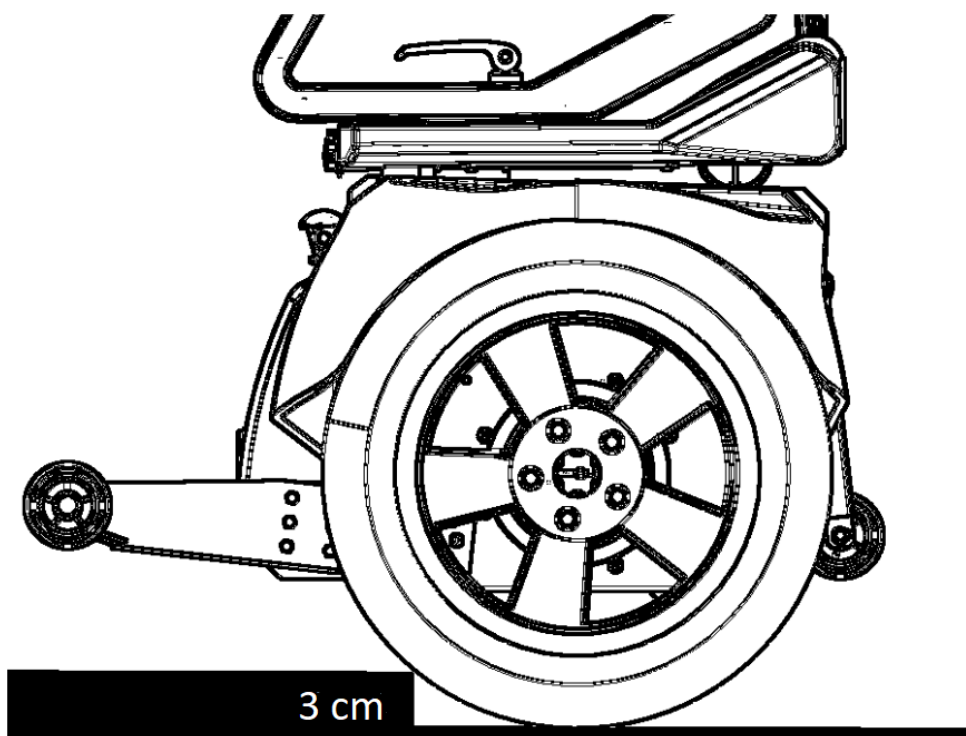
- A very short double alarm comes as feedback when you activate the push mode.
- A pulsating alarm comes when the motors reach their power limit. Abort your driving immediately. Safe travel can no longer be guaranteed.
- The deployment of the stabilizers was aborted because the stabilizers could not extend far enough. The hoss gives a continuous vibration alarm. Park in a suitable place to stop the vibration alarm.
- Defect on the hoss: Hoss vibrates continuously pulsating. Drive out of hazardous areas, park and turn hoss off. Contact your dealer.

Driving onto edges (curbs)

- Always look for the place where the obstacle / curb is lowest.
- Drive slower than walking speed (3km/h).
- Do not stop in front of the obstacle and then start driving again. Drive over the obstacle in one go at a steady pace.
- On a straight stretch of road without an incline, you can overcome obstacles of up to 3 cm. If necessary, help with a short weight shift in the direction of travel.
- The maximum height of obstacles that can be overcome depends on tire pressure, payload, driver skill and the nature of the obstacle.
- The height of the maximum negotiable obstacle is considerably lower on inclines / declines.
- Due to the dynamic balance, the hoss must keep you balanced at all times even when overcoming obstacles. When the motors reach their power limit, this is signaled by a vibration alarm.
 - If this vibration alarm goes off then abort your driving project immediately. The motors are at their power limit! In this condition, maintaining the balance can no longer be guaranteed. The emergency support will extend if you do not reduce the power.
 - Look for an alternative place to overcome the obstacle.



Max. Obstacle height:

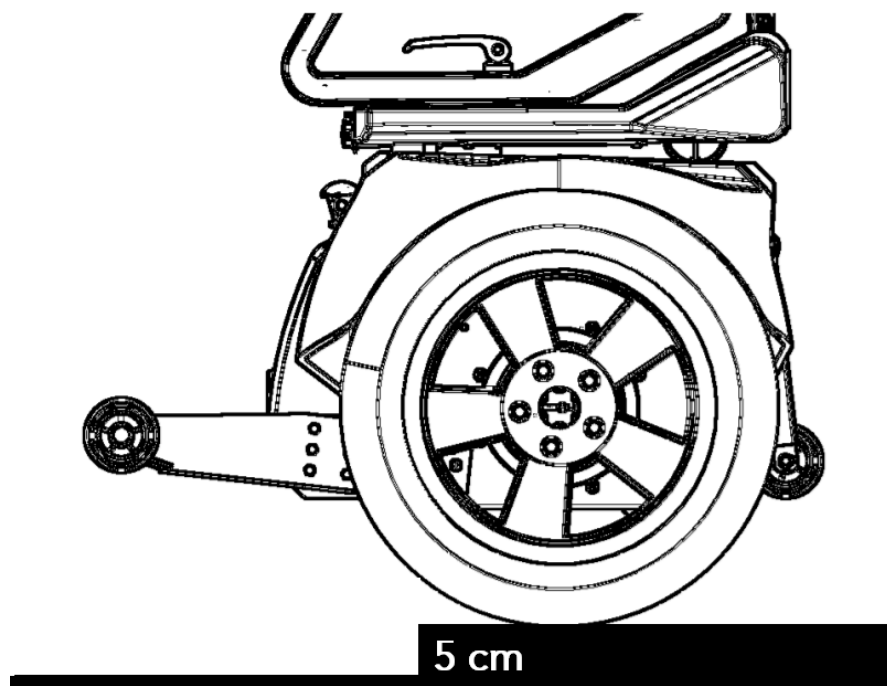


Driving off edges (curb)

- Always look for the place where the obstacle is the lowest. The maximum height of the obstacle must never exceed 5 cm.
- Drive straight towards the obstacle (at right angles to the obstacle).
- Slow down to well below walking speed.
- Drive slowly and steadily over the obstacle
- Never let an additional person push or pull you to overcome an obstacle! Due to the self-balancing system, the hoss behaves differently than four-wheeled vehicles when receiving outside assistance such as pushing or pulling. This can lead to a sudden deployment of the emergency stabilizers! Danger for user and helper!
- If you cannot drive over the obstacle, find an alternative route.
- Never drive over obstacles higher than 5cm.



Max. Obstacle height:



Driving against obstacles



- The hoss has very powerful motors. In order to maintain balance, the hoss must be able to change its tilt angle at any time.
- If the hoss stops at an obstacle, it can no longer change its inclination. In this situation, the motors will push against the obstacle with great force. There is a risk that you will squeeze your feet.

If you find yourself in such a situation:

- Move your upper body away from the obstacle.
- Do not try to push yourself away from the obstacle with your hand. This would move the center of gravity even further forward and make the situation worse.
- Steer away from the obstacle using the joystick. Lean away from the obstacle.

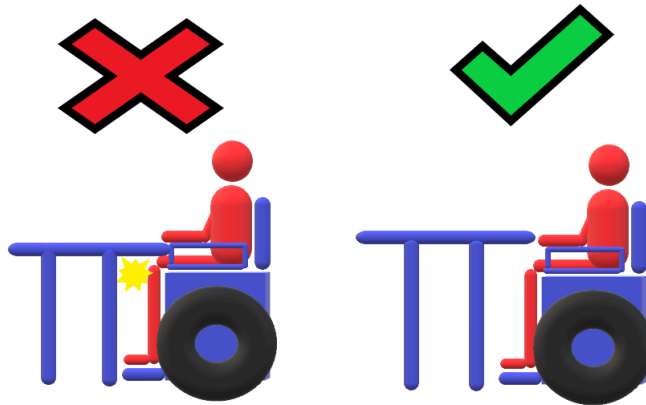


Driving to a table



Do not drive under objects such as tables. There is a risk that your hands or the joystick get caught between the hoss and the table.

Due to the dynamic balance the hoss needs to be able to tilt at any time. The hoss needs at least 5cm legroom upwards when reversing.



Use of public transport

In public transport such as buses and trains, strong acceleration can occur in curves or when braking. If the hoss is not parked and secured properly it might slide in any direction. Risk of serious injuries.

Therefore, only use public transportation that has sufficient space and equipment for wheelchairs.

- Always follow the instructions of the operator of the respective means of public transport.
- As soon as you have found a suitable place in the public transport, immediately extend the stabilizers (parking mode). However, do not switch off the hoss to guarantee a quick exit from the means of transport at the desired stop.
- Always park perpendicular to the direction of travel.
- The hoss has a mechanical brake which prevents the hoss from rolling away in parking mode.
- Do not activate the drive mode before the means of transport has come to a standstill. In this case, the sensors of the hoss may be irritated by the deceleration of the means of transport. Unwanted drive commands may occur.
- Accelerating force may influence the hoss sensors which can lead to an error shown on the display. Restart your hoss. You are running the risk of missing the station.

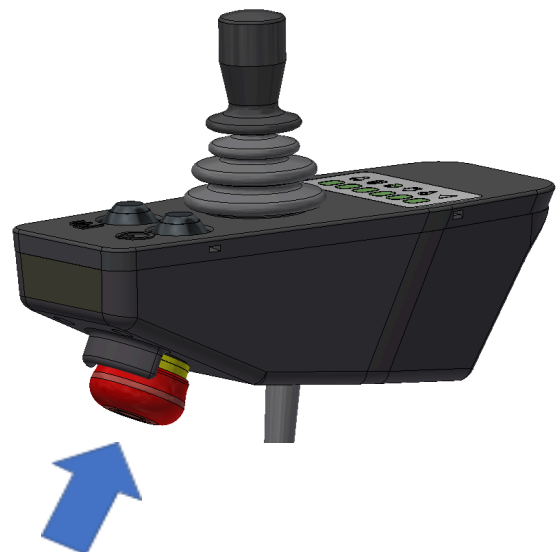


Emergency stop

There is an emergency stop button on the control panel. This deactivates the main drive and activates the emergency stabilizers. The emergency stop is not intended for daily use. The mechanics and the electronics are subjected to extreme loads. The system is designed for 500 emergency stop cycles. If this number is exceeded, the safety of the hoss can no longer be guaranteed. In this case, the hoss must be serviced urgently. An emergency stop counter is installed.

If for any reason you are no longer able to control the hoss (dangerous situation), immediately activate the emergency stop.

- Press the red emergency stop button firmly.
- The emergency stop button engages immediately.
- The stabilizers are extended within a fraction of a second.
- The main drive is deactivated.
- The mechanical brakes of the hoss are activated.
- The hoss brakes automatically to 0 km/h. The hoss comes to a safe, braked standstill.
-  Operate the emergency stop only in emergencies! The emergency stop puts a heavy load on the mechanics, which reduces the service life.
- The emergency stop can bring you to a safe standstill within approx. 2.5 meters on a level, dry road with good grip (asphalt) at 15 km/h and 120 kg payload.
- Make sure you test the emergency stop once a month. The test shall be performed at standstill with no driver if possible.
- Using the emergency stop is clearly an emergency response and does not qualify as intended use.



Restart after an emergency stop

After the emergency stop has been activated, the hoss must be restarted. It does not matter whether you triggered the emergency stop by pressing the red button or whether the emergency stop was triggered automatically by the vehicle.

After you have pressed the emergency stop, it is locked in position.



- Make sure that you are standing safely with the hoss and that there is no danger when you activate the hoss again. (Loss of traction, steep downhill slope, steep cross slope, sufficient safety distance, etc.).
- Pull the emergency button outward until you feel that it snaps in place.
- Switch off the hoss.
- Wait 3 seconds
- Switch the hoss back on.
- When the red gears on the display no longer show, the hoss can be activated and used normally again.

When the emergency stop is pressed, you cannot activate the hoss.



Loading

Lifting the hoss with a crane

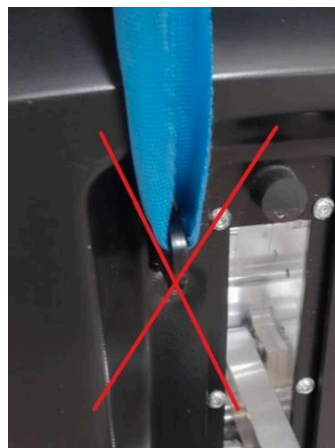
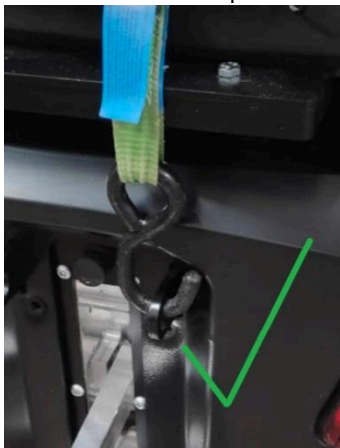


Make sure that the hoss is switched off before lifting it!

The hoss has 4 lashing eyes for lifting / lashing. 2 at the front and 2 at the back.



Lift the hoss exclusively by these eyelets. Lifting at other points, such as the armrests, is not permitted.



Do not pull the strap through the lashing eyelet. The strap may rub against the eyelet and wear through. Use straps with a hook.



Make sure that the hoss is not fastened to any attachment point before it is switched on! The hoss can not keep dynamic balance when tied down! Risk of injury!

Manual lifting



Make sure that the hoss is switched off before lifting it!

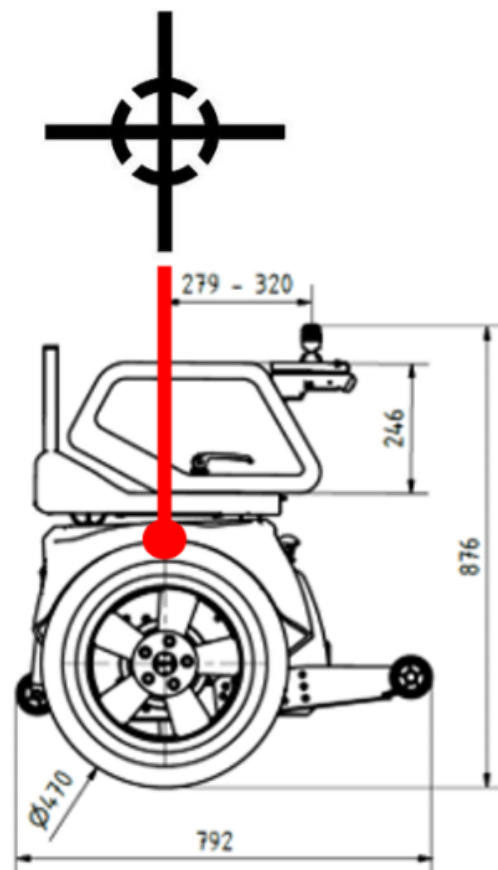
- Switch off the hoss.
- Check that the brakes are engaged. (wheels cannot be turned)
- Two strong people are needed to lift manually.
- Lift the hoss on the left and right side by the drive wheels.
- The drive wheels are braked when switched off and can therefore be used as lifting points.



110kg – 115kg



Manual lifting



Center of gravity of the hoss

Loading by ramp

The hoss has a dead weight of approx. 115 kg. It is therefore necessary to use sufficiently dimensioned ramps or lifting equipment for loading into a vehicle. Once the hoss has been loaded into the vehicle, it must be secured to the attachment points provided. The straps and the eyelets must be designed for at least 200daN (kg) maximum tensile load.

Load:

- Place the ramp against the vehicle and secure it from sliding away.
- Position the hoss backwards to the loading ramp.
- Activate the push mode
- Push the hoss over the ramp into the vehicle without steering movements.
- Activate the parking mode.
- Switch off the hoss.
- Tie down the hoss to the lashing eyelets provided.

Unload:

- Loosen all fasteners securing the hoss in the vehicle. (harnessing straps, etc.)
- Place the ramp against the vehicle and secure it against slipping away.
- Switch on the hoss.
- Activate the drive mode.
- Pull the hoss slowly down the ramp without steering movements.
- Activate the parking mode.
- Switch off the hoss before getting onto it.

- Always load the hoss backwards into your vehicle.
- When loading via a ramp, only use single ramps with a minimum width of 80cm. Do not use split ramps!
- The ramp must have a minimum load capacity of 150kg (without attendant) and 300kg with attendant.
- The ramp must have an appropriate length so that the slope is not too steep.
- Consult an expert before choosing a ramp.
- Ensure the hoss is secured before driving the vehicle.
- Never load or unload the hoss from a vehicle with a person sitting on it.
- Make sure that the hoss is switched off before fixing it to the lashing points!
- Before switching on the hoss, make sure that all attachment points have been removed! Failure to do so will result in a high risk of injury!
- For lifting devices, always switch off the hoss beforehand. The lifting device must have roll-off protection and have sufficient load capacity.
- If you are severely limited in your mobility, do not load the hoss on your own; if necessary, call for help.
- Follow the instructions of the loading aid manufacturer!
- The hoss must not be used as a seat in the vehicle!
- Only transport the hoss when it is switched off.
- Do not stand behind the hoss when loading. Stand to the side of the device.
- Leave 3m maneuvering distance in case your hoss rolls off the ramp.
- Always hold the hoss by the non-moving parts only.



Always use single ramps



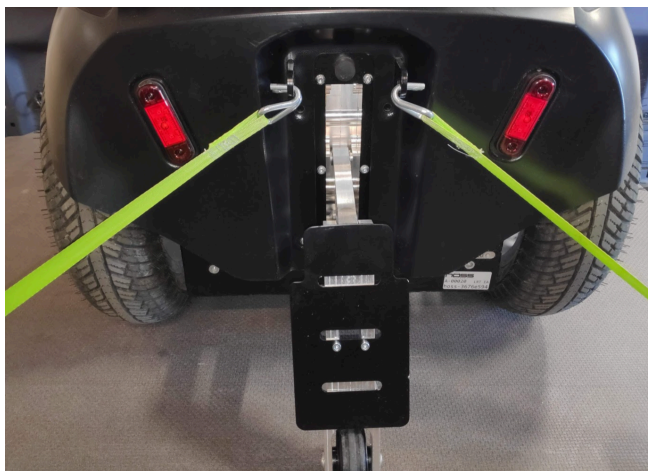
Always load the hoss backward into the vehicle

Harnessing the hoss

- The hoss has 4 strapping eyelets. Only attach the hoss to these eyelets.
- Never pass the lashing strap through the eyelets. The belt can be worn through by the vibrations when driving. Only use straps with hooks.
- Always fasten with 4 straps.
- The hoss must not be used as a seat in the car.



- Make sure that the hoss is switched off before securing it!
- Make sure that the hoss is not strapped down before you switch it on.
- Only use belts that comply with the EN 12195-2 standard.



Charging

A charger is supplied to charge the hoss.

Only use the chargers supplied by hoss Mobility GmbH. Tampering with the chargers in any way is not permitted. Tampering with the chargers may damage the charger or the hoss, voiding the warranty.

- Make sure the hoss is in park mode or turned off.
- The charge level indicator will flash and the light will turn off.
- When the hoss is fully charged, the hoss will turn off.
- If you mistakenly plug in the charger when the hoss is still in drive mode, the hoss will automatically enter park mode.
- When traveling abroad make sure that the voltage provided matches the voltage of the charger (230V)
- Do not leave the hoss plugged in for an extended period of time. For the life of the battery, it is better to fully charge the battery and recharge it for 10h every 3 months if not used for a long period of time.
- If the hoss has not been used for a long period of time, charge it for at least 10h first. Even if the battery indicator shows full, it is possible that the built-in lead batteries for the stabilizers are not fully charged. These always charge when the hoss is active.
- If the charger is connected while the hoss is still in balance mode, it will park automatically.



Battery

- Lithium ion accumulators and lead accumulators are installed in the hoss. All batteries in the hoss are fully sealed and maintenance free.
- The lithium accumulators have a life of approximately 8 years or 1000 full charge cycles (whichever comes first). The expected mileage of the hoss is therefore up to 60,000 km.
- No modifications may be made to the batteries.
- To replace the hoss batteries, contact your dealer or service partner. The batteries can only be replaced by trained personnel.
- Before not using the hoss for an extended period of time, be sure to charge it for at least 10h. Then remove the charger. After another 3 months, charge the hoss again for 10h.
- If the hoss is not used for an extended period of time, charge it for approx. 10h every 3 months. A continuous trickle charge is not necessary.
- If you return from a trip with an empty battery, connect the vehicle immediately to the charger to avoid deep discharge.

Power

The hoss is capable of delivering up to 1400 W of continuous power. The power can be significantly exceeded for short periods.

The needed power is strongly dependent on payload, tire pressure, inclination, temperature, speed, etc. When the power limit is reached, the hoss reduces its speed.

The battery temperature also influences the power capacity. The specified operating temperature for the hoss is 0°C - 45°C (temperature of the hoss, not ambient temperature). If the hoss comes close to its stated temperature limits the power is being reduced.

Range

Up to 60 km of range.

The range estimates are based on real tests with 100 kg payload on a flat road (asphalt - bike path) at 15°C ambient temperature and 2.5 bar tire pressure.

Maximum range varies depending on ambient temperature, load, incline, tire pressure, etc. Always check the battery level indicator to make sure you have enough battery capacity to reach your destination.

- If the battery has a charge level of less than 10%, the speed will be reduced to 10 km/h.
 - The last LED of the charge status display lights up red.
 - You can still count on 3 to 5 km of remaining range.
- If the battery has a charge level of less than 5%, the speed will be reduced to 5 km/h.
 - The last LED of the charge status display flashes red.
 - You can still count on 1 to 2 km of remaining range.



- When you have completely drained the battery, recharge it immediately. There is a risk of deep discharge (the charge level of the batteries falls below a safe range causing permanent damage to the batteries - this damage is not covered by the warranty).
- Attention! If the battery is down to 5%, find a safe place to park and charge the hoss as soon as possible. If you continue driving and the battery drops to 0% then the emergency stop will be activated automatically. It is absolutely necessary to avoid an empty battery in hazardous areas.
- If the battery has less than 5% charge, get out of any danger area immediately. Do not cross any more roads. There is a risk that you will come to a standstill in a hazardous area.
- If the charge level indicator lights up red, seek a charging facility immediately.
- Before each journey, ensure that you have sufficient battery capacity for the planned route.

Maintenance of the hoss

Before every ride:

Perform a visual inspection on the hoss before each trip. Check the following in the process:

- Are the two stabilizers clean and can move freely? There must be no objects blocking the stabilizers.
- Does the light function?
- Is the control panel firmly fixed on its holder?
- Are the armrests firmly fixed and locked?
- Is there sufficient battery capacity for the planned ride?
- Check if there are any anomalies on the hoss. Is there any damage? Are foreign objects blocking the wheels?

Every 2 months:

- Regularly check the correct tire pressure. This must be between 1.0 and 2.5 bar.
- Make sure that both tires have the same pressure. Unequal tire pressure leads to changed driving behavior! The hoss will no longer keep a straight lane.
- Test the emergency system. Put the hoss in balance mode. Do not sit on it. Hold it firmly on even ground and press the emergency button.

Drive wheel maintenance

- The drive wheels are fastened with 5 pieces of M8x30 hexagon screws each. These must be tightened with 20 Nm. Check the nuts every 6 months.
- The tire pressure significantly influences the range of the hoss.
- Only use tires with the dimension 120/70 - R12.
- Tire repairs may only be performed by qualified personnel.
- Be sure to use winter tires in winter conditions.

Maintenance armrests

- The wooden armrests are treated several times with an oil for outdoor use.
- The oiled coating dries out over time.
- Re-oil the armrests if necessary with commercially available, transparent wood oil for outdoor use. Suitable wood oils are available in hardware stores.
- Clean the armrests with a damp cloth.
- If necessary, you can sand down any unevenness that has occurred with fine sandpaper (K160 and finer).
- Oil the armrests according to the wood oil manufacturer's instructions.
- If you want to disinfect the backrest and or the seat cushion follow the instructions of the Jay back/seat cushion.
- A damp cloth is sufficient for cleaning the armrests. If you use soap suds, test the soap suds on one area first to see if the soap suds used will not corrode the surface of the armrest.

Service interval

The hoss has necessary and critical components installed for its proper function which must be serviced. The service interval depends on its use. The stabilizers are designed for 500 cycles in emergency operation and 10,000 cycles in normal operation.

- The stabilizers have their own battery separated from the main drivetrain battery. This lead acid battery must be replaced after 2 years from the date of purchase at the latest.
- The hoss must be serviced after 2 years at the latest.
- If the service intervals are not observed, the safety of the hoss can no longer be guaranteed.

Cleaning the hoss

The hoss has a protection class of IP54.

IP5X: Protected against dust in harmful quantities.

IPX4: Protected against splashing water on all sides (no high pressure)

- Use a damp cloth and standard household cleaners for cleaning.
- Contaminated areas can be cleaned with a damp cloth. Normal tap water is best for cleaning. A mild soapy water solution can also be used. Soapy water should be rinsed off with clean water immediately after cleaning.
- **Make sure that the hoss is switched off before you start cleaning.**
- **Do not use aggressive cleaning agents such as scouring agents, thinners or solvents such as: White spirit or turpentine.**
- **Do not use high pressure or steam cleaners to clean the hoss. Water could enter the housing and destroy the electronics.**



End of Life

If you no longer have any use for the hoss or the hoss has reached its end of life, contact your dealer.

The lifetime of the hoss is 8 years. After this time, the manufacturer will no longer be liable for the hoss.

Recycling

The hoss contains electronic components, lead batteries and lithium batteries which must be disposed of separately. Please contact us or your local recycling authority.



Storage

If you do not use the hoss for a longer period of time, please note the following points:

- Be sure to charge the batteries for 10 h before storing them for a longer period (longer than 3 months). Do not leave on the charger for prolonged periods of time.
- Charge the batteries every 3 months for at least 10 hours to avoid deep discharge.
- Always store the hoss in a dry and dust-free place.
- Store the hoss in a place protected from the elements at temperatures between -10°C and +60°C.

Contact

Headquarters:
Hoss Mobility GmbH
Sattlgai 74
A - 4391 Waldhausen
Tel.: +43 677 634 844 04
info@hoss-mobility.com

Dealers - Service Partners

For information about our dealers or service partners in your area, please visit our homepage:: www.hoss-mobility.com

Accessories



- Only use accessories that have been approved by hoss Mobility GmbH for use with the hoss.
- No liability or warranty is assumed for damage of any kind resulting from the incorrect use of accessories or accessories not approved by hoss Mobility GmbH or its dealers.
- Especially when using bags, pole holders or other accessories, make sure that no moving parts of the hoss are touched or blocked (stabilizers, drive wheels).
- Never pull a trailer

Error detection/troubleshooting

hoss cannot be switched on / off

- Check whether the emergency stop is unlocked.
- Check whether the batteries are charged.
- If the hoss still does not switch on, contact your dealer/service partner.

Driving mode cannot be activated:

- Check whether the emergency stop is unlocked.
- Make sure the joystick is in the 0 position when you turn the hoss on.
- Make sure you press the on/off button 2 times at the correct speed.
- Make sure you have not locked the hoss with the app. (This is indicated by the red lock on the display).

- If the drive mode still does not activate, contact your dealer/service partner.

Supports/Brakes shoot down when driving mode is activated

- If the hoss has not been used for a long period of time, the batteries of the supports may no longer have sufficient charge to raise the supports. The charge of the support batteries is not displayed on the control panel.
 - Charge the hoss for at least 2 hours.
 - Activate the hoss again.
- Make sure that no objects or body parts touch the moving parts of the hoss. (check especially the front and rear supports in this case).
- Make sure you are not on a slope or incline greater than 11%.
- If the drive mode still does not activate, contact your dealer/service partner.

The hoss pulls towards one direction

- Make sure that the joystick is in the 0 position when switching on the hoss.
- Make sure both tires have equal tire pressure.
- Check to see if any objects are blocking either drive wheel.
- If the hoss still pulls in one direction, contact your dealer/service agent.

Vibration signal goes off during the ride

- Make sure that the payload of the hoss does not exceed 120kg.
- Make sure that you only drive over obstacles larger than 2cm at walking speed.
- Make sure that you do not drive over obstacles larger than 3 cm.
- Make sure that you do not drive on slopes greater than 11%.
- If the previous 4 points are fulfilled and a vibration signal still occurs, contact your dealer/service partner.

Stabilizers do not work

- Make sure that no body parts or objects touch the moving parts of the hoss. (in this case, check the front and rear supports in particular).
- Make sure that the rear support does not hit an obstacle before it is more than half extended.
 - In this case, the support operation will be aborted for safety reasons. Find an alternative place to activate the parking mode.
- Make sure that you are not on a slope or incline greater than 11%.
- If the support/parking mode still cannot be activated, please follow the instructions as described in the section "Supports can no longer be extended". In this case, contact your dealer/service partner immediately.

The hoss reduces speed

when the batteries have a low state of charge or reach their power limit then the speed is reduced.

- Make sure that the max. load of 120kg is not exceeded.
- Make sure that your seating position is correctly adjusted.
- Make sure that the batteries are sufficiently charged.
- Make sure they are not on steeper slopes than 11%.
- If a red warning triangle shows up on the display the motors are reaching their power limit. Reduce speed immediately.

Braking distance is too long

- Make sure that your seating position is correctly adjusted.
- Make sure that you do not lean forward when braking.
- Make sure that you do not carry heavy objects on your lap.

Acceleration is too slow

- Make sure that your seating position is correctly adjusted.
- Make sure that you do not lean backwards when accelerating.
- Make sure that you do not carry any heavy objects on the back of the device (backpack).

The red error symbol lights up

- Make sure the joystick is in the 0 position when you turn on the hoss.
- Make sure that the hoss is stationary and not subject to vibration when you turn the hoss on.
- Make sure that the emergency stop button on the control panel is pulled forward and is not activated.

The red warning triangle lights up

- The warning triangle lights up when the hoss is in a critical situation. Example: power demand too high, temperature too low/high, etc. Reduce speed. Drive carefully.

Technical data

Payload: 40 kg - 120 kg

Dimensions with stabilizers deployed: 84x67x90 cm (L x W x H)

Loading height: approx. 68 cm (backrest folded down, without armrests)

Seat width: 40 - 46 cm

Seat height: 54.5 - 57.5 cm (without seat cushion)

Dead weight: 115 kg

Speed: max. 15 km/h

Gradient/descent: 11 % max.

Range: up to 60 km

Charger: 5A (290 W)

Charging time: approx. 7 h

Operating temperature: 0 °C - 45 °C (temperature battery)

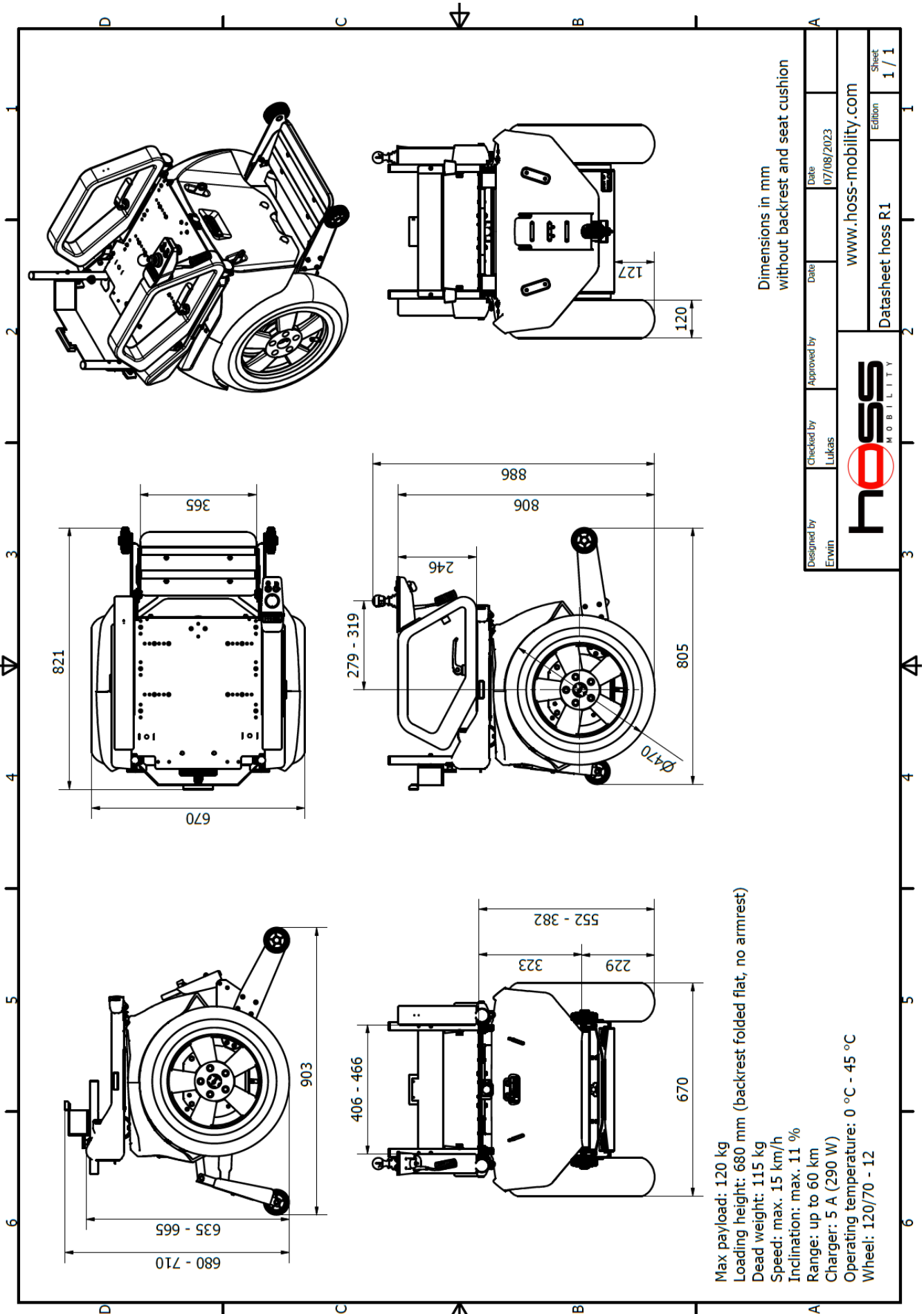
Protection class IP 54

The technical specifications cannot be changed.

Do not make any modifications to the circuit.

Modification of the hoss or its parts is not permitted.

Only original spare parts from the manufacturer may be used.



CE declaration

The product complies with the framework conditions of the guideline for personal Assistance Robot EN ISO 13482 and thus bears a CE marking.

Extinguishing agent

Flammable parts

- Outside the metal chassis:
 - Commercial motorcycle tires
 - Wooden armrests and footboard
 - ABS plastic trim
 - Foam seat cushion
 - Foam backrest
- Inside the metal chassis:
 - Lithium Ion batteries
 - Lead acid batteries
 - Electronic components
 - Plastic sheathing of conventional electronic cables

Extinguishing agent for fires that happen outside the metal chassis:

- A B C Extinguishing agent

Extinguishing agent for fires that happen inside the metal chassis:

- Only fire extinguishers suitable for this purpose and containing extinguishing agents with a high cooling effect may be used.
- Fire extinguishers containing water and, if necessary, extinguishing agent additives are particularly suitable.

- Other extinguishing agents, such as ABC or BC powder, metal fire powder or carbon dioxide (CO₂) are not suitable and must not be used!
- Due to the fact that batteries can reignite even after a longer period of time, they must be stored safely in a water basin or other suitable containers, e.g. average containers, after extinguishing.
- It must be ensured that in the event of development of smoke or release of gas, the room or the hazardous area must be vacated immediately.

Warranty policy

Without prejudice to the provisions regarding warranty in the general conditions applicable to the product, the following shall apply in any case with regard to warranties:

1. except where the following provisions state otherwise, Hoss Mobility s.r.o. warrants to the purchaser of the product its fitness for the purpose for which the product was intended - as described in this manual - and the quality of the material from which the product was manufactured and the manner in which the product was manufactured.

2. repair or replacement of parts of the Product necessary as a result of defects due to poor quality material or manufacturing defects shall be free of charge, provided that such defects have arisen within two (2) years from the date of delivery of the Product to the Customer. The parts to be replaced must be sent to Hoss Mobility GmbH or a qualified partner for this purpose.

3. repair or replacement of parts of the product not covered by the previous clause.

The following shall not be eligible for repair or replacement free of charge within the meaning of the previous main clause:

- the repair or replacement of parts necessary in connection with defects arising after two (2) years from the date of delivery of the Product to the Customer;
- the repair or replacement necessary in connection with defects caused by incorrect or improper use of the Product or caused by use of the Product for purposes other than its intended use, provided that if the Customer is a dealer, such dealer shall identify Hoss Mobility GmbH against any claims for damages by users or other third parties for defects caused by incorrect or improper use of the Product;
- parts subject to wear and tear, and when the need for repair or replacement of such parts is the actual result of normal wear and tear.

4. without prejudice to the provisions points, with regard to an electrical product, a warranty shall be granted in respect of the battery, which is part of the product, only in the event of malfunction or non-functioning of the battery, if this is proven to be the direct result of defects in materials or workmanship.

5. the warranties expressed in the above provisions shall lapse in any case if:

- Hoss Mobility GmbH's guidelines for maintenance of the product have not been followed or have been inadequately followed;
- a necessary repair or replacement of parts has been caused by neglect, damage or overloading of the product or use of the product for other than its intended purpose;
- parts of the product have been replaced with parts of a different origin than those used by Hoss Mobility GmbH or if parts of the product have been replaced without the consent of Hoss Mobility GmbH.

6. The warranties set out in provisions 1 to 3 shall also not apply if the product is reused by a new user within the warranty period and such reuse has required adjustments to the loss of any kind, and such adjustments have not been made by or on behalf of or at the instruction of Hoss Mobility GmbH.

7. In order to maintain the right to compensation under the above guarantees, the customer must contact Hoss Mobility GmbH as soon as possible in the event of damage or other incidents and inform you as fully as possible. In any case, the possibility of claiming the above guarantees shall cease to exist for the Customer after 30 working days from the date of the damage or incident that is the reason for claiming the guarantees. 7.

8. The warranty period is not extended by replacement of parts or repair or reconstruction of the product within a current warranty period.

9. Repairs or conversions of the product which have not been carried out by or on behalf of or on the instructions of Hoss Mobility GmbH shall be covered by Hoss Mobility GmbH.

Mobility GmbH does not provide any warranty. If repairs or conversions have been carried out by or on behalf of or at the instruction of a purchaser, the buyer Hoss Mobility GmbH from claims for damages from third parties, resulting in the broadest sense of the word from such repairs or conversions.

Liability provisions

Without prejudice to the provisions regarding liability in the general conditions applicable to the product, the following shall apply with regard to liability in any case:

1. subject to the following provisions, Hoss Mobility Ltd. shall only be liable for damage or injury resulting from a defect in the product for which Hoss Mobility Ltd. is responsible and for damage to another thing that is the private property of the user of the product, provided that the damage is the direct result of a defect in the product.

Hoss Mobility GmbH does not accept any other or further liability than the liability listed under 1. In particular, Hoss Mobility Ltd. shall not be liable for consequential damages in any form whatsoever.