

User Manual

LEVO Summit MA



Please read these User Instructions carefully before operating your wheelchair! Failure to follow these instructions can result in serious personal injury and/or damage to the wheelchair! This is a type-approved medical device. Alterations to the construction or electronics will void the warranty and the product liability.

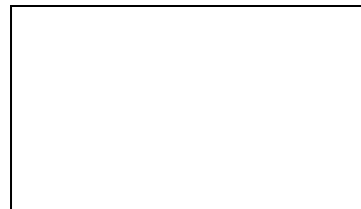
If you have questions or difficulties, please contact your dealer or:

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IMPORTANT!

Contact your dealer, distributor or LEVO AG if you have a visual impairment.

LEVO strongly recommends that wheelchair users

- a) fully acquaint themselves with the instructions for their device**
- b) always have access to 3rd-party assistance in case of emergency.**

LEVO AG

EU SRN: CH-MF-000008751

The EU Authorized Representative for the MDR (EU) 2017/745 is:
be-on-Market GmbH, Lilienstrasse 33, D-91244 Reichenschwand.

EU SRN: DE-AR-000006148

1. EU - Declaration of Conformity



EC Declaration of Conformity



As manufacturer of the **LEVO** range of stand-up wheelchairs, the company

LEVO AG

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CH-5610 Wohlen
Switzerland

EU SRN: CH-MF-000008751

CHRN: CHRN-MF-20001283

GLN: 7601007997305

declares under its sole responsibility that the Stand-up Wheelchair model

LEVO Summit MA

Basic UDI-DI (GMN) 07613045 74

Product Class I

MDR (EU) 2017/745, Annex VIII, Chapter III, Rule 1

conforms to all of the general provisions of MDR Medical Device Regulation (EU) 2017/745.

This Declaration of Conformity includes all accessories and options of the **LEVO Summit MA** and is according to Annex IV of Regulation (EU) 2017/745.

The **LEVO Summit MA** conforms to 2011/65/EU and is in final process to be tested according to EN 12183:2014.

The EU Authorized Representative for the MDR (EU) 2017/745 is:
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EU SRN: DE-AR-000006148

2023-12-20 - **LEVO AG**

Daniel T. Johnson
CEO

Heinz Bögli
COO

2. Product Identification – Product Label

A unique serial number plate is attached to the wheelchair rear axle for identification purposes.

The device is absolutely identified by the serial number and the extended barcode GS1-128.



The following is an example of the LEVO serial number plate or sticker:

Identification	Example	Bedeutung	Visuelle Hilfe
Type	Summit MA/S/40/48	Model Summit MA/S/40/48	
Serial No.	740004 2021-11	Serial No. 740004 Year and Month of Production 2021-11	
		Read the instruction manual carefully	
Color	schwarz	Frame black	
Max. user weight	125kg	Maximal Load 125 kg	
Max. save slope	11°	max. save slope, unmoved, direction downhill 11°	
Tyre pressure	6.0 bar	Recommended pressure of pneumatic tires min. 6.0 bar	

Please note that the chair identification is also shown on the warranty card. This card is delivered to your dealer and they should store it for you. Please ask for a copy and refer to your Serial Number for any communication when referring to your wheelchair.

3. Meaning of symbols



Read the instruction manual carefully before using your wheelchair.



Read these instructions carefully before using your wheelchair.

Failure to do so can result in serious injury and/or damage to the wheelchair.



Anchorage points for tie-down the wheelchair only for transportation.



Symbol of a wheelchair which is not used as a seat in a motor vehicle or to transport in a motor vehicle. Please contact your dealer or the distributor for further information and available equipment.



Symbol signalling a danger of trapping body parts during operation. Please take particular care of the areas between armrest and seat unit and around the pivots of the armrest and the standing mechanism when changing the seat position to avoid injury! This also applies to any other people around the wheelchair.



The wheelchair should not be lifted by the armrests.



This product is a Medical Device according to MDR (EU) 2017/745.



The wheelchair conforms to current EU medical device regulations, directives and legislation and carries the CE mark.

4. Warranty

Your **LEVO** product carries a warranty of two years on all material and manufacturing defects of mechanical parts.

Batteries are excluded from the warranty.

Any signs of improper use or lack of maintenance will void any warranty.

Any structural or technical changes on the chair are prohibited and will void all warranty or product liability claims.

Please notify your dealer and **LEVO** of any warranty claim or possible issues with your chair.

LEVO contact information can be found on the first page of this manual.

5. General Information for Stand-up Wheelchairs

Dear **LEVO** Client,

We would like to thank you for putting your trust in **LEVO** and our product.

The **LEVO Summit** standing wheelchair is a unique aid for use by those with the inability to stand and/or walk on their own. As well as performing all the functions of a lightweight wheelchair, the **LEVO** enables you to stand up on command.

Please read this manual carefully before using your **LEVO**. It contains important information necessary for the successful operation of your wheelchair.

It is possible that achieving the standing position may load the body in a way that it is perhaps not used to. Therefore, it is **necessary to consult with your doctor or physical therapist to confirm that there are no contraindications such as contractures, orthostatic hypotension, osteoporosis or other conditions present.**

In the case of strong or sudden spasms, cramps or similar conditions, it is necessary that the user is allowed to stand only under the supervision of an accompanying attendant or caregiver.

As a **LEVO** customer, you have the opportunity to make a valuable contribution with the on-going future development of our products. Your suggestions are always appreciated. This will insure that **LEVO** continues to offer the most functional products available and provides for the widest possible range of needs.

Sincerely,

LEVO AG

EU SRN: CH-MF-000008751

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be-on-Market GmbH, Lilienstrasse 33, D-91244 Reichenschwand,
EU SRN: DE-AR-000006148.

be-on-Market GmbH

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6. Benutzerprofil - LEVO Summit MA

You are often on the move and need a maneuverable compact wheelchair with an integrated manual standing function that provides you with optimal support in every situation at work or in your free time. The **LEVO Summit MA** is the ideal partner for people weighing up to 125 kg.

The **LEVO Summit MA** model combines all the good features of a manually driven wheelchair with the comfort of standing safely using muscle power and gas pressure spring support. The user-friendly stand-up mechanism, which is supplemented with gas pressure spring support for adults, brings you comfortably into various sitting angles and standing positions up to 86°, as desired.

The user must be able to operate the functions of the armrests or the handles with their hands and to support themselves slightly on the armrests to stand up or to pull themselves down to sit down.

The **LEVO Summit MA** model guarantees the greatest possible mobility.

Regarding visual and cognitive abilities, the doctor, therapist or specialist dealer must decide whether the LEVO Summit MA can be used for the user depending on his or her environment and in relation to personal safety. The following features characterize the **LEVO Summit MA**:

- Optimal biomechanics in all sitting and standing positions up to 86°
- Stepless standing up and staying in all positions
- Manual standing unit can be operated with the armrest
- Absolutely safe standing thanks to 6 contact points on the floor
- Medical and therapeutic benefits through regular standing
- Excellent driving characteristics indoors and outdoors
- Individual upper/lower leg length, foot position and back height
- Seat widths: 35 - 50 cm
- Seat depth: 35 - 55 cm
- Maximum user weight 125 kg

LEVO Summit MA standard scope of delivery

- Manual-manual wheelchair with manual standing function
- Seat and back upholstery with adjustable upholstery
- Armrest with integrated release lever for the standing function
- Foldable back
- Two frame colors and seven detail colors as standard selection
- One-piece footrest "Easy Transfer"
- Rear wheels with pneumatic tires in black
- Chest strap, clothing protector and knee holder including wedge

Get detailed advice from a specialist retailer or contact our regional representative or **LEVO AG**.



Please pay attention to this symbol as it indicates safety instructions or warnings to avoid injury to persons or damage to the product.

7. Important Safety Information before operating



LEVO Summit MA

The stand-up wheelchair **LEVO Summit MA** allows manual driving with a self-actuated, manual stand-up mechanism. The stand-up mechanism is operated by the user pushing down on 2 ratcheting hand bars. The seat moves to any position between completely seated, as with any ordinary wheelchair, and standing up to 86°.

Moving to a standing position may load the body in a way that the body is perhaps not used to. Therefore, before using a stand-up wheelchair, consult your doctor or physical therapist to make sure that no contraindications such as strong contractures or osteoporosis are present. Without a prescription by your doctor or physical therapist, there are risks of injury. All user and medical instructions must be strictly followed.

In the case of strong or sudden spasms, cramps or similar, the user should stand under the supervision of an accompanying person.

Regarding visual and cognitive skills, the physician, therapist or dealer must decide whether the **LEVO Summit MA** is suitable for the user in terms of physical condition, personal safety and on the intended environment and use.

Please take care to avoid trapping yourself or other persons in the mechanism during elevation or descent. Especially take care of the sections between the seat and the mainframe to avoid any kind of injury.

The **LEVO Summit MA** must be driven to level and solid ground before elevating the user to a standing position (Caution: risk of tipping over!).

The brakes of the **LEVO Summit MA** must be activated before elevating to a standing position (Caution: risk of tipping over!).

The standing function should not be operated without a person seated in the **LEVO Summit MA** (risk of accident!).

It is absolutely essential to mount the knee support and the chest strap correctly whenever using the wheelchair and before you use the stand-up function!



You should never go into standing without these safety restraints securely in place (risk of accident)!

The restraints must be worn over clothing to prevent any skin irritations. The **LEVO LAE** should not be lifted by the armrests. The armrests are designed for high, downward load, but not for upward, tensile loading.



Driving the wheelchair must always be in the completely seated position so that the load can be distributed to the frame. Otherwise there are risks of damage to the seating system.

Please avoid any abnormal and unforeseen loads like torques or shear forces. Additional load at the armrests or backrest, fixing for transport without the dedicated equipment etc. should be strictly avoided! The wheelchair could be damaged causing injury to the user or other persons.

For amendments and adjustments to the mechanism and for maintenance work, please contact your dealer.

For safety reasons, adjustments to the stand-up mechanism and functionally-related parts must only be performed by trained personnel.



All loads/lateral forces that are not necessary for the function, such as pushing out the armrests, securing for transport without the appropriate equipment, etc., must be strictly avoided. The wheelchair could be damaged and the person responsible or the user could suffer serious injuries from a fall, etc.

For changes and adjustments to the wheelchair mechanism and for maintenance work, please contact your specialist dealer.

For safety reasons, only trained specialists may manipulate the upright mechanism and the parts associated with it.

All sizes available as standard guarantee passage through escape routes that are marked as wheelchair-accessible, as wheelchair spaces or their connecting routes on public transport. Please note and inquire generally about escape routes.

Size-dependent adjustments are therefore strictly prohibited, as they can cause a considerable risk.

Owners or users of LEVO products that have acquired a second-hand LEVO product from a source other than a recognised retailer must contact LEVO and/or a LEVO representative to ensure correct fitting and to perform necessary safety checks. Adjustments to the mechanism must be performed only by trained personnel.

Please note that all product safety information can be obtained on our website, from your dealer and in the user manuals which will be available at your retailer. In case of product recalls you will be informed by your retailer, as the LEVO products are sold exclusively through retailers.

Please note that the life expectancy with normal, functional use and care is around 7 to 10 years. If the wheelchair is used not according to the instructions or not according to the intended use and is subject to extreme or difficult conditions, the life cycle may be shortened.

8. Initial commissioning

8.1. Check armrest function



- Make sure that the armrests lock into place in every position and cannot be moved.
- To do this, press the small front lever on the armrest and move it to the next locking position.
- Repeat the process on the opposite side of the armrest.



8.2. Folding down the backrest



Starting position

- Grasp the cord in with one hand and twist (not pull) to release the back locking pins.
- With the other hand, push the backrest forward.



Folded position

ACHTUNG:

- **Make sure the bolts are locked in place once you have released the cord.**



8.3. Rear wheel inspection

The **LEVO Summit MA** is equipped with quick release rear axles that allow the wheels to be removed and replaced for transport or storage needs.



- To attach or take off the rear wheels, press the release button in the center of the hub and pull the wheel away from the chair.

CAUTION:



- When remounting the wheel, push and pull it several times to ensure the quick-release axle has fully engaged.
- Never take off the wheels with the client in the wheelchair.

8.4. Brake inspection

The brakes on the rear wheels of the **Summit MA** secure the chair against unintended movement.



- Engage the brakes by pushing the upper lever forward. Disengage by pulling the upper lever back.
- The efficiency of the brakes is dependent on their position in relation to the wheel, and, the condition of the tire tread and pressure. The brakes should be checked regularly for proper operation.

CAUTION:



- The brakes must be locked when standing or anytime you are transferring into or out of the chair.
- Wet tires and/or rolling surfaces have a detrimental effect on locking efficiency.
- When modifying the forward/rearward location of the rear axle tube/wheel, it is always necessary to re-adjust the brakes for proper locking efficiency.

8.5. Standing stability inspection



The wheelchair can be brought into the standing position using the long rear operating lever on the armrests.

It is important to sit in the wheelchair when doing this and never to operate these levers when the chair is empty in order to avoid the risk of injury from the catapult-like movement.



Make sure that the footrests, front wheels and rear wheels are in contact with the ground after standing up.

Return the wheelchair to the sitting position by operating the gas spring release levers and pulling on the armrests.

CAUTION:



Once stability and the other points listed have been checked, the wheelchair may be used. Further checks and adjustments can be made at a later date.



9. Knee support and chest strap

Two very important safety features of a standing wheelchair are the knee support and the chest strap. It is essential to position yourself securely and comfortably before attempting to stand. Caution: Be mindful to carry out each step carefully before standing. If not done, the possibility of injury is greatly increased.

9.1. Knee support

The knee support secures the lower legs in place while the chair rises to the standing position.



- The right and left side are independently adjustable allowing proper tension as well as the location of the knee wedge in the center.
- A push lever on the pad releases the inserted serrated strap to add or relieve tension by increasing/decreasing the strap length.

CAUTION:



- **The location of the kneepad on the shin is important for safety and proper standing. Positioned with the client seated, its proper location is.**
 - **Vertical Location** – approximately 1 ½" from the top of the kneepad to bottom of the kneecap (patella). This is primarily a function of the vertical location of the footplate.
 - **Forward/Rearward Location** – with the client sitting upright and hips set fully toward the rear of the seat, there should be a "hand thickness" between the shin and the kneepad. This is primarily a function of the seat depth.
- **Only adjust the knee support when the client is in the seated position. Never attempt to do so when standing.**

9.2. Chest strap

The chest strap secures the upper body in place as the chair rises to the standing position. The straps wrap around the backrest tubes and are adjoined to one another with two adjustment rings (see picture). Weaving in and out of the rings, the straps can be lengthened or shortened adapting to different size clients. It is also possible to adjust the chest strap up or down to accommodate need. Always make certain the straps go around the backrest tubes and are weaved correctly through the rings.

The vertical location of the chest strap around the backrest can be adjusted accommodate to the strength and ability of the client. Generally, the greater the disability (i.e. higher spinal cord injury), the higher the chest strap should be accordingly located on the backrest



CAUTION:



- **Make sure to retract the end of the belt back toward the centre.**
- To release the chest strap, simply pull the buckle cover forward and away from the chest.
- To minimize irritation, avoid wearing it directly on the skin.

Only when both the knee support and chest strap are comfortably and correctly fitted, is the client prepared to safely stand up.



10. Safety Information for Standing

It is possible that achieving the standing position may load the body in a way that it is perhaps not used to. Therefore, it is necessary to consult with your doctor or physical therapist to confirm that there are no contraindications such as contractures, orthostatic hypotension, osteoporosis or other conditions present.

In the case of strong or sudden spasms, cramps or similar situations, it is necessary that the user is allowed to stand only under the supervision of an accompanying attendant or caregiver.

Regarding visual and cognitive capability the physician, therapist or dealer must decide whether the **LEVO Summit MA** can be used by the user depending on its environment and in terms of personal safety.

There are many moving components on the chair that interact and change positions as the chair cycles from sit to stand. Please take care to avoid any pinching or squeezing of the client or attendant.

To insure standing stability and avoid risk, the **LEVO Summit MA** must be located on flat and level surfaces with the brakes engaged. Be certain to check for objects which would prevent the legrests from reaching the ground simultaneously preventing solid contact.

Damage may occur if the standing system is operated without a person in the chair. The chair is engineered so that the client's weight acts as an assist to the gas struts as the chair goes into standing or returns to the seated position.

It is imperative that before attempting to stand, that the knee support and the chest strap are properly positioned to restrain the client and are secured to the wheelchair.

The restraints must be worn over clothing to prevent any skin irritations.



11. Aufstehmechanismus

11.1. The **LEVO Summit MA** is equipped with two-hand operation as standard. The two armrests to the left and right of the seat serve as armrests and are part of the stand-up mechanism.

11.2. There are two levers on both sides. The longer more in the rear (image 1) release the gas springs, which you can pull to easily push yourself up on the armrests toward standing.

11.3. The two shorter levers more in the front (image 2) can be used to adjust the armrests up or down to enable an ergonomic shoulder and arm position for standing up or sitting down, depending on the user's condition.

11.4. Operation toward Standing

To release the gas springs, pull the two rear, long release levers on the left and right armrests (Image 1).

Image 1



Image 2



11.4.1. Raising up

Lift yourself up as far as your arms can reach and release the rear release levers to re-lock the gas springs (Image 2).

This allows you to remain in any position between sitting and standing before you want to stand up or sit down again.

11.4.2. Adjusting the armrests - raising or lowering

11.4.3. Pull both front release levers and lift the armrests. Release the front release levers and continue to lift the armrests until they click securely into place (see illustrations below).

Image 3



11.4.4. Raise up in to complete standing position

Repeat points 11.4.1 - 11.4.2 until you are in a stretched standing position. The leg supports should be on the floor.



11.5. Take a sitting position

To get into the sitting position, operate the gas spring release as you would when standing up, but instead of pushing up, pull yourself down on the armrests.

11.5.1. Sit down

To unlock the gas springs again, press the long rear release levers and at the same time pull yourself down on the armrests.

11.5.2. Lowering the armrests

Pressing the front, short release levers (see Figure 11.1.2) to lower the armrests to a position that is suitable for you. Release the front, short release lever and move the armrest slightly up or down until it clicks securely into place again.

11.5.3. Lowering to completely seating position

Repeat 11.5.1. and 11.5.2. until you are fully back in the sitting position.

Attention: Lower yourself slowly into the lowest sitting position! Danger of tipping over!



Never operate the standing mechanism without your full weight in the chair.

11.6. Gas Springs



The gas pressure springs are set to keep your weight approximately at the floating point. With the help of minimal arm force support, i.e. by gently pushing off the armrests, you can stand up or sit down again effortlessly by gently pulling on the armrests. There are different spring strengths to suit different body weight classes.

**The gas pressure springs may only be replaced by trained specialists!
Please contact your specialist dealer for more information!**

Attention: The cables that lead from the armrests to the gas pressure springs must not be bent/twisted, as this can accidentally trigger the upright mechanism (Caution, risk of accident!).



12. Correct seated and standing positions

Correct seated and standing positions must be evaluated by your LEVO dealer and the chair should be adjusted for the proper fit. If you should feel uncomfortable in any position, please do not hesitate to contact your LEVO dealer.

Seat depth: correct



Knee support attachment
Screw even with centre of
knee

Seat depth: too long



Knee support attachment
screw beyond centre of
knee

Seat depth: too short



Knee support attachment
screw behind centre of knee



Ankle/knee/hip-joint
straight



Knee joint overstretched



Incomplete stretching of the
knee

Correct seating position



Seat cushion too high

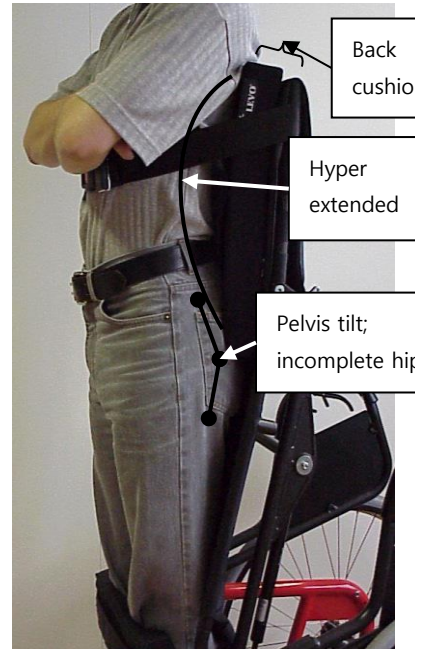
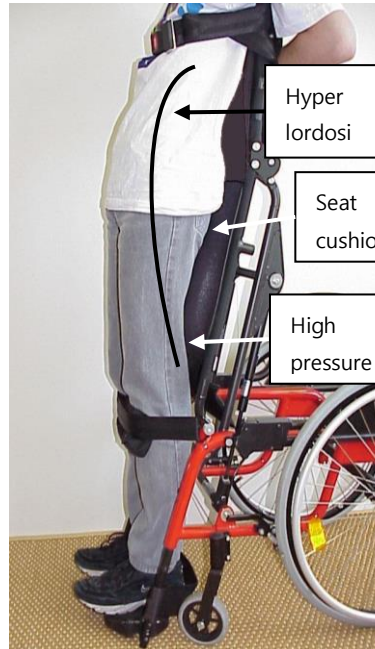


Cushion for pressure relief
in seated position

Back adjustment too low



Backrest cushion or solid
back for more comfort or
stability



13. Seating adjustments

All **LEVO** wheelchairs are tailored to the specific anatomical dimensions of the client. The completed order form dictates how the chair is to be built. The chair is delivered with those pre-sets. In addition, many features can be further customized as the chair is fitted to the client. These features include seat angle, back angle, seat depth and should be made only by your authorized **LEVO** dealer.

Please note that anytime there are adjustments made to the wheelchair, a change of balance may take place and the risk of tipping must be assessed. Incorrect adjustments can lead to injuries. Also, structural frame alterations of any sort, and, exceeding the weight limit of the chair are strictly prohibited.

Contacting your LEVO dealer regarding any adjustments is necessary.



13.1. Front castor angle adjustment



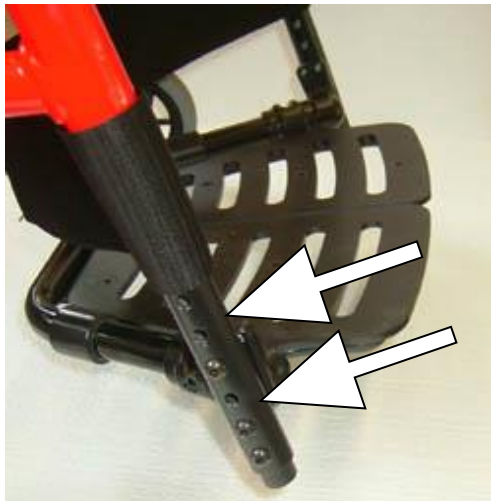
For straight tracking and steady front castor performance, it is best to have the front castor at 90° to the rolling surface.

- Using a square or angle measuring device, check the angle of the frame front to the rolling surface. Determine in which direction it needs to be adjusted.
- To adjust, loosen the set screws on the opposing sides (front and back). Adjust the angle by turning the one of the set screws (in or out) until a 90° angle to the floor is achieved.
- Tighten the set screw on the opposite side.
- Confirm both set screws are secure.
- Repeat on the opposite side of the chair.



13.2. Footrest adjustment

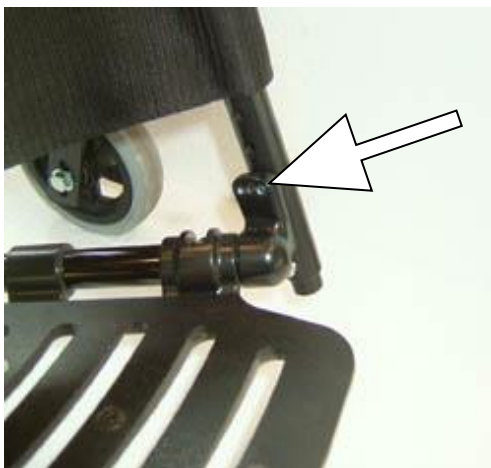
The height of the footrest is important for proper positioning both seated and standing. The footrest is set according to the lower leg length of the client and will come pre-set from the factory as specified on the order form. However, if necessary it can be adjusted.



There is a choice of different heights for mounting the footrest.

- Loosen and remove the four button head screws (using a 4 mm hex key) on the outside of the footrest tubes securing the footplate mount. Move the footplate mount to the desired locations. Replace and retighten the four button head screws.

If you use the easy-transfer footplate, you can achieve a wider adjustability by turning the footplate upside down.



There are three possible footrest angles. The standard angle is 90°. Depending on the used footplate you can change the angle by 10° to 12° forward or backwards.

- To adjust, loosen and remove the top two button head screws (using a 4 mm hex key) on the outside of the footrest tubes securing the footplate mount. Loosen the lower screws. Move the footplate to the desired angle. Replace and retighten the top two button head screws and retighten the lower.

The footrest angle is set standard at 10° to the floor. However, with the footplate in the lowest position, an angle of 0° (parallel to the rolling surface) is the only usable setting. Otherwise, the footplate will touch the floor before the legrests as the chair moves to the standing position. This reduces the standing stability.

With the second lowest setting, there are two usable positions - 0° and 10°. In any higher footplate settings, all three angle variations are possible.

For all higher footrest settings there are all three angle variations possible.

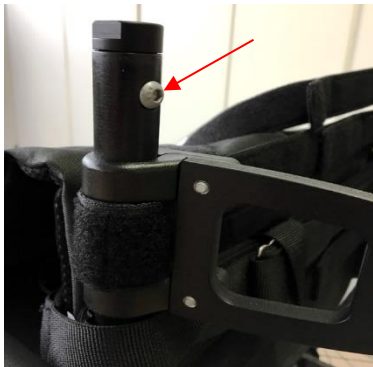
CAUTION:

- **After adjusting the footplate, always check the standing stability to avoid tipping.**



13.3. Backrest height

The backrest height is easily adjustable. To do so, modify both the right and left backrest tubes.



- Begin by removing the backrest upholstery and the uppermost tension adjustable hook and loop strap.
- Remove the button head screw on the backrest tube and adjust the plug to the desired setting. Replace and tighten the button head screw.

13.4. Adjusting the brakes

The wheelchair should be unoccupied when adjusting the brakes. Secure the wheelchair in such a way as to prevent it moving when the brakes are disengaged.



- Disengage the brakes.
- Unscrew the two mounting screws on the brake mounting plate and move the assembly forward.
- Push the brake handle forward to the engaged position.
- Slide the assembly rearward until the contact arm is approximate 10-15 mm ($\frac{1}{4}$ ") from the tire.
- Retighten the brake mounting screws.
- Repeat as necessary until desired brake to wheel tension is achieved.



13.5. Calf / heel strap



The purpose of the calf/heel strap is to prevent the legs and feet from sliding backward. It can be positioned behind the heels or any higher position desired. Also, by using the hook and loop fastening system on the strap, it is possible to create more or less tension which can influence knee/leg extension and effect proper fit. For further instruction, please consult your **LEVO** dealer.

13.6. Backrest and Seat Upholstery



The tension of the Backrest upholstery can be changed using the internal adjustable Velcro straps. They can be tightened (for a more upright posture) or relaxed (for more contoured support).

The seat upholstery is also tension adjustable. In addition, running crosswise in the seat are slots which accommodate fiberglass reinforce strips.

These strips can be used in chosen areas to reduce the sling effect.

Depending on the height of the cushioning, it may be necessary to loosen the upholstery to be able to lower the cushioning down between the two seat supports.

When growing seat depth, it is usually necessary to add one or two Velcro straps on the rear of the upper seat rail (see figure).

13.7. Seat cushion

A wide variety of seat cushions can be used on the **Summit**. Generally, the Velcro on the top of the seat upholstery should allow you to attach to the Velcro on the bottom of the majority of seat cushions available. The Velcro fasteners keep the cushion positioned correctly both seated and standing. Please remember that the thickness of the seat cushion will have an effect on the set to footplate length and standing positioning as well. Please consult your **LEVO** dealer with any additional questions.



14. Components

14.1. Rear wheels

LEVO standing wheelchairs are equipped with pneumatic tires or airless tires. Ask your dealer for information regarding custom wheels/tires or adjustments that may be made.

For pneumatic tires, check the tire pressure regularly. The optimal is 85–145PSI/6–10bar/600–1000 KPa.

14.1.1. Quick-release axle

The **LEVO Summit EL** is equipped with quick release rear axles that allow the wheels to be removed and replaced for transport or storage needs.



- To attach or take off the rear wheels, press the release button in the center of the hub and pull the wheel away from the chair.

CAUTION:



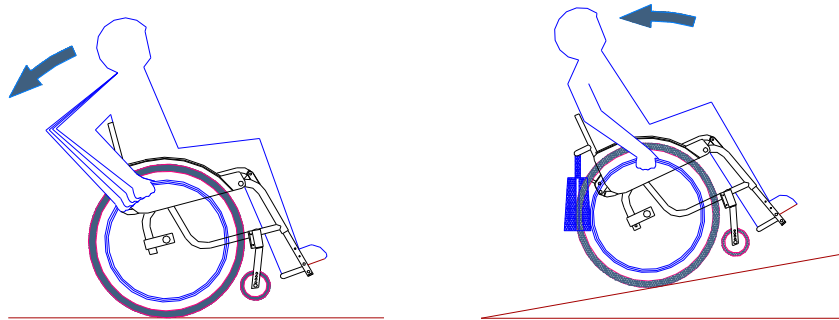
- When remounting the wheel, push and pull it several times to ensure the quick-release axle has fully engaged.
- Never take off the wheels with the client in the chair.

15. General Information on the Use of a Wheelchair



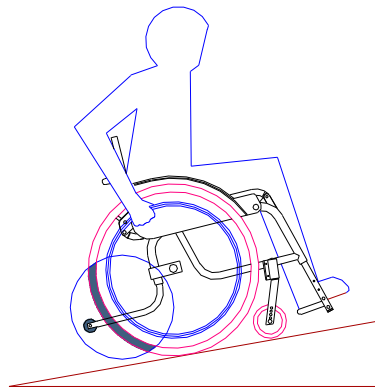
15.1. Driving the wheel chair: How to avoid tipping over

Please note that when starting pushing the wheel chair, the front wheels are going to lose traction due to acceleration. Depending on weight distribution this may cause the wheels to lift off the ground and the wheel chair to tip over backwards.



The situation mentioned above intensifies when using different rear wheel positions to achieve greater seat inclination, by too-vigorously engaging the drive wheel in the forwards direction or by using a cushion for elevated seating.

Please note that the weight of personal belongings (e.g. bags) can have a major effect on the centre of gravity of your wheel chair which may lead to increased instability.

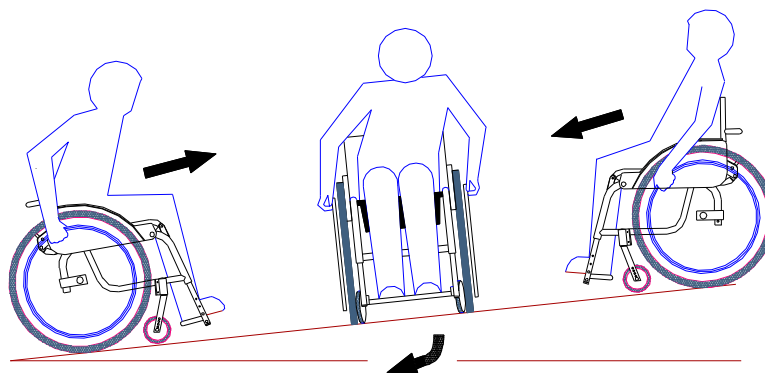


For more security while driving the installation of an anti-tip mechanism is strongly advised.



15.2. Gradients

Bear in mind that, when turning around on a steep hill, you will pass through a crosswise position first before the turn is completed. Whilst in the crosswise position, there is a risk of slipping sideways down the hill. Both you and any assisting person should be aware of this risk and counter steer accordingly.



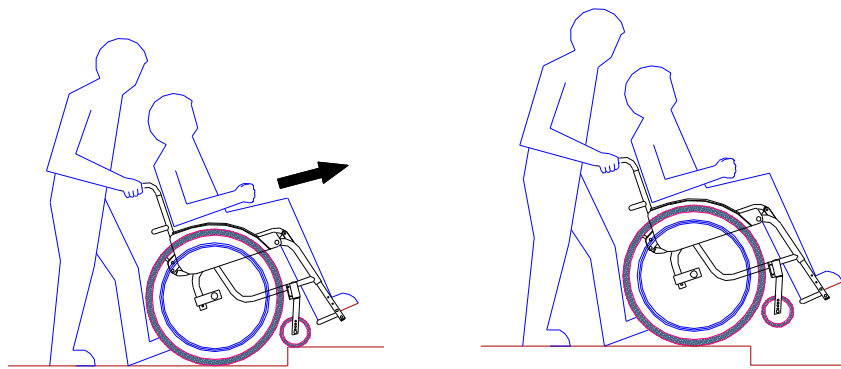
As a safety precaution, always ask a person to accompany you when manoeuvring down a slope. Bear in mind that slowing the wheelchair using the hand rims generates a great deal of heat between hands and the hand rim itself and can lead to burns on the palms of the hands. Therefore proceed cautiously when braking manually and, most importantly, when travelling downhill, never go faster than walking pace. Leaning backward improves stability and increases rear wheel downforce, thus also improving braking efficiency.

15.3. Climbing obstacles

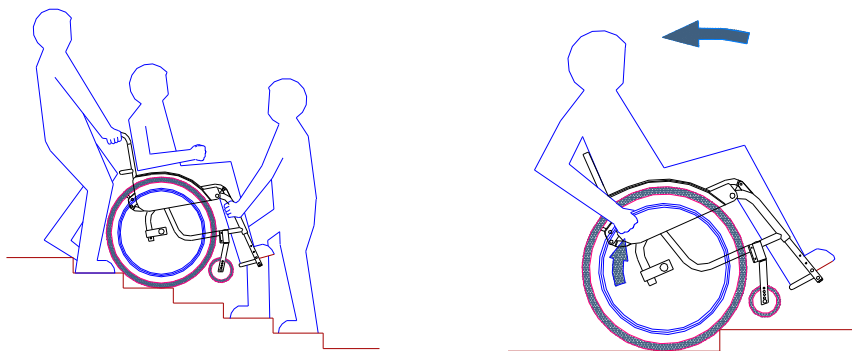
Any obstacle, such as a curb or threshold, should be viewed as a potential source of danger. This is due, in part, to the very short wheelbase of the wheelchair. To climb an obstacle, ask an accompanying person for assistance.

Should you wish to negotiate such an obstacle with the help of an accompanying person they should not attempt to lift the wheelchair completely. It is important that they make sure that the rear wheels stay in contact with the floor all the time.

To overcome an obstacle (e.g. driving over a curb), first tilt the wheelchair just enough to lift the front wheels. Slowly lower the front wheels onto the obstacle and then push the wheel chair on until the large wheels are resting against the edge of the obstacle. Finally move the chair onto or over the obstacle.



To descend a major obstacle (e.g. to go down stairs), always use an assistant! The assistant should first tilt the wheelchair until the front wheels are off ground slightly, then move the chair forwards slowly.



Should you have to be carried over certain obstacles, please make sure to request the assistance of at least two persons. It is of great importance to inform the assistants that the wheelchair should be lifted by the solid parts only.

CAUTION:



- **Disregarding those instructions is a risk of major accidents and injuries!**

Keep in mind that handling any sort of obstacles on your own can be very demanding. You should be aware of the tendency of the wheelchair to tip over backwards when attempting to overcome an obstacle. Do not hesitate to ask for help at any time.



CAUTION!

Do not attempt to use the wheelchair on an escalator!

15.4. 8 Activating the Brakes

When using the wheelchair in situations where increased stability is particularly important, the brakes must be activated. This is especially important when standing up, transferring into your wheelchair or when you want to transfer yourself from the wheelchair into another seat. For safety reasons, it is particularly important to note that even though the wheelchair may be locked securely it can still slip away sideways.

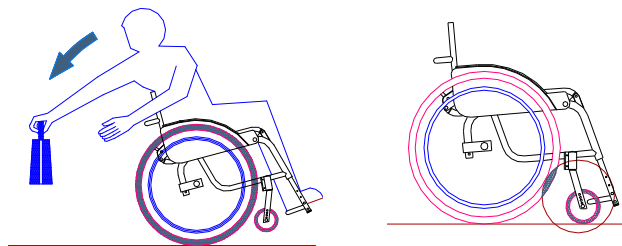
Keep in mind that insufficient tyre pressure or heavily worn out tyre treads have a detrimental effect on braking efficiency.

After driving through a puddle keep in mind that wet tyres reduce braking efficiency.



15.5. Picking up objects

Always remember that picking up objects will alter the centre of gravity which will affect the stability of the chair. This can cause the wheelchair to tip over, either backwards (see figure on the left), sideways or forwards. In the latter case, enlarge the wheelbase by positioning the front wheels in the same way they are positioned when driving backwards. It is also advisable to draw as near as possible to the object before attempting to pick it up.



15.6. Transfer sideways

- Drive as close as possible to the object you wish to transfer to.
- Put on the brakes
- Flip up the footrest of the wheelchair and put your feet on the ground.
- Transfer yourself in your usual way out of the wheelchair or have yourself transferred out of the wheelchair.
- Lateral transfer is only in the complete sitting position of the wheelchair allowed.

15.7. Detachable components

Please note your wheelchair is designed to detach components to guarantee the lowest possible packing volume and weight. The detachable components are listed as follows:

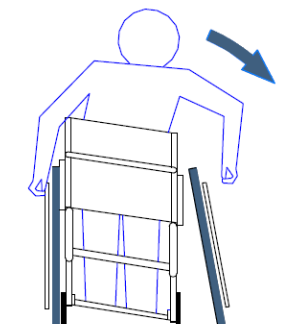
Detachable components	Weight reduction
2 main drive wheels	2x ca. 1.7 kg
1 footrest	1x ca. 1.2 kg

Please take care not to trap any clothing or parts of the body in the joints of the wheelchair as you are folding the backrest.

You should only occupy the wheelchair once it has been fully reassembled with all detachable components securely fixed in place.

Always make sure that the rear wheels have been securely fixed and cannot get loose while the wheelchair is moving.

Make sure the wheelchair is lifted by gripping the main frame only.



CAUTION:

- Do not lift the chair by gripping the armrests, the backrest or the seating tubes as this might lead to major damage.

16. Transport

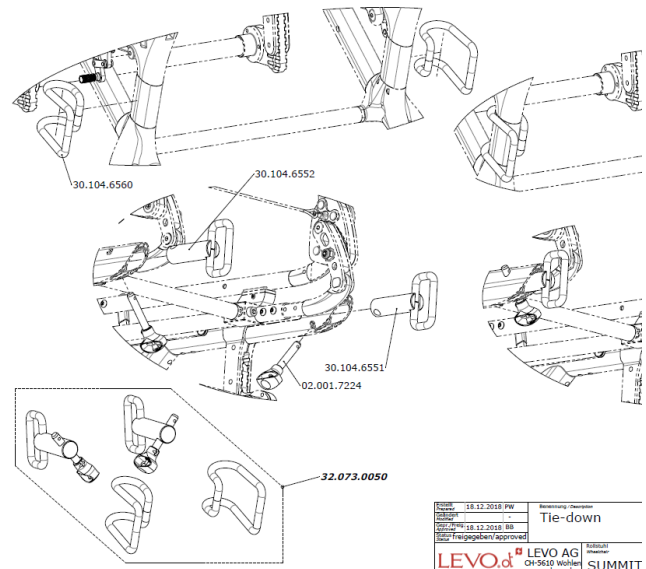


16.1. Transport in a motor vehicle - wheelchair only

To transport only the wheelchair in a motor vehicle, make sure it is equipped with the additional Levo transportation kit and approved restraint systems placed at the hook-marked sections to prevent sliding or tipping over.

CAUTION:

When transporting the wheelchair in a motor vehicle, be sure nothing could release the stand-up mechanism at the armrests.



Version	18.12.2018 PW	Revisierung	Übersicht
Teilenummer	-	Bezeichnung	Tie-down
Gezeichnet	18.12.2018 BB	Geprüft	
Freigegeben/Approved		Freigegeben/Approved	
LEVO AG	LEVO AG	Ort/5610 Wohlen	Summit
www.levo.ch	www.levo.ch		

16.2. Transport of a user in a motor vehicle



Levo models have been crash tested according to ISO 7176-19:2008.

Due to the additional ISO 17025 requirement to accept Test Reports only of accredited Test Laboratories, the **Levo models** are currently not officially approved/intended as a seat in a motor vehicle.

LEVO recommends that the wheelchair User is transferred and transported in a vehicle seat to be secured by three-point seatbelt.

Please contact LEVO AG office@levo.ch +41 56 618 44 11 for further information.

16.3. Public transport of the wheelchair - wheelchair only

The **LEVO Summit MA** can be transported in every kind of public transportation without any restrictions. For airplanes there are Instructions which have to be followed.

16.3.1. Transport of the wheelchair in an airplane - wheelchair only



According to IATA Regulation 2.3.2.4 the wheelchair can be transported as checked baggage without restrictions in an airplane.

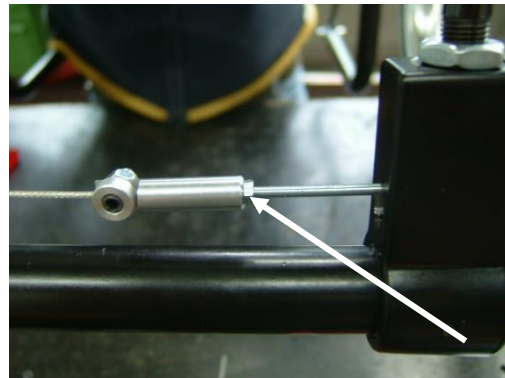
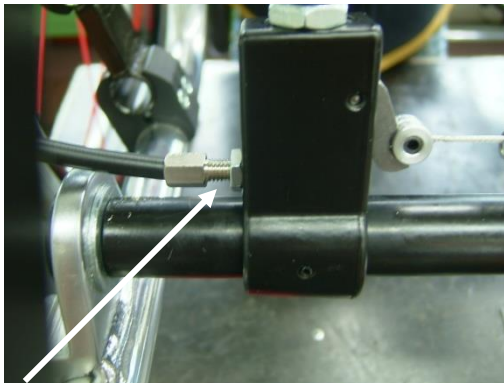
Please contact the airline well in advance to find out about the process at the airport in question before booking.

17. Maintenance and Functional check

To keep the **LEVO Summit MA** running perfectly and to ensure personal safety and proper operation, please ensure your wheelchair is being serviced by your local **LEVO** dealer at least once a year and observe the following rules:

- **In general** please keep the wheelchair clean, never store it when damp.
- Check the tire pressure **every week**. If necessary, pump the tires up to 6.0 bar as standard or max. 7.5 bar.
- Check the condition of the main and front wheels **every 2–3 months**. If a tire is heavily or unevenly worn, it should be replaced immediately.
- Check **every week** that the brakes still work reliably. Having applied the brakes, the wheels should stop turning completely. If the brakes are ineffective, they should be tightened and checked by your dealer.
- During the **first month of use**, check the cable tension on the gas spring-release **once a week**. The cable tension should be re-adjusted by your **LEVO** dealer if needed or depending on how often you use the stand-up function.
- Check **weekly** that the gas springs lock and release correctly when you press the release lever.

If the gas springs release is **slow/inactive**, have them adjusted by a qualified technician. The technician will loosen the counter nut and turn the adjustment screw one turn to the left = anti-clockwise (picture below on the left).



If the gas springs are **not locking properly**, have them adjusted by a qualified technician. The technician will have to loosen the counter nut and turn the adjustment screw one turn to the right = clockwise (picture above right).

Contact your dealer immediately if any malfunctions are discovered before continuing to use the wheelchair.

Please advise your LEVO dealer to adjust the cable tension!



17.1. Functional check

Please make sure that the wheelchair is being maintained at least once a year by your **LEVO** dealer to assure and to guarantee the safe functioning of the chair.

The **LEVO Summit MA** is delivered already greased. Additional greasing should only be carried out professionally by your dealer.

For your chair the dealer should provide a service card in which all details of necessary maintaining or repairs are noted.

The following general functional check should be made before and after maintenance:

- Function of the gas spring and armrest release
- Function of both gas springs.
- Braking effect when driving uphill (Inclination: 8 degree)
- Braking effect when driving downhill (Inclination: 11 degree)
- Check all screws are securely fastened

18. Cleaning

- In case of soiling the wheelchair can be cleaned with a moist cloth. Wipe it dry well afterwards.
- For stubborn dirt, ideally use a cloth with a mild cleaning agent and warm water to wipe.
- Never use furniture polish, pure spirit, abrasive cleaners or a high-pressure cleaner.
- If the textile seat cushion cover, as well as the cover of the back shell and headrest, are dirty, they can be removed for washing. Please wash the covers at a maximum of 40 degrees Celsius.
- We recommend one of the following products for cleaning or disinfecting wheelchairs:
 - Hartman Bacillol 30 Moisture Wipes & Foam Spray
 - Aseptix disinfectant wipes (Stermix)
 - Ecolab Oxy disinfectant wipes & Incidin OxyFoam foam spray or an equivalent product that has proven effectiveness to combat bacteria/mold/viruses.
- Follow the disinfectant instruction
- Disinfection by professionals or trained staff

19. Storage

19.1. Storage in general

The **LEVO LAE** is equipped with a folding backrest which allows you to reduce significantly space required to store.



- Grasp the cord in with one hand and twist (not pull) to release the back locking pins.
- With the other hand, push the backrest forward.



19.2. Storage for more than 4 months

The **LEVO Summit MA** is essentially maintenance-free, and the user must only pay attention to keeping it clean. If the wheelchair is stored for more than 4 months or exceeds the recommended maintenance cycle deadlines, it must be checked in accordance with the Maintenance and Functional checking instructions in section 6 before use. Please note that the temperature range for storage is - 40°C to + 65°C. The wheelchair must be allowed to return to room temperature before use so that the gas springs function correctly.

20. Disposal

- At the end of its service life the wheelchair should be returned to your **LEVO** dealer for proper disposal.
- Used batteries should also be returned to your **LEVO** dealer or to the place where they were purchased.

21. Technical Information

	Min.	Max.
Overall Length (with footplate)	35.5" / 900 mm	39.5" / 1005 mm
Overall Width	22" / 560 mm	28" / 710 mm
Folded Length (without wheels)	31.5" / 800 mm	36.5" / 930 mm
Folded Width (without wheels)	19" / 480 mm	25" / 630 mm
Folded Height (without wheels)	19.25" / 490 mm	21.25" / 540 mm
Total chair weight	47 lbs. / 21.0 kg	57 lbs. / 26 kg
Weight of the heaviest part	37.5 lbs. / 17 kg	46 lbs. / 21 kg
Static stability downhill, sitting position	-	approx. 11°
Static stability uphill, sitting position	-	approx. 14°
Static stability sideways, sitting position	-	approx. 13°
Brake effectiveness uphill	-	approx. 10°
Brake effectiveness downhill	-	approx. 7.5°
Seat plane angle	3°	approx. 8°
Effective seat depth	13.75" / 350 mm	21.75" / 550 mm
Effective seat width	13.75" / 350 mm	19.75" / 500 mm
Seat surface height at front edge	19" / 480 mm	21.25" / 540 mm
Backrest angle	-7.5°	14°
Backrest height	12.5" / 320 mm	19.75" / 500 mm
Footrest to seat distance	16.5" / 420 mm	19.75" / 500 mm
Leg to seat surface angle	80°	100°
Armrest to seat distance	9.5" / 240 mm	
Main wheel diameter	22" / 560 mm	26" / 660 mm
Hand rim diameter	18.5" / 470 mm	22.5" / 570 mm
Minimum turning circle	39.5" / 1000 mm	47.25" / 1200 mm
Tire pressure	87 PSI / 600 kPa	145 PSI / 1000 kPa
Temperature for use	+41°F / +5°C	+104°F / +40°

Temperature for long term storage	+41°F / +5°C	+122°F / +30°C
Available wheel dimension: D22x1", D24x1", D26x1"		

The wheelchair conforms to the following standards:

- | | |
|--|---|
| a) requirements and test methods for static, impact and fatigue strengths (ISO 7176-8) | Yes <input checked="" type="checkbox"/> |
| b) climatic test accordance with ISO 7176-9 | Yes <input checked="" type="checkbox"/> |
| c) requirements for resistance to ignition in accordance with ISO 7176-16 | Yes <input checked="" type="checkbox"/> |



22. Trouble shooting

22.1. General operation

	Fault	Rectification
	<ul style="list-style-type: none"> Wheelchair doesn't run in a straight line or doesn't stand properly on the ground 	<ul style="list-style-type: none"> Pump up or repair the tyres. See Technical Data and Tyre repair. Have a technician check and if need be adjust the rear wheel axle mounting, front fork mounting etc.
	<ul style="list-style-type: none"> Discomfort in seated or standing position 	<ul style="list-style-type: none"> Have a technician check and if need be adjust the rear wheel axle mounting, front fork mounting, etc.
	<ul style="list-style-type: none"> Leg supports don't rest on the ground in the uppermost standing position 	<ul style="list-style-type: none"> Caution: There is no safety of stability in standing position! Levo dealer must check and adjust the rear wheel axle mounting, front fork and leg supports.
	<ul style="list-style-type: none"> Wheelchair tips over backwards too easily 	<ul style="list-style-type: none"> Have a technician check and if need be adjust the rear wheel axle mounting, front fork mounting, etc. Attach anti-tip rollers (see accessories)
	<ul style="list-style-type: none"> Brakes don't brake effectively 	<ul style="list-style-type: none"> Have a technician check and if need be adjust the brakes

22.2. Stand-up mechanism

	Fault	Rectification
	<ul style="list-style-type: none">• Mechanism works only very slowly	<ul style="list-style-type: none">• Recharge batteries• Have batteries replaced
	<ul style="list-style-type: none">• Mechanism doesn't always function at the same speed, i.e. quicker going up or coming down	<ul style="list-style-type: none">• Check gas spring strength corresponds to user body weight. If needed replace gas springs.
	<ul style="list-style-type: none">• Mechanism inoperable (neither up nor down, no perceivable motor noise)	<ul style="list-style-type: none">• Check gas spring release cable and re-adjust or replace if needed.• Check gas spring release mechanism and re-adjust or replace if needed.

23. Versionen Management

Versionsnr.	Datum	Beschreibung	Freigabe
Entwurf	2021-06-15	Entwurf	HB
0.1	2022-01-06	Separated according to ISO 7176-15 Abschnitt 3.9	JC
1.0	2022-10-18	Draft TÜV Test	HB
1.1	2024-08-01	Adjustments acc. to 12183-14/22	HB