

HD Balance - Tilt-in-space wheelchair

► Manual | English



HD Balance 24 & 16.



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**THANK YOU FOR CHOOSING A WHEELCHAIR FROM HD REHAB,
WE HOPE IT WILL SERVE YOU WELL!**

WE MANUFACTURE QUALITY OF LIFE

HD Rehab helps people achieve an improved quality of life. Our products help make the lives of users, their families and carers easier, safer, and more comfortable.

HD Rehab offers aids for people living with disability. Our best-known product is the HD wheelchair, which we have designed, developed and manufactured for over 40 years. No other tilt-in-space wheelchair on the market has the same well-considered functional design, precision and durability as an HD wheelchair. We can pretty much promise that whatever others you try, you will be able to tell the difference.

GLAD TO BE FLEXIBLE

Whether you are a user, a family member or a carer, we welcome your requests and opinions. Our designers and developers work closely with each other and with the production team at our Lidingö base. Our creative employees use their specialist knowledge, experience and inventiveness to find solutions for each individual person's unique needs.

1. WARRANTY

The warranty is only valid if the product is used as directed and the service/cleaning instructions followed.

THE WARRANTY COVERS:

Frame	5 years against defects in materials, manufacturing and/or assembly.
Leg-/arm-/headrests	Two years against defects in materials, manufacturing and/or assembly.
Upholstery	Two years against defects in materials and faults in manufacture.
Gas springs	Two years against defects in materials and faults in manufacture.

WARRANTY & LIMITATION OF LIABILITY

HD rehab assumes no liability for damages arising out of the following:

- That the instructions in the manual were not followed.
- Incorrect installation or setup by a third party other than HD rehab.
- Unauthorized modifications/adaptations.
- Use of spare parts from other manufacturers than HD rehab.
- Use by persons weighing more than the maximum user weight stated on the chair.
- That the chair is placed in an inappropriate position/location for the user.

2. GENERAL INFORMATION

HD balance is a class 1 CE labeled medical device.

2.1 Intended use - HD balance

The wheelchair model, HD Balance 24, is a manual wheelchair designed for users who can propel themselves to a certain extent. The model can also be used by users who cannot propel themselves.

The wheelchair model, HD Balance 16, is a manual wheelchair designed for users who cannot propel the wheelchair themselves.

Both models are intended for use by users in need of much comfort and support when seated. The seat and back on both models can be tilted in various positions to give the user a varied position during activity and rest. A varied seat position is very important! Note that prolonged sitting without a position change can lead to discomfort and excessive pressure. If injury is suspected, search for information regarding symptoms and contact the health care system.

A medical professional should always be consulted prior to using an HD-balance wheelchair. This applies to the new and used wheelchairs. Note that a new prescription may be needed if a user's disability changes or new needs arise. All prescription and adjustment of the wheelchair must be carried out by qualified personnel.

Where the wheelchair has several users, each patient's specific needs must be taken into account. In addition, the chair's upholstery on the back and seat cushions must be washed or changed for each user. Washing instructions are on the seat and cushion covers.

If the user has a pattern of movement/behavior that strains the chair excessively a strengthened version must be used. This includes spastic users.

The wheelchair is approved for use as a seat during transportation in vehicles.

2.2. General safety aspects

HD wheelchairs are intended for use both indoors and outdoors. Before using the wheel chair, it is important that users and carers are familiar with how the chair works and should be used.

Test the driving characteristics and features!

- Read all the instructions and ensure that the instructions are available. Note that deviations may occur especially if the wheelchair is specially equipped/adapted. The wheelchair can also be equipped with accessories and equipment from other suppliers.
- From a safety perspective, it is important that the maintenance instructions (see Section 8) are followed. A good rule is to keep the seat clean and periodically test the controls and brakes.
- Especially when the chair has been transported, a further check can be good to note that no cables or the like have been damaged.
- If damage is detected or any detail found to be missing, the seat must be taken out of service until this is fixed.
- The wheelchair should be operated and used judiciously to avoid unnecessary risks.
- Children should not operate the wheelchair without adult supervision.
- Be aware that certain items of clothing are not suitable for the user to wear as they may get caught in the wheels. Be especially careful with scarves and similar items that can be tightened around the user's neck if they get caught.
- If the wheelchair is exposed to external heat sources such as sunlight, some parts may become hot. Pay attention to this so that no user is harmed.
- Be careful with all wires so that they do not get damaged.
- The user might accidentally slide out of the wheelchair, be aware of this. See info regarding belts.

RISK OF TIPPING

- The risk of the wheelchair tipping backwards will increase if the seat is equipped with an increased seat tilt capacity. In these cases, the risk of tipping is always evaluated on an individual basis. Remember, the risk of tipping also increases when bags are hung on the seat back, especially if the seat is at the maximum backward tilt.

- In addition, some users have involuntary movements, or are very active, and want to grab hold of solid objects (e.g. door frames, handles, etc.). Use caution with these users and ensure that you keep them under observation when their behavior can tip the wheelchair. Avoid parking near fixed objects.

RISK OF PINCHING

- Since the chair has many different configuration options, the carer should be alert to the user’s position in the chair, to avoid the possibility that the user could become trapped. Normally, the risk of pinching is small.
- Remember that the user cannot always tell that a pinching injury is occurring!

LIFTING

This advice is general since there are many different lifting aids available.

- Be very attentive to the user’s arms and legs when lifting in and out so the user does not get caught in the middle. Fold in the legrests or remove them so that they do not get in the way. Follow the lifting aid instructions carefully.
- Often, training is required to operate the lifting aid.

CE LABELED ACCESSORIES / CUSTOMIZING


- HD rehab has a wide range of CE labeled accessories that are authorized for use with the wheelchair while maintaining the CE label. There are also combination agreements covering accessories from other manufacturers that are approved for use on the HD balance while maintaining the CE label. Accessories that have not been approved may not be used.
- Any change to the wheelchair, or use of accessories that are not certified and CE labeled by HD Rehab, is a special adaptation. Wheelchairs customized without HD Rehab approval cannot keep the HD Rehab CE label and the warranty expires. A transfer of liability then occurs. Always consult HD Rehab if you are unsure about what applies. We can help you with special adaptations for individual users.

DAILY FUNCTIONAL CHECK

To ensure that the chair works as it should, a daily function test should be performed before the user is positioned in the seat. See section **“6.1 Daily functional check”**.

WARNINGS

In addition to these “general safety aspects” there are warnings and notices contained in each section in the manual. They are marked with an exclamation point as follows:

 - Here are the warnings!

2.3 Tests

Several tests have been carried out on the HD Balance. Wheelchair test at HI, Vinsta, Sweden, Crash test and Fire test cushions at SP, Borås, Sweden. More information available at our web page.

2.4 Identification of the wheelchair

Manufacturer, serial number (SN), article number (REF) in text and bar code formats are printed on the front cross tube of the wheel frame, see diagram 1.

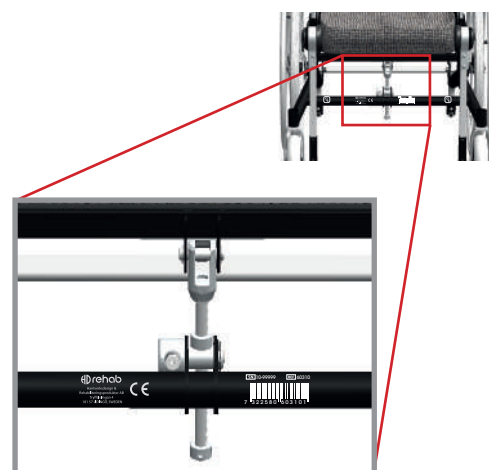


Diagram 1. Marking the wheelchair for identification.

2.5 The wheelchair parts

- 1 Wheel frame ●
- 2 Seat frame ●
- 3 Back frame ●
- 4 Flexi-back frame ●
- 5 Driving wheels
- 6 Swivel casters
- 7 Brake
- 8 User brake
- 9 Push bar/handle
- 10 Tilt protection
- 11 Legrest
- 12 Calf support
- 13 Footrest
- 14 Armrest with side support
- 15 Balance board ○

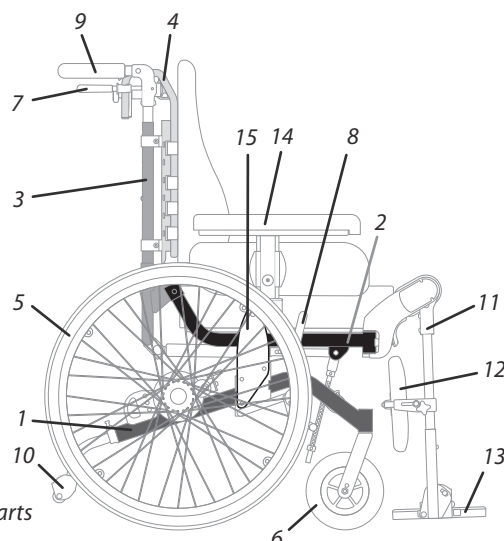


Diagram 2.
The wheelchair's parts

2.6 Delivery Inspection/Installation

ALWAYS DO THE FOLLOWING ON DELIVERY:

- Check that the seat does not have any visible damage.
- Any shipping damage must be reported immediately to the transport company.

Then follow the instructions in the unpacking instructions that come with the delivery. This can be supplemented with further instructions depending on the wheelchair's equipment.

2.7 Signs/markings

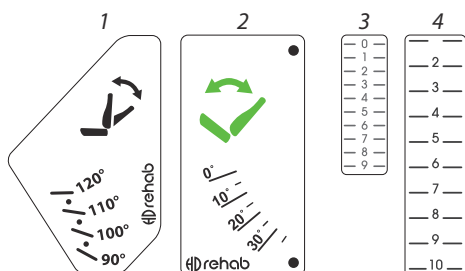
The following markings are on the wheelchair.



Model label. Showing that the wheelchair is the model HD Balance and the wheel size and seat width of the chair.



CE labeling. Showing that the wheelchair is a CE labeled medical device and who the manufacturer is. SN stands for serial and REF for model number.



Scales. This indicates the angle of the backrest in relation to the seat (1), the seat tilt angle (2), knee joint position (3) and the armrest position (4). The scales are used in conjunction with a user card where the recommended settings can be easily read, see Section "4.7 User Cards".



Parking brake. Showing how the sleeve on the brake lever is moved to activate the parking brake.



Transport bracket. Marks the attachment points for transportation.



Max user weight. Shows the maximum allowable user weight applicable to the wheelchair.



Attention! Wheelchairs with accessories or modifications that can imply additional risks are marked with this symbol. Read the attached information (Appendix to manual, 95706-1) or document 95707-1 (www.hdrehab.com) for further information.

3. FUNCTIONS AND SETTINGS

3.1 Brakes

The HD-Balance can be supplied with two different types of brakes; combined service and parking disc brakes (1 in Diagram 3) and the wheel lock (2 in Diagram 3). Both brake variants can be deselected.

COMBINED SERVICE AND PARKING BRAKE

The brake levers are located under the push bar/push handles operated by carers from the chair's back. The brake is operated by pressing the brake levers (1 in Diagram 5) against the push bar/push handles. Hold the brake levers slightly pressed to achieve a braking effect for example when moving downhill.

The parking brake is activated by pressing the brake levers up against the push bar/push handles. In this position, move the locking sleeve, a in Diagram 4, forward so that the brake lever is locked in the brake mode, see Diagram 4. NOTE! Make sure the locking sleeve is pushed forward sufficiently so that it sits securely.

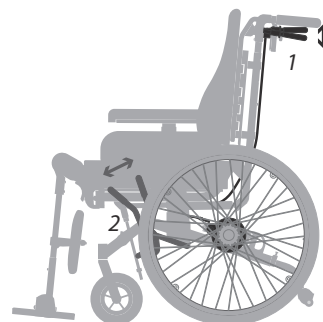


Diagram 3.

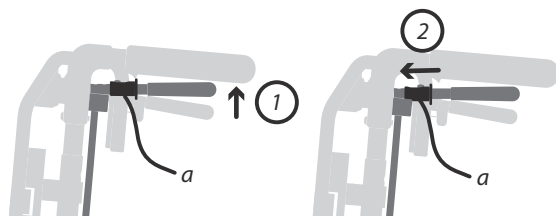


Diagram 4.



Diagram 5.

- ⚠ - Adjustment of the brake discs should only be undertaken by a qualified technician. Information contained in the technical manual.

PARKING/WHEEL LOCK

This brake works directly against the tire.

- ⚠ - If the wheelchair is equipped with pneumatic wheels, it is important that the tires are kept inflated for the wheel lock to function properly.

To brake, move the brake levers forward from the wheels. To release the brake, move the brake levers back towards the wheels.

Adjustment of the wheel lock must be performed by qualified personnel; instructions are in the technical manual.

3.2 Wheels

The HD Balance is equipped with either 24", 20" or 16" driving wheels depending on model and design. All tires are standard pump and puncture proof and equipped with quick releases. The castors are 175mm as standard but can be changed to 200mm.

Alternatively, the wheelchair can be equipped with pneumatic tires.

HOW TO REMOVE THE WHEELS:

- Press the lock button (1) on the top (Balance 24") alternatively the bottom (Balance 16") of the wheel bracket, see Diagram 6.
- Remove the wheel

HOW TO MOUNT THE WHEEL:

- Insert the wheel axle (2) in the casing (3) on the wheel bracket, see Diagram 7.
- Press the lock button (1, Diagram 6) on the top (24") and bottom (16") of the wheel attachment.
- Press the wheel so that the three pins on the hub fit into the three holes in the brake disc.
- Release the lock button and check that the wheel is secured by pulling on it.



- Make sure the lock button has slid out and that the wheel is fixed.
- Be careful not to allow the user's fingers/hands to go into the wheels.

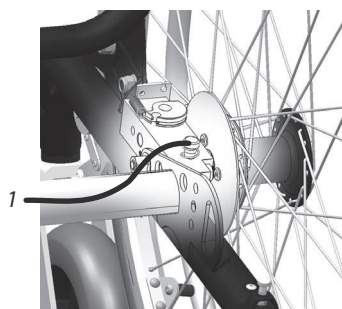


Diagram 6. The lock button for the wheel on the 24" model.

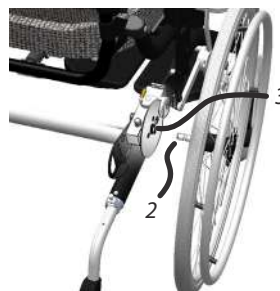


Diagram 7. Wheel axle (2) and sleeve (3).

3.3 Antitip device/tipping bar

Antitip devices are standard equipment on the HD Balance and should always be used. The antitip devices can be set in three positions by means of a snap lock, see Diagram 8. The snap lock is unlocked by lifting the bolt (1, Diagram 8). It is also possible to turn up the antitip devices temporarily to assist in negotiating a pavement or the like, see Diagram 9.

The antitip device can also be used as a tipping bar, i.e. provides resistance to the operators foot when the wheelchair is tipped back on the rear wheels. The antitip devices are slightly different between the 16 and 24 models.



- Always ensure that the snap lock locks firmly into place so that the antitip device is locked!
- Make sure that correct model of antitip device is used for the wheelchair!

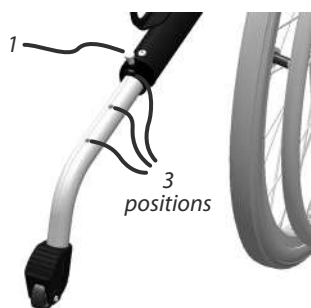


Diagram 8. The three modes of the antitip device, which are set with a snap lock.



Diagram 9. Antitip device in angled position.

3.4 Push bar

HEIGHT ADJUSTMENT OF THE PUSH BAR:

- Grip the push bar, a diagram 10, with one hand.
- Press in one snap lock, 1 diagram 11, and pull the push bar up on the same side.
- Hold the bar up and push the second snap lock (2).
- Set the push bar to the desired position.
- Ensure that both snap locks have sprung out into the holes.
- Check brake and control cables run freely and are not subject to damage. They should run along the back tube.

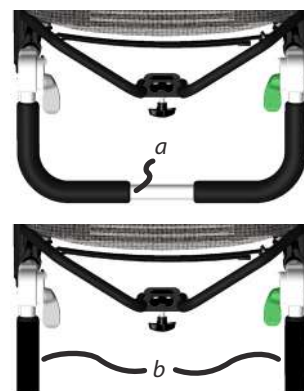


Diagram 10. Push bar and separate operating handles.

3.5 Separate operating handles

The wheelchair can alternatively be equipped with separate operating handles (b), Diagram 10.

HANDLE HEIGHT ADJUSTMENT:

- Loosen the screws, 1 & 2 in Diagram 11.
- Move the operating handles vertically to the desired position and tighten the screws.
- Make sure the screws are securely tightened.
- Check brake and control cables run freely and are not damaged. They should run along the back tube.



Diagram 11. The snap locks (push bar) alternatively the screws (separate operating handles) position.

3.6 Clothing / Cushions

Seat and back cushions are attached to the wheelchair with Velcro and are therefore easily removable and interchangeable. Alternative cushions and upholstery come, for example, with incontinence protected upholstery.

-  - Check cushions according to the maintenance directions. Worn out cushions can cause pressure ulcers.

POSITIONING OF SEAT CUSHION

- Align the cushion over the seat plate and place it straight down. The cushion is slightly higher at the front and has a label at the rear. The underside is black and smooth.
- Make sure the cushion is secure.

REMOVING THE SEAT CUSHION:

- Take the front edge of the cushion and pull straight up.

POSITIONING OF BACK CUSHION:

- Attach the straps (1) in the upper part of the back cushion around the flexi-back's tubes (2) with Velcro as shown in Diagram 12. If a hard back is used, attach the Velcro to the back of this.
- Fold the cushion straight forward and press firmly against the back plate according to Diagram 13.
- Make sure the cushion is secure.

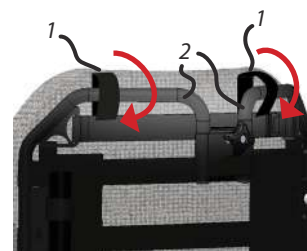


Diagram 12. Fastening straps around the flexi-frame.

REMOVAL OF BACK CUSHION:

- Take hold of the lower edge of the cushion and pull up.
- Loose the straps.

REMOVABLE COVER

Both the seat and back cushions' covers are fitted with a zipper for easy removal and recovering. Washing instructions are on the label.



Diagram 13.

3.7 Seat tilt & Recline function

Diagram 16 shows the wheelchair in reclined and tilted position.



- The controls should be handled with moderate force and should always be used one at a time, NEVER at the same time!
- Never hang items on the levers.

SEAT TILT

The seat tilt is controlled by the green lever on the right side of the push bar (or right push handle), 1 in Diagram 14. As standard, the seat can be tilted between 00-20° in about 10 steps. As an optional extra there is a variant with a greater degree of seat tilt, which provides up to 30° of tilt. The tilt risk is slightly higher with increased tilt, watch out for this!

It is also possible to allow for negative tilt (forward), up to -5°.



- The seat will not tilt forward as standard; this must be actively selected when ordering or be adjusted by competent staff later. If a forward bias is required, special attention must be paid to the user as there is a risk that the user slides off the chair. It is particularly important when users are left alone.

HOW TO OPERATE THE SEAT TILT:

- Grip the push bar/operating handles with both hands.
- Release the tilt lock by pressing the green lever down gently and hold it down. Pay attention when the lock is released, depending on the seat's position, it requires a different amount of force to resist movement!
- Set the desired angle by tilting the seat unit and then release the green lever.
- Make sure that the tilt lock locks properly by trying to tilt the seat without pressing the lever.

TILT LOCK

The seat angle adjustment mechanism and the tilt lock are fitted with an adjustable brake, see Diagram 15. Brake (1) is adjusted with a screwdriver to the desired resistance.

This adjustment should be performed by qualified personnel.

BACK RECLINE

The back angle is controlled by the gray bar on the left side of the push bar (or left operating handle), 2 in Diagram 14. By default, your back is angled 30° (90-120°) infinitely. A gas spring motion controller provides a helping force when lifting up, but it also makes the back heavy to recline if no one is sitting in the chair.

HOW TO OPERATE THE RECLINE FUNCTION:

- Grip the push bar/operating handles with both hands.
- Release the lock by pressing the gray lever downwards and hold it down.
- Set the angle by using the push bar as a lever and release the lever in the desired position.



- Risks exist for some accessories when changing back angle. For example pinching towards the table when raising the back. Similar risks also appear for belt, pommel and hemiplegic armrest.



Diagram 14. Controls for the seat tilt (1) and recline functions (2).

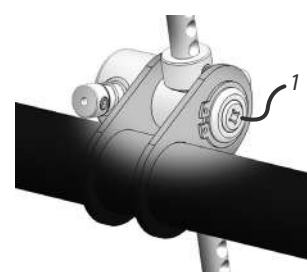


Diagram 15. The tilt lock's adjustable brake (1) that controls the inertia of the seat angle movement.

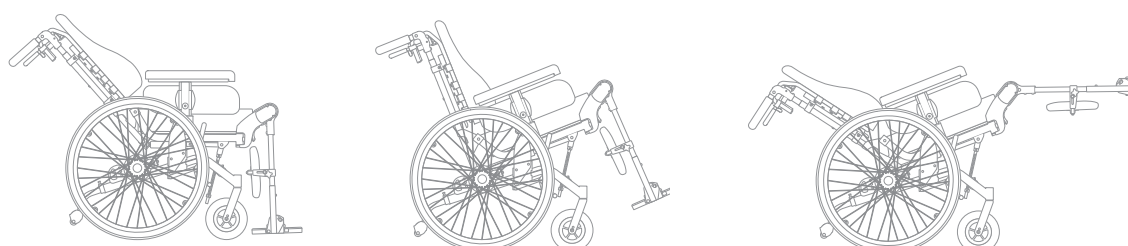


Diagram 16. Three positions. Maximum recline, maximum seat tilt and both recline and tilt in their maximum positions.

3.8 Backrest Height

The backrest height can be adjusted approximately 6cm in the tracks that are where the flexi-back is secured. This requires a 10mm key, diagram 17, which is located underneath the front seat's cross tube. As an alternative for tall users there is an elevated back that is 10cm higher than standard

HEIGHT ADJUSTMENT OF THE BACKREST:

- Loosen the four nuts, 1 in Diagram 18, a few turns.
- Push the flexi-back up or down to the desired height.
- Tighten the screws securely.
- Make sure the brake cables are not damaged when the back is moved.

If your back needs to be even higher, the four clamps the flexi-back/back plate is attached to are moved upward along the back frame tube. This gives a back position, a further 30mm higher. To continue:

- Loosen the four back clamps by loosening the screws, 2 in Diagram 19, a few turns.
- Push the back clamps carefully along the back frame tube to the desired position. Some risk of damage to the paint finish exists. *Note that the top position for the push bar becomes unusable because the snap hole is covered.*

3.9 Setting the Flexi-Back

Guide to set the flexi-back:

1. *Before the user sits in a wheelchair;*
 - a. Make sure the back cushion is properly positioned in the seat. See instructions for upholstery/cushions.
 - b. Release the straps properly.
 - c. Loosen the nuts for height adjustment of the flexi-back.
2. *Positioning of the user;*
 - a. When lifting, tilt the wheelchair's seat unit backwards. It can in many cases be easier to recline the backrest slightly.
 - b. Position the user well into the wheelchair, between the flexi-frame's side tubes. This is required to form the flexi-back individually to the user's back
3. *With the user sitting in the wheelchair;*
 - a. Set the seatback at the desired height.
 - b. Adjust the seatback Velcro according to the user's back.
 - c. Tighten the nuts for the seat back height adjustment.



Diagram 17. The tool, which is located underneath the seat's cross tube.



Diagram 18. The nuts for the back height adjustment.

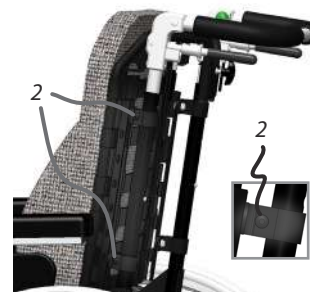


Diagram 19. The screws for adjusting the height of the back clamps.

3.10 Adjustable seat/seat depth

Seat depth is controlled by a lever (1) under the seat's left side, see Diagrams 20 & 21, and can be held in seven different settings.

DEPTH SETTING:

- Move the lever (1) outward and hold it in position.
- Slide the seat plate to the desired position.
- Release the lever and slide the seat plate slightly so that the lever snaps in the locked position.
- Check that the seat plate is securely locked.

Note! Normally setting is the third location.

The seat plate can be pulled out by pulling the locking catch, 2 in Diagram 21, down at the same time as the lever (1) is moved outwards.



- Make sure that the seat plate locks in position when it is put back!

3.11 Armrest

STANDARD ARMREST

Armrests are located in separate brackets on both sides of the seat, see Diagram 22, and can be adjusted vertically and horizontally. They consist of the following components:

- 1 Arm pad (1 in Diagram 23)
- 2 Side support plate (2)
- 3 Locking button (3)
- 4 Locking bolt (4)

HEIGHT ADJUSTMENT:

- Push button (3, Diagram 23) and hold it down.
- Set the desired height. The tube is marked with 1 cm intervals.
- Release and push/pull the arm pad until the lock snaps in place.

Maximum setting range is 9 cm.

DEPTH SETTING:

The arm pad can be adjusted to six depth settings as standard. If the chair has a special configuration such as a wider flexible back, the furthest back positions cannot be used.

- Press the locking bolt, (4) in Diagram 23, and set the desired position.
- Release the locking bolt.
- Make sure the plate is locked in position by pulling a bit on it.



Diagram 20. The lever (1) for seat depth adjustment is located under the left side of the seat.

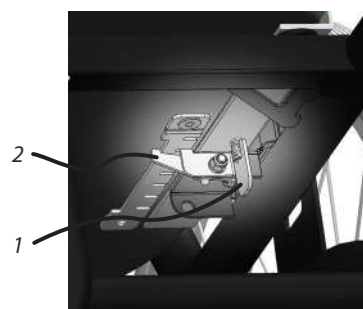


Diagram 21. The locking clasp (2) and the lever for seat depth adjustment (1) as seen from below.



Diagram 22. The armrests are inserted into the brackets on each side of the seat frame.



Diagram 23. Armrest parts.

3.12 Legrest

ANGLE ADJUSTABLE LEGREST

Angle adjustable legrests are standard on the HD Balance. They can be angled between 90 ° (straight down) and 180 ° (straight ahead) with 10 ° steps (10 positions).

Components see Diagram 24:

- 1 Locking button for removal of legrests
- 2 Angle control, release button
- 3 Legrest tube
- 4 Plastic housing, outside
- 5 Padding, inside
- 6 Knee joint
- 7 Turnable link
- 8 Snap lock, footrest

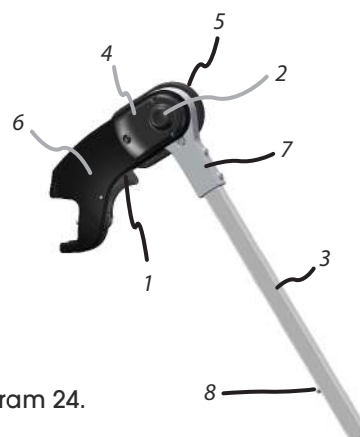


Diagram 24.

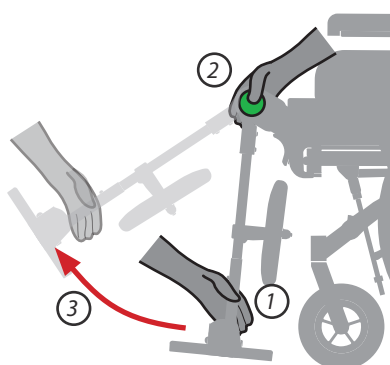


Diagram 25. Angling of legrest.

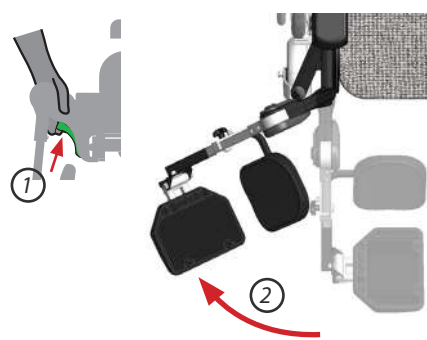


Diagram 26. Slewing of legrest.

ANGLING OF LEGRESTS, DIAGRAM 25

- 1 Grip the legrest tube (3 in Diagram 25), as far down as possible. Lift slightly to lighten the load on the locking mechanism.
- 2 Push button (2 in Diagram 25) on the outside of the knee joint and move the legrest into the desired position.
- 3 Release the button and move the legrest in either direction so that leg angle mechanism snaps into the locked position.

TURN OUT LEGRESTS, DIAGRAM 26

The legrests can be angled out by about 90 degrees for better access in and out of the chair. In order to angle them out, grip the knee joint from above and push in the lock button.

REMOVAL OF LEGRESTS, DIAGRAM 27

- 1 Grip the knee joint (6) from above and press in the lock button (1).
- 2/3. Lift straight up until the legrest is loose. Thereafter, the legrest can be lifted out without the user's legs needing to be stretched.

Alternatively, the legrest can first be turned outwards and then lifted off.

MOUNTING LEGREST, DIAGRAM 28

- Grip around the knee joint from above and press in the control button.
- Move the knee joint just above the bracket on the wheelchair.
- Align the hole with the peg on the bracket and slide it down.
- Turn the knee joint so that it points straight ahead and ensure that the locking pin clicks in.

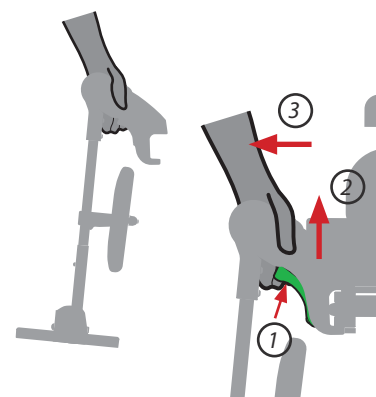


Diagram 27. Removal of legrest.

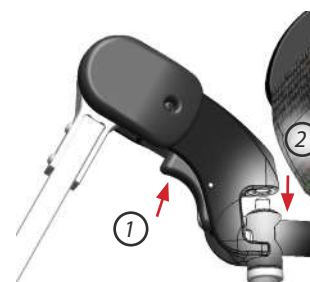


Diagram 28. Mounting legrest.

FIXED-ANGLE LEGREST

Alternatively, the wheelchair can be equipped with fixed-angle legrests that can be designed at different angles.

MOUNTING FIXED-ANGLE LEGRESTS

- Align the hole in the knee joint over the peg on the bracket and let the knee joint slide down, see Diagram 29. It may be easier if the lever (1) is moved forward.
- Release the lever (1) and rotate the legrest so that it points straight ahead, make sure that the locking pin clicks in and locks the knee joint (Diagram 30).

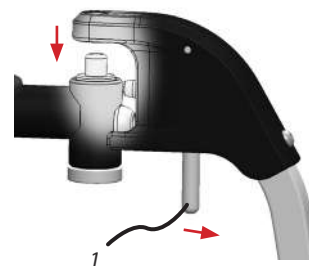


Diagram 29. Mounting of the fixed-angle legrests.

REMOVAL/ANGLING OF FIXED-ANGLE LEGRESTS

- Grip the legrest and move the lever (1) forwards.
- Turn out/lift off the legrest.

AMPUTEE LEGREST

For information about use and mounting of the amputee legrest, see separate User manual/Assembly instructions.

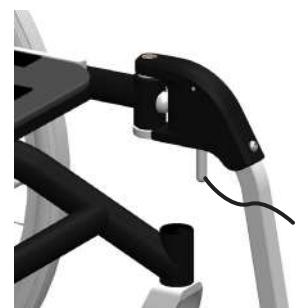


Diagram 30. Fixed-angle legrests in place.

3.13 Footrest

FOLD-UP FOOTPLATE

Footplates can be folded up to the side, to facilitate entry and exit, see Diagram 31.

HEIGHT SETTING FOOT REST

Press the snap lock, (2) in Diagram 32, and move the footrest tube to the desired position.

ANGLE SETTING FOOTRESTS

- Loosen the lock nut (3), see Diagram 32.
- Tilt the foot plate to the desired position.
- Tighten the lock nut securely



Diagram 31. Folding up the footplate.

Tools can be found under the seat.

3.14 Calf support

DEPTH SETTING OF CALF SUPPORT

- Loosen the lock nut (4) a few turns, see Diagram 32.
- Slide the calf plate to the desired position.
- Tighten the screw.

Tools can be found under the seat.

HEIGHT ADJUSTMENT CALF SUPPORT

The height of the calf support is adjustable along the legrest tube. Loosen the knob (5) in Diagram 32, then pull the calf support to the desired position and tighten the knob.

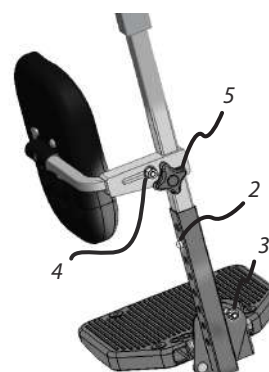


Diagram 32. Foot and calf supports.

4. ACCESSORIES

The following section briefly describes the accessories that are available for the HD Balance. They are all CE labeled and approved for use with the wheelchair. More information about the respective accessories is available as information sheets. Instructions on how accessories are installed can be found in the respective accessory installation instructions.



- Remember never to use accessories that are not approved for the HD Balance. The wheelchair is then considered a custom product, read more in ["2.2. General safety aspects"](#).

4.1 Headrest/Neckrest

The headrest (Diagram 33) and each neckrest (Diagram 34) consists of two parts, one extension tube (1, Diagrams 33 & 34) and a pillow with a headrest tube (2). The pillow is slightly smaller on the neckrest than on the headrest.

Set the tube in the bracket (3 in Diagrams 33 & 35) on the rear of the back by sliding it down through the sleeve to the desired position and tighten the knob (7, Diagram 35).

LATERAL ADJUSTMENT:

If necessary, some models of headrests/neckrests can be adjusted laterally to fit the user's head position.

- Loosen the screws (6), Diagrams 33 & 34.
- Move the headrest to the desired position and tighten the screws.

The pillow is shaped to provide support at the base of the skull so that the head can be positioned in a balanced comfortable position.

LATERAL SUPPORT FOR THE HEADREST & NECKREST

Some models of headrests/neckrests can be equipped with one or two removable lateral supports (4, Diagram 33) to increase lateral stability. In this case the back of the main headrest is fitted with 2 stand sleeves (5) to adjust the positions of the lateral supports.



- Do not hang things on the headrest/neckrest!
- Some users with special/involuntary movements might risk to get caught between the rest and the wheelchair. In these cases individual assessments to decide if rests can be used shall be done.

4.2 Bag hook

The bag hook (1, Diagram 36) is mounted on the operating handle tube (2) under the operating handle joint (3). The hook is clamped to the pipe by tightening the screw (4).

On installation and use of the bag hook, ensure that the brake cables (5) are not damaged.



- A maximum of 5kg may be hung on the bag hook!
- When bags etc. are hung on the bag hook the risk increases of tipping backwards. How much, depends on the weight and the back-and seat angle settings.
- It is the responsibility of the carer/user to check the risk of tipping and make sure the antitip device is used.

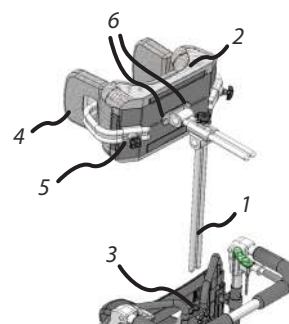


Diagram 33. Headrest with lateral supports.



Diagram 34. Neckrest.

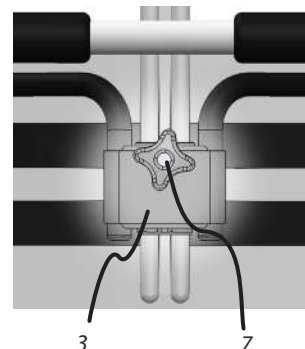


Diagram 35. Headrest mount.

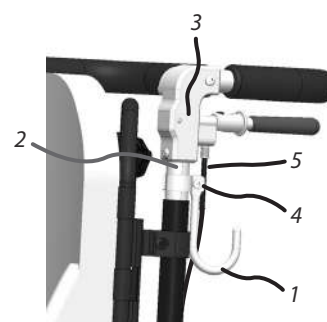


Diagram 36. Bag hook mounted.

4.3 Thoracic support

The thoracic support is mounted by inserting the hook (1 in Diagram 37) in the thoracic support fastening (2) on the rear of the back and tightening with the knob (3) in the desired position. The cover is removable and mounted with Velcro; washing instructions are on the labels.

HEIGHT ADJUSTMENT

See separate installation instructions.



- Note that the use of the thoracic support requires thorough testing to ensure users receive good support and that the thoracic support does not cause pressure that can lead to injury.
- Avoid placing the thoracic support near the user's armpit since the area is generally considered to be intimate and pressure sensitive.

4.4 Table

The table is intended to be used to put smaller things on and in some cases to position the user by working as a support for the lower arms.

Installation is carried out by inserting the two pins (1, Diagram 39) on the table top into the table bracket (2) on the outside of the armrests.

The table brackets can be easily adjusted for depth by sliding them along the rail under the arm pad. Loosen the screws underneath, slide the bracket along the track and tighten the screws in the desired position.

Keep in mind that armrests should be placed at the same height and depth if the table is to sit well!

A version with lock is available. Push the button and hold to lock and unlock the mechanism, see diagram 40.



- When using a table there is a risk of pinching when the back is lifted up from a reclined position.
- The table is not intended for heavy loads. Maximum load is 7kg.
- Restrictions might exist regarding the use of tables if this restrain the user from getting out of the wheelchair. Especially when using the version with lock.
- Do not sit on the table!

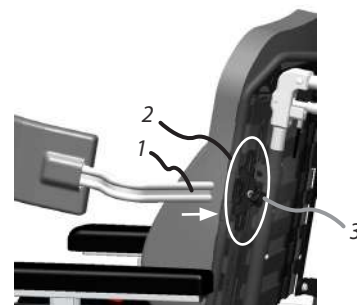


Diagram 37. Thoracic support and fastening (circled).

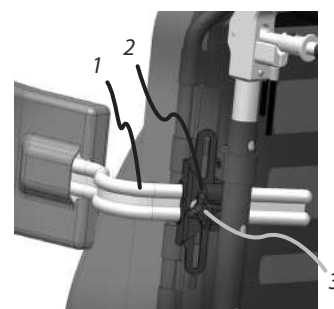


Diagram 38. Thoracic support mounted in the fastening.

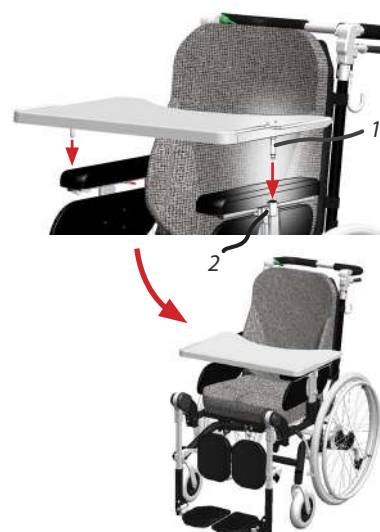


Diagram 39. Table mounting.

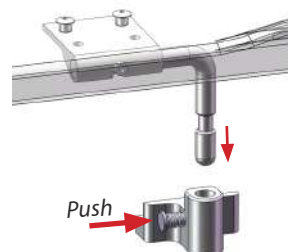


Diagram 40. Table lock mechanism.

4.5 Pommel

The pommels consists of (see Diagram 41):

- 1 Pommel cushion
2. Pommel fixing
- 3 Pommel mount with control

Same bracket is used for all versions of pommels.

The pommel is attached by inserting the fixing into the bracket and locking into place with the knob. See Diagram 42.

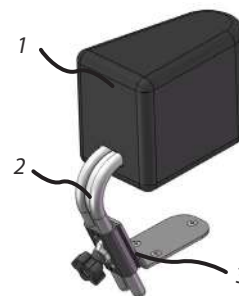


Diagram 41. Leg divider with mount.

SETTING DEPTH

- Open the cover on the underside of the pommel cushion
- Loosen the screw with a Phillips screwdriver
- Move the pommel on the hook to the desired position and tighten the screw.

4.6 Positioning Belt/Harness

If there is a risk that the user can slide out of the chair a seat belt can be used.

The belt is available in two versions, a 2-point belt and a 4-point harness. These are used with belt fasteners, Diagrams 45 & 46



Diagram 42. Leg divider with mount.

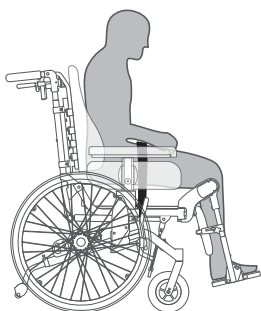


Diagram 43. 2-point belt.

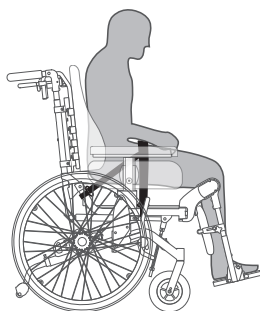


Diagram 44. 4-point harness.



Diagram 45. Belt fastener.

2-POINT BELT, DIAGRAM 43

The 2-point belt is attached to the two belt mounts, one on each side. It is important that the brackets are placed in the right places so that the user's position is good. Always have qualified personnel install them.

4-POINT HARNESS, DIAGRAM 44

The 4-point harness is attached to the four belt mounts, two on each side. It is important that the brackets are placed in the right places so that the user's position is good. Always have qualified personnel install them.

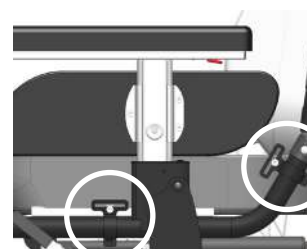


Diagram 46. Belt fastener attached (circled).



- There may be special restrictions on use of the belt.
- Individually adapted information about the use of belt has to be received from the prescriber for every user.
- Pay attention to the use of positioning belt. There is a risk that the user slides down in the chair and gets stuck in the belt if it is incorrectly installed or poorly fastened. This can lead to impaired blood/oxygen supply and risk of the user choking.
- Always make sure that the belt is securely fastened when used.
- If possible, tighten the belt when in an upright position. If the belt is tightened when the back is in an backward angled position it may cause pinching when raising it up.
- Be aware of loose belts, they can get caught in the wheels and cause a sudden stop or pinching.

4.7 User Cards

A User Card can be found hanging on the back of the wheelchair. They are used to ensure the user's position is as good as possible. The prescriber (or other authorized person) can communicate the recommended settings for each individual patient. Diagram 47 explains how the card should be interpreted. The different settings are read from the wheelchair from the markings described in ["2.7 Signs/Markings"](#).

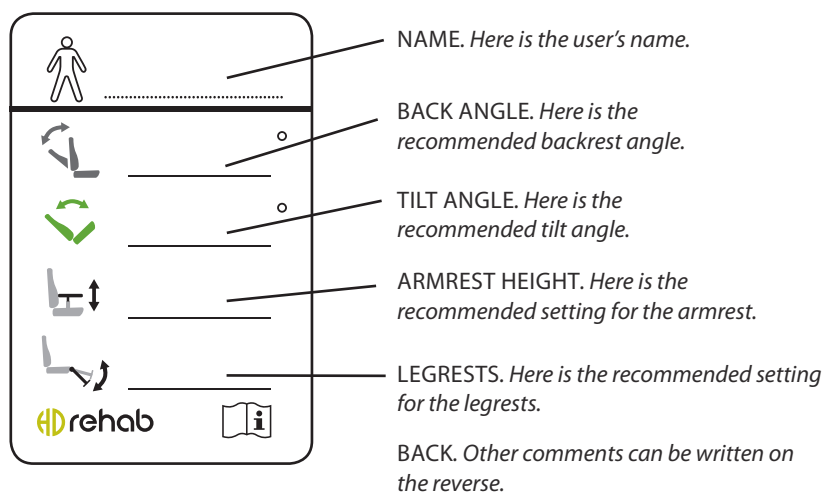


Diagram 47. User Card

5. TRANSPORT

5.1 Transport of wheelchair with patient in vehicles

The HD balance must be tied in place in the vehicle with a 4-point belt system, see Diagram 48, and the user must use a 3-point safety belt. Both must be approved according to ISO 10542-2. All transportation must be done with the wheelchair facing forwards! See Diagram 49.

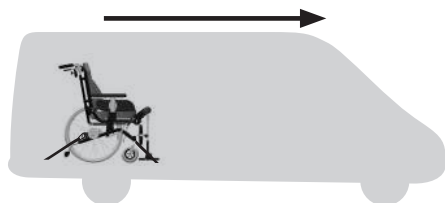


Diagram 49. All transport must be forward facing!

When clamping fast, the rear tension device is attached to the intended mounts on the wheel frame, see 1 in Diagrams 48 & 50. The front tension device is attached around the wheel frame's cross tube as 2 in Diagrams 48 & 51. These attachment points are marked with the symbol described in section ["2.7 Signs/Markings"](#).



- No other attachment points than those specified may be used!

THE FOLLOWING MUST BE CONSIDERED BEFORE TRANSPORT:

- Table, thoracic support and other accessories must be removed.
- The headrest/neckrest must be used.
- The wheelchair seat and back (angle) must be positioned as upright as possible.
- The wheelchair legrests must be angled down as much as possible.
- Do not use too much tension. Tensioners should only be tightened so that the wheelchair is stable. Any "Rocking" may not be offset by tightening the straps tighter. Tensioning devices can create excessive loads on the wheels and frame components and thereby damage the wheelchair.
- The user must always use the vehicles fixed system of three-point safety belts. Any positioning/safety belts that are mounted on the wheelchair and are usually used by the patient may not be used as substitutes for seat belts when traveling in vehicles.

The HD Balance is crash tested according to ISO 7176-19:2008, see Section 9.1, which means that it has been tested and passed the requirements of a standard test. The test simulates a frontal collision at 48km/hr with a test dummy weighing 79.2kg. The standard specifies a minimum requirement for what the wheelchair must handle regarding transport in a vehicle.

Since an actual incident is likely to be different than the conditions at the time of testing, HD Rehab does not accept any responsibility for the outcome of an accident in which the HD balance is involved.

5.2 Weight of removable components

Wheel 24" - 2.0 kg

Wheel 16" - 1.85 kg

Legrest - 2.4 kg

Armrest - 1.1 kg

Seat cushion - ca 1.1 kg

Back cushion - ca 0.8 kg.



Diagram 48. Wheelchair with clamp mounted.

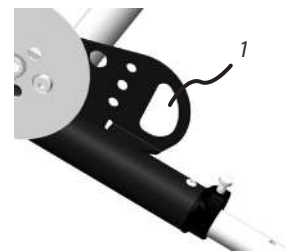


Diagram 50. Rear transport mount.

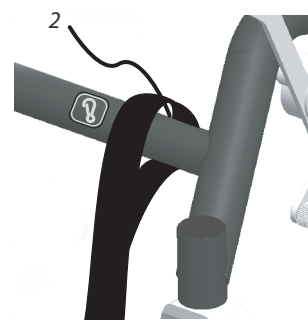


Diagram 51. Front tensioning during transport.

5.3 Folding the wheelchair for transportation

FOLDING OF WHEELCHAIR

- Tilt the front seat unit to its most forward position.
- Remove the armrests and any accessories such as thoracic support and leg divider, including pillows.
- Remove the legrests if it helps.
- Grasp the push bar with one hand and pull the recline peg, (1) in Diagram 52. The gas spring (2) then drops down from the mount (3) and the backrest can be folded forward against the seat, see Diagram 53.
- The driving wheels may be removed to make the wheelchair even smaller.

REASSEMBLY AFTER FOLDING

- Raise the backrest.
- Pull the pin (1), and fit the gas spring in the mount.
- Slip the pin through the gas spring's mounting hole (4, Diagram 54) and completely through both plates of the bracket (3, Diagram 52).

CHECKLIST AFTER TRANSPORTATION:

- Make sure the pin (1) goes completely through the bracket (3), Diagram 52.
- Check that the wheels are securely fastened.
- Make sure the antitip devices are positioned correctly.
- Check the most important functions; brakes, seat tilt and back recline.



- If the pin is not properly mounted, the bracket can break and the patient suddenly tip backwards.

6. MAINTENANCE/CARE

For best safety and long life the wheelchair should be kept clean and tidy. Any faults and failures must be addressed immediately. How the chair is used affects the need for maintenance, hard wear, patients with particular movements and much outdoor use require more maintenance. Estimated lifetime is 10 years at normal use with the same patient during the whole lifetime; assuming maintenance is carried out according to the instructions. Table 2 shows how the maintenance should be carried out.

Table 2.
Activity

Activity	Ongoing as necessary	1-2 times per year	At least every 3rd year
Cleaning of painted and coated surfaces and plastic parts	x		
Cleaning of upholstery, see label on the upholstery	x		
Checking all nuts and bolts		x	
Control of castor wheels		x	
Control of antitip devices		x	
Control of the chassis		x	
Checking the brakes		x	
Control of tilt and back angle functions		x	
The control of the recline peg		x	
Control of the cushions		x	
Control of Tilt lock		x	
Control and maintenance of accessories (Functionality, lockings, markings)		x	
Total reconditioning, see separate instructions, article number: 95725-1 *			x

* To be carried out by a specialist

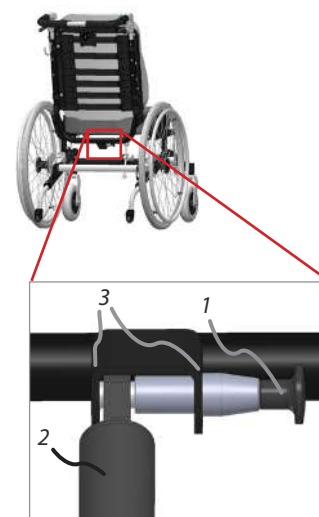


Diagram 52. Locking pin for the reclining the back rest.

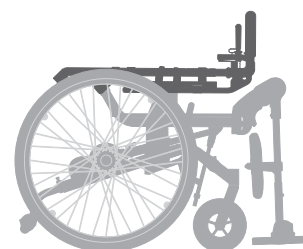


Diagram 53. Folded Wheelchair.



Diagram 54. The gas spring's mounting hole.

EXPLANATIONS FOR TABLE 2

COATED AND SURFACE TREATED SURFACES AND PLASTIC PARTS

- Wash/wipe with regular all-purpose detergent or disinfecting agents.

No caustic agents.

SCREWS AND BOLTS:

- Make sure the nuts and bolts are tight, tighten any that are loose.

CASTOR WHEELS:

- Check that the link wheels spin freely and do not have any visible damage. Clear away any debris.

ANTITIP DEVICES:

- Check that the antitip devices has no visible damage and is operating normally.

CHASSIS:

- Inspect the chassis for cracks, warping and other defects and notify authorized personnel if damaged.

BRAKES:

- Check that the brakes work firmly (both operator and user brakes).

- Contact a qualified technician if adjustment or lubrication is necessary.

TILT AND BACK RECLINE FUNCTIONS:

- Check that the controls are easy to use and that the levers do not have any damage.

RECLINE PIN:

- Check that the recline pin is intact and sits properly. Make sure the knob is tightly screwed on.

CUSHIONS & BELTS:

- Cushions wear out and become compressed, check them to see if any need replacing.

- Check that the belt's Velcro and locking mechanism works properly.

ARMRESTS, SIDE SUPPORTS AND CALF SUPPORTS

- Wipe with damp cloth or with disinfectant.

TILT LOCK:

- Remove any dirt in the holes along the rod and the spring pin where the wire is attached.

- Check that the stop rings on the tilt bar are securely fastened.

- If the tilt bar or wire sleeve is stiff, they can be lubricated with a few drops of oil.

- If it gives difficulty in any other way, immediately contact the authorized personnel.

TELESCOPING ALUMINUM PROFILES (e.g. armrests) can easily be lubricated with petroleum jelly or food grade grease.

THE LATEST VERSION of the maintenance instruction, article number: 95 730-1 is always available at our website, www.hdrehab.se.

6.1 Daily functional checks

To ensure the user's safety a daily functional check of the most vital parts should be carried out as described below.

- Test the brakes (both operating brake and user brake),
- Check that the seat tilt and recline functions.
- Check that the wheels and cushions are correctly located and are well maintained and clean.
- Check that the antitip devices are in the appropriate position.
- If the seat is equipped with a user card, make sure that the chair's settings are consistent with its recommendations.

7. RECYCLING & DISPOSAL

The HD Balance can be largely recycled. Instructions for disassembly and recycling are available in the *Scrapping instructions HD balance* article number. 95735-1.

8 Technical data - Measures

Table 1. Measures in [mm] if not stated	Balance 38		Balance 42		Balance 46		Balance 50	
	16"	24"	16"	24"	16"	24"	16"	24"
Maximum user weight [kg]	135		135		135		135	
Seat width	380		420		460		500	
Seat depth standard frame, with cushion	430-520		430-520		430-520		430-520	
Seat depth standard frame, without cushion	380-470		380-470		380-470		380-470	
Seat depth extended frame, with cushion	480-570		480-570		480-570		480-570	
Seat depth extended frame, without cushion	430-520		430-520		430-520		430-520	
Seat height without cushion	450		450		450		450	
Seat height with original cushion, rear end	510		510		510		510	
Seat height with original cushion, front end	540		540		540		540	
Seat height without cushion, 20" / 5" wheels	n/a	410	n/a	410	n/a	410	n/a	410
Backrest height std, seatplate-top of back frame	560-610		560-610		560-610		560-610	
Backrest height extended, seatplate-top of back frame	660-710		660-710		660-710		660-710	
Back width	380		420		460		500	
Armrest height, from seatplate	250-340		250-340		250-340		250-340	
Armrest depth, fr. back reference point	340-430		340-430		340-430		340-430	
Armrest length	370		370		370		370	
Armrest width	70		70		70		70	
Legrest angle [°]	90-180		90-180		90-180		90-180	
Footrest height (seatplate-footplate)	230-430		230-430		230-430		230-430	
Footrest angle (legrest tube-footplate) [°]	90-110		90-110		90-110		90-110	
Footplate, depth	210		210		210		210	
Footplate rear edge-knee joint (centre)	70-110		70-110		70-110		70-110	
Calf support depth, to centre of knee joint	60-90		60-90		60-90		60-90	
Push bar height, standard, 3-positions	1050-1200		1050-1200		1050-1200		1050-1200	
Total width	630	640	670	680	710	720	750	760
Total length, with legrests	980		980		980		980	
Total length, without legrests	760		760		760		760	
Total height, back in 90° position	1050		1050		1050		1050	
Total height, back folded forward - no cushions	750		750		750		750	
Total weight [kg] including original cushions	29,8	29,9	30,1	30,2	30,4	30,5	30,7	30,8
Turn-around space	1340		1340		1340		1340	
Seat angle, standard [°], (-5° possible)	0 - 20		0 - 20		0 - 20		0 - 20	
Seat angle, extended tilt [°] (-5° possible)	0 - 30		0 - 30		0 - 30		0 - 30	
Backrest angle [°]	90-120		90-120		90-120		90-120	
TRANSPORTATION MEASURES (Folded, without; wheel, antitip devices, leg-, armrests, seat- and backcushions)								
Width	630		670		710		750	
Length	750		750		750		750	
Height	720		720		720		720	
Weight [kg]	16,5		16,7		16,9		17,1	

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