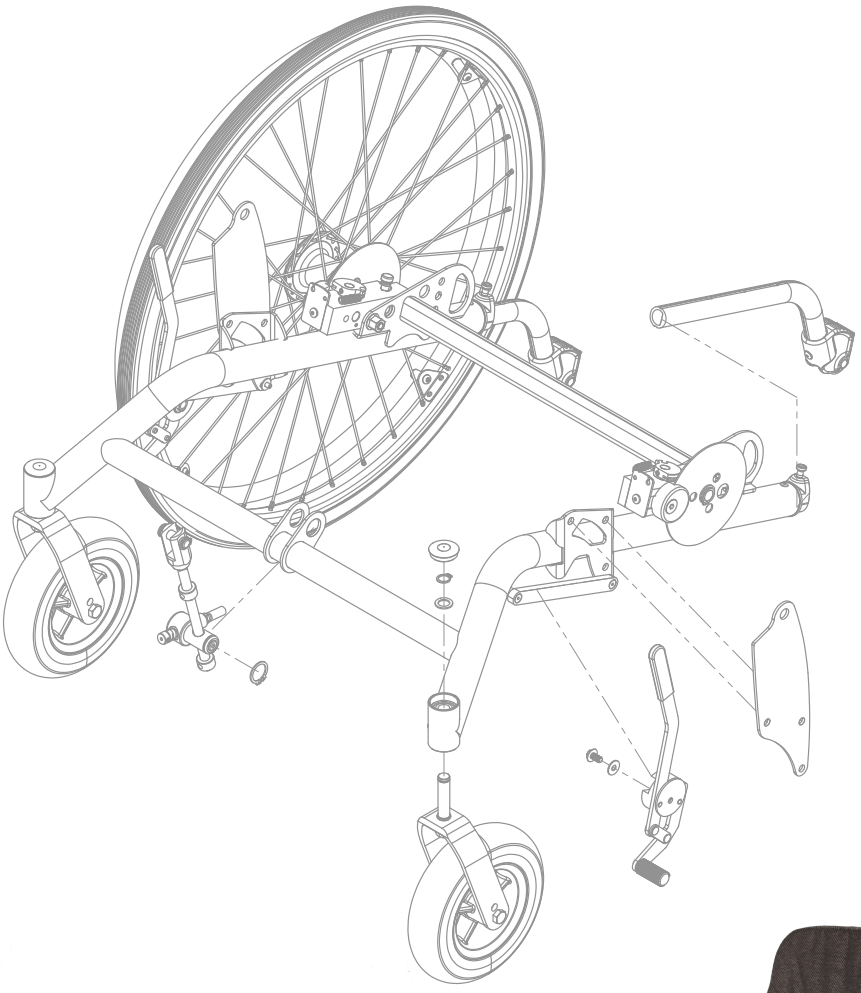
HD Balance - Comfort Wheelchair

Technical Information | English



HD Balance 24 & 16.

WE MANUFACTURE QUALITY OF LIFE

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

HD Rehab offers aids for people living with disability. We have designed, developed, and manufactured comfort wheelchairs for over 40 years. We never compromise when it comes to quality. Precision, safety for users and caregivers, function, and comfort are important bywords for us. We are confident that whatever other wheelchairs you try, you will be able to feel the difference.

GLAD TO BE FLEXIBLE

Whether you are a user, a family member, a technician ,or a caregiver, 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 skilled employees use their specialist knowledge, experience, and creativity to find solutions for the unique needs of each individual user.

TABLE OF CONTENTS

1 General information

HD Balance is a comfort wheelchair intended for users who need excellent support and comfort in their daily routine. The back and seat can tilt in different positions to give the user a variety of seating options for activity and rest.

HD Balance is a Medical Device Class 1 per the Swedish Medical Products Agency.

1.1 Important Documents

The following documents are good to have available when working with an HD Balance:

95431-1 **Information about custom-made products**
Information about regulations for adaptations and modifications of medical products.

95707-1 **Risk information about special configurations and accessories for HD Balance**
Information about increased risks when using certain special configurations and accessories.

95758-1 **Reference table - balancing modes**
Information on the consequences of different balancing configurations. E.g. if restrictions exist, or if further modifications to the wheelchair are required.

95759-1 **Reference table balance configurations**
Table of which balancing configurations are allowed on different models and with different designs.

95764-1 **Labeling - HD Balance**
Contains information about which labels are to be found on an HD Balance.

95730-1 **Maintenance Schedule**

1.2 Lubricants and threadlockers

The following table details recommended lubricants and threadlockers:

Usage area	Lubricant /Threadlocker type	Product used by HD Rehab
General lubrication of sliding surfaces etc.	Synthetic food grade grease	Fuchs Cassida EPS 2 Vendor: Ikaros AB
Tilt lock / tilt rod Wheel attachments (internal)	Thin long-lasting synthetic lubricating oil	Zee Zyynth Oil Vendor: Chemlight Systems AB
Knee joint (internal)	Penetrating oil with good adhesive properties, water repellant	LUBRI 40 Vendor: Chemlight Systems AB
Locking of screws, permanent e.g. wheel axle pin	High strength threadlocker	Loctite 2700
Locking of screws to crossbars etc that may be removed for repairs	Medium strength threadlocker	Loctite 2400

1.3 Finishes

The following finishes are used on HD Balance:

Powdercoat painting. Colour code RAL 9005 Black, gloss 40.
Anodizing.
Nitrocarburizing.

2. Chassis Construction

The HD Balance chassis is constructed of three interacting frames; wheel frame, seat frame, and back frame. These are attached to each other at a number of points such that desired geometry for balance, recline, and seat tilt can be achieved. The wheel frame and seat frame are connected by balance plates. The balance plates are critical to the characteristics of the wheelchair.

The two models, 16 and 24, have identical chassis with the exception of the wheel frame, where the plates for wheel attachment have different designs.

2.1 Chassis configuration options

The HD Balance chassis can be modified to change the wheelchair characteristics. The standard configuration is the reference point for any given data in terms of characteristics, function, measurements, and tests against existing standards. Changes to the chassis configuration come with both positive and negative consequences. Therefore the standard configuration should be used wherever possible.

The following modifications can be made:

- **Change of balancing plates.** Provides raised seat height, lowered seat height, or moving the balance point forward or backward. *Described in section 2.4.*
- **Lengthened seat frame.** Provides increased seat depth. *Must be selected with initial wheelchair order, cannot be changed after assembly.*
- **Increased / Limited tilt.** *Described in section 2.5.*
- **Change of tilt rod.** Effects tilt range per document 95758-1. *Described in section 2.6.*
- **Change to rod in place of gas spring.** Provides a fixed back angle between 90 and105 degrees. *Described in section 2.7.*
- **Moving wheel mounting point 50 mm backward.** Makes the wheelchair more stable but with somewhat poorer handling. *Described in section 2.9.*

2.2 Change of back frame

1. *Remove the push handle by pulling it competely out of the back frame. Be careful with the cables!*
2. *Remove the back cushion and disassemble back system (Flexi-back or Fixed back).*
3. *Release the rear bracket of the gas spring by pulling out the pin so that the gas spring can be gently removed.*
4. *Remove the retaining rings on the inside of the back system attachment points (A, fig1). Tap the pins so that the back frame can be lifted off.* ***NOTE!*** *It is not necessary to remove the pins completely in order to release the back frame.*
5. *Remove the back frame and replace it with the new frame.*
6. *Assemble the new frame by repeating the same steps in reverse order.* ***Be careful not to damage the retaining rings, replace them with new rings if necessary!***

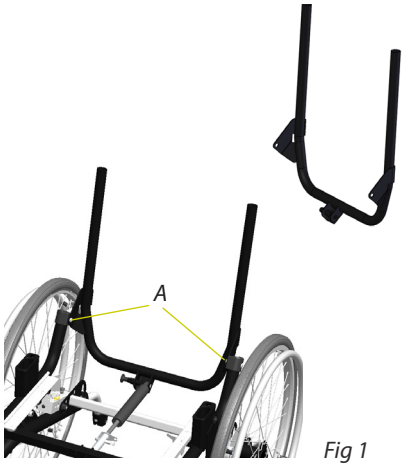


Fig 1

2.3 Change of seat frame

1. *Remove the back frame per section 2.2 steps 1-4.*
2. *Remove seat cushion, seat board, leg rests and armrests.*
3. *Remove tilt rod and gas spring per section 2.6 steps 1-5.*
4. *Remove the screws from both balance plates (A, fig 2).*
5. *Carefully press one balance plate outwards (B) so that the seat frame can be lifted off. Be careful when the seat frame comes free as there can be a pinching hazard and cables can be damaged.*

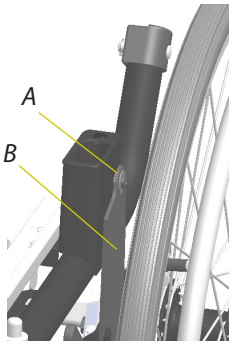


Fig 2

6. *Change out the seat frame and re-attach by reversing the above steps. NOTE! Refer to Figure 3 and be sure that the bushings (C) that sit between the balance plate (B) and seat frame (D) are seated in the correct direction! The longer side must face outwards.*

The bolt (E) should be tightened firmly but with moderate force. After driving the bolt into the lock nut (F) check that the armrest bracket is working properly. If there is any doubt the nut should be replaced by lifting the armrest out of the frame (G). Take care that the inner washer (H) does not fall out.

Check that the seat frame turns easily between the balance plates.

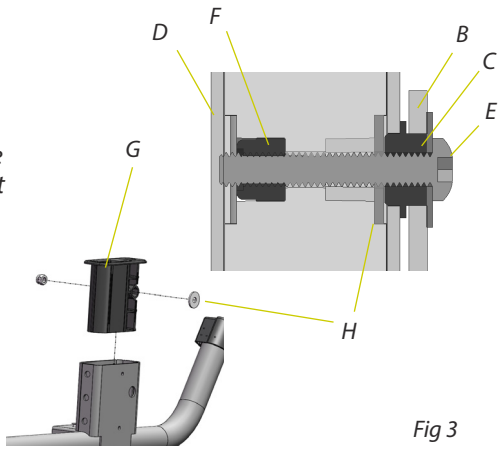


Fig 3

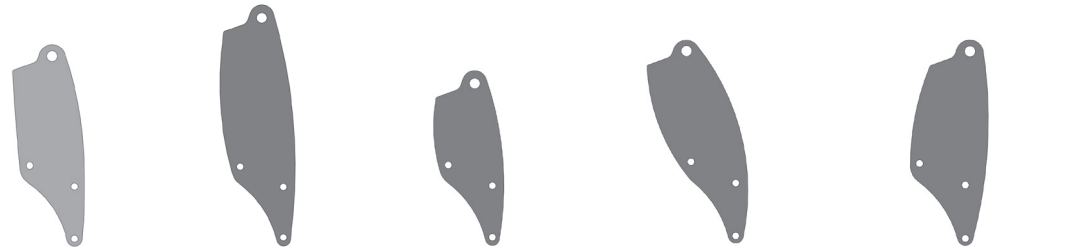
2.4 Change of balancing plates

When changing the balancing plates it must always be ensured that the wheelchair configuration follows the guidelines from HD Rehab. The configurations that are approved are detailed in document 95759-1. Commentary on limitations and other adjustments that must be made is found in document 95758-1. Risk information is given in document 95707-1.

NOTE! The balancing plates cannot be changed if the wheelchair is equipped with electric tilt.

Always read this before commencing work and have it at hand during the process!

PARTS INCLUDED: *Balancing plates, screws for movement of cross tubes (as required), new tilt rod (as required)*



Standard *Raised 5cm* *Lowered 3cm* *Moved forward 3cm* *Moved backward 3cm*

Change and assembly of balancing plates is done as follows:

1. *Remove wheel and take off brake cable from wheel mount, per section 3.1.2 steps 1-3.*
2. *Remove armrest and back and seat cushions, fold back into transport position.*
3. *Loosen the tilt rod as follows:*
   - *Unscrew the lower stop ring and remove it.*
   - *Tilt the wheelchair backwards until the tilt rod draws completely out.*

Be careful with seat and back frames when the tilt rod is released as they then hang freely in the balance plates and can be a pinching risk!

4. *Take apart the tilt lock per section 2.6 steps 7-8.*
5. *Remove the screws (A, figures 4 and 5) that hold the seat frame in place.*
6. *With a firm grip on the seat and back frame, carefully press one balance plate outwards so that the seat frame can be removed from the suspension. Lift off the seat and back system.* ***Be careful with the cables!***
7. *Switch to the desired balancing plates by removing the screws (B, fig 5), changing plates, and attaching again with the same screws.*

Fig 4

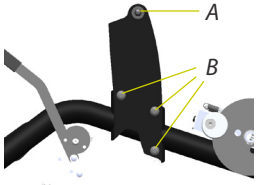


Fig 5

8. *Change the tilt rod per the instructions in section 2.6 (if required by the desired wheelchair configuration). Refer to document 95758-1.*
9. *Move the rear cross tube to its new position per the instructions in section 2.9 (if required by the desired wheelchair configuration). Refer to document 95758-1.*
10. *Reassemble the seat and back frame unit in the balancing plates and tighten the screws, per section 2.2 step 6 and 2.3 step 6.*
11. *Reassemble tilt lock. Check that retaining ring is in good condition and replace with new ring if necessary.*
12. *Tilt the seat back and fit the tilt rod into the tilt lock. Assemble the stop ring in the correct position for the desired wheelchair configuration. Refer to document 95758-1.*
13. *Fold the back up to the normal position and reassemble the gas spring with the pin through the rear part. Ensure the pin passes through both plates of the mount on the back frame.*
14. *Reassemble brake cables and check braking function. Put the cushions and armrests in place.*

2.5 Enabling increased tilt

Icreased forward tilt to -5 degrees (in some cases less depending on configuration) and increased backward tilt to 30 degrees can be achieved by moving the stop rings on the tilt rod. The tilt rod may also need to be changed to a longer version (refer to document 95758-1).

Follow these steps to move the stop rings:

1. *Check that the tilt lock has locked the tilt rod in a set position rather than the tilt rod sitting between two positions.*
2. *Loosen the set screw (A, fig 6) that holds the stop ring in position.*
3. *Move the stop ring to the desired position.* **Read carefully** *in 95758-1 which position is correct for different wheelchair configurations. Note that if the stop ring is moved up from the lowest hole a screw (C) must be placed in that hole and the set screw (A) must be replaced by a shorter version (B), and vice versa.*
4. *If the tilt is increased forward (under 0 degrees) or backward (over 20 degrees) a warning sticker must be attached per document 95764-1 "Labeling, HD Balance".*
5. *Always check the tilt lock is functioning correctly before using the wheelchair!*

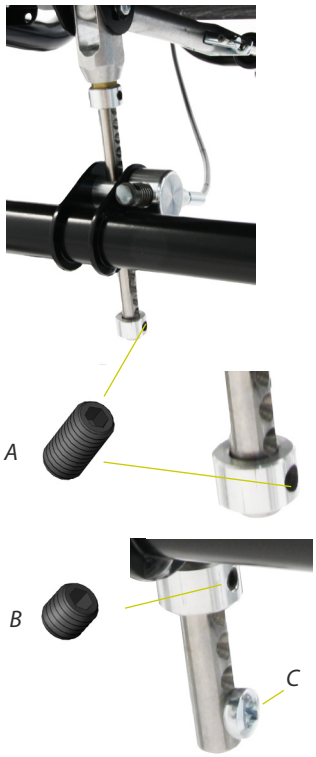


Fig 6

2.6 Change of tilt rod and tilt lock

The tilt lock controls the position of the tilt rod depending on the desired seat tilt. The green tilt lever on the push bar releases the tilt lock via a cable. Follow these steps to change out the tilt lock and/or tilt rod:

1. *Remove leg rests, armrests, seat and back cushions from wheelchair.*
2. *Fold the back frame into the transport position by releasing the rear connection of the gas spring.*
3. *Remove the lower stop ring (tilt the wheelchair backwards to access).*
4. *Move the seat plate backward and remove one of the retaining rings that holds the tilt rod and the gas spring (A, fig 7). Hold the gas spring and knock out the pin incrementally such that only the gas spring comes free. Set aside the gas spring. Take hold of the seat frame and knock the pin out completely so that the tilt rod comes free.*
5. *Swing out the seat frame without damaging the cables.*
6. *Change out the tilt rod and reassemble by reversing the above steps.*

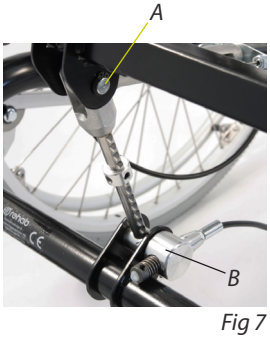


Fig 7

NOTE! The tilt rod must be properly locked in the tilt lock when the fastening fork of the tilt rod is placed between the plates on the seat frame. If the fork is twisted and will not pass between the holes, the nut under the fork must be loosened so that the angle can be adjusted (Refer to Spart Parts document 95740-1, page A6.1 item 16). Check that the retaining ring is not damaged and replace if necessary. Pause the reassembly at this point if the tilt lock will also be changed.

If the tilt lock (B, fig 7) is to be changed (requires cable change):

7. *Remove the green control lever and housing from the push bar.*
8. *Remove retaining ring (C, fig 8) from tilt lock and pull it out of the bracket.*
9. *Place the new tilt lock in the bracket and secure with the retaining ring. Check that the retaining ring is in good condition. Note! The tapped hole where the wire will be attached must be above the cross tube.*
10. *Assemble a new cable package per the instructions in section 3.3.2 steps 5-9, or assemble just a new cable per section 3.3.3.*

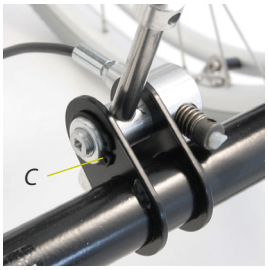


Fig 8

2.7 Change from gas spring to rod for fixed back angle

1. *Remove cushions, leg rests, and seat plate.*
2. *Disassemble the back tilt lever (grey) from the push bar.*
3. *Release the rear connection of the gas spring by pulling out the peg and folding the back frame forwards.* ***Be carefeul as the back frame can fall down when the peg is pulled out.***
4. *Remove the retaining ring from the pin (A, fig 9) that holds the front of the tilt rod and the gas spring. Carefully knock out the pin such that the tilt rod and gas spring come free but the pin remains partially engaged and holds the seat frame in place.*
5. *Replace the gas spring and tilt rod with the desired configuration.*
6. *Reassemble by reversing the above steps and adjust the cable as necessary per section 3.4.1.*

Fig 9

2.8 Replacing a defective gas spring

1. *Remove cushions, leg rests, and seat plate.*
2. *Release the rear connection of the gas spring by pulling out the peg and folding the back frame forwards.* ***Be carefeul as the back frame can fall down when the peg is pulled out.***
3. *Use a wrench to relese the gas spring (A, fig 10) and replace it. Be careful that all components remain in their correct orientations.*
4. *Reassemble the back and test that gas spring is functioning correctly.*

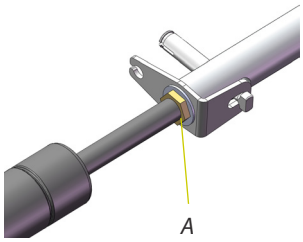


Fig 10

2.9 Drive wheel and Cross tube positions

The wheel frame cross tube (A, fig 11) has three possible positions. The position must sometimes be changed depending on the chair configuration or use of certain accessories.

The wheel mount unit has two attachment points with 50 mm spacing to allow for variation in the wheel base length. The forward poistion is the standard configuration.

For easier assembly screws can be driven through the large hole in the disc brake. Be careful when assembling not to damage the disc.

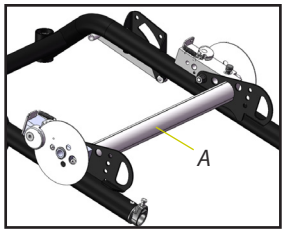
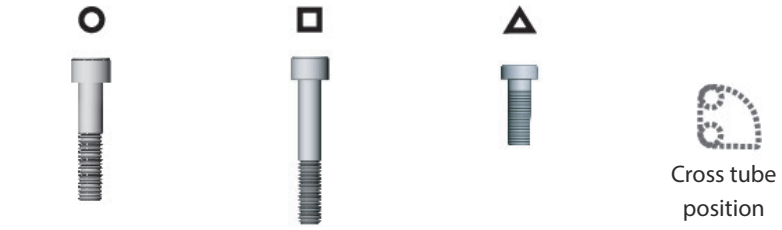


Fig 11

In some positions the cross tube is assembled “through” the wheel mount and in others to the side, as detailed in document 95758-1. Different screw lengths are used for the different variations. Be careful that the correct screws are used!

The following figures show which type of screws should be used for each mounting alternative. Note that locking nuts are used for the screws that are not driven into the cross tube, and medium strength threadlocker (such as Loctite 2400) for the screws that are driven into the cross tube.

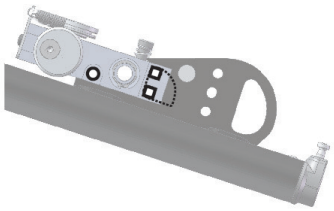


MC6S M8x40
With M8 lock nut

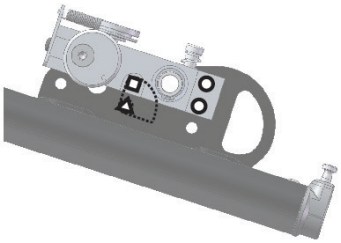
MC6S M8x50

MLC6S M8x25

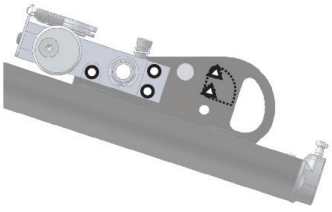
Wheel position: **FRONT**
Cross tube position: **FRONT**



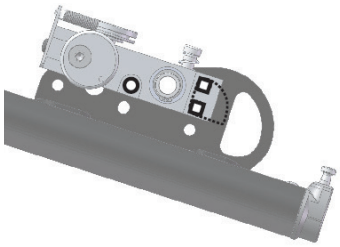
Wheel position: **REAR**
Cross tube position: **FRONT**



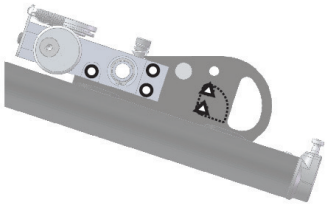
Wheel position: **FRONT**
Cross tube position: **REAR - UPPER**



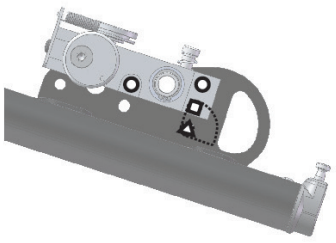
Wheel position: **REAR**
Cross tube position: **REAR - UPPER**



Wheel position: **FRONT**
Cross tube position: **REAR - LOWER**



Wheel position: **REAR**
Cross tube position: **REAR - LOWER**



3. Construction of Various Components

3.1 Disc brake system

The disc brake system (fig 12) consists of a disc (fig 16) that attaches to the drive wheel. A caliper (J, fig 16) pushes against the disc when activated by a brake piston (L, fig 17). This is controlled by a lever (fig 14) via a cable that is attached to a turntable (D, fig 13) which moves the piston. The cable is of fixed length with nipple connections at both ends.

Fig 12

3.1.1 Adjustment of disc brakes

The brakes are adjusted by moving the cap (A, fig 13). Loosen the nut (B) and screw the sleeve out for more braking force, in for less braking force. Tighten the nut (B) after the adjustment. NOTE! Handle sleeve (E) with care! NOTE! The brakes must always be adjusted such that the braking force is correct with the braking levers in the parking position. Verify!

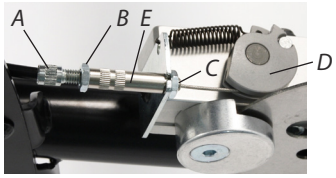


Fig 13

3.1.2 Change of cable

Damaged cables must be replaced immediately! Follow these steps:

1. *Remove the wheel and completely unscrew the wire length adjustment cap (A).*
2. *Remove the sleeve from the plate by unscrewing the nut (C) and threading it out of the slot.*
3. *Release the end of the wire from the turntable (D).*
4. *Unscrew the wire attachment (E) from the push bar and thread the end of the wire out of the braking lever as seen in figure 14.*
5. *Assemble the new cable by reversing the above steps and adjust per section 3.1.1.*
6. *The brake cable (F, fig 15) is attached by a clip (G) below the back mounting plate. Figure 15 also shows how the clip (H) for the tilt-/recline cable (I) should be placed and how the two cables run in relation to each other. If a tiltable push bar is used the clips should switch places with each other. The brake cables should then also run behind the tilt-/recline cable as in figure 15.*

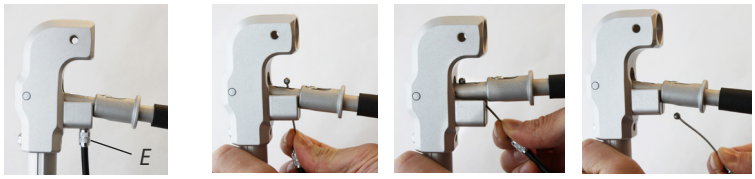


Fig 14

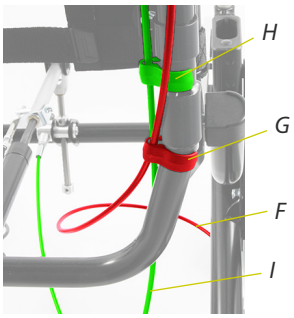


Fig 15

3.1.3 Change of brake pads and/or brake disc

Worn or damaged brake pads or brake discs are changed as follows (see spare parts list for details):

1. *Take off the wheel and unscrew the caliper (J, fig 16).*
2. *Remove the retaining ring (K) with correct pliers and remove disc. Note that there is a plastic washer between the disc and the wheel hub.*
3. *Now the brake piston (L, fig 17), disc, and caliper can be changed out for new parts.*

If lubricating, be careful that no lubrication gets on the disc or the caliper. NOTE! The caliper can be cleaned but must remain completly flat to function correctly.

Fig 16

4. *Reassemble by reversing the above steps. Check the retaining ring (K, fig 16) and replace if damaged.*
5. *Check brake function and adjust cables as necessary per section 3.1.1.*

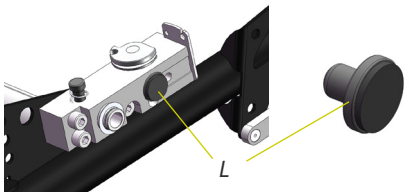


Fig 17

3.2 Tire brakes

Tire brakes are always equipped on HD Balance 24, but can also be assembled to HD Balance 16. The brake lever is different depending on the model and thus brake units cannot be interchanged.

3.2.1 Assembly

1. *Attach the brake unit to the brake bar (A, fig 18) by tightening the nut (B).*
2. *Check that the desired braking force is achieved. Adjust as necessary.*

Note! For assembly on HD Balance 16 the brake bar must first be attached to the wheel frame.

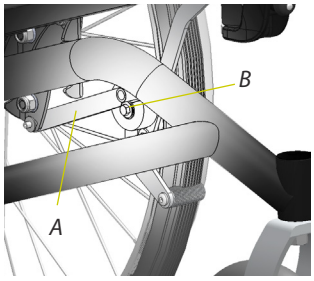


Fig 18

3.2.2 Adjusment

Adjust the braking force by loosening the nut (B, fig 18) and moving the braking unit along the beam (A) until the desired braking force is reached.

3.3 Seat tilt - Controls and tilt lock

The seat tilt is controlled by the green lever on the right hand side of the push bar. The lever moves a wire inside a cable, which releases the tilt lock on the front cross tube (fig 19).

3.3.1 Adjustment of cable

The cable is adjusted by a sleeve (A, fig 20) on the tilt lock, as follows:

1. *Check that the tilt lock has locked the tilt rod in a set position rather than the tilt rod sitting between two positions.*
2. *Loosen the nut (B) and screw the sleeve in all the way so that the wire is as slack as possible.*
3. *Note that there now is some play in the controls such that the first part of the movement does not move the cable housing in the sleeve (A).*
4. *Screw in sleeve (A) so that the gap is almost gone and secure with nut (B). The tilt rod (C) should not move during the adjustment.*
5. *Check that the tilt lock locks and releases the tilt rod properly and that it moves smoothly. Lubricate as required.*

NOTE! When the controls are moved the cable housing should first be pushed into the sleeve (A) ~2mm and compress the internal spring lock pin before starting to open. See spart parts list for details.

Fig 19

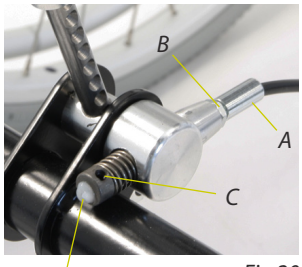


Fig 20

3.3.2 Change of cables and controls

Change of one or both cables and controls can be done concurrently.To change just one cable see section 3.3.3. Follow these steps to change both cables and controls:

1. *Check that the tilt lock has locked the tilt rod in a set position rather than the tilt rod sitting between two positions.*
2. *Unscrew the tilt control lever (green) from the push bar.*
3. *Loosen the nut (B) and screw the sleeve in all the way so that the wire is as slack as possible.*

4. *Loosen the set screw (C, fig 20) that holds the wire in the tilt lock and pull the wire out. The set screw should be screwed out enough that the new wire can easily be threaded in.*
5. *Change cable-control package and mount the controls on the right side of the push bar.*
6. *Thread the cable inside the back frame and under the seat to the tilt lock. There it threads through the sleeve (A, fig 20). Note that a spring (D, fig 21) must first be fit over the wire!* ***Be careful to not fray the wire!***
7. *Pull in the end to put some tension in the wire and screw in the set screw firmly, using threadlocker.*
8. *Clip off the end of the wire so that approx 2-3mm remains outside the pin and put a dab of silicon or hot glue (E, fig 20) on the end of the wire as protection against the sharpness.*
9. *Adjust the cable per section 3.3.1.*

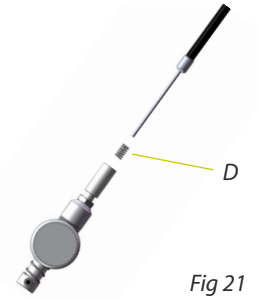


Fig 21

3.3.3 Change of cable alone

When changing a cable the following applies for both recline and tilt. The lower end of the cable is handled per section 3.3.2 for the tilt cable, or section 3.4.1 for the recline cable. The cable is separated from the controls as follows:

1. *Unscrew the wire sleeve (A, fig 22) from the contol bracket.*
2. *Unscrew the screw that holds the lever (B, fig 22).*
3. *Pull the lever off the control bracket (fig 23).*
4. *Pry the wire out of the metal arm (C, fig 24).*
5. *Assemble the new cable by reversing the above steps.*

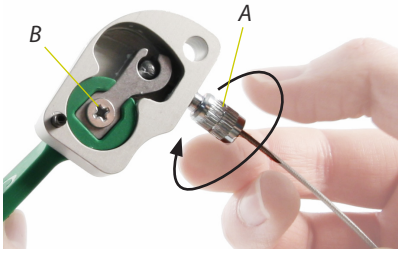


Fig 22

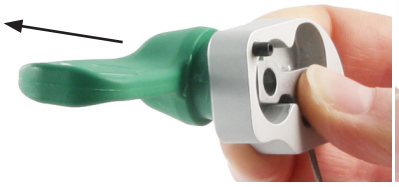


Fig 23

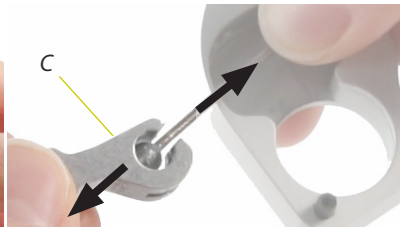


Fig 24

3.4 Recline - Controls and Gas Spring

Back recline is controlled by the grey control lever on the left side of the push bar. The control lever is attached to a cable which moves a pin, which in turn releases the gas spring.

3.4.1 Adjustment of cable

The cable is adjusted by a sleeve (A, fig 25) by the gas spring. Follow these steps:

1. *Check that the cable is in good condition and that the sleeve at the control lever is fully screwed in.*
2. *Loosen the nut (B) and screw the sleeve (A) fully in so that the wire is as slack as possible.*
3. *Note that there now is some play in the controls such that the first part of the movement does not have any effect.*
4. *Screw in sleeve (A) so that the gap is almost gone and then secure with nut (B).*
5. *Check that the recline is functioning properly and that the cable is not tense in the locked position. The pin (C) must travel all the way back in its track when the control lever is released.*

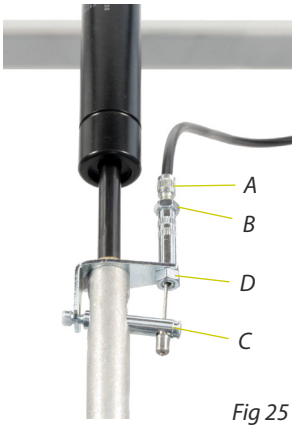


Fig 25

3.4.2 Change / assembly of cable and controls

The cable can be changed alone or the cable and controls can be changed together. To change the cable alone see section 3.3.3. Follow these steps to change the cable and controls together:

1. *Loosen the nut (B, fig 25) and screw the sleeve (A, fig 25) fully in so that the wire is as slack as possible.*
2. *Loosen the nut (D, fig 25) completely and thread the sleeve out of the plate together with the nipple connector out of the pin.*
3. *Remove the control lever from the push bar.*
4. *Assemble new cable and controls by reversing the above steps, adjust per section 3.4.1.*

3.4.3 Fixed back angle

To achieve a permanent, fixed back angle the gas spring and cable are replaced by a rod. Refer to section 2.7 for instructions.

3.5 Drive Wheel Attachment

3.5.1 Change of wheel axle

The drive wheel has an axle (A, fig 25) which is plugged into the hub (B) from the inside, through two bearings (C) and secured with a retaining ring (D) on the outside. To change the axle the cover plug (E) is pryed off and then the retaining ring can be removed and the axle drawn out. Note that 20”- and 24”-wheels have the same axles but the 16”-wheel has a shorter version.

NOTE! The retaining ring (D) must be handled correctly. Using the wrong tool can cause damage and create a risk of the drive wheel coming loose.

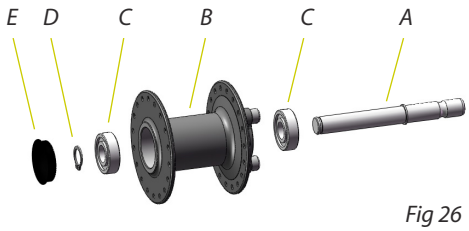


Fig 26

3.5.2 Wheel axle Quick release

The wheel axle attachment in the wheel chair consists of a bushing (F, fig 27) which is pressed into the wheel mounting block (G). The axle is held in place by a spring-loaded pin (H, I) which is secured by a retaining ring (J).

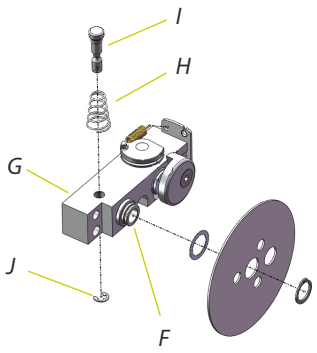


Fig 27

3.6 Castors

3.6.1 change of castor fork

The castor fork is changed by prying off the cover plug (A, fig 28) and then removing the retaining ring (B) that secures the axle (C). Pull out the fork and replace with a new part.

3.6.2 change of castor

Change the castor by unscrewing the bolt (D) and replacing castor. Reassemble in the same way, taking care to keep the washers in place. The castor can also be held in place with a shorter axle pin which is secured by two screws. When reassembling, high-strength threadlocker must be used.

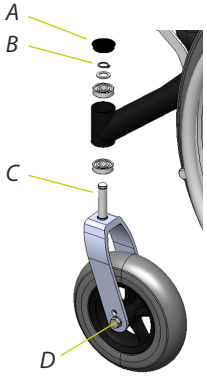


Fig 28

The standard castor (175 mm) is mounted in the lower hole of the fork. If changing to the 200 mm castors the upper hole is used. The 125 mm castor is mounted in the lower hole if the wheelchair has 20” drive wheels. Using the 125 mm castor with 24” drive wheels requires a special fork.

3.7 Armrest

3.7.1 Height adjusment mechanism

The mechanism that controls the height adjustment of the armrest consists of a spring-loaded pin (A, fig 29) that locks in a number of holes in the inner profile (B). When the button (C) is pushed in (fig 29c), the pin is released and the profiles can slide over each other, and when the button is released the pin locks (fig 29b) in the current position. The button is permanently attached with a rivet.

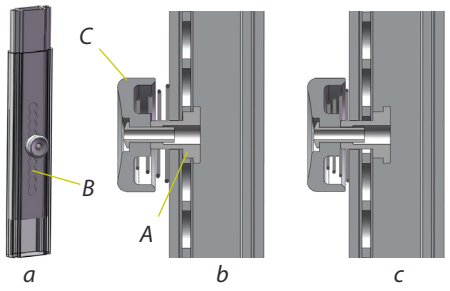


Fig 29

3.7.2 Depth adjustment mechanism

The mechanism that controls the depth of the arm support consists of a spring-loaded release (D) that locks in a number of positions in the arm support profile. If the release is defective the whole inner arm rail (E) must be replaced.

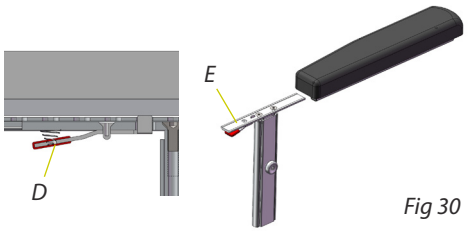


Fig 30

3.7.3 Change of armrest pad

The armrest pad (F) is changed by removing the screws (G) underneath, changing pads and screwing the new pad in place. It is important that the pad is oriented correctly, with the small taper at one end of the pad to be facing inwards at back of the wheelchair and the distance from the pad to the rail approximately 10 mm.

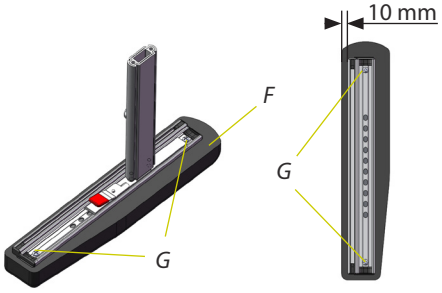


Fig 31

3.8 Leg Rest

3.8.1 Knee joint attachment

The stud (A) where the knee joint is hooked on to the seat frame is held in place with a custom screw (B) that is also part of the locking mechanism when the joint is swung outwards. When any of the components are changed it is important that the custom screw is returned to its position flush against the mounting surface of the frame, otherwise the swing-lock function will not work. Drive the screw firmly and use threadlocker!

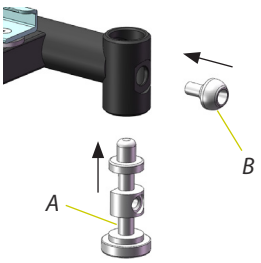
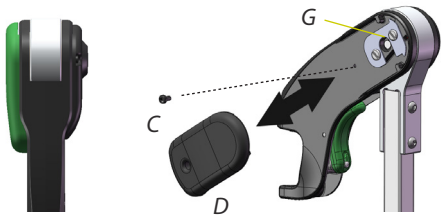


Fig 32

3.8.2 Change of knee joint inner pad

Variant 1:

The inner pad of the knee joint is easily changed by removing the screw (C, fig 33) and pushing the pad (D) backward to remove it. Some force may be required. Assemble a new pad in the same manner.



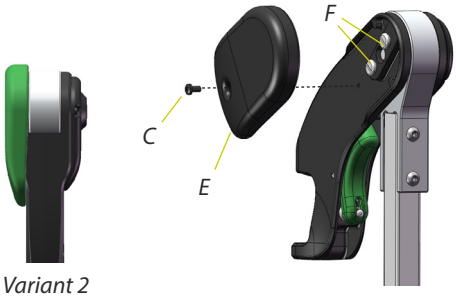
Variant 1

Fig 33

Variant 2 (older wheelchairs):

The inner pad of the knee joint is easily changed by removing the screw (C, fig 34) and pushing the pad (E) slightly forward to remove it. Assemble a new pad in the same manner.

As this version is no longer manufactured we recommend updating to Variant 1. This requires changing the screws (F) and assembling a small plate (G, fig 33).



Variant 2

Fig 34

3.8.3 Change of knee joint outer pad

The outer pad (H) is changed by removing the three screws (I, fig 35) and taking off the pad. Assemble a new pad in the same manner.

3.8.4 Change of leg rest tube

Before changing the leg rest tube any footrests and calf supports should first be removed. Then the two screws (J, fig 35) are removed, the tube is replaced and the new tube assembled in the same manner.

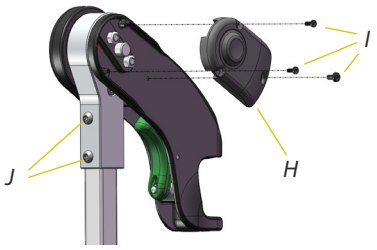


Fig 35

4. Accessory Information

4.1 Electric actuator

The actuator, control box, and battery / control unit for the HD Balance are self-contained units that are connected by cables. Never open a unit that is not functioning or any warranties will be void.

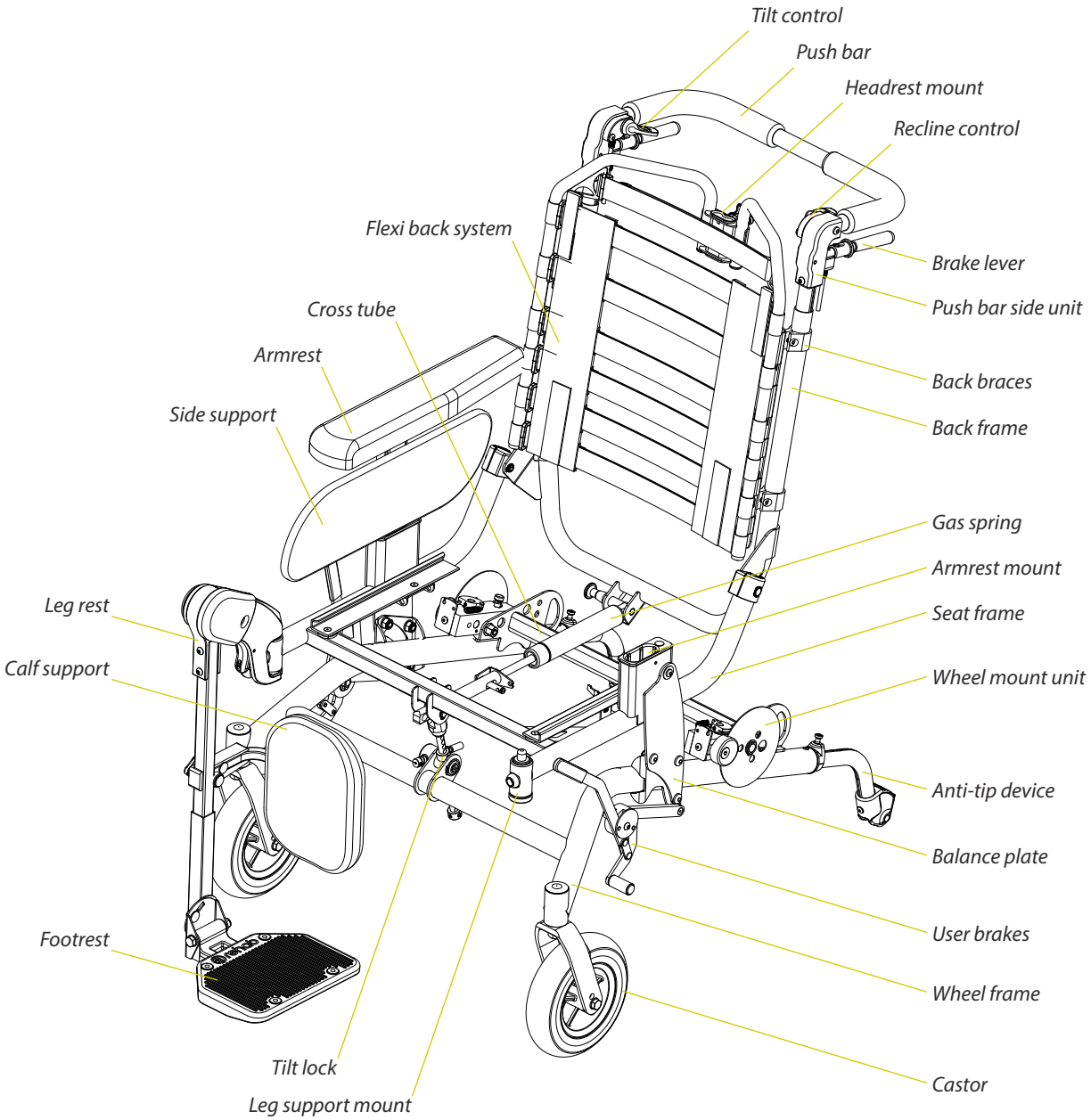
When there is a problem with the actuator, always check:

- That cables are in position and are connected properly, see manual 95835-1.
- That the battery is charged.

Contact HD Rehab if this does not resolve the problem.

The actuator package is manufactured by LINAK. The actuator type is LA23, the battery / control unit is model CB8-A. More information on these products is found on the LINAK web site.

5. Overview Diagram



Document information

Art. nr. : 95720-1 Revision: C Publication date: 2014-09-19