

# Mio Carbon Design 2018



## Service Record

**In the following all individual adjustments of the wheelchair are described. These adjustments require tools and specialised knowledge. Please leave the adjustments to a qualified rehab consultant.**

**Imprint**

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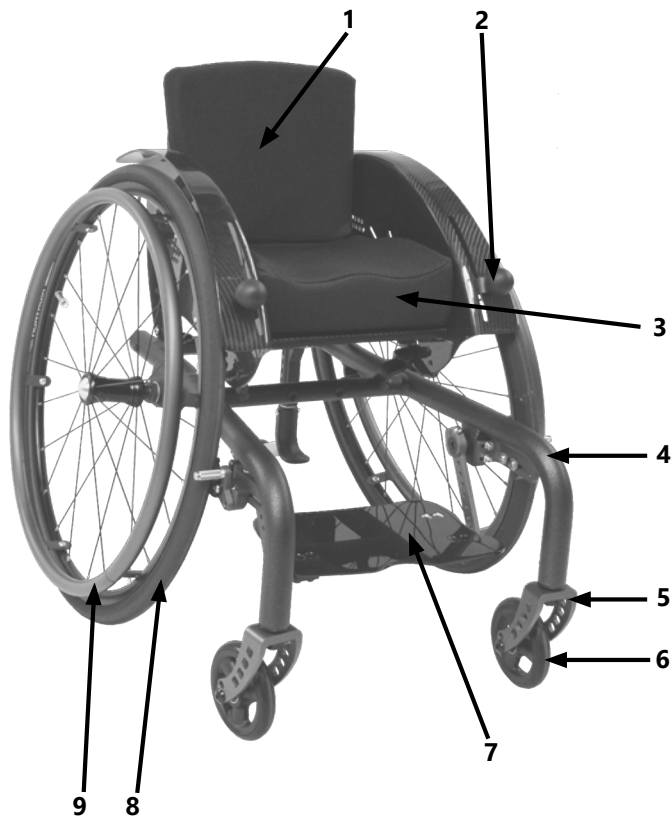
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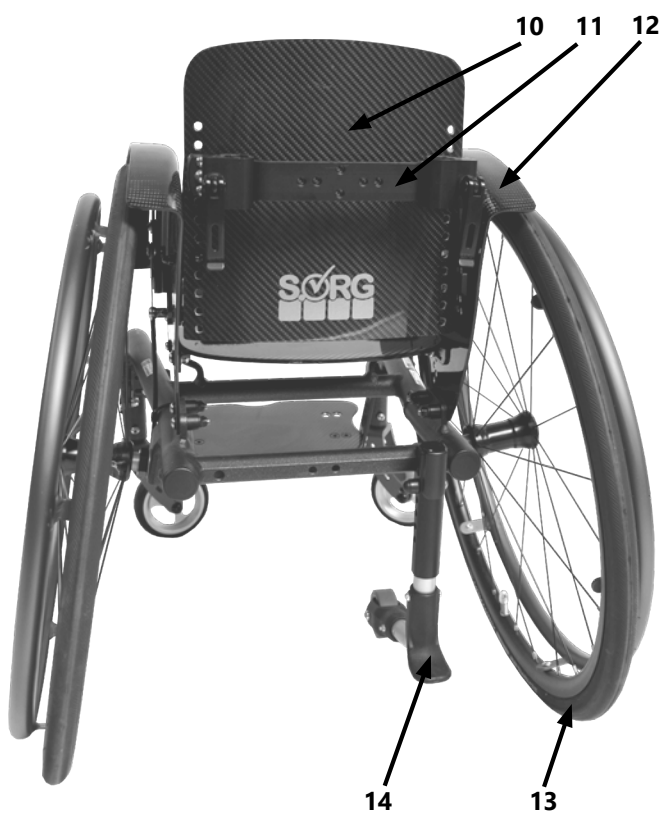
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- 1 back cushion
- 2 brake lever
- 3 seat molding
- 4 frame
- 5 caster fork
- 6 caster
- 7 foot plate
- 8 rear wheel
- 9 hand rim



- 10 back
- 11 stabiliser bar
- 12 skirt guard
- 13 rear wheel
- 14 anti tipper

### 2.1 General indications

In the following all individual settings, adjustments and repairs as well as the yearly inspection of the wheelchair are described. These adjustments require tools and specialised knowledge. Please leave the adjustments to a qualified rehab consultant.

Should questions or suggestions come up then please contact your medical supply store or our team (+49 7254 9279-0).

### 2.2 Documentation indications

Please note:

- Information about before sale can be found in the instructions for use
- Information for the user can be found in the instructions for use
- For maintenance instructions see: Chapter 4 (Repair & Maintenance)

### 2.3 Required torques and tools

*For the following screws needed torque:*

- M5: 5 Nm;
- M6: 7 Nm;
- M6 (axle plate) 10 Nm
- M8: 20 Nm;
- M10 (nut): 25 Nm; (caster)
- quick release axle fitting 40 Nm

*Needed tools:*

- torque wrench (5-50 Nm)
- open end wrench
- flex ratchet handle with socket wrench inserts
- hexagon screw driver
- Phillips screw driver
- flat head screw driver
- plastic mallet
- side cutter
- threadlocker (fluid)
- bicycle inner tube repair kit
- work bench/jaw vise with rubber pads

### 2.4 Explanation of symbols



**ATTENTION!** Warnings for personal Safety aspects that are of the utmost importance.



**CORRECT** safety adjustment/ use



**WRONG** adjustment/ use



**NOT ALLOWED**



**References** to additional/continuing reading.



important detail



correct or proper use/setting



incorrect or improper use/setting

(A); (B)

reference from text to detail

#### Use



push/ pull/ insert / move/



Push in specific direction



Setting or adjusting the angle



open/ close



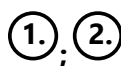
Turn clockwise



Turn counter-clockwise



steps to be done at the same time



steps to be done after each other



steps to be done on both sides



point of view



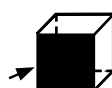
view from top



view from the side



view from the bottom



view from the front



view from the back





fasten parts





remove parts

### 2.5 General safety instructions


-  **Before each use be sure to check:**
- frame, back tubes, attachments and accessories for visible damage, bends, cracks or missing/loose screws,
  - wheels/quick release axles for firm fit,
  - sufficient tire pressure, tire tread,
  - functionality of the brakes,
  - firm fit of the angle adjustment elements/ eccentric clamps,
  - firm fit of the seat plate/ the back/ the foot plate,
  - functionality of the anti-tipper/ seat and back straps,
  - if all previously disassembled parts are re-inserted or firmly locked.


 There is a risk of injuries (e. g. such as bruising) on all rotating or folding parts, including adjustments, repairs and transport.

 All wheelchair parts are to be handled with care. Do not throw or drop removable parts.


 Before repairs or adjustments are made, clean/disinfect the wheelchair and secure it from tipping over and/or falling down.

 Only use original spare parts.


 Safety nuts may only be used once. Loosened safety nuts must be replaced by new ones.


 Only the regular maintenance of all safety-relevant parts on the wheelchair by a qualified rehab workshop protects against damage and maintains our manufacturer's warranty.

#### *Lifespan*

 Use beyond the specified lifespan increases the residual risks and should only be carried out after careful, qualified consideration by the operator. If the useful life is reached, the user or a responsible person should contact the specialist dealer. There you can be informed about the possibility of reprocessing the product.

#### *Combination with products from other manufacturers*

 The wheelchair may only be combined with the electrical auxiliary drives approved by the manufacturer. The responsibility of restrictions or adjustments as well as the attachment itself lies with the supplier of the additional system or the specialized retailer. Please ask about the conditions with the manufacturer of the auxiliary drives.

 In combination of wheelchair and electric auxiliary drive, certain strains occur that can lead to damage to the wheelchair. Slowly approach obstacles and carefully overcome them so that little force is applied to the casters, rear wheels and the wheelchair as a whole.



### 3.1.1 Centre of gravity/ wheelbase

The center of gravity (degree of activity), the seat height and the seat angle of the wheelchair are used for wheelchairs of product group 18.50.03. usually set with the constellation drive and steering wheels or the perforated plate. The wheelbase is fixed on the Mio and can not be changed. The center of gravity is adjusted via the seat support angle.

### 3.1.2 Camber

The camber and toe adjustment settings can be found in the separate service booklet "Camber and toe compensation". This can be found at <http://www.sorgrollstuhltechnik.de>.

### 3.1.3 Casters

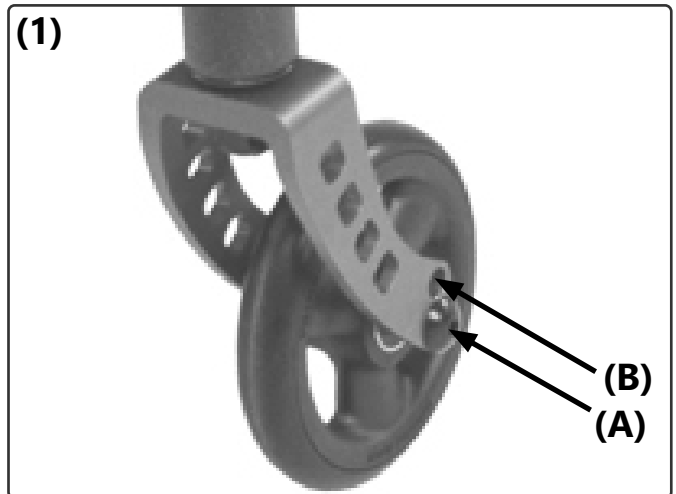
The steering wheels are firmly in the frame tube and can not be adjusted.

**(1)** To displace/replace the casters:

- remove the screws **(A)** completely,
- remove the husks,
- change the casters,
- if necessary, guide the husks and wheels in the new holes **(B)**,
- replace the safety nuts with new ones and retighten all the screws.



When changing the casters, make sure that the Casters is mounted in the previous hole.





## 3.2 Assembly group seat

### 3.2.1 Seat height and seat tilt

The seat height is (next to the centre of gravity) a significant factor for the ideal length for turning the driving wheel and causes a positive division of the child's strength when using the wheelchair.

A general rule is: with a straight (and relaxed shoulder area) stance of the child, the elbows should reach the side guard. Be sure that when setting the seat height to check that the child does not need to lift its shoulders when moving the wheelchair.

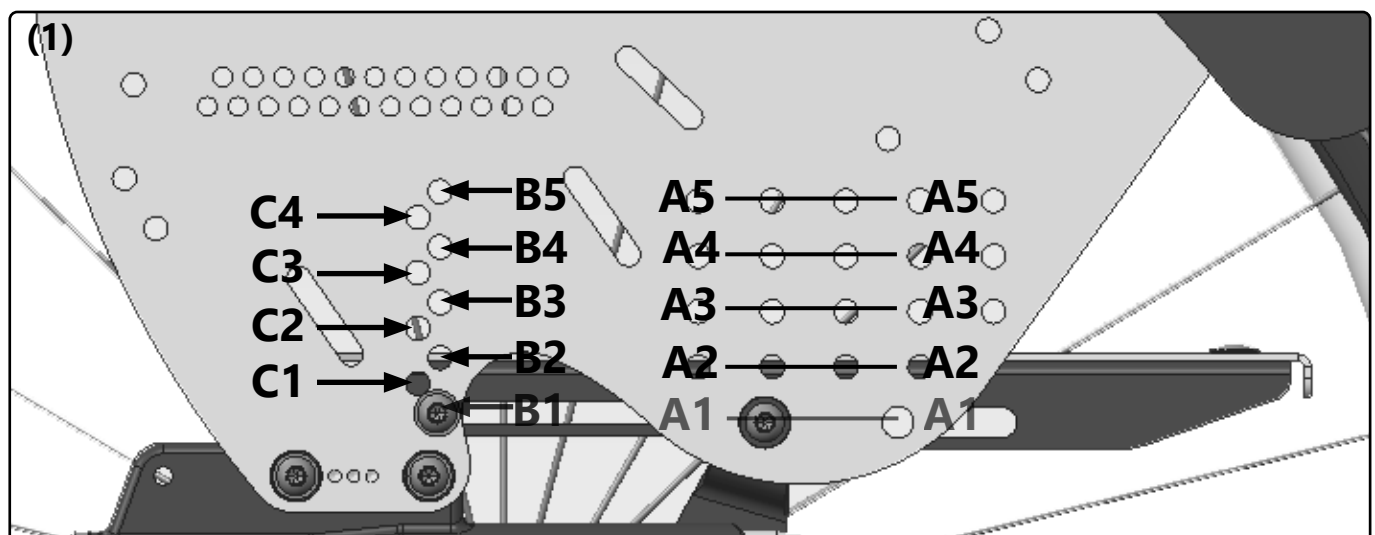
A slight or strong seat tilt allows a safe and comfortable seat position with a good distribution of the seat pressure and promotes the straightening of the pelvis.

**(1)** By alternating the seat angle the seat height can be changed in 1,5 cm steps up to 4,5 cm and gives the following seat heights in the front:

	Distance top edge of the seat to ground (without seat cushion!)				degree of tilting	
	with 18"	with 20"	with 22"	with 24"	bore	degree
A1	315 mm/ 31,5 cm	340 mm/ 34,0 cm	360 mm/ 36,0 cm	385 mm/ 38,5 cm	B1	without
A2	330 mm/ 33,0 cm	355 mm/ 35,5 cm	375 mm/ 37,5 cm	400 mm/ 40,0 cm	B2	without
					C1	slight
					B1	strong
A3	345 mm/ 34,5 cm	370 mm/ 37,0 cm	390 mm/ 39,0 cm	415 mm/ 41,5 cm	B3	without
					C2	slight
					B2	strong
A4	360 mm/ 36,0 cm	385 mm/ 38,5 cm	405 mm/ 40,5 cm	430 mm/ 43,0 cm	B4	without
					C3	slight
					B3	strong
A5	-	400 mm/ 40,0 cm	420 mm/ 42,0 cm	455 mm/ 45,5 cm	B5	without
					C4	slight
					B4	strong

- Remove the screws of the seat supporting angle
- mount the seat plate in the desired position,
- replace the screws and tighten them.

When setting the seat height regard the daily situations (pushing the wheelchair under a table at school or nursery school etc.). According to the set position of the foot notch, it must be ensured that the casters can turn freely 360°.



### 3.2.2 Widening the seat

To change the seat width by 20 mm / 2 cm, you must make changes to the following four factors:

- spacer bushing
- back wearing angel
- seat supporting angel
- adjust quick release axle adapter

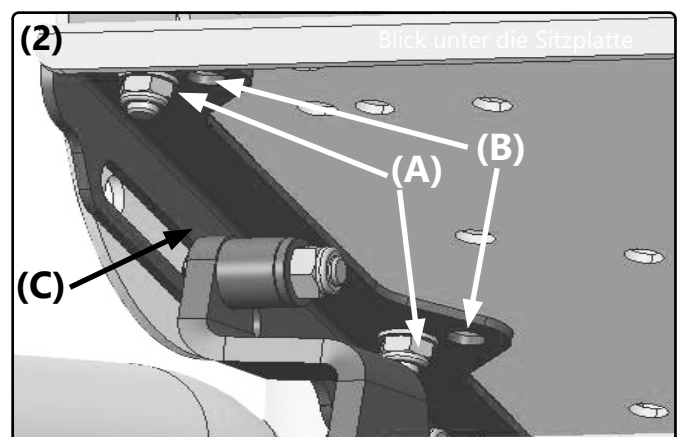
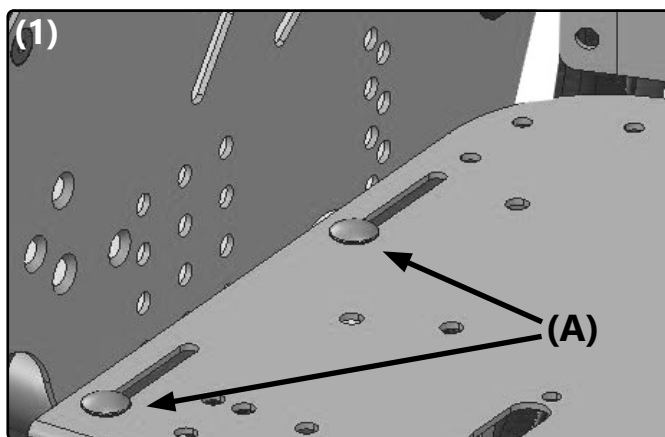
Please proceed as follows:

- Remove the rear wheels,
- secure the wheelchair against rolling away,
- **(1 + 2)** remove the seat plate completely,
- **(3)** remove the firm curved back plate from the connection angles to the side panels,
- remove the side panels completely.

### 3.2.3 Seat supporting angle

**(2)** Leave the seat supporting angle **(C)** connected to the side guards and remove only the seat panel.

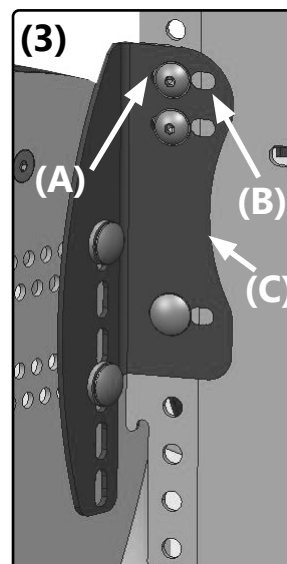
**(1+2)** Completely remove screw connections **(A)** from the seat supporting angle under the seat plate on both sides.



### 3.2.4 Back supporting angle

**(3)** Leave the back supporting angle **(C)** connected to the side guard and remove only the back of the firm curved back plate.

**(3)** Completely remove screw connections **(A)** on both sides



## 3.2 Assembly group seat

### 3.2.5 Side guard/ spacer bushing

(1) The wheelchair is delivered by us in such a way that the spacer bushing **(B)** required for seat widening sit on the inside of the side panel holders **(D)**.

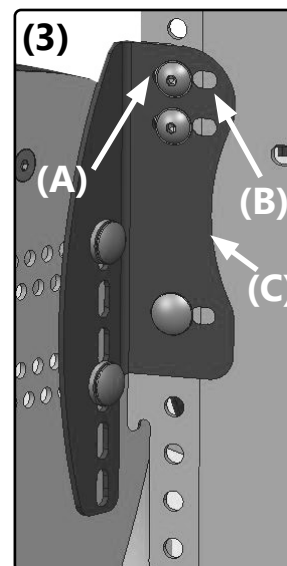
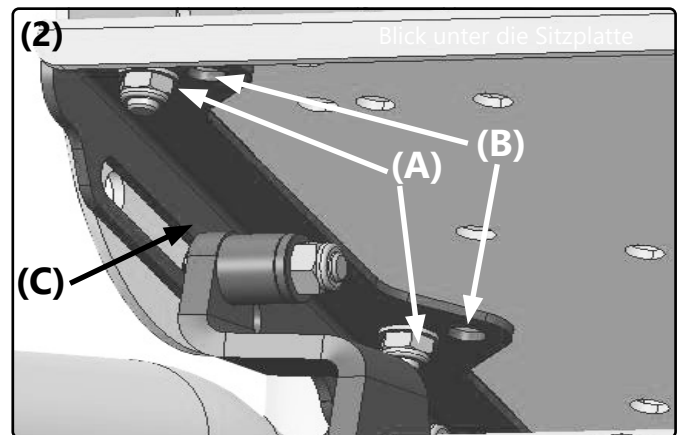
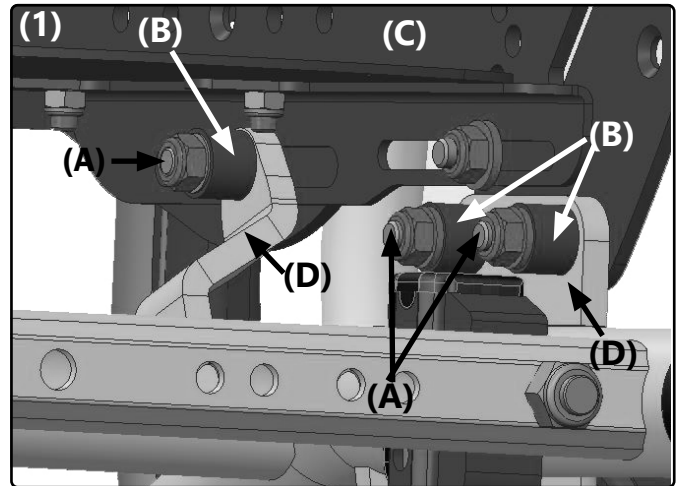
- **(1)** Completely remove screw connections **(A)** and spacer bushing **(B)** on both sides.
- Place spacers bushing between side guard **(C)** and side guard brackets **(D)**,
- Fit the side guard back to the side guard holders **(D)**,
- Replace all screw connections and tighten tightly.
- After the seat widening the spacer bushing must sit on the outside between the side holder and side guard.

Then mount the seat plate in the new position:

- **(2)** Mount the seat plate in the internal holes **(B)** of the seat support brackets.
- Reinstall screw connections and tighten tightly.

Then mount the back of the firm curved back plate in the new position:

- **(3)** Mount the depression on the inner holes **(B)** of the back support brackets **(C)**.
- Reinstall screw connections and tighten tightly.



### 3.2.6 Adjust quick-release axle

Correct the distance of the wheels to the side part. Proceed as described above.

## 3.2 Assembly group seat

### 3.2.7 Seat depth

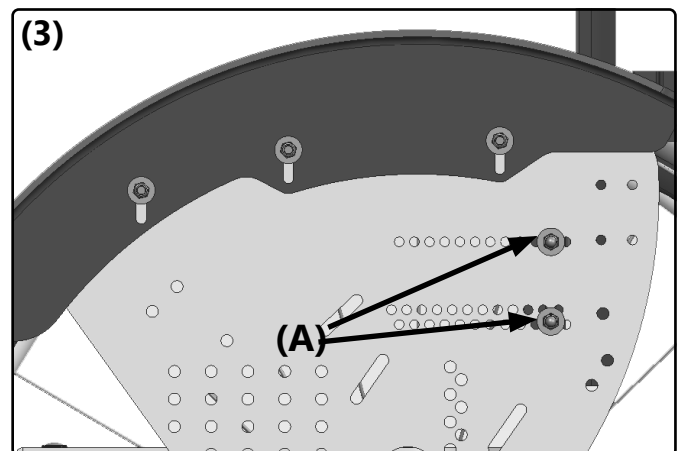
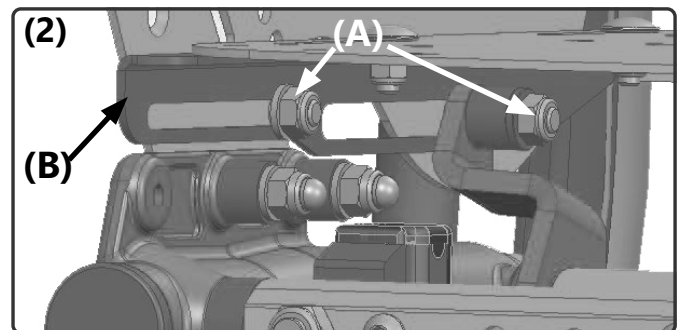
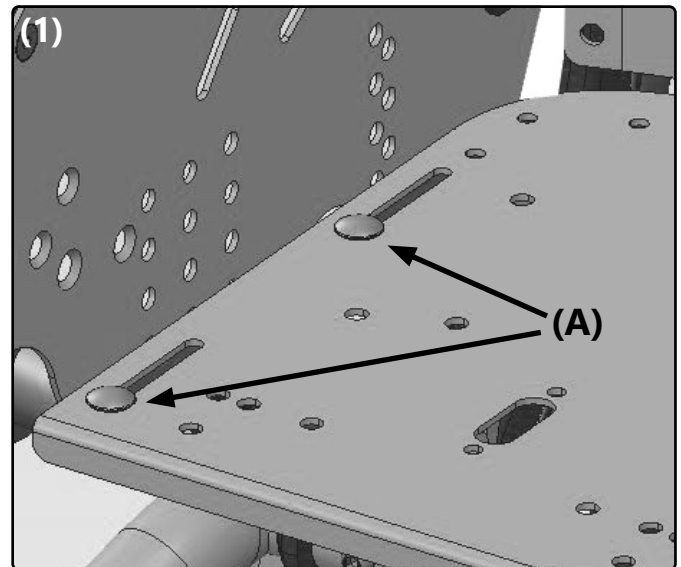
There are three ways you can change the seat depth:

- by moving the seat plate,
- by moving the seat supporting angle,
- by moving the firm curved back plate.

In the pictures you can see the delivery status of the mio

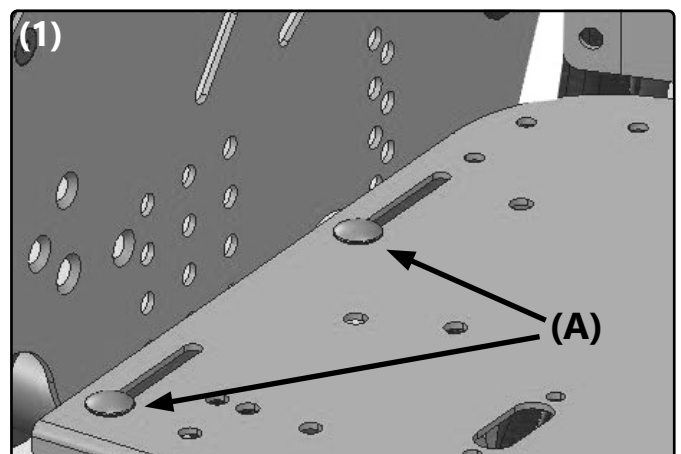
- **(1)** Seat plate at the very back of the seat supporting angle **(2B)**, so that it stands at the rear approx. 20-30 mm / 2-3 cm beyond the firm curved back plate)
- **(2)** seat supporting angle mounted at the very front,
- **(3)** Backrest mounted at the back.

In this state, the seat depth can be continuously extended by moving the seat plate forwards by approx. 40 mm / 4 cm and by moving the firm curved back plate to the back, another 30 mm / 3 cm. The position of the seat support angle affects the user's center of gravity and gripping path.



### 3.2.8 Move seat plate

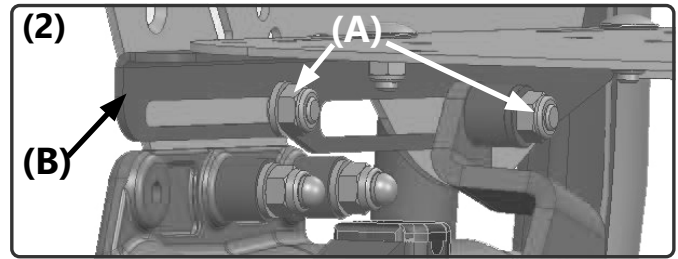
- **(1)** Loosen screw connections **(A)** on both sides,
- move the seat plate to the desired position,
- Tighten screw connections again.



## 3.2 Assembly group seat

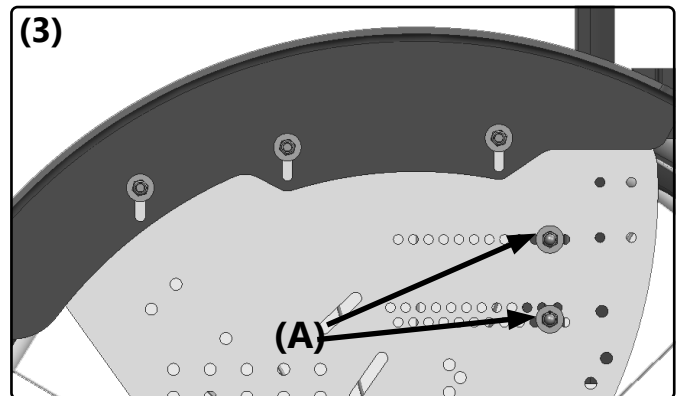
### 3.2.9 Move seat supporting angle

- **(2)** Loosen screw connections **(A)** on both sides,
- move the seat supporting angle **(B)** to the desired position,
- Tighten screw connections again



### 3.2.10 Move firm curved back plate

- **(3)** Loosen screw connections **(A)** on both sides,
- bring firm curved back plate into the desired position,
- Tighten screw connections again.



### 3.2.11 centre of gravity

The focus of the user is set via:

- the position of the seat supporting angle vertically and horizontally,
- the position of the firm curved back plate.

This is automatically accompanied by the adjustment of the position of the seat plate and the firm curved back plate.

The required adjustment work has already been described in the previous chapters (seat assembly).

The (body) center of gravity of the user in his wheelchair is the decisive factor for the optimal grip point and thus a positive force balance. Especially with young users, the acceptance of the aid and thus the success of the rehabilitation measure are decided.

For this reason, please use the utmost care and patience when adjusting the wheelchair.

By default, the wheelchair is preset in a relatively tilt-stable position. The farther the backrest and / or the seat supporting angle are mounted to the rear, the faster the wheelchair tends to tip backwards. However, it can also be tipped more easily on 2 wheels, which greatly facilitates practicing wheelchair users overcoming obstacles.

A wheelchair that is set too tilty can, above all, unsettle inexperienced users to a great extent and possibly even demotivate them! Even if the anti-tippers are activated and there is no danger, a beginner is more likely to be blocked and limited in his ability to respond.

Please proceed cautiously and only with the help of an experienced escort step by step to the maximum and by the user (!) Desired point of tilting. Please read the safety instructions carefully.

## 3.3 Assembly group back

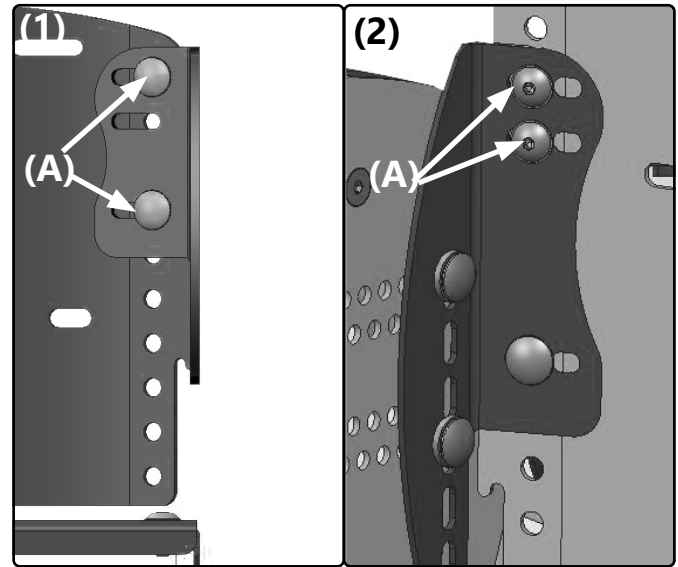
### 3.3.1 Adjust back height

In order to ensure the greatest possible freedom of movement of the arms when driving the wheelchair, with active drivers, the back height should usually reach to the lower edge of the shoulder blades.

For our solid firm curved backs, the upper edge of model 3 is pulled upwards by approx. 50 mm / 5 cm (with model 1 approx. 20 mm / 2 cm). For a longer support of the spine is achieved. Due to the bevel of the back plate to the outside, the shoulder blades can still be moved freely.

To change the position of the firm curved back plate:

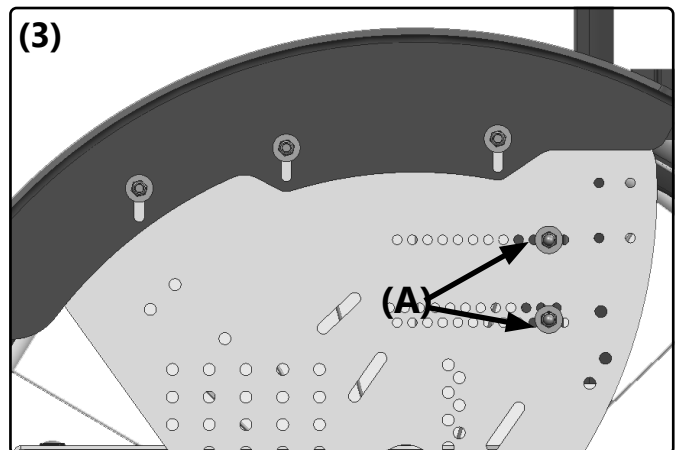
- **(1 + 2)** completely remove screws **(A)** on both sides,
- put firm curved back plate in the desired position,
- Reinstall screw connections **(A)** and tighten tightly.



### 3.3.2 Adjust back angle

The back can be adjusted by moving the backrest at an angle of 0 °, + 5 °, + 10 °, -5 ° and -10 °. Please note that the center of gravity of the wheelchair shifts when adjusting the backrest.

- **(3)** Loosen screw connections **(A)** on both sides,
- bring the firm curved back to the desired angle,
- Tighten screw connections in the corresponding holes again.,



Try new setting only with the help of a helper!



## 3.4 Assembly group leg support

If the leg support is set too high, it will lead to kinking in the pelvis. A too low set will block the blood and lymph circulation. Therefore, leave enough space between the back of the knee and the seat cushion (about one hand width - without thumb). The thighs must rest evenly on the seat cushion.

### 3.4.1 Standard leg support

The leg support can be rotated 360 ° on the Mio (Design 2018) in the holder mount **(1G)** like a Ferris wheel. This "turning" changes the distance between the seat and footplate both horizontally and vertically.

Vertical adjustment of leg support (lower leg length):

- **(1)** Remove screws **(A)** on both sides.
- Place base plate **(B)** in the desired hole **(C)**. (The leg support needs to be in the same position on both sides.)
- Reinstall screws **(A)** and tighten.

Horizontal adjustment of the leg support (angle adjustment of the footplate holder):

- **(2)** loosen screws **(A)** on both sides,
- Place the footplate holder **(B)** on both sides in the same desired position,
- Turn screws **(A)** tight again,
- if necessary, readjust the angle of the leg support (see next point).

Horizontal adjustment of the leg support (angle adjustment of the foot plate)

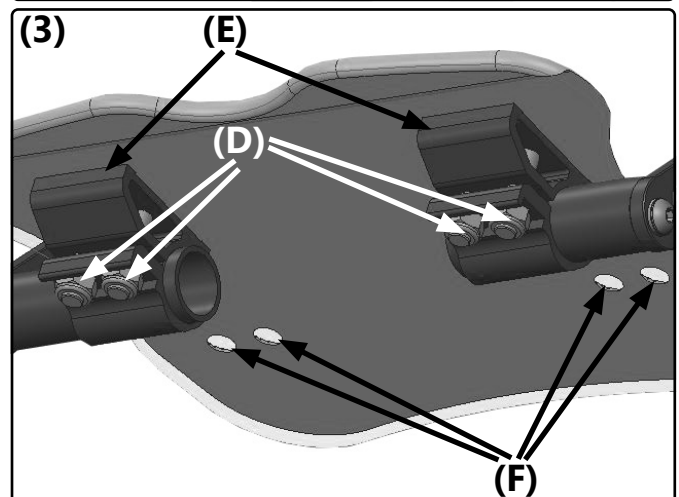
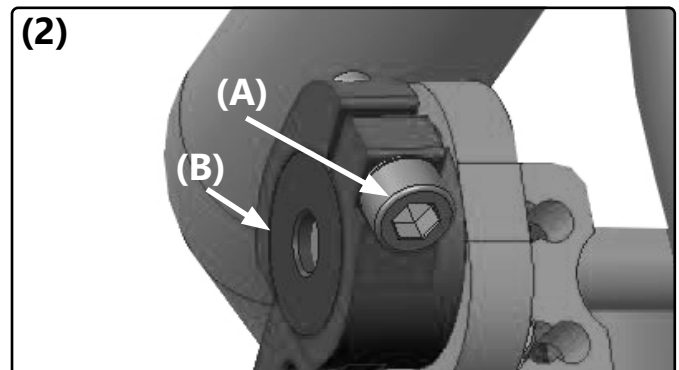
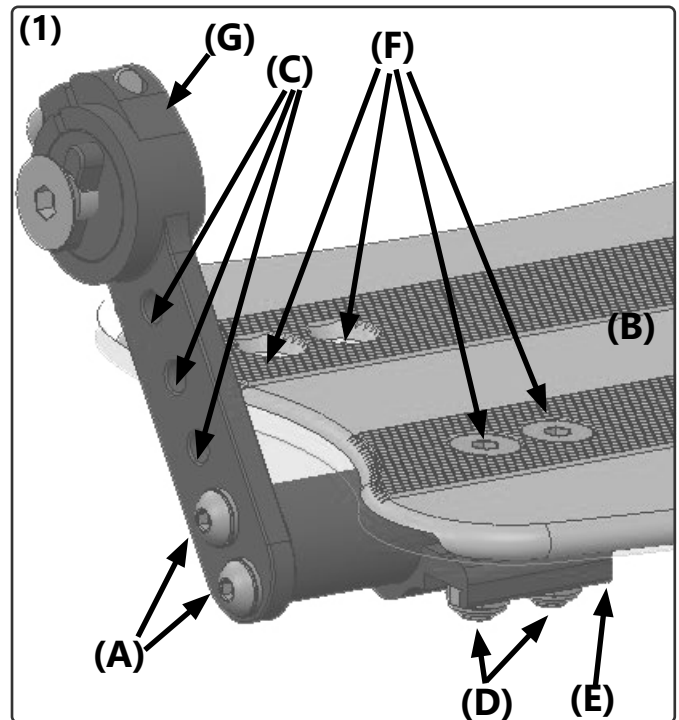
- **(1)** loosen all screws **(D)** on both sides,
- bring leg support **(B)** to the desired angle,
- tighten all screws **(D)** again.

Horizontal adjustment of the distance of the leg support **(1 + 3)** To change the distance by 30 or 60 mm / 3 or 6 cm turn the clamping parts **(E)** by 180 ° and / or with the front holes **(F)** of the leg support screw.

- For moving the clamping parts:
- Remove screws **(D)** on both sides,
- Turn clamping parts **(E)** horizontally by 180 ° and
- Reinstall screws **(D)** and tighten tightly.

To move the leg support:

- Remove screws **(D)** on both sides,
- Put leg support in the alternative holes **(F)** and
- Reinstall screws **(D)** and tighten tightly.





### 3.5.1 Adjust the side guards

The side guards at Mio Carbon can not be changed.


Adjustment of clothing protection

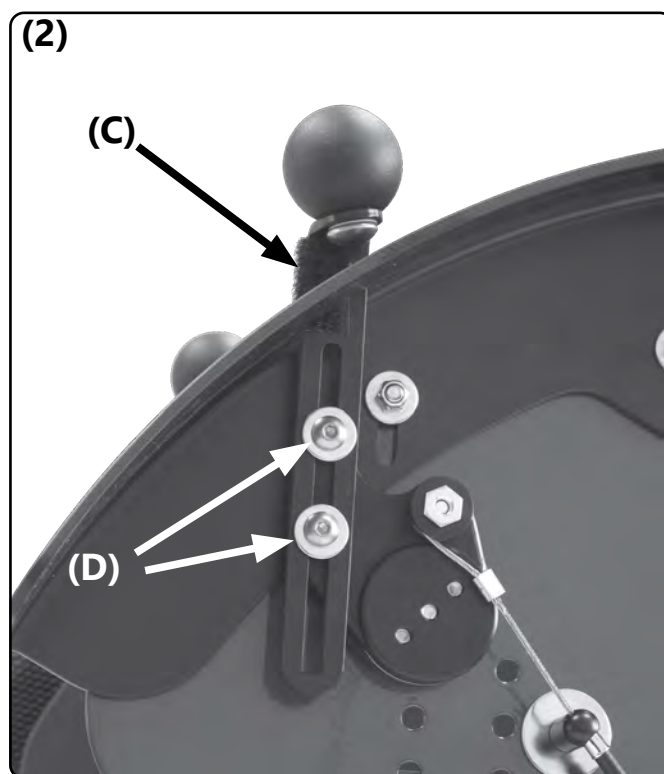
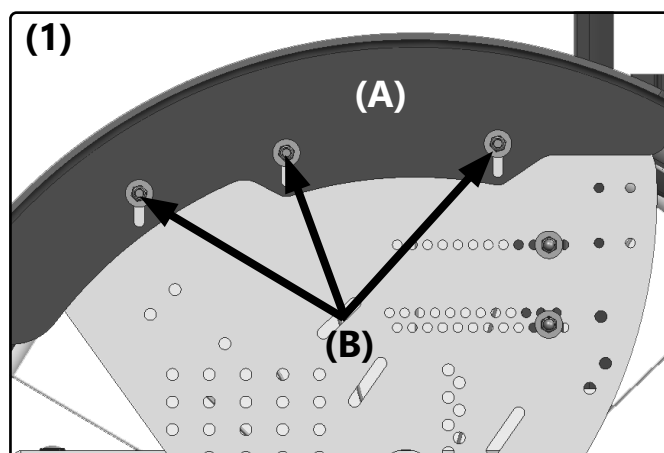
**(1)** The clothes guard **(A)** can be adjusted in height:

- loosen all screws **(B)** on both sides,
- Move clothes guard **(A)**
- tighten all screws **(B)** again.

**(2)** if necessary the length of the brake lever **(C)** must be adapted to the new position of the garment guards:

- Loosen the screws **(D)** on both sides,
- align the brake lever **(C)**
- and retighten all of the screws **(D)**.


 Afterwards, check the functionality of the brakes!




## 3.6 Assembly group brake

### 3.6.1 wheel lock


**(1 next page)** Each wheelchair is equipped with two wheel locks. They consist of brake pressure bolts **(A)**, brake lever **(B)** (possibly also with extension), adjusting screws **(C)** and if necessary the bowden cable.

 Wheel locks is used exclusively to lock the wheels in a resting position. They are not designed to decelerate the wheelchair from the ride.

 The correct operation of the brakes can be affected by:

- too low tire pressure,
- Wet, snow, mud, ice, dirt, etc.,
- crazy profile,
- worn brake pin,
- loosened brake bolt bolts,
- dirty drum brake,
- defective Bowden cable (with drum, attendant or one-hand brake),
- too much distance between brake pressure pin and tire.

Check all bolted connections of the brakes for their tightness at regular intervals.

 After all changes to the rear wheels, adjust the brake. On a ramp with a gradient of 12% (= 7 °), the rear wheels of the wheelchair must not slippage at maximum load with the wheel lock on.

When the brake is open, the maximum distance between the brake pressure pin and tires is determined as follows:

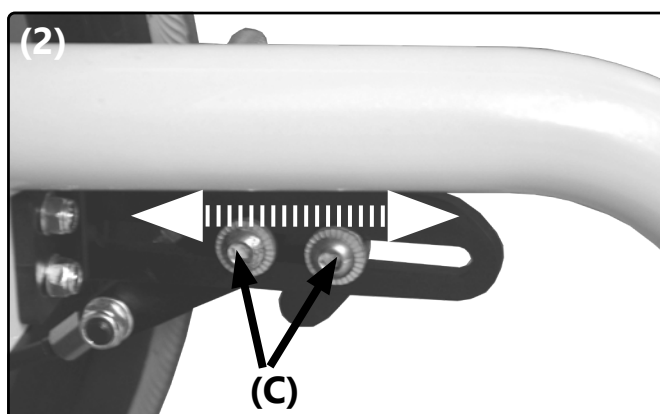
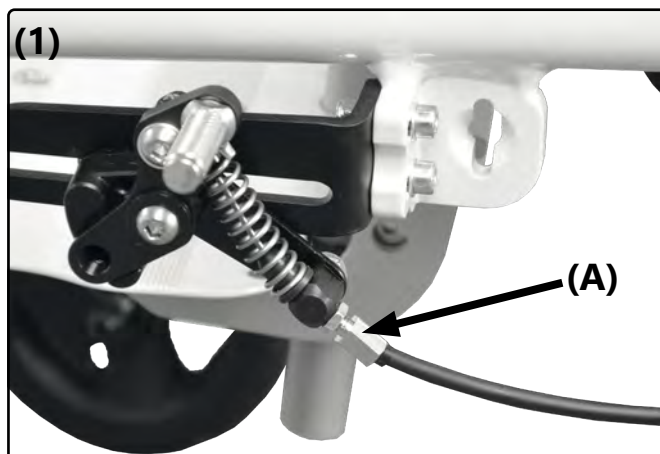
Standard KHB	21 mm
Pull-to-lock brake	11 mm
KHB with backstop approx.	10 mm
cable control brake	6 mm
(technical changes reserved)	

### 3.6.2 Bowden cable brake

The bowden cable brake is embedded in the clothing protection side part and is operated via a bowden cable brake. This must be regularly checked for proper functioning and, if necessary, tightened.

- **(1)** The re-tensioning of the bowden cable unit (Bowden cable) is carried out by turning the adjusting screw **(A)**: clockwise = tension, against UZS = release.
- **(2)** For changing the distance between the brake pressure pin and the rear wheel
- If necessary, loosen both screws **(C)** on both sides
- with the brake open, move the entire brake body to the new position,
- Tighten screws again.

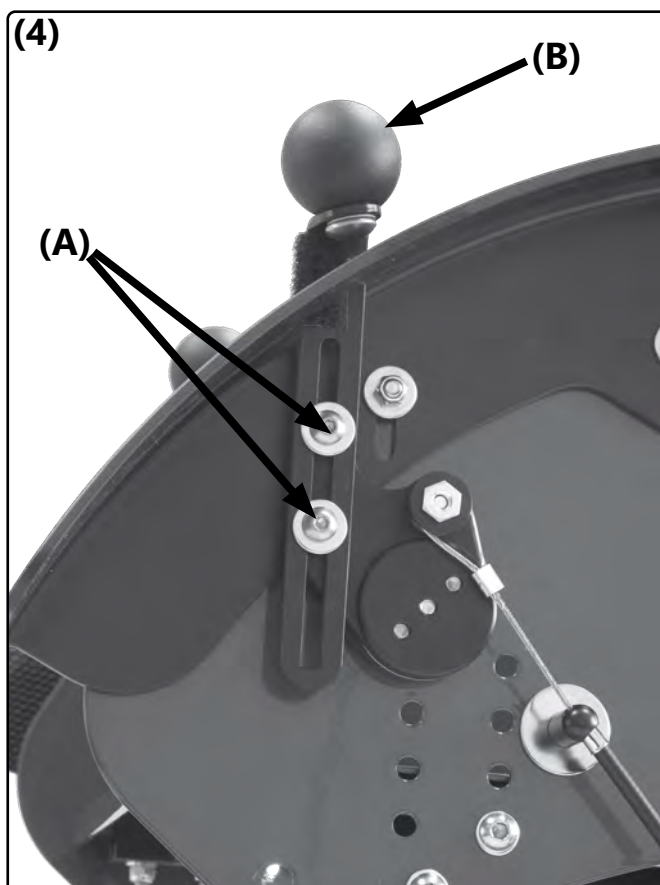
⚠ Afterwards, check the functionality of the brake.



### 3.6.3 Adjust length brake lever

- (4)** To adjust the length of the brake lever:
- loosen both screws **(A)** on both sides if necessary,
  - align brake lever **(B)**,
  - retighten all screws **(A)**.

⚠ Afterwards absolutely check the functionality of the brakes! The wheelchair with occupant (maximum load) must stand securely with the brakes applied on a ramp with a gradient of 12% (= 7 °).



## 3.7 Assembly group anti-tipper

### 3.7.1 Adjust height

(1) The anti-tipper consists essentially of 4 parts:

- anti-tipper holder (A),
- foot lever (B),
- Anti-tipper wheel (C) with holder,
- the anti-tipping bar (D), which can be pulled downwards and turned through 180 ° (partly stuck in the anti-tipper holder).

(2) The height of the anti-tipper can be changed by the screw (A):

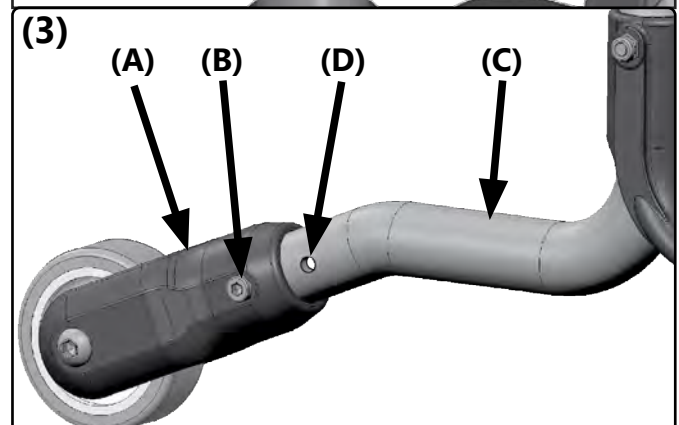
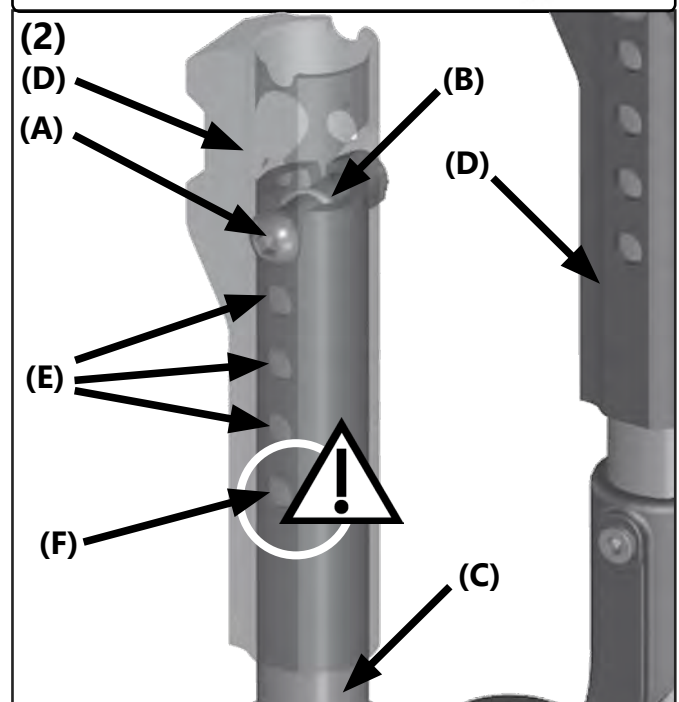
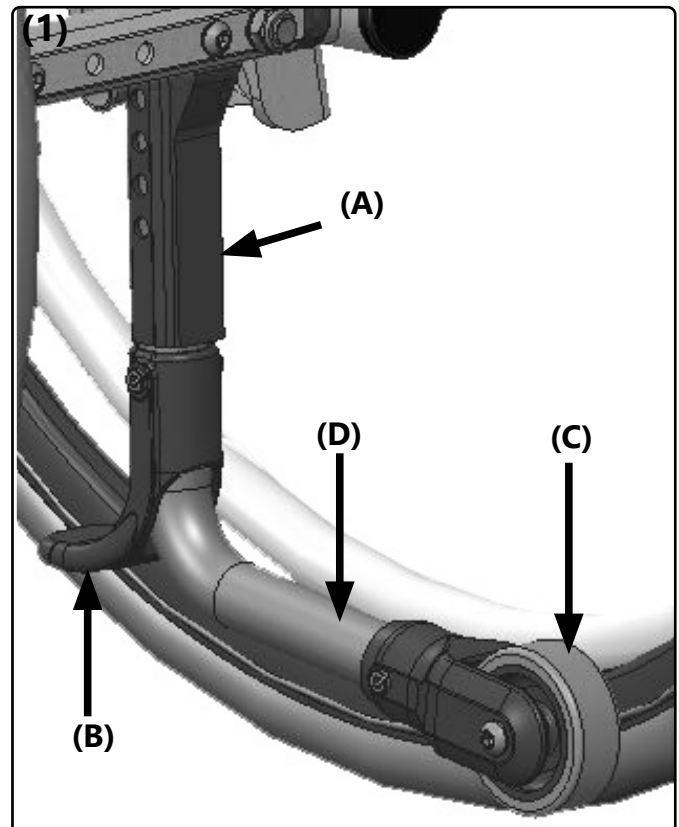
- Remove the rear wheels,
- remove the screw (A) with the sleeve (B),
- move the anti-tip bar (C) in the holder (D) to the desired position (E),
- replace the sleeve (B) and the screw (A) and tighten the screw tightly.

The lowest hole (F) is due to the design and must not be used. The anti-tipper bar could slip out of the holder when turning / activating the anti-tipper.

(3) If the wheelchair is set very actively and the activated anti-tipper protrudes too far at the back, the anti-tipper bar can be shortened.

- Remove the screw (B)
- remove the anti-tip wheel and the holder (A),
- shorten the anti-tip bar (C) with a saw to the desired length,
- put the anti-tip wheel and the holder back on the anti-tip bar (C),
- put the screw (B) in the hole (D)
- and tighten the screw (B) firmly.

If the center of gravity of the wheelchair is set to passive, then the anti-tipper must be fitted to the outside of the pipe instead of inside to protect the chair against tipping over.

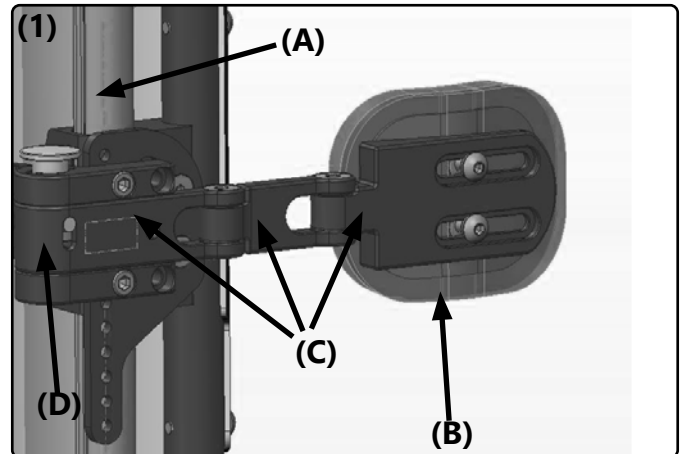


## 3.8 Assembly group truss pads

### 3.8.1 Classification

(1) The truss pads consist of the following parts:

- (A) connection (C-bar)
- (B) truss pad cushion
- (C) truss pad holder
- (D) locking joint

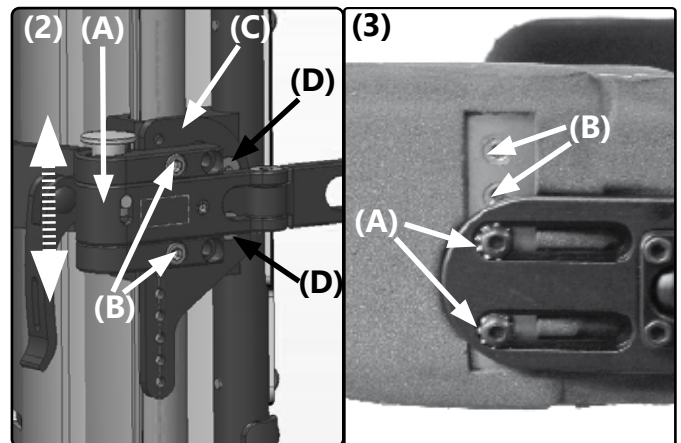


### 3.8.2 Vertical setting

(2) The vertical setting of the truss pads occurs on the one hand by moving the locking joint (A). Loosen both screws (B), move the locking joint (A), and retighten the screws (B).

Vertical setting

(2) On the other hand, the truss pads can be adjusted by turning the c-bar (D). Remove the locking joint (A) by unscrewing the screws (B). Remove screws (D), turn the c-bar 180° and retighten the screws (D). Remount the locking joint (A) to the c-bar and retighten the screws (B).



vertical setting

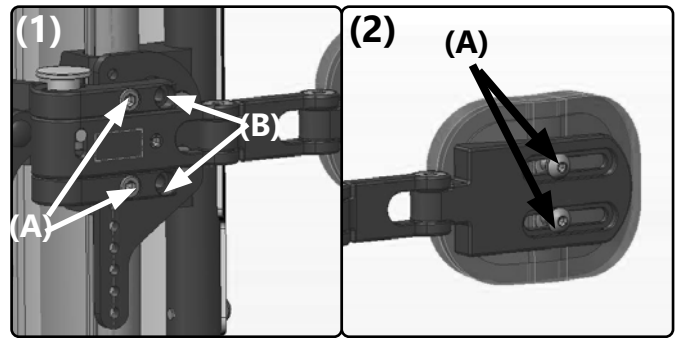
(3) Additionally, with truss pad size II the height can be adjusted by displacing the cushions. Remove the screws (A), place the cushion on the holes (B), replace and retighten the screws (A).



## 3.8 Assembly group truss pads

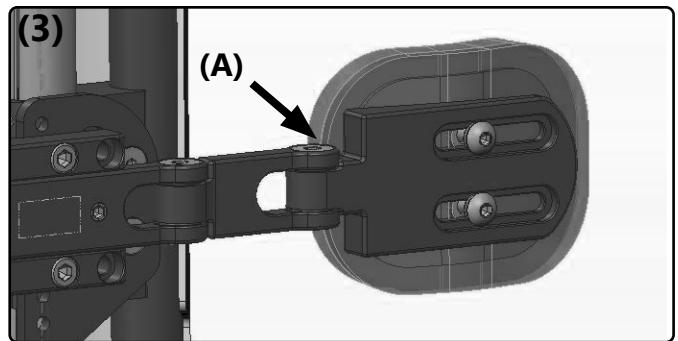
### 3.8.3 Horizontal setting

**(1)** The horizontal setting occurs on the one hand by displacing the locking joint. Remove both screws **(A)**, place the locking joint in the alternate holes **(B)**, replace and retighten the screws.



horizontal setting

**(2)** On the other hand, it can occur by displacing the cushions. Remove the covers, remove the screws **(A)**, displace the cushion and retighten the screws **(A)**. After, replace the covers.

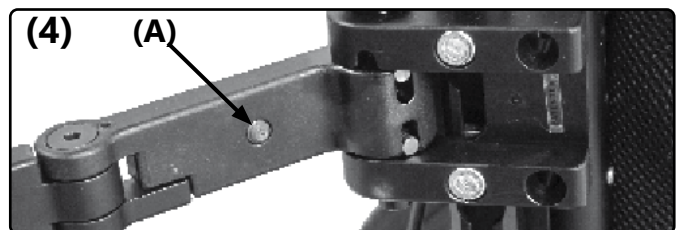


Horizontal extension

**(3)** For the horizontal extension add an extension piece (spare part): Remove the screw **(A)**, add the extension piece and screw it together on both ends.

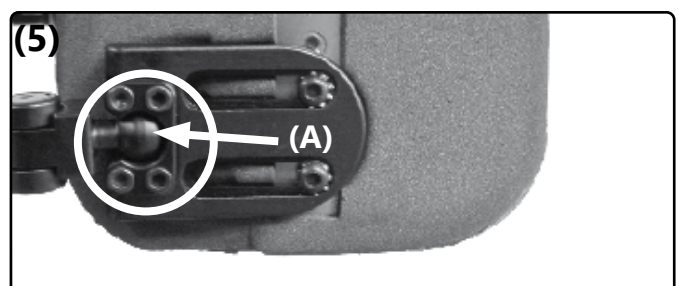
### 3.8.4 Fine adjustment of the truss pad holder

**(4)** The fine adjustment of the room between locking joint and truss pad holder occurs with the adjustment screw **(A)**.



### 3.8.5 Adjusting to the user

**(5)** If all positioning and extension works are finished close the truss pads, adjust the joints in the necessary position and tighten all joint screws **(3A)**. The ball joint is then fixated by tighten the four screws **(B)**.



## 3.9 Assembly group outdoor front end

### 3.9.1 Settings

Length of the outdoor front end  
With the length of the outdoor front end you can adjust the driving and sliding comfort:

- long outdoor front end = very strong absorption of shocks, very soft ride comfort, good drive and sliding economy, large turning radius.
- short outdoor front end = good absorption of shocks, very good drive and sliding economy, well suited for active driving, small turning circle.

**(1)** For telescoping the length:

- Remove both screws **(A)**,
- move the front part **(B)** of the outdoor front end together with the screws **(A)** forwards or backwards by the desired number of holes **(C)**
- and tighten the screws **(A)** firmly.

The holes are spaced 20 mm apart.

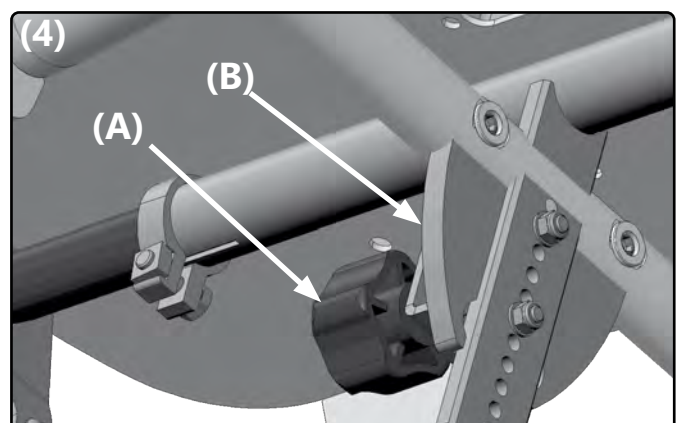
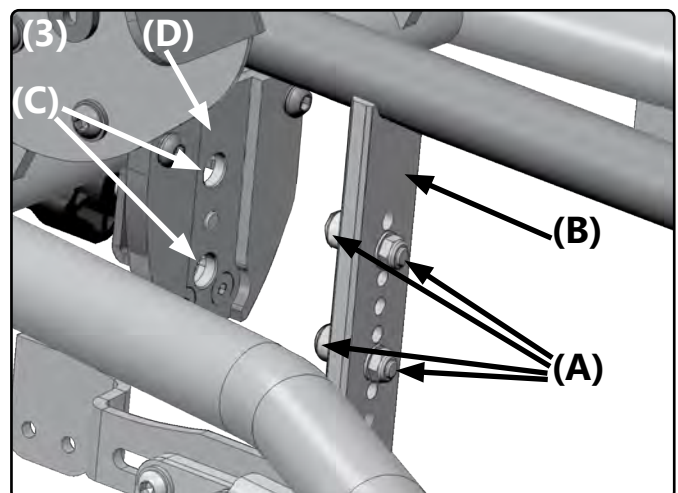
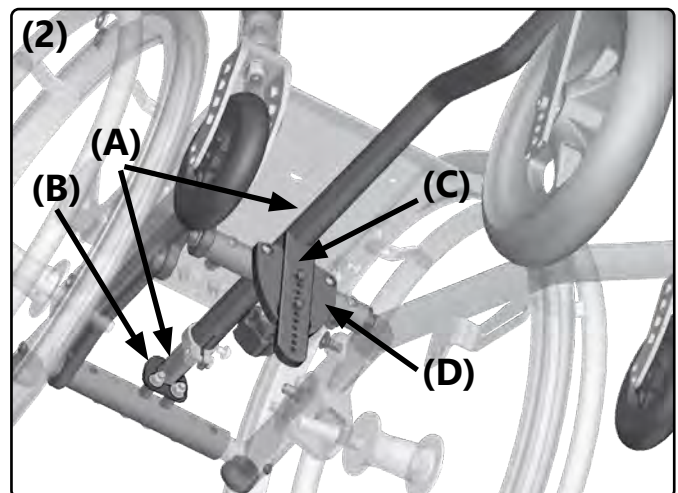
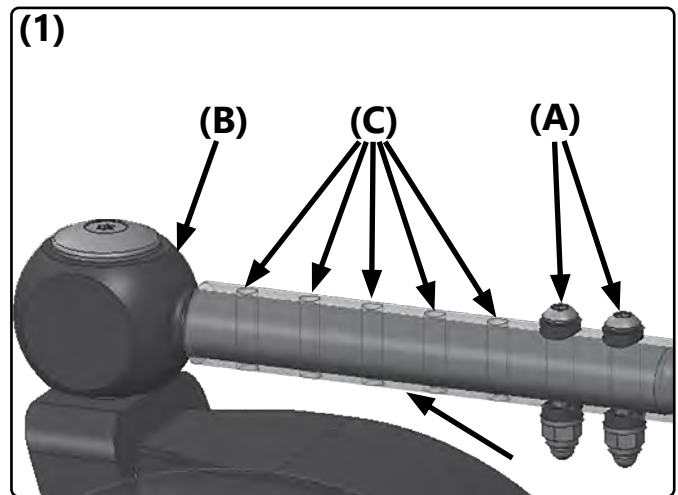
The front part **(B)** of the outdoor front end must always be fixed in the telescopic tube **(D)** with both screws **(A)**.

Mount the outdoor front end

- Close the parking brakes of the wheelchair.
- Tilt the wheelchair slightly backwards or place it on the jack-up aid.
- **(2)** Insert the end of the cone tube **(A)** into the retaining plate **(B)** from the front.
- Then guide the height adjustment **(C)** to the stop **(D)**.
- **(3)** The two bushings **(A)** of the height adjustment **(B)** must be inserted into the locating holes **(C)** of the retaining plate **(D)**.
- **(4)** Turn the star knob **(A)** on the back of the retaining plate **(B)** as firmly as possible, because it will fix the outdoor front end to the wheelchair.


To dismantle the outdoor front end please proceed in reverse / analogue order.

The outdoor front end may only be mounted if there is no user in the wheelchair.






### 4.1 Repairs

 Repairs are to be done by your specialized retailer.

### 4.2 Spare parts

Only original spare parts can be used! They are available at your medical supply store.

 The spare parts list can be downloaded at [www.sorgrollstuhltechnik.de](http://www.sorgrollstuhltechnik.de) or can be requested directly from us.

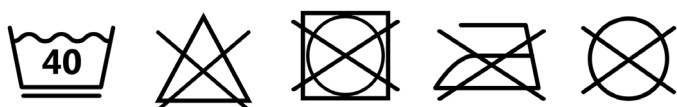
For a correct delivery of spare parts the appropriate serial number of the wheelchair is to be stated. You will find the number on the type label on the wheelchair's frame.

### 4.3 Maintenance

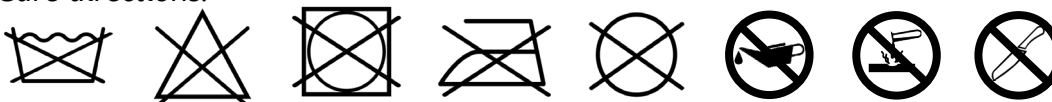
Clean the wheelchair and all components regularly with a mild household water-based cleaner and then dry it thoroughly.

In addition, clean the rear wheels and the casters and free the axles of dirt and impurities e.g. hair etc.).

Wash textile parts:  
*care directions:*



Wipe off pleather, straps and other upholstery:  
*Care directions:*



### 4.4 Disinfection

Before each disinfection the parts should be cleaned off first. For disinfection use a household water-based agent. Observe the instructions of the respective manufacturer.

### 4.5 Storage

- Carry out cleaning
- Fold foldable wheelchair (if available)
- Adjust seat tilt to 90° (if available)
- If necessary, pack removable textile parts in foil or similar
- Secure the wheelchair from rolling away and getting dirty
- Store in a dry environment without aggressive environmental influences.

### 4.6 Lifespan

The expected lifespan, depending on the intensity of use and the number of re-uses, is 5 years. For this purpose, the product must be used within the intended purpose and intended use, the instructions in the instructions for use must be followed and all maintenance and service intervals must be observed.

The product can be used beyond this period if it is in a safe condition. This theoretical lifespan is not a guaranteed lifespan and is subject to a case-by-case check by specialist retailers, as is reusability.

Use beyond the specified lifespan leads to an increase in residual risks and should only be carried out after careful and qualified consideration by the operator.

The lifespan can also be shortened depending on the frequency of use, the environment and care. The usual service life does not refer to wear parts such as textile parts, wheels and plastic parts that are subject to material-specific aging and / or wear. This specified service life does not constitute an additional guarantee or guarantee.

### 4.7 Reinstatement

Before reuse, a full inspection according to the checklist must be carried out by a specialized retailer. All disinfection measures for reuse must be carried out according to a validated hygiene plan.


### 4.8 Disposal

The wheelchair may only be disposed of with the approval of the benefactor. Disposal of the wheelchair must be in accordance with the applicable national regulations.

### 4.9 Maintenance/Inspection

For safety reasons and to maintain product liability, an inspection by your retailer is required at least once a year. This must be carried out and documented according to the following checklist.

### *Checklist maintenance and care (user)*

 A poor or neglected maintenance of the wheelchair represents a significant safety risk.

#### **Before each use:**

##### **Please check:**

- frame, back tubes, mounting parts and accessories for visible damages, deflections, cracks or missing/loose screws,
- wheels/quick release axles for firm fit,
- the airpressure of the tires, tire tread,
- the function of the brakes,
- firm fit of the angle adjustments/eccentric clamps,
- firm fit of seat plate/back/foot plate,
- the function of the anti-tipper/seat and back straps,
- if all previously dismantled parts are put on again or firmly locked.


#### **Every 3 months:**

(depending on use, earlier)

##### **Please check:**

- screws for firm fitting
- welds, attachments and accessories for hidden damages, deflections or cracks
- tire tread
- the firm fit of third-party systems (if available)

Clean the wheelchair and oil all moving parts.

 If you notice any defects during maintenance, please contact your specialist retailer immediately and do not use the wheelchair anymore.

### *Checklist yearly inspection (specialized retailer)*

**Template (available for download at [www.sorgrollstuhltechnik.de/downloadportal](http://www.sorgrollstuhltechnik.de/downloadportal))**

#### *Preparatory Work*

- ☐ cleaning done

#### *Check:*

- ☐ Frame, back, mounted parts and accessories checked for damage, bends, cracks and corrosion,
- ☐ all fixing screws checked for firm fit and completeness,
- ☐ casters and rear wheels as well as the associated attachments checked for good condition, functionality and proper running qualities,
- ☐ spokes checked for firm fit and completeness,
- ☐ brakes cleaned and maintained,
- ☐ Locking mechanisms (tripod springs of push handles, quick-release axles, eccentric clamps, etc.) checked for functionality,
- ☐ anti-tipper checked for firm fit and functionality.

#### *Oiling:*

- ☐ moving parts and bearings oiled

#### *Final check:*

- ☐ functional check of all mechanical adjusting devices carried out.

## 5.1 Data and measurements

Model: Mio Carbon (Design 2018)

Type: 1673

All measurements  $\pm 5\%$

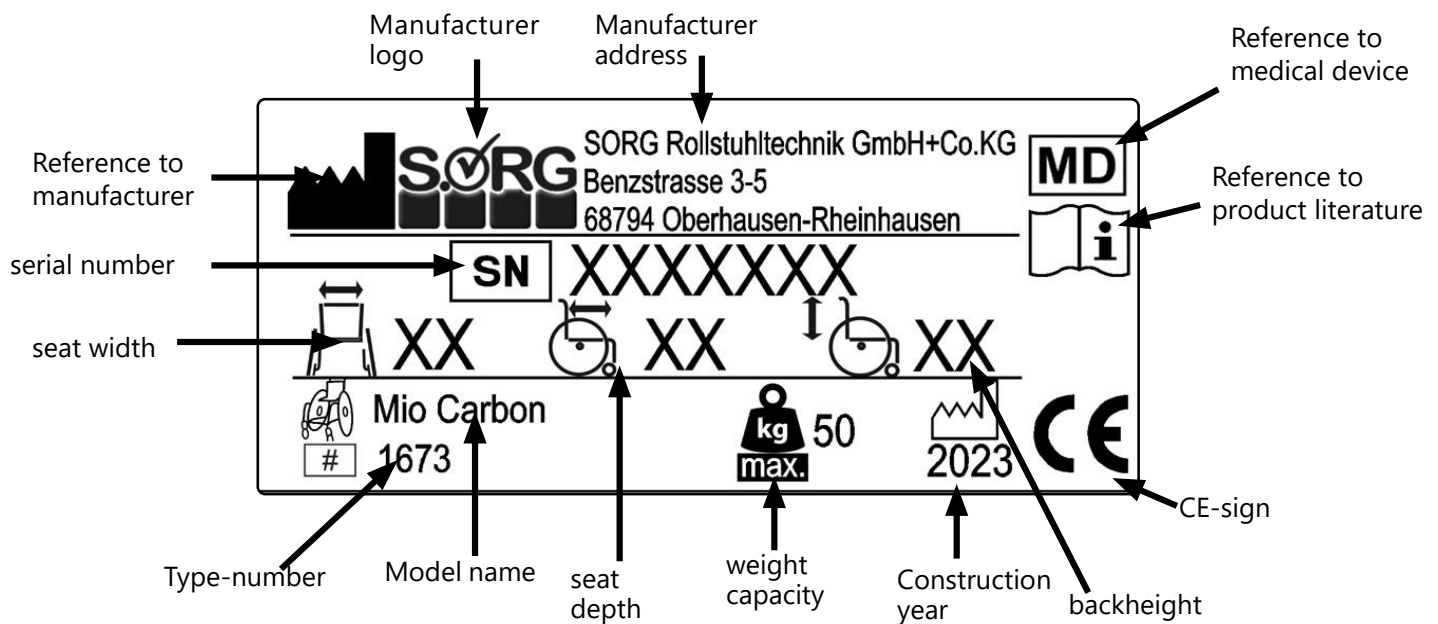
Indication	Measurements		Comment
seat width (SW)	20-mm-intervals	180 to 300 mm	+20 mm growable
seat depth (SD)	20-mm-intervals	180 to 360 mm	± 30 mm growable
back height (BH)	50-mm-intervals	250 to 400 mm	+50 mm growable
camber	9°	(optional 7/11°)	
upper edge seat to upper edge footrest	retro-frame:	100-300 mm	without seat cushion!
	taurus-frame:	150-350 mm	
hand frim diameter	at 18" (430 mm)	400 mm	
	at 20" (510 mm)	444 mm	
	at 22" (559 mm)	481 mm	
	at 24" (610 mm)	533 mm	
Top edge seat up ground	at 18"	315 – 360 mm	without seat cushion!
	at 20"	340 – 400 mm	
	at 22"	360 – 420 mm	
	at 24"	385 – 445 mm	
ETRTO wheel size	with 18"	Ø 406 mm	Commercially available pneumatic tires in the sizes 1 "(25.4mm), 1 3/8" (35mm) - sizes 355 mm (20 "), 451 mm (22"), 540 mm, (24 ") All puncture-proof tires in the mentioned dimensions.
	with 20"	Ø 451 mm	
	with 22"	Ø 489 mm	
	with 24"	Ø 540 mm	
absolute width of wheelchair	min.	SW + 310 mm	
	max.	SW + 365 mm	
absolute length of wheelchair	with 18"	605 mm	without push handles!
	with 20"	630 mm	
	with 22"	695 mm	
	with 24"	745 mm	
absolute height of wheelchair	min.	500 mm	without push handles!
	max.	850 mm	
incline	max. permitted	12,3% = 7°	
descent	max. permitted	12,3% = 7°	
stability	max. permitted	12,3% = 7°	
turning circle		about. 950 mm	
load capacity (max.)	50 kg	user and all attachment parts (shell, truss pads, therapy table, head rest etc.)	
empty weight min. with SW 180, ST 200 mm, 28" wheels, 5" PU casters	5,9 kg	equipped with: frame, rear wheels, hand rims, casters, parking brake, foot plate, side guards, clothes guards and anti-tipper.	
wheels	standard wheels, light weight wheels	optional light weight-drum brake-wheels	
casters:	4", 5"	transparent with LED, solid rubber black with alumi-num rims, polyurethane grey with synthetic rim	
tire pressure:	Information on the tire casing - generally (6-8 bar)		
support point:	back frame tube/ front frame tubes		
heaviest piece:	frame 4,5 kg		
length of use of the wheelchair	3 years	at not excessive demand	
life cycle of the wheelchair	5 years		
Normative requirements	The wheelchair meets the requirements of ISO 7176-8 and the require-ments against ignition.		

## 5.2 Meaning of labels

The meaning of the individual labels is explained in the texts at the respective place.

If the type plate is damaged or gets lost, a new one can be ordered from SORG Rollstuhltechnik.

Type plate:



## 5.3 Declaration of conformity

SORG Rollstuhltechnik declares that the product Mio (Design 2018) a class 1 device is and it complies with the EU regulation (EU) 2017/745 on medical devices.

This was confirmed by a conformity assessment procedure according to the medical Product Guidelines.

If the product is not modified with SORG wheelchair technology, this declaration will lose its validity.





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company stamp