

TALART

JT-Sparkle

User and service manual

JT-Sparkle is a rigid lightweight active wheelchair for children



Version 2.7

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1. General Information

JT-Sparkle is a high-quality lightweight wheelchair developed by Talart, Finland (www.talart.fi). JT-Sparkle wheelchairs are designed and manufactured according to the following directives / regulation and standards in the European Union:

- DIN EN ISO 13485, This standard is for quality management systems in the medical device sector. It includes the areas of design / development, production, customer service and assembly of medical products.
- DIN EN 12183:2014, This European Standard specifies requirements and test methods for manual wheelchairs intended to carry one person of mass not greater than 250 kg.
- DIN EN 12182:2012, This standard defines the general requirements for Medical 1 devices and their test methods.
- EN ISO 14971:2019, This standard specifies terminology, principles and a process for risk management of medical devices, including software as a medical device and in vitro diagnostic medical devices. The process described in this document intends to assist manufacturers of medical devices to identify the hazards associated with the medical device, to estimate and evaluate the associated risks, to control these risks, and to monitor the effectiveness of the controls.
- ISO 7176-19:2008 specifies test methods for determining the static stability of wheelchairs and wheeled mobility devices for use as seats in motor vehicles.

The crash test defined and explained in ISO 7176-19 has been successfully executed in Denmark (DAHL Engineering, for DAHL docking station usage in transport vehicles) as well as by TÜV Rheinland in Netherlands.

1.1 Product name

JT-Sparkle

1.2 Manufacturer

Talart Oy

Hampuntie 16A, 36220 KANGASALA, Finland

Tel: +358 20 7759 550

www.talart.fi

E-Mail: talart@talart.fi

1.3 Product description

JT-Sparkle uses the same aluminum frame that is used as airplane material to provide lightness and durability.

The frame of the wheelchair is rigid and heat treated to ensure the durability.

Wheelchair frame has multiple possible adjustments to fit user's needs. And there is also a large range of accessories available for the wheelchair.

Figure 1 shows the general architecture of JT-Sparkle wheelchair.

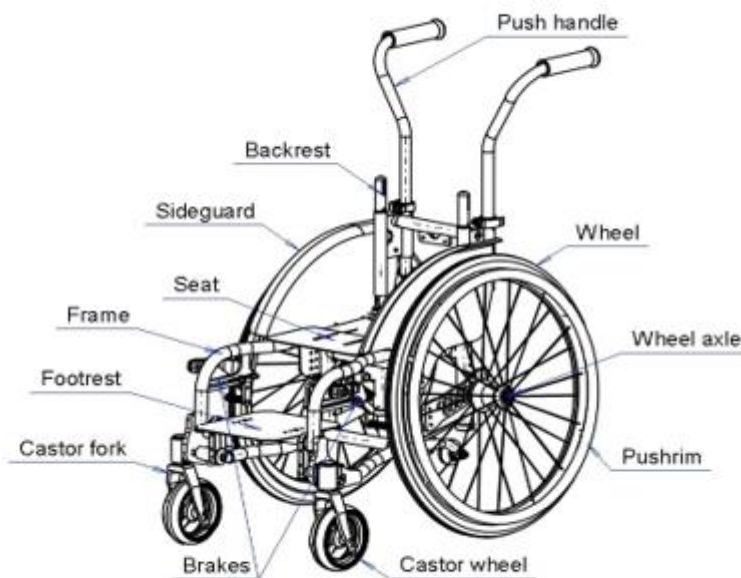


Figure 1. Architecture of JT-Sparkle

1.4 Identification and labeling

- Talart wheelchairs are provided with permanent labels that indicate the location points for four-point strap-type tiedowns
- JT-Sparkle complies with the requirements specified in ISO 7176-19:2008

2. Product information

JT-Sparkle wheelchairs are intended to transport children, who are unable to stand or walk independently, in a sitting position facing forward when used as a seat in motor vehicle. The wheelchair is used by hands by a sitting child or an attendant who pushes the chair by the push handles. JT-Sparkle can be used both indoor and outdoor as well as in cars for transportation.

2.1 Intended users

JT-Sparkle is intended for children up to 60 kg. When transporting in a vehicle, the max weight is either 57kg or 47kg. The latter is valid when using DAHL docking station.

2.2 Intended patient group

JT-Sparkle is specifically intended for children with a wide variety of possible health conditions who are unable to stand and/or walk, and who need a transportation device to do some or all of their daily tasks.



2.3 Contraindications

- Max. user weight 60kg
- Max. user weight 57kg in car transport. (47kg with VarioDock)
- Not for children under two years
- Do not use the product as a shower wheelchair
- Do not use the wheelchair if brakes are not working normally or wheels do not wheel tight and secure
- Do not use the wheelchair if anti-tipper(s) are not ON

- Do not lean towards anti-tipper(s) on purpose.

2.4 Clinical benefits

JT-Sparkle can be adjusted in several ways to make the movement easy and safe. The correct seating position is targeted to support users' body and the mobility while being seated. This wheelchair model grows together with the child.

2.5 Supported transport securement systems

JT-Sparkle supports both, a four-point strap type securement system as well as two different Dahl docking systems, VarioDock and Mk II. JT-Sparkle has been tested according to transport crash test ISO 7176-19 and the maximum occupant weight is 57 kg (or 47kg with VarioDock).

The supported securement systems are explained in detail in Chapter 5.

2.6 Standard equipment

Every JT-Sparkle wheelchair includes the following standard equipment:

- Aluminum frame (Straight or abduction frame), powder coated, Camber 0,2,4,6 degrees
- Backrest with angle -and height adjustment
- Folding backrest
- Quick release axles
- Castor forks with angle adjustment
- 22-24" stainless steel spoke wheels with quick release axles and aluminum push rims
- Brakes: Push to brake
- Black fabric upholstery with velcro straps

2.7 Accessories

The following accessories are available for users when ordering the chair:

- Axle plate with negative axle position
- Camber angle (8 or 10 degrees)
- Push handles:

- Solid, height adjustable, separate
- Push bar, height and angle adjustable
- Center handle, height adjustable
- Fenders
 - Solid aluminum (Customer's color choice)
 - Carbon fibre with fender lip
 - Aluminum with armrests
- Aluminum seat plate, adjustable (Seating depth and seating width)
- Backrest
 - Tarta backrest
 - Curved aluminum with fabric upholstery padding
- Anti-tipper, foldable with skate wheel
- Wheels 22-24"
 - Spinergy
 - Spoke wheels with assistant brakes
- Castor wheels
 - Aluminum hub 100-125mm
 - Suspension wheels 100-125mm
 - Roller skate wheels 76-82mm
- Wheellocks (Brakes)
 - Push to brake
 - Pull to brake
 - Fender brakes
 - Handle extensions for push to -and pull to brakes
- Spoke guards 22-24"
 - Transparent
 - Black
- Tires 22-24"
 - Marathon plus

- Solid PU (Airless)
- Pushrims 22-24"
 - Aluminum powder coated
 - Stainless steel
 - PVC rubber (Black)
 - Curve (L, Grip, Gekko, Gekko S, Quadro)
- Headrest (Height and depth adjustable)
 - Lightweight
 - Heavy duty

2.8 Transport and storage

JT-Sparkle has quick release wheels that can be removed without tools.

Wheelchair's backrest can be folded down for transport.

Antitipper(s) can be folded to OFF position to make it fit to tight space(s).

3. JT-Sparkle in use

JT-Sparkle wheelchair is designed to be secured facing forward when used as a seat in a motor vehicle. JT-Sparkle complies with the requirements of ISO 7176-19:2008.

3.1 Before use

- Make sure that wheels are locked
- Test wheellocks function
- Make sure that anti-tipper is folded to ON position
- Make sure that backrest is locked to ON position
- Fasten seatbelt, if equipped

3.2 While in use

- Always use the wheelchair with care and avoid steep slopes (uphill/downhill).
- Use the product only by your own manual hand control or by assistant help.
- Avoid speeds over 6 km/h (walking speed).
- Be careful when moving in rough gravel roads or over high obstacles, etc. curb, door frame.

- Stop using the wheelchair if wheels or seat feels loose.
- When using the wheelchair in a motor vehicle, the access and maneuverability can be significantly affected by wheelchair size and turning radius.
- Wheelchair users should transfer to the vehicle seat and use the vehicle-manufacturer-installed restraint systems whenever it is feasible, and the unoccupied wheelchair should be stored in a cargo area or secured in the vehicle during travel.
- Alteration or substitutions should not be made to the wheelchair securement points or to structural and frame parts or components without consulting the wheelchair manufacturer.

3.3 Possible adjustments in wheelchair

The adjustments depend on chosen accessories. The following parts can be adjusted:

- Footrest height and angle
- Backrest angle and backrest height
- Seat depth and seat width
- Seat height and angle
- Sideguard's height and position
- Wheel axle position
- Upholstery adjustments
- Brakes
- Antitipper(s)

3.4 Provided tools

Two different tools are provided together with wheelchair. Size 4 and 5 hex keys and universal Talart Tool that can be used with 8mm and 10mm nuts. Please see figure 2 for details:

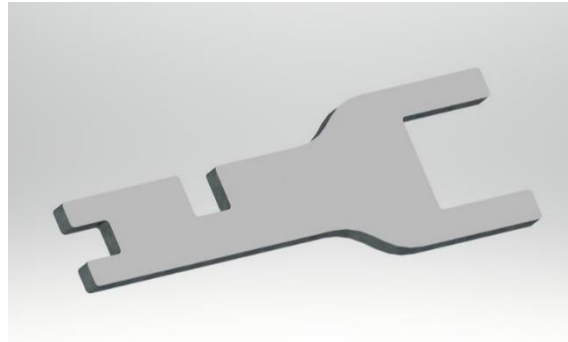


Figure 2: The tools provided with the chair.

4. Accessories adjustments

4.1 Brakes

- Brake has two M6 size nuts that can be adjusted by size 4 hex key and 10mm wrench. If you loosen nuts and move the brake out of the tire, the brake will have less grip. If you want to add grip for the brake, please move the brake closer to tire. After the right adjustment is found, tighten the bolts
- If the adjustments doesn't work, the brake can be too worn out and need to be renewed.

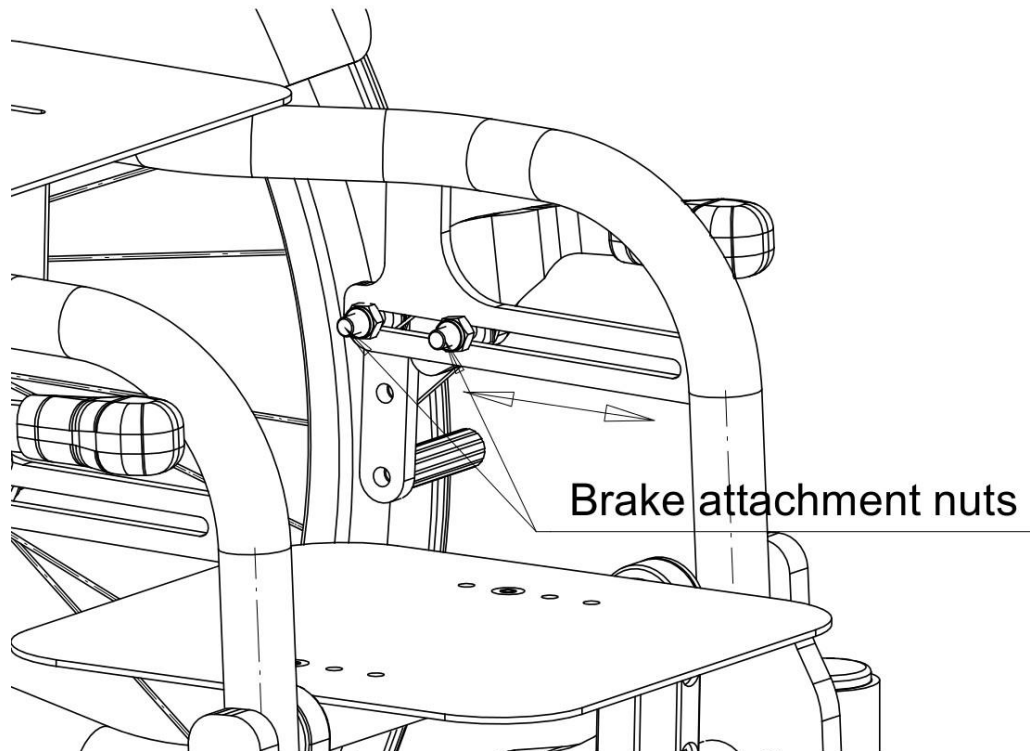


Figure 3: Brakes in JT- Sparkle

4.2 Footrest

Footrest can be adjusted in several ways, with the height and position or the angle and depth.

Footrest height position:

- Loosen 8 bolts with size 5mm hex key. After that you can adjust the position and height of the footrest. Once desired position has been found the bolts need to be tighten using the hexagon tool.

Footplate depth position:

- Loosen two bolts with size 4mm hexagon tool and choose the right footplate depth position.

Footplate angle:

- Loosen footplate axle main bolts with size 5mm hexagon tool to adjust footplate angle.

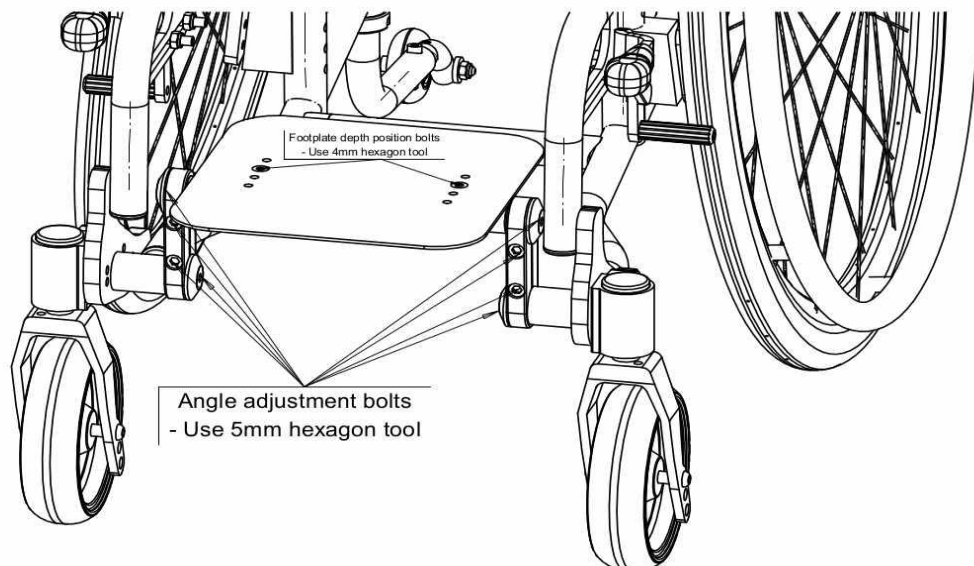


Figure 4: Footrest adjustment

4.3. Sideguards

Sideguard height and position can be adjusted by changing mounting of M6 bolts.

- Loosen M6 bolt by using size 4 mm hex key and 6mm wrench.
- Choose the correct height and position for the sideguard. Tighten the bolts and nuts.

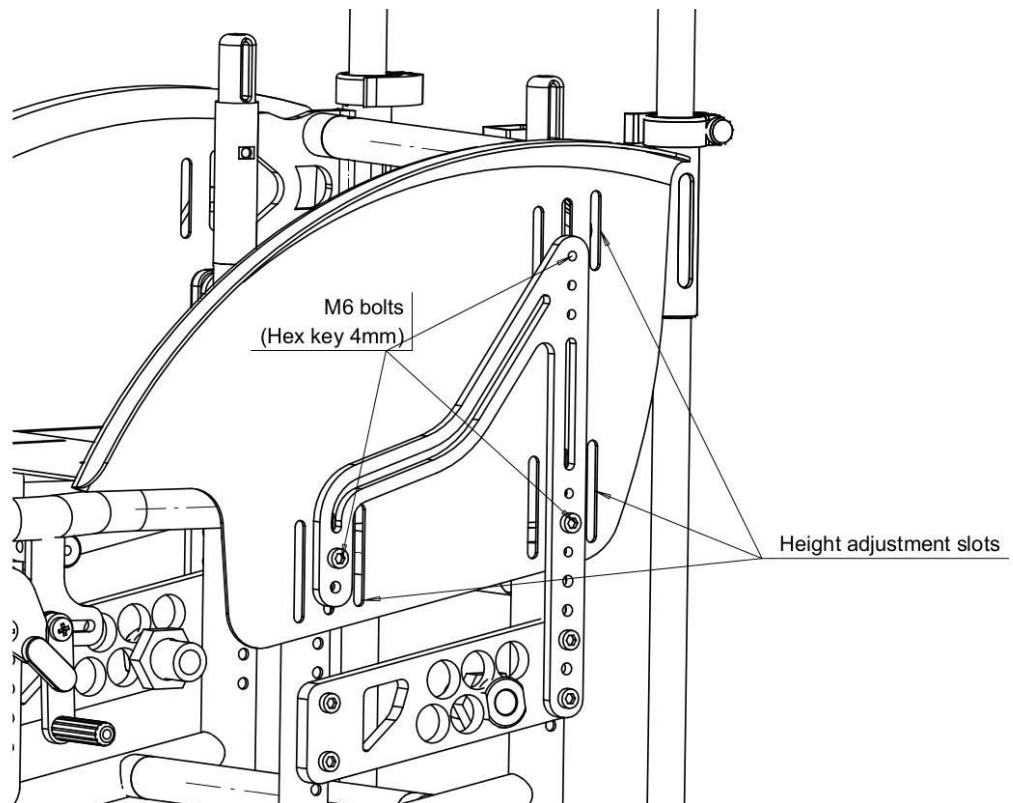


Figure 5: Sideguards

4.4. Upholstery and aluminum seat plate

Upholstery have velcro straps, that can be adjusted to your own specific adjustment. We recommend to have the straps slightly loose in backrest to give better support for body when sitting in wheelchair. Always try to maintain as forward tilted back position as possible. For more information, please contact your own region Talart sales person.

If you have chosen aluminum plate for the seat, then the adjustment can be seen in Figure 6:

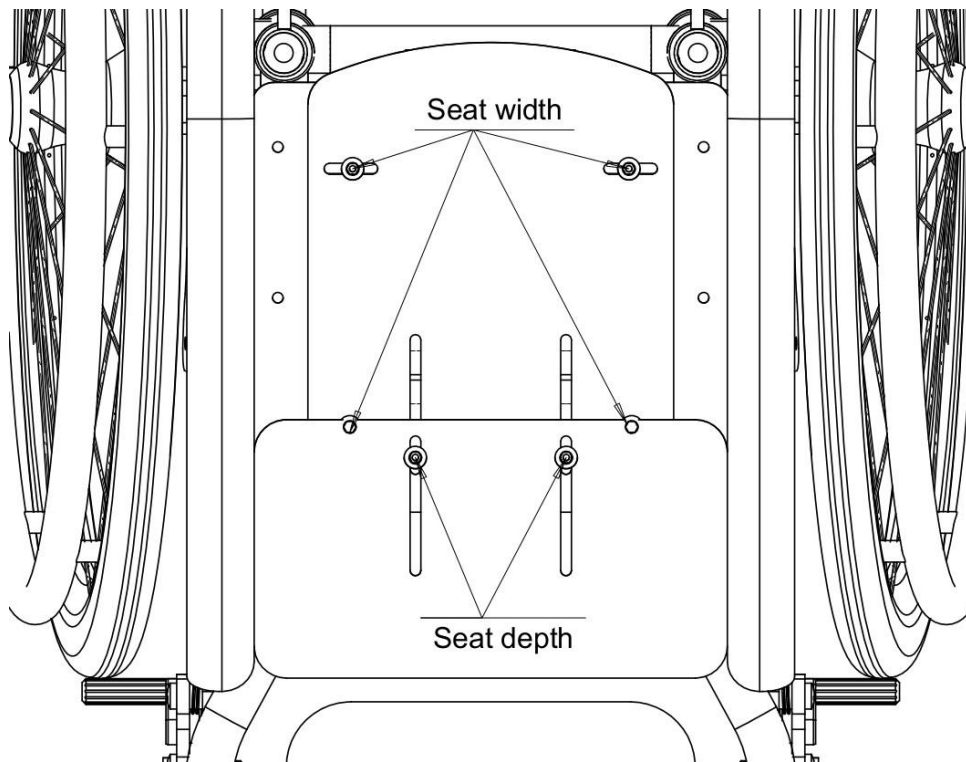


Figure 6: Settings for the seat

Seat depth and width adjustments in aluminum seat plate:

- Loosen 4 bolts in the seat plate with size 4mm hex key.
- Also frame width tubes need to be adjusted. See picture below (Figure 7):

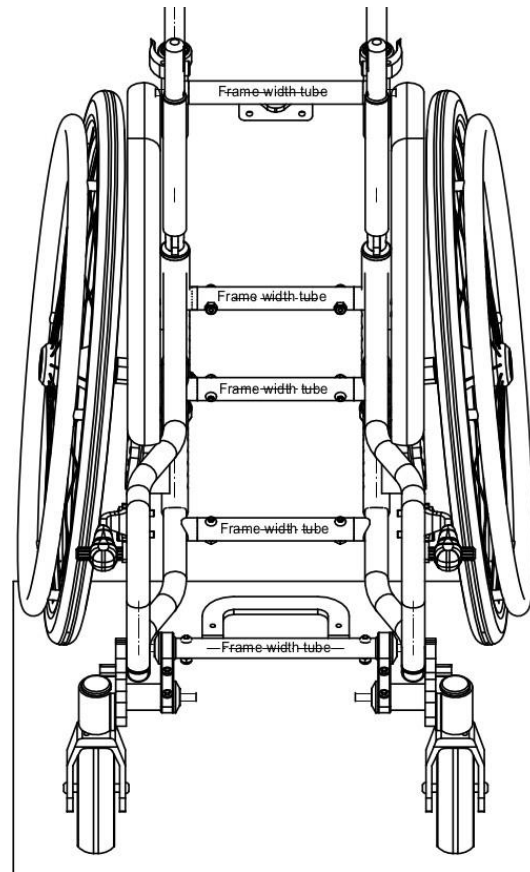


Figure 7: Seat depth and width

Frame width tubes can be adjusted (Figure 8). Frame width tube is connected to the frame with two bolts. Loosen and remove bolts from every frame width tube to adjust the width. There are inner and outer holes that can be chosen. Inner increases width and outer decreases width.

If larger adjustment is needed, please contact your local Talart dealer.

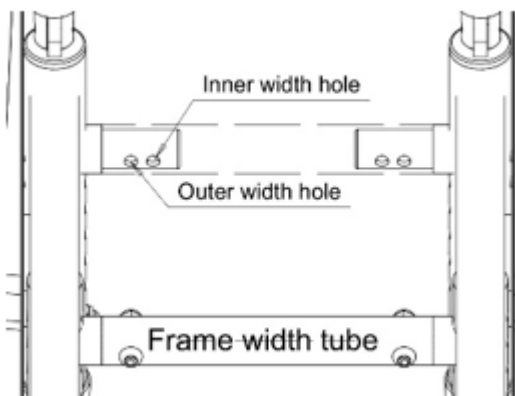


Figure 8: Frame width tubes can be adjusted

4.5. Wheelchair height and axle position adjustments

Wheelchair has front- and rear height adjustment possibility. The front height is adjusted by changing castor wheel position in castor fork. Castor fork has 3 holes for the castor wheel. Lowest position sets highest front height for the frame.

Remember always to adjust also castor fork angle if the height of the wheelchair is changed:

1. Loosen the M6 bolts behind castor fork attachment with the 4mm hex key
2. Spin angle adjustment circle until castor fork is perpendicular to the ground
3. Tighten bolts

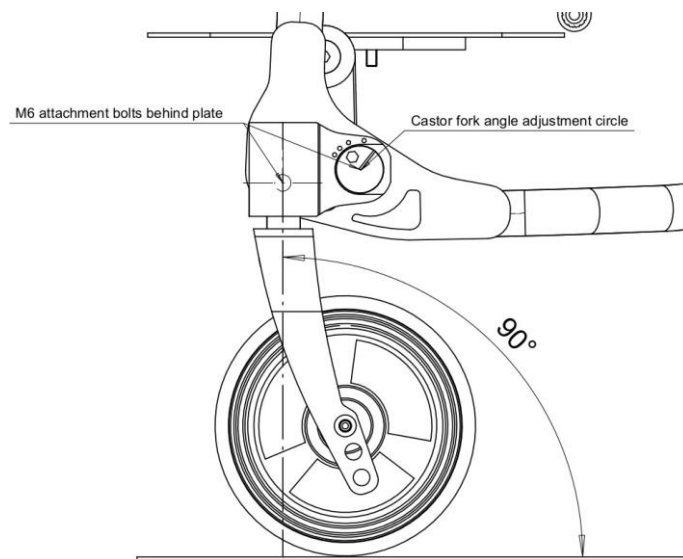


Figure 9. The Castor fork axle line should be perpendicular to the ground level.

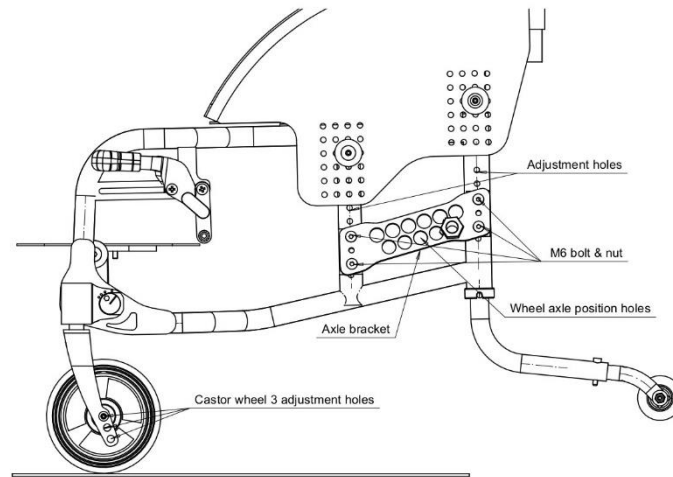


Figure 10: Wheelchair has front- and rear height adjustment possibility

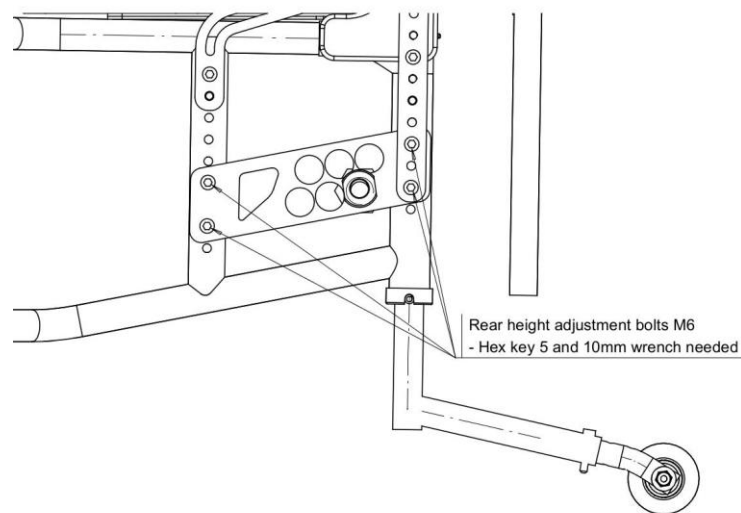


Figure 11: Adjusting rear height

Adjusting rear height:

- Remove M6 hexagon bolts with size 4mm hex key and nuts with 10mm wrench
- Find correct holes for the desired position and tighten bolts and nuts
- Moving the axle bracket up

- Lowers rear height
- Moving axle bracket down
- Increases rear height

Adjusting wheel axle position holder (**Only for professionals**)

Remark: Tools for adjusting the wheel axle position are not included with the wheelchair

- Remove axle position holder with 24mm socket and 22mm wrench
- Find the correct position and tighten well

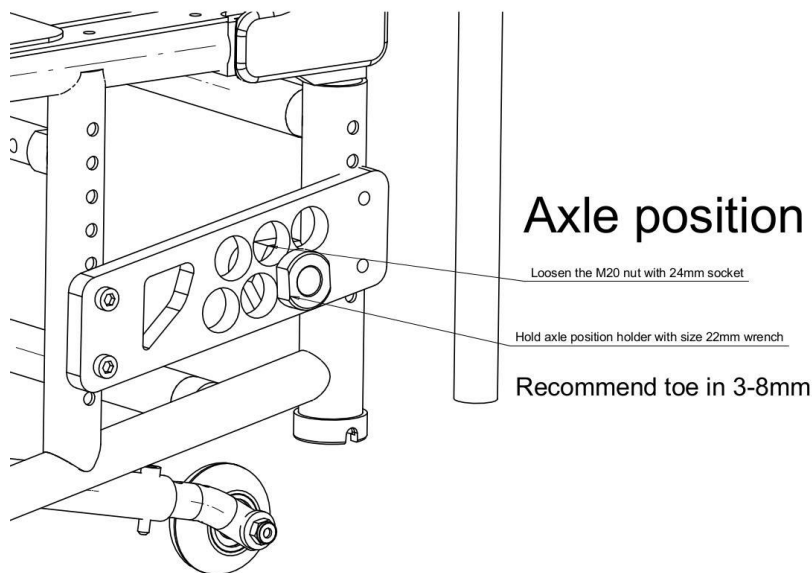


Figure 12: Axle position

4.6. Folding the backrest

The backrest of the wheelchair can be fold down e.g., when packing the chair into a smaller space.

The fold down release cable is behind backrest upholstery. When you grab it with your hand and pull it, the release mechanism will let the backrest to fold down. After releasing the release mechanism, gently push the backrest forward and it will fold down.

To get the backrest back to normal position, just pull the backrest up and it will lock itself back to the original position.

If the angle of the backrest needs to be changed, please contact your local Talart sales person.

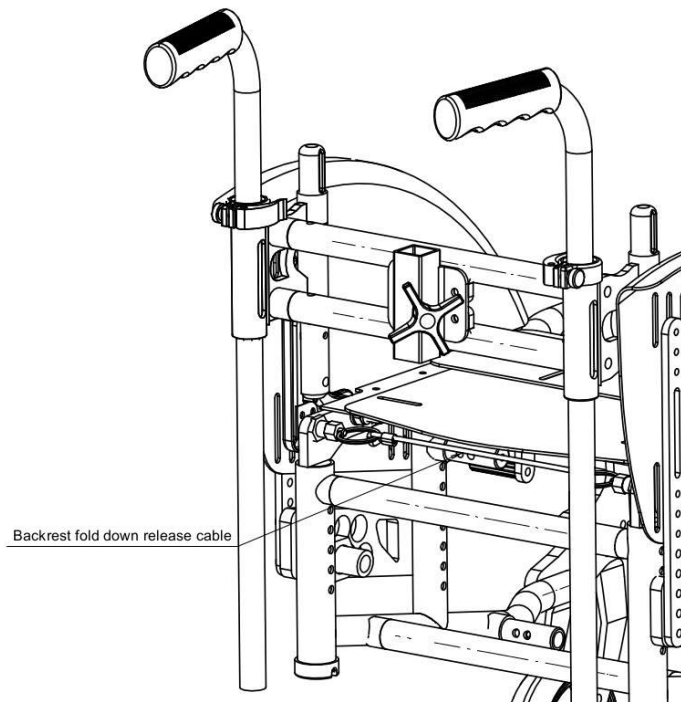


Figure 13: Folding the backrest

4.7. Backrest angle adjustment

Backrest angle can be adjusted 15 degrees. Angle adjustment is portable and the adjustments can be made with two different tools: Hex key 5 and Hex key 4. Before the adjustments can be made, several parts need to be removed:

1. Remove the sideguard brackets from both sides
2. Remove sideguards
3. Remove angle adjustment plastic cover
4. Adjust backrest angle

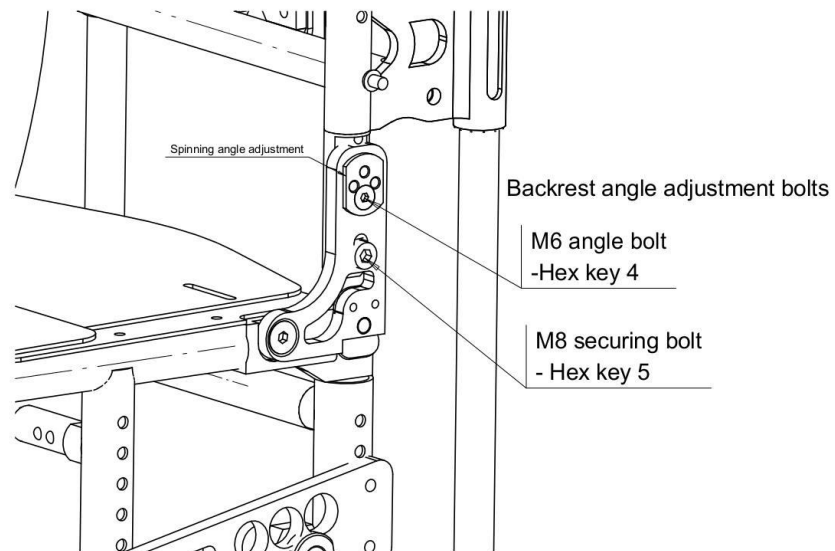
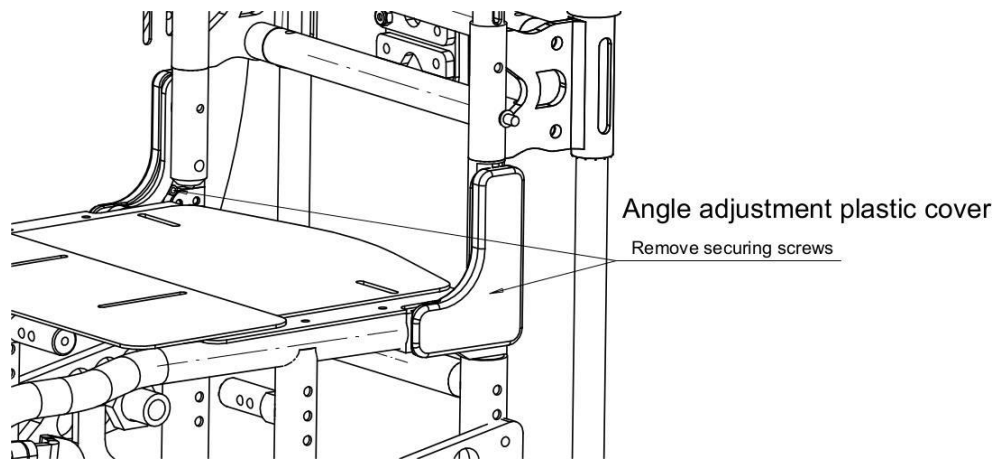


Figure 14: Backrest angle adjustment

4.8 Push handles

JT-Sparkle supports several different push handle models: Rigid push handles, push bar, height adjustable push handles and also possibility to have wheelchair without push handles. See the following figures for details:

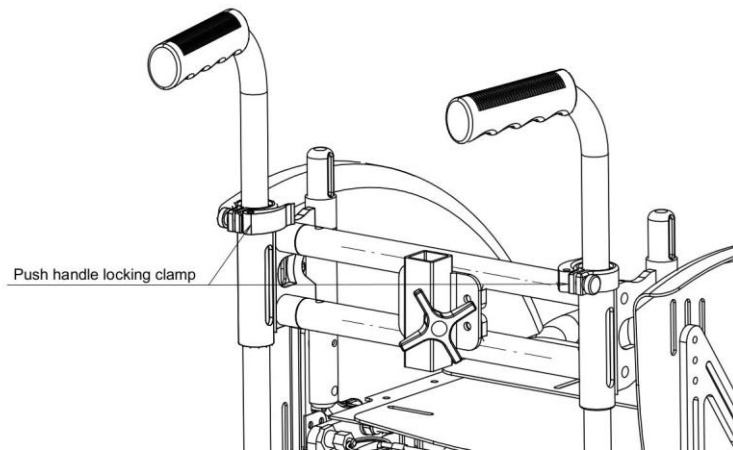


Figure 15. Straight push handles, adjustable

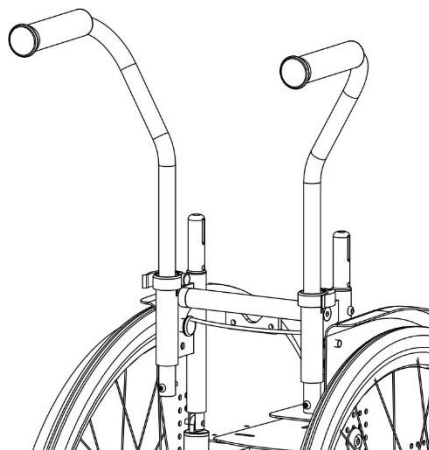


Figure 16: Height adjustable push handles with widened tubes

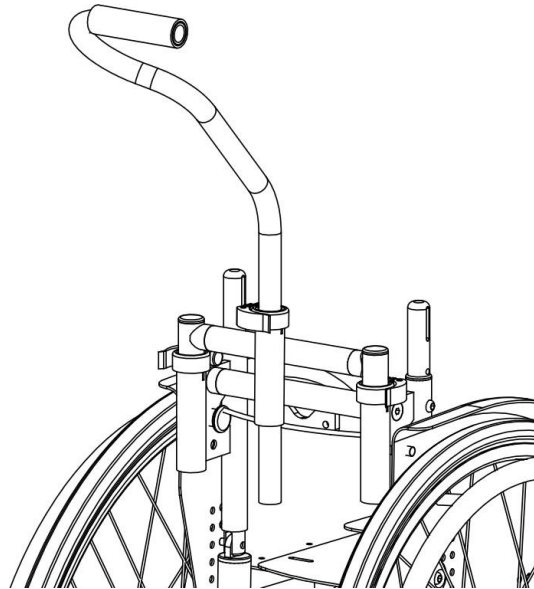


Figure 17: Central attached push handle

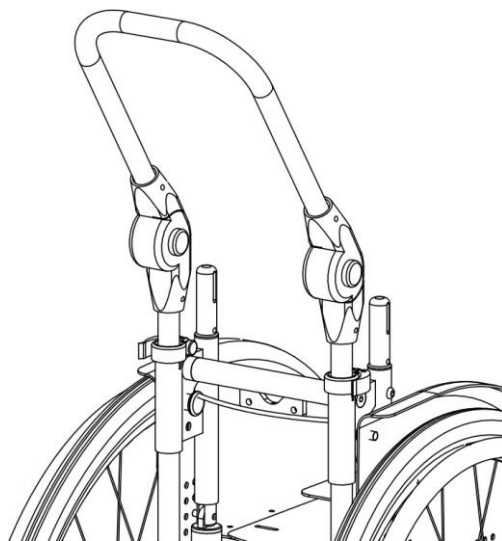


Figure 18: Push bar with angle and height adjustment

4.9 Wheels, tires and pushrims

JT-Sparkle wheels have quick release axles.

To remove the wheel from the frame, please press the button in center of the wheel axle and pull of the wheel. To install the wheel back to its place, press

the button and install the axle back to axle connector in wheelchair. To check that the wheel is properly locked, please check that the button is released up. If not, the wheel or axle will need to go deeper into axle connector.

- If the quick release axle needs to be adjusted, it can be done by using the 11mm and 19mm wrenches. Take of the wheel, then hold the axle with 11mm tool and adjust the nut from the end of the axle by using 19mm tool. If you open the nut, the slack between wheel and frame gets bigger. There should always a little slack to ensure proper locking of the wheel.

Quickrelease axle adjustment



Figure 19: Adjustment of axle

Tires can either be air tires or non-air tires (PU tires). This can be easily sorted out by checking if there is air valve in a wheel. If not, the tire is non air PU tire.

Our recommendation for the right air pressure in each tire is 8-10 bar, and this is recommended to be checked once a week.

Tip: If your brakes feel unsecure, please check the tire pressure first before adjusting the brakes.

Pushrim distance adjustment:

- If there is a need to change the distance of the pushrims, it can be changed by using tools. The difficulty depends of the wheel model.
- Pushrim has two holes in the tabs. Pushrim is attached to wheel by bolt. If you want to change the bolt to another hole of the pushrim, please

use size 4 hex key to loosen the bolt. Choose the right distance for pushrim and tighten the bolt back to the wheel.

(Can only be changed without removal of tire in standard reinforced wheels)

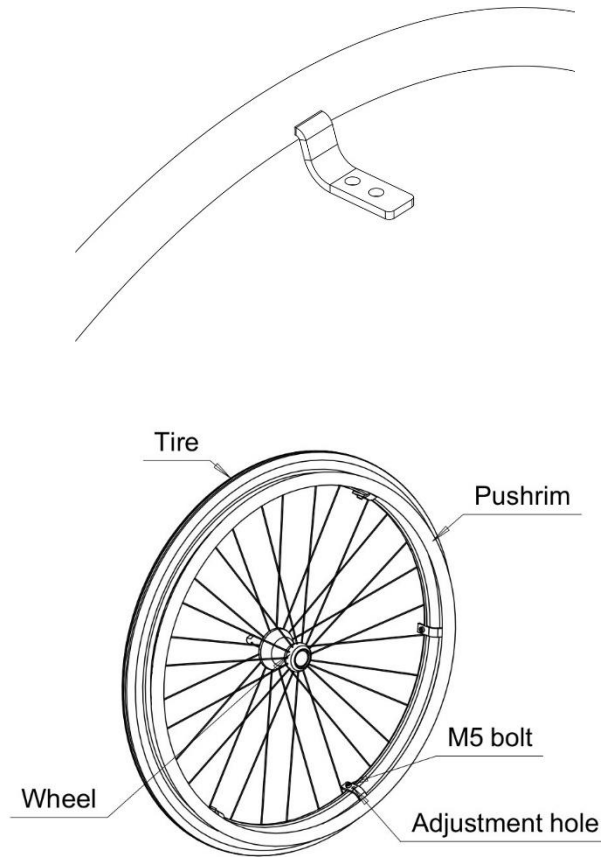


Figure 20: Pushrim adjustment

Wheel and tire service:

- If the wheel is out of balance or twisted, please contact your local service. The wheel alignment and balancing needs professional tools.
- Tire changing needs right tools, please contact service.

4.10 Castor fork

JT-Sparkle wheelchair can be chosen with two different castor fork heights. The fork has three or four holes for different size of castor wheels and height. Use four-hole

model if you want to get higher front height for the wheelchair.

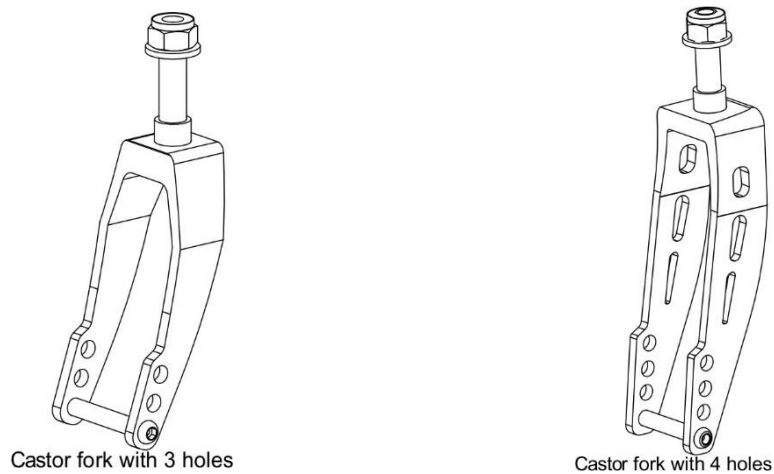


Figure 21: Castors, examples

Design fork main axle bearing clearance adjustment

- With design castor forks, the bearing clearance may need adjustments after few months of use. Bearing clearance is determined by adjusting the main nut.
- If castor fork feels loose or slack can be heard, fork needs adjustments. Please tighten the M12x1.25 nut until the turning of the fork wheels tight. Then back off the nut slightly to get it right. There should not feel any slack after the adjustment.

4.11 Anti-tipper

Anti-tipper is a foldable model, that can be adjusted in multiple ways. You can change both the angle and the depth of the anti-tipper. If you don't need anti-tipper especially in transporting the wheelchair, just push the anti-tipper's tube down and turn it 180 degrees forward. This is shown in the figure 22.

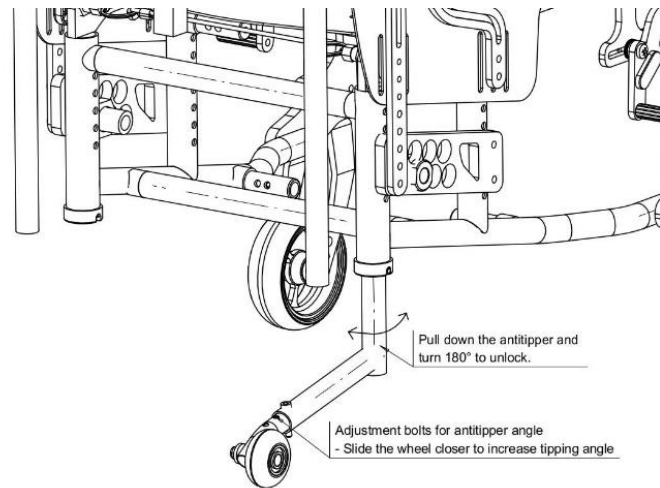


Figure 22: Adjusting the anti-tipper

4.12 Headrest

If the wheelchair is equipped with headrest, it can be adjusted for both height and depth. This is shown in Figure 23.

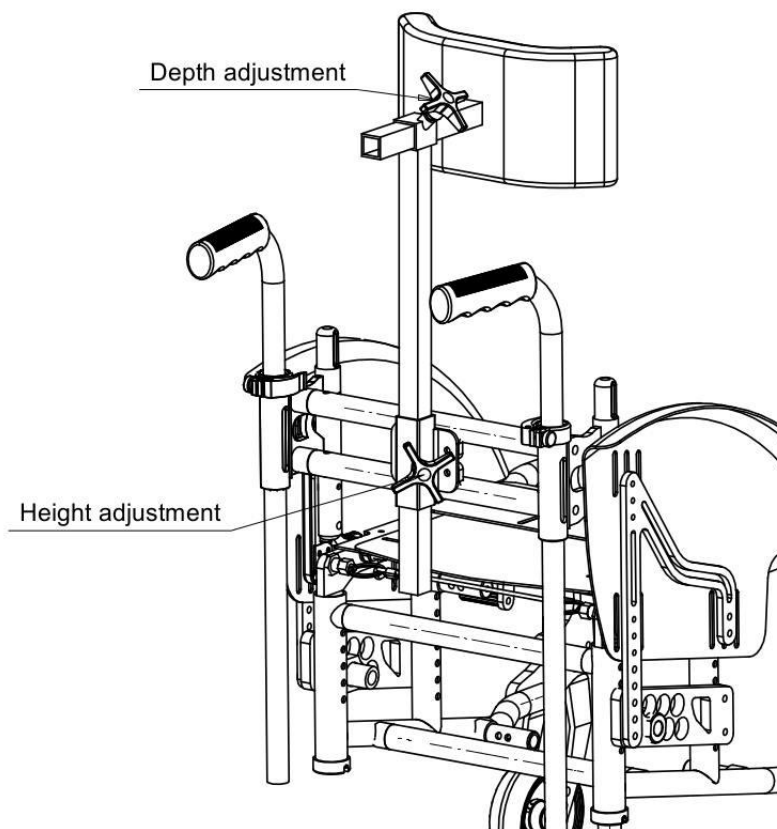


Figure 23: Headrest adjustment

5. Securing wheelchair in a road vehicle

For transporting JT-Sparkle in a road vehicle JT-Sparkle supports two different systems, a four-point strap type tiedown securement system as well as two different Dahl docking systems, VarioDock and Mk II.

JT-Sparkle has been tested according to ISO 7176-19 - Wheeled mobility device for use as a seat in a motor vehicle as well as to ISO 10542-1 SWM (specifies the design and performance requirements and associated test methods for wheelchair tiedown and occupant-restraint systems (WTORS)) with the two Dahl Docking systems.

The maximum user weight when chair is secured with a four-point securement system is 57 kg and when secured with the Dahl docking systems the maximum user weight is 43 kg.

The accommodation of the vehicle-anchored occupant-restraint systems is rated a C (TÜV Rheinland).

5.1 The 4-point strap type tiedown securement system

The 4-point system is the most common, manual wheelchair tie-down method. It consists of four straps that attach to the wheelchair and the vehicle/van floor. The straps are tightened using a ratchet mechanism.

The 4-point system hooks to 4-frame points (Anchor picture in frame). These are shown in the Figure 24. JT-Sparkle provides and has been tested with any manufacturer-designated wheelchair-anchored belt restraints, as long as the securing points match.

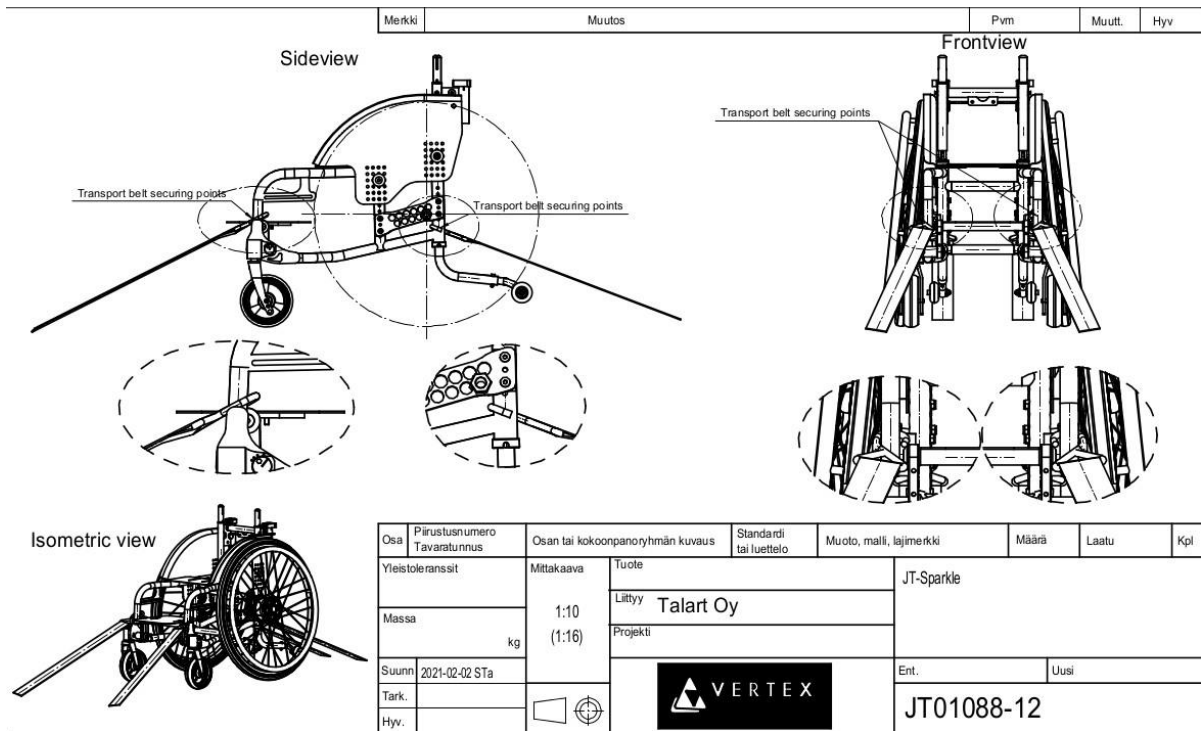
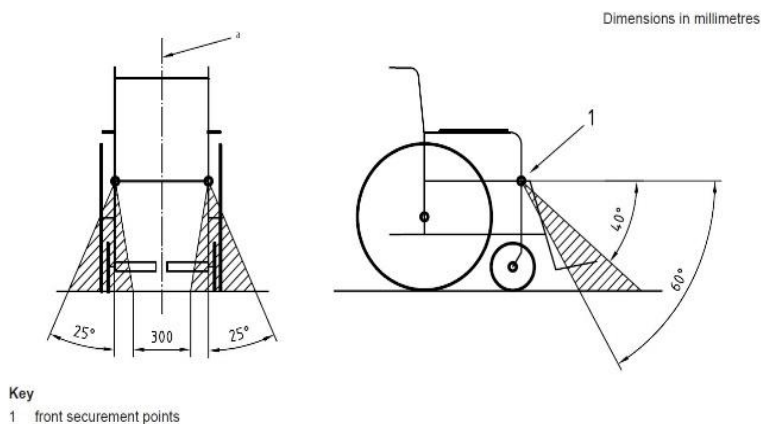


Figure 24: Transport securing points

! When securing the wheelchair with a strap restraint system always use equipment with label ISO 10542.

Tie-down strap angles

When fitted tie-down straps angles should fall within the preferred angles shown below.



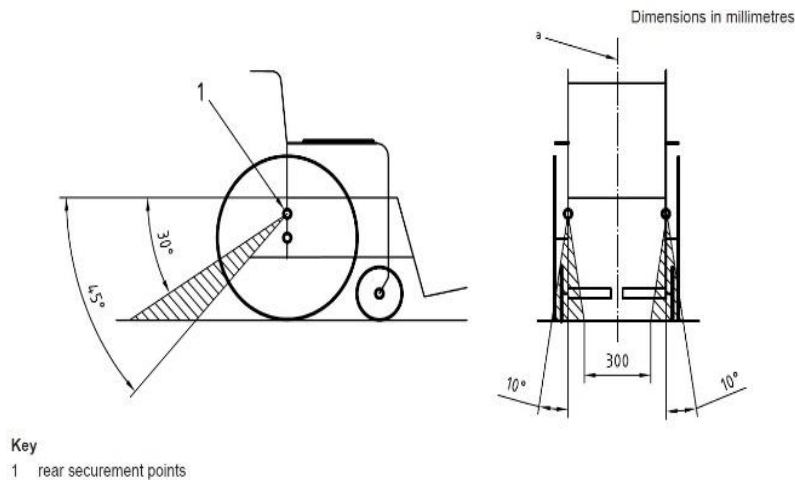


Figure 25. Preferred angles for front and rear tie-down straps

! General occupant restraint Instructions:

- Use a 3-point occupant restraint system to secure the occupant.
- Both pelvic and upper torso restraint belts must be used to restrain the occupant to reduce the possibility of head and chest impacts with the vehicle components.
- Any wheelchair anchored occupant restraint i.e., 3-point belt, harness or postural supports (lap straps, lap belts) should not be used or relied on for occupant restraint in a moving vehicle, regardless if labeled ISO 7176-19, SAE J2249 or any other. Use a vehicle anchored and certified occupant restraint system instead.
- Use a suitable positioned headrest when being transported in a wheelchair.
- Occupant restraints should make full contact with the shoulder, chest and pelvis and pelvic belts should be positioned low on the pelvis near the thigh-abdominal junction (meeting the requirements specified in ISO 7176-19:2008).
- The upper torso restraint belt must fit over the midpoint of shoulder and across the chest as illustrated
- Restraint belts must be adjusted as tightly as possible consistent with user comfort.
- Restraint belt webbing must not be twisted when in use.
- Care should be taken when applying the occupant restraint to position the seatbelt buckle so that the release button will not be contacted by wheelchair components while driving or during a crash.
- Belt restraints must not be held away from the body by wheelchair components such as armrests or wheels.

The pelvic-belt restraint should be worn low across the front of the pelvis, so that the

angle of the pelvic-belt restraint is within the preferred zone of 30° to 75° to the horizontal.

The incorrect placement of belt restraints might cause injuries while transporting the person. Please see Figure 26:



Figure 6 — Illustration of improper belt-restraint fit

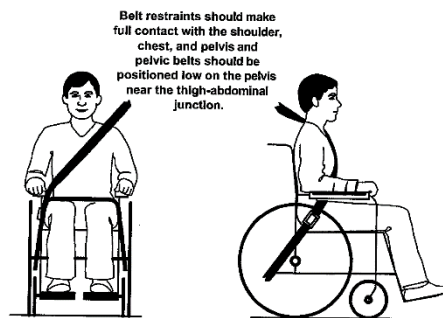


Figure 7 — Illustration of proper belt-restraint fit

Figure 26. Positioning the occupant restraint when using it with a 4-point strap tie-down system



DANGER!

- The pelvic restraint belt must be worn low across the front of the pelvis so that the angle of the pelvic belt is within the optional or preferred zone of 30° to 75° to the horizontal. A steeper (greater) angle within the preferred zone, 45° to 75° is desirable i.e., closer to, but never exceeding 75° degrees.

5.2 Securing wheelchair with Dahl Docking system in a road vehicle

During a transport in a road vehicle JT-Sparkle wheelchairs can also be secured with Dahl VarioDock and Dahl Mk II systems. Both Vario docking systems are fast and safe mechanism to lock the chair during transport. The docking adaptation bracket is attached to wheelchair’s frame with M8 bolts. System can be adjusted in both ways:

Angle and height depending of the wheelchair measurements and settings.

Always adjust the securing plate parallel to ground and make sure that it fits into the Dahl docking station which is installed on vehicles floor.

Figure 27 shows how JT-Sparkle looks with the Dahl docking system.



Figure 27. JT-Sparkle with VarioDock adaptation bracket

The used adaptation bracket consists of frame connectors that are locked to the chair as well as the plate that will be mounted with the part on the floor of the vehicle.

Figure 28 shows the whole connector and its parts.

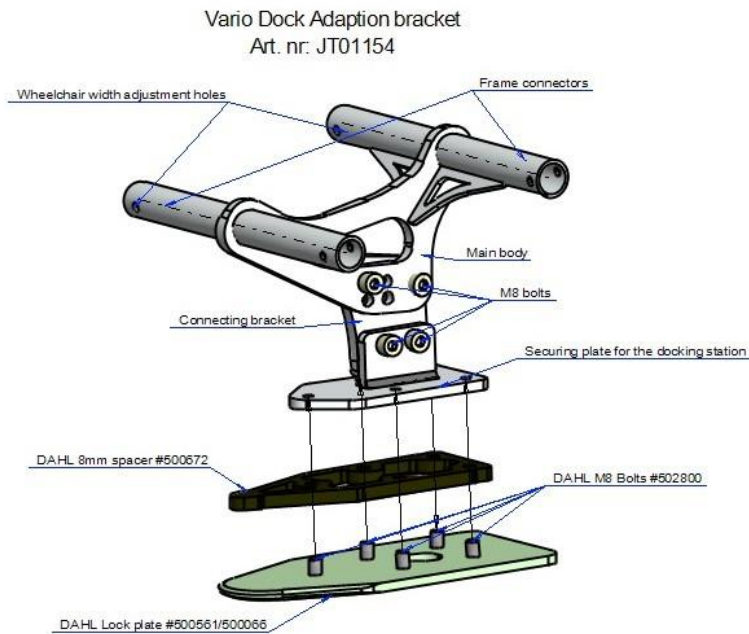


Figure 28: VarioDock adaptation bracket

Fitting of the Dahl lock plate on wheelchair

In order to fit the Dahl Lock plate an additional wheelchair specific adaptation kit is required to anchor the lock plate. The lock plate and adaptation kit used is identical for both Dahl docking Mk II and Dahl VarioDock™.

Important!

Do not use any other bolts than those supplied from Dahl Engineering (part #502800 which is quality 14.9, torx key size 27). Standard countersunk M8 bolts will not be strong enough in the event of a collision.

For the lock plates:

1. Fit the 8mm spacer onto lock plate and put the five bolts (Dahl #502800) through the lock plate and 8mm spacer
2. Mount the bolts and tighten them to a torque of 16-18 Nm.
3. The length of bolts needs to be checked, only Dahl bolts #502800 should be used
4. Apply loctite 222 (or an equivalent product) onto treads on all bolts.
5. Perform final check by connecting the wheelchair to the docking station. Make sure that lock plate is securely locked and that all release methods work as intended.

A warning tone will sound if lock plate is not properly engaged.

The adaptation bracket has various adjustment holes to make the installation easier. See Figure 29 for details.

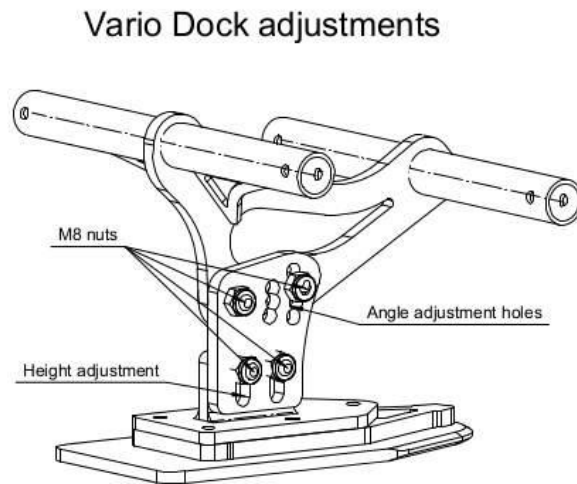


Figure 29. VarioDock adjustment on the floor of the vehicle
The counterpart on the floor of the vehicle is shown in Figure 30.



Figure 30. Vario docking station adjustment on the floor of the vehicle

The Dahl VarioDock™ docking system offers more flexibility and versatility than any other seat anchoring system because the seat and wheelchair layout can be changed very quickly with a minimum of effort and time consumption. A docking system also improves the working environment considerably for drivers, who often struggle with cramped spaces and bad working positions when tying down wheelchairs with 4-point strap systems.

- Power height adjustment from 61 - 91 mm.
- Time consumption only ¼ of tying down wheelchair with 4 point strap system.

- Tested for wheelchairs with a weight of up to 200 kg plus user.
- Approved for anchoring Dahl COMFORT Seat
- 4 step power tightening system to eliminate unwanted play.
- Opening time for lock selectable in 5 or 8 seconds intervals.
- "Service required" warning in display
- Improves working environment for drivers.
- No tie down straps on vehicle floor to trip over.
- Crash tested and CE-marked with approximately 120 wheelchairs

Securing the wheelchair with a strap restraint system and positioning the occupant restraint when using it with the Dahl Docking systems



Danger!

When using wheelchair with Dahl Docking systems, the floor anchorage points for the occupant restraint system shall be located 10-60 mm outside wheels, on each side. The pelvic belt must be worn low across the front of the pelvis so that the angle of the pelvic belt is within the optional or preferred zone of 30° to 75° as shown. A steeper (greater) angle within the preferred zone, 45° to 75° is desirable i.e., closer to, but never exceeding 75° degrees. Figures 30 and 31 show the details of this.

! Always use equipment with label ISO 10542

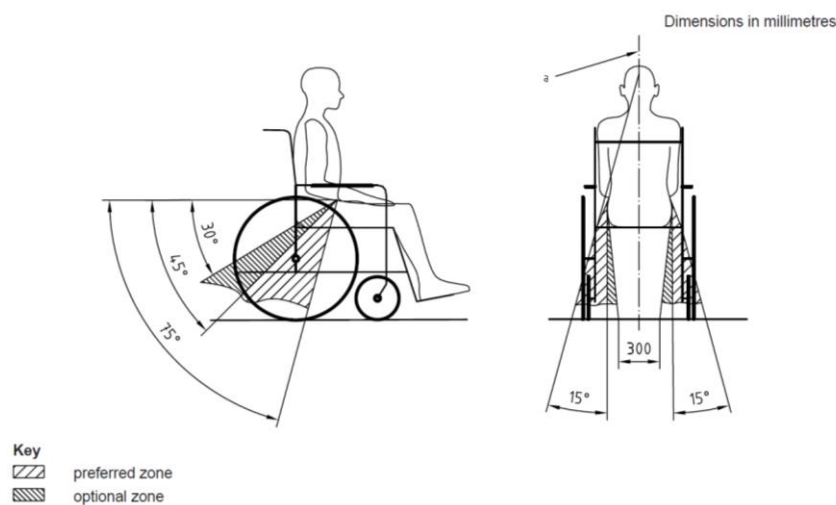


Figure 31. Preferred and optional angles for location of the lap belt

The floor anchorage points are shown in figure 31.

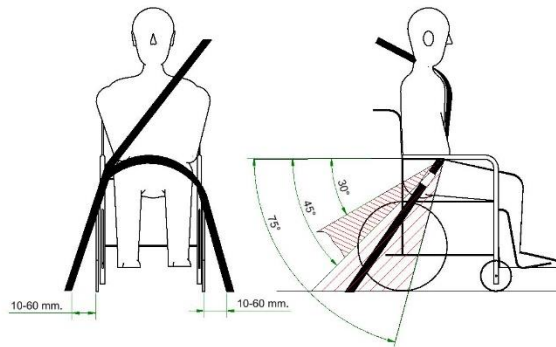


Figure 32. Floor anchorage points

5.3 Installing Dahl docking station

The Dahl Docking Station is designed to retain the seat bracket, manual and electric wheelchairs on the floor of the vehicle. A control module is fitted in the docking station to control and monitor the docking station's functions, distributes power to the various components and sends and receives signals to and from the control panel. A wiring harness is included to the package.

Do not carry out any modifications to the supplied wiring harness or other components. A lock plate and a spacer must be fitted under the wheelchair. When the wheelchair is maneuvered towards the docking station, the wheelchair is guided into place by means of the lock plate. When the lock plate is fully engaged in the docking station, a spring-loaded locking pin automatically secures the lock plate. The docking station is equipped with a built-in control switch that indicates whether the lock plate is correctly secured in the docking station.

As soon as the lock plate comes into contact with the locking pin, a warning tone will sound (a high-pitched howl), and the red diode/ lamp - LED in the control panel will light up until the lock plate is either fully engaged or else the wheelchair is removed from the docking station. With the wheelchair correctly secured, the warning tone stops and the green diode/lamp - LED in the control panel will light up to indicate that the wheelchair is properly secured.

The control panel is equipped with a pushbutton which is connected to an electromagnet which triggers/releases the locking pin for approx. 5 or 8 seconds, after which it is automatically locked once more. In case of an electrical fault, there is a manual emergency release on the front edge of the docking station. The release

arm should be pushed sideways and held in order to release the wheelchair. A cable-activated manual operating lever can be ordered as an extra accessory. Fixing parts in the form of bolts, nuts, washers, etc., are included.

The Content of Dahl docking station Mk. II kit #501750 is shown in Figure 33.



Figure 33. Content of Dahl docking station Mk. II Kit #501750

The content of VarioDock kit looks very similar, with minor differences, see figure 33 for details.

Content of Dahl VarioDock kit #503600



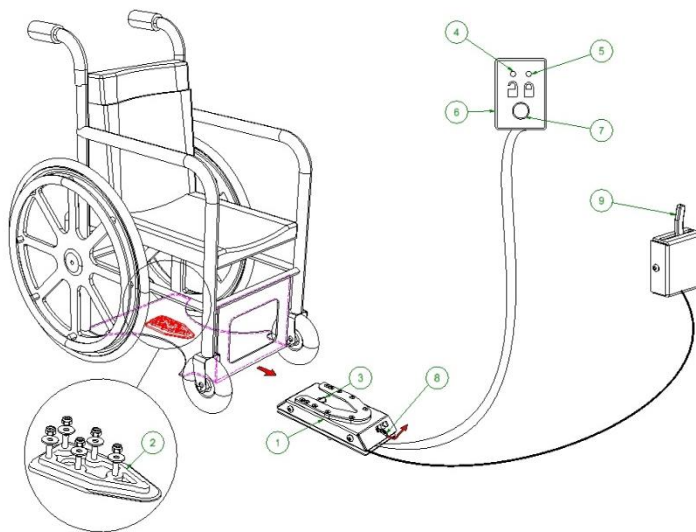
Figure 34. Content of Dahl VarioDock kit #503600

The installation

The installation of VarioDock and MK II must be carried out by a qualified and experienced technician. In the area where the wheelchair is to be locked into the docking system, the floor must be flat along the full length and width of the

wheelchair. The length of the flat floor must be in a way that it is possible to maneuver the wheelchair into the docking system without problems. It is essential that there is no difference in the height of the floor from one side to the other at the location where the docking station is to be installed. It is also important that the lock plate is fitted straight/horizontally under the wheelchair. If the above is not carried out carefully, there is a risk that the wheelchair may not be able to be maneuvered properly into place in the docking station.

Description of how the Dahl Docking system Mk II. functions



- (1) Dahl Docking station
- (2) Lock plate and spacer
- (3) Lock pin
- (4) Red LED
- (5) Green LED
- (6) Control panel
- (7) Release button
- (8) Manual emergency release lever
- (9) manual operating lever

Figure 35. Functional description of the Dahl Docking system Mk II

Securing the wheelchair in the docking station

1. Maneuver the wheelchair slowly and in a uniform direction over the docking station. The lock plate under the wheelchair helps to guide the wheelchair into place in the docking station. When the lock plate is fully engaged in the docking station, a spring-action locking pin automatically secures the lock plate.
2. The docking station is equipped with a control switch that indicates whether the lock plate is correctly secured in the docking station. As soon as the lock plate comes

into contact with the locking pin, a warning tone will sound (a high-pitched howl), and the red diode/lamp (LED) in the control panel will light up until the lock plate is either fully engaged or else the wheelchair is removed from the docking station.

3. As an indication that the wheelchair is properly secured, the warning tone will cease, the red lamp (LED) in the control panel will go out and the green lamp (LED) will light up.

4. Do not forget to buckle up for driving.

Warning!

Do not move the vehicle:

- Whilst the wheelchair is being maneuvered into position in the docking station
- If the wheelchair and user are not correctly secured.
- If the warning tone sounds and/or the red warning lamp (LED) in the control panel flashes or is lit!

Always check if the lock plate is properly engaged in the docking station by trying to reverse the wheel chair out of the docking station before moving the vehicle. (It must not be possible to reverse out of the docking station without pressing the red release button in the control panel).

Release from the docking station

1. When the vehicle has been brought to a halt, remove the safety belt.
2. To unlock commence by driving the wheelchair forward to release pressure on the lock pin.
3. Press the red release button in the control panel. The locking pin will be triggered/ released for approx. 5 seconds, after which the locking pin is automatically locked/activated again.
4. Move the wheelchair away from the docking station within this 5-second period. Do not attempt to reverse out of the docking station until the red LED on the control module, which indicates the unlock position, has been illuminated.

Warning!

Attempting to reverse the wheelchair before the red LED has been illuminated will result in blocking the docking stations locking mechanism, which makes it impossible to reverse. If this happens repeat above unlocking procedure.

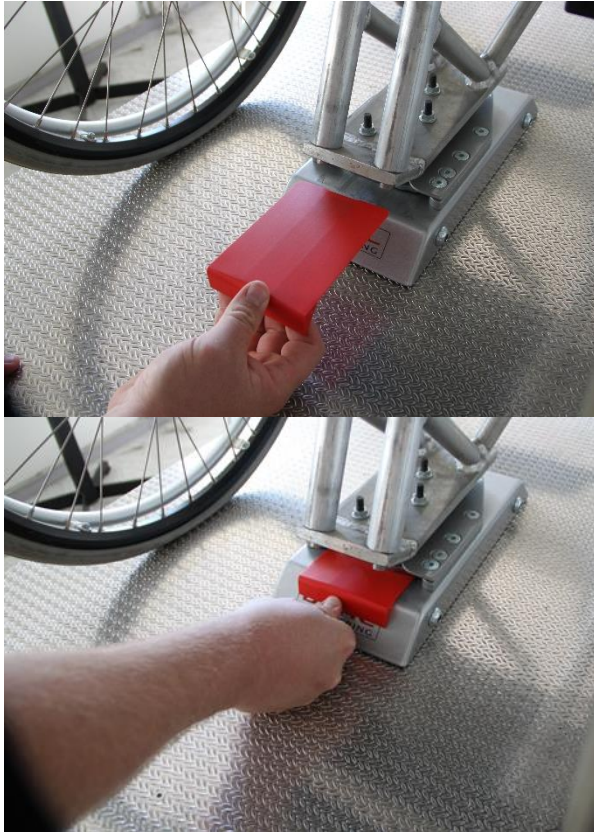
Manual release in case of electric failure

A manual emergency release is located at the front edge of the docking station.

1. Move wheelchair forward to remove the pressure on the lock pin and push the red release arm to one side and hold it there while the wheelchair moves away.
2. A cable-activated manual operating lever can also be fitted (accessory). The red

release arm is also pushed to one side and should be held there whilst the wheelchair moves away.

If the described manual release procedures fail, an emergency release tool made from red plastic comes with each docking station.



1. Move wheelchair forward to remove the pressure on the lock pin
2. Place the emergency release tool in the gap between the locking plate and the docking station.
3. Push the release tool and wheelchair forward until the locking pin has been forced down - after which the wheelchair can reverse out of the docking station.

Figure 36. Use of emergency release tool

Dahl Engineering offers two docking systems, the Mk II, and a new power height adjustable called Dahl VarioDock. Please also refer to Dahl Engineering instructions for installation, use and maintenance for the system used.

Installation of the Dahl Docking stations in the vehicle

Only professional companies in the business of converting or building wheelchair accessible vehicles can order the docking system from Dahl Engineering. A qualified and experienced technician must carry out the installation. Dahl

Engineering can provide vehicle specific installation instructions for a large range of vehicles, which must be respected by the fitter.

Please contact Dahl Engineering for further information about approved vehicles and fitting positions. Dahl Engineering contact details are available at:

www.dahlengineering.dk

5.4 General warnings and safety trips



When using the wheelchair, it should be noted that:

- The wheelchair should be inspected by a manufacturer's representative before reuse following involvement in any type of vehicle collision
- Alterations or substitutions should not be made to the wheelchair securement points or to structural and frame parts or components without consulting the wheelchair manufacturer
- Care should be taken when applying the occupant restraint to position the seatbelt buckle so that the release button will not be contacted by wheelchair components during a crash



Transport of the wheelchair user in a road vehicle.

DANGER!

- Ensure that the vehicle is suitably equipped to transport a passenger in a wheelchair, and ensure the method of access /egress is suitable for your wheelchair type.
- The vehicle should have the floor strength to take the combined weight of the occupant, the wheelchair and accessories
- The wheelchair should be secured in a forward-facing direction. This wheelchair is tested to ISO 7176-19, for use in road vehicles and meets the

requirements for forward facing transport and head on collisions. The wheelchair has not been tested for other directions in a vehicle

- The wheelchair can only be secured by using the tie-down points on the wheelchair's frame
- The tie-down points (2 in the front, 2 in the back) are indicated by the tie-down symbol
- The wheelchair may not be secured onto any accessories (wishbones, armrests, anti-tip brackets etc.)
- No changes or replacements must be made to the anchorage points/car fastenings on the wheelchair for docking system or 4-point strap tie down systems, or to constructional elements or parts of the frame without consulting the manufacturer



Figure 37. The tie-down symbol used in the chair

6. Technical specifications of JT-Sparkle

Frame material: Aeroplane aluminum 6000series, heat treated, tube diameters 22,25 and 28mm. Tube diameter is decided in ordering phase

Sizes: S and M

Camber: 0,2,4,6,8 degrees

Weight: Depends on the weight of the customer and chosen accessories. Average wheelchair total weight with wheels is between 9-14kg.

Max. User weight: 60kg

Color: Powder coated

Upholstery: Nonflammable plastic-based material and velcro straps

Approvals: CE-Mark, EN12183, Medical device class 1 product (EU MDR 2017/745), ISO7176-19

7. Cleaning of JT-Sparkle

The wheelchair frame is powder coated aluminum that can be cleaned by normal washing liquids. Upholstery can be washed in washing machine with 30 degrees. All the removable foam parts must be taken off from the upholstery before washing in the machine.

Heavy dust and grease can be washed away by using natural based washing liquids. (Warning! Usage of acid-based washing liquids can turn the bright powder paint to matte finish).

8. Service/Maintenance

Annual service for the wheelchair is recommend.

- Annual service for wheelchair includes checking of following points:
 - Castor wheel bearings
 - Castor fork bearings
 - Inspection of wheellocks functionality
 - Inspection of nuts and bolts, securing them if loose
 - Frame visual inspection and cleaning
 - Straightness of push handles
 - Castor fork angle (set identical compared to other side)
 - Backrest folding mechanism inspection and bolt/nuts inspection
 - Transport docking system inspection, if equipped

9. Disposal

If the wheelchair will be recycled or renewed, please contact your local medical product supplier at first hand.

As a manufacturer, we can reliably guarantee a lifespan of 6 years, provided that the JT-Sparkle wheelchair is used in accordance with the instructions from Talart Oy and those mentioned in these instructions.

Aluminum frame and other metal parts can be recycled by metal recycling companies

- Frame
- Wheels (Remove tires)
- Castor forks and wheels
- Bolts and nuts
- Seating plate, if equipped
- Wheellocks
- Footrest and push handles
- Fenders

Other than metal parts can be recycled but will need to be discussed by your local recycling company

Mixed waste:

- Seating upholstery (Fabric and velcro straps)
- Tires and inner tubes
- Plastic frame connector parts
- Cushion
- Footrest grip tape

10. Warranty

JT-Sparkle have two years (2 years) warranty. All warranty issues are processed only in Talart premises. Warranty is valid only in possible frame structure and manufacturing process failures.

NOTE

Any serious incident that has occurred when using this device should be reported to the manufacturer and the competent authority of the EU Member State where the user and/or patient is located.

Made in Finland

