NEATECH™
PROFESSIONAL
REHAB SERIES

EVO 3

USER MANUAL

2019-01

DECLARATION OF CONFORMITY

The manufacturer

Neatech.it

Via A. de Curtis 4/A, 80040, Cercola (NA), Italy

declares that

the wheelchair EVO 3
(reference code: S042)
other names: EVO 3 – EVO3 FWD – EVO3 RWD – EVO 3 FWD – EVO 3 RWD

satisfies the requirements laid down by the European Directive 93/42;

according to the criteria for classification of Annex IX of this Directive, it is classified as:

class I medical device;

It also complies with the requirement of the harmonized standards:

EN ISO 14971:2012

UNI EN 12182:2012

UNI EN 12184:2009

Index

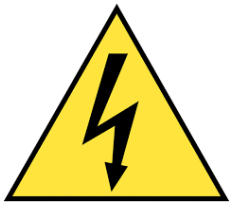
Symbols in this manual

WARNING

This symbol means presence of danger for the user or damage for the product. Always follow instructions when this symbol is present.

PINCH HAZARD

This symbol means presence of pinch hazard.



ELECTRICAL WARNING

This symbol means presence of danger related to the presence of electrical energy. Please pay special attention when this symbol is present.

INFORMATION

This symbol means general information intended to simplify or best explain the use of the product.

CONTACT INFORMATION

This symbol means the need of contacting an authorized service center or the manufacturer.

TEMPERATURE

The temperature of some surfaces may increase when the product is exposed to external heat sources as direct sunlight.

TIPPING HAZARD

Tipping hazard is strongly reduced because of the design of the product according to EN 12182.

In any case, please pay special attention during the adjustments and use of the product to prevent any damage to the user or product itself.

Any transport on a slope greater than the maximum safety slope can be dangerous.

Please don't seat on armrests.

ANTI-TIP DEVICES

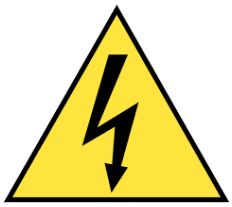
Using anti-tippers substantially reduces your risk of falling over, which can cause serious injury. The Anti-Tippers will keep you from falling over, but they will limit your ability to be pulled up curbs and some other maneuvers. **IT IS NOT POSSIBLE TO HAVE THIS WHEELCHAIR WITHOUT ANTITIP DEVICES**.

Center of balance of the wheelchair and so its stability cab be affected by:

- User position
- Us of a backpack
- Tilting of the seat

PINCH HAZARD

Make sure your feet do not hang up or get caught in the space between the footrests. In general, make sure you have proper space in areas you will travel through to minimize pinching or entrapment of body parts.



ELECTROMAGNETIC RADIATION DANGER

The behavior of the wheelchair while driving may be affected by electromagnetic fields created by transceivers such as: Citizens band (CB) radios, walkie-talkies, fire and police radios, cellular phones, lap-top computers, commercial radio and television broadcast antennas. PLEASE USE CAUTION in the presence of these devices.

Electromagnetic radiation can cause your chair, without warning, to:

- release its brakes
- move by itself
- move in unintended directions

If any of these occur, it could result in severe injury to you or others. Electromagnetic radiation can damage the control system of your chair. There is no way to know the effect on electromagnetic immunity if you add accessories or modify this chair. Any change to your chair may increase the risk related to electromagnetic radiation. Parts from other suppliers have unknown electromagnetic properties. **The wheelchair might disturb the operation of devices in its environment.**

INFORMATION

For information on how to obtain information and instructions in a format appropriate for use by visually impaired people please contact the manufacturer.

Service manual is intended for technical personnel to maintain and repair wheelchairs. It is important to follow the instructions contained in this manual in order to professionally work with the product.

The qualified personnel who works with wheelchairs must comply with all provisions of occupational safety and common sense in order to preserve his own safety.

The manufacturer declines all responsibility for any accidents occurring during the working with the product.

WARNING: It is prohibited to use the product or its parts for any purpose other than that indicated. For a correct use please follow the instructions given in this manual. The manufacturer disclaims any responsibility for damages caused by improper use of the product.

The manufacturer disclaims any responsibility for inappropriate selection of product model and configuration.

Information in this manual may be subject to change without notice. All information, pictures and specifications are based on the product details that were available at the time of preparation of this document. They are representative examples and they are not intended to be exactly as the actual product.

MODIFICATIONS

Any unauthorized modification to the product may increase the risk of personal injury and damage to the product itself. All modifications should be done by an authorized service center.
Do not use any unauthorized accessories or spare parts on the product. Do not use the product in combination with other medical devices without first having considered any risk due to combination of more products.

MANUFACTURER

For any need not expressly explained in this manual, please contact the manufacturer.

Neatech.it SRL

via A. de Curtis 4/A, 80040, Cercola (NA), Italy
www.neatech.it – info@neatech.it - +39 081 555 1946

INCIDENT REPORTING

If an incident occurs, please contact an authorized service center. For a list of authorized service center please contact the manufacturer.

DISPOSING

This product and all its components can not be treated as household waste. For more detailed information on how recycling and disposal this product contact your local waste disposal service.

1 PRODUCT INFORMATION

The EVO 3 offers a sleek design and superior performance, the top of its category, providing a perfect combination of stability and maneuverability.
Born from the passion of Neatech for high engineering, which allows it to offer a broader spectrum of choices than in the past; it is a quality product that features an elegant design and performance.

Total length	1100 mm
Total width	MIN 560 mm – MAX 615 mm
Seat height	MIN 460 mm – MAX 480 mm
Total wheelchair weight	MAX 125 kg
Maximum user weight	MAX 80 kg
Seat width	MIN 300 mm – MAX 420 mm
Batteries	2x 55 Ah GEL
Charger	6 A
Power module	Rnet 80 A
Motors	2x 220 W

2 PREPARATION FOR FIRST USE

2.1 Checks to be made on delivery

- Check for the integrity of the original packaging.
- Check for any anomalies on shipping documents.
- Check for the functionality and integrity of the device in all its parts, at the time of delivery or immediately thereafter, to ensure that no damage has resulted from a careless transport.
- Make sure the surface of the device is not damaged, scratched, bent, etc.
- Any fault or damage found must be immediately reported on the shipping documents and promptly communicated to the shipper.

2.2 Unpacking

Inside the box there are:

- Evo3 wheelchair
- Documents and manual
- Charger

The wheelchair is delivered already mounted and ready to use. Before starting to use the wheelchair please check if all described components are present. **If not, please contact as soon as possible the vendor.**

PACKAGING DISPOSAL

To properly recycle the packaging materials follow instructions provided by your local waste disposal service.

2.1 Software description

The software of the wheelchair can be categorized into these classes:

- Kernel software of power module.

  There is no required access, modification or customization of this part of the software

In case a reprogramming of the wheelchair is required, please contact the manufacturer to have instructions and the most suitable version of the software.

In case of problems with this part of the software please contact the manufacturer.

- Kernel software of seating module.

  There is no required access, modification or customization of this part of the software

In case a reprogramming of the wheelchair is required, please contact the manufacturer to have instructions and the most suitable version of the software.

In case of problems with this part of the software please contact the manufacturer.

- Software parameters of the wheelchair.

This part of the software is made by the manufacturer. It is intended to assure driving and seating function of the wheelchair. It is responsibility of the manufacturer to correct program parameters regarding the structure of the wheelchair.
Qualified personnel of an authorized service center are able to customize this part of the software to best fulfill single user requirements.

Programming must be conducted only by qualified personnel with in-depth knowledge of the wheelchair and power module system.
Any change to this part of the software may result in a hazardous situation for the user.

3 ADJUSTMENTS

3.1 Seating system description

- **Seat height (B)**: this is the height of seat measured starting from the chassis (**line a**). When seat angle is different from zero, you should have two different values for front and back seat height.

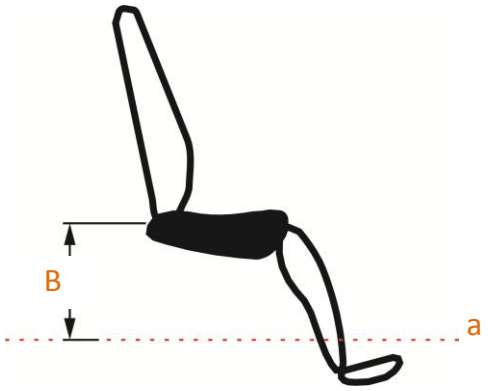


Figure 1

- **Seat angle (C)**: this is the angle between the seat and the chassis (**line a**). Seat angle is positive when the seat is tilted rearward, zero when the seat is horizontal and negative when the seat is tilted forward.
- **Absolute backrest angle (D)**: this is the angle between the backrest and the seat.
- **Backrest angle (E)**: this is the angle between the backrest and the chassis of the wheelchair (line a). Only when seat angle is zero, absolute backrest angle is equal to backrest angle.

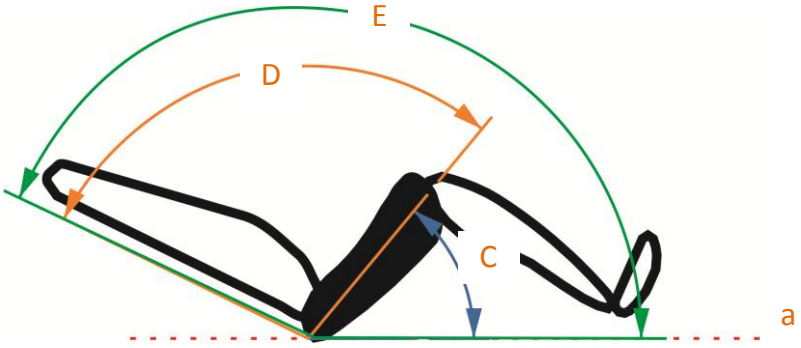


Figure 2

- **Absolute legrest angle (F)**: this is the angle between the legrest and line perpendicular to the seat (g).
- **Legrest angle (H)**: this is the angle between the legrest and the line perpendicular to the chassis of the wheelchair (line m). Only when seat angle is zero, absolute legrest angle is equal to legrest angle.

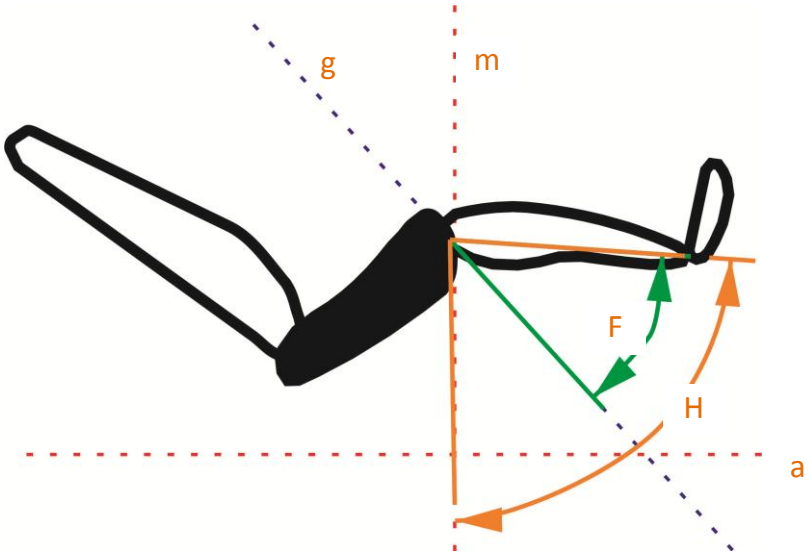


Figure 3

3.2 List of adjustments

Type of operation	
A	Operation intended to be performed by the user.
B	Operation intended to be performed by an assistant.
C	Operation intended to be performed by an authorized service center.

Table 1

3.2.1 Version of the wheelchair with biomechanics movements

Adjustment	Section	Type of operation
Seat depth	Service Manual	C - Service
Armrests height	3.3	B - Assistant
Horizontal armrest angle	3.5	B - Assistant
Vertical armrest angle	3.4	B - Assistant
Footplates height	Service Manual	C - Service
Backrest height	3.6	B - Assistant
Joystick position	3.7	B - Assistant

Table 2

3.2.2 Version of the wheelchair without biomechanics movements

Adjustment	Section	Type of operation
Seat depth	3.8	B - Assistant
Backrest angle	3.9	B - Assistant
Armrests depth	3.10	B - Assistant
Armrests height	3.11	B - Assistant
Sidepad height	3.12	B - Assistant
Footplates height	3.13	B - Assistant
Footplates angle and depth	3.14	B - Assistant
Joystick position	3.15	B - Assistant

Table 3

3.3 Armrests height - Version with biomechanical movements

RANGE

It is not easy to provide a range for this adjustment because there are too many configuration and possibilities.

Average needed time: <5 min	**Difficulty level:** Easy

WARNING

As this adjustment is carried out, it is necessary to compensate by adjusting also the armrest vertical angle.

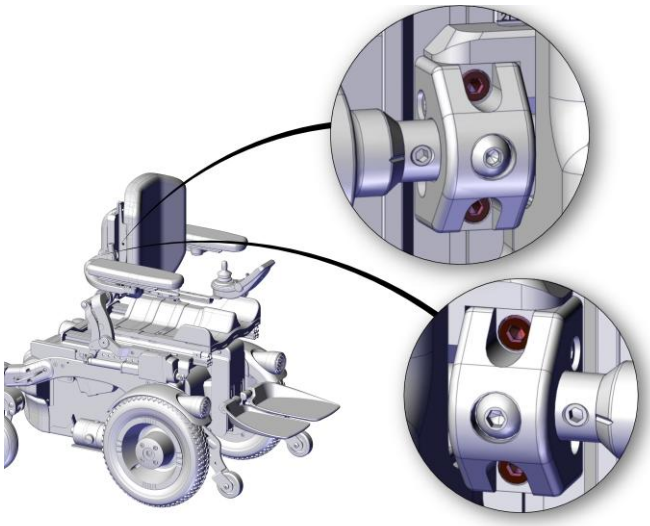


Figure 4

• Loosen the 4 screws shown in figure.	**ALLEN WRENCH** 5 mm

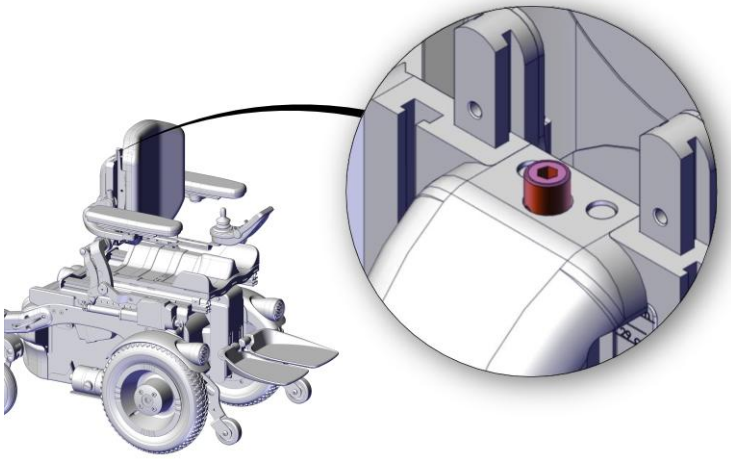


Figure 5

• Adjust the bolt shown in figure in order to adjust armrests height. Rotate it clockwise to rise the armrest and counterclockwise to lower it. • When finished, tighten again the 4 screws previously loosen.	**ALLEN WRENCH** 5 mm

3.4 Vertical armrests angle - Version with biomechanical movements

RANGE

It is not easy to provide a range for this adjustment because there are too many configuration and possibilities.

Average needed time:

<5 min

Difficulty level:

Easy

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right side.

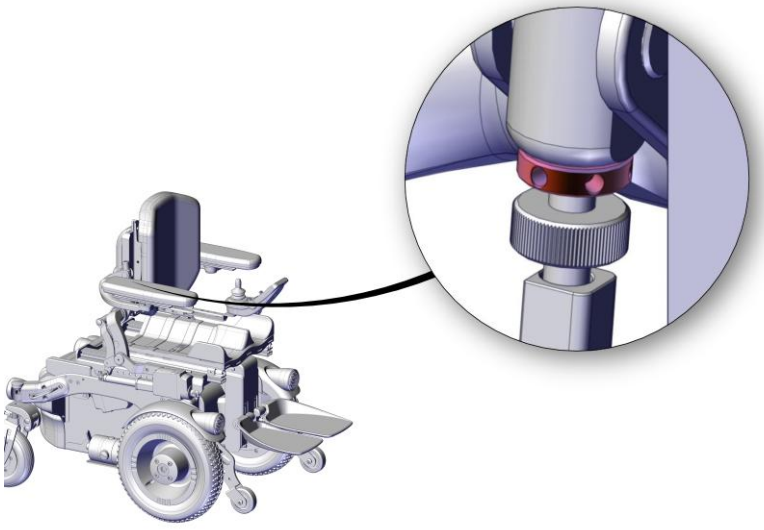


Figure 6

- Unscrew the nut shown in figure.

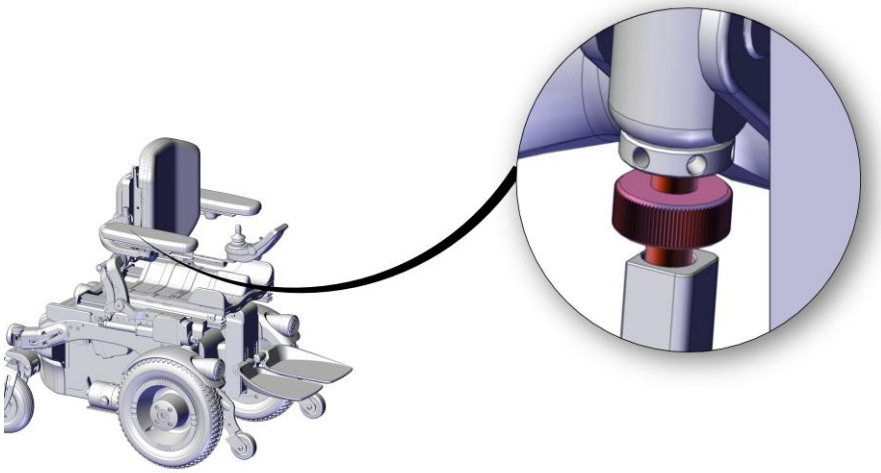
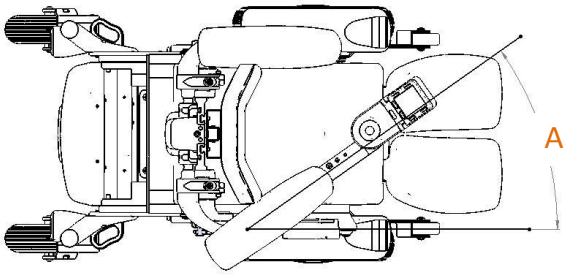


Figure 7

• Rotate the screw shown in figure clockwise to lower the armrest or rotate it counterclockwise to rise the armrest.	

3.5 Horizontal armrests angle - Version with biomechanical movements

	**(A)** **POSSIBLE VALUES** 12° 24° 36°

Average needed time: <5 min	**Difficulty level:** Easy

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right side.

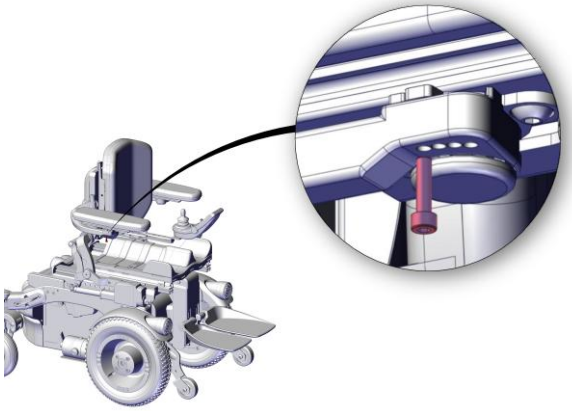
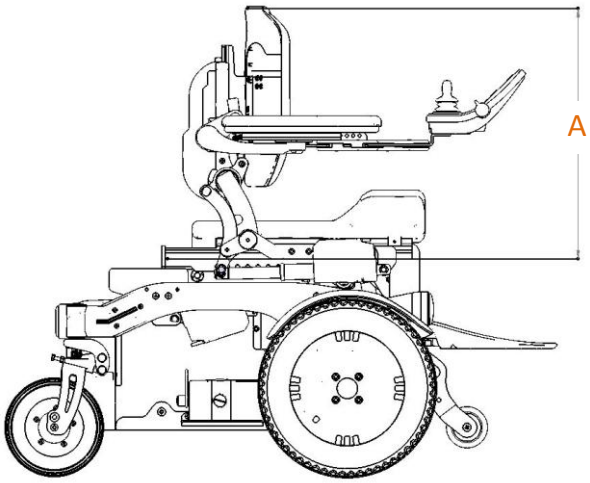


Figure 8

• Unscrew the screw shown in figure. • Set the armrest angle as desired. • Screw again the screw.	**ALLEN WRENCH**  4 mm

3.6 Backrest height - Version with biomechanical movements



CONFIGURATION	(A) POSSIBLE VALUES
M1 P2 – S042-V378 M2 P1 – S042-V379 M1 P2 – S042-V387 M2 P1 – S042-V388	43.0 cm 47.0 cm 51.0 cm 55.0 cm
M2 P2 – S042-V380 M2 P2 – S042-V389	45.0 cm 49.0 cm 53.0 cm 57.0 cm
M3 P1 – S042-V381 M4 P2 – S042-V384 M3 P1 – S042-V390 M4 P2 – S042-V393	51.0 cm 55.0 cm 59.0 cm 63.0 cm
M3 P2 - S042-V382 M4 P3 – S042-V385 M3 P2 - S042-V391 M4 P3 – S042-V394	54.0 cm 58.0 cm 62.0 cm 66.0 cm
M4 P1 – S042-V383 M4 P1 – S042-V392	51.0 cm 55.0 cm 59.0 cm 63.0 cm

Table 4

Average needed time: 20 min	**Difficulty level:** Easy

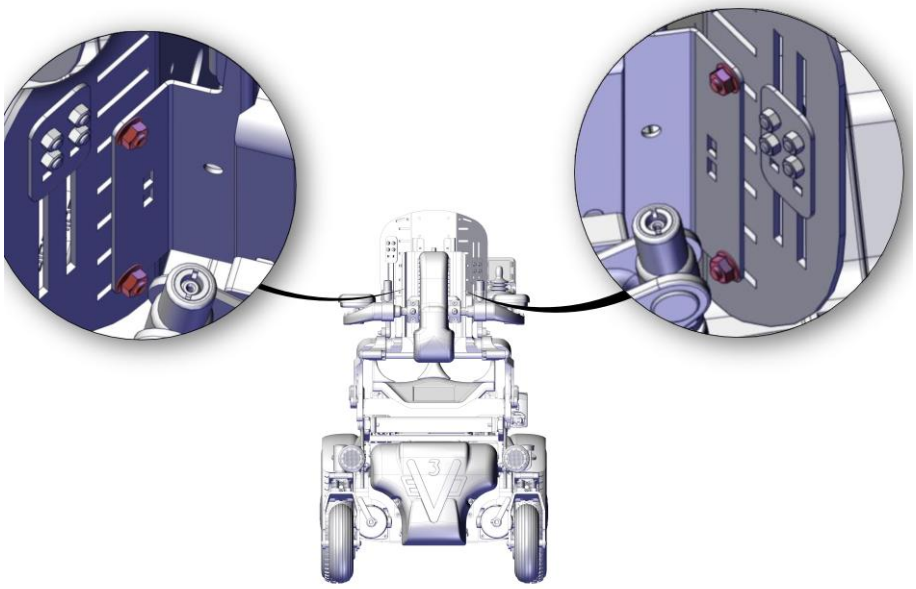


Figure 9

• Remove the backrest upholstery. • Unscrew the 4 screws shown in figure. • Adjust the height as desired. • Screw again the screws. • Mount again the backrest upholstery.	**OPEN-END WRENCH**  8 mm

3.7 Joystick position - Version with biomechanical movements

RANGE

It is not easy to provide a range for this because there are too many configuration and possibilities.

Average needed time:

<5 min

Difficulty level:

Easy

3.7.1 Standard support - Depth

Figure 10

- Unscrew the 2 screws shown in figure.
- Adjust the depth of the joystick as desired.
- Screw again the screws.

ALLEN WRENCH

5 mm

ADJUNCTIVE ADJUSTMENT

Moreover it is possible to adjust the angle of the joystick simply acting on the two levers shown in figure.

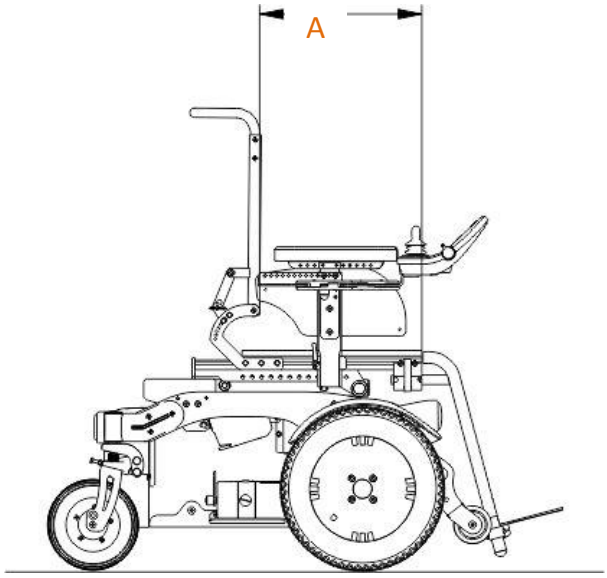
Figure 11

3.7.2 Retractable support S045-V263 - Depth

Figure 12

• Unscrew the 2 screws shown in figure. • Adjust the depth and the height of the joystick as desired. • Screw again the screws.	**ALLEN WRENCH**  5 mm

3.8 Seat depth- Version without biomechanical movements



WHEELCHAIR SIZE	(A) MIN VALUE	(A) MAX VALUE
M1 - S042-V073	300 mm	420 mm
M2 - S042-V074	300 mm	460 mm
M3 - S042-V075	300 mm	485 mm
	485 mm	500 mm
M4 - S042-V071	30.0 mm	485 mcm
	485 mm	520 mm

Table 5

WARNING

It is needed to set separately left and right seat depth. Always set them at the same manner.

Average needed time:

5 min

Difficulty level:

Easy

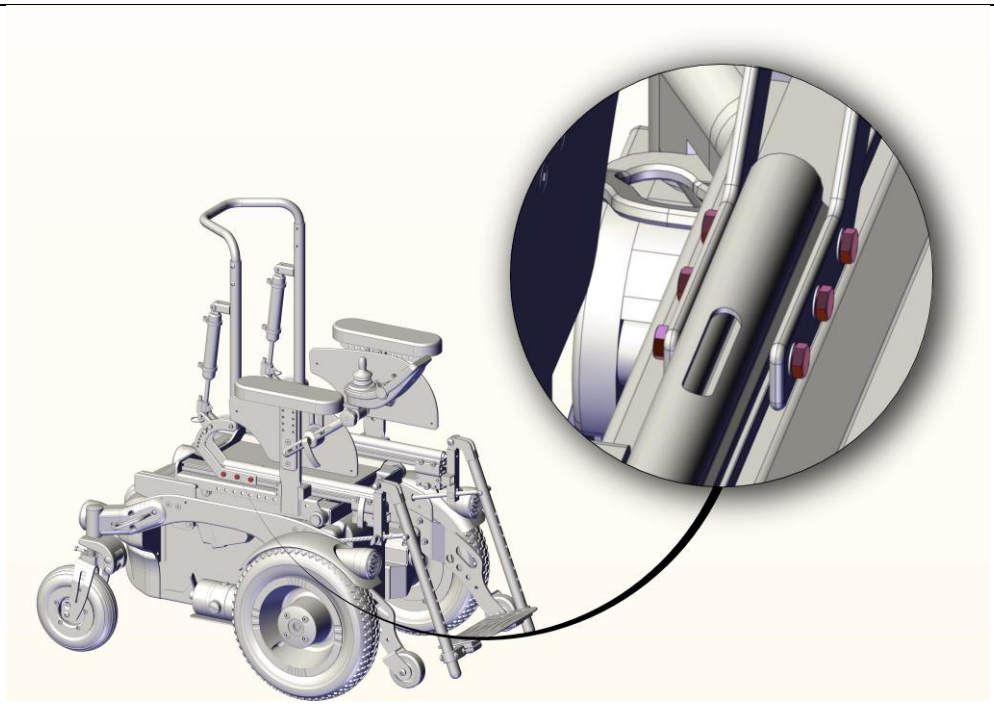
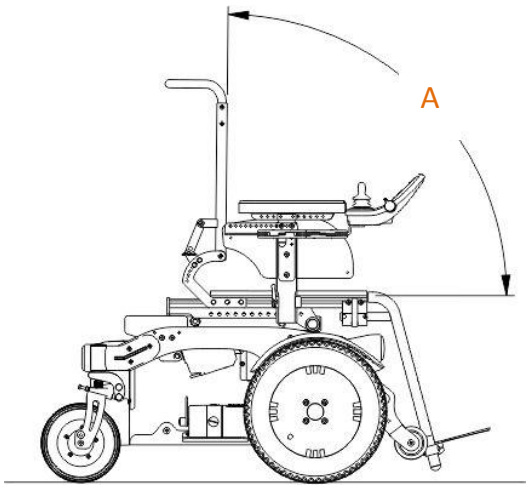


Figure 13

• Remove the backrest. • Loosen the 6 screws shown in figure. • Set the backrest according to the desired seat depth. • Tight again the 6 screws. • Mount again the backrest.	**OPEN-END WRENCH**  10 mm

3.9 Backrest angle- Version without biomechanical movements



BACKREST CONFIGURATION	(A) POSSIBLE VALUES
Angle adjustable with fixed position	90° or 95° 95° or 100 100° or 105° 105° or 1110° 110° or 115° 115° or 120°
Angle adjustable with pistons	90° - 95° 95° : 100° 100° : 105° 105° : 110° 110° - 115° 120° - 125°

WARNING

It is needed to set separately left and right backrest angle. Always set two parts of backrest at the same manner.

Average needed time:

5 min

Difficulty level:

Easy

Angle adjustable with pistons

Use the lever located on the push bar to move the backrest.

Angle adjustable with fixed position

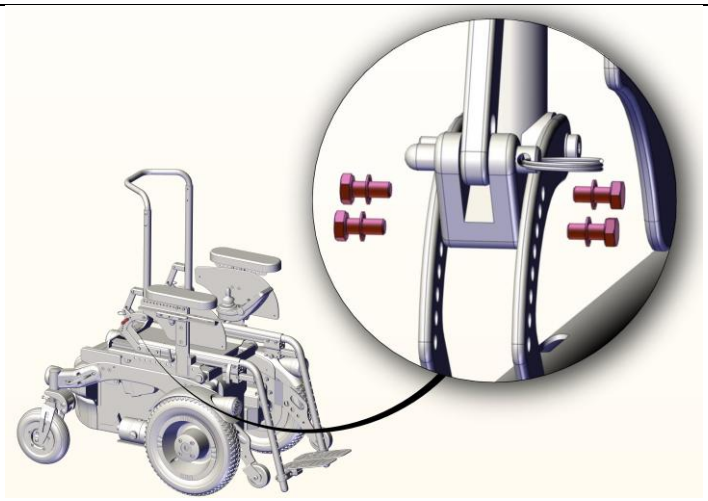


Figure 14

• Unscrew the 4 screws shown in figure. • Set the position of the hardware highlighted in figure according to the desired backrest angle. • Screw again screws.	**OPEN-END WRENCH** 	10 mm

ADDITIONAL ADJUSTMENT

After adjusted the angle of backrest as described above it is possible to adjust of more 5° simply acting on the axis shown in figure.

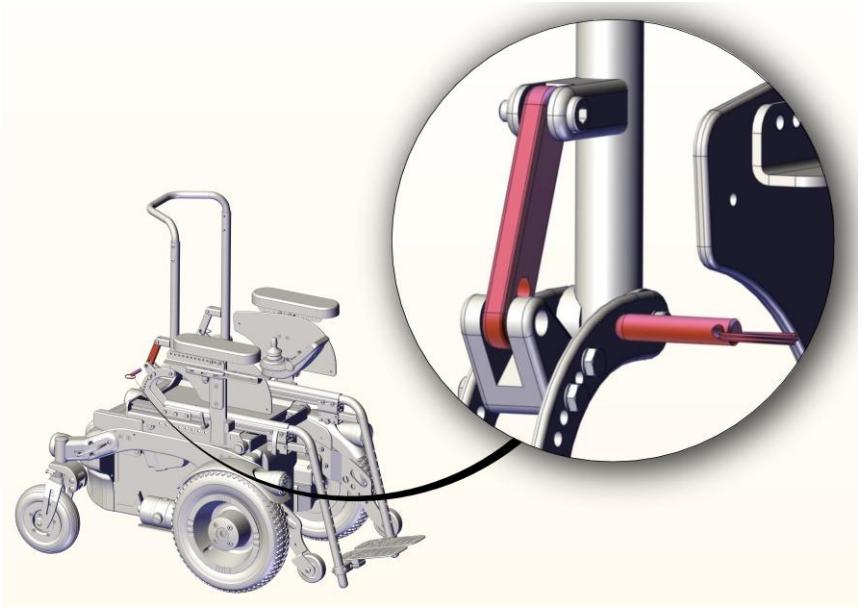


Figure 15

3.10 Armrests depth- Version without biomechanical movements

RANGE

It is not easy to provide a range for adjustment of armrests depth because there are too many configuration and possibilities.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right armrest.

Average needed time:

5 min

Difficulty level:

Easy

RANGE

Please be sure that the chosen position doesn't represent an obstacle.

Figure 16

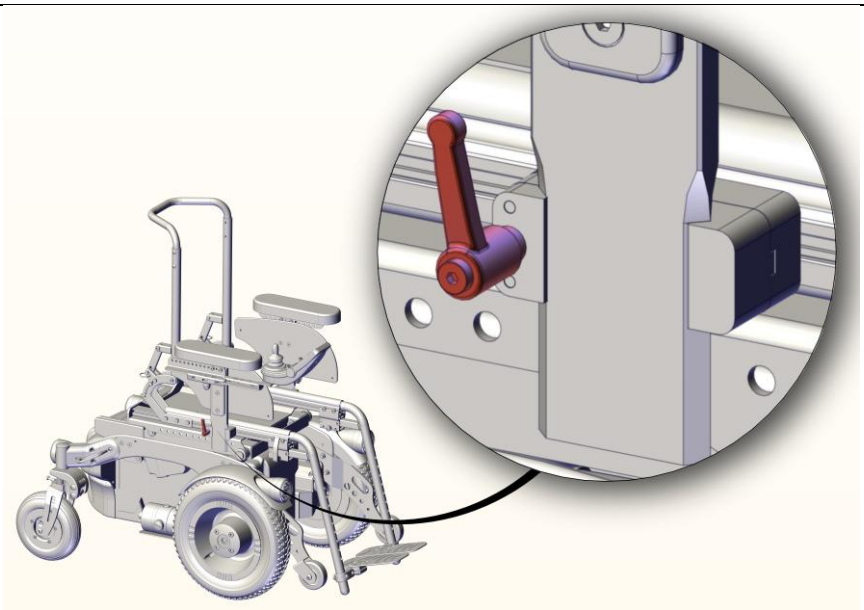


Figure 17

• Loosen the lever shown in figure and remove the armrest.		

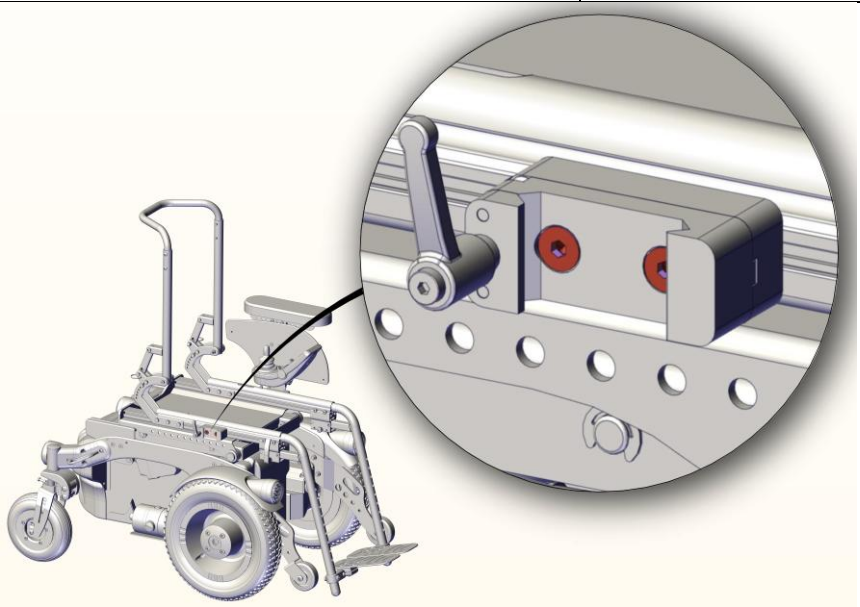


Figure 18

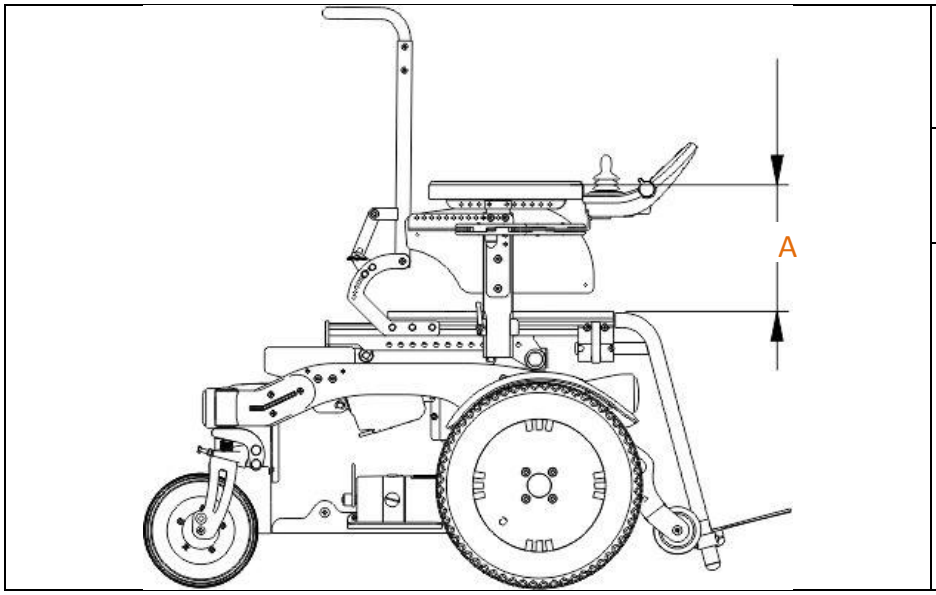
• Loosen the 2 screws shown in figure and set the depth of armrest clamp as desired. • Tighten again the 2 screws and put back the armrest.	**ALLEN WRENCH** 	4 mm

ADDITIONA ADJUSTMENT

Moreover it is possible to adjust armrest depth unscrewing the 2 screws shown in figure with a 4 mm allen wrench.

Figure 19

3.11 Armrests height- Version without biomechanical movements



(A) MIN VALUE	(A) MAX VALUE
230 mm	300 mm

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right armrest.

Average needed time: <5 min	**Difficulty level:** Easy

SIDEPAD, JOYSTICK AND ARMREST HEIGHT

It is better to adjust first armrest height, then joystick and finally the sidepad.

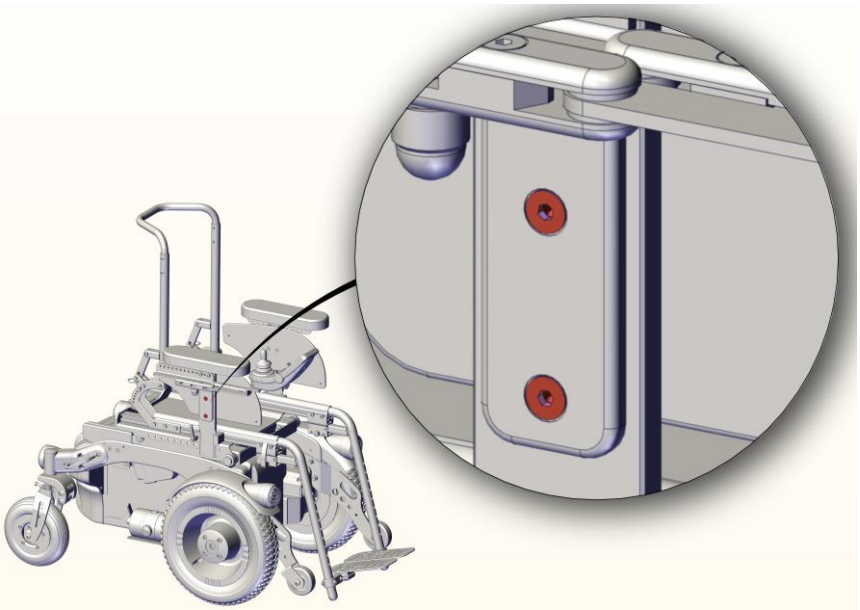


Figure 20

- Loosen the 2 screws shown in figure.
- Set the armrest according to the desired height.
- Tight again the 2 screws.

ALLEN WRENCH  4 mm

3.12 Sidepad height- Version without biomechanical movements

RANGE

It is not easy to provide a range for adjustment of sidepad because there are too many configuration and possibilities.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right sidepad.

SIDEPAD, JOYSTICK AND ARMREST HEIGHT

It is better to adjust first armrest height, then joystick and finally the sidepad.

Average needed time:

<5 min

Difficulty level:

Easy

RANGE

Please be sure that the chosen position doesn't represent an obstacle for armrest.

Figure 21

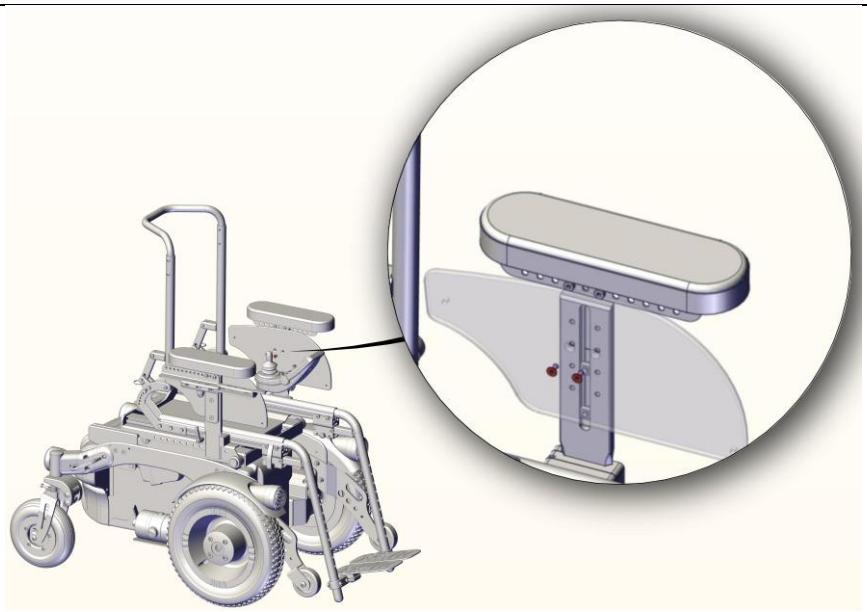
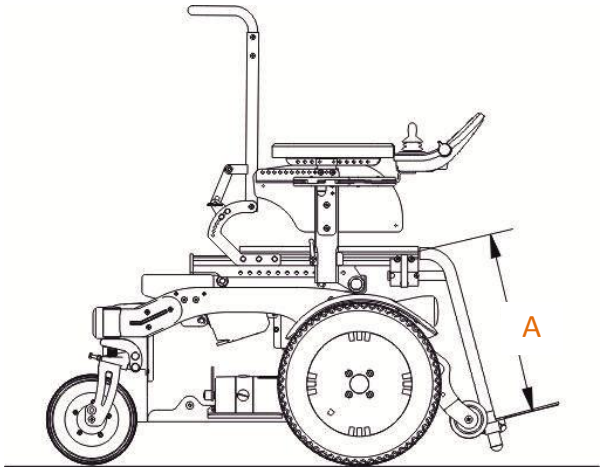


Figure 22

- Unscrew the 2 screws shown in figure and set the position of sidepad as desired.
- Screw again the 2 screws.

ALLEN WRENCH 3 mm

3.13 Footplates height- Version without biomechanical movements



LEGREST CONFIGURATION	(A) POSSIBLE VALUES
Fixed angle	15.0 cm 17.5 cm 20.0 cm 22.5 cm 25.0 cm 27.5 cm 30.0 cm 32.5 cm 35.0 cm 37.5 cm 40.0 cm
Angle adjustable	15.0 cm 17.5 cm 20.0 cm 22.5 cm 25.0 cm 27.5 cm 30.0 cm 32.5 cm 35.0 cm 37.5 cm

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right legrest if you have splitted footrest.

Average needed time:

<5 min

Difficulty level:

Easy

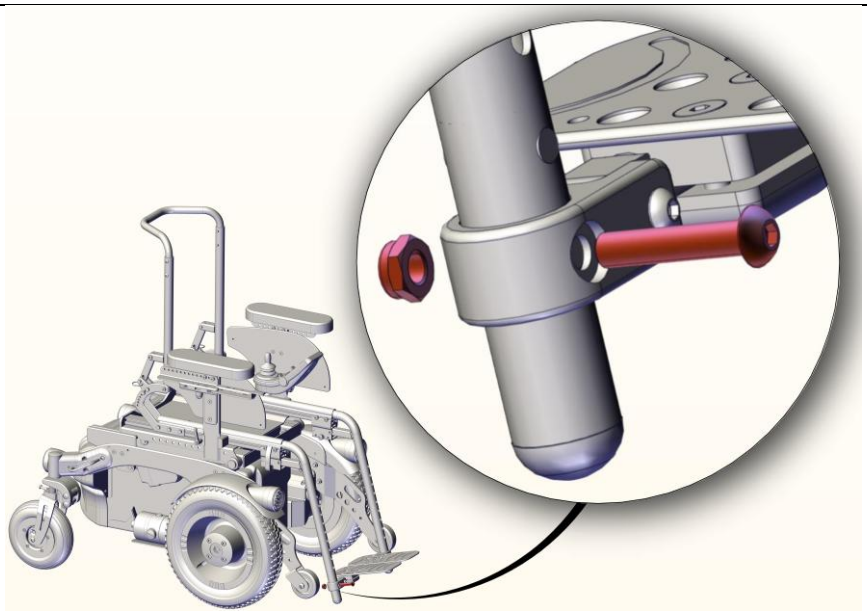


Figure 23

- Unscrew the screw shown in figure with the 6 mm allen wrench while holding the nut behind with the 13 mm open-end wrench.
- Repeat the operation for both left and right side of the wheelchair.
- Set the position of the footplate according to desired height.
- Screw again the screws.

ALLEN WRENCH

6 mm

OPEN-END WRENCH

13 mm

3.14 Footplates depth and angle- Version without biomechanical movements

RANGE

It is not easy to provide a range for adjustment of footrests because there are too many configuration and possibilities. In any case it is always possible to choose between 3 different depth.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right legrest if you have splitted footrest.

Average needed time: <5 min	**Difficulty level:** Easy

Angle adjustment

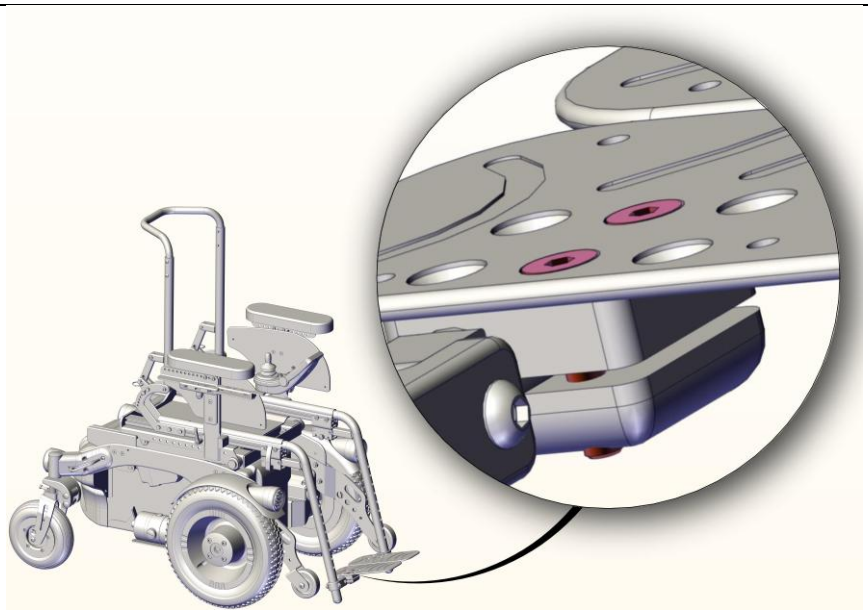


Figure 24

• Loosen the 2 screws shown in figure. • Set the position of the footplate according to desired angle. Tighten again the screws. • Tighten again the screws.	**ALLEN WRENCH**  4 mm

Depth adjustment

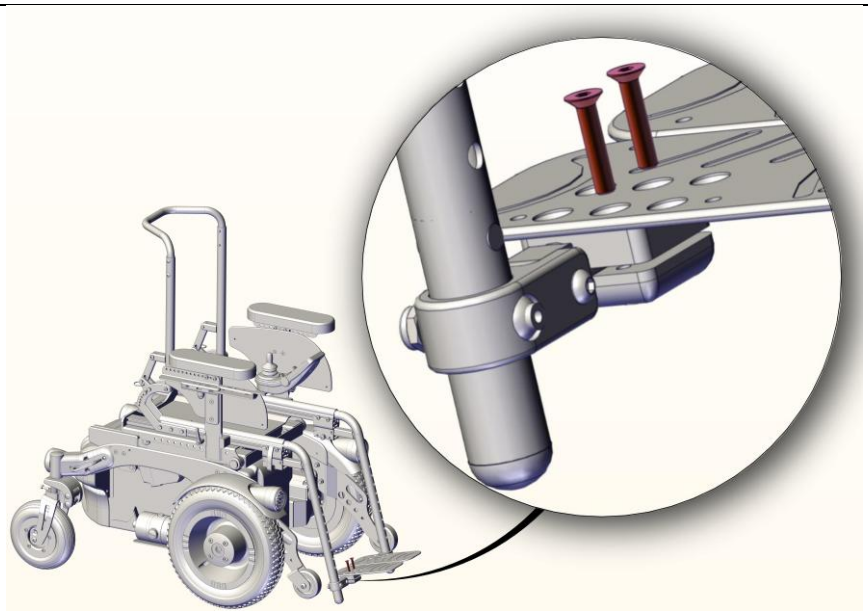


Figure 25

• Unscrew the 2 screws shown in figure. • Set the position of the footplate according to desired depth. • Screw again the screws. Screw again the 2 screws.	**ALLEN WRENCH**  4 mm

3.15 Joystick position- Version without biomechanical movements

RANGE

It is not easy to provide a range for this because there are too many configuration and possibilities.

Average needed time: <5 min	**Difficulty level:** Easy

3.15.1 Standard support - Depth and height

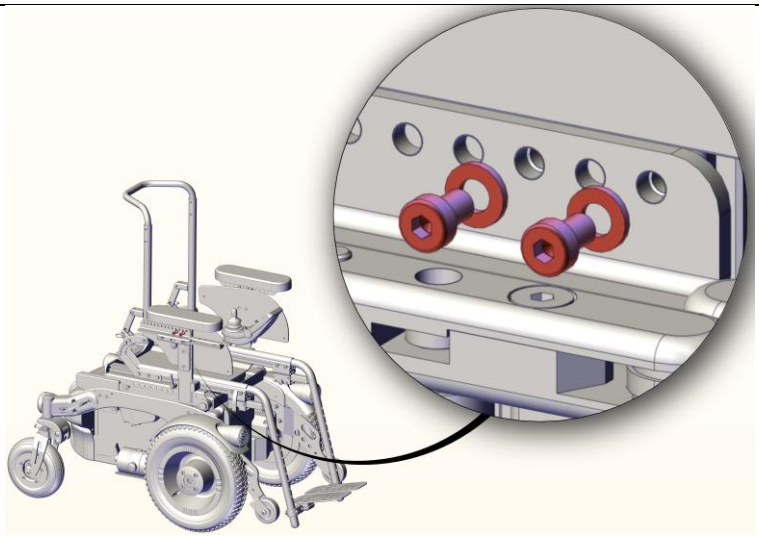


Figure 26

- Unscrew the 2 screws shown in figure.
- Adjust the depth and the height of the joystick as desired.
- Screw again the screws.

ALLEN WRENCH 4 mm

ADJUNCTIVE ADJUSTMENT

Moreover it is possible to adjust the angle of the joystick simply acting on the two levers shown in figure.

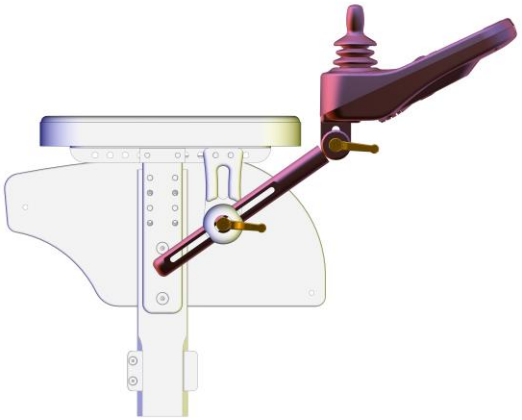


Figure 27

3.15.1 Retractable support - Depth and height

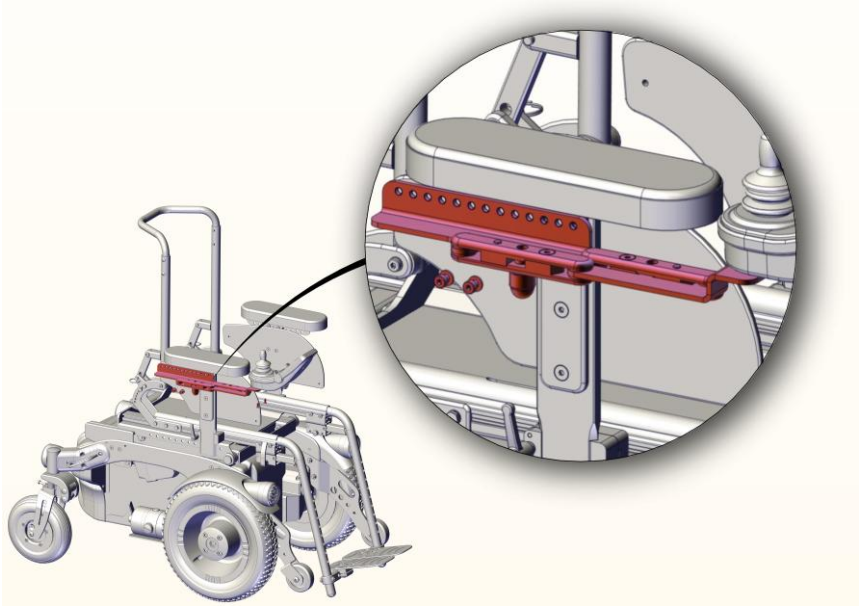


Figure 28

• Unscrew the 2 screws shown in figure. • Adjust the depth and the height of the joystick as desired. • Screw again the screws.	**ALLEN WRENCH**  4 mm

3.16 Default position

Default position means that all adjustable parts of the wheelchair are set in the most stable and safe configuration

ADJUSTABLE PARTS	VALUE	NOTES
Seat angle	0°	
Backrest angle	90°	
Legrest angle	90°	Or minimum
Seat height	0 cm	

Table 6

4 USE OF THE PRODUCT

WARNING

Do not operate the wheelchair if it is behaving abnormally or erratically. The wheelchair may come to a sudden stop at any time during operation.

WARNING

Do not stand on the product. Always use caution when transferring in or out of the seat. Every precaution should be taken to reduce the transfer distance. Also be certain the wheel locks are engaged to prevent the wheels from moving.

Do not let children use the wheelchair without supervision.

INFORMATION

The product is not intended to be dismantled. There are no parts of the product expected to be handled during normal use of it

INFORMATION

Do not install, maintain or operate the product without reading all warnings and this entire manual.

Always keep this manual in connection with the product.

INFORMATION

The wheelchair is designed for use mostly in indoor environments.

DRIVE WITH SEATING SYSTEM NOT IN DEFAULT POSITION

Seat tilt, backrest recline or legrest elevation may varies the center of gravity of the system wheelchair + user and increase tipping risk.

Always drive at low speed when the seating system is not in the standard position and use powered seating functions only on a flat horizontal surface.

WARNING

Do not carry passengers on the wheelchair independently of the age of the passenger. The wheelchair is not designed for weight training and is unsafe for use as a seat while weight training. Do not lean over the top of the back upholstery to reach objects from behind as this may cause the wheelchair to tip over. Do not shift your weight or sitting position toward the direction you are reaching as the wheelchair may tip over. Do not stand on the frame of the wheelchair.

Some pathologies may limit your ability to use your wheelchair safely. Be sure to consult with a doctor about your physical limitations.

Please practice your drive ability under the supervision of an assistant.

Dealing with uphill

When facing an uphill road it is recommended to set the seating system to default position. It is better to use a drive profile with low speed.

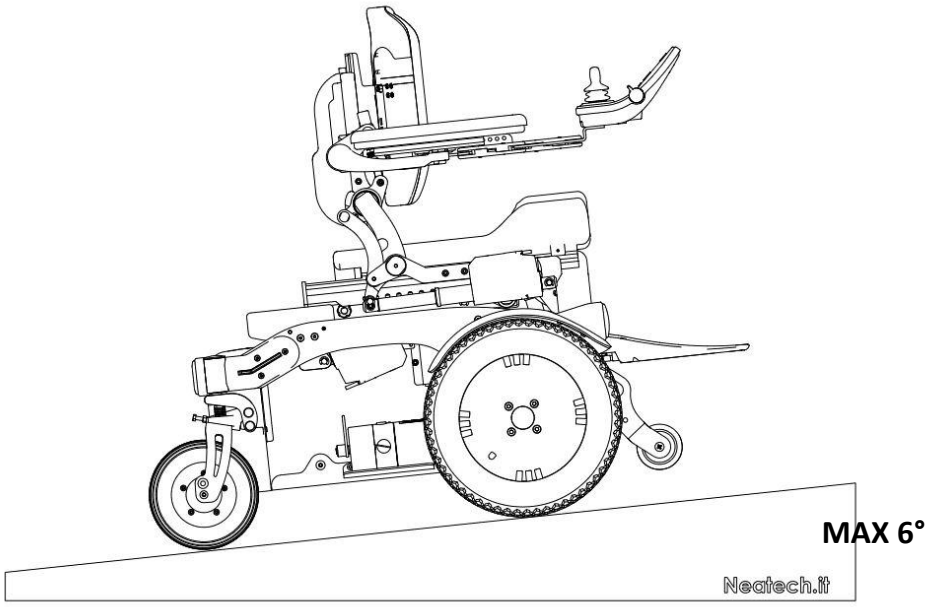


Figure 29

Dealing with downhill

When facing a downhill road it is recommended to set the seating system to default position. It is better to use a drive profile with low speed

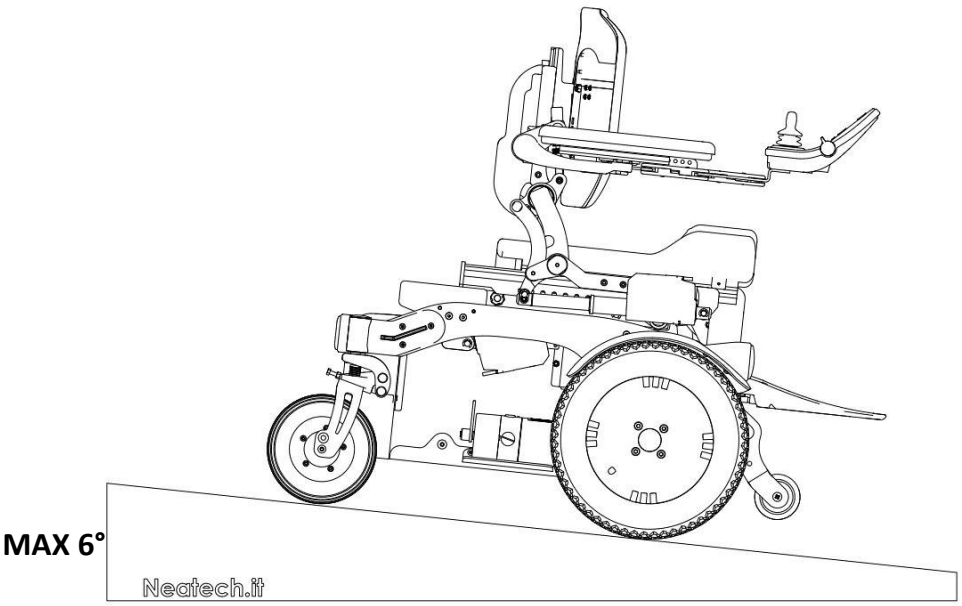


Figure 30

WARNING

Don’t use the wheelchair up or down slopes with a gradient than indicated in specifications of this manual.
Don’t use the wheelchair up or down ramps that are not equipped with proper edge protection to prevent the wheelchair from falling down.
Don’t use the wheelchair down or up a hazardous incline if the surface is covered with snow, ice or the surface is uneven.

WARNING

The stopping distance on slopes can be significantly greater than on level ground

Dealing with side slopes

When facing with side slopes, always use the wheelchair with great caution and make sure the seating system is in the default position.

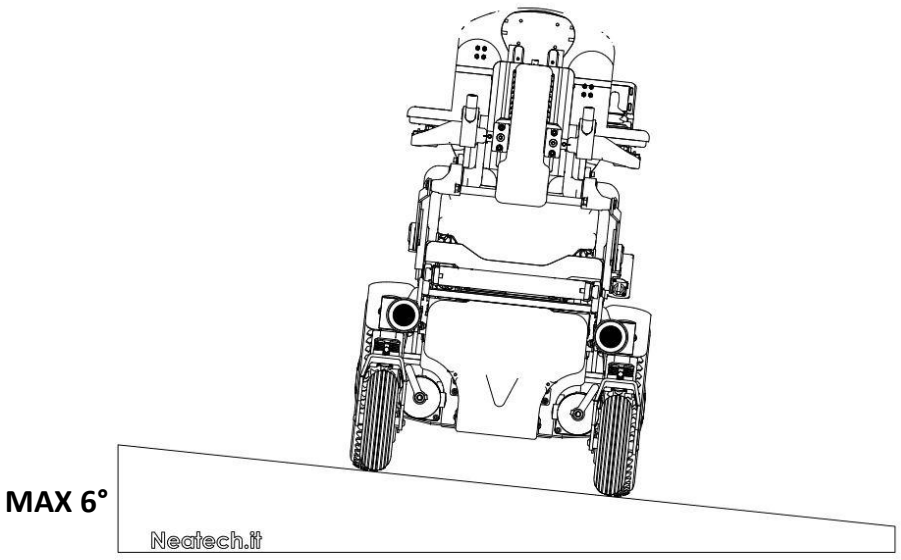


Figure 31

Turning with the wheelchair

When turning with the wheelchair, always use great caution.

Obstacle climbing

When facing with an obstacle, always use great caution and make sure the seating system is in the default position. The wheelchair is able to climb an obstacle of 50 mm with a run up of minimum 500 mm.

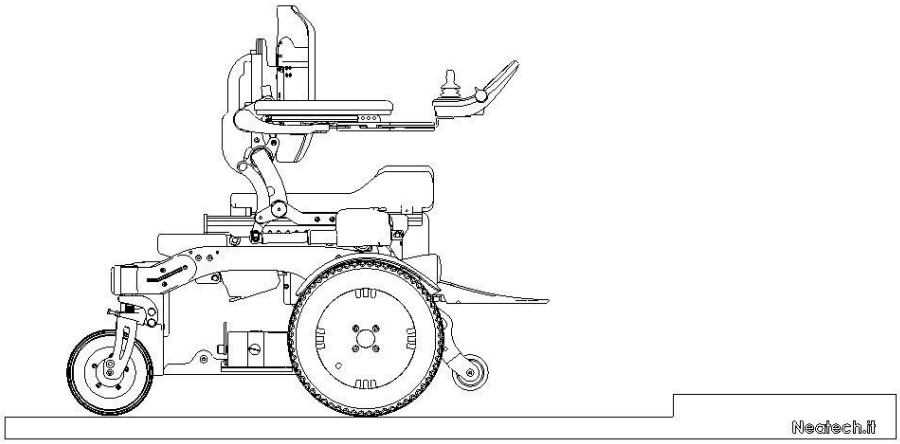


Figure 32

Driving in dark environments

Don't use the wheelchair in dark environments without lights turned on.

Pelvic belt

The wheelchair has the predisposition for a pelvic belt. **Pelvic belt is only design to position the user and not for any protection in case of accident.**

Transfer into and out the wheelchair

Users transfer is recommended with the presence of an assistant. Don’t use footrests or armrests as support. Always turn off the wheelchair before transfer.

Lift of the wheelchair

Do not lift the wheelchair with a user on board. Do not lift the wheelchair grabbing the legrests. If you really need to lift the wheelchair, it is suggested to grab it with the help of at least one other people. Grab the wheelchair using the tie down shown in figure.

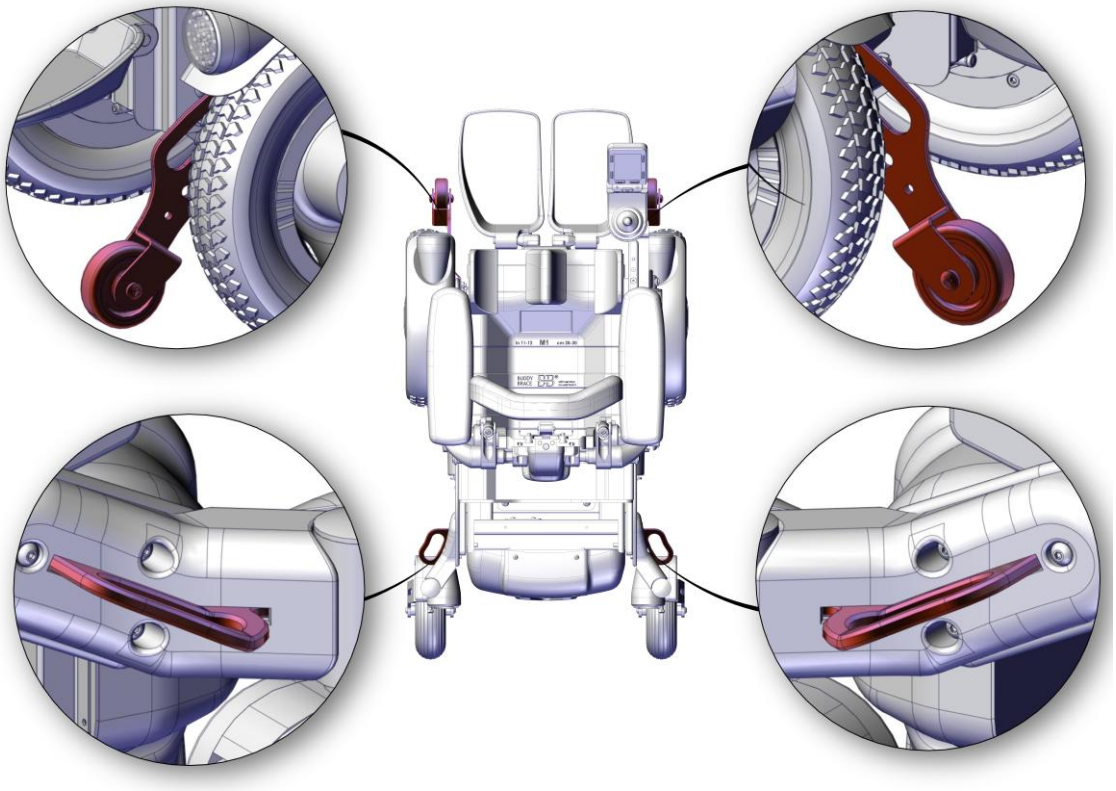


Figure 33

4.1 Rnet 80 A control system

Figure 34

FUNCTION	DESCRIPTION
On-Off	Use this function to turn on and off the wheelchair. Don't use this function to stop the wheelchair unless it is an emergency.
Horn	
MODE	Use this function to navigate all working mode of the wheelchair. For example it is possible to choose between drive and seat function.
PROFILE	As default in the wheelchair they are saved some different drive profile for the use indoor and outdoor. Use the function PROFILE to change different types of profiles: they are sorted from the more indoor ones to the more outdoor ones. For each profile it is possible to change the speed.
Speed increase/decrease	

Activate at the same time the functions to increase and decrease speed to enter a configuration menu.

FUNCTION	DESCRIPTION
Set time	Use this function to set the time shown on the display.
Distance	Use this function to see total and partial distance made with the wheelchair. It is also possible to reset partial distance.
Backlight	It is possible to adjust backlights of the screen.
Background	Use this function to choose the color of background of the display.

4.2 Manual brake release lever

In case of necessity it is possible to manually move the wheelchair.
First of all, you have to turn off the wheelchair.
Then you can act on the release lever shown in Figure.
When the brakes are released. it is not possible to drive the wheelchair.

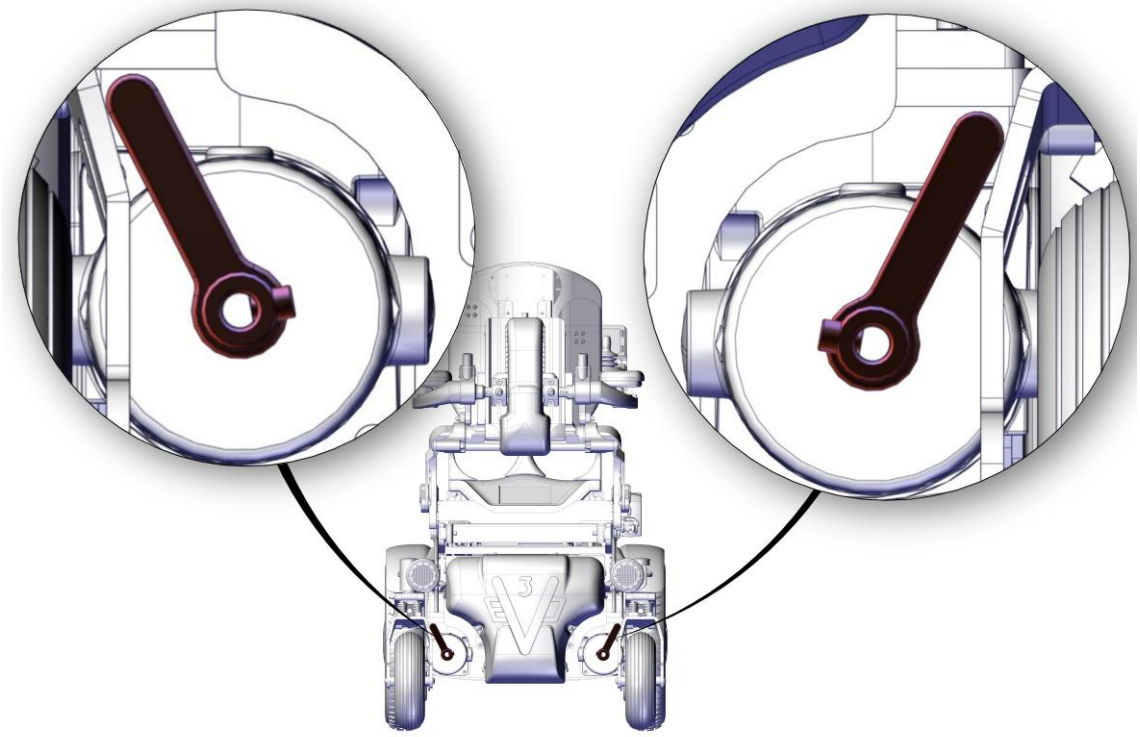
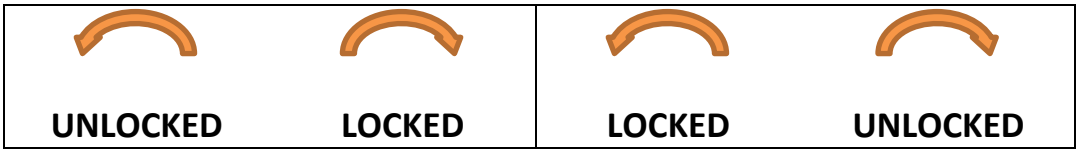


Figure 35



WARNING

When the brakes are released never use the wheelchair on a slope or a wet surface.

Don’t operate the brake release without the presence of an assistant.

WARNING

The drive system should be re-engaged before an occupant is left unattended or attempts to operate the wheelchair.

WARNING

Always act on both left and right manual release levers.

4.3 Use as seat in a motor vehicle

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

It is possible to use four-point strap systems or the DAHL docking station.

Ease of access to, and maneuverability in, motor vehicle can be significantly affected by wheelchair size and turning radius. Smaller wheelchairs or with a shorter turning radius will generally provide greater ease of vehicle access and maneuverability to a forward- facing position.

Always use ISO 10542-1 approved Wheelchair Tiedown and Occupant Restraint Systems, which are suitable for the weight of the wheelchair or Dahl docking.

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 the travel.

For the correct positioning of occupant belt restraints on the user, please consider following.

- The pelvic belt should be worn low across the front of the pelvis, so that the angle of the pelvic belt is within the preferred zone of 30° to 75° to the horizontal, similar to that shown in figure.

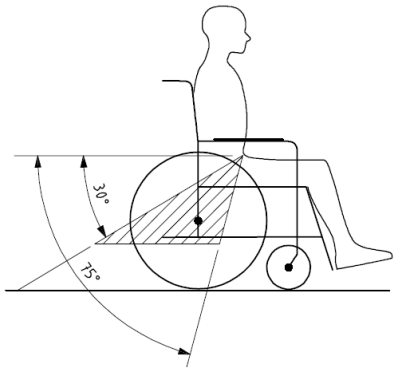
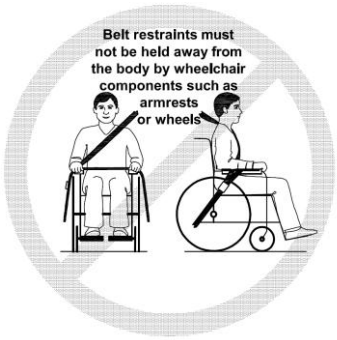
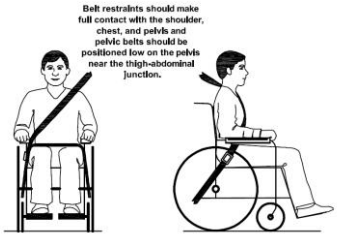


Figure 36

- Belt restraints should be adjusted as tightly as possible, consistent with user comfort.
- Belt should not be twisted during the use.

IMPROPER BELT RESTRAINT FIT	PROPER BELT RESTRAINT FIT
	
BELT RESTRAINTS MUST NOT BE HELD AWAY FROM THE BODY BY WHEELCHAIR COMPONENTS SUCH AS ARMRESTS OR WHEELS	BELT 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

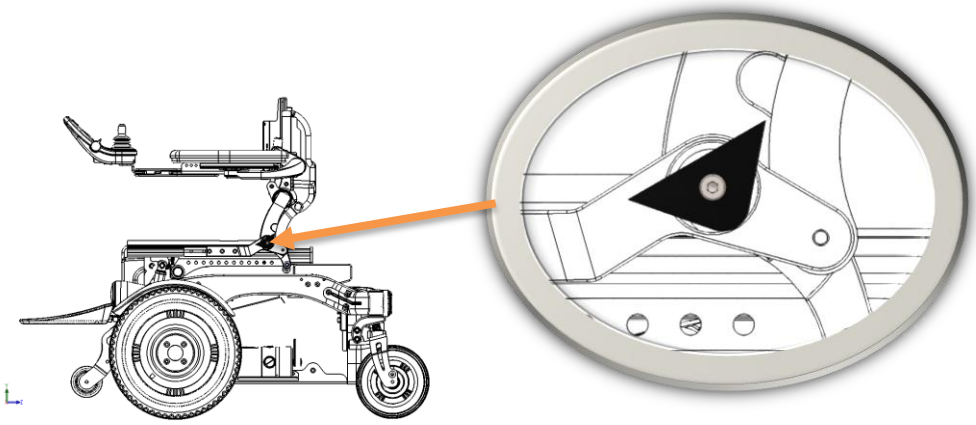


Figure 37

In order to mount pelvic belt on the wheelchair, firstly mount the fixing plate as shown in figure. Use socket head cap screw M6x10 and a 5 mm allen wrench. Repeat operation for both left and right side of the wheelchair.	**ALLEN WRENCH**  5 mm

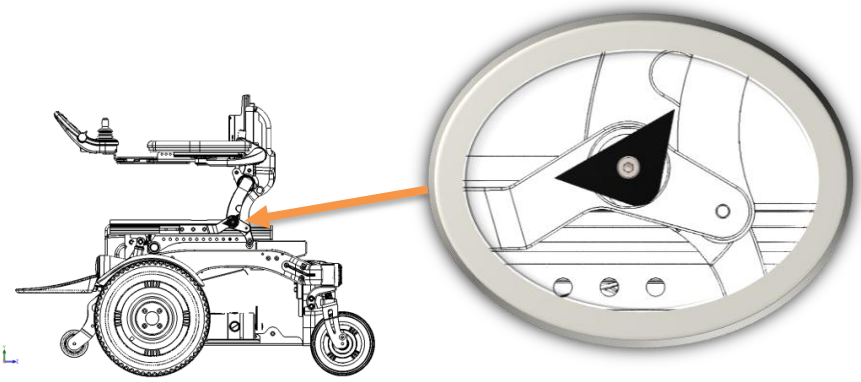


Figure 38

In order to mount chest belt on the wheelchair, firstly mount the fixing plate as shown in figure. Use socket head cap screw M6x10 DIN 912 and a 5 mm allen wrench. Repeat operation for both left and right side of the wheelchair.	**ALLEN WRENCH**  5 mm

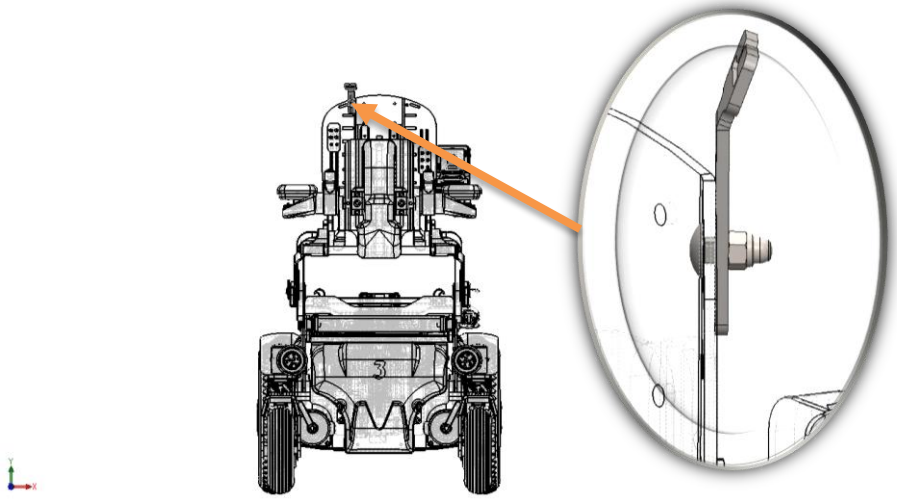


Figure 39

Moreover, chest belt must be fixed in the upper part of the backrest. Firstly mount the fixing plate as shown in figure. Use hushroom head square neck bolt screw M5x16 DIN 603, M5 nut, and a 8 mm open-end wrench. Repeat operation for both left and right side of the wheelchair.	**OPEN-END WRENCH**  8 mm

WARNING

The seating system must be set in the DEFAULT POSITION when used in a motor vehicle. Particularly be sure that the seat is horizontal, legrest are completely down and backrest is completely up. For more information see section 3.16.

WARNING

Evo3 wheelchair has lots of configurations and accessories. The wheelchair safety when used as a seat in a motor vehicle is assured by the manufactured if the specific configuration is mentioned in the order form and if all instructions in the manual are followed. Particularly it may exist some options or accessories that are not compatible with the use of the wheelchair as a seat in a motor vehicle, or it may exist some accessories that require some precautions.

WARNING

If the backrest is with gas springs, when using the wheelchair as a seat in a motor vehicle, it is necessary to lock the movement of the gas springs with the locking system shown in the picture. Always repeat the operationfor the left and right side of the wheelchair. WARNING: Safety of wheelchair and user can't be assured when the movement of gas springs is not correctly locked while using the wheelchair as a seat in a motor vehicle.

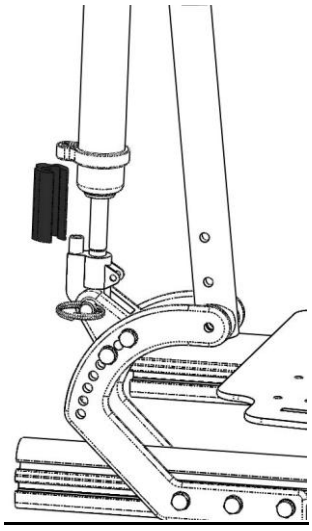


Figure 40

WARNING

The wheelchair complies with the requirements of ISO 7176-19:2008 and has been designed and tested for use only as a forward-facing seat in a motor vehicle.

Compliance with this standard does not preclude using the wheelchair facing rearward in large accessible vehicles such as autobus.

WARNING

The wheelchair has been dynamically tested in a forward facing orientation with the ATD restrained by both pelvic and shoulder belts.

WARNING

Both pelvic and shoulder belt should be used to reduce the possibility of head and chest impacts with vehicle components.

WARNING

In order to reduce the potential of injury to vehicle occupants wheelchair tray should be removed and secured separately in the vehicle.

WARNING

When possible other auxiliary wheelchair equipment should be either secured to the wheelchair or removed from the wheelchair and secured in the vehicle during travel, so that it does not break and cause injury to vehicle occupants in the event of a collision.

WARNING

You should not use this product in a motor vehicle if your weight is less than 22 kg.

WARNING

Postural supports should not be relied on for occupant restraint in a moving vehicle unless they are labelled as being in accordance with the requirements specified in ISO 7176-19:2008.

WARNING

The wheelchair should be inspected by a manufacturer's representative before reuse following involvement in any type of vehicle collision.

WARNING

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.

WARNING

Wheelchair has sealed type batteries. Never use different battery type when used in a motor vehicle.

WARNING

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.

4.3.1 Securing the wheelchair with Four points tie-down system

Use the tie down points marked with the symbol shown in figure.

Figure 41

Use the tie down points marked with the symbol shown in figure.Hook the wheelchair in 4 points: two in the front part and two in the rear part.

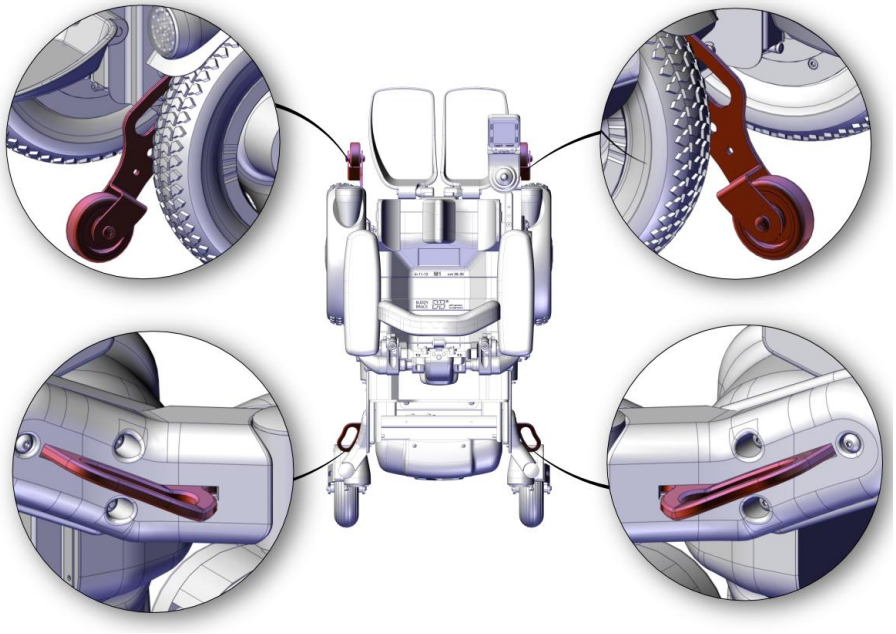


Figure 42

Use the tie down pointsHook the wheelchair in 4 points: two in the front part and two in the rear part.

Tie down straps should form angles shown below.

PREFERRED ANGLES OF FRONT WHEELCHAIR TIE DOWN STRAPS

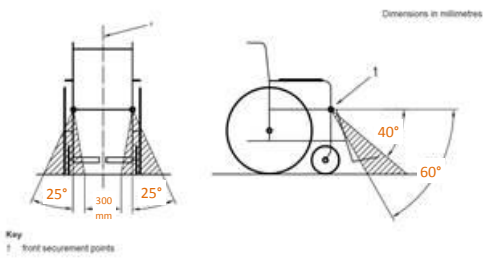


Figure 43

PREFERRED ANGLES OF REAR WHEELCHAIR TIE DOWN STRAPS

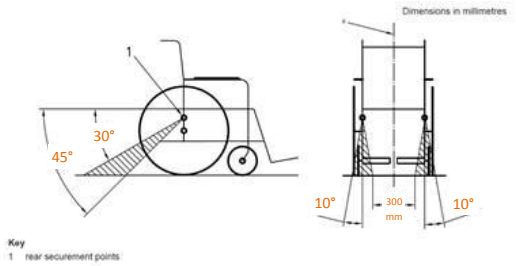


Figure 44

WARNING

Always use four tie down straps.

4.3.2 Dahl engineering docking station

WARNING

Please be sure that the vehicle is equipped with a fully working and compatible Dahl docking system.

Figure 45

- To use the system, 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.
- 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 and the red 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. As an indication that the wheelchair is properly secured, the warning tone will cease, the red diode in the control panel will go out and the green led will light up.
- When the wheelchair is correctly secured, the safety belt should be fitted and adjusted so that it fits the user.
- **UNLOCKING PROCEDURE**. When the vehicle has been brought to a halt, remove the safety belt. To unlock commence by driving the wheelchair forward to realese pressure on the lock pin and then 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. Do not attempt to reverse out the docking station until the red LED on the control module, which indicates the unlock position, has been illuminated. Move the wheelchair away from the docking station within this 5-second period.

WARNING

Attemping to reverse the wheelchair before the red LED has been illuminated will result in blocking the docking station lock mechanisme which makes it impossible to reverse. If this happens repeat above ulocking procedure.

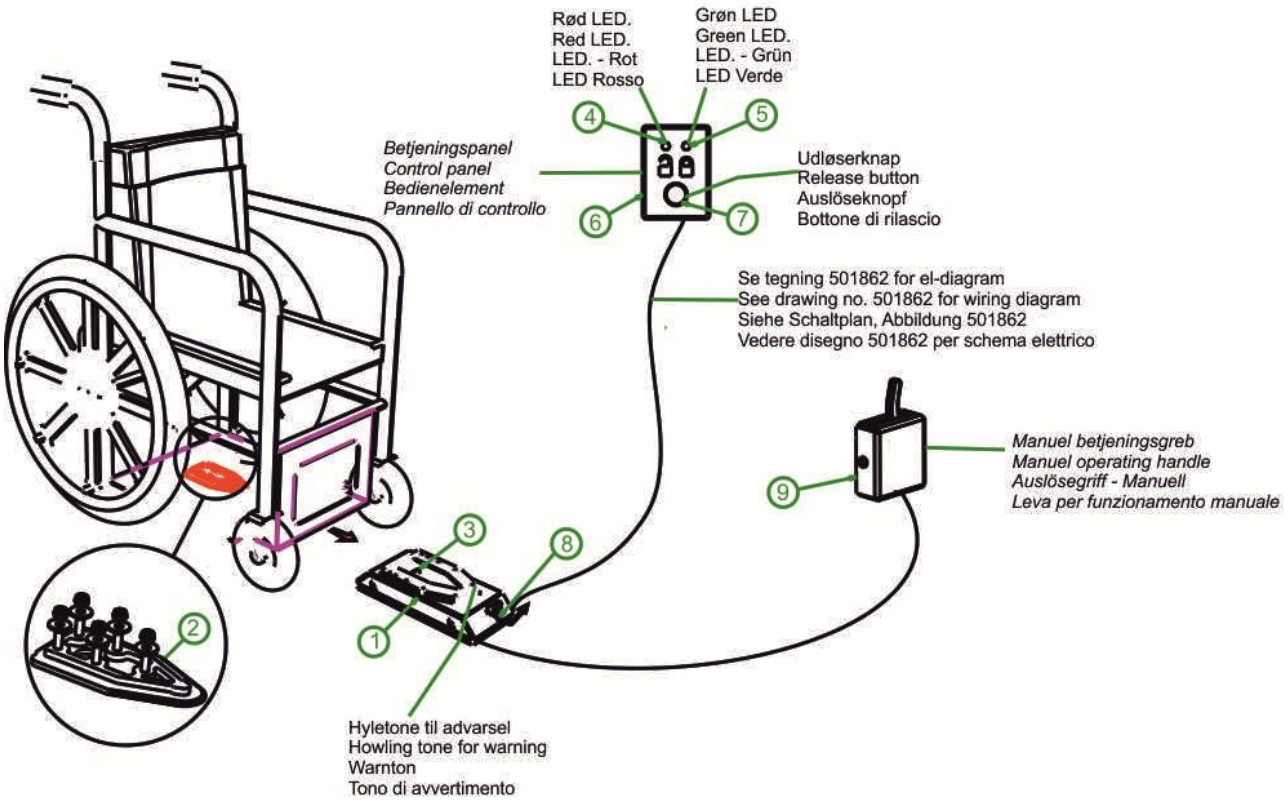


Figure 46

CONTACT INFORMATION

For more information contact the manufacturer of the wheelchair or the manufacturer of the docking station.

Dahl Engineering
Løvevej 3
DK-7700 Thisted
Tel. +45 96 18 00 77
https://dahlengineering.dk
sales@dahlengineering.dk

4.4 Powered functions

WARNING

Operating these functions changes the center of gravity and increases the risk of tipping over.

Always drive in low speed when the seating system is not in the default position. Use these functions only on horizontal plane.

To enter seating mode use MODE function of the joystick.
A wheelchair will appear on the screen of the joystick.
To select the desired function move the joystick left or right.
The number and the type of available function may change according to the specific customization of each wheelchair.

MOVE UP
Move the joystick forward while you are in seating mode and the desired function is selected

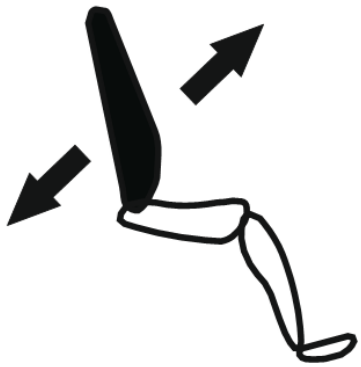
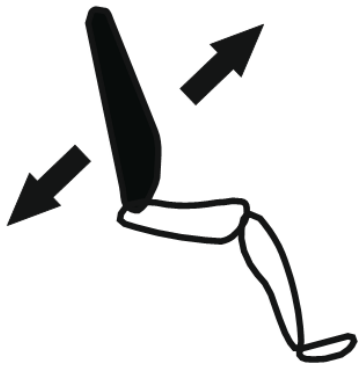
MOVE DOWN
Move the joystick rearward while you are in seating mode and the desired function is selected

INFORMATION

An authorized service center is able to customize seating functions according specific needs of single user.

PINCH HAZARD

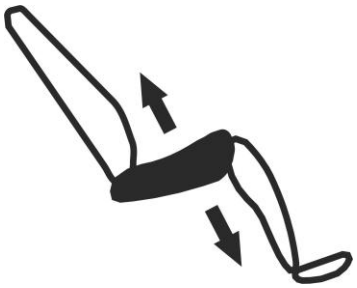
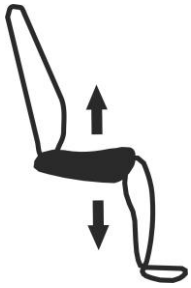
When using powered seating functions, always pay special attention to reduce pinch risk.

AXIS 1 BACKREST  **Figure** 47	**MOVE UP** It is possible to recline forward the backrest. An authorized service center is able to set the angle where the movement stops. When the movement stops, you will hear a sound. **MOVE DOWN** You can recline rearward the backrest. An authorized service center is able to set the angle where the movement stops. The time when the movement stops depend also on the seat angle. When the movement stops you will hear a sound.
AXIS 2 LEGREST  **Figure** 48	**MOVE UP** It is possible to rise up the legrest. When the movement stops, you will hear a sound. The angle where the movement stops depends also on seat angle. **MOVE DOWN** It is possible to lower legrest. The movement stops before the legrest crashes into the chassis. In any case an authorized service center is able to choose the angle where the movement stops. When the movement stops you will hear a sound. In any case, if during the movement, there is any danger for the legrest to crash into the floor, the seat will lift up automatically.

WARNING

Previously to move the legrest (both forward and rearward) the software checks for any danger of crashing the legrest into the floor. If any danger is revelated the seat will automatically lift.

In order to calculate the risk of crashing into the floor for the legrest the software assumes that the wheelchair is on a perfectly flat surface far from any step or obstacle. For these reasons it is very important to not use the legrest function on a non-flat surface or near steps or obstacles.

AXIS 3 TILT  **Figure** 49	**MOVE UP** It is possible to incline forward the seat. The movement stops when seat angle is 0°. When the movement stops you will hear a sound. **MOVE DOWN** You can recline rearward the seat. During the movement, in order to avoid unconfortable position for the user backrest or legrest could start to move automatically. An authorized service center is able to choose the way of compensation for backrest and legrest. The movement stops when seat angle is 45°
AXIS 4 LIFT  **Figure** 50	The seat is lifted with an innovative system that allows to better manage the center of gravity of the system wheelchair+user. They are used two different actuators at the same time. it is needed a sophisticated software to adjust the speed of these two actuators. This software can be fine-tuned by an authorized service center during the set-up of the wheelchair. **MOVE UP** It is possible to rise up the seat. Previously start to lift the seat, if this is forward tilted, it is firstly straightened. When seat height is 30 cm, if seat angle is 0° the movement stops, otherwise the seat will be straightened till seat angle is 0°. When the movement stops, you will hear a sound. . When the movement stops, you will hear a sound. **MOVE DOWN** It is possible to lower the seat. During the movement it is possible that legrest or seat move automatically if there is any danger for the legrest to crash into the chassis or the floor. The movement stops when seat height is 0 cm. When the movement stops you will hear a sound.

WARNING

In order to calculate the risk for the legrest to crash into the floor the software assumes that the wheelchair is on a perfectly flat surface far from any step or obstacle. For these reasons it is very important to not use the legrest function on a non-flat surface or near steps or obstacles.

AXIS 5 REHAB

Figure 51

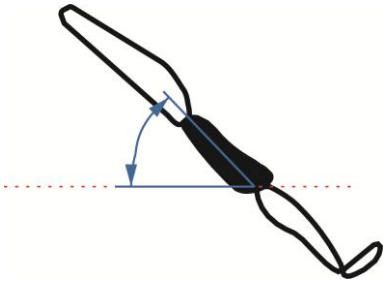


Figure 52

Figure 53

MOVE UP

The wheelchair will go in lay-down position and then in the position shown in Figure 52

An authorized service center is able to adjust the angles shown in figure. When the movement stops you will hear a sound.

MOVE DOWN

it is possible to bring back the wheelchair to the default position shown in Figure 53.

AXIS 6 ACTIVE NEGATIVE TILT

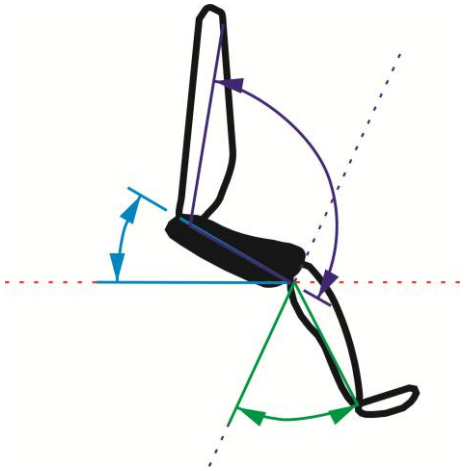


Figure 54

Figure 55

MOVE UP

The wheelchair will go automatically into the position shown in Figure 54.

An authorized service center is able to adjust the angles shown in figure. When the movement stops you will hear a sound.

MOVE DOWN

it is possible to bring back the wheelchair to the default position shown in Figure 55.

AXIS 7 SEMISTANDING

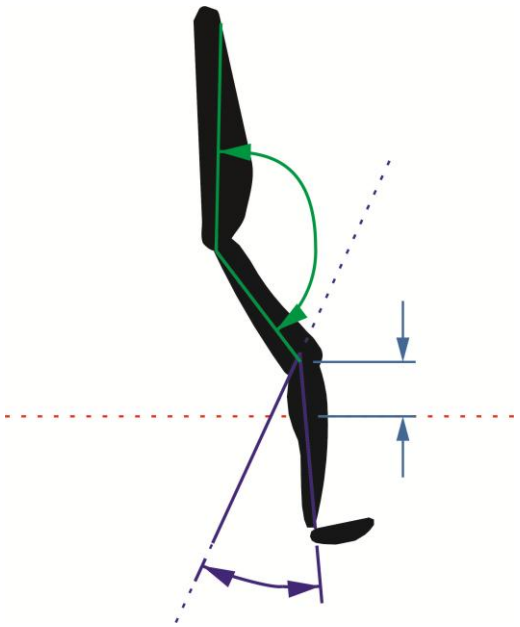


Figure 56

Figure 57

MOVE UP

The wheelchair will go automatically into the position shown in Figure 56.

An authorized service center is able to adjust the angles shown in figure. When the movement stops you will hear a sound.

MOVE DOWN

it is possible to bring back the wheelchair to the default position shown in Figure 57.

AXIS 8 LAY DOWN  **Figure 58**  **Figure 59**	**MOVE UP** The wheelchair will go automatically into the position shown in Figure 58. An authorized service center is able to adjust the angles shown in figure. When the movement stops you will hear a sound. **MOVE DOWN** it is possible to bring back the wheelchair to the default position shown in Figure 59.

4.5 Main switch

Use the main switch to connect and disconnect the batteries from the power module.
The switch also has the function of protecting the wheelchair from overloaded current and short circuit.

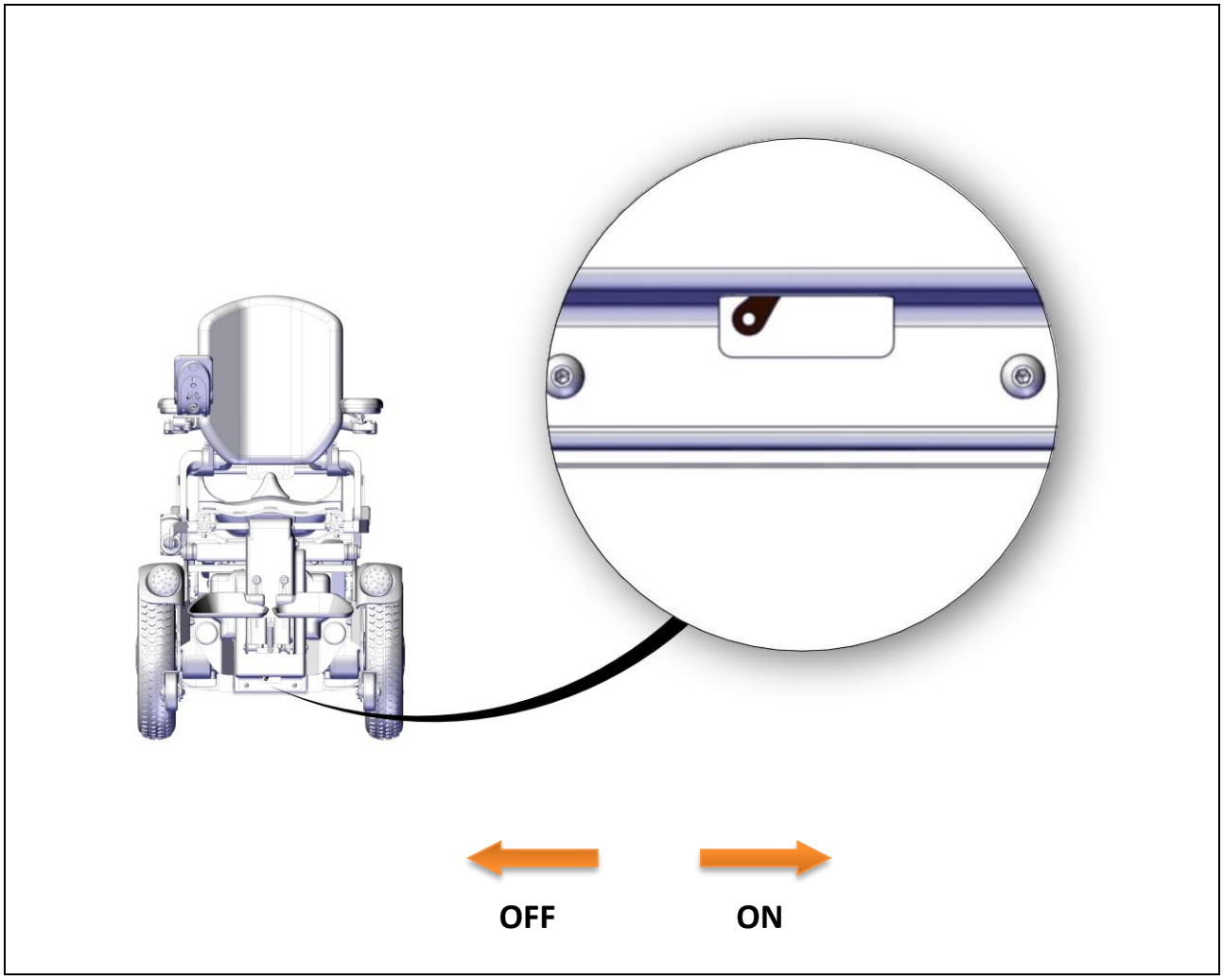
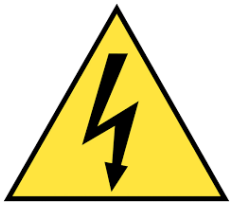


Figure 60

Figure is taken having the wheelchair on the front and shows the position ON and OFF of the switch.

If the power chair suddenly stops, use the switch to connect again batteries to the power module and turn on again the wheelchair. **If the problem still continues, it means that there is some electric fault.**

Check for any damaged cables or any damage in connections, for more information see section 5.4.



If the switch operates, often this means that there is a major electrical fault. The cause of fault should be checked carefully.

For more information, please contact the manufacturer.

4.6 Battery charging

In order to recharge batteries, use only the provided charger or one recommended by the manufacturer. The manufacturer is not responsible for any damage to person or objects resulting from the use of non-original product.

CHARGER SPECIFICATION

24 V -MIN 6 A MAX 10 A - Charge profile for AGM batteries

- Connect the power cord to a power supply 230 V.
- Connect the cable to the joystick as shown in Figure.

RNET

Figure 61

- When batteries are loaded unplug the power cord and the battery cable from the joystick.

RUNNING-IN PERIOD

Typically, batteries are able to offer 100% performance after about 15-20 cycles.

CHARGER SPECIFICATION

24 V MIN 6 A MAX 10 A - Charging profile for GEL batteries

WHEN AND HOW IT IS NECESSARY TO CHARGE BATTERIES?

It is very important to charge batteries every day, even if they are not completely discharged. Each battery is subject to a normal self-discharge, so batteries that are not used for long time will discharge by itself.

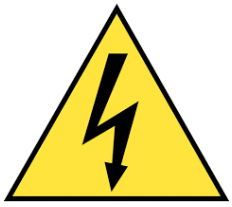
It is very important to don't let batteries uncharged for long time.

It is very important to complete every cycle of charging

Charging time is influenced by multiple factors such as remaining battery power, battery state of aging and temperature. However, the approximate charging time is about 12 hours.

Battery charging should be done in well ventilated environments. Never charge in bathroom or wet room.

When the charger is connected it is not possible to drive the wheelchair. Don't use the wheelchair during the charge.



SHOCK HAZARD

Check if charger requirements data matches with the network power (voltage, frequency)

RELEASE DANGER

Any impact to the batteries could cause a loss of fluids. Please pay special attention.

BATTERIES DISPOSAL

To properly recycle the batteries follow instructions provided by your local waste disposal service.

4.7 Transport and storage

If you are not willing to use the wheelchair for a long period, keep it safe in a clean area and away from heat.
If it is necessary to transport the wheelchair to facilitate operation follow these instructions.
It is possible to store the wheelchair in a place with a temperature between -20 °C and +45 °C.

- Turn off the wheelchair.
- Turn off the main switch. See section 4.5.

WARNING

If you transport the wheelchair with motors disengaged, the wheelchair is free to move. This may result in a hazardous situation.

4.7.1 Batteries removal

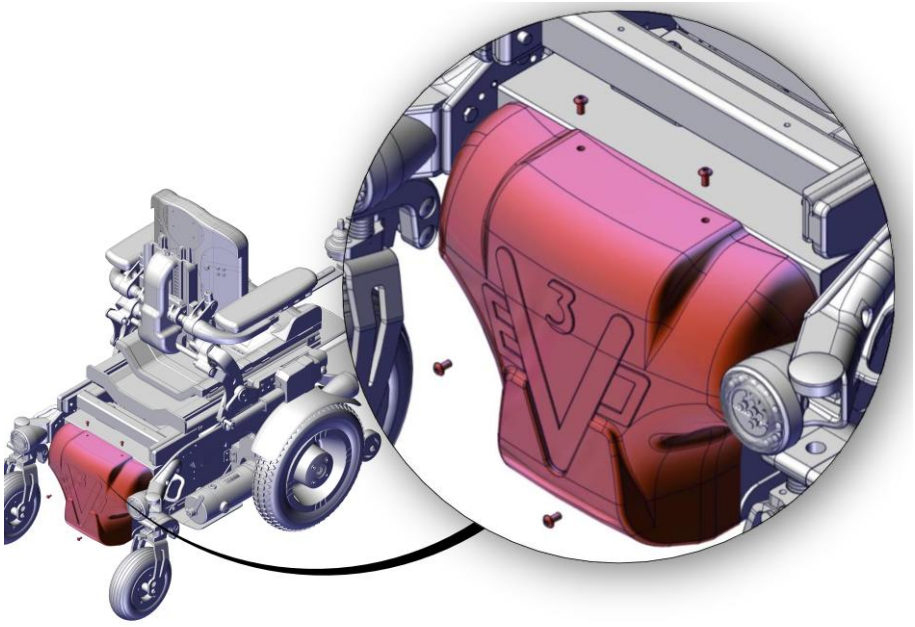


Figure 62

- Unscrew the 4 screws shown in figure.
- Remove the cover.

ALLEN WRENCH

3 mm

Figure 63

• Unplug the connectors shown in figure.	

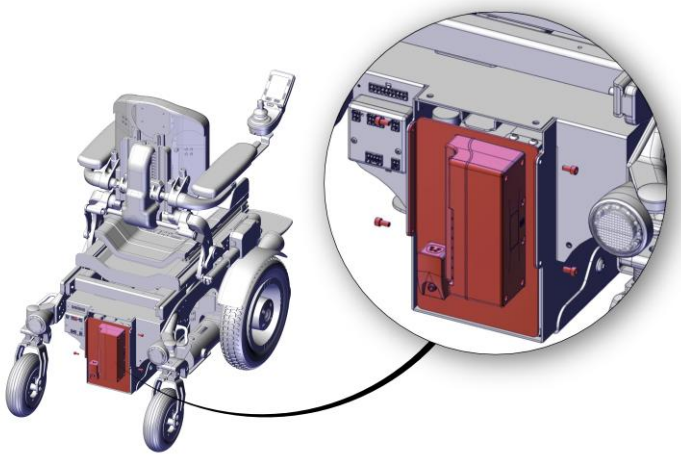


Figure 64

• Unscrew the 4 screws shown in figure. • Remove the metalsheet with mounted modules. **<u>It is not necessary to unplug any wires.</u>** • Pull away the batteries pack.	**ALLEN WRENCH**  4 mm

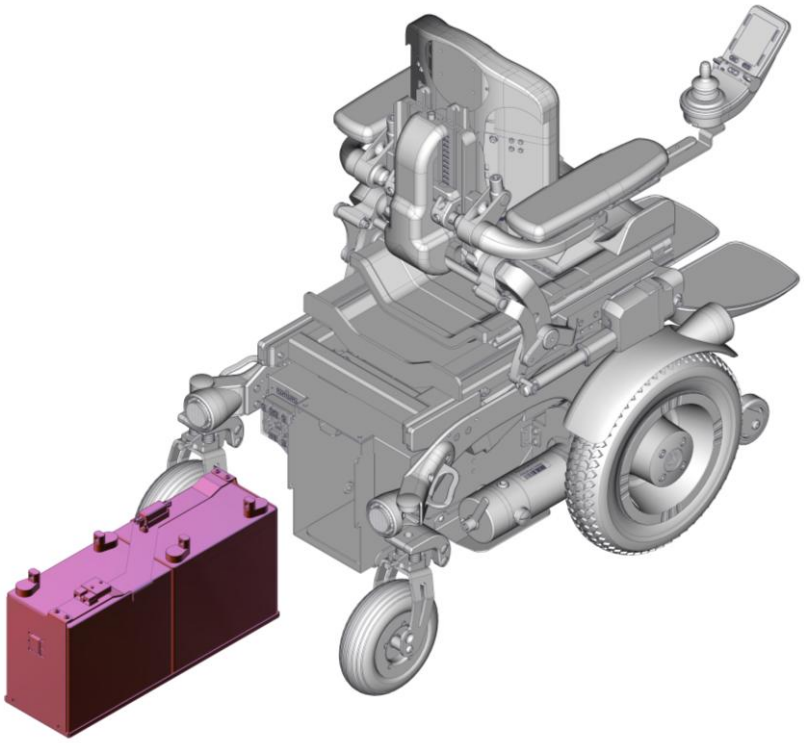


Figure 65

• Unscrew the 4 screws shown in figure.	

WARNING

Batteries are mounted in a metal enclosure. Total weight is about 40 kg. Please do not remove batteries from their enclosure. Please pay special attention.

WARNING

In the upper part of batteries housing there are two plastic sheets useful to reduce short circuit risk. When placing back batteries please be sure that they are correctly fixed in their proper place.

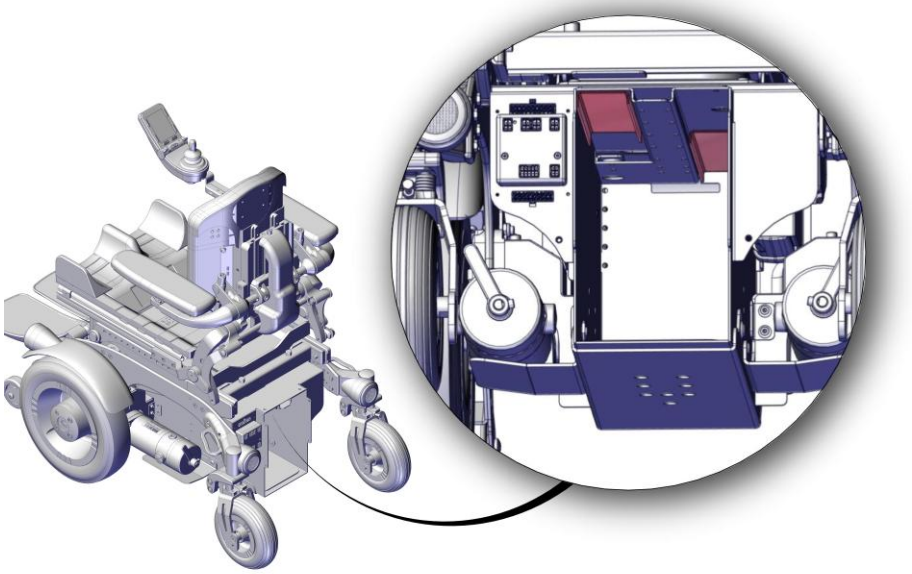


Figure 66

BATTERIES SPECIFICATION

2 x 12 V – 50 Ah – GEL Type

MAX 228 mm x 139 mm x 235 mm (h)

The wheelchair can be transported in the storage compartment of the vehicle even without any package. The unoccupied wheelchair can be also shipped via air. If it is necessary to ship the wheelchair it is very important to protect it with an appropriate package.

It is not possible to provide a universal package, so the user should provide himself for it. The used package must be water and dust resistant and strong enough to protect the wheelchair from any hurts. When inserting the wheelchair into the package protect any protruding parts with some foam or similar.

5 MAINTENANCE

Please remind that the wheelchair is intended exclusively for the carriage of seated people. Below there are some precautions for the use of the wheelchair, which it is recommend to follow, in order to ensure a safe use and a long duration.
Regular maintenance helps to keep intact the functionality and safety of the wheelchair. Inadequate or lack of care and maintenance may cause a limitation of the warranty.

- Avoid prolonged contact of the wheelchair with water. It may cause oxidation of the metal parts.
- Avoid long exposure of the wheelchair to direct sunlight.

WARNING

Any work on the wheelchair must be performed by an authorized service center.

INFORMATION

It is not possible to perform any maintenance on batteries. It is only possible to substitute them.

5.1 Maintenance and cleaning

To clean the wheelchair do not use high-pressure water spray devices. For plastic and metal parts use a soft cloth dampened with mild detergent. For the upholstery, linings, seat and back covers use warm water and mild detergent. Do not use stain removers, solvents, acids, etc.

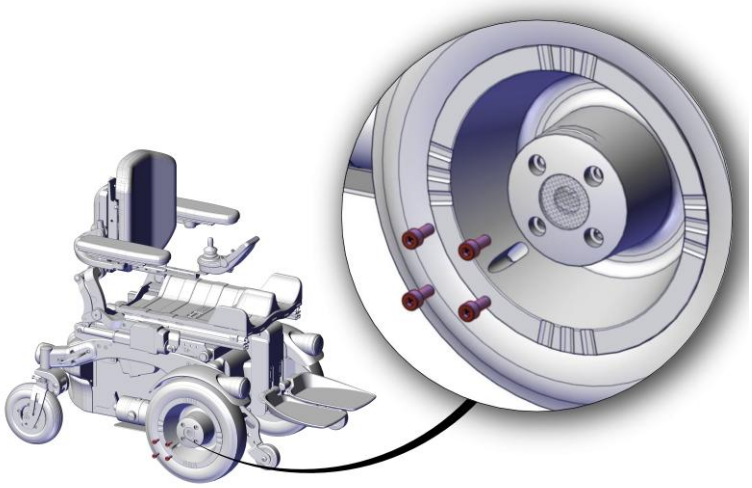
5.2 Controls to be performed on the product

Type of operation	
A	Operation intended to be performed by the user.
B	Operation intended to be performed by an assistant.
C	Operation intended to be performed by an authorized service center.

Operation	Frequency	Type of operation
Check if motors are correctly locked. See section 4.2.	Before each use	B - Assistant
Check that no wires are in the way for the movements of the chair	Before each use	B - Assistant
Check the charge of batteries	Daily	A - User
Clean the wheelchair	Weekly	B - Assistant
Check if the pressure is the one indicated on tires and in section 6 Traction wheels: 280 kPa; Castors: 250 kPa.	Weekly	B - Assistant
Check if the lever of the main switch works correctly	Weekly	B - Assistant
Check tire usury	Monthly	B - Assistant
Check brake release lever	Monthly	B - Assistant
Check aging of batteries	Monthly	C – Service

5.3 Tire puncture

5.3.1 User information



Traction wheels

Figure 67

• Lift the wheelchair. • Unscrew the 4 screws shown in figure. • Remove the wheel.	**ALLEN WRENCH**  6 mm

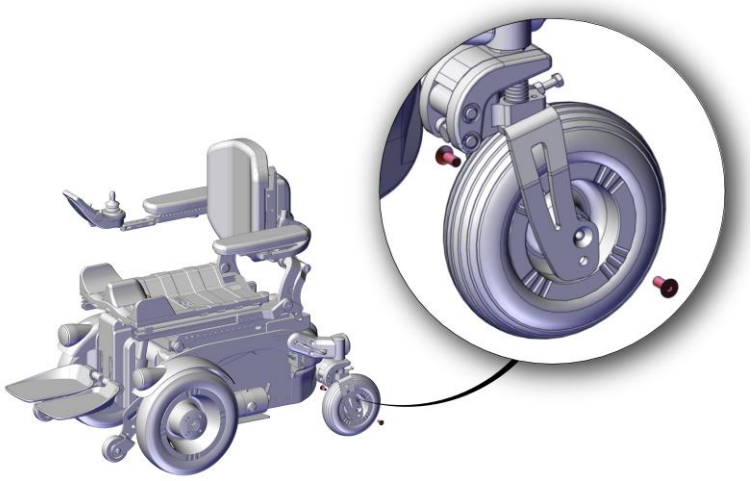


Figure 68

- Lift the wheelchair.
- Unscrew the 2 screws shown in figure using at the same time two allen wrenches.
- Remove the castor.

ALLEN WRENCH

5 mm

ALLEN WRENCH

5 mm

Contact an authorized service center for the repair or the substitution of the damaged wheel. When the authorized service center gives you back the repaired wheel or a new one, mount it following instructions in reverse order.

INFORMATION

With wheels Ø320 S042-V620 it is necessary to mount the screws of the castor in holes (A). With wheels 3.00-8 it is necessary to mount the screws of the castor in holes (B).

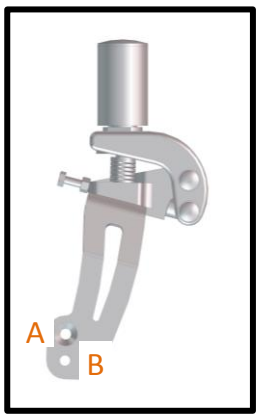


Figure 69

Code	Description	Type of operation
R042-0120A	Traction wheel Pneumatic Gray Ø320x58 mm	A
R042-0120B	Traction wheel Pneumatic Black Ø320x58 mm	A
R042-0120C	Traction wheel Pneumatic Gray Ø360x80 mm	A
R042-0120D	Traction wheel Pneumatic Black Ø360x80 mm	A
R042-0121A	Tire of traction wheel gray Ø320x58 mm	B
R042-0121B	Tire of traction wheel black Ø320x58 mm	B
R042-0121C	Tire of traction wheel gray Ø360x80 mm	B
R042-0121D	Tire of traction wheel black Ø360x80 mm	B
R042-0122A	Tube of traction wheel Ø320 mm	B
R042-0122B	Tube of traction wheel Ø360 mm	B
R042-0131A	Castor Pneumatic gray Ø200 mm x 50 mm	A
R042-0131B	Castor Pneumatic black Ø200 mm x 50 mm	A
R042-0132A	Tire of castor gray Ø200 mm x 50 mm	B
R042-0132B	Tire of castor black Ø200 mm x 50 mm	B
R042-0133	Tube for castor Ø200 mm x 50 mm	B

Table 7

5.4 Wiring diagram

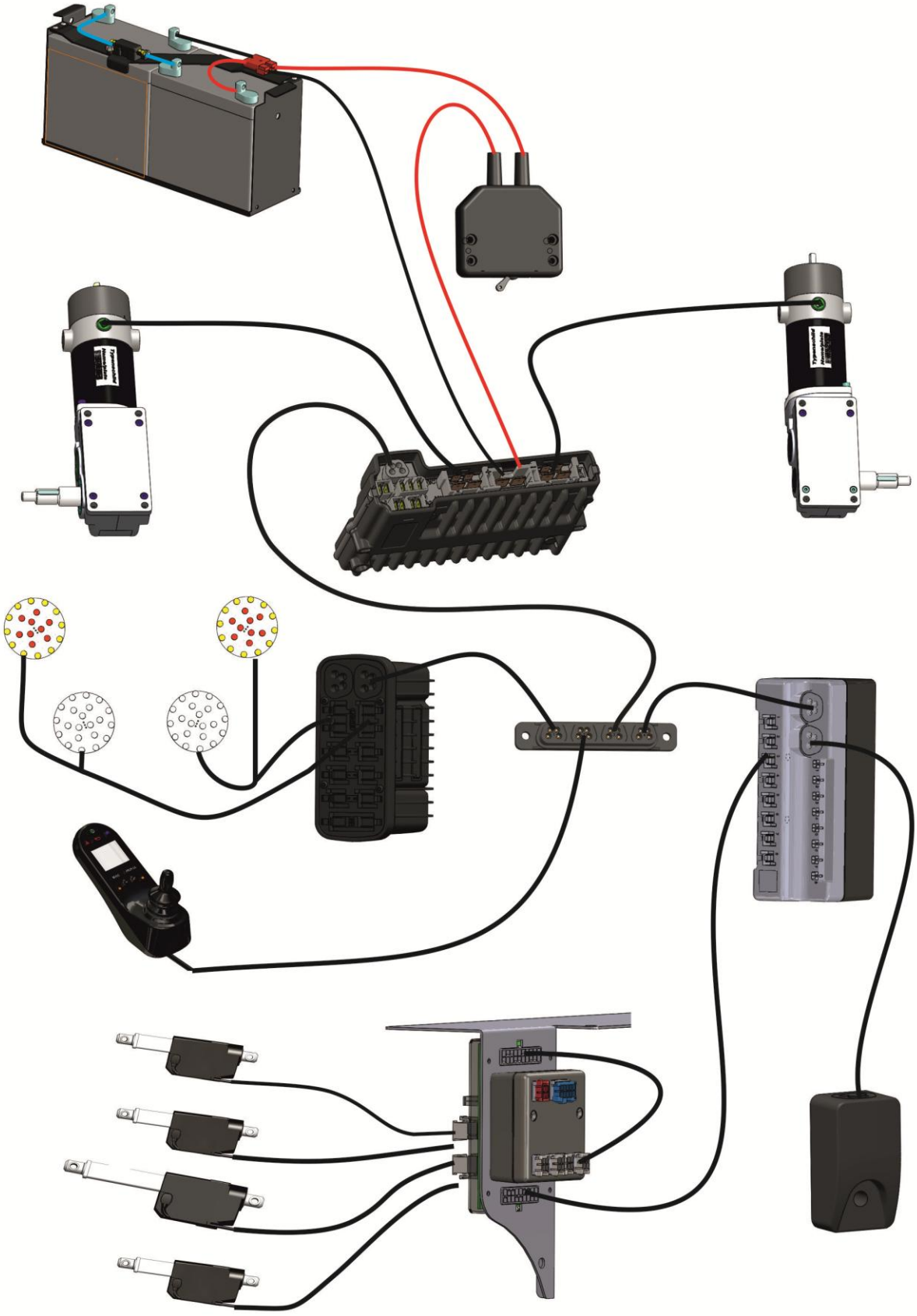


Figure 70

5.5 Batteries replacement

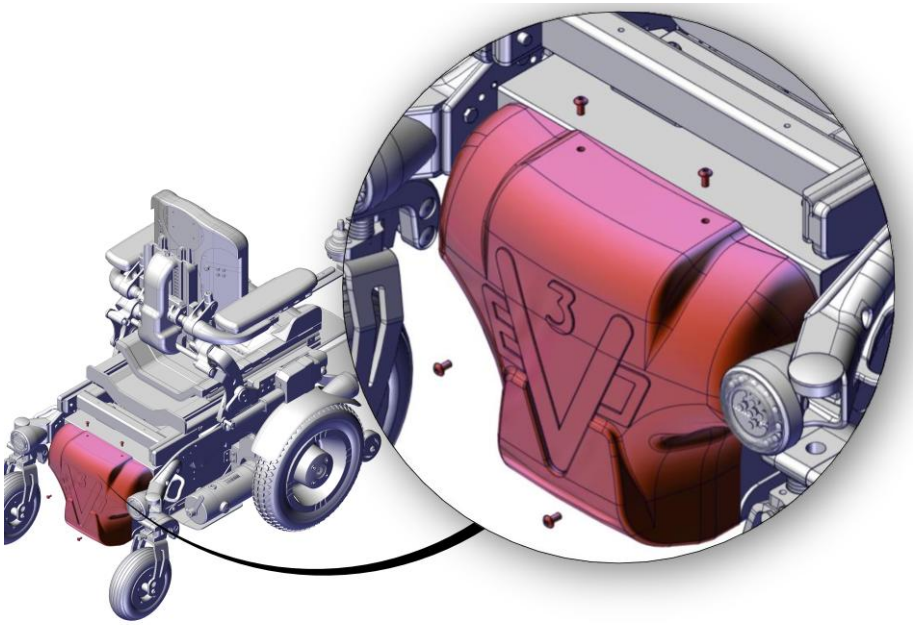


Figure 71

• Unscrew the 4 screws shown in figure. • Remove the cover.	**ALLEN WRENCH**  3 mm

Figure 72

• Unplug the connectors shown in figure.	

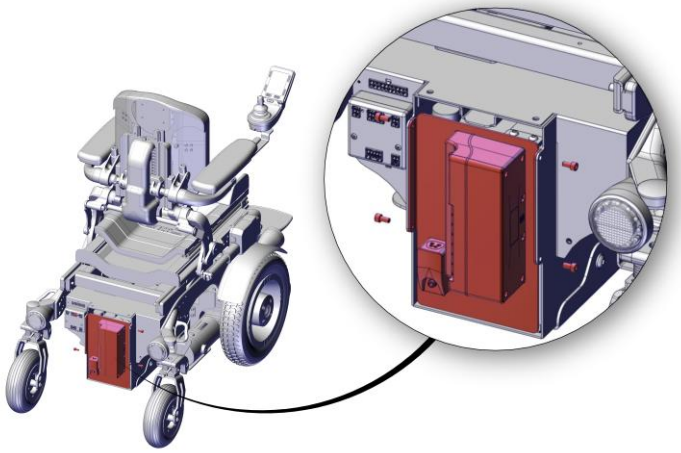


Figure 73

• Unscrew the 4 screws shown in figure. • Remove the metalsheet with mounted modules. **<u>It is not necessary to unplug any wires.</u>** • Pull away the batteries pack.	**ALLEN WRENCH**  3 mm

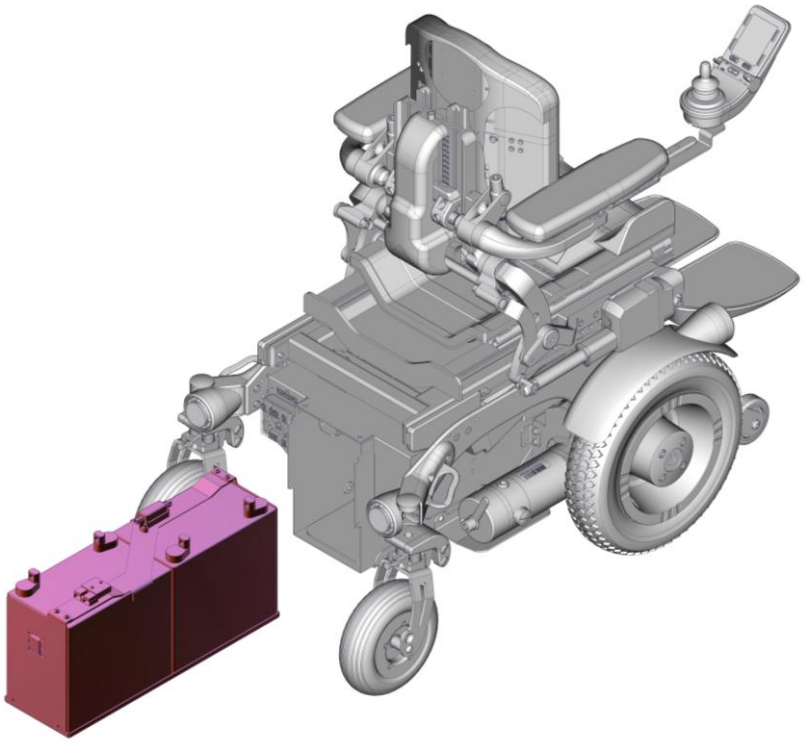


Figure 74

• Pull away batteries.	

WARNING

Batteries are mounted in a metal enclosure. Total weight is about 40 kg. Please do not remove batteries from their enclosure.

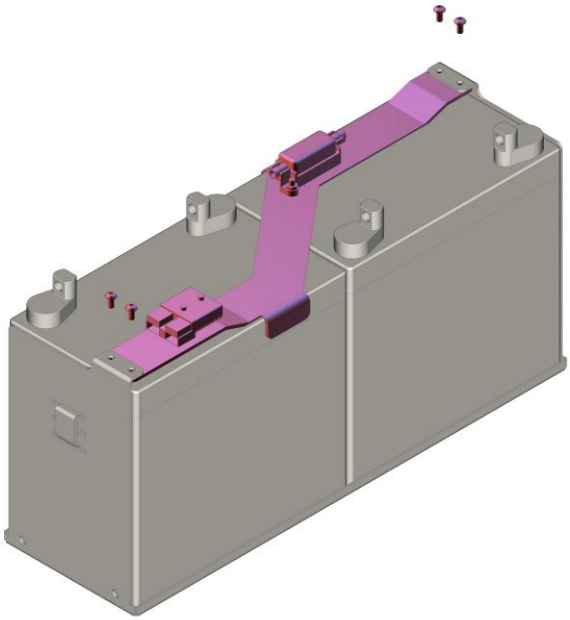


Figure 75

- Unscrew the 4 screws shown in figure.
- Remove the metallic handle.

ALLEN WRENCH

3 mm

Figure 76

• Remove cables from the batteries. • Mount new batteries following instructions in reverse order.	**ALLEN WRENCH**  5 mm

WARNING

Each battery weights about 18 kg. Please pay special attention.

WARNING

In the upper part of batteries housing there are two plastic sheets useful to reduce short circuit risk. When placing back batteries please be sure that they are correctly fixed in their proper place.

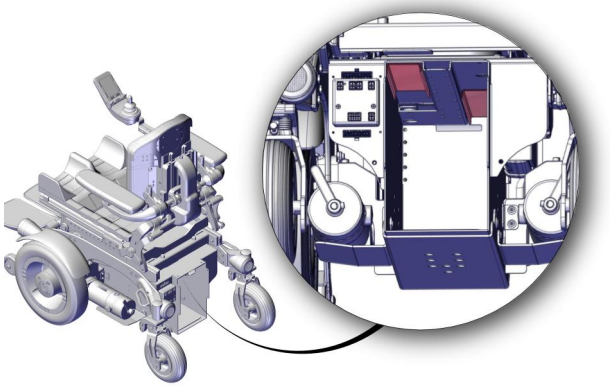


Figure 77

BATTERIES SPECIFICATION

2 x 12 V – 50 Ah – GEL Type

MAX 228 mm x 139 mm x 235 mm (h)

Code	Description	Type of operation	Notes
R042-0110	Batteries	B	

5.6 Reuse

The product is suitable for reuse. Before dispensing it, the product must be cleaned, and subjected to maintenance. The operating instructions are included in this manual and must also be provided when the product is passed on.

WARNING

This operation must be performed only at an authorized service center.

5.7 Spare parts

Type of operation	
A	Parts that can be bought at an authorized service center and substitute autonomously
B	Parts that need to be substituted at an authorized service center.

Table 8

Code	Description	Type of operation	Notes
R042-0110	Batteries	B	
R042-0120	Traction wheel	A	
R042-0121	Tire for traction wheel	B	
R042-0122	Tube for traction wheel	B	
R042-0130	Castor with fork	B	
R042-0131	Castor	A	
R042-0132	Tire for castor	B	
R042-0133	Tube for castor	B	
R042-0134	Fork with dump	B	
R042-0135	Bearings	B	
R042-0136	Spring kit for castor	B	
R042-0140	Antitip wheel	A	
R042-0150	Cover A	A	
R042-0160	Cover B	A	
R042-0170	Motors - couple	B	
R042-0180	Main switch	B	
R042-0181	lever for main switch	A	
R042-0182	Fuse PCB	B	
R042-0190	Joystick support	A	
R042-0200	Joystick	A	
R042-0210	Power module	B	
R042-0220	Seat module	B	
R042-0230	Charger	A	
R042-0250	Kit light for castor	A	
R042-0251	Light for castor	A	
R042-0252	Castor cover	A	
R042-0270	Mudguard kit	A	
R042-0271	Light for mudguard	A	
R042-0280	Bumpers for motors	B	
R042-0290	Gyroscope	B	
R042-0300	Light module	B	

Table 9

Spare parts only for wheelchair with biomechanics movements

Code	Description	Type of operation	Notes
R042-0311	Legrest cover	A	
R042-0312	Legrest belt	B	
R042-0313	Legrest actuator	A	
R042-0314	Excursion metalsheet for legrest	B	
R042-0315	Legrest spring	B	
R042-0320	Footplates	A	
R042-0330	Tilt actuator	B	
R042-0340	Lift actuator	B	
R042-0360	Backrest actuator	A	
R042-0371	Backrest cover	A	
R042-0372	Ruler for armrest adjustment	B	
R042-0373	Joint for armrest	A	
R042-0380	Armrest	A	
R042-0390	Connector and sensor board	B	

Table 10

Spare parts only for wheelchair with biomechanics movements

WARNING

The use of spare parts or accessories not approved by the manufacturer may make the wheelchair unstable or uncontrollable.

For each order, always contact an authorized service center.

CONTACT INFORMATION

For any other part not described in this manual please contact the manufacturer.

5.7.1 Antitip wheels

Average needed time: 5 min	**Difficulty level:** Easy

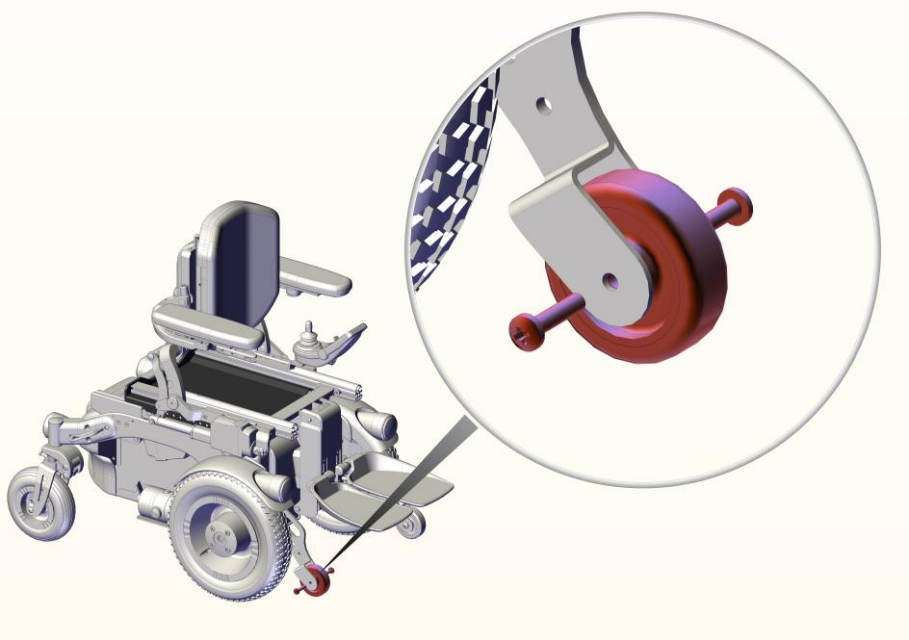


Figure 78

- Unscrew the screws shown in figure.
- Substitute the wheel.
- Screw the new screws.
- Repeat operations for both left and right side of the wheelchair.

SCREWDRIVER

Code	Description	Type of operation	Notes
R042-0140	Antitip wheel	A	

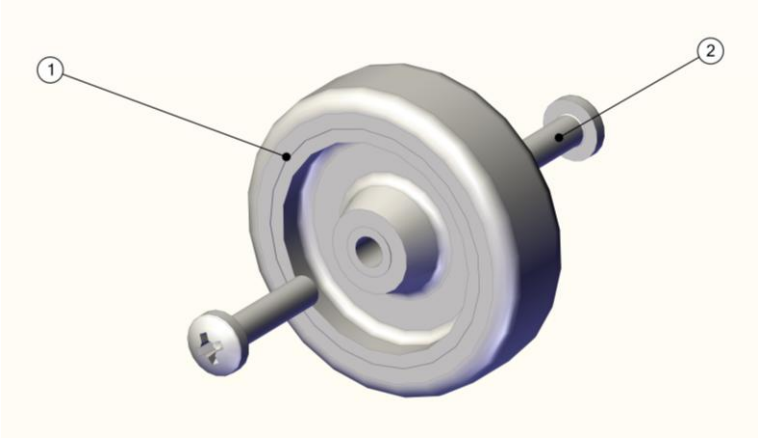


Figure 79

Code	ID	Quantity
R042-0140	1	1
R042-0140	2	2

5.7.2 Cover A

Average needed time: 5 min	**Difficulty level:** Easy

In order to safety perform this operation, it is necessary to activate some powered seat functions. In case of problems with the seating system, please contact the manufacturer.

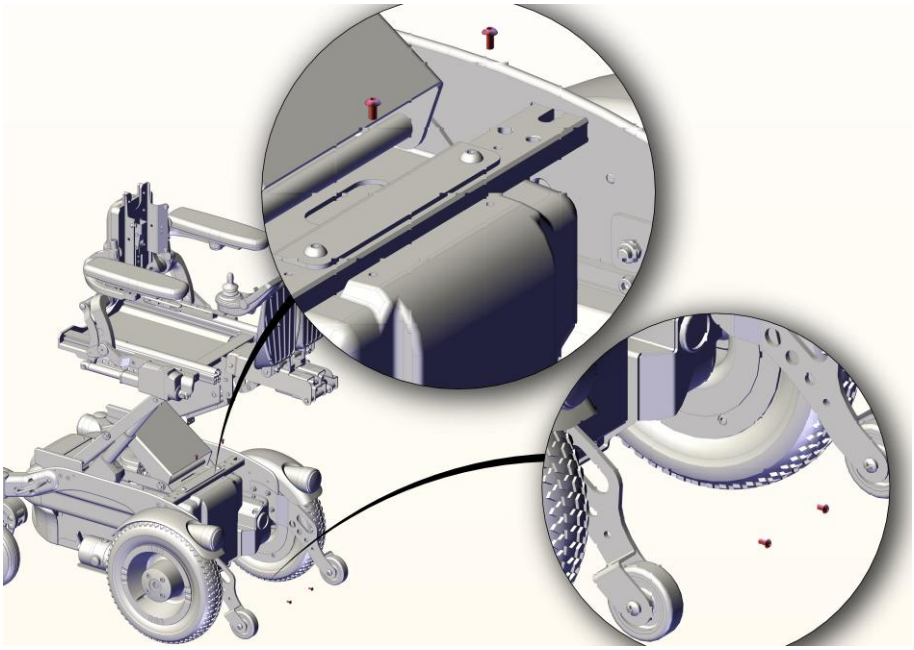


Figure 80

- Lift the seat and raise legrest.
- Unscrew the screws shown in figure.
- Substitute the cover.
- Screw the new screws.

ALLEN WRENCH 3 mm

Code	Description	Type of operation	Notes
R042-0150	Cover A	A	

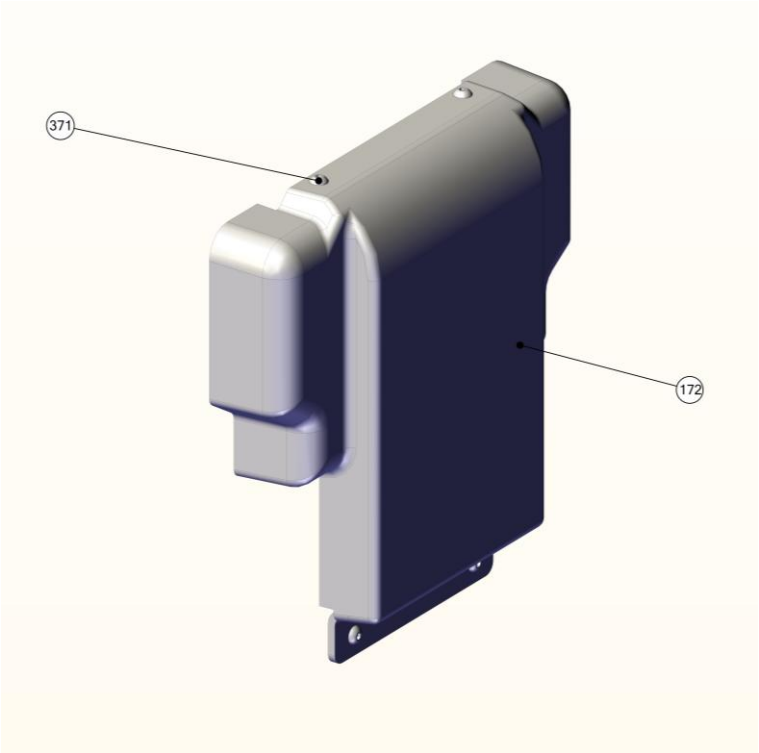


Figure 81

Code	ID	Quantity
R042-0150	172	1
R042-0150	371	4

5.7.3 Cover B

Average needed time: 5 min	**Difficulty level:** Easy

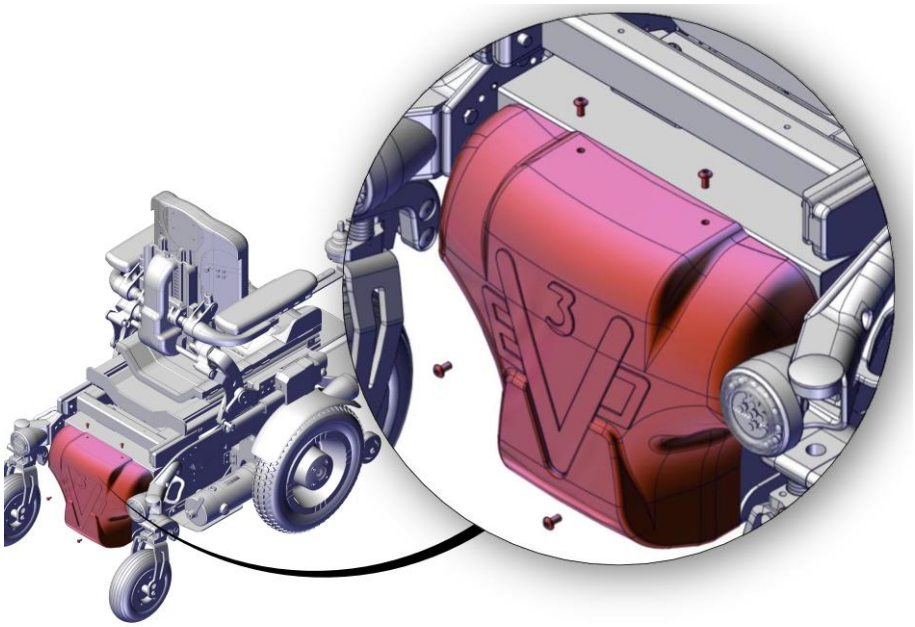


Figure 82

- Unscrew the screws shown in figure.
- Substitute the cover.
- Screw the new screws.

ALLEN WRENCH 3 mm

Code	Description	Type of operation	Notes
R042-0160	Cover B	A	

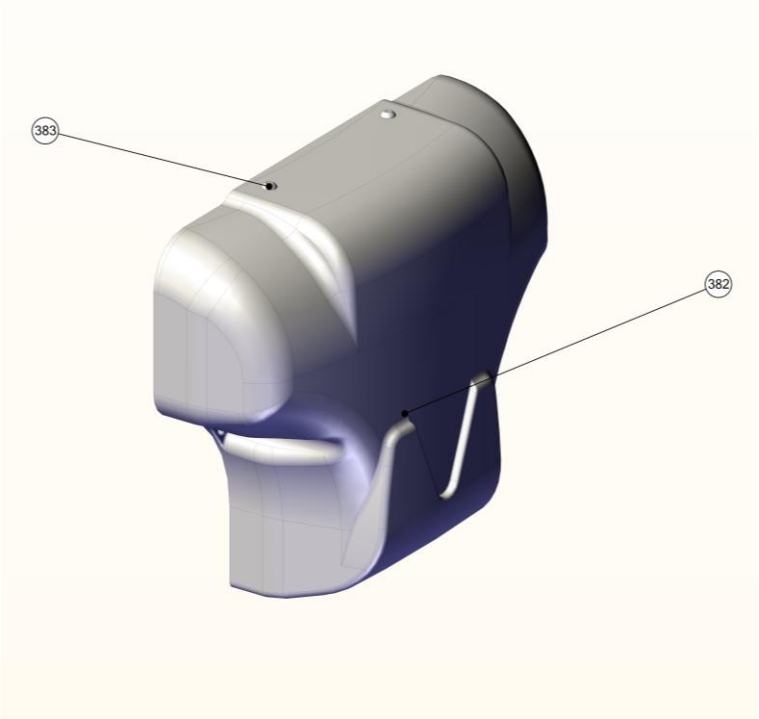


Figure 83

Code	ID	Quantity
R042-0160	382	1
R042-0160	383	4

5.7.4 Standard joystick support

Average needed time: 5 min	**Difficulty level:** Easy

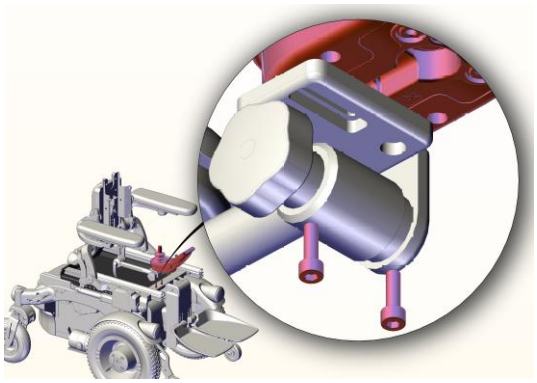


Figure 84

• Unscrew the 2 screws shown in figure. • Remove the joystick.	**ALLEN WRENCH** 4 mm

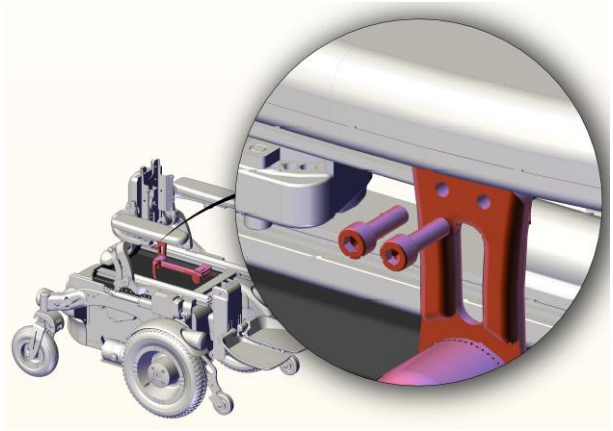


Figure 85

• Unscrew the 2 screws shown in figure. Unscrew the 2 screws shown in figure. • Substitute the joystick support. • Mount the old joystick following instructions in reverse order.	**ALLEN WRENCH** 3 mm

Code	Description	Type of operation	Notes
R042-0190A	Standard joystick support	A	

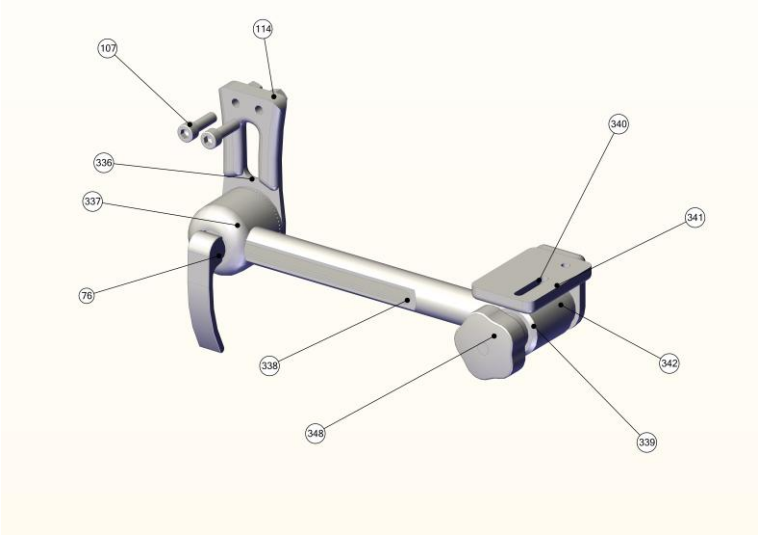


Figure 86

Code	ID	Quantity
R042-0190 A	76	1
R042-0190 A	107	2
R042-0190 A	114	2
R042-0190 A	336	1
R042-0190 A	337	1
R042-0190 A	338	1
R042-0190 A	339	1
R042-0190 A	340	1
R042-0190 A	341	1
R042-0190 A	342	1
R042-0190 A	348	1

5.7.5 Retractable joystick support

Average needed time: 5 min	**Difficulty level:** Easy

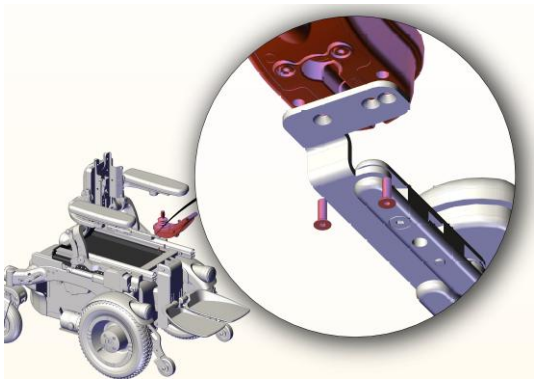


Figure 87

• Unscrew the 2 screws shown in figure. • Remove the joystick.	**ALLEN WRENCH**	3 mm

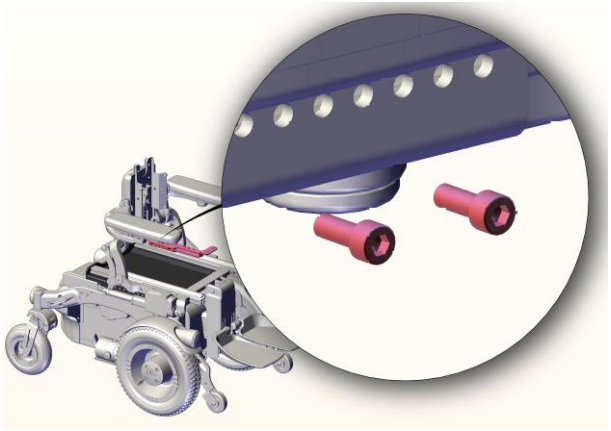


Figure 88

• Unscrew the 2 screws shown in figure. • Substitute the joystick support. • Mount the old joystick following instructions in reverse order.	**ALLEN WRENCH**	3 mm

Code	Description	Type of operation	Notes
R042-0190B	Retractable joystick support	A	

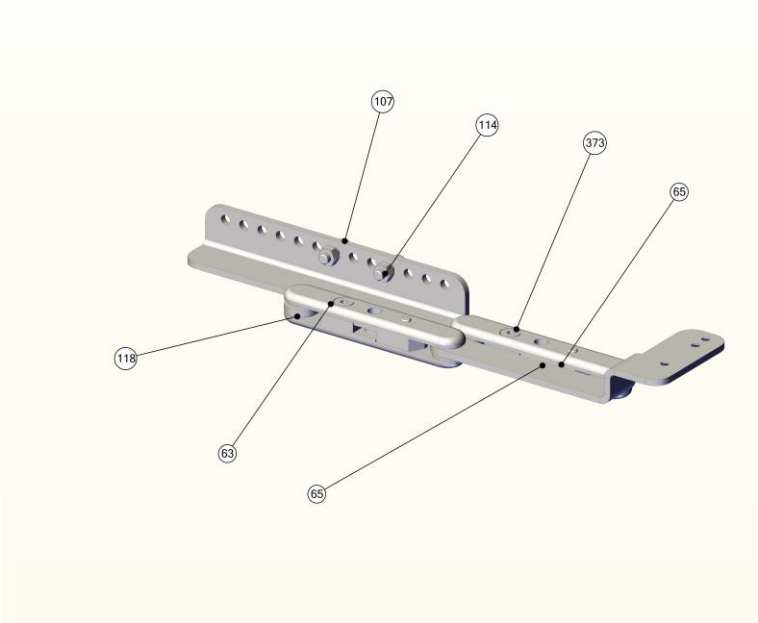


Figure 89

Code	ID	Quantity
R042-0190B	63	1
R042-0190B	64	1
R042-0190B	65	4
R042-0190B	107	2
R042-0190B	114	2
R042-0190B	118	8
R042-0190B	373	4

5.7.6 Joystick

Average needed time: 5 min	**Difficulty level:** Easy

Standard joystick support

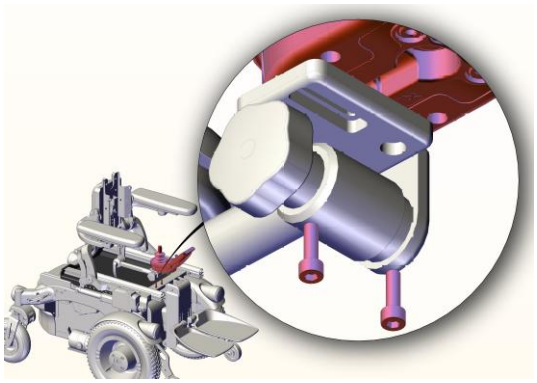


Figure 90

• Unscrew the 2 screws shown in figure. • Substitute the joystick.	**ALLEN WRENCH** 4 mm

Retractable joystick support

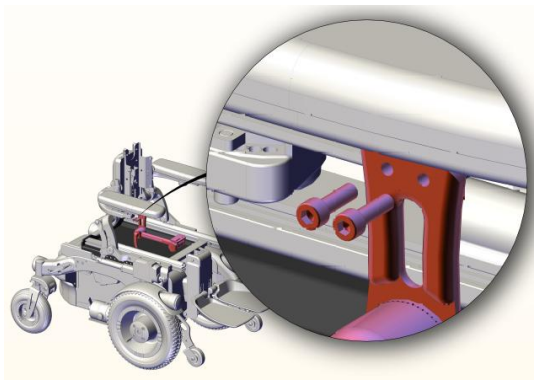


Figure 91

• Unscrew the 2 screws shown in figure. Unscrew the 2 screws shown in figure. • Substitute the joystick support.	**ALLEN WRENCH** 3 mm

Code	Description	Type of operation	Notes
R042-0200	Standard joystick support Joystick	A	

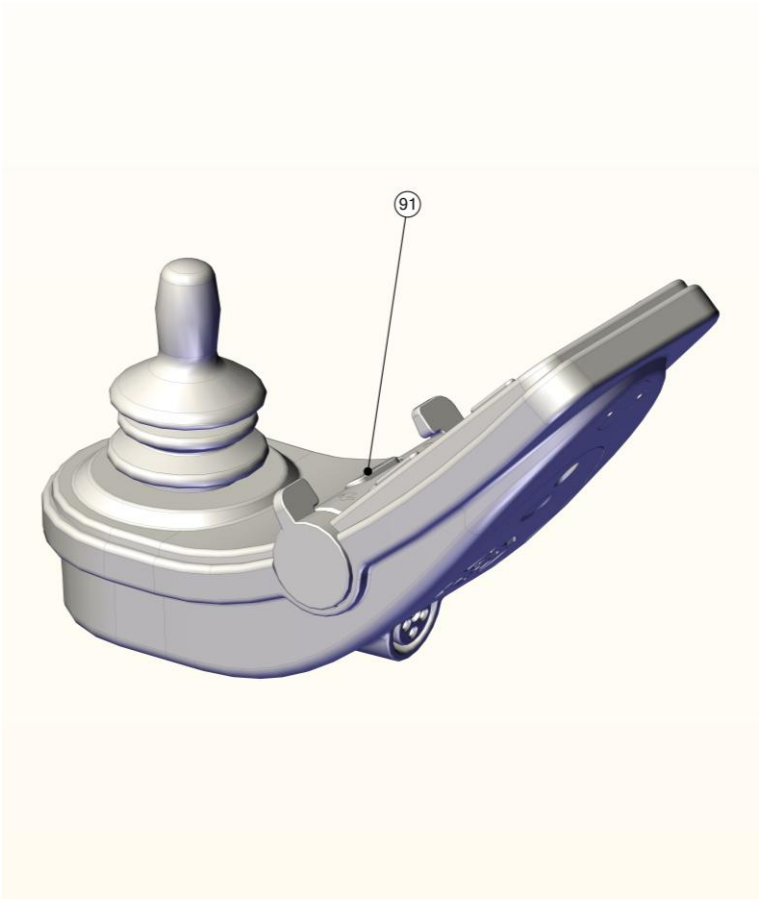


Figure 92

Code	ID	Quantity
R042-0200	91	1

5.7.7 Castor light kit

Average needed time: 10 min	**Difficulty level:** Easy

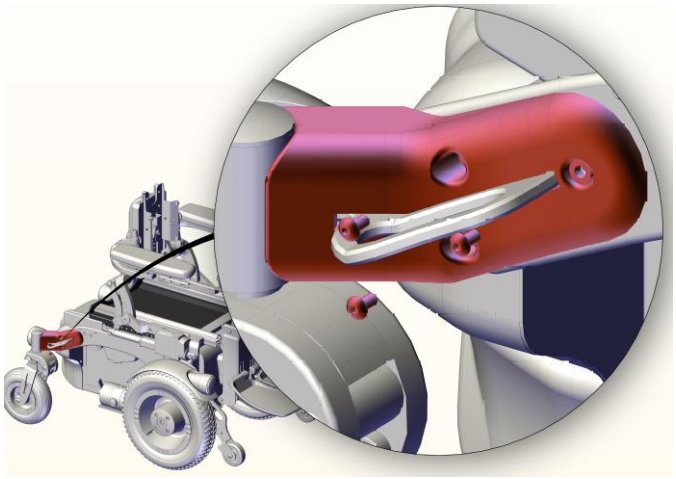


Figure 93

- Unscrew the screws shown in figure.
- If desired substitute the cover.

ALLEN WRENCH 3 mm

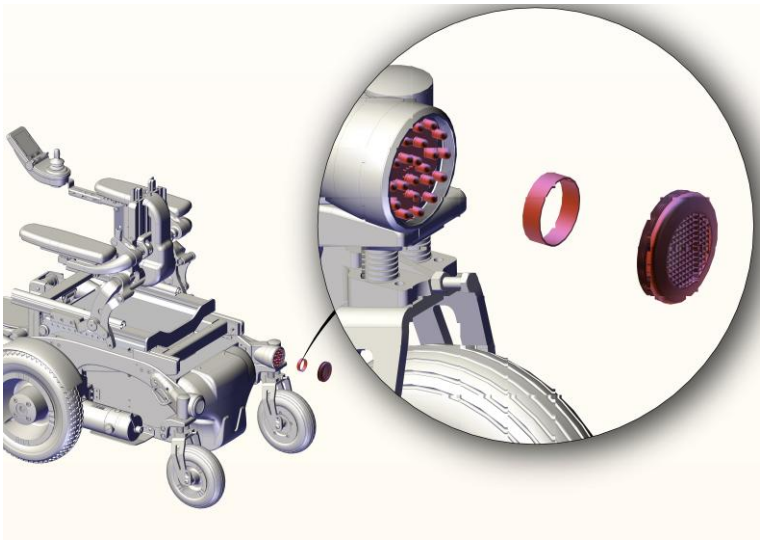


Figure 94

- Unscrew the glass shown in figure.
- Unplug the light.

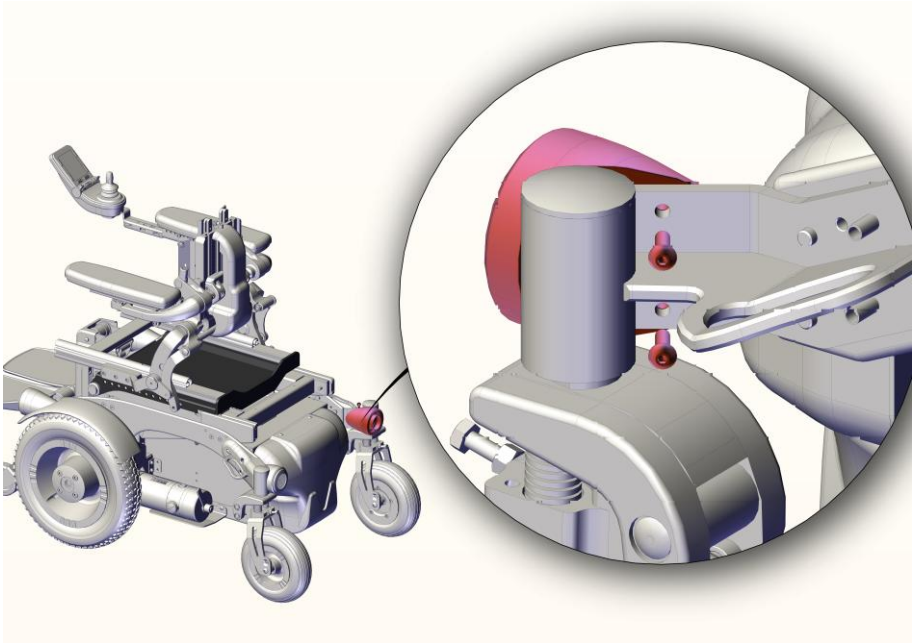


Figure 95

• Unscrew the screw shown in figure. • Substitute the parts shown in figure.	**ALLEN WRENCH**  3 mm

Code	Description	Type of operation	Notes
R042-0250	Kit light for castor	A	
R042-0251	Light for castor	A	
R042-0252	Castor cover	A	

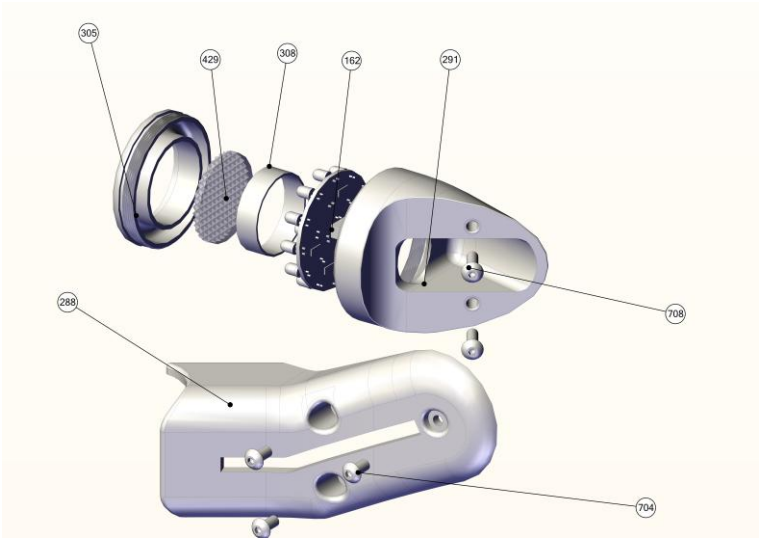


Figure 96

Code	ID	Quantity
R042-0250	162	1
R042-0250	288	1
R042-0250	291	1
R042-0250	305	1
R042-0250	308	1
R042-0250	429	1
R042-0250	704	3
R042-0250	708	2
R042-0521	162	1
R042-0252	308	1

5.7.8 Mudguard light kit

Average needed time: 10 min	**Difficulty level:** Easy

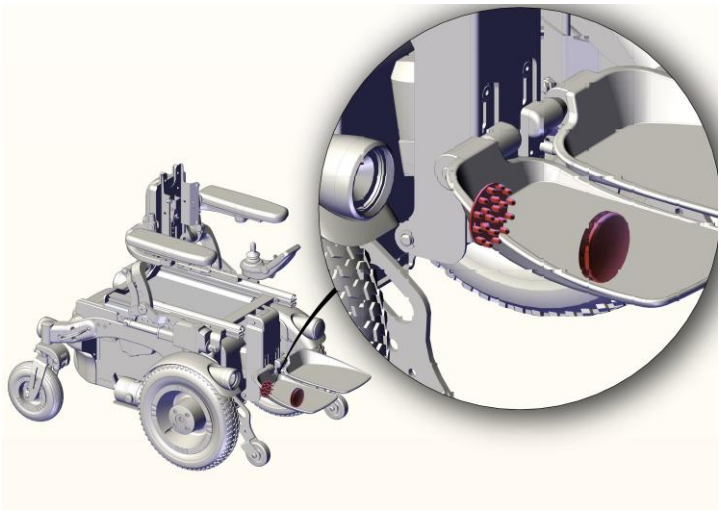


Figure 97

- Unscrew the glass shown in figure.
- Unplug the light.

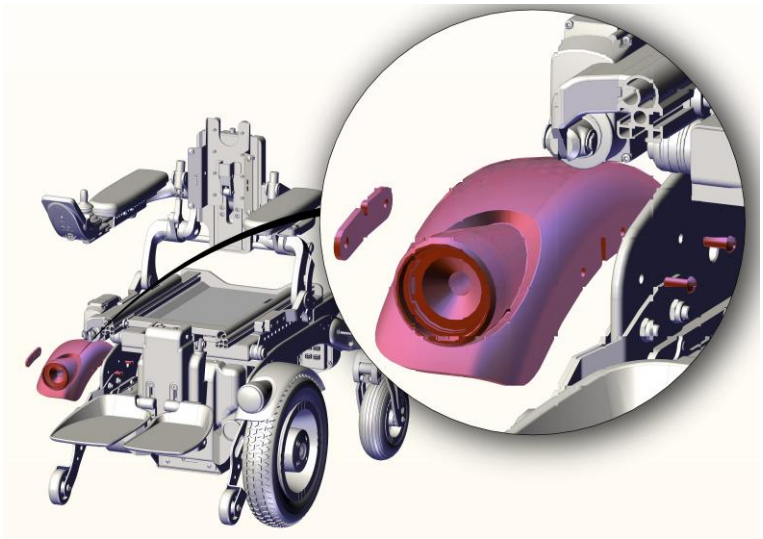


Figure 98

- Unscrew the screw shown in figure.
- Substitute the parts shown in figure.

ALLEN WRENCH

4 mm

Code	Description	Type of operation	Notes
R042-0270B	Mudguard kit RH	A	
R042-0270A	Mudguard kit LH	A	
R042-0271	Light for mudguard	A	

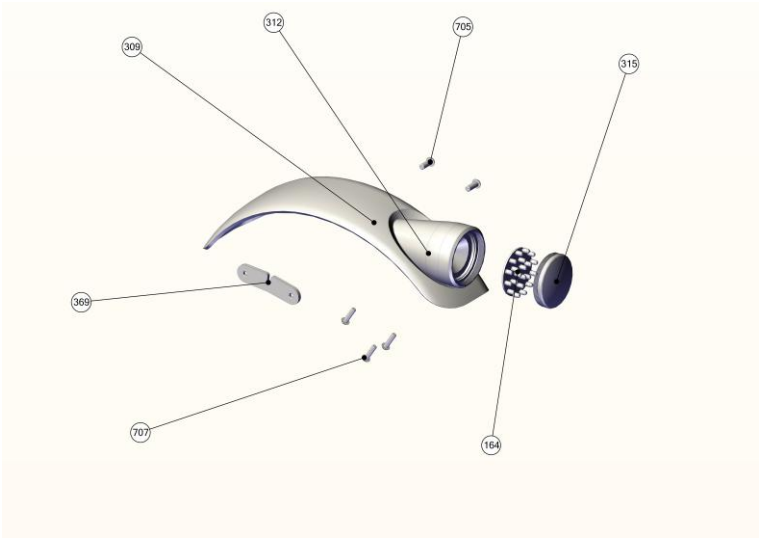


Figure 99

Code	ID	Quantity
R042-0270	164	1
R042-0270	309	1
R042-0270	312	1
R042-0270	315	1
R042-0270	369	1
R042-0270	705	2
R042-0270	707	3
R042-0271	161	1

5.7.9 Bumpers for motors

Average needed time: 10 min	**Difficulty level:** Easy

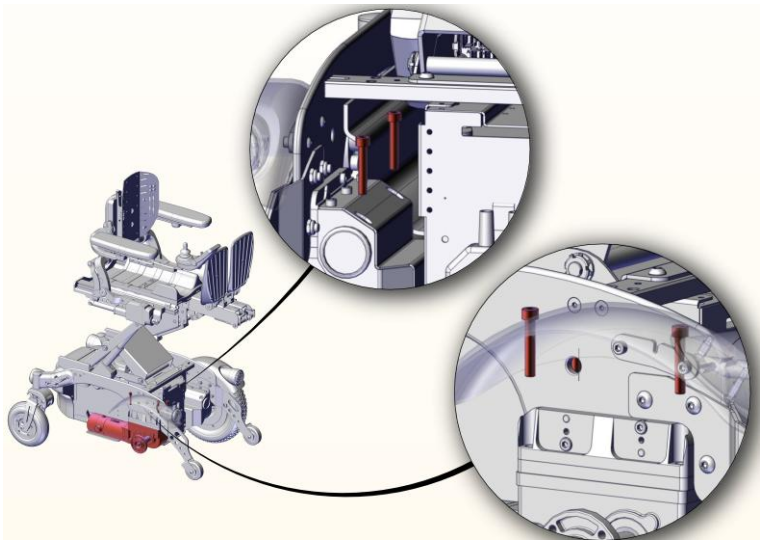


Figure 100

• Unscrew the screws shown in figure. • Substitute the bumper for motor. Substitute the bumper for motor. • Repeat operations for both left and right side of the wheelchair.	**ALLEN WRENCH** 4 mm

Code	Description	Type of operation	Notes
R042-0280	Bumpers for motors	B	

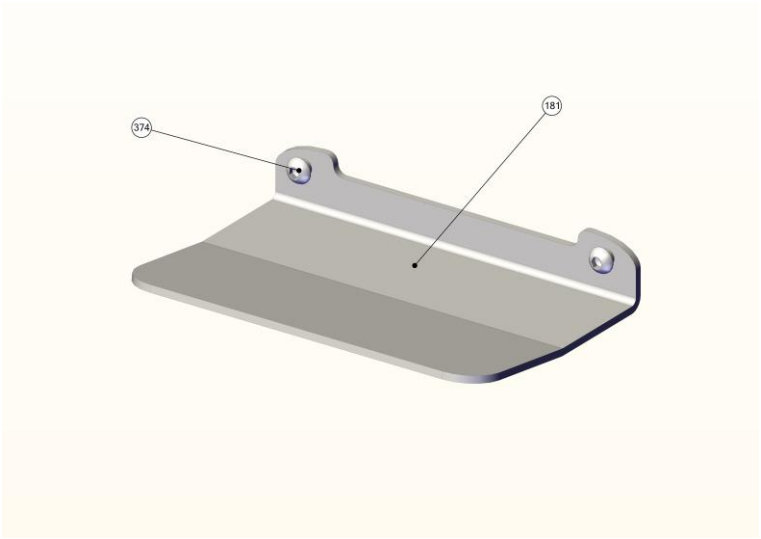


Figure 101

Code	ID	Quantity
R042-0280	181	2
R042-0280	374	4
		4
		1
		1

5.7.10 Legrest cover

Average needed time: 5 min	**Difficulty level:** Easy

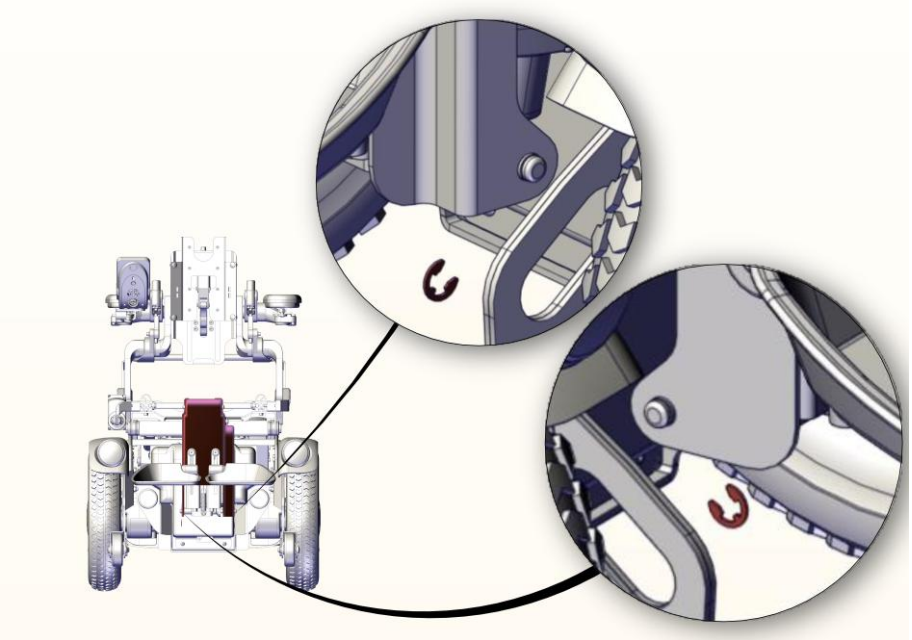


Figure 102

• Remove the seeger shown in figure. Use a screwdriver as a lever. • Substitute the cover.	**SCREWDRIVER**	

Code	Description	Type of operation	Notes
R042-0311	Legrest cover	A	

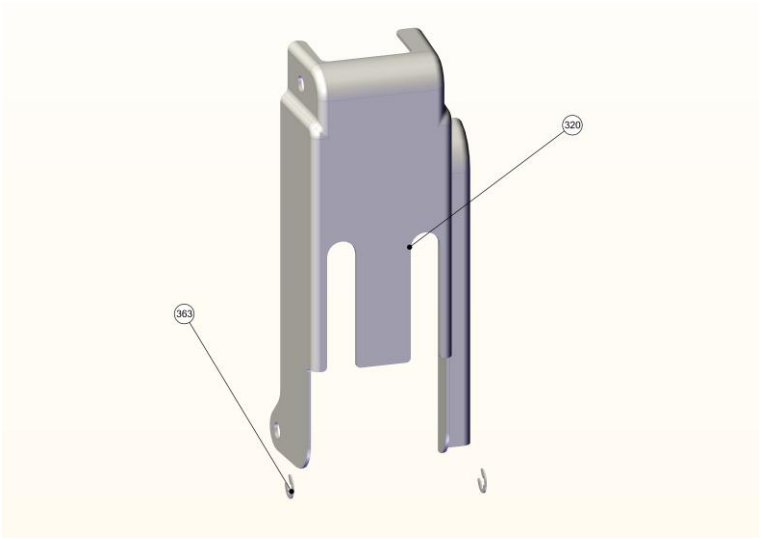


Figure 103

Code	ID	Quantity
R042-0311	320	1
R042-0311	363	2

5.7.11 Footplate

Average needed time: 5 min	**Difficulty level:** Easy

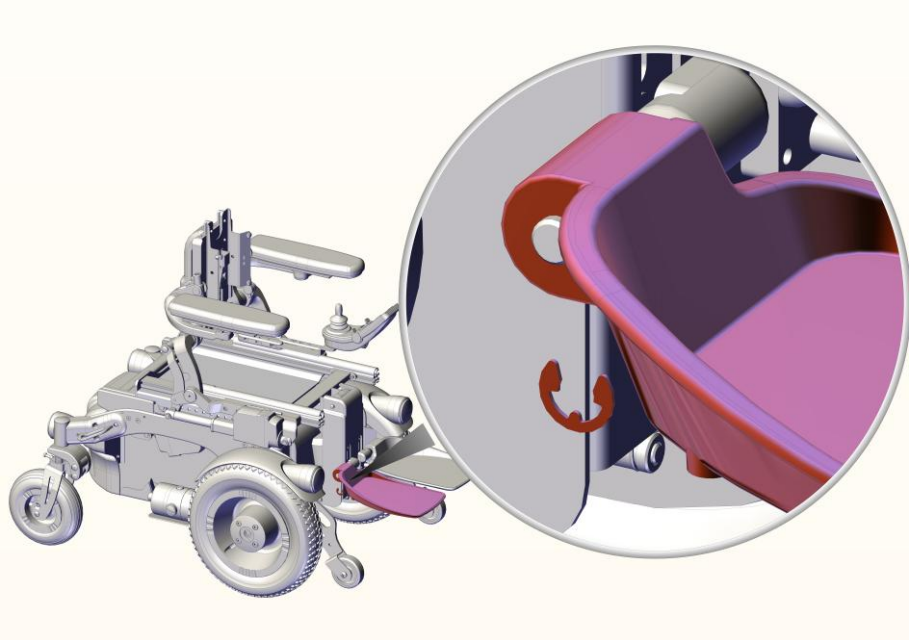


Figure 104

- Remove seeger shown in figure. Use a screwdriver as a lever.
- Substitute footplate.

SCREWDRIVER

Code	Description	Type of operation	Notes
R042-0320	Footrest	A	

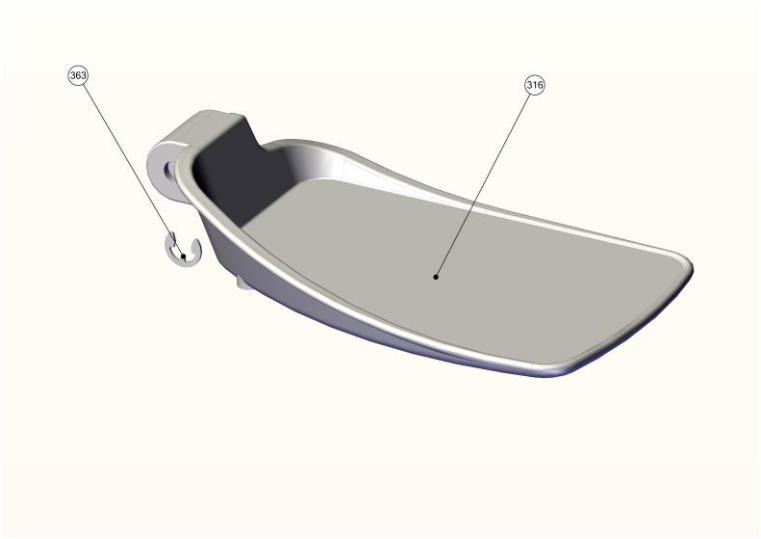


Figure 105

Code	ID	Quantity
R042-0320	316	1
R042-0320	363	2

5.7.12 Backrest cover

Average needed time: <5 min	**Difficulty level:** Easy

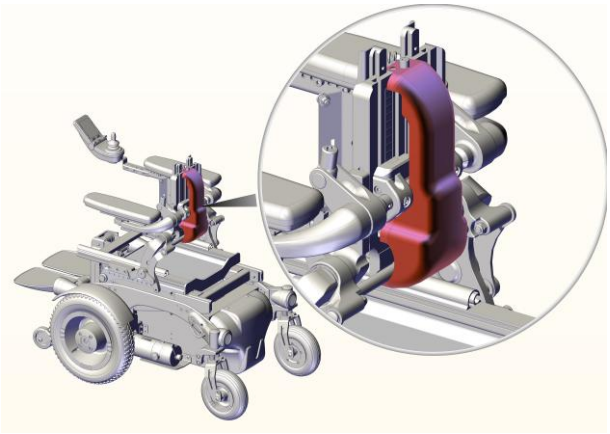


Figure 106

- Substitute the cover shown in figure.

Code	Description	Type of operation	Notes
R042-0371	Backrest cover	A	

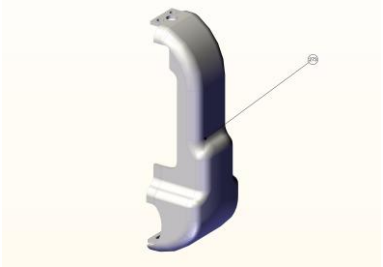


Figure 107

Code	ID	Quantity
R042-0371	273	1

5.7.13 Ruler for armrest adjustment

Average needed time: 10 min	**Difficulty level:** Easy

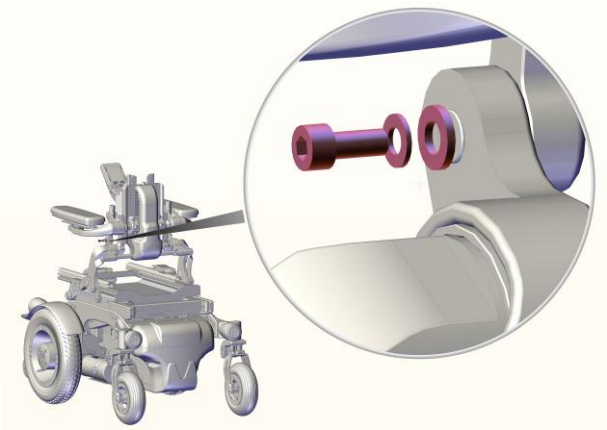


Figure 108

• Unscrew the screw shown in figure.	**ALLEN WRENCH** 4 mm

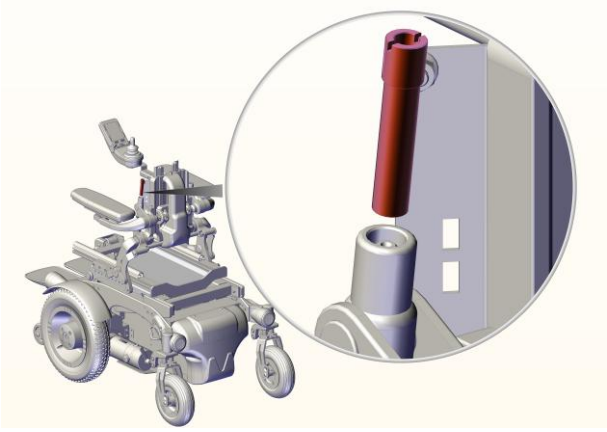


Figure 109

• Unscrew the part shown in figure.	**SCREWDRIVER**

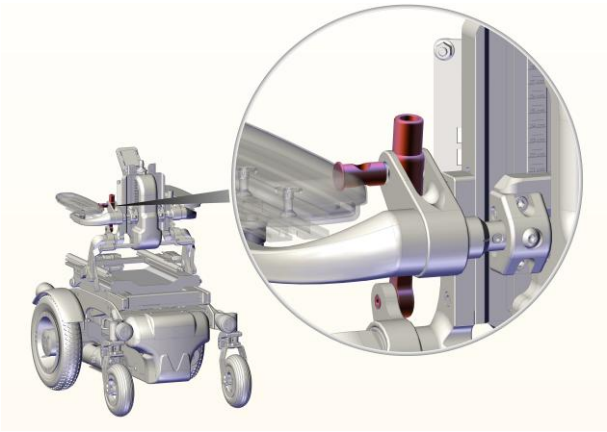


Figure 110

- Substitute parts shown in figure.

Code	Description	Type of operation	Notes
R042-0372	Ruler for armrest adjustment	B	

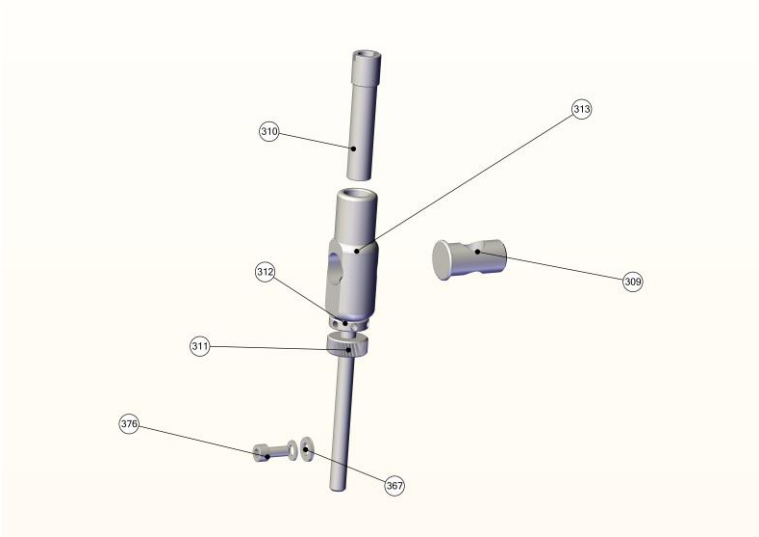


Figure 111

Code	ID	Quantity
R042-0372	309	1
R042-0372	310	1
R042-0372	311	1
R042-0372	312	1
R042-0372	313	1
R042-0372	314	1
R042-0372	367	2
R042-0372	376	1

5.7.14 Armrest joint

Average needed time: 10 min	**Difficulty level:** Easy

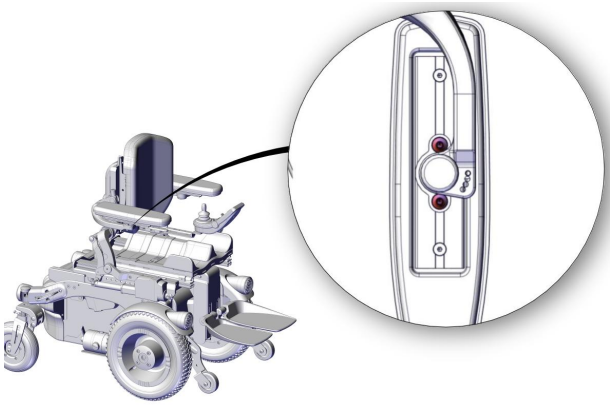


Figure 112

- Loosen the 2 screws shown in figure.
- Substitute the armrest.

ALLEN WRENCH 5 mm

Code	Description	Type of operation	Notes
R042-0380	Armrest	A	

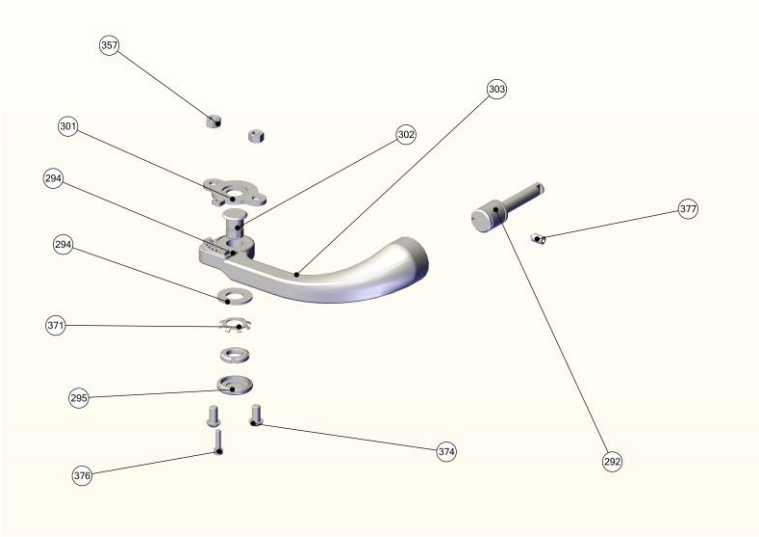


Figure 113

Code	ID	Quantity
R042-0373	292	1
R042-0372	294	2
R042-0372	295	1
R042-0372	301	1
R042-0372	302	1
R042-0372	303	1
R042-0372	355	1
R042-0372	357	2
R042-0372	371	1
R042-0372	374	2
R042-0372	376	1
R042-0372	377	1

5.7.15 Armrest

Average needed time: 5 min	**Difficulty level:** Easy

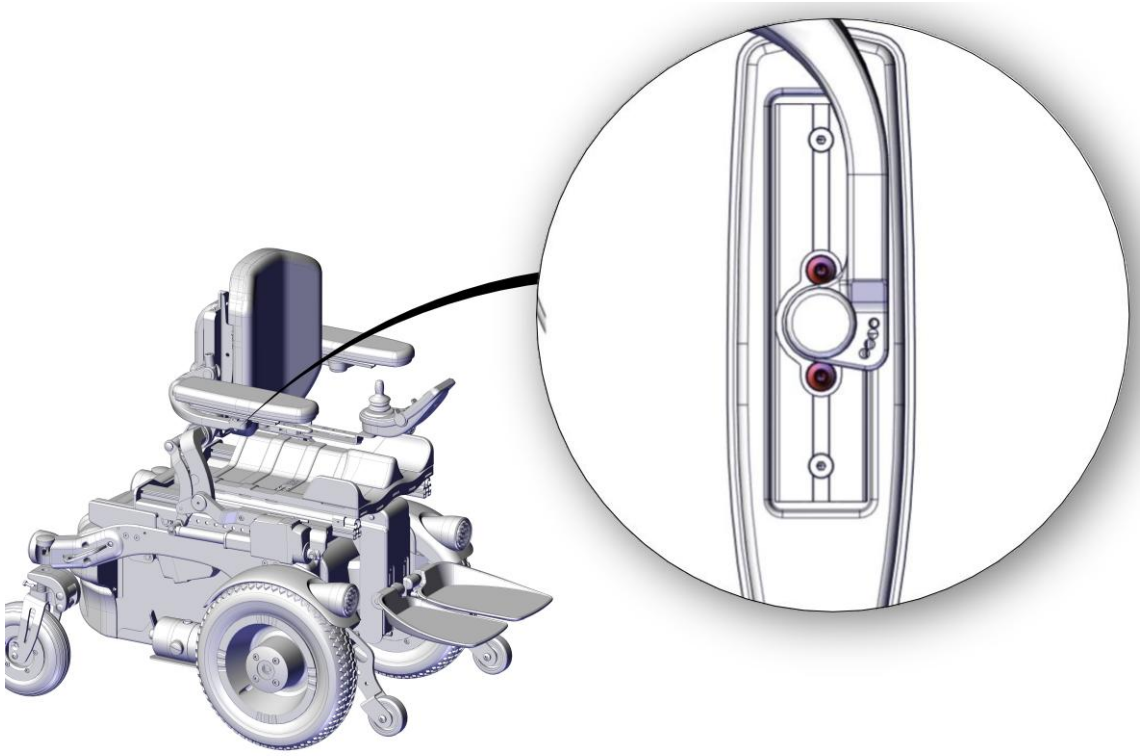


Figure 114

- Loosen the 2 screws shown in figure.
- Remove the armrest.

ALLEN WRENCH 5 mm

Code	Description	Type of operation	Notes
R042-0380	Armrest	A	

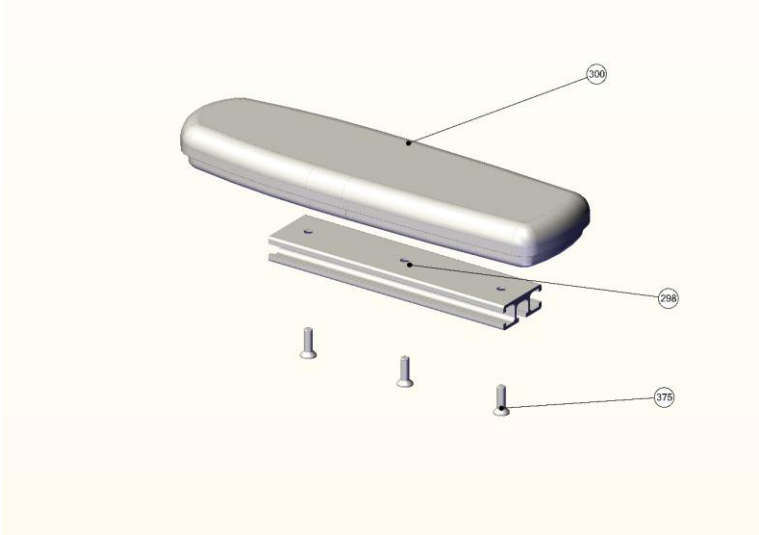


Figure 115

Code	ID	Quantity
R042-0380	298	1
R042-0380	300	1
R042-0380	375	3

6 SPECIFICATIONS

Maximum safety slope (uphill, downhill, lateral)	6°
Weight of the wheelchair	MAX 125 kg
Expected lifetime [years]	10
Class [EN 12184]	B
Range [ISO 7176-4]	>=25 km The distance will be reduced if the wheelchair is used frequently on slopes, rough ground or to climb kerbs.
Recommended tire pressure [kPa]	Traction wheels: 280 kPa; Castors: 250 kPa.
Standard compliance	ISO 14971: 2007 EN 12184 : 2009 ISO 7176-8

Intended use	The Evo3 wheelchair is intended to be used by those groups of users with temporary or permanent mobility difficulties confined to a sitting position who need to move in mostly internal environments.

WARNING

It is prohibited to use the product or its parts for any purpose other than that indicated. The manufacturer disclaims any responsibility for damages caused by improper use of aids.

It is possible to use the wheelchair when the temperature is between -10 °C and +40 °C.

It is possible to store the wheelchair in a place with a temperature between -20 °C and +45 °C.

6.1 Maximum user weight

Seat width	MAX
30 cm	50 kg
34 cm	80 kg
38 cm	80 kg
42 cm	80 kg

Table 11

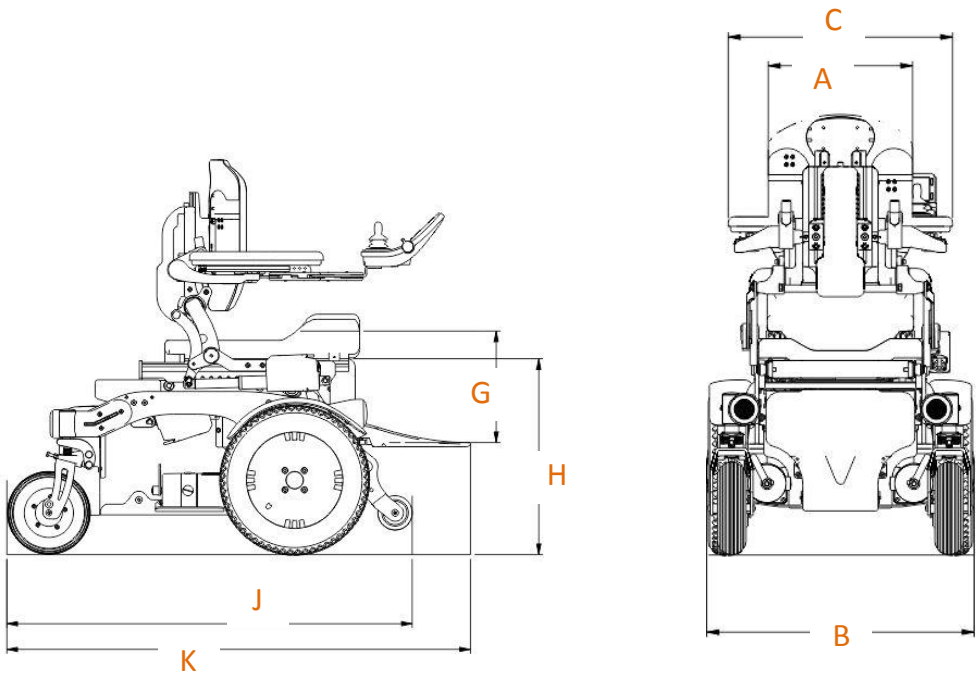
6.2 Other provided information

Manufacturer	Neatech.it srl
Address	via A. de Curtis 4/A – 80040 – Cercola (NA) - Italy
Model	S042 – Evo3

Description	Value
Overall length with legrest	110 cm
Overall width	56.0 cm
Folded length	N.A.
Folded width	N.A.
Folded height	N.A.
Total mass (the weight may change significantly according to the configuration of the wheelchair)	MAX 125 kg
Dynamic stability	6°
Static stability downhill	9°
Static stability uphill	9°
Static stability sideways	9°
Seat plane angle	45°
Effective seat depth	MIN: 30.0 cm MAX: 52.0 cm
Effective seat width	MIN: 30.0 cm MAX: 42.0 cm
Seat surface height at front edge	MIN: 46.0 cm MAX: 48.0 cm
Backrest angle	MIN: 90° MAX: 170°
Backrest height	MIN: 43.0 cm MAX: 63.0 cm
Footrest to seat distance	MIN: 27.0 cm MAX: 48.0 cm
Armrest to seat distance	MIN: 20.0 cm MAX: 30.0 cm
Minimum turning radius [ISO 7176-5]	75.0 cm
Turn around distance [ISO 7176-5]	130 cm

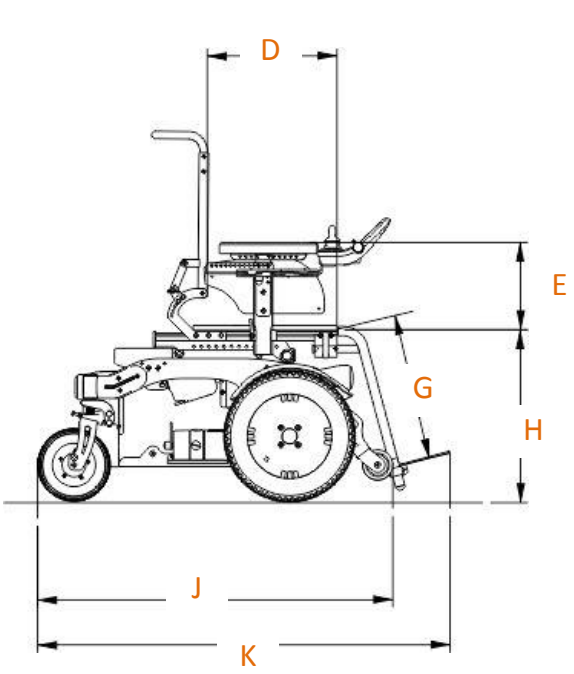
6.3 Dimensions

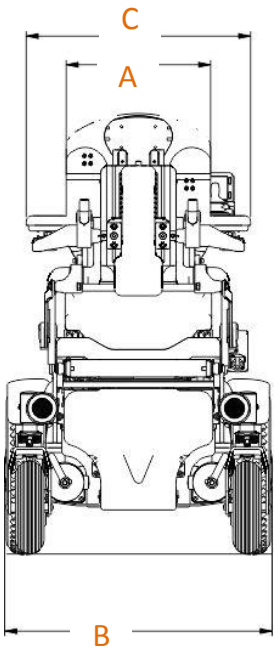
6.3.1 - Version with biomechanical movements



A	300 mm	340 mm	380 mm	420 mm
B	560 mm			
C	495 mm	535 mm	575 mm	615 mm
G	MIN 270 mm – MAX 480 mm			
H	Wheels Ø320: 46.0 cm Wheels 3.00-8: 48.0 cm			
J	FWD: 945 mm			
K	FWD: 1100 mm			

6.3.2 - Version with biomechanical movements





A	300 mm	340 mm	380 mm	420 mm
B	560 mm			
C	495 mm	535 mm	575 mm	615 mm
D	MIN 300 mm MAX 420 mm	MIN 300 mm MAX 460 mm	MIN 300 mm MAX 500 mm	MIN 300 mm MAX 520 mm
E	230 mm – 300 mm			
G	MIN 150 mm – MAX 480 mm			
H	Wheels Ø320: 46.0 cm Wheels 3.00-8: 48.0 cm			
J	FWD: 945 mm			
K	FWD: 1100 mm			

7 Warranty terms

The product is globally guaranteed for 24 months **with the exception of the batteries that are guaranteed for 6 months** from the delivery to the first user. The warranty covers defects in materials or workmanship. The warranty doesn't cover parts subject to usury or damaged parts by: overload, misuse, alterations and repairs made by unauthorized third parties from the manufacturer. The warranty expires in case of tampering, improper storage, unauthorized or incorrect maintenance.

7.1 Serial number

For any report or assistance request, please communicate the serial number mentioned on the label in the position shown in figure.

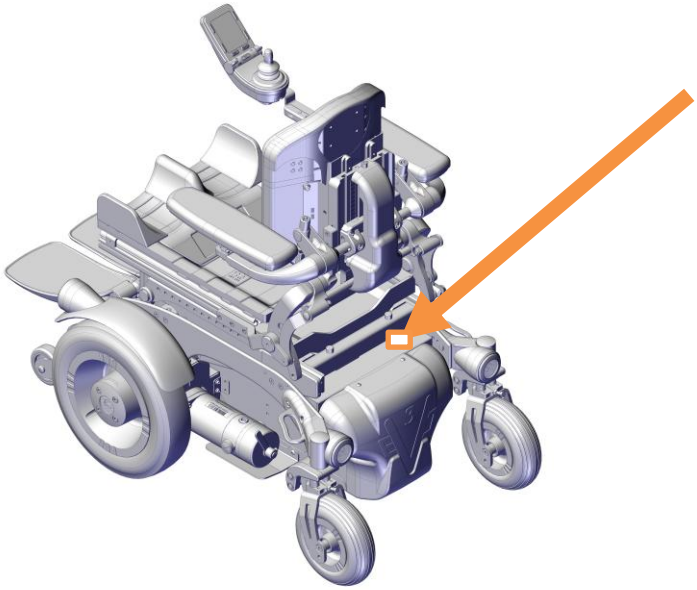


Figure 116

Note

EVO 3

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