

# EVO 3



## USER MANUAL

Rev. D 2014-10-11



# DECLARATION OF CONFORMITY



The manufacturer

**Neatech.it**

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

under its responsibility, states that

**the wheelchair EVO3**

satisfies the conditions laid down by the European Directive 93/42 and its subsequent updates;  
according to the criteria for classification of Annex IX of this directive, the EVO3 is classified as

**class I medical device**

It also complies with the requirement of the harmonized standards:  
UNI EN 12182 – Technical aids for disabled person  
UNI EN 12184 – Electrically powered wheelchairs, scooters and their chargers



1	WHEELCHAIR PRESENTATION.....	12
2	STARTING UP .....	13
2.1	Checks to be made on delivery .....	13
2.2	Unpacking .....	14
2.2.1	Remove the EVO3 from the pallet.....	15
2.3	Assembly operation.....	16
2.4	Transport and storage .....	16
3	ADJUSTMENTS .....	17
3.1	Armrests.....	17
3.2	Legrest .....	20
3.2.1	Height.....	20
3.2.1	Footrest width and angle .....	22
3.3	Backrest .....	24
3.4	Seat depth.....	25
3.5	Drive profile .....	26
4	USE OF THE WHEELCHAIR .....	27
4.1	Rnet control console.....	27
4.2	Using the wheelchair .....	31
4.3	Manual brake release lever .....	36
4.4	Powered function .....	37
4.4.1	Seat lift .....	37

4.4.2	Seat tilt .....	38
4.4.3	Backrest biomechanical recline .....	39
4.4.4	Legrest biomechanical elevation .....	40
4.5	Battery charging .....	41
4.6	Use as seat in motor vehicle .....	43
5	MAINTENANCE.....	46
5.1	Tire puncture.....	47
5.2	Checks to be made on the wheelchair .....	49
5.3	Troubleshooting .....	50
5.3.1	Rnet system fault.....	51
5.4	Specification.....	52
5.5	Dimensions.....	54
5.6	Magneto hydraulic protection .....	55
5.7	Spare part list .....	56
5.8	Instruction for replacing parts .....	58
5.8.1	Antitip castor .....	58
5.8.2	Front cover for FWD wheelchair (back cover for RWD wheelchair).....	59
5.8.3	Back cover for FWD wheelchair (back cover for RWD wheelchair).....	60
5.8.4	Legrest cover .....	61
5.8.5	Backrest cover .....	61
5.8.6	Tire of traction (with tube).....	62

5.8.7	Tire of castor wheel (with tube) .....	63
5.8.8	Armrest pad.....	64
5.8.9	Joystick .....	65
5.8.10	Seat cushion .....	65
5.8.11	Backrest cushion.....	65
6	WARRANTY TERMS .....	66
6.1	SERIAL NUMBER .....	66
6.2	INCIDENT REPORTING.....	66



### **TIPPING HAZARD**

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



### **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, two-way radios, and commercial radio and television broadcast antennas.

PLEASE USE CAUTION in the presence of these devices.

EMI 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. EMI can damage the control system of your chair.

There is no way to know the effect on EMI if you add accessories or modify this chair. Any change to your chair may increase the risk of EMI. Parts from other suppliers have unknown EMI properties.

**The wheelchair might disturb the operation of devices in its environment that emit electromagnetic fields**



### **TEMPERATURE**

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



**Do not install, maintain or operate your wheelchair without reading all warnings and this entire user’s manual.**

Always keep this manual in connection with your wheelchair.

### **NOTICE TO RIDER—WARNING**

Do not use your wheelchair on stairs or escalators. Do not lift or move the wheelchair by any of its removable parts.

The wheelchair should be turned off prior to entering or exiting the wheelchair.

The wheelchair may come to a sudden stop at any time during operation.

Do not operate the wheelchair if it is behaving abnormally or erratically.

Do not operate the wheelchair with low batteries, to minimize risk of becoming stranded.

**Don’t use the wheelchair if your weight exceed the maximum user weight written in the specification of this user manual.**

**Do not carry passengers on the wheelchair independently of the age of the passenger.**

### **PINCH HAZARDS – WARNING**

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.

Do not use an escalator to move the wheelchair between floors. Serious bodily injury may occur.

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 backwards or sideways

Do not tip or wheel the wheelchair with wheel locks. Wheel locks are not brakes.

Do not stand on the frame of the wheelchair.

Always use caution when transferring in or out of the wheelchair. Every precaution should be taken to reduce the transfer distance. Also be certain the wheel locks are engaged to prevent the wheels from moving.

### **Caution—Obstacles**

Riding over curbs or obstacles can cause tipping and serious bodily harm. If you have any doubt that you can safely cross any curb or obstacle, ALWAYS ASK FOR HELP. Be aware of your riding skills and personal limitations. Develop new driving skills only with the help of a companion.

### **Caution—Anti-Tippers**

Using anti-tippers substantially reduces your risk of falling over backwards, 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 ANTI TIPPERS.

The wheelchair is not designed for weight training and is unsafe for use as a seat while weight training. Weight training from the wheelchair substantially changes the stability of the chair and cause tipping.

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

**It is recommended to not use the wheelchair near public way without lights turned on.**

## MODIFICATIONS

**Any unauthorized modifications to the wheelchair may increase the risk of personal injury and damage to the wheelchair. All modifications should be done by an authorized service center.**

**Do not use any unauthorized accessories or spare parts on the wheelchair. Do not use the wheelchair in combination with other medical devices without first having considered any risk due to combination of more product.**

## AUTHORIZED SERVICE CENTER

For any need not expressly explained in this manual, please contact an authorized service center.

For a list of authorized service center please contact the manufacturer:

### **Neatech.it**

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

[www.neatech.it](http://www.neatech.it) – [info@neatech.it](mailto:info@neatech.it) - +39 081 555 1946

## 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 WHEELCHAIR PRESENTATION

Thank you for purchasing EVO3 electronic wheelchair.

EVO3 is a battery powered wheelchair. Its intended use is to provide indoor mobility to person limited to seated position that are capable to operate and drive an electronic wheelchair. Though EVO3 was designed to be used mainly indoors it is possible to have lights and to use the wheelchair even in some outdoor environments.

Motors	2x 220 W
--------	----------

Batteries	2x55Ah 12V
-----------	------------

Electronic Tilt (45°) + Electronic Negative Tilt (45°)

Electronic Lift (30 cm)

Electronic Reclining Backrest (0-170°)

Electronic Elevating Central Mounted Footrest

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

**NEATECH.IT disclaims any responsibility for inappropriate selections of wheelchair models**

The information in this manual may be subject to change without notice. All information, pictures and specifications are based upon the product information that was available at the time of printing. They are representative examples and not intended to be exactly as the actual wheelchair

## 2 STARTING UP

### 2.1 Checks to be made on delivery

- Check for the integrity of the original packaging.
- Check for any anomalies on the 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 carrier. For any other questions, please contact the manufacturer.

## 2.2 Unpacking

Be sure to put the package of the EVO3 on a stable and secure surface and remove straps with scissors. Pull away the box as shown in Figure 1.

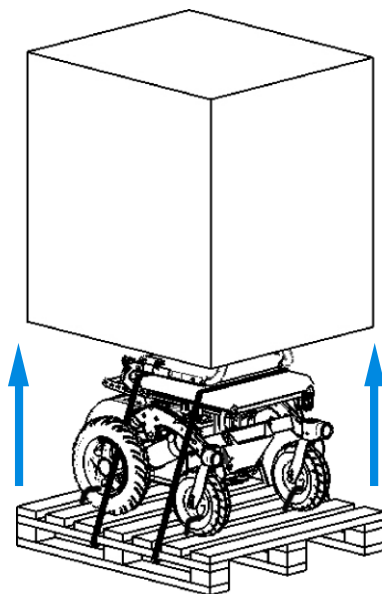


Figure 1

Inside the box there is:

- **EVO3** wheelchair
- N. 1 Charger
- Documentation and manuals

## 2.2.1 Remove the EVO3 from the pallet



Figure 2



Figure 3

Unlock the engine with the lever on the left and right side as shown in Figure 2 and Figure 3 and slide gently down the EVO3 from the pallet.

After positioning the EVO3 in a safe place, return the lever to its original position.



### **PACKAGING DIASPOSAL**

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

## 2.3 Assembly operation

Mount the backrest on the wheelchair as it is described in section 3 - ADJUSTMENTS.

## 2.4 Transport and storage

If you do not use your EVO3 for a long time make sure that you set the switch OFF as shown in Figure 4. You should keep the EVO3 in a place free from dust and moisture and away from heat sources.

If you need to transport the EVO3, turn off the switch.

For the transport be sure that the vehicle is approved for this purpose and set the brake release levers in right position (UP, brakes engaged).

**The wheelchair isn't intended to be dismantled for storage or transport.**



Figure 4



## 3 ADJUSTMENTS

EVO 3 wheelchair has the possibility of many adjustments to best suit the specific user.

To perform these adjustments they are required a 4 mm allen wrench, a 5 mm allen wrench and a 8 mm open-end wrench.

These adjustments can be made by the vendor or by an assistant of the user.

### 3.1 Armrests

The available adjustments are in height and angle; these need to be made on the same order as they are presented.

For the armrest height loosen the four bolts shown in Figure 5 and adjust the height with the single bolt located upon the support shown in Figure 6. For this operation use the 5 mm allen wrench



Figure 5

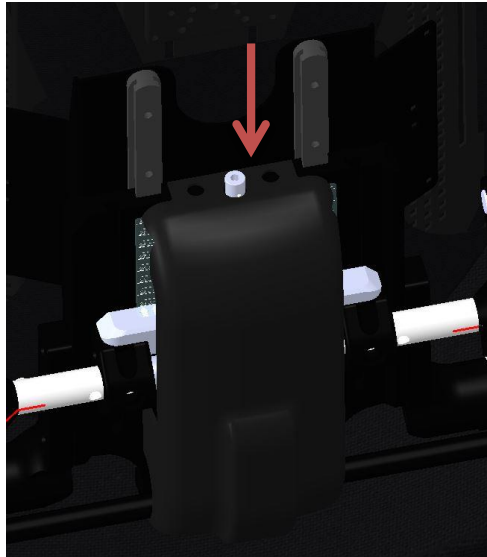


Figure 6

For the armrest angle, you can decide to adjust the horizontal and vertical angle.

For the horizontal angle, lift the armrest that you want to modify and unscrew the bolt indicated in Figure 7; after this you can set the right armrest angle, screwing the bolt to fixing the correct angle. For this operation use the 4 mm allen wrench



Figure 7

For the vertical angle rotate clockwise the screw shown in Figure 8 to lower the armrest, rotate counterclockwise the screw to let up the armrest.



Figure 8

## 3.2 Legrest

### 3.2.1 Height

To adjust the legrest height, remove the cover (Figure 9) and loosen the bolts shown in Figure 10 with the 4 mm allen wrench;

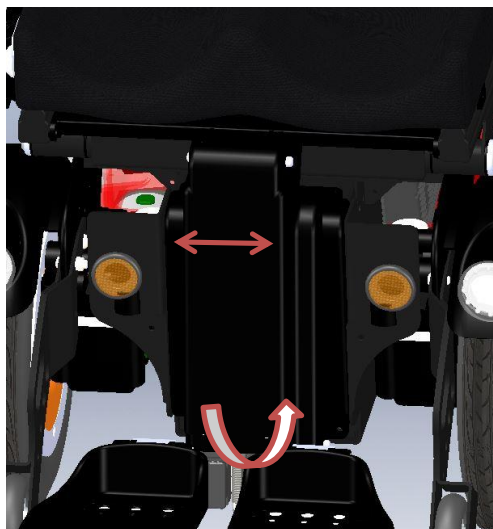


Figure 9

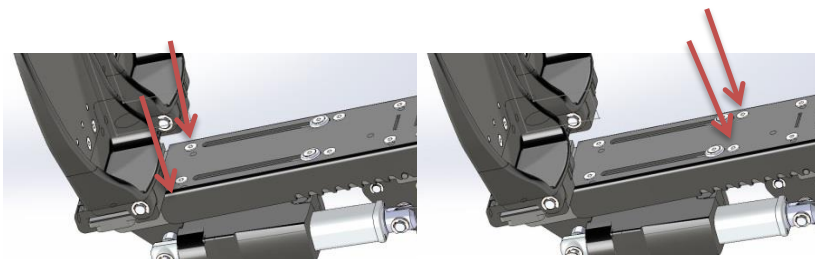


Figure 10

It is possible to adjust separately the height of right and left footrest. After loosen the bolts you can adjust the height of footrest, moving it up or down.

To move it down it is required to push it towards the chassis and that push it down as it is shown in the Figure 11.

After this adjustment you have to screw again the bolts loosen to fix the legrest position.



**Figure 11**

### 3.2.1 Footrest width and angle

You can adjust separately right and left paddle.

Loosening two bolts for one paddle as shown in Figure 12 (with the 4 mm allen wrench) you can move it in the chosen position as shown in Figure 13.

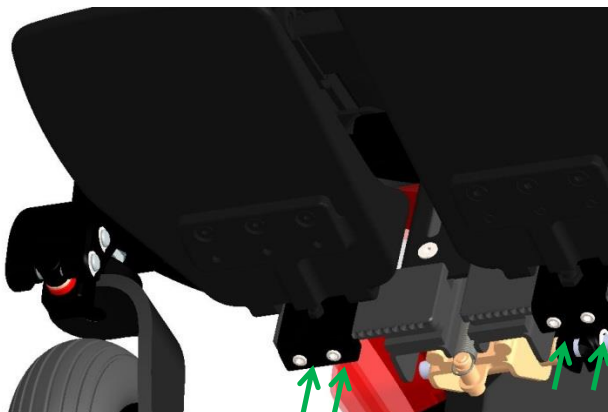


Figure 12

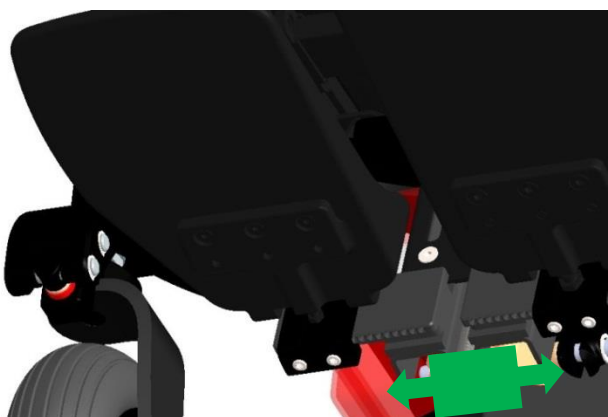


Figure 13

Loosening the bolt shown in Figure 14 (with the 4 mm allen wrench), under the paddle, it is possible to modify the angle of paddle.



Figure 14

### 3.3 Backrest

To perform the adjustment of the backrest for different type of height, you have to screw off the nuts positioned over the four different bolts as it is possible to see in Figure 15.

To screw off the nuts, it is necessary a 8 mm open-end wrench.

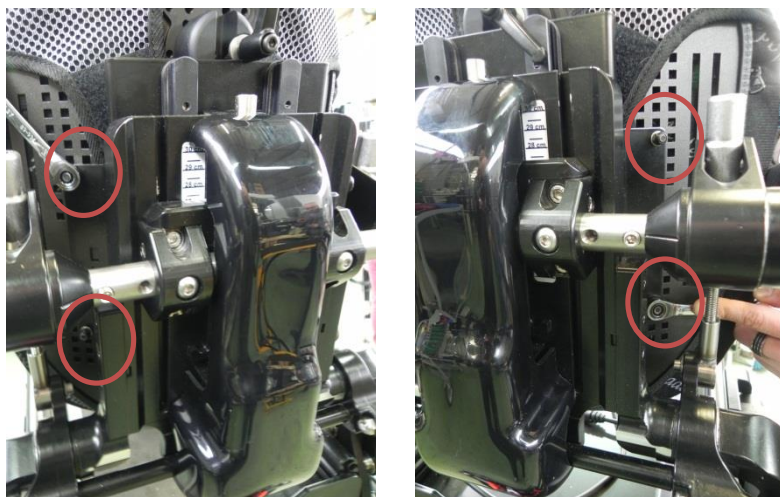


Figure 15

After screwed off the nuts it is possible to adjust in height the backrest.

To facilitate the mounting of the backrest up the support it may be useful to remove the upholstery of the backrest.



### 3.4 Seat depth

To adjust the seat depth, loosen the 6 bolts on the right side and the 3 bolts on the left side of the seat, as it is shown in Figure 16.



Figure 16

In this way you can move forward and backward the seat. When the chosen position is reached it is necessary to screw again the bolts.

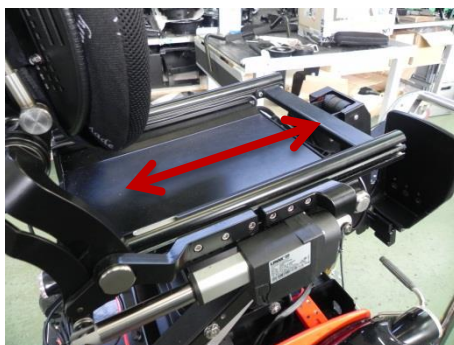


Figure 17

## 3.5 Drive profile

As default in the wheelchair they are saved some different drive profile for the use indoor and outdoor.

Additional profiles should be the result of customization for the individual user.

Use the button “PROFILE” of the joystick to change different types of profiles: they are sorted from the more indoor one to the more outdoor one.

For each profiles it is possible to change the speed.

### **INDOOR PROFILES**

When these profiles are activated most of the parameters of the wheelchair are cut off. For example the maximum speed and the acceleration are limited.

In this way the handling is really improved and there is more margin for mistake on the lever of the joystick.

In this way it is comfortable to use the wheelchair in indoor environments.

### **OUTDOOR PROFILES**

When these profiles are activated most of the parameters of the wheelchair are at the maximum value. For example the maximum speed and the acceleration are not limited.

In this way it is comfortable to use the wheelchair in outdoor environments.

However remember that the wheelchair EVO3 was designed for use mostly in indoor environments.
---

# 4 USE OF THE WHEELCHAIR

## 4.1 Rnet control console

The user interface is a joystick with a lever, buttons and a display.



Figure 18

For the use of joystick please refer to the following instructions.

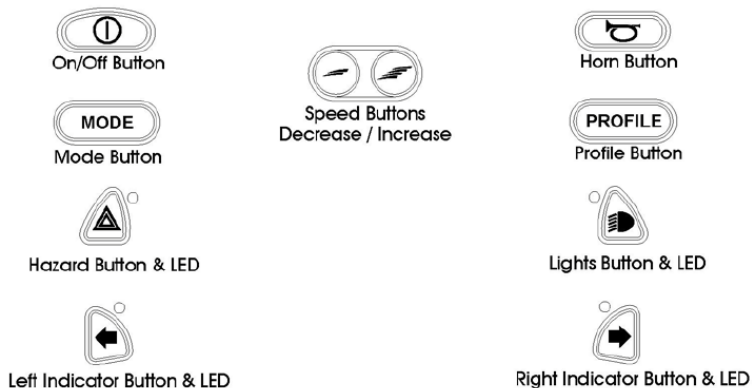


Figure 19

<b>On-Off Button</b>	This button turns on and off the wheelchair. Don't use this button to stop the wheelchair unless it is an emergency.
<b>Horn Button</b>	When this button is pressed the horn will sound
<b>Mode Button</b>	This button allow the user to navigate through the available function of the wheelchair (drive, actuators, preloaded movements)
<b>Profile Button</b>	This button allow the user to navigate through the available driving profiles for the wheelchair
<b>Speed Buttons</b>	These buttons decrease/increase the maximum speed setting
<b>Hazard Button + Led</b>	This button activates and deactivates the wheelchair's hazard lights. When activated the Led will flash.
<b>Lights Button + Led</b>	This button activates and deactivates the wheelchair's lights. When activated the Led will illuminate
<b>Left-Right Indicator Button + Led</b>	These buttons activates and deactivates the wheelchair's indicators. When activated the Led will flash

Use the controller of the joystick to get in gear. Its proportional functionality allows you to adjust speed and direction according to the intensity with which you act on the controller.

Releasing the lever of the controller automatically activates the electromagnetic brake that locks the wheels of the EVO3.



Figure 20

The installation menu allows the user to access a range of setting:

<b>Set Time</b>	A right joystick inclination will enter the menu for the clock adjustment
<b>Display Time</b>	Left and right the joystick to change between 12h, 24h, off
<b>Distance</b>	You can enter a screen where you can see the total distance driven using the wheelchair, the distance driven from last reset and you can reset this distance
<b>Backlight</b>	You can adjust the intensity of the LCD screen from 0 to 100 % in step of 10%
<b>Background</b>	You can choose the color of the background of the LCD screen between blue and white.
<b>Exit</b>	Exit this menu



## 4.2 Using the wheelchair

Do not drive your wheelchair for the first time without the presence of an assistant near to you.

At the beginning always use INDOOR profiles.

Do not let children use the wheelchair without supervision.

Do not drive your wheelchair under the influence of alcohol.

Some pathologies may limit your ability to drive your wheelchair safely. Be sure to consult with a doctor about your physical limitations. Avoid sudden stops or starts. To stop the wheelchair use the lever of the joystick and don't suddenly turn off the joystick unless it is an emergency.

Don't turn the wheelchair at high speed.

When driving downhill, select the slowest speed.

When driving uphill, try to keep moving at a stable speed.

Anyway avoid driving on ramps without any edge protection.

Do not drive up or down slopes with a slope greater than one indicated in the technical specifications of this manual.

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

- Lifting of the seat
- User position
- Use of a backpack
- Tilting of the seat



### **WARNING**

If your wheelchair begins to behave in an unexpected manner, immediately release the joystick to stop the wheelchair and turn it off.

## DEFAULT POSITION

Default position mean a safe position for the seat system of the wheelchair:

- Height of the seat = 0 cm
- Angle of seat = 0°
- Angle of legrest = 90°
- Angle of backrest = 90°

## Obstacle climbing

When facing with an obstacle it is recommended to set the position of the seat in the “default position”.

In order to riding over higher obstacles it is strongly recommended to take a run up of almost 500 mm when facing the obstacle first with castors.

## Dealing with uphill

When facing an uphill road it is recommended to set the position of the seat in the “default position”.

In order to best come over an uphill it is strongly recommended to use an outdoor profile at maximum speed with the wheelchair facing forward.



### WARNING

Stopping and starting the chair while moving up an incline makes the wheelchair more difficult to control



## Dealing with downhill

When facing a downhill road it is recommended to set the position of the seat in the “default position”.

In order to best come over a downhill it is strongly recommended to use an indoor profile at minimum speed with the wheelchair facing forward.



### WARNING

Don't drive up or down slopes with a gradient than indicated in section 5.4.



### WARNING

Don't drive up or down ramps that are not equipped with proper edge protection to prevent the wheelchair from falling down.



### WARNING

Don't drive down or up a hazardous incline if the surface is covered with snow, ice or the surface is uneven.

## Driving on side slopes

When facing with side slopes, always drive the wheelchair with great caution and at minimum speed

### **Turning with the wheelchair**

Don't turn with the wheelchair at high speed.

### **Driving in dark environments**

Driving in dark environments can only be done if the wheelchair has functioning lights



#### **DRIVE WITH SEAT SYSTEM NOT IN DEFAULT POSITION**

Operating seat lift, tilt, backrest recline and legrest elevation may change the center of gravity and increase the risk of tipping over.

**Always drive in low speed and only use these functions on level surface.**

### **Safety belt**

Evo3 wheelchair has the predisposition for a pelvic belt, that can be purchased as an accessory.

**Pelvic belt is only designed to position the user and not for any protection in case of accident**

### **Transfer into and out the wheelchair**

Before entering or leaving the wheelchair turn it OFF.

Users transfer is recommended with the assistance of an attendant.

**Don't use the joystick as a hanrhold or point of support.**

Don't use footrests or armrests as support.

### 4.3 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 acting on the specific button of the joystick, see Figure 20.

Then you can act on the release lever shown in Figure 21 and Figure 22.

When the brakes are released, it is not be possible to drive the wheelchair.



Figure 21

Figure 22



#### 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

## 4.4 Powered function

Depending on the configuration of your own EVO3 some of this function should be not available or different.



### WARNING

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

**Always drive in low speed and only use these functions on horizontal plane.**

### 4.4.1 Seat lift



Figure 23



Figure 24

A maximum lift of 30 cm allows the user to have more independence.

#### 4.4.2 Seat tilt



Figure 25

Adjusting the tilt of the wheelchair (45°) causes a better distribution of pressure on the body of the user.

This helps to reduce the incidence of all problems due to punctual localization of loads.



Figure 26

Moreover tilting helps you to avoid retention of fluids in the lower leg, make it easier to sit on the wheelchair.

### 4.4.3 Backrest biomechanical recline



Figure 27



Figure 28

Powered reclining of the backrest (range 90°-170°) helps to improve the posture. It is also useful to facilitate personal care. To best fit physiological movement as the backrest recline, it also slides down. The point of rotation of the backrest can't coincide with the human's anatomical point of rotation of the back. The biomechanical reclining is the best way to solve this and make the backrest and the headrest to remain in the same position in relation to the back.

#### 4.4.4 Legrest biomechanical elevation



Figure 29

A central mounted legrest takes up less space than separated legrest making it easier to move with the wheelchair.

In this way even lateral transfer will be easier.

The knee that is the point of rotation of the lower leg can't coincide with the point of rotation for the elevation of the footrest.



Figure 30

EVO3 legrest has an innovative way to compensate this and assure that the knee and the thighs remain firmly on the wheelchair.



## 4.5 Battery charging

To recharge the batteries use only the provided charger or one recommended by Neatech.it. **The manufacturer is not responsible for damage to person or property resulting from the use of non-original product.**

For a list of recommended charger please contact your vendor.

- Connect the power cord to a power supply 230 V.
- Connect the cable to the joystick as shown in Figure 31 and Figure 32.

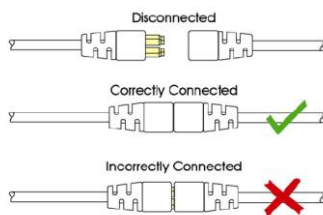


Figure 31



Figure 32

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



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**

Each battery is subject to a normal “self-discharge”, so batteries that are not used for long time will discharge by itself.

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 7-9 hours. If the charge duration was reduced (about 1 hour), that is a sign of failure: contact the vendor for a possible replacement of batteries.

Don't use the wheelchair during the charge.



#### **SHOCK HAZARD**

Check if charger data sheet matches with the network power (voltage, frequency). Only use the charger supplied with the wheelchair.



#### **RELEASE DANGER**

Any impact to the batteries could cause a loss of fluids. Pay attention



#### **ENVIRONMENTAL HAZARD**

It is recommended to properly recycle used batteries. Contact your local agency for waste disposal for more information.

## 4.6 Use as seat in motor vehicle

### Hooks for local travel (four-point tie-down)

The wheelchair was tested when used as a front-facing seat in a motor vehicle, meeting the requirements of ISO 7176-19



The way of access to the motor vehicle and handling within it is influenced by the size of the wheelchair.

It is recommended to use the pelvic seat belt along the front of the pelvic area, so that the angle of the belt is between  $30^\circ$  and  $75^\circ$  from the horizontal, as shown in Figure 33; a greater angle, always in the expected range, is preferable.

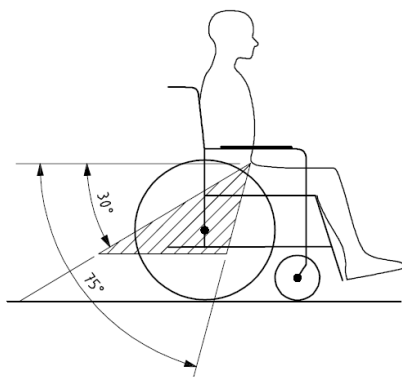


Figure 33

You should keep your seat belts as tight as possible to the body, but without affecting the comfort

**Make sure that the belts are not twisted during use.**

It is recommended to use both the pelvic belt and the shoulder belt to reduce the possibility of impact of the head and chest with vehicle components.

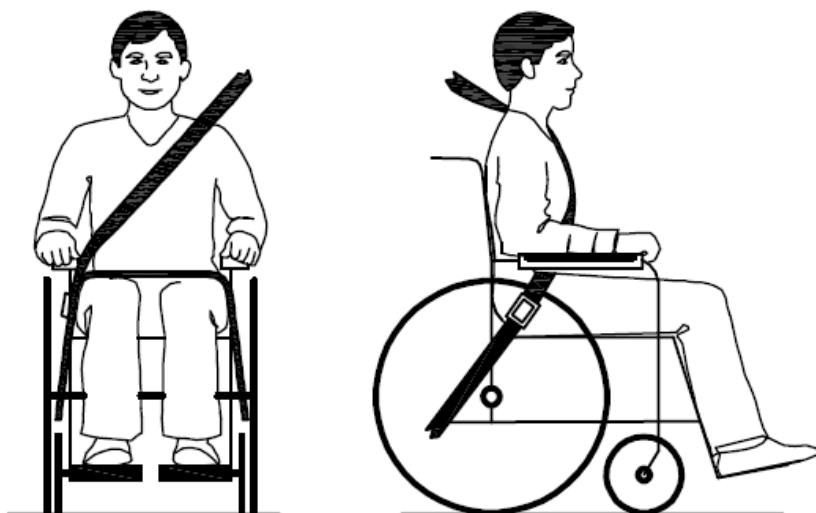


Figure 34

Remove and assure inside the vehicle any not essential accessory from the wheelchair in order to reduce the potential risk of injury.

**If the wheelchair has been involved in some type of collision between vehicles, it must be tested by the manufacturer before re-use.**

Don't make any alteration or tampering on point of safety or structural parts.

Use extreme care when positioning the wheelchair, so that the release button of the seat belt can not be pressed by its components in case of impact.

The hooks that can be used with the wheelchair are “Four-Point Tie-Down” type. The wheelchair will be hooked up inside the motor vehicle in 4 points: 2 front and 2 rear, as shown in Figure 35.

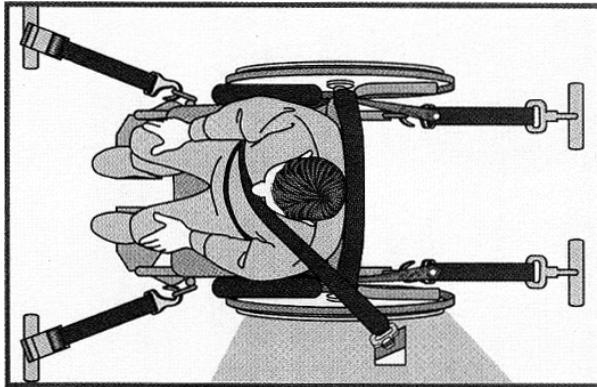


Figure 35



Don't use any postural systems in a motor vehicle unless they are conform to ISO 7176-19.

## 5 MAINTENANCE

Regular maintenance help to preserve functionality and safety of the Evo3. The lack or inadequacy of care and maintenance implies a limitation of the warranty from the manufacturer.

To clean the chair don't use any device to spray water at high pressure and in any case protect the control device from water and humidity. For plastic or metal parts use a soft cloth moistened with a non-aggressive detergent. For pads and covers use warm water and mild detergent.

Do not use chemical cleaners, solvents, acids, etc.

Tires can be cleaned with water and detergent.



### CAUTION

**All interventions on the wheelchair's systems must be performed by an authorized service center**



### SHOCK HAZARD

The main switch must always be switched off when batteries are replaced or you are doing any maintenance of the wheelchair. Always turn off the joystick before interrupting the power with the main switch.

## 5.1 Tire puncture

In case of tire puncture please see following instruction:

### CASTERS PUNCTURE

Disassemble the punctured caster unscrewing the bolt shown in Figure 36 by locking the nut (1) with an open-end wrench of 13 mm and unscrew the bolt (2) with an allen wrench of 6 mm.

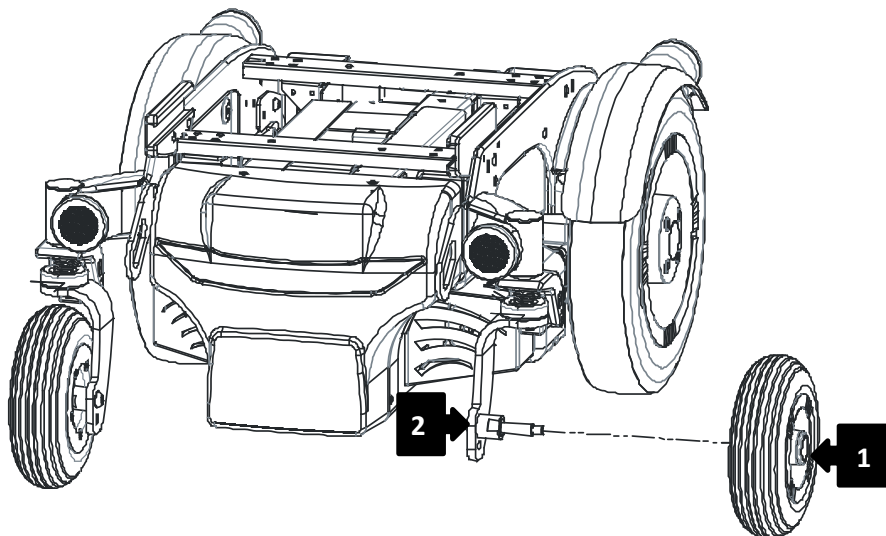


Figure 36

Contact an authorized service center to repair the punctured wheel. When the authorized service center returns to you a repaired wheel, mount it following the instructions in reverse order.

## TRACTION WHEELS PUNCTURE

Disassemble the punctured wheel unscrewing the four bolts indicated in Figure 37 with a 6 mm allen wrench.

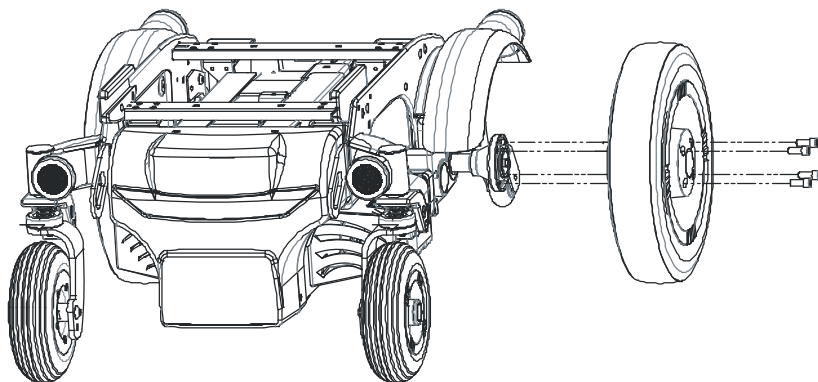


Figure 37

Pay attention when unscrewing the bolts and pulling away the wheel because in case of incorrect procedure it is possible to damage the hub motor.

Contact an authorized service center to repair the punctured wheel. When the authorized service center returns to you a repaired wheel, mount it following the instructions in reverse order.



## 5.2 Checks to be made on the wheelchair

CHECK	PERIOD	NOTE
<b>Battery charge level</b>	Before each utilize	Check the battery charge level on the indicator located on the joystick. (see Figure 20)
<b>Electric cables obstacle</b>	Before each utilize	Check that the wires do not interface with the movements of the wheelchair.
<b>Tightening of removable parts</b>	Before each utilize	Ensure all removable parts are securely locked in place.
<b>Tire pressure</b>	Weekly	Verify that the tire pressure is consistent with the given values:  <b><u>DRIVE WHEELS: 280 kPa</u></b> <b><u>CASTOR WHEELS: 250 kPa</u></b>  <b><u>Overfilling can cause a risk of explosion</u></b>
<b>Lights check</b>	Weekly	Verify that all lights and indicators work properly and are clean. <b>This point can apply only if you have lights on your wheelchair</b>
<b>Cleaning of wheelchair</b>	Monty	Clean the wheelchair and the upholstery according to the instructions of this manual
<b>Brake release lever check</b>	Monty	Check that the brake release is working properly
<b>Tire usury</b>	Monty	Check for the tire usury and if necessary contact an authorized service center for the replacement
<b>Checking tightness of chassis screws</b>	Annual	For this operation please contact an authorized service center

## 5.3 Troubleshooting

EVENT	POSSIBLE CAUSE	REMEDY
<b>The wheelchair can not be started</b>	Batteries discharged	Charge the batteries
	Joystick cable not connected or badly connected	Properly insert the joystick cable
	Main switch is set to OFF	Turn the main switch to ON. If the problem continues, it means that there are some electric problems. Please don't use your wheelchair and contact an authorized service center
<b>The wheelchair is turned on but the chair does not drive</b>	Batteries in charging	Wait that the batteries are completed charged
	Brake release lever in wrong position	Set properly the brake release lever as it is shown in section 4.3
<b>The wheelchair stops while driving</b>	Magneto – hydraulic protection switch has triggered	Turn the main switch to ON. If the problem continues, it means that there are some electric problems. Please don't use your wheelchair and contact a qualified technician
	Joystick cable not connected or badly connected	Properly insert the joystick cable
<b>The wheelchair can only be driven at low speed</b>	Seat lift is too high or anyway the position of the seat is such that the speed need to be limited for safety reasons	Adjust the position of the seat
<b>Wheelchair makes noise</b>	Release lever not properly inserted	Insert the release lever correctly as it is shown in section 4.3
<b>Tire puncture</b>	Tire puncture	See section 5.1
<b>Problems with the seat system</b>	Broken actuator or software fault	Contact an authorized service center

### 5.3.1 Rnet system fault

When the control system is triggered and the wheelchair can't be used, a diagnostic screen is displayed in the display of the joystick. First switch off the wheelchair and leave it off for some minutes. Then reboot the wheelchair. If the fault still continues, contact an authorized service center.

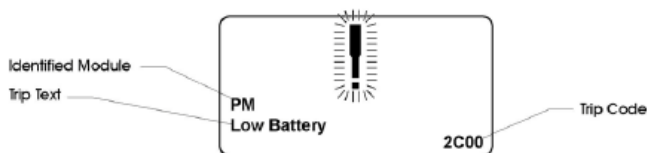


Figure 38

- Identified Module indicates the module that had the problem  
For example: PM= Power Module, JSM= Joystick, ISM= Light Module, CxSM= Seating Module
- The Trip Text is a brief description of the problem
- The Trip Code is a four digit code that allow an authorized service center to identify the problem

#### Joystick Error

If the joystick is moved from the central position during or immediately after turning on an error will be displayed, see Figure 39. To enable the wheelchair to drive again set the joystick in the central position and reboot the wheelchair.



Figure 39

**For any other need, please contact the manufacturer.**

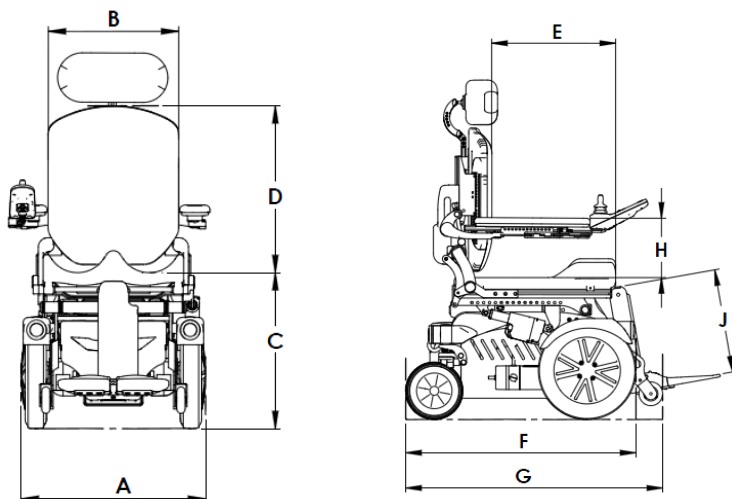
## 5.4 Specification

<b>General Feature</b>	<b>Value</b>
<b>Product code - name</b>	S042 – Evo3
<b>Class (EN 12184)</b>	Class B
<b>Enclosure class</b>	IPX4

<b>Performance Feature</b>	<b>Value</b>
<b>Maximum user weight</b>	80 kg
<b>Range</b>	25 km
<b>Obstacles climbing</b>	50 mm
<b>Maximum safe slope</b>	6°
<b>Static stability</b>	9°
<b>Maximum speed</b>	RWD: 10 km/h FWD: 6 km/h
<b>Batteries</b>	55Ah 12V Sealed Type
<b>Motors</b>	2x220W
<b>Main circuit breaker</b>	80 A
<b>Control force</b>	Joystick 3N
<b>Environmental temperature</b>	-10 °C - +50 °C
<b>Level of resistance to ignition</b>	The wheelchair is compliant with EN 12184:2014 point 9.5
<b>Expected lifetime</b>	5 years

<b>Dimensions</b>		<b>Value</b>
<b>Weight</b>		Maximum 125 kg
<b>Seat Width</b>	<b>Min-Max</b>	280-460 mm
<b>Seat Depth</b>	<b>Min-Max</b>	M1 340-420 mm M2 380-460 mm M3 420-500 mm M4 440-520 mm
<b>Seat Height without cushion</b>		410 mm
<b>Seat Height: with cushion</b>		470 mm
<b>Total Width chassis incl. seat</b>		M1 570 mm chassis - 480 mm including seat and armrests M2 570 mm chassis - 520 mm including seat and armrests M3 570 mm chassis - 560 mm including seat and armrests M4 570 mm chassis - 600 ,m including seat and armrests
<b>Total Length chassis incl. seat</b>		FWD 880 mm without footrest FWD 1120 mm con with footrest RWD 800 mm without footrest RWD 1090 mm con with footrest
<b>Clearance floor-chassis</b>		66 mm
<b>Minimum turning radius</b>		RWD 850 mm FWD 655 mm
<b>Tire pressure</b>		DRIVE WHEELS: 280 kPa CASTOR WHEELS: 250 kPa

## 5.5 Dimensions



### Dimensions

A	560 mm	D	M1 340-390 mm M2 390-440 mm M3 440-490 mm M4 440-490 mm	F	780 mm
B	M1 280-300 mm M2 320-340 mm M3 360-380 mm M4 400-420 mm	E	M1 340-420 mm M2 380-460 mm M3 420-500 mm M4 440-520 mm	G	870 mm
C	470 mm	H	200-300 mm	J	M1 300-380 mm M2 300-380 mm M3 380-440 mm M4 380-440 mm

## 5.6 Magneto hydraulic protection

Use the switch, see Figure 40 and Figure 41 to turn on and off the EVO3.

The switch also has the function of protecting the wheelchair from overloaded current and short circuit.

If the power chair suddenly stops, use the switch to turn on the chair. If the problem still continues, it means that there are some electric problems, please contact technical support.

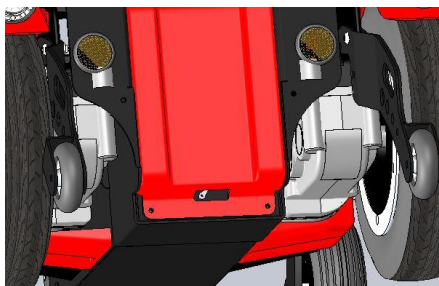


Figure 40

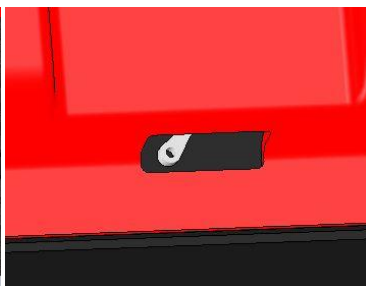


Figure 41

## 5.7 Spare part list

Code	Description	Type of service	Note
R042-001	Antitip castor	A	
R042-002	Backrest actuator	B	
R042-003	Legrest actuator	B	
R042-004	Front cover	A	
R042-005	Rh cover	B	
R042-006	Lh cover	B	
R042-007	Back cover	A	
R042-008	Legrest cover	A	
R042-009	Backrest cover	A	
R042-010	Traction wheel	B	
R042-011	Tire of traction wheel (with tube)	A	
R042-012	Castor wheel	B	
R042-013	Tire of castor wheel (with tube)	A	
R042-014	Rh motor	B	
R042-015	Lh motor	B	
R042-016	Armrest pad	A	
R042-017	Rh armrest (with bracket)	B	
R042-018	Lh armrest (with bracket)	B	
R042-019	Battery set	B	
R042-020	Charger	A	
R042-021	Front lights	B	
R042-022	Back lights	B	
R042-023	Joystick	A	
R042-024	Rh joystick support	B	



<b>R042-025</b>	Lh joystick support	B
<b>R042-026</b>	Power module	B
<b>R042-027</b>	Light module	B
<b>R042-028</b>	Seating module	B
<b>R042-029</b>	Advanced seating module	B
<b>R042-030</b>	Footplate	B
<b>R042-031</b>	Complete legrest	B
<b>R042-032</b>	Legrest belt	B
<b>R042-033</b>	Rnet cable 2.5 m	B
<b>R042-034</b>	Rnet cable 1.5 m	B
<b>R042-035</b>	Rnet cable 0.5 m	B
<b>R042-036</b>	Rnet cable 1.0 m	B
<b>R042-037</b>	Actuator cable	B
<b>R042-038</b>	Advanced seating module cable	B
<b>R042-039</b>	Seat cushion	A
<b>R042-040</b>	Backrest cushion	A

Type of service	Code
<b>A</b>	Parts that the final user can buy at an authorized service center and substitute by himself.
<b>B</b>	Parts that need the intervention of an authorized service center for the maintenance



Use of unapproved aftermarket accessories and parts may make the wheelchair unstable or uncontrollable

**For any other need, please contact the manufacturer.**

## 5.8 Instruction for replacing parts

### 5.8.1 Antitip castor

Unscrew the screw indicated in Figure 42 using a PH2 star head screwdriver positioned from the internal side of the castor. Remove the castor.

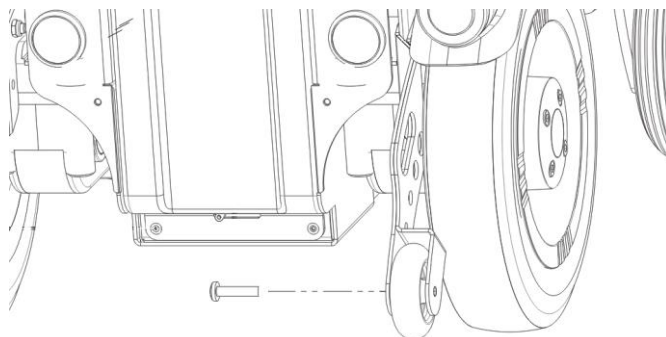
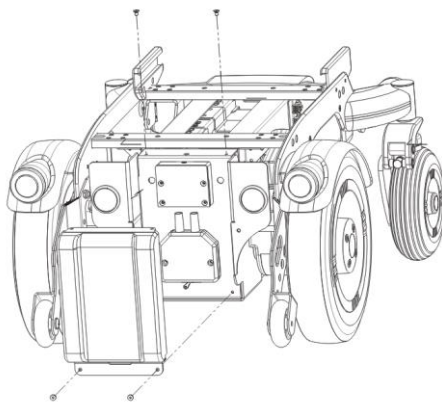


Figure 42

To mount the new part screw again the screw using the same tool still positioned from the internal side of the castor.

## 5.8.2 Front cover

Unscrew the screws indicated in Figure 43 and remove the cover. For this operation use a 4 mm allen wrench.



**Figure 43**

To mount the new part repeat the operations in reverse order.

### 5.8.3 Back cover

Unscrew the screws indicated in Figure 44 and remove the cover. For this operation use a 3 mm allen wrench.

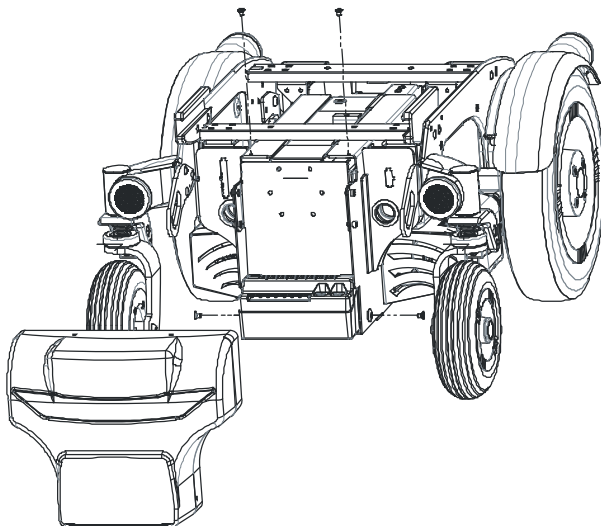


Figure 44

To mount the new part repeat the operations in reverse order.

### 5.8.4 Legrest cover

Take the two lower side of the legrest cover and pull them out. Then you have to take two higher side of the cover and pull them out. In this way you are able to take away the legrest cover

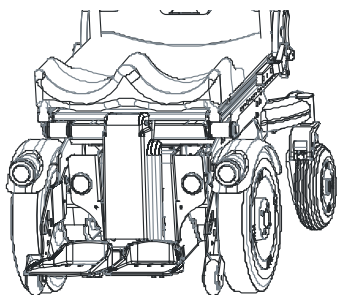


Figure 45

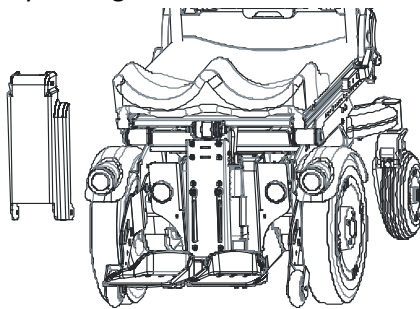


Figure 46

To mount the new part repeat the operations in reverse order.

### 5.8.5 Backrest cover

Remove the backrest cover first removing the lower part and then pulling it upward.

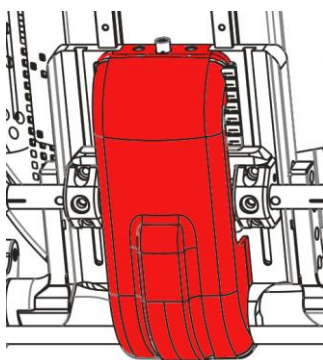


Figure 47

To mount the new part repeat the operations in reverse order.

## 5.8.6 Tire of traction (with tube)

Remove the screws (1) shown in Figure 48 with a 6 mm allen wrench and remove the wheel of traction. Then remove the screws (2) indicated in Figure 49 and take away the rim; after that it is possible to remove the tire with its tube.

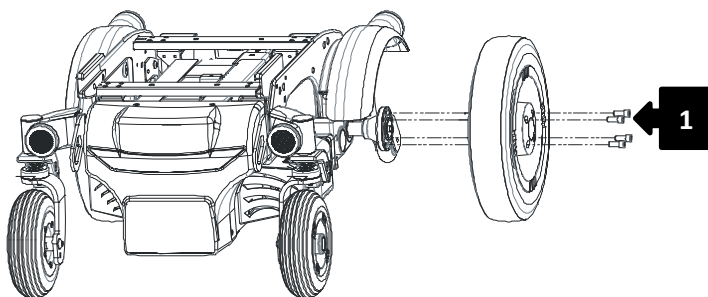


Figure 48

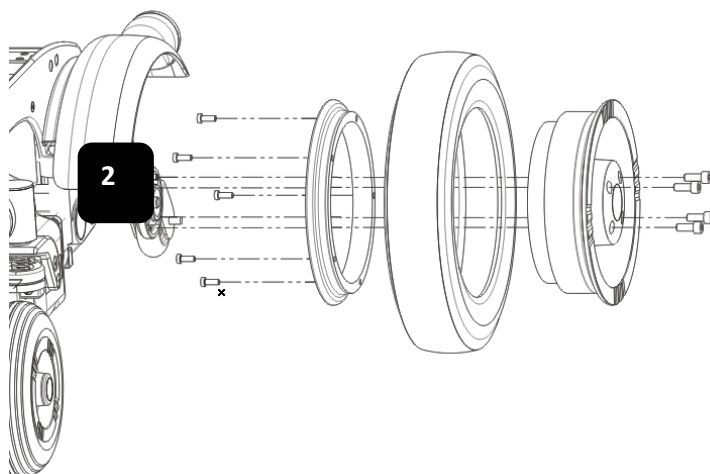


Figure 49

To mount the new part repeat the operations in reverse order.

### 5.8.7 Tire of castor wheel (with tube)

Disassemble the castor unscrewing the bolt shown in Figure 50 by locking the nut (1) with an open-end wrench of 13 mm and unscrew the bolt (2) with an allen wrench of 6 mm.

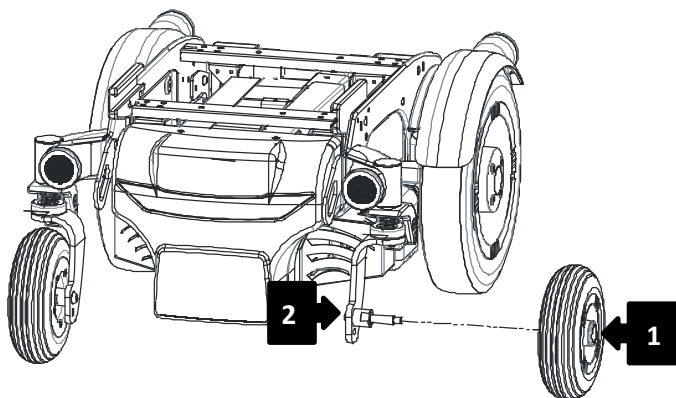


Figure 50

Remove the screws (1) shown in Figure 51 and take away the rim; after that it is possible to remove the tire with its tube.

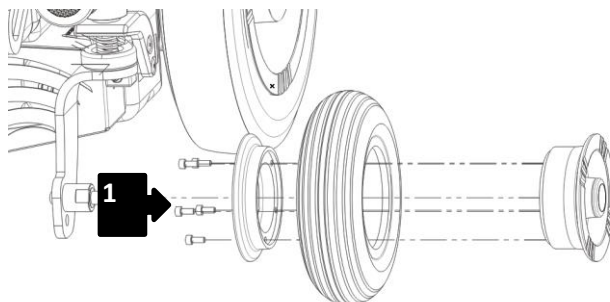


Figure 51

To mount the new part repeat the operations in reverse order.

### 5.8.8 Armrest pad

Unscrew the screws indicated in Figure 52 and substitute the armrest pad with a 4 mm allen wrench.

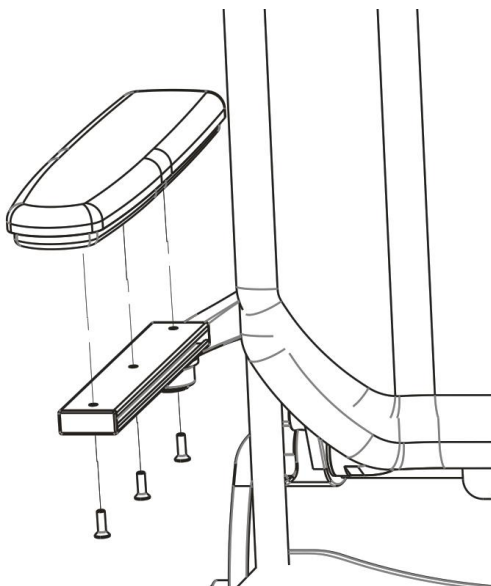


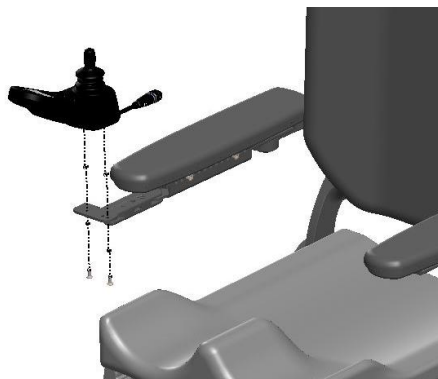
Figure 52

To mount the new part repeat the operations in reverse order.



### **5.8.9 Joystick**

Switch off the wheelchair using the power button on the joystick, see Figure 19. Switch off the main circuit breaker, see section 5.6. Unplug the joystick cable. Seeing Figure 53 unscrew the two screws below the joystick to remove it.



**Figure 53**

Substitute the joystick, screw the two screws and plug the cable again. After mounting the new joystick reboot the wheelchair. Ensure that the cable is properly connected.

### **5.8.10 Seat cushion**

Remove the seat cushion pulling it up. Place the new cushion on the straps and ensure it is correctly got it right

### **5.8.11 Backrest cushion**

Remove the backrest cushion pulling it forward. Place the new cushion on the straps and ensure it is correctly got it right

# 6 WARRANTY TERMS

Evo3 is a product globally guaranteed for 24 months with the exception of batteries that are guaranteed for six months. 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. The warranty expires in case of tampering, improper storage, unauthorized or incorrect maintenance.

## 6.1 SERIAL NUMBER

For any report or assistance request communicate the unique identification code on the chassis of each Evo3 as shown in Figure 54



Figure 54

## 6.2 INCIDENT REPORTING

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

**Neatech.it**

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

[www.neatech.it](http://www.neatech.it) – [info@neatech.it](mailto:info@neatech.it) - +39 081 555 1946

<b>MODEL:</b>	EVO3
<b>SERIAL NUMBER:</b>	
<b>YEAR OF CONSTRUCTION:</b>	
<b>MAXIMUM USER WEIGHT:</b>	
<b>MADE IN:</b>	

**USER MANUAL**

**EVO3**

**NEATECH**™

[www.neatech.it](http://www.neatech.it)