OFFCARR

ALTHEA

Instructions for Use

ALTHEA
ALTHEA.R
ALTHEA.M
ALTHEA PLUS
ALTHEA.R PLUS

ALTHEA.19
ALTHEA.19M
ALTHEA.19R
ALTHEA.19 PLUS
ALTHEA.19R PLUS

ARIEL
ARIEL.R
ARIEL PLUS
ARIEL.R PLUS

CE

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Instructions for Use

Althea
2024

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OFFCARR listens and responds to the customers' needs by engineering highly technical, innovative solutions aimed at reducing daily mobility problems, with special attention to product style and to improving quality of life. OFFCARR has a certified system for quality management following UNI EN ISO 9001 regulations and a Medical Device - Quality management system following UNI EN ISO 13485 regulations.
OFFCARR products comply with the European medical device regulation UE MDR 2017/745.

Before using or making adjustments on this device, read this instruction manual carefully.

Different versions of this manual, accessible for various types of visual disabilities are available on www.offcarr.com

Contact an authorized dealer or the manufacturer at the following address if clarification regarding the safety measures is required.

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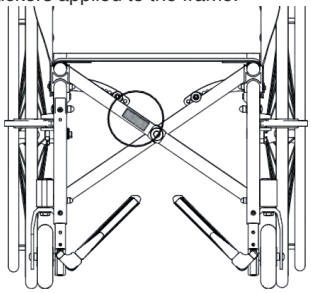
MADE IN ITALY

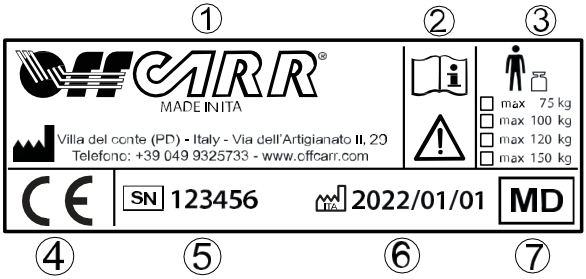
Distributor:

1. Labelling

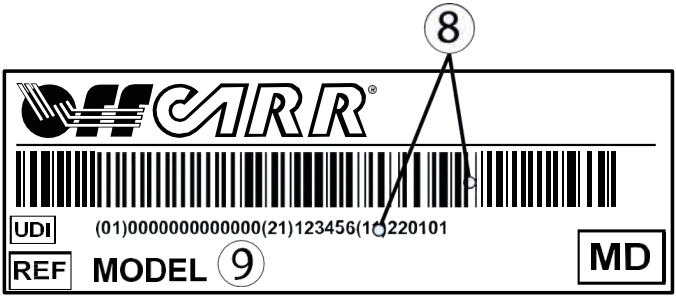
Each OFFCARR product is identified by an unique serial number. The serial number, along with other information is visible on the product stickers applied to the frame.



Stickers position on the product frame



Product sticker (applied on the frame)



UDI sticker (applied on the frame and on the instructions for use)

Information available from the product sticker:

1. Manufacturer
2. Read the instructions
3. Maximum load
4. CE symbol
5. Serial number
6. Manufacturing date
7. Medical device
8. UDI number
9. Model

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1.1. Symbols description

Please read all instructions before using the device. Read all Cautions and Warnings carefully.

European Conformity - The symbol denotes conformity to European standards.

WARNING: Read carefully and follow the indications.

NOTE: Auxiliary information.

MD **Medical Device**

UDI **UDI: Unique Device Identifier**

SN **Serial Number**

REF **Reference** - The symbol indicates the model of the product.

ITA The symbol indicates the country of origin.

The symbol indicates the distributor of the product.

The symbol indicates the manufacturer of the product.

The symbol indicates the maximum load permissible for the product.

The symbol denotes the attachment points for *crash tested* models.

The symbol denotes the importance of protecting the packaging and the product from harsh weather.

ALTO FRAGILE The symbol denotes that shipment must be performed with care and the package must always be kept and stored with the arrows pointing upwards.

2. Using the device

In order to move safely and properly use the device, it is always recommended to consult qualified personnel.

Hereafter are some suggestions for a correct use of the device, also aimed to maintain the characteristics of safety and durability over time:

- The brakes only have a parking purpose and should never be used as service brakes to slow down the device in motion.
- Do not lean too far forward, because by moving the centre of gravity, the device could tip-over.
- The device should be used only in accordance with what is proposed in this manual and not of objects in general.
- Always deal with slopes above 6° with assistance from an attendant. This limit is only approximate and it depends on the specific configuration of the device, especially on the position of the centre of gravity of the user-wheelchair combination.
- To ensure the efficiency of the brakes, maintain the tyres properly inflated and quarterly check the knurled locking pin wear.
- Never use the anti-tip devices, if available, as transit wheels.
- The armrests, if available, are not designed to lift the device.
- Avoid wheeling the device without the supervision of an attendant.
- Perform a general check of the device at least every three months, by checking tyre inflation, efficiency of the quick-release axles and brakes; lubricate the moving parts whenever necessary.
- If necessary, the upholstery can be washed with water at low temperature. Avoid wetting or submerging other parts of the device.
- Prolonged contact of the device with water or prolonged exposure to high humidity levels can cause unwanted oxidation of some metal parts and decay of the security features of the materials involved.
- Avoid contact with seawater and sand. In case of contact proceed to an immediate and accurate cleaning.
- Clean periodically the device using a damp cloth and avoid even partial immersion of the frame. Keeping the device clean enhances its efficiency.

Suspend the use of the product and notify OFFCARR in case of allergic reactions or if other similar problems are developed after contact with the device materials.

There is no apparent danger of causing injury to people during the operations of preparation and setup of the device if carried out according to the instructions provided in this manual.

Make sure the tyres are correctly inflated. Since the correct pressure differs between models, read the required pressure on the side of the tyre itself.

The pressure of the *Schwalbe Marathon Plus* tyres should always be kept from a minimum of 7 bar (700 kPa - 100 psi) to a maximum of 9 bar (900 kPa - 130 psi) to prevent damage to the covers themselves.

Keep the device away from heat sources, as not all the components are fireproof.

Upholstery materials comply with the EN 1021-2:2014 regulation.

The approximate lifespan of the device is 7 years, considering correct, normal daily use by a single user and frequent maintenance.

3. Warnings to reduce any risks associated with misuse of the device

It is forbidden to use the device or its parts in different ways from those described on this manual.

When opening or closing the wheelchair, pay attention to the position of the fingers (see 5.1, “Wheelchair opening”) to avoid being pinched and possibly injured between the frame and the crossbar tubes.

Do not use the brakes, if available, to slow down the device at any speed. They are only designed as parking devices.

Do not use the armrests, if available, to pick the device up or as clamping spots.

Never use the anti-tip devices, if available, as transit wheels. It is not their intended purpose.

It is suggested to frequently check the working order of the quick-release wheel devices, especially after each insertion.

The gap between wheels and side-guards or brakes could be lower than 25 mm. Be careful not to put your fingers between the wheels and side-guards or brakes to avoid injury.

With pneumatic tyres, it is recommended to reduce their pressure in the case of air transport, to avoid collateral effects of pressure variations due to altitude.

To maintain the device efficient and maintain its safety requirements it is recommended to uphold a regular upkeep schedule, as described by this manual.

Poor maintenance and improper use of the device can cause damage or injury to the user or assistant.

Any tampering with the components of the device, as well as voiding the warranty, could compromise its structural integrity and safety standards.

Contact OFFCARR in case the maximum user weight is exceeded at any point during the device’s lifespan.

Contact OFFCARR or your reseller to check for compatibility with accessories produced by a manufacturer different from OFFCARR.

Do not install on the device mechanical or electronic devices that are not approved by OFFCARR and do not modify its structure in any way. Any combination with other medical devices must be expressly authorized by OFFCARR. In case the combination has been approved, always refer to the respective manuals.

The device and its accessories are not suitable for use in hyperbaric chambers under any circumstances.

In case of prolonged exposure to the sun, the surface of the device can reach high temperatures.

To have more information about connection points and devices needed to secure the device during transport by car (exclusively valid for crash tested models) see 7, “Attachment of the wheelchair for use within a motor vehicle”

Before transferring to or from the device, activate the parking brakes. Always perform transfers with caution.

Some openings in the device may have angles lower than 75° (e.g. space between wheel spokes) or gaps smaller than 25 mm (e.g. gaps between spokes).

For technical and aesthetic reasons the pushing handles may be placed at a height lower than 900 mm from the ground.

Headrests (optional) are not approved for use as headrests on moving vehicles.

The tip assist pedal and anti-tip devices are optional accessories that must be requested when ordering the device.

Do not exceed the weight limit of the devices even temporarily. For example, do not perform activities such as weightlifting on the devices.

4. Product presentation

4.1. ALTHEA, ALTHEA.R, ALTHEA.M, ALTHEA PLUS, ALTHEA.R PLUS, ALTHEA.19, ALTHEA.19R, ALTHEA.19M, ALTHEA.19 PLUS, ALTHEA.19R PLUS, ARIEL, ARIEL.R, ARIEL PLUS, ARIEL.R PLUS

The wheelchairs of the ALTHEA line are non invasive medical device, specifically designed to reduce and counterbalance a physical handicap. This wheelchair is manually propelled on the back wheels, it has many setups and a wide range of accessories that meet any customer need.
ALTHEA are non-invasive medical devices specifically designed to reduce and counterbalance motor impairments in the medium and long-term.
This wheelchair is manually propelled on the back wheels, it allows for many configurations and a wide range of accessories to meet the needs of users.
Only qualified operators must setup the device.

It is forbidden to use the device or its parts in different ways from those described in this manual.

4.1.1. Description

1. Rear frame
2. Crossbar
3. Seat
4. Pushing handles
5. Backrest
6. Rear wheel plate
7. Front frame
8. Front fork support plate
9. Front fork
10. Footrest
11. Footplate
12. Parking brakes
13. Castor wheel
14. Rear Wheel

All versions comply to the following standards:

- ISO 7176-8
- ISO 7176-16

ALTHEA, ALTHEA PLUS, ALTHEA.19, ALTHEA.19 PLUS, ARIEL and ARIEL PLUS also comply to:

- ISO 7176-19

The medical device ALTHEA line includes various models, all described in this manual. All models have these common features:

- Lightweight wheelchair
- Aluminium folding frame
- Depth adjustable frame up to +60 mm
- Multiple positions for rear wheels
- Tilt adjustable front fork support
- Different kind of side-guards and armrests
- Fixed or detachable footrests or elevating and detachable
- Single drive available

All models have double crossbar, except for some small measurement combination in ARIEL (and variants).

The following table shows the load limit for each model and the possibility of use as vehicle seat and the change in load limit:

Model	ALTHEA	ALTHEA.R	ALTHEA.M	ALTHEA PLUS	ALTHEA.R PLUS	ALTHEA.19	ALTHEA.19R	ALTHEA.19M	ALTHEA.19 PLUS	ALTHEA.19R PLUS	ARIEL	ARIEL.R	ARIEL PLUS	ARIEL.R PLUS
Max load (kg)	150	120	120	150	120	150	120	120	150	120	75	75	75	75
ISO 7176-19 CRASH TEST	**SI**	NO	NO	**SI**	NO	**SI**	NO	NO	**SI**	NO	**SI**	NO	**SI**	NO
Max load for use on vehicle (kg):	120			120		120			120		75		75	

4.1.2. ALTHEA Description

ALTHEA (base version): proposed with a basic selection and relative limitations of features compared to the overall design to facilitate the work of operators during configuration. Configuration intended dimensionally for adult users and without special features present on the other proposed versions.

4.1.3. ALTHEA.R (reclining) Description

ALTHEA.R (reclining): wheelchair set up with **reclining** backrest (90° to 140°). It shares all characteristics of the base model, except for the limitations imposed by the backrest.

4.1.4. ALTHEA.M (dampened) Description

ALTHEA.M (dampened): wheelchair set up with **dampened** backrest.

4.1.5. ALTHEA PLUS (width adjustable) Description

ALTHEA PLUS (width adjustable): wheelchair set up with adjustable width crossbar, offering the possibility to accommodate any evolution of expansion or reduction of the user. The adjustment only involves the crossbar, and requires selection of the desired width range in the order form.

4.1.6. ALTHEA.R PLUS (width adjustable and reclining) Description

ALTHEA.R PLUS (width adjustable and reclining): wheelchair set up with adjustable width crossbar and **reclining** backrest (90° to 140°). It shares all characteristics of the base model, except for the limitations imposed by the backrest, offering the possibility to accommodate any evolution of expansion or reduction of the user. The adjustment only involves the crossbar, and requires selection of the desired width range in the order form.

4.1.7. ALTHEA.19 (lowered) Description

ALTHEA.19 (lowered): a wheelchair with lowered frame. It shares all characteristics of the ALTHEA, except for the limitations imposed by the frame.

4.1.8. ALTHEA.19R (lowered and reclining) Description

lowered **ALTHEA.19R** (lowered and reclining): a wheelchair with lowered frame, designed for lower limbs propulsion and reclining backrest (90° to 132°). It shares all characteristics of the ALTHEA, except for the limitations imposed by the frame and the backrest.

4.1.9. ALTHEA.19M (lowered and dampened) Description

ALTHEA.19M (Lowered and dampened): a wheelchair with lowered frame, designed for lower limbs propulsion and dampened backrest, designed to compensate for rapid involuntary body movements. It shares all characteristics of ALTHEA, except for the limitations imposed by the frame and the backrest.

4.1.10. ALTHEA.19 PLUS (lowered and width adjustable) Description

ALTHEA.19 PLUS (lowered and width adjustable): wheelchair set up with adjustable width crossbar, offering the possibility to accommodate any evolution of expansion or reduction of the user. The adjustment only involves the crossbar, and requires selection of the desired width range in the order form.

4.1.11. ALTHEA.19R PLUS (lowered, width adjustable and reclining) Description

ALTHEA.19R PLUS (lowered, width adjustable and reclining): wheelchair set up with adjustable width crossbar and **reclining** backrest (90° to 140°). It shares all characteristics of the base model, except for the limitations imposed by the backrest, offering the possibility to accommodate any evolution of expansion or reduction of the user. The adjustment only involves the crossbar, and requires selection of the desired width range in the order form.

4.1.12. ARIEL Description

ARIEL: very versatile, adjustable wheelchair, maintaining the features of the ALTHEA, only available in children's measurements.

4.1.13. ARIEL.R Description

ARIEL.R (reclining): wheelchair set up with **reclining** backrest (90° to 140°). It shares all characteristics of the base model, except for the limitations imposed by the backrest.

4.1.14. ARIEL PLUS Description

ARIEL PLUS (width adjustable): wheelchair set up with adjustable width crossbar, offering the possibility to accommodate any evolution of expansion or reduction of the user. The adjustment only involves the crossbar, and requires selection of the desired width range in the order form.

4.1.15. ARIEL.R PLUS Description

ARIEL.R PLUS (width adjustable and reclining): wheelchair set up with adjustable width crossbar and **reclining** backrest (90° to 140°). It shares all characteristics of the base model, except for the limitations imposed by the backrest, offering the possibility to accommodate any evolution of expansion or reduction of the user. The adjustment only involves the crossbar, and requires selection of the desired width range in the order form.

4.1.16. ALTHEA measurements table

All measurements are in degrees (°) and millimetres (mm), the weight is expressed in kilograms (kg).

	Althea **Althea.19**	**Ariel**	**R**, **M** versions	**PLUS** versions	Reference values UNI EN 12183[1]
Seat angle (from horizontal)	0° ÷ 20°				
Backrest angle (from horizontal)	90° ÷ 110°		90° ÷ 140° (R) 90° ÷ 125° (M)	unvaried	
Leg angle (from seat)	90° - 68° (90° ÷ 5°[2])	90° - 60° (90° ÷ 5°[2])	unvaried		
Total width	max. 800	max. 570	unvaried		700
Total length	max. 1200 (max. 950[3]) (P50)	max. 1060 (max. 810[3]) (P36)	unvaried		1200
Total height[5]	max. 1140 (1120 for lowered frame)	max. 1020	unvaried		1200
Pivot turn width	max. 1650	max. 1150	unvaried		1300
Turn width	max. 1300	max. 1160	unvaried		1000
Weight	16[5]	13,5[6]	17,4 (**ALTHEA**)[5] 14,9 (**ARIEL**)[6]	16,8 (**ALTHEA**)[5] 14,3 (**ARIEL**)[6] 18,2 (**ALTHEA R** and **M** versions)[5] 15,1 (**ARIEL R** and **M** versions)[5]	

All measurements refer to a wheelchair in standard setup
The addition of accessories can modify the previously defined measurements
[1] Some of the measurements might exceed the reference value according to UNI EN 12183. In some circumstances, with some setups, the use of the provided emergency exits might not be straightforward or even possible
[2] With elevating footrests
[3] Without footrests
[4] Without headrest (headrest is always easily removed)
[5] Seat size 38x40. Weight is tied to the selected setup, accessories may change this figure
[6] Seat size 30x32. Weight is tied to the selected setup, accessories may change this figure

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4.1.17. Rear wheel and pushrim diameter

The table indicates diameter of rear wheels and relative pushrims.

Rear wheel diameter	Pushrim outer diameter (average)
12" (300 mm)	Without pushrim
20"	445 mm
22"	480 mm
24"	535 mm

4.1.18. Front wheel diameter

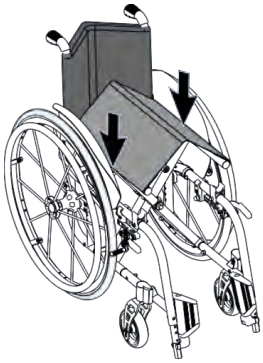
Front wheel options	
80 mm	solid
100 mm	solid
125 mm	solid
150 mm	solid or pneumatic
175 mm	solid or pneumatic

5. Preparation for use

The preparation for use of these devices must be performed by qualified personnel to ensure the specific suitability of the product for the user and the correct working order of all parts and accessories, as well as to provide clear instructions to the user.

5.1. Wheelchair opening

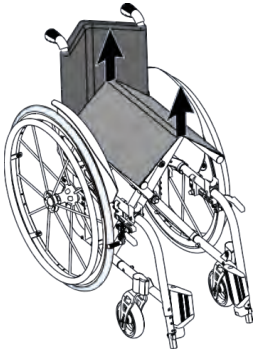
Apply pressure with the open palm over the sides of the seat, as shown on the drawing, until the seat is perfectly aligned to the frame



Place your hands only on the upper part of the seat support tubes without wrapping them to avoid crushing of the fingers during the opening operation

5.2. Wheelchair folding

If necessary, fold up the footplate(s) to allow the folding of the wheelchair frame
Pull the seat upholstery upwards with both hands as shown on the drawing



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5.3. Rear wheels release and re-engagement check

Verify proper operation of the quick-release axle devices before using the wheelchair. The wheelchair is usually shipped with the rear wheels already mounted.

- Make sure the brakes are released
- Holding down the quick-release button (in the centre of the hub), slide the wheel out of the bush
- Still holding down the button, reinsert the wheel into its seat and release the button, making sure it has returned to its home position. It should click audibly when in seat
- Check the working order of the engagement by trying to pull the wheel outward without pressing the button, making sure the wheel is correctly locked

For safety reasons it is important to repeat this test every time that for transport or maintenance reasons, the rear wheels are removed and reassembled to the frame.

5.4. Tyre pressure check

A periodical check of the tyre pressure helps to keep the device efficient and more comfortable

Verify the tyre pressure value according to the value marked on the tyre. Indicatively the maximum pressure for the most common wheels is:

- *7 to 9 bar (700÷900 kPa - 100÷130 psi)* for *Schwalbe Marathon Plus* wheels
- *7.5 bar (750 kPa - 110 psi)* for high pressure wheels
- *4.5 bar (450 kPa - 65 psi)* for 20", 22", 24" x 1.3/8" wheels
- *2.5 bar (250 kPa - 30 psi)* for pneumatic castor wheels

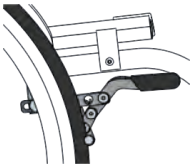
The pressure for the model Schwalbe Marathon Plus should always be kept from a minimum of ***7 bar (700 kPa - 100 psi)*** to a maximum of ***9 bar (900 kPa - 130 psi)*** to prevent damage to the lateral surface of the tyre itself.

With pneumatic tyres, it is recommended to reduce their pressure in the case of air transport, to avoid collateral effects of pressure variations due to altitude.

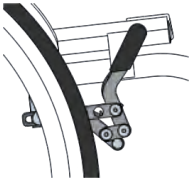
5.5. Brakes check

To check the correct functioning and the efficiency of the parking brakes:

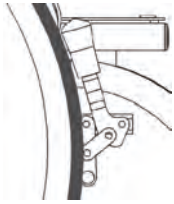
- activate the brakes (**ON** position)
- check if the wheels are locked in place



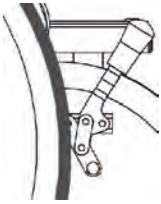
Push brake,
***ON** position*



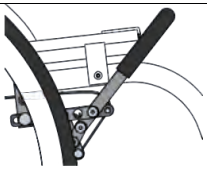
Push brake,
***OFF** position*



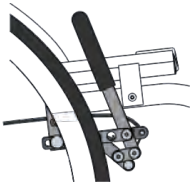
Pull brake,
***ON** position*



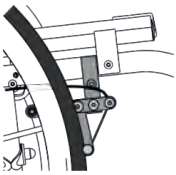
Pull brake,
***OFF** position*



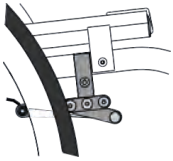
Single side brake,
lever side,
***ON** position*



Single side brake,
lever side,
***OFF** position*



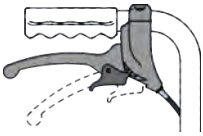
Single side brake,
opposite side,
***ON** position*



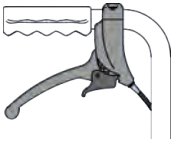
Single side brake,
opposite side,
***OFF** position*

Brakes in side guards,
***ON** position*

Brakes in side guards,
***OFF** position*



Drum brakes,
***ON** position*



Drum brakes,
***OFF** position*

Brake type availability is limited depending on the chosen configuration. Not all brake types are available for every setup.

The included brakes, except for the assistant-activated brakes (drum), must be used exclusively as parking brakes and never as service brakes.

To ensure the efficiency of the brakes it is necessary to maintain the proper tyre pressure and check the wear of the clamping elements frequently.

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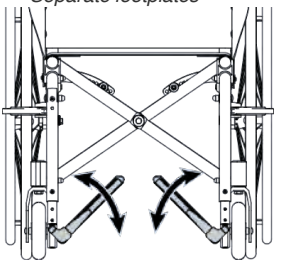
5.6. Footrest positioning

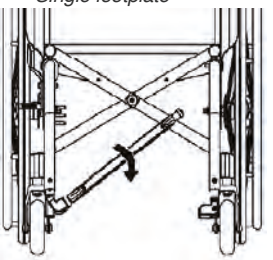
ALTHEA wheelchairs can be configured with detachable or not detachable footrests

According to the limits of setup, the footplate can be single or double (separate footplates). The footplates can be folded down once the wheelchair is open
The single footplate is available in manual or automatic version. The automatic version, which follows the opening/folding of the wheelchair, is available only for non-detachable footrests frames.
After opening the wheelchair, manually bring the footplates to the correct position by rotating them downward. In case of single footplate, pay special attention to the engagement of the footplate on the frame on the side opposite the fulcrum.

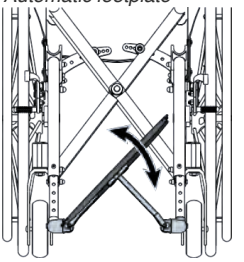
Separate footplates



Single footplate



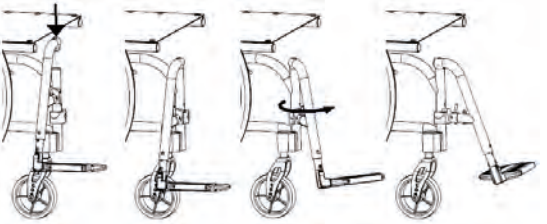
Automatic footplate



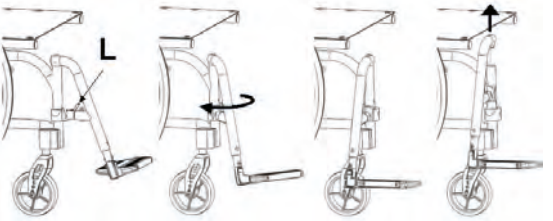
In the absence of weight, even with the wheelchair open, the automatic fooplate remains slightly raised on one side. This condition is absolutely normal and allows the automatic closing. A slight weight on the plate is enough to make it assume the horizontal position.

In case of removable footrests frame, the footrests are packed separately. They must be assembled before use.

To insert the footrest:
- open the wheelchair
- insert the footrests in their correct housing and rotate them starting from a 90° angle position from the frame (as shown) and rotate it inwards until the hooking mechanism snaps



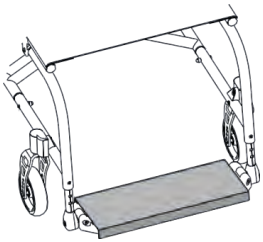
To extract the footrest:
- Press the lever **L** and rotate the footrest outwards (while maintaining the lever pressed)
- Remove the footrest from the hinge pin by pulling it upwards

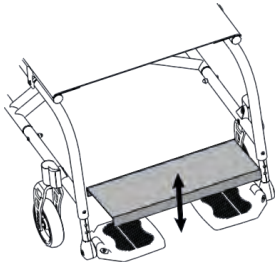


The detachable footrest can be rotated both inwards and outwards, by using the same mechanism

5.6.1. Footplate cover

For certain configurations, the wheelchair can be provided of a metal single plate that covers the plastic/aluminium footplates. The plate anchors to the footplates with light pressure, with no special locking mechanisms. To remove it, simply lift it up; to reinsert it, it must be placed over the footplates by applying slight pressure.





5.7. Accessories check

Some accessories required when setting up the wheelchair may be supplied separately. You must assemble them and check their operation before you start using the wheelchair.

5.8. Reclining backrest check (ALTHEA.R, ALTHEA.PLUS, ALTHEA.19R, ALTHEA.19R PLUS, ARIEL.R, ARIEL.R PLUS)

The reclining backrest should be checked with a load on the wheelchair (a seated person).

Backrest reclining must always be performed with activated parking brakes to ensure safety.

- Open the wheelchair.
- Connect the stretch bar. This accessory is necessary to keep the two sides of the backrest working together.
- If available, activate the anti-tip device.
- Activate the brakes.
- Load the wheelchair.
- While holding down the reclining lever (under one of the push handles) rotate the backrest to the rated tilt; it should recline correctly.
- Release the lever and make sure the chosen position is kept.
- Activate the lever again and return to vertical position.
- Verify that the new position (90° from the seat) is kept with the lever released.

If pressing the lever moves the entire wheelchair, there may not be enough weight to activate the mechanism, or the gas pistons are oversized. The minimum weight is about 20 kg.
The reclining backrest moves the centre of balance quickly. To limit the danger of falling backwards:

For safety reasons, the wheelchair must be configured with extended wheelplates; the rearmost hole must be used.

If available, always activate the anti-tip wheels when the backrest is reclined.

Do not use with stairlifts or similar devices if they connect directly or indirectly to the backrest

When overcoming an obstacle, such as a step, the accompanying person must be aware of the operation of the reclining backrest, and, if necessary, have someone assist them at the front.

Never press the backrest control lever while performing a transfer or while moving and always inform the user when reclining.

Always maintain the stretch bar connected and locked to ensure the stability of the backrest while the wheelchair is in use.

5.9. Dampened backrest check (ALTHEA.M and ALTHEA.19M)

The dampened backrest should be checked with a load on the wheelchair (a seated person).

The dampened backrest check must always be performed with parking brakes activated.

- Open the wheelchair.
- Connect the stretch bar. This accessory connects the hinges to ensure they don't move independently.
- If available, activate the anti-tip device.
- Activate the brakes.
- Load the wheelchair.
- When applying force on the backrest it should push back and return to its original position.

If, with the user seated, the backrest does not return to its initial position or is too hard to tilt, the gas springs must be replaced with more or less powerful ones that are suitable for correct posture.

For safety reasons, the wheelchair must be configured with extended wheelplates; the rearmost hole must be used.

If available, always activate the anti-tip wheels during use.

Do not use with stairlifts or similar devices if they connect directly or indirectly to the backrest

When overcoming an obstacle, such as a step, the accompanying person must be aware of the operation of the dampened backrest, and, if necessary, have someone assist them at the front.

Always maintain the stretch bar connected and locked to ensure the stability of the backrest while the wheelchair is in use.

6. Accessories

ALTHEA can be configured with different accessories, described in the following paragraphs.

6.1. Armrests

ALTHEA wheelchairs can be equipped (with some limitations) with:

- open Desk armrest (to be used with side-guards fixed to the frame)
- closed Desk armrest (with built in side-guards)
- closed Height adjustable Desk armrest
- open Sport armrest (to be used with side-guards fixed to the frame)
- closed Sport armrest (with built in side-guards)
- closed Height adjustable Sport armrest
- open **U** armrest (to be used with side-guards fixed to the frame)
- closed **U** armrest (with built in side-guards)
- closed Height adjustable **U** armrest
- tip-up height adjustable **L** armrest (to be used with side-guards fixed to the frame)

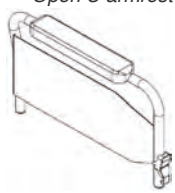
Open desk armrest

Open Sports armrest

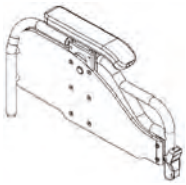
Open U armrest

Closed desk armrest

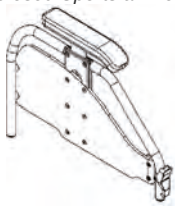
Closed Sports armrest



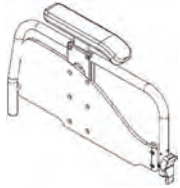
Closed U armrest



Desk armrest, height adjustable



Sports armrest, height adjustable



U armrest, height adjustable

***L** armrest, height adjustable*

Open or closed armrests (not height-adjustable) are available in two heights: 22 or 27 cm

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All armrests are supplied in a tip-up and removable version.
Exceptions are armrests for ALTHEA reclining and cushioned models, which are only removable and not foldable.
Conflicts caused by particular configurations may affect the choice of armrests. It is anyways always possible to disable armrest tilting.

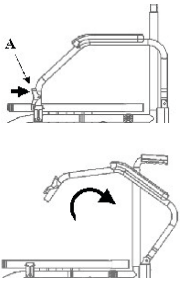
The armrests are not designed to lift the wheelchair, either with or without a user.

6.1.1. Tip-up armrest

According to configuration limitations, Desk, Sport and **U** model armrests can all be folded down.

To flip the armrests over:

- Unlock the armrest rotation by pressing lever **A** and rotate it backwards.
- The armrest can be rotated fully behind the backrest.

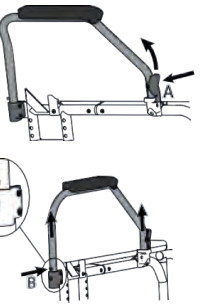


6.1.2. Detachable armrest

Desk, Sport and **U** armrests are always detachable.

To remove the armrests:

- Press lever **A** to unlock the rotation and move them backwards.
- Once the front is unlocked, press and hold button **B** on the rear block to pull the armrest out of its housing.

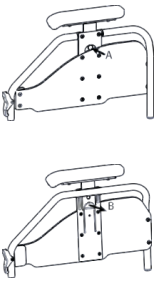


When reinserting the armrest on the rear support, make sure that the pin C is fully inserted on its guide. This guide prevents the armrest once opened from rotating sideways when it is not locked at the front.

6.1.3. Height adjustable armrest

Desk, Sport and **U** armrests are also available with height adjustable elbow-rest. To raise/lower the elbow-rest:

- While holding down button **A**, inside the armrest, move the armrest to the desired height.
- Release the button to lock the adjustment.
- Alternatively, you can pull out the hooking tab **B** slightly to unlock the movement of the elbow-rest.
- In either case, make sure the armrest is in a stable position before use. Apply light pressure until it clicks into place.

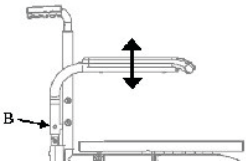


6.1.4. L type armrest, tip-up and height adjustable

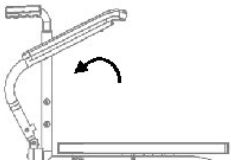
Unless specifically requested, the standard height of the armrest from the seat is 220 mm. However, it is also possible to increase or decrease it by 20 or 40 mm after the order has been placed.

To adjust the height of an **L** type armrest:

- Remove screw **B**.
- Select the desired height (the support insert is pre-drilled in 20 mm steps) and reinsert the previously removed screw **B**.
- Tighten screw **B** appropriately.



If provided by the selected configuration, it is possible to tilt the armrest backwards and extract it.



Generally on Althea models, the L-shaped armrest is chosen foldable and not removable. If pull-out is required, simply pull it upwards; there are no locking mechanisms. On Althea models the L-shaped armrest is never compatible with approval for car transport.

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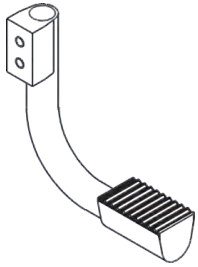
6.2. Tip assist pedal

The tip assist pedal is a useful device to aid an attendant when overcoming small steps or to facilitate movement over uneven terrain, gravel and cobblestones.

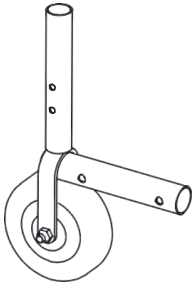
6.2.1. Curved rear frame tip assist pedal:

In frames configured with a curved rear, the anti-tip pedals are independent devices connected to the frame using the same holes available for attaching the rear wheel plates.
In these frames it is not possible to select both anti-tip and off-setting on the same side at the same time.



6.2.2. Straight rear frame unbalancing system

In frames configured with straight rear frame, the unbalancing pedal is integrated into the wheels for narrow passages support, so in case of aftersales addition request it is necessary to replace the complete support.
Under the same configurations, the unbalancing pedal is also used as a support for the anti-tip device.



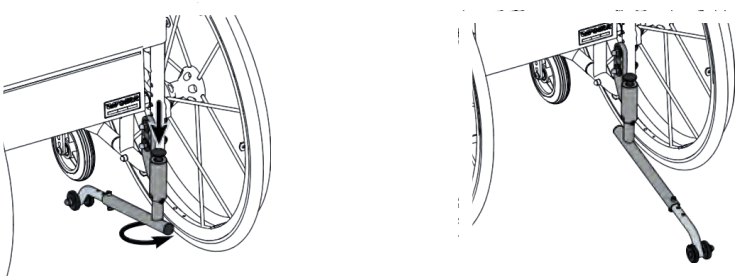
6.3. Anti-tip device

ALTHEA can be equipped with left and/or right anti-tip devices.

Never use the anti-tip devices as transit wheels. It is not their intended purpose.

6.3.1. Use of the revolving anti-tip device

When not in use the anti-tip device is positioned horizontally under the frame:

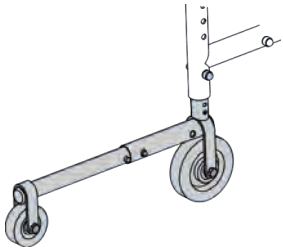


To activate the anti-tipping device, push the knob down to unlock it and rotate it to the working position. Always make sure that the locking position is reached after each activation or deactivation operation.

The anti-tip can be opened and closed only with the wheelchair fully opened.

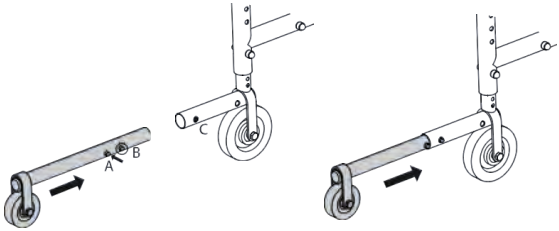
6.3.2. Fixed anti-tip device on straight rear frames

On frames with a straight rear the anti-tip device can be isolated or connected to narrow passage wheels as shown.



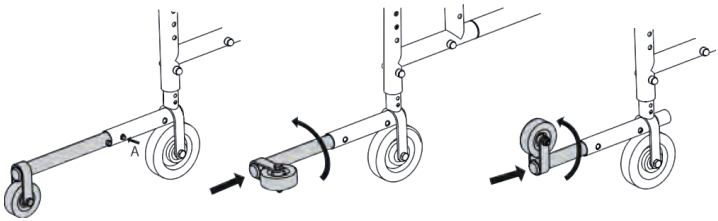
Activation of the anti-tip device

The anti-tip device is active when locked in the extended position with the AR-wheel facing downwards. Press button **A** and engage the anti-tip on the anti-tip holder until pin **B** clicks into reference hole **C**.



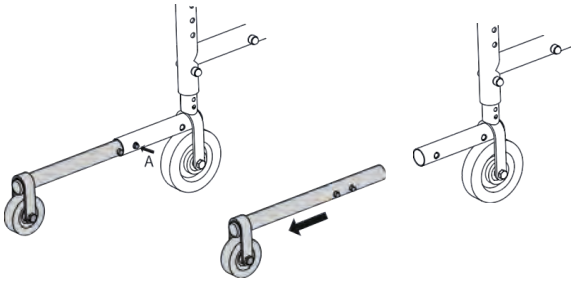
Anti-tip deactivation

- press button **A**
- rotate the telescopic tube until the small wheel is horizontal and slide it deep into a convenient position.
- position the wheel upwards; although not essential, it is recommended to look for one of the two locking positions



Removing anti-tip

- press button **A**
- while holding down, pull out the telescopic tube



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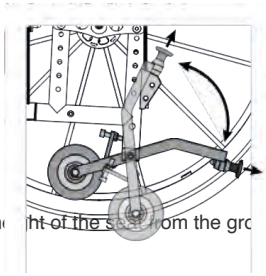
6.4. Lever-activated small wheels for narrow passages

Lever-operated narrow passage small wheels are devices that make it easier to lift the wheelchair so that the rear wheels can be pulled out and the width of the wheelchair reduced.
They can be activated by the attendant, and in some cases also by the user himself.
Once the narrow lever passages have been activated, make sure that the locking knob is properly engaged in its seat. To deactivate the wheels, pull the knob upwards so that it disengages from its seat and then pull the lever down.



This device has some configuration limitations mainly related to the rear height of the seat from the ground and the size of the push wheels.

⚠ Lever push wheels are incompatible with some chassis and rear wheel configurations.

⚠ Lever-mounted narrow passage wheels are incompatible with any imbalance pedals and anti-tip devices.

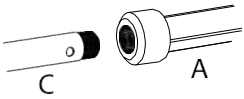
⚠ Lever-mounted narrow passage wheels are always incompatible with wheelchairs configured with a curved rear.

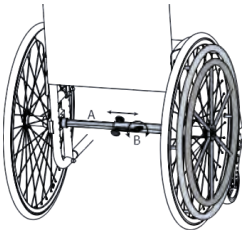
6.5. Single drive

The wheelchair could be configured with a single-sided double-pushing pushrim. The single-sided double pushrim system consists of a wheel that, in addition to having the normal pushing pushrim, has a second one with a smaller diameter; this second pushrim, via a connecting axle, transmits the rotational motion to the opposite wheel without the pushing rings. The single drive option is also applicable in after-market situations by replacing the rear wheel support plates with plates suitable for the new application.
Inserting the wheel connection axle:

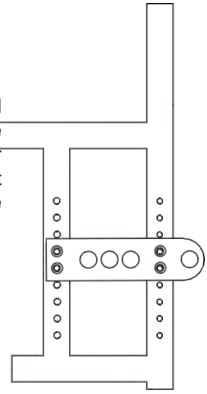
- open the wheelchair
- ensure that the wheels are properly fitted to the plates (see 5.3, “Rear wheels release and re-engagement check”)
- sit the user in the wheelchair
- insert the connecting axle **A** on the rear wheel axle pins **W**, making sure that the coupling of the toothed ends is complete
- move the wheelchair back and forth a few centimetres to allow for any settling
- secure the axle locking wing screw **B**

Before fixing the locking wing screw, it is recommended that, with the user seated in the wheelchair, a small movement of the wheelchair is carried out to allow for any settling in width and to reduce any play on the couplings between the connecting axle and the rear wheel studs. Single-wheel hubs have pins with a toothed end for precise connection to the connecting axle.



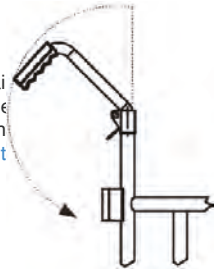


6.6. Extended wheel plates



Extended wheel base plates for the push wheels are designed to retract the rear wheel axle and thus increase the stability of the wheelchair under certain conditions. The retraction of the push wheel axle shifts the centre of gravity of the user and wheelchair complex forward, making the wheelchair more secure. At the same time, it makes it less agile to drive and somewhat more difficult to push and manoeuvre, both for the user and the attendant.

6.7. Hinged backrest



The only purpose of the articulated backrest is to reduce the height of the wheelchai for easier transport. The mounting height of the joints may vary depending on the configuration choices of the device. The joints on the backrest maintain the heigh adjustment feature of the backrest itself (see 14.14, “Backrest height adjustment pushing handles adjustment”)

Hinged backrest cannot be assembled with lateral supports nor stretch bar.

If the wheelchair is used with a stair lift, any hooks must rest on the fixed part of the backrest under the joint and must not under any circumstances rest on the articulated upper part of the backrest.

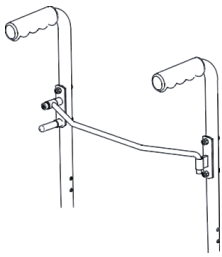
It is recommended to ensure that the backrest is properly latched when climbing steps or ascending/descending even slight inclines.

6.8. Stretch bar

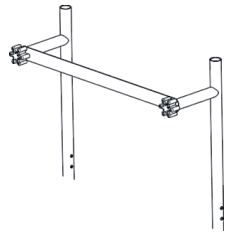
The stretch bar is a device applied to the backrest with the purpose of stabilising the geometry of the wheelchair in certain configurations. It is recommended when the height of the backrest exceeds 410 mm and becomes mandatory for certain combinations of wheelchair width and backrest height, and indispensable for configurations with reclining backrest or with absorbing springs.

Any technical incompatibilities due to the presence or absence of the stretch bar require revision or cancellation of the requested configuration.

The stretch bar must be disengaged when closing the wheelchair.



UNRESTRAINED STRETCH BAR
for regular backrests



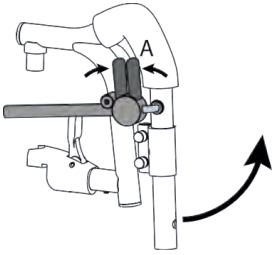
STRETCH BAR WITH CLAMPS
for reclining, hinged or dampened backrests or for use with headrests

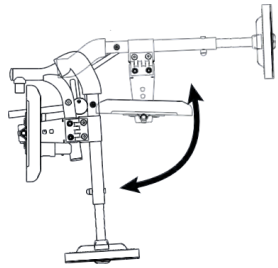
6.9. Elevating footrest

Removable and elevating footplates are available for the various ALTHEA versions.

For safety reasons, the elevating footplate must only be operated by the attendant.

For safety reasons, the operation to return the footplate from elevated to rest must be carried out by the attendant by simultaneously operating the movement activation lever **A** with one hand and with the other hand accompanying the descent of the footplate.





The footrest can be elevated to create a continuous plane with the seat: this position is unnatural for a user, so only use it if actually necessary.

Elevating footrests are always removable and when inserted increase the overall length of the frame.

6.10. Table

The choice of a table requires the presence of armrests in the wheelchair configuration. The tables, which all have cutouts, are available in different materials and sizes:

Plastic (grey):	one size, 600 mm width
Soft padded:	S size, 500 mm width M size, 600 mm width L size, 700 mm width
Transparent polycarbonate table:	S size, 500 mm width M size, 600 mm width L size, 700 mm width

The connections between table and armrest vary depending on the model of the table itself, and the type of armrests.

For each type of table, both central single and double attachments are available.
The single attachment is not recommended in the presence of height-adjustable armrests.

When ordering any spare parts, it is necessary to specify the serial number of the wheelchair you wish to work on, or provide the wheelchair model, and the type of armrests, elbow-rest and table used.

Table support

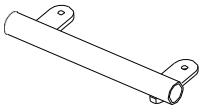
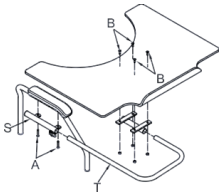
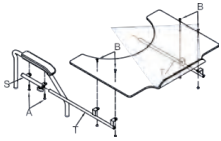


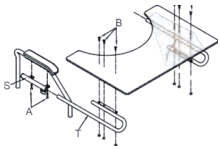
Table support with single centre attachment



Polycarbonate table with double attachment



Polycarbonate or plastic table with double attachment



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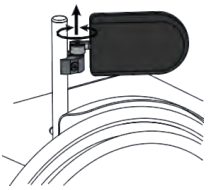
6.11. *Swing away* lateral supports

ALTHEA can be equipped with swing-away lateral supports.

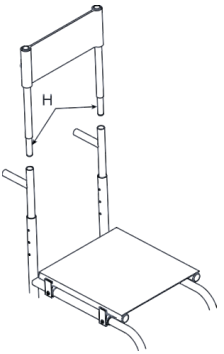
The clamp that attaches to the backrest tube can be rotated to adjust lateral position and angle of containment. The padded support can also be independently adjusted in depth.
The padded supports are available in 4 sizes.

To unlock and open the support, simply lift it vertically by 10mm and rotate it outwards.
To activate, turn the holder towards the user until it snaps into the lock when the preset position is reached.



6.12. Backrest extension

Two backrest extension versions are available: fixed and adjustable. The height of the backrest extension and its distance from the end of the backrest are defined when ordering; if the adjustable version is chosen, the distance between the two elements can also be varied over time.



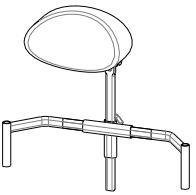
Adjusting the backrest extension:

- loosen the wing screws on the back of the headrest tubes **H**
- move the upholstery to the desired height
- refasten the wing screws **H**

6.13. Headrest

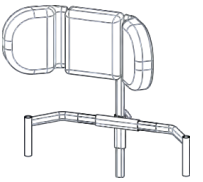
Different kind of headrest are available:

Shaped foam headrest

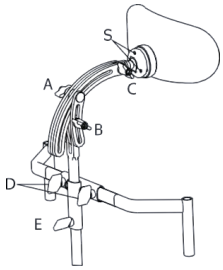


Form-fitting headrest

Lateral supports headrest



Adjustment of universal headrest attachment:



- The headrest attachment rails on the back tubes of the wheelchair can be adjusted in width by adjusting the wing screws **D**. Unless a certain asymmetry is expressly required, the vertical support must be centred in relation to the width of the wheelchair
- Adjust the height of the headrest by turning the wing screw **E**
- Adjust the position of the headrest depth by adjusting the wing screws **A** and **B**
- Adjust the inclination of the headrest by turning wing screw **C**
- Loosen the screws **S** to rotate the orbital joint for precise positioning of the headrest
- Once the desired position has been reached, fasten all screws of the device appropriately

All headrests can be removed from the wheelchair by pulling them upwards.

It is possible to equip the support with a locking mechanism, this works exactly like the quick-release axle. To release it, press the button (or buttons in case of a double lock) before pulling the whole support upwards.

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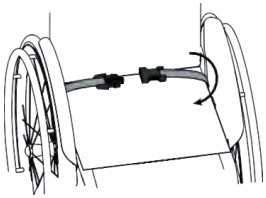
6.14. Pelvic band installation

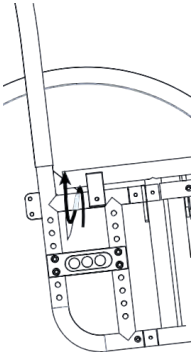
ALTHEA is designed to accommodate the installation of a pelvic band when necessary.

The 45° pelvic strap is an accessory that can be selected at the time of ordering or added later.

To install a pelvic band, wrap it around the frame passing between the backrest and the side-guard as shown in the picture 1, and connect its two flaps inferiorly through the provided velcroed areas highlighted in picture 2.



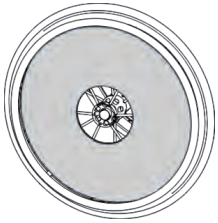
Picture 1: View of the installed pelvic band



Picture 2: Wrap the pelvic band around the tube as in the picture

6.15. Spokes guards

Spokes guards on the rear wheels serve as an esthetic feature as well as protection against accidental insertion of the user's fingers or hands between the spokes of the wheels. They can be attached to the spokes with velcro or clips depending on the specific model.



7. Attachment of the wheelchair for use within a motor vehicle

Where clearly indicated, the wheelchair models successfully passed the crash test according to the specifications of ISO 7176-19:2008 and can therefore be used safely in motor vehicles.

Some configurations, while available on order form, can prevent the wheelchair from being vehicle-compatible. Contact OFFCARR for further information.

It is mandatory that all of the approved wheelchair components are installed by authorized personnel following the correct technical specifications.

Whenever feasible, it is recommended to use the vehicle seat and its manufacturer- installed restraint systems, storing the wheelchair in the vehicle's cargo area or securing it in the passenger area.

When transporting an occupant the wheelchair must always face forward and be securely anchored to the vehicle.

The wheelchair has been tested only in a forward-facing orientation with the anthropomorphic test device (ATD) restrained by both pelvic and shoulder belts.

In order to safely transport a wheelchair user in a vehicle, the vehicle must be provided with a Wheelchair Tie-down and Occupant Restraint System (WTORS) conforming to ISO 10542 or SAE J2249 standards, appropriately installed according to the manufacturer specifications.

Both diagonal and lap belts must be used during transport to reduce the possibility, in the event of an accident, of impacts with other components inside the vehicle.

Anchor the wheelchair with extreme care and follow the instructions given by the manufacturer or authorized installer of the anchoring system closely. When in doubt, consult the instructions for use or contact the installer of such system.

Never transport an occupant sitting on a wheelchair unless the device is certified according to the requirements in ISO 7176-19:2008.

Wheelchair-mounted trays, if installed, should be removed and secured separately in the vehicle.

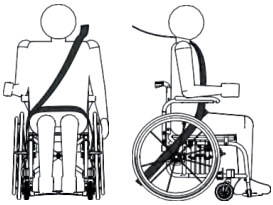
When possible, other auxiliary equipment must be either secured to the wheelchair or removed and secured in the vehicle.

Postural systems, if installed, should not be relied on for occupant restraint in a motor vehicle, unless labelled as being compliant with ISO 7176-19:2008.

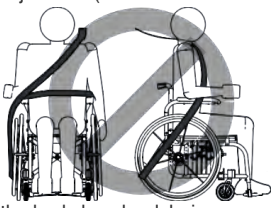
In order to securely connext the wheelchair to a vehicle, all the anchoring points must be used.

The anchoring points are indicated by the following label (according to ISO 7176-19 specifications)

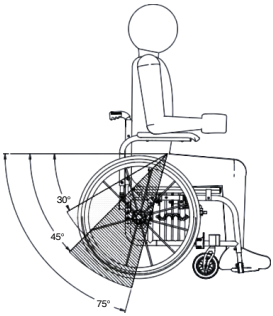
If the user is transported while sitting on the wheelchair, they must be wearing a seat belt. Any safety belts for vehicle transport must be installed by authorized vehicle conversion companies and must be serviced.



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 (as shown on the drawing).



Belt restraints must not be held away from the body by wheelchair components such as armrests or wheels (as shown on the drawing).



The pelvic belt restraint should be worn low across the front of the pelvis, so that the angle of the pelvic belt restraint is within the preferred zone of 30° to 75° to the horizontal (as shown on the drawing).

If possible, it is recommended to use the restraints with a steeper angle of 45° to 75° from the horizontal (as shown on the drawing).

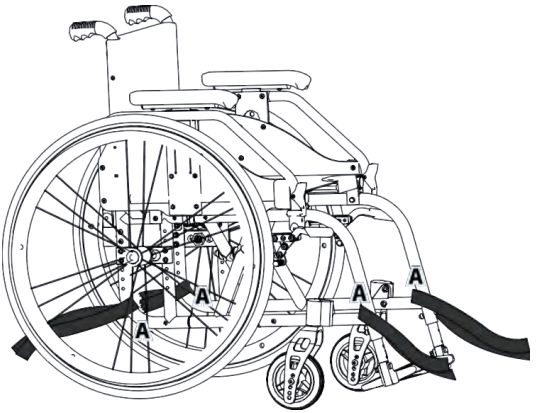
Belt restraints should be as tight as possible, consistently with user comfort, and should not be twisted during use.

Following involvement in any type of collision, the wheelchair must be inspected by an OFFCARR representative before any further use.

No alterations or substitutions can be made to the wheelchair securement points or to structural and frame parts or components without consulting OFFCARR.

When applying the occupant restraint, make sure to position the seatbelt buckle so that the release button is not in contact with the wheelchair components during transport or in case of a crash.

7.1. Attachment of the wheelchair for use within a motor vehicle: ALTHEA, ALTHEA.19, ARIEL



ALTHEA, ALTHEA.19 and ARIEL are provided with four (4) attachment points **A** for a standard 4-point floor tie-down system, as shown in the figure. When connecting the wheelchair to a vehicle, connect the attachment system to the four marked connection points. These are the most solid points of contact on the wheelchair, and the only connection points certified by the crash test.

8. Maintenance, inspections and controls

Weekly:

- Check the tyre pressure. Each tyre shows on the lateral bands the maximum pressure for which they are designed. A flat tyre affects the efficiency of brakes and the agility of the wheelchair.
- Check the efficiency of the quick-release axle (see 5.3, “Rear wheels release and re-engagement check”) and if necessary proceed with the lubrication of axle and bushes.
- Check the tension of the backrest upholstery to maintain a comfortable position. Quarterly:
- Check the tightness of all the devices' screws.
- Check the perpendicularity of the front fork support screws.
- Check the wear of the front wheels. Solid wheels might be worn to the point of affecting the overall wheelchair front setup. In this case adjust the front fork assembly or replace the wheels (see 8.2, “Replacing front wheels”).
- Check the efficiency of the bearings. Replace any stuck bearings if necessary (see 8.3, “Replacing rear wheel bearings”, 8.4, “Replacing front wheel bearings” and 8.5, “Replacing front fork holder bearings”).
- Check the efficiency of the brakes and, in case, adjust them. If the knurled pin has to be replaced, consult authorised personnel.
- Lubricate moving parts such as hinges, bearings and quick-release axles. It is suggested to use silicon oil, which is efficient and doesn’t smear.

⚠ Only choose original parts when purchasing accessories or spare parts.
Contact OFFCARR if you can’t find original spare parts on the market elsewhere.

⚠ It is recommended to refer only to authorized and qualified personnel to perform maintenance programs, adjustments, and to replace components or accessories.

8.1. Replacement of tyre and inner tube

8.1.1. Removing the tyre and inner tube

- Deflate the wheel
- Insert a special lever between the rim and the shoulder of the tyre so that when the lever is overturned, the side of the tyre comes out (fig. 1 and 2).
- Insert another lever 100mm away from the previous point and repeat the operation (fig.3).
- Slide the two levers along the circle to free the entire shoulder of the tyre.

- Extract the inner tube, starting from the side opposite the inflation valve (fig. 4).
- Once the inner tube has been extracted, it is easy to remove the tyre to replace one or both of them.

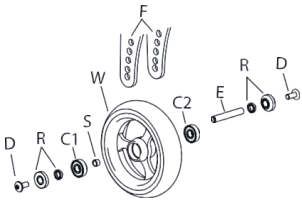
8.1.2. Assembling the inner tube and tyre

- Insert the (partially deflated) bladder into the tyre (fig. 5)
- Insert the chamber inflation valve into the hole on the rim.
- Insert one side of the tire entirely on the rim, paying attention to the direction of the tire tread pattern depending on whether the push wheel is right or left.
- Insert the opposite shoulder on the rim as well, starting from the point where the valve is positioned and continuing in both directions.
- Insert the last part of the shoulder with the help of the special levers by following the instructions represented in Fig. 3, Fig. 2 and Fig. 1 backwards.
- Inflate the wheel to the pressure indicated on the side of the tyre.

8.2. Replacing front wheels

If necessary, the front wheels can be replaced:

- Unscrew one of the screws **D** and remove the pin **E**, paying attention to the positioning of the spacers **R**
- Replace the wheel **W**
- Position the wheel hole in line with the selected hole on the fork **F**
- Insert the axle **E** respecting the original position of the spacers **R**
- Tighten the screw **D**



It is important to select the same position for both wheels. Asymmetrical positions produce instability.

Once the front wheel has been changed, it is essential to check or adjust the fork perpendicularity to the ground.

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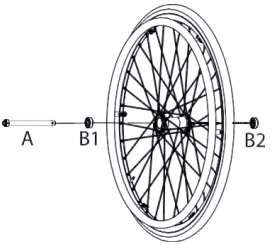
8.3. Replacing rear wheel bearings

Disassembly

- The bearings in the push wheels (**B1** and **B2**) are press-fit. To extract them it is necessary to push them from the inside with the aid of an extractor or a pin punch and a hammer.

Assembly

- Position the new bearing **B1** on the inside of the hub so that it is coaxial with the hub and apply pressure to seat it.
- Before positioning the second bearing **B2** insert the axle **A** to use it as a guide for the second bearing and to ensure coaxiality of the system.



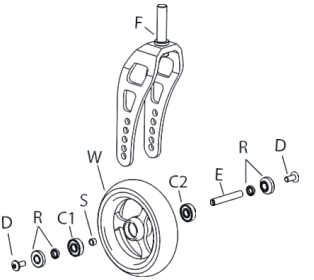
8.4. Replacing front wheel bearings

Disassembly

- The bearings in the front wheels (**C1** and **C2**) are press-fit. To extract them it is first necessary to remove the wheel **W** from the fork **F**, by unscrewing the screw **D** and removing the pin **E**, taking care of not losing the spacers **R**.
- Push the bearings from the inside out with the aid of an extractor or a pin punch and a hammer, making sure not to lose the spacer **S** placed inside the wheel.

Assembly

- Repeat the steps in the inverse order, making sure to put all spacers back where they were initially and ensuring bush coaxiality.



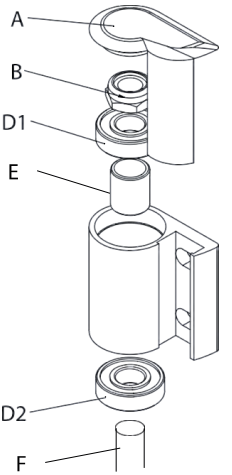
8.5. Replacing front fork holder bearings

Disassembly

- The bearings in the front fork holder (**D1** and **D2**) are press-fit. To extract them remove the press-fit cover **A** by sliding it upwards.
- Remove the fork **F** by loosening the **B** nut.
- Remove the bearings from the inside with the aid of an extractor or a pin punch and a hammer, paying attention no to lose the spacer **E** placed between the two bearings.

Assembly

- Place the new bearing **D2** on the lower side of the plate, applying pressure and making sure that it is evenly inserted (it must be coaxial with the hub otherwise it will not enter).
- Before positioning the bearing **D1** on the opposite side, it is necessary to insert the spacer **E** and the fork pin **F** on the already inserted bearing so that the pin itself becomes the guide for the bearing. In this way the coaxiality of the hub and the two bearings is ensured.
- Reposition and tighten the nut **B**, making sure that the fork is free to rotate.
- Replace the cover **A** and tighten it appropriately.



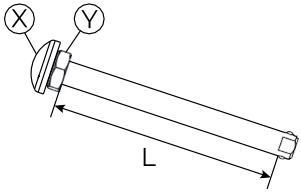
8.6. Quick extraction devices

8.6.1. Check

The quick extraction axles are shipped already checked and adjusted. However, it is recommended to periodically verify the effectiveness of their operation.

- Make sure that the **X** button is fully released once the wheel is correctly mounted.
- Check the effectiveness of the latch by trying to pull the wheel outward without pressing the button and make sure it does not slip off.

8.6.2. Adjustment



If necessary, it is possible to adjust the axle to eliminate any play between the wheel and the frame or to complete the release of the button once the wheel is inserted.

- If the quick-release button is not completely relaxed when the wheel is inserted in the frame, it is necessary to extend the useful length of the **L** axle by partially unscrewing the **Y** nut.
- If once the wheel has been inserted into the frame, there is play between the frame and the wheel itself, it is necessary to reduce the useful length of the **L** axis by partially tightening the **Y** nut.

The **Y** nut thread has a pitch of 1 mm, therefore the unscrewing or screwing of one turn involves the elongation or reduction of 1 mm. In case of adjustment, it is advisable to proceed with successive adjustments of ¼ of a turn at a time.

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9. Cleaning instruction

Cleaning and disinfection procedure have to be performed exclusively by qualified personnel.

Use appropriate eye/facial protection and protective gloves, during cleaning and disinfection procedure.

In case of contamination with blood or other body fluids, the device has to be cleaned first and then disinfected as follows:

Most of the time is convenient and more effective to remove the upholstery from the frame before to proceed with the cleaning and disinfection of either frame or upholstery.

FRAME

- Wash the device with lukewarm water and neutral detergent using a damp cloth to remove gross soiling
- Remove eventual detergent residuals only with lukewarm water
- Dry the device prior to further processing
- Visually inspect the cleanliness of the complete device
- Disinfect the device using 70-90% alcohol
- Be sure it is completely dry before proceeding with use

UPHOLSTERY

In case of the user remaining the same before and after the cleaning treatment:

- Wash, rinse, dry and disinfect the upholstery using the same process used for the frame
- Be sure the upholstery parts are completely dry before reassembling them

In case of different user after the cleaning treatment:

- The best course of action is to change the upholsteries with a new set

During the cleaning process the device should be also carefully inspected for damage, oxidation and faults in function. If any damage or faults are found, the involved components should be removed for service, repair or replacement.

All waste materials related to this process must be disposed in compliance with specific local applicable law.

10. Technical service

For any service request, please contact OFFCARR supplying the following indications:

1. Model
2. Serial number
3. Fault description
4. Any reference or order number, if available, recorded on the order form.
5. Dealer

Every component of the device is available as spare part.

11. Warranty terms

It is strongly advised to register the product on the website www.offcarr.com after delivery.

1. The device's frame is guaranteed for 3 (three) years from the delivery date.
2. The label showing the serial number, the manufacturer address and the CE symbol cannot be removed for any reason to preserve the warranty validity.
3. Parts subject to normal wear and tear are not covered by the warranty, unless specific wear is caused by evident manufacturing fault.
4. During the warranty period OFFCARR may proceed at its own discretion to change or to repair the faulty parts.
5. The warranty does not cover damage due to negligence, carelessness, misuse or by incorrect maintenance performed by non authorized personnel.
6. If any damage occurred during transport, the forwarder company is the only responsible. It is important to inform immediately both the forwarder company and, for information, OFFCARR.
7. The warranty does not cover injury or any other damage to people or goods connected to the device's malfunctioning.

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12. Packaging, shipment and delivery

All OFFCARR products are shipped in closed cardboard cases to protect them from bumps and dust.
The package includes the device configured according with the order form, this Instruction manual and a tool kit.
The device must be transported in trucks that protect it from atmospheric agents, as shown on the packaging box.
Upon receipt, check the box integrity: open the package, remove the device and check it for damages. In case of problems, note your remark on the waybill and immediately notify both the forwarder and, for information, OFFCARR.
Once these checks, mandatory to ensure the validity of the warranty, have been carried out, place again the device in its packing until it is used and store in a cool and dry place (between - 15 and + 50 °C and with a relative humidity lower than 80 %).
Do not place any objects over the packaging box.
The packaging materials follow the European directive 94/62/EC[13].

13. Correct disposal and recycling

OFFCARR products are made of aluminium alloy (Al 7020, Al 6082, Al 2017, Al 6061, Al 5754), titanium, steel, stainless steel, carbon fibre, polyurethane, epoxy resins, other composite materials.
Recycle or disposal of all materials must be in compliance with the local applicable laws.
Contact your dealer in case of doubt or for help when disposing the device.

14. Adjustments

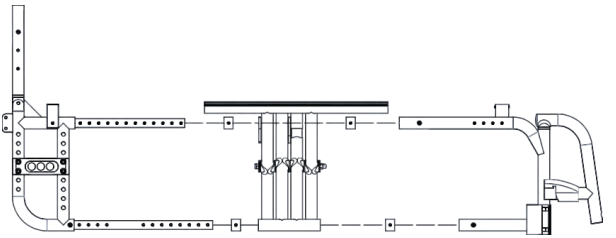
The wheelchair is shipped to the customer in the setup chosen on the order form.

Considering potential setup restrictions it is still possible to perform other adjustment to hone in the wheelchair to the specific user.

Please refer to authorized and qualified personnel to perform the adjustments described in this manual.

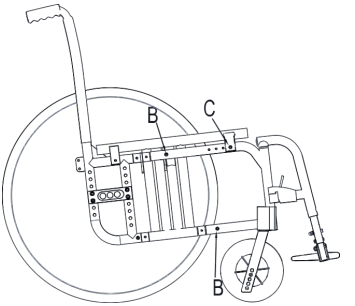
14.1. Frame and seat depth adjustment

The frame of ALTHEA model wheelchairs is adjustable in depth by 20 mm steps. The maximum adjustment is 60 mm.
The extension is adjusted by moving a pre-drilled telescopic insert that joins the front frame, crossbar and rear frame.



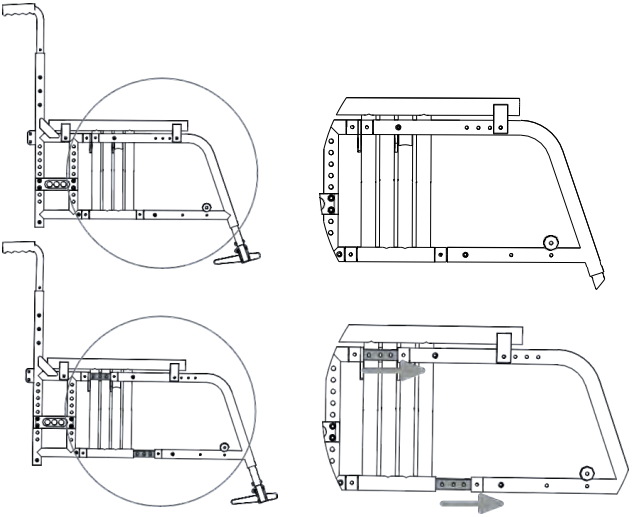
The seat depth can be varied in two ways:

- Forward displacement of the front frame (60 mm max.)
- Backward displacement of the rear frame (40 mm max.)



14.1.1. Adjusting the front frame forwards

- Remove the parking brakes
- remove the **B** screws connecting the front frame to the telescopic tube
- remove the **C** screws that secure the crossbar support to the frame
- change the depth of the frame by pulling the front element forward to the desired size, (the telescopic insert is pre-drilled every 20 mm)

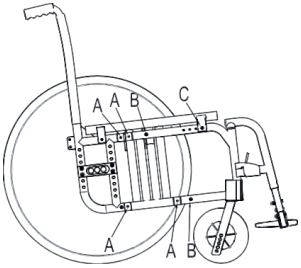


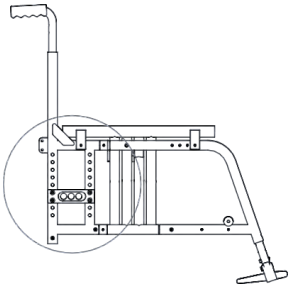
- refasten screws **A** and **B**
- the front crossbar support must be moved back the same distance as the frame was extended by
- reinsert and secure screws **C**.
- reinsert the rear wheels (see 5.3, “Rear wheels release and re-engagement check”)
- adjust the position of the brakes (see 14.10, “Brakes adjustment”)
- the adjustment must be carried out symmetrically for both sides of the wheelchair

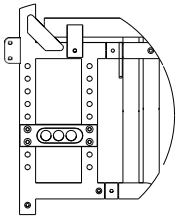
After adjusting the depth of the frame it is necessary to adjust the position of the brakes (see 14.10, “Brakes adjustment”).

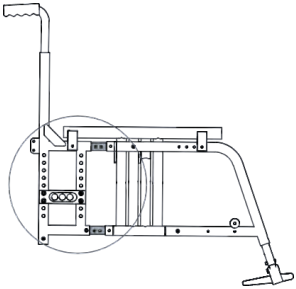
14.1.2. Moving the rear frame backwards

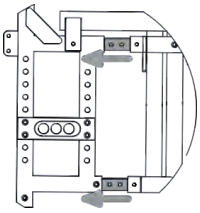
- Remove the parking brakes
- remove the screws **A** that secure the spacer to the frame
- remove the screws **B** connecting the front frame to the telescopic tube
- remove the screws **C** that secure the crossbar support to the frame
- leave the rear frame and the telescopic tube connected
- vary the depth of the seat by pulling back the rear frame and the telescopic tube, (the telescopic tube is pre-drilled every 20 mm)











- loosen screws **A** and **B**
- the front crossbar support must be moved back the same distance as the frame was extended by
- reposition and secure screws **B**.
- reinsert the rear wheels (see 5.3, “Rear wheels release and re-engagement check”)
- adjust the position of the brakes (see 14.10, “Brakes adjustment”)
- the operations must be carried out symmetrically for both sides of the wheelchair

After adjusting the depth of the frame it is necessary to adjust the position of the brakes (see 14.10, “Brakes adjustment”).

14.1.3. Seat upholstery depth adjustment

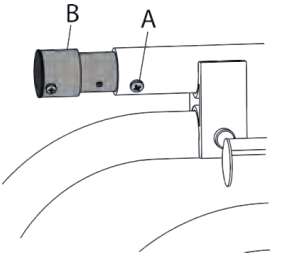
The upholstery extension seat adjustment can only be performed **after** the crossbar extension adjustment (see 14.2, “Seat Length Adjustment”)

The seat upholstery is made up of a rear a front section, connected together by an area with velcro strap.

- With the wheelchair fully open, separate the front section from the rear section by pulling the velcro strap upwards
- Close the wheelchair by a few centimetres to relieve tension
- Move the front section forward until it reaches the front stoppers (move the guide tubes together with the seat material)
- Open the wheelchair completely and join the two seat sections by pressing the sections together on the velcro straps

14.2. Seat Length Adjustment

Crossbar extension is generally performed only after extending the front frame (see 14.1.1, “Adjusting the front frame forwards”).



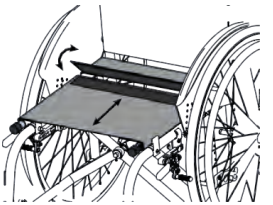
- Remove screw **A** securing the extension **B** to the crossbar
- Slide extension **B** forward by 20, 40, or 60 mm
- Secure screw **A**

14.3. Front Seat Cover Length Adjustment

Lengthening the seat cover can only be done after extending the crossbar (see 14.2, “Seat Length Adjustment”).

The seat cover consists of a front and a rear section, held together by a velcro area.

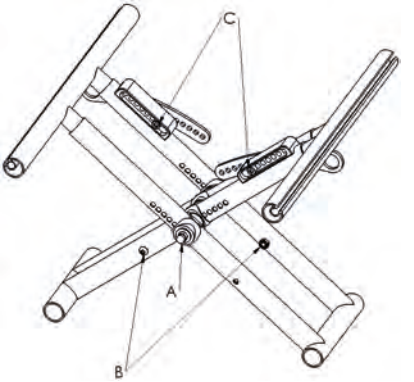
- With the wheelchair fully unfolded, separate the front section from the rear one by unfastening the velcro
- Close the wheelchair a few centimetres to relieve tension
- Move the front portion forward until it reaches the front caps (move the guide tubes along with the fabric)
- Fully open the wheelchair and join the two seat cover sections by pressing on the velcro area



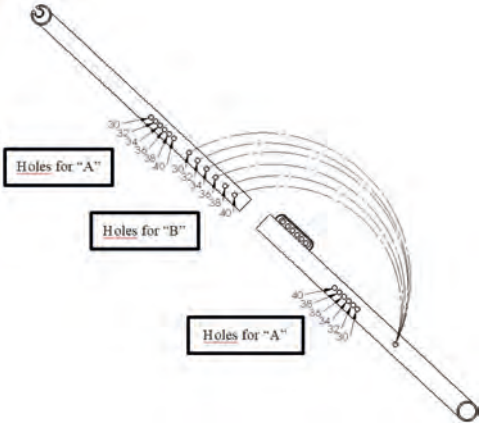
14.4. Width adjustment (PLUS versions)

Plus variants wheelchair models allow for an increase in width by adjusting the crossbar of the wheelchair. This adjustment is possible thanks to the telescopic tubes that make up the crossbar.
To adjust the width:

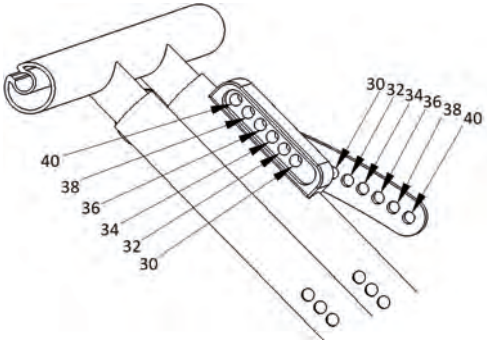
- Remove the seat upholstery;
- Remove the central screw **A**, screws **B**, and screws **C** that secure the hinge to the crossbar.
- Insert the inner tube (side with the seat, smaller diameter) into the outer tube (larger diameter).
- Using the following images, choose the corresponding hole with the same measurement as the inner and outer tube, and align them.
- Re-insert the central screw **A**.
- Using the same image, choose the holes corresponding to the desired width on the inner and outer tube for the screws **B**.
- Re-insert screws **B**.



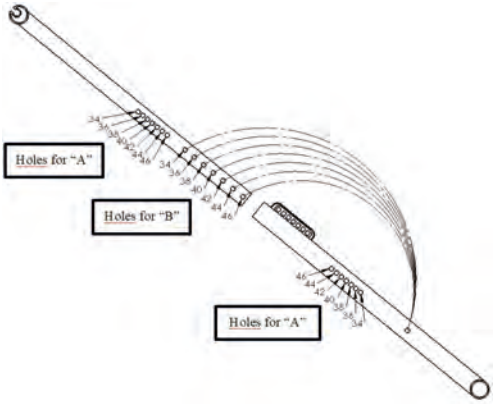
14.4.1. ALTHEA PLUS



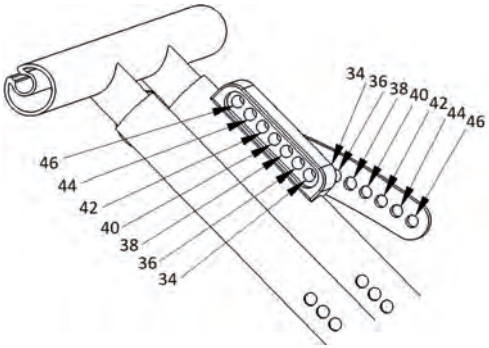
A *and* ***B*** *screw holes for Althea Plus, range 30–40*



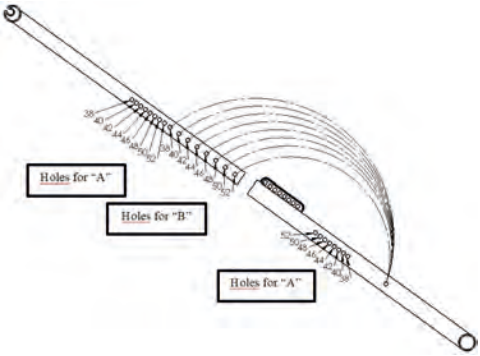
C *screw holes for Althea Plus, range 30–40*



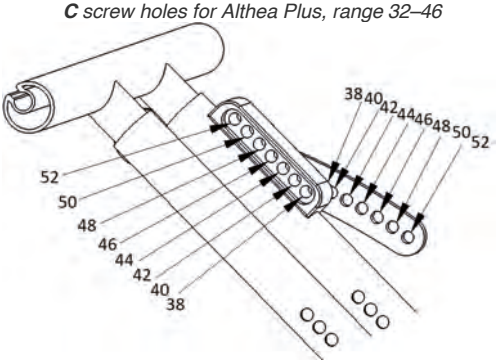
A *and* ***B*** *screw holes for Althea Plus, range 32–46*



C *screw holes for Althea Plus, range 32–46*

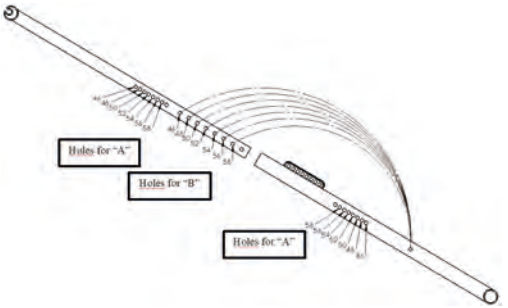


A *and* ***B*** *screw holes for Althea Plus, range 38–52*

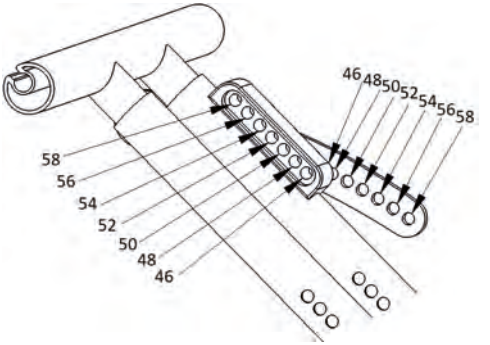


C *screw holes for Althea Plus, range 38–52*

ENG

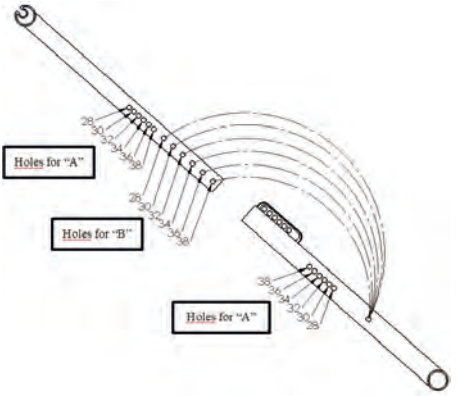


A *and* ***B*** *screw holes for Althea Plus, range 46–60*

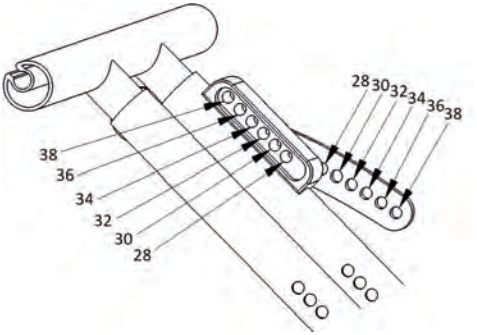


C *screw holes for Althea Plus, range 46–60*

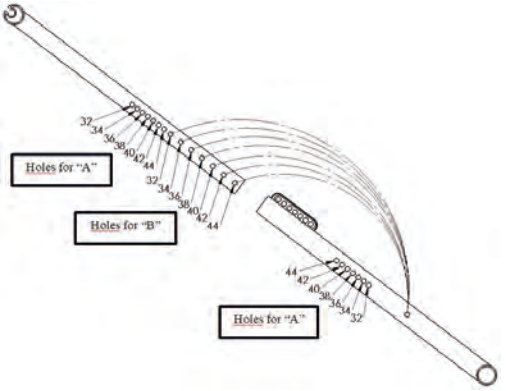
14.4.2. ALTHEA.19 PLUS



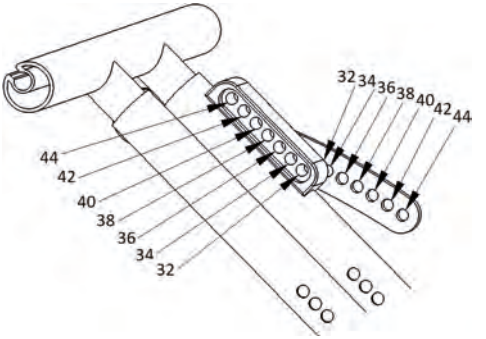
A *and* ***B*** *screw holes for Althea.19 Plus, range 28–38*



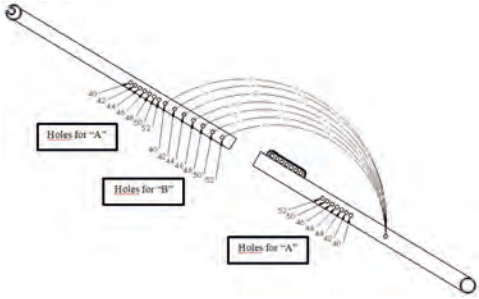
C *screw holes for Althea.19 Plus, range 28–38*



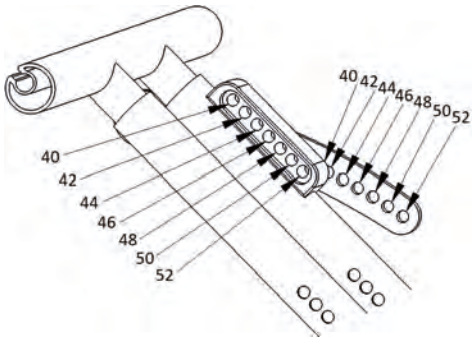
A *and* ***B*** *screw holes for Althea.19 Plus, range 32–44*



C *screw holes for Althea.19 Plus, range 32–44*

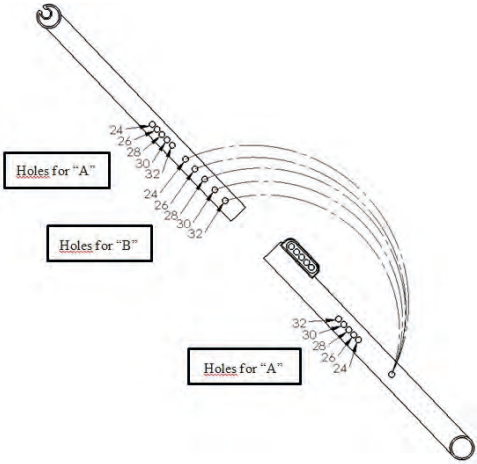


A *and* ***B*** *screw holes for Althea.19 Plus, range 40–52*

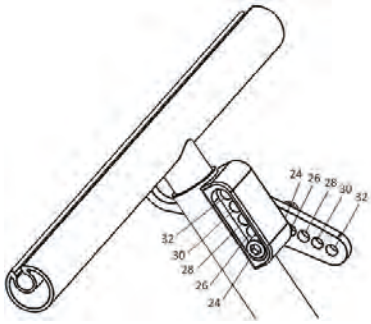


C *screw holes for Althea.19 Plus, range 40–52*

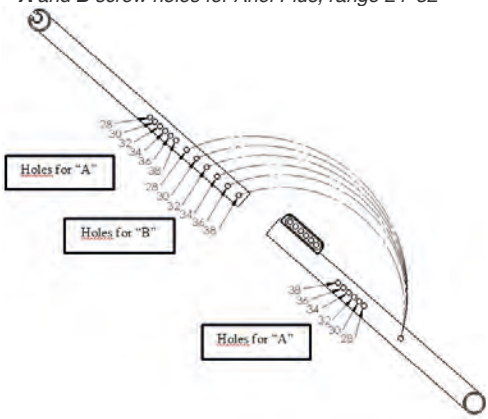
14.4.3. ARIEL PLUS



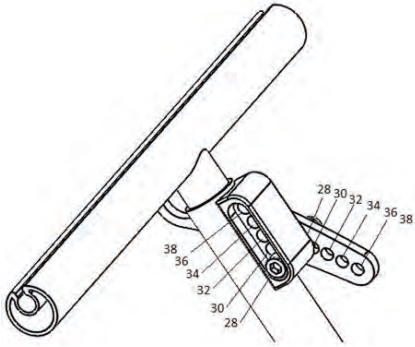
A *and* ***B*** *screw holes for Ariel Plus, range 24–32*



C *screw holes for Ariel Plus, range 24–32*



A *and* ***B*** *screw holes for Ariel Plus, range 28–38*

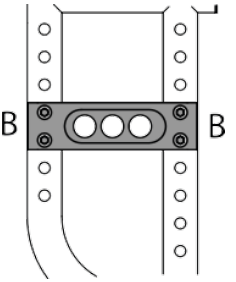


C *screw holes for Ariel Plus, range 28–38*

ENG

14.5. Rear seat height adjustment

- Pull out the rear wheel by pressing the quick-release button
- Lay the wheelchair on its side
- Unscrew and remove screws **B**
- Move the four cores (inside the tubes) to the desired new position
- Align the plates with the cores on the selected holes
- Re-insert and tighten the screws **B**



14.6. Gravity centre (COG) adjustment

The choice of the centre of gravity is always a compromise between agility and safety. With a very active configuration, the wheelchair is very agile in pushing but requires greater skill in control. A more cautious centre of gravity increases the stability of the device at the expense of its agility.
It is an individual choice linked to the general configuration of the device, the anatomy and disability of the user, and the usage environment; a choice that determines the experience of pushing and inevitably influences daily activities.
The opportunity to vary this parameter over time allows the device to accompany the user's motor development, optimizing their potential.

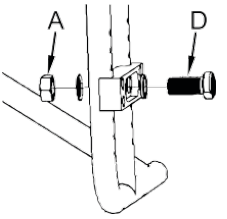
Consider that the further forward the hub is mounted, the more agile the wheelchair, while the further rearward the hub is mounted, the less active the set-up is to the benefit of safety; advancing the rear wheel with respect to the backrest axis, minimises the pushing effort and gives greater agility and smoothness to the wheelchair but reduces its safety margins against backward imbalance.

The advancement of the rear wheel in relation to the axis of the backrest minimises the pushing effort and gives the wheelchair greater agility and smoothness, but reduces its safety margins against backward imbalance, particularly on climbs.

If the distance between the hub centre and the projection of the backrest is reduced, the wheelchair is less active but assumes a more cautious stance.

Make sure you have chosen the same position for the wheel bushes on both sides of the frame. Asymmetrical combinations produce instability.

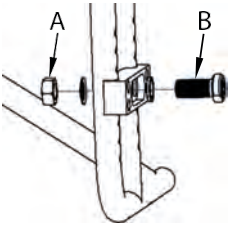
- Remove the rear wheel by pressing the quick-release button
- Remove the wheel bush **D** from the plate, taking care to maintain the order of the shims
- Refit the wheel bush **D** to one of the holes available on the plate, taking care to maintain the order of the shims and the locking washer
- reinsert the wheel, checking that it is correctly engaged and locked (see 5.3, "Rear wheels release and re-engagement check")
- the operations must be carried out symmetrically for both wheels



14.7. Rear wheels camber adjustment

Generally, ALTHEA models are supplied with 0° camber, in which case the introduction of a camber of 1 to 4° requires the replacement of the bearing plates and bushes with the desired camber. If a camber other than 0° has already been requested or planned when ordering, it is sufficient to replace the bushes with others of the desired camber.

Bearing plates for rear wheels with 0° camber accept 16 mm outer diameter bushes, while plates for cambered setups require 20 mm diameter bushes.



- remove the rear wheels (see 5.3, “Rear wheels release and re-engagement check”)
- unscrew and remove the **A** nut and **C** washer
- replace the **B** bush with a new one of the desired camber
- place the **B** bush with the camber in the correct direction and the two flat surfaces perpendicular to the ground
- Insert the **C** washer and **A** nut keeping it loose until a fine adjustment of the wheel camber has been performed.

Once changed the front wheels it is essential to adjust the front fork perpendicularity (see 14.9, “Front fork support plate perpendicularity adjustment”).

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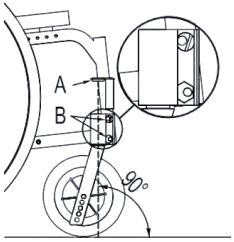
14.8. Front fork support plate perpendicularity adjustment

After making adjustments to the front height or replacing or repositioning the front wheels, the perpendicularity of the front fork plate, i.e. the perpendicularity of the fork pivot axis, must be checked and adjusted if necessary. This adjustment is necessary to achieve maximum steering feel and stability of the wheelchair.

- Remove the protective cover **A**
- Loosen the screws **B** that secure the plate
- Choose the most convenient position of the eccentric nuts until the plate is at right angles to the ground. (to reposition an eccentric nut, it is necessary to completely remove the bolt).
- Tighten the screws **B** appropriately.
- Replace the protective cover **A**.



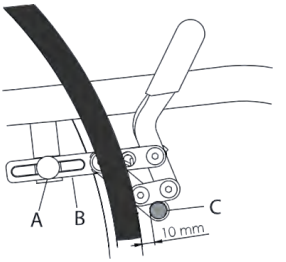
Should it prove impossible to achieve perpendicularity, it is advisable to choose the position that generates an angle immediately above 90° (as shown in the figure) in order to keep the wheelchair agile when running and changing direction.

The adjustment must be carried out symmetrically on both forks. It is important to check the symmetry carefully after each adjustment.

14.9. Brakes adjustment

With the exception of drum brakes, the brakes provided are only suitable for parking of the aid and not for reducing the running speed.

If the position of the rear wheel has been changed, the position of the brakes must be adjusted accordingly.
Wheelchairs can be equipped with pull, push, scissor or composite brakes.
To adjust the position of the brakes:



CLASSIC BRAKES (pull or push)

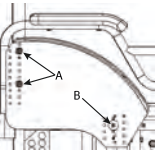
- Loosen screw **A** that secures the brake support to the frame
- Move the brake along the support **B** until the knurled pin **C** is about 10 mm away from the tyre
- While maintaining the pin **C** parallel to the axle tube, tighten screws **A**
- If the pin **C** appears worn on the contact area with the wheel, it can be rotated to achieve a better position or replaced
- **Check the effectiveness of the brakes** (see 5.5, "Brakes check") and if necessary, repeat the adjustment procedure

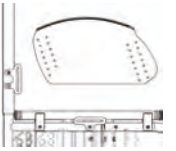
14.10. Side-guard adjustment

Sideguards, if fitted, are attached to the wheelchair frame by means of screws which act on special slots that also allow for gradual adjustment.
In case of plastic side-guards, there is an aluminium reinforcement panel.

The side-guards are an independent accessory, are not compatible with closed armrests and are not available for reclining or dampened models.

- Remove screws **A** and **B**.
- Choose the new desired position of the side protection considering that the ideal distance between the protection and the tyre is approx. 6 mm
- Re-attach screws **A** and **B**, taking care to retain the original order of any shims and washers
- For minor adjustments, simply loosen screws **A** and **B** and slide them over the slots to find the desired position

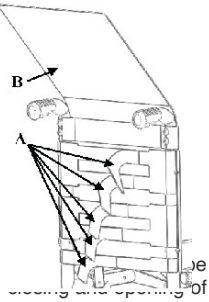




14.11. Backrest tension adjustment

The backrest tension can be easily adjusted by acting on the velcro straps:

- Raise the flap **B** of the backrest cover. It is normally closed at the back but can be found closed at the front if the configuration requires it
- Adjust the tension of the straps **A** by increasing or decreasing the overlap of the two flaps
- Reseat in place the backrest fabric **B**

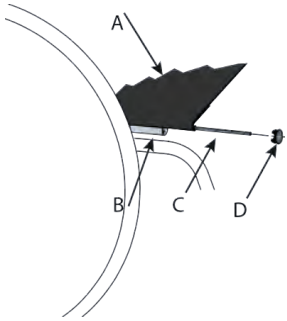


The bands **A** which regulate the tension of the backrest, especially the l[illegible]be so tight as to reduce the width of the wheelchair, this is to allow for easy [illegible] of the wheelchair and not to damage its movement.

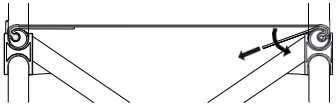
14.12. Seat upholstery adjustment and replacement

The seat tension can be adjusted through the velcro straps:

Seat tension adjustment:



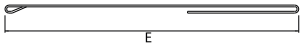
- Close the wheelchair
- Remove cap **D** (by unscrewing the screw under the seat)
- Remove the insert **C**
- Adjust the width of the seat upholstery **E**
- Insert the insert **C** into the upholstery **A**.
- Insert upholstery and insert into the slot of the seat tube **B**
- Reseat in place cap **D** and fasten with screw



Seat upholstery replacement:

Lay the seat upholstery on a table and bend the velcro area until the width **E** is 20 mm over the nominal wheelchair width;

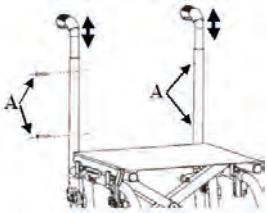
- Plug the insert **C** into the upholstery **A**
- Plug insert and upholstery into the seat tube **B**, simultaneously on the left and right side
- Insert the cap **D** and fix the screw



14.13. Backrest height adjustment, pushing handles adjustment

The height of the backrest is chosen when ordering, but further adjustments are possible. The backrest has a telescopic section, regardless from the chosen pushing handles model.

- Lift up the backrest upholstery and open the tensioning straps to gain access to the screws **A** that secure the extensions to the frame
- Remove screws **A**
- Raise or lower the tubes to the desired height (tubes are pre-drilled every 20 mm)
- Re-insert and secure the screws **A** previously removed
- Reset the tensioning of the backrest and fold down the cover (see 14.12, “Backrest tension adjustment”)



- In the presence of side-guards, remove the screws securing them to the frame and take off the corresponding support loop. Adjust the height of the backrest tube and then restore the position and fastening of the side-guards.

The same procedure can also be followed if the wheelchair has no pushing handles or is configured with height adjustable handles.

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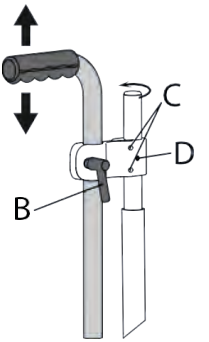
14.14. Height adjustable pushing handles adjustment

If the wheelchair is equipped with height adjustable pushing handles it is possible to adjust them:



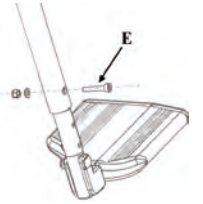
- Turn the lever **B** so as to loosen the clamp attachment
- Raise or lower the push handle to the desired position
- Tighten the lever **B** correctly
- Position the lever **B** in a convenient position

To change the rest position of the lever **B**, pull it slightly outwards to release its engagement and rotate it to the new position.

The clamp that connects the pushing handle to the wheelchair frame can be rotated around the backrest tube. If necessary, unscrew the safety screw **D** before turning the screws **C** to loosen the clamp and allow it to rotate. Once the bracket is secured in its new position, tighten the **C** screws and then the **D** safety screw appropriately.

14.15. Footrest height adjustment

The telescopic footrest support is inserted into the front of the frame and secured through a screw and nut couple **E** for each side of the frame.



Example of adjustment for a single separate footrest

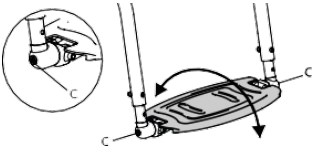
- Loosen and remove screw **E** that secures the telescopic support to the frame
- Slide the step up to the desired height, aligning the holes of the outer tube and the inner tube (20mm pitch)
- Reinsert screw **E** and tighten it appropriately

14.16. Footplate tilt adjustment

14.16.1. Automatic footplate

If the wheelchair is equipped with an automatic footplate, the orientation of the footplate can be adjusted as follows:

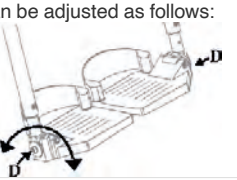
- Release the screws **C**
- Position the footplate with the required inclination
- Fasten the screws **C**



14.16.2. Plastic footplates

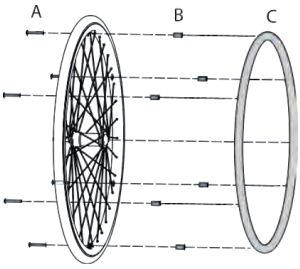
If the wheelchair is fitted with plastic footplates, the orientation of the footplates can be adjusted as follows:

- Release the screws **D**
- Position the steps with the required inclination
- Fix the screws **D**



14.17. Pushrim with rivets

Replacement



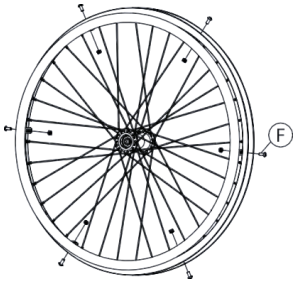
- Remove the wheels from the wheelchair
- Completely unscrew the screws using a 4 mm hex key and remove the pushrim
- A new pushrim can be attached if the spacer sequence is maintained

Adjust the distance between pushrim and rim

- Remove the wheels from the wheelchair
- Completely unscrew the screws using a 4 mm hex key and remove the pushrim
- Replace the screws with ones of the desired length and increase or decrease the height of the spacers accordingly
- Tighten the screws appropriately, possibly in a criss-cross sequence

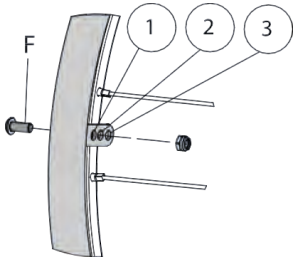
14.18. Pushrim with splices

Replacement



- Remove wheels from wheelchair
- Remove the cover, inner tube (see 8.1, “Replacement of tyre and inner tube”) and inner protective tape to access the screws
- Completely unscrew the screws **F** and remove the pushrim
- Position the new pushrim and replace the screws, taking care to tighten them in a criss-cross sequence if possible
- Refit inner protective tape, inner tube and cover (see 8.1, “Replacement of tyre and inner tube”)

Adjust distance between pushrim and rim



- To give the possibility of choosing the Pushrim mounting distance from the wheel rim, some pushrim offer more than one fastening hole (**1**, **2**, **3**) on the connecting splices
- In this case, you can choose the preferred distance when joining the pushrim to the wheel rim
- Proceed as described above with the fastening of the screws, making sure that the pushrims are positioned equivalently in the two wheels

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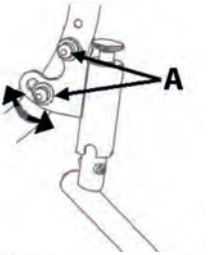
14.19. Anti-tip device adjustment on curved rear frames

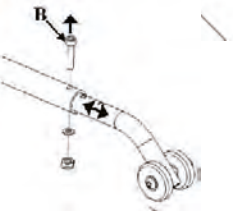
The operating height of the anti-tip device is defined during installation. However, if necessary, it is possible to change its distance from the ground and thus vary the intervention threshold.

14.19.1. Ground clearance adjustment



- Loosen, without removing them, the screws **A** that secure the anti-tipping device to the wheelchair frame
- With the anti-tipping device activated (see 6.3, “Anti-tip device”) rotate the fastening plate to obtain the desired distance of the castor wheel from the ground
- Tighten the screws **A** appropriately

14.19.2. End terminal adjustment

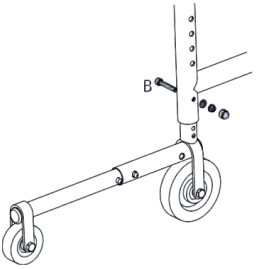


- Remove screw **B**
- With the anti-tilt activated, slide the terminal to the desired, more or less protruding position
- reinsert screw **B** into place and secure appropriately

14.20. Anti-tip adjustment on straight rear frames

14.20.1. Ground clearance adjustment

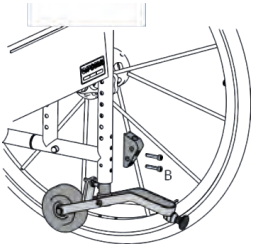
The operating height of the anti-tip device is defined during installation. However, if necessary, it is possible to change its distance from the ground and thus vary the intervention threshold. If the anti-tip device is fitted in combination with narrow passage wheels, any adjustment must take this into account.



- Remove screw **B**
- Slide the inner tube to the desired height
- Insert screw **B** and tighten accordingly

14.21. Height adjustment for lever-activated small wheels

The position of the lever-activated small wheels is defined during the assembly. However, it is possible to change its distance from ground if the rear height has been changed (limited to a small range near the original height)



- Remove the **B** screw
- Slide the small wheel holding tube and the external block till the desired height
- Insert the **B** screw and fix it properly

14.22. Table installation

To install the table on a wheelchair:

- Loosen and remove the **A** screws that connect the elbow-rest to the armrest;
- Mount the table support paying attention to its direction (right or left) and fix it using two new screws 5 mm longer than the ones removed
- Put the table supporting tubes in place and fix them to the preferred depth with the **B** wing screw;
- Fix the supports to the table with the **C** screws.

Table support

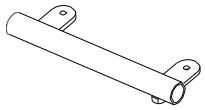
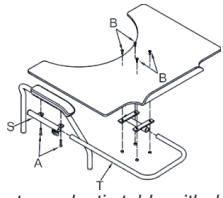
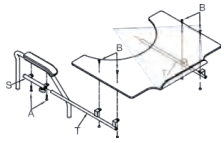


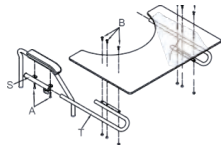
Table support with single centre attachment



Polycarbonate table with double attachment



Polycarbonate or plastic table with double attachment



14.23. Abductor assembly

On ALTHEA wheelchairs, a pull-out abductor can be fitted. Follow the instructions below for fitting:

- Mount the supplied blocks **H** on the side tubes of the frame
- Loosen the screws **A** on the support bar without removing them
- Assemble the support bar by inserting the lateral ends into the guides of the brackets **H**, paying attention to the knobs **M**, and fix the screws **A** to lock the width
- Insert the sliding support of the abductor into its guide and secure it with the wing screw **N**.

To adjust the depth of the abductor, or remove it to facilitate transfers or other manoeuvres of the user in the wheelchair, act as follows:

- Loosen the wing screw **N**
- Position the dock to the desired depth and tighten the wing screw **N** or completely remove the abductor knob from the seat.

In this case of only removing the abductor knob, the support bar remains mounted on the wheelchair and does not allow it to be closed for transport.
To fold the wheelchair it is essential to remove the abductor knob with the support bar:

- Pull one of the two knobs **M** to release the support bar;
- Remove the support bar by pulling it out of its slots in an arching motion.

The bar can be removed with or without the knob inserted. With the user sitting in the wheelchair, it is recommended to remove the abductor knob separately and then the support bar if necessary.

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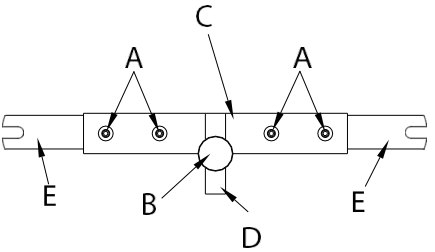
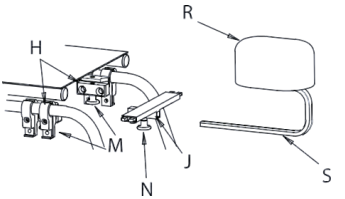
Support bar



Scheme of the abductor parts

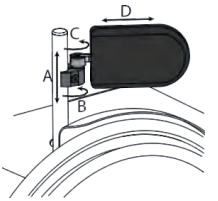


- The distance between the seat and the abductor can be reduced by 20 mm by turning the support bar upside down.
- The sliding support bar is available in various heights, depending on the required distance between the seat canvas and the base of the abductor knob, to suit different cushion options.

14.24. Assembly and adjustment of *swing-away* lateral supports

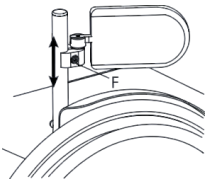
Swing-away lateral supports are accessories that can be provided at the time of ordering or can also be fitted later without special arrangements. Their fastening system allows a wide flexibility in finding the preferred positioning while always maintaining the characteristic of openness to facilitate transfers, dressing etc.

It is possible to adjust the height **A**, the angle between the clamp and the backrest **B**, the angle of the support **C**, and the depth position of the soft support **D**



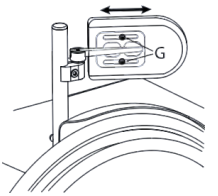
14.24.1. Height and width support adjustment

- Loosen screw **F** without removing it
- Position the clamp to achieve the desired support height
- Rotate the clamp and the support to position the latter at the desired width
- Tighten screw **F** appropriately



14.24.2. Depth position adjustment:

- Loosen screws **G** accessible on the outside under the upholstery
- Slide the upholstery back or forward to the desired position
- Tighten screws **G** and reassemble the upholstery



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