

**THIS MANUAL HAS BEEN DEVELOPED FOR AND INTENDED TO BE USED BY A
QUALIFIED TECHNICIAN WORKING FOR AN AUTHORIZED KI MOBILITY DEALER.**

Installation of the Central Linking System Klaxon® for Klaxon Twist





Central Linking System Klaxon® :

Tools

- Hex Key N.5 and 6
- A Calliper
- Torque Wrench

KLAXON®



Central Linking System Klaxon® :

Warning

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The installation of the Linking System on the wheelchair must always be performed by experienced and qualified people.



Always carry out installation on flat surfaces, with the wheels of the wheelchair and Twist resting on the same smooth surface.

Central Linking System Klaxon® :

Preconditions

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Determine the tube diameter and consult the Klaxon catalogue to check the correct product code for your wheelchair.



NOTE	There are special reductions available in the spare parts catalogue in case the tube is smaller
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Central Linking System Klaxon® :

Preconditions

KLAXON®

Check that the tyre on the Twist is properly inflated. See tyre inflation instructions in the relevant section of the End User's Manual.

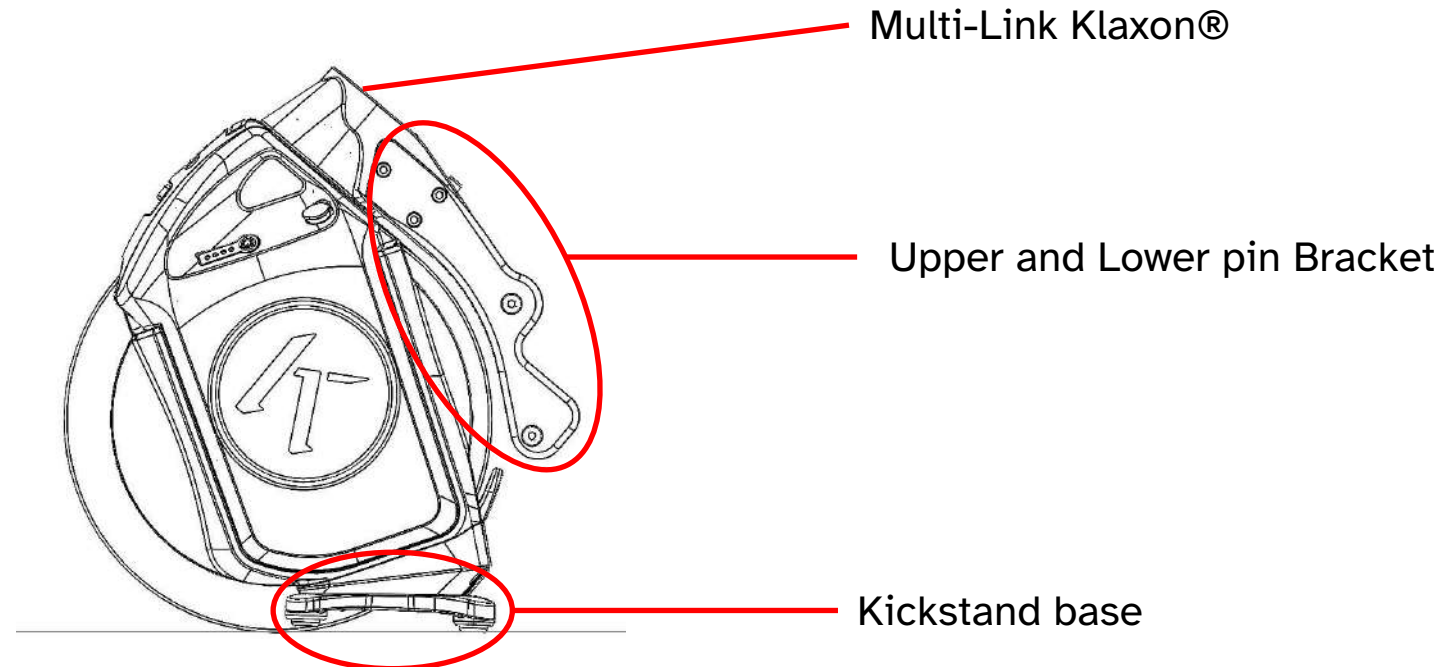
Check that the wheels of the wheelchair are inflated to the correct operating pressure recommended by the wheelchair manufacturer



Description of the components:

Twist

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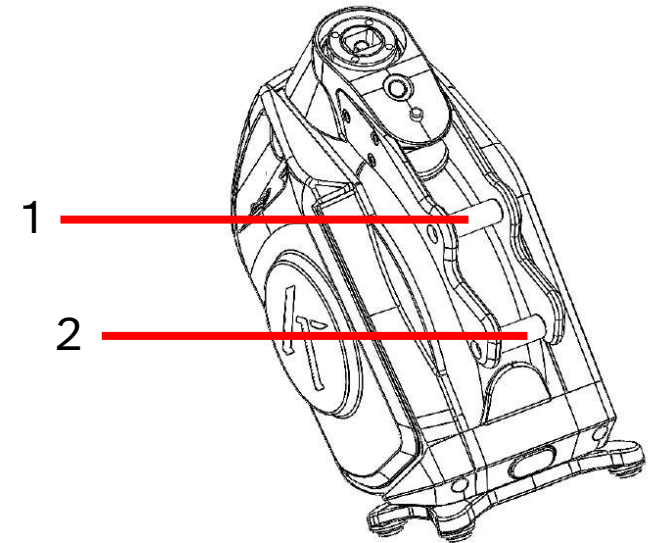
Description of the components:

Upper and lower pin bracket

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The Upper and Lower Pin Bracket is located on the TWIST device and consist of an:

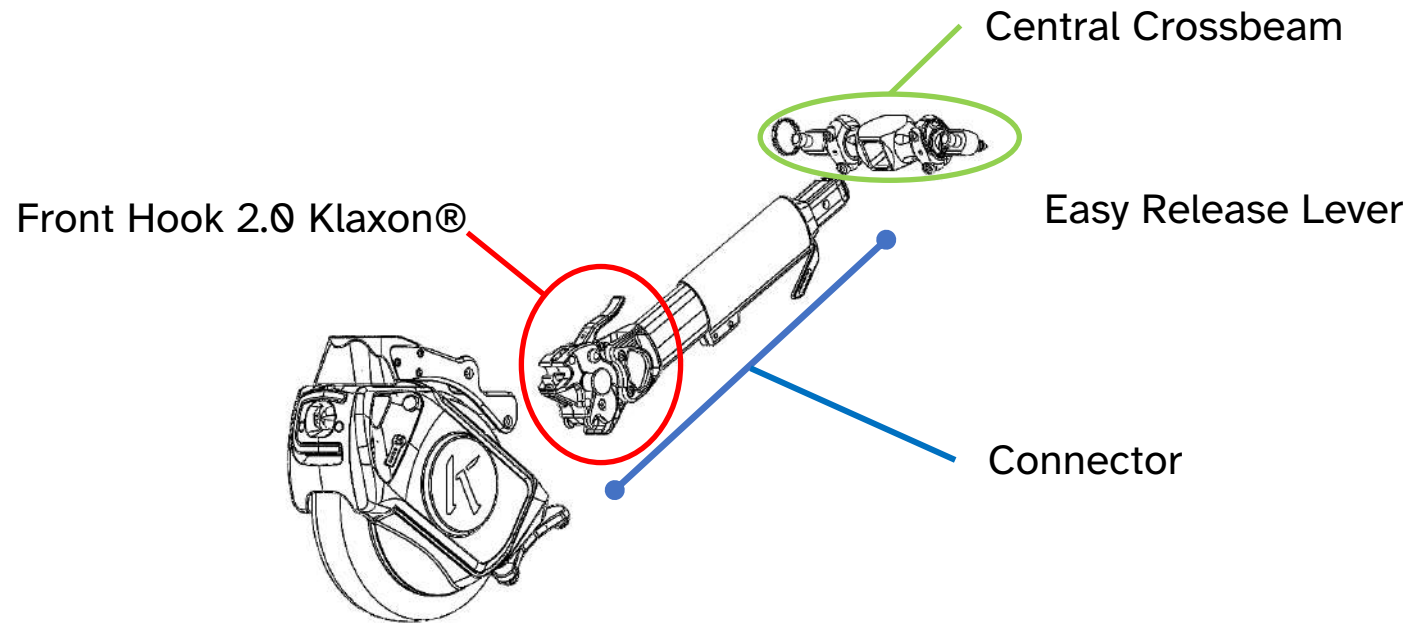
1. Upper Pin
2. Lower Pin



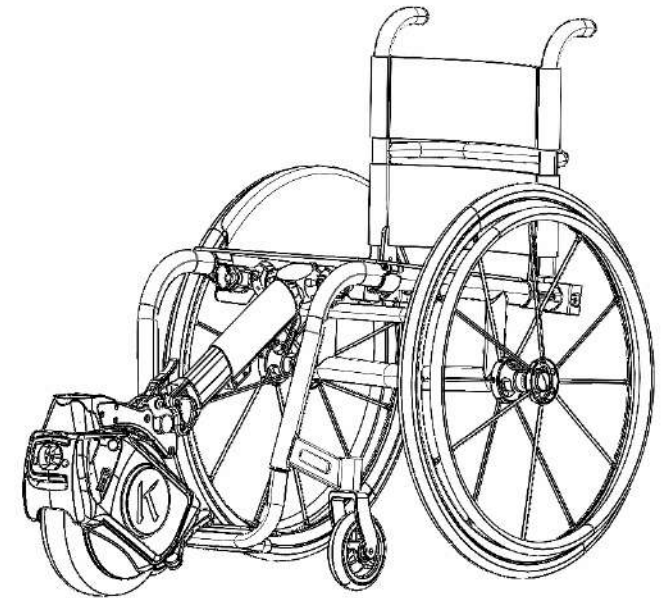
Description of the components:

Linking System

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Exploded view of the system



View of the system installed

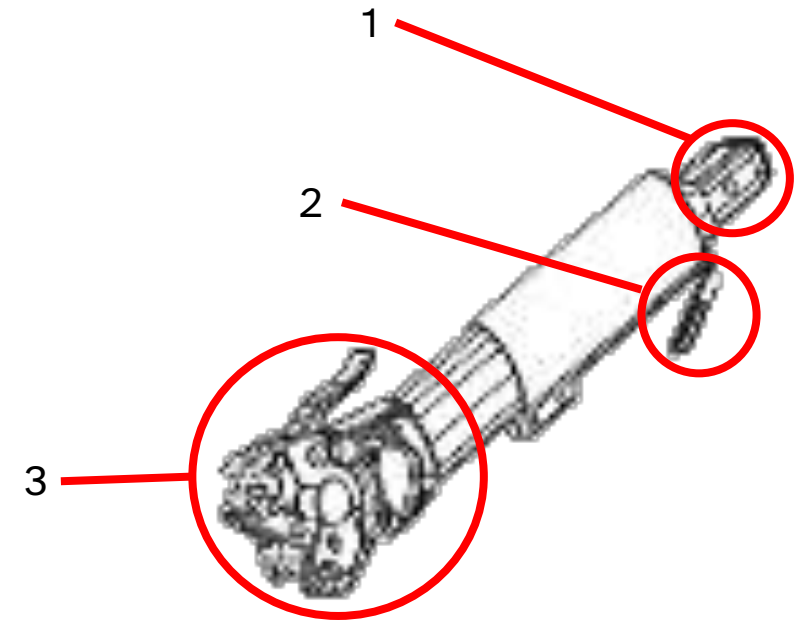
Description of the components:

Connector

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The Connector is composed of:

1. Mounting System in the Crossbeam (with ball-type lock)
2. Connector Lock/Unlock Lever
3. Front Hook 2.0 Klaxon®

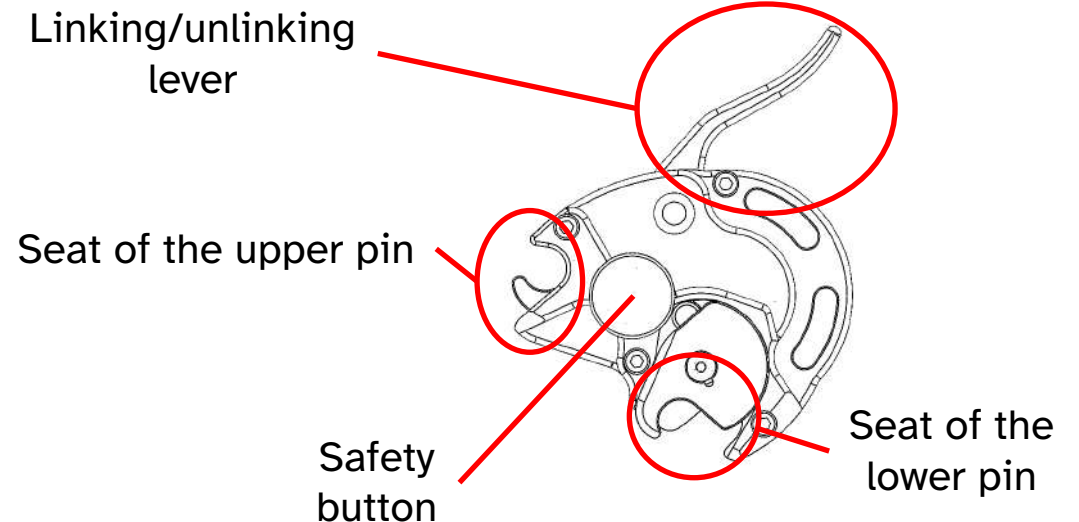


Description of the components:

Front Hook 2.0 Klaxon®

- Linking/unlinking lever: allows the Front Hook 2.0 Klaxon® to link/unlink from the Twist
- Safety Button: allows the Front Hook 2.0 Klaxon® to link/unlink from the Twist
- Seat of the upper pin: this seat will host the upper pin of the Twist
- Seat of the lower pin: this seat will host the lower pin of the Twist

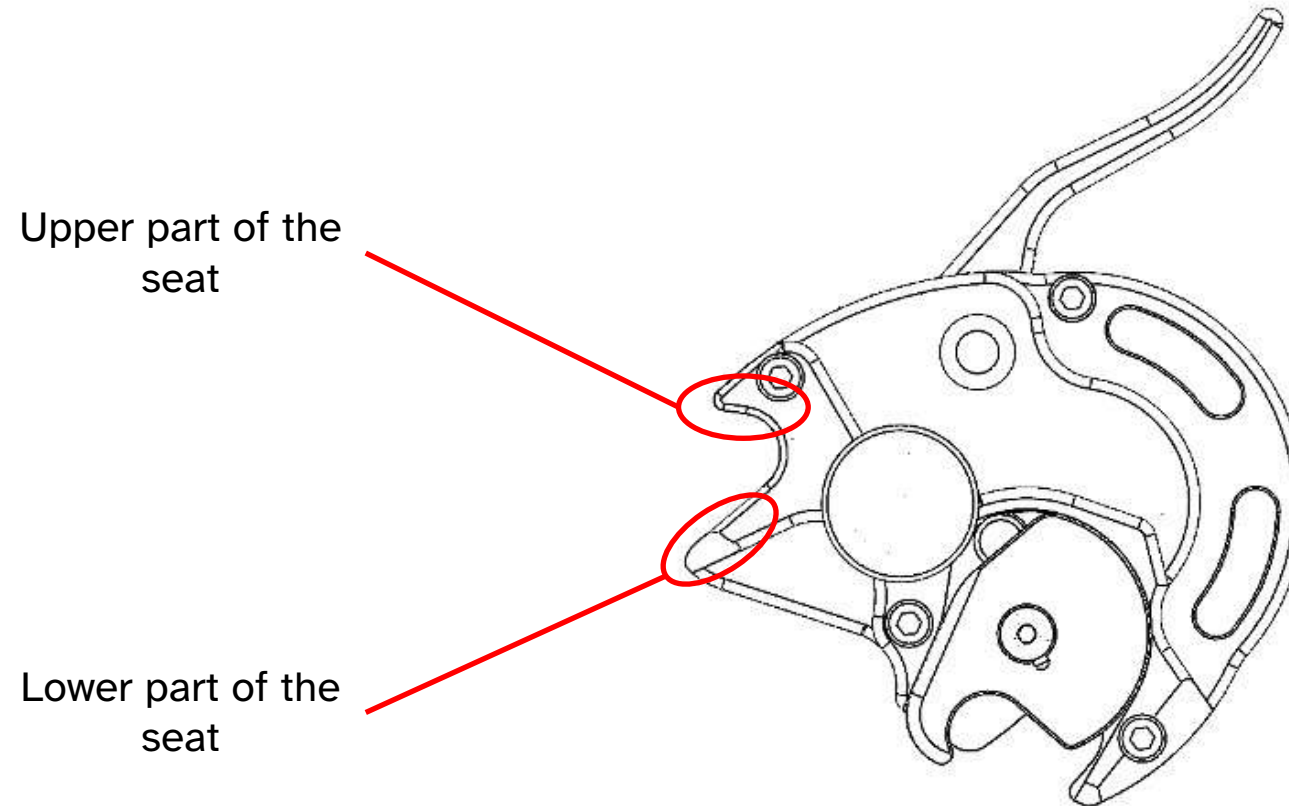
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Description of the components:

Seat of the Upper Pin - Detail

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Description of the components:

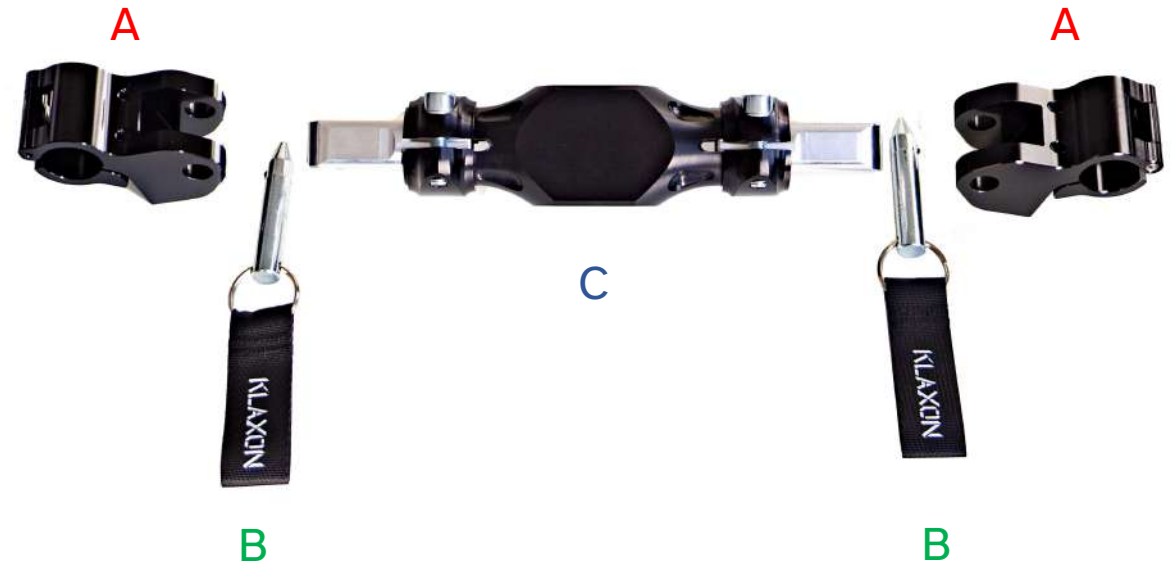
Central Crossbeam

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The central crossbeam is the part of the Linking System that will be installed under the wheelchair's seat.

The Clamping Rings (A) will always remain fixed to the wheelchair's frame. The Central Crossbeam (B) can be removed by extracting both the Locking Pins (C).

In case of foldable wheelchair it will be sufficient to extract one of the Locking Pin to let the Central Crossbeam free. This will let you fold the wheelchair again



Description of the components:

Clamping Rings



The clamping rings are the parts of the Twist connection that always remain attached to the wheelchair frame.

Together with the crossbeam, they must be installed on the wheelchair by authorised KLAXON personnel and must never be removed by the user during use.

Various clamping ring sizes and shapes are available to suit the different tubing diameters and types of wheelchair frames (see some example in the table)

Tube frame section	Frame type	Diameter	Coupling cuff
Round	Parallel	34.945 mm	AGP35
Round	Parallel / Convergent	32.4 mm	AGP32 / AGCP132
Round	Parallel / Convergent	30.0 mm	AGP30 / AGCP130
Round	Parallel / Convergent	28.0 mm	AGP28 / AGCP128
Round	Parallel / Convergent	25.4 mm	AGP25 / AGCP125
Round	Parallel / Convergent	23.0 mm	AGP23 / AGCP123
Round	Parallel / Convergent	22.0 mm	AGP22 / AGCP122
Round	Parallel / Convergent	20.0 mm	AGP20 / AGCP120
Round	Parallel / Convergent	18.0 mm	AGP18 / AGCP118
Oval	Parallel	25.0 x 35.0 mm	AGPOV
Oval	Parallel	27.0 x 33.0 mm	AGPOVSX

Linking system:

Crossbeam - Precondition

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It is advisable to keep the batch code on the front for quick reference in case of need.

Linking system:

Crossbeam - Precondition

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1. The two Fixing Clamps must be inserted in the front part of the crossbeam. For a quick reference see the page above

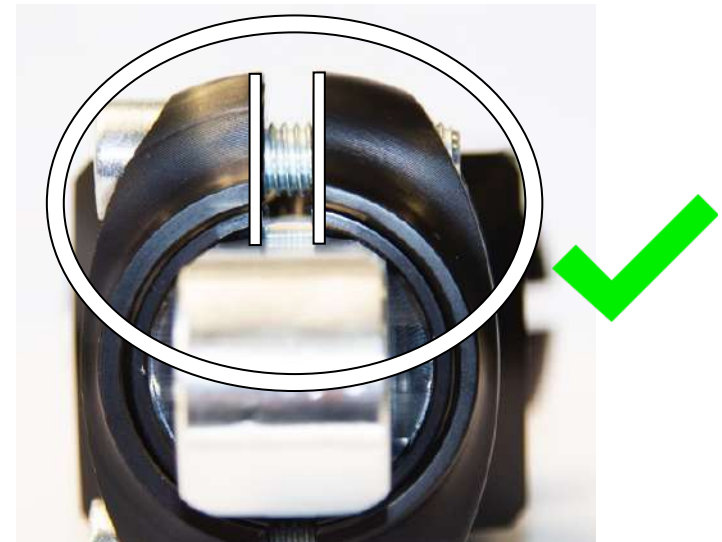
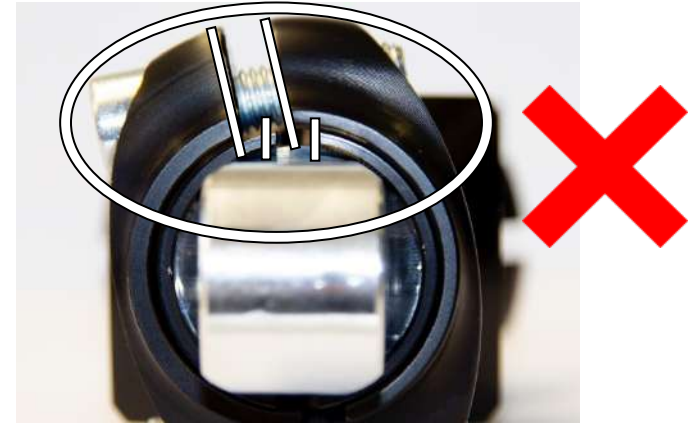


Linking system:

Crossbeam - Precondition

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2. Align the Fixing Clamps to the grooved seat then gently tight their screws alternatively



Installation:

Warning

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Before proceeding to the installation of the Twist connection system, ensure the items supplied are suitable for the wheelchair to which it will be installed.

Installation:

Clamping Rings - Positioning

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1. To better identify the position where to install the clamping rings, temporarily remove the seat and the moving parts of the wheelchair, if necessary (brakes, side supports, seat supports, etc.). For details about this operation, refer to the wheelchair use and maintenance manual



Installation:

Clamping Rings - Positioning

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2. Install the Clamping Rings on the wheelchair's frame, fastening them with the dedicated screws (which must be facing downwards, when installed on the upper frame tube and facing upwards, when installed on the lower frame tube).

The Clamping Rings must be positioned as forward as possible beneath the seat, in correspondence with the front part of the seat, according to the needs of the user and the specific characteristics of the wheelchair



Installation:

Clamping Rings - Positioning

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	The Clamping Rings must be compatible with the dimensions of all the other wheelchair components; for further information, contact your distributor or KLAXON by sending an email directly to info@klaxon-klick.com .
	If the Clamping Rings are positioned too far back from the front limit of the seat, the coupling of the TWIST CONNECTOR and CROSSBEAM could be difficult for the user; conversely, if positioned too far forward, the CROSSBEAM could cause injury to the lower limbs of the user. Always verify the needs of the end user before fixing the clamping rings in their final position.

Installation:

Clamping Rings - Warning

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If the wheelchair has a converging (or diverging) frame, be very careful when performing the next operation! Use a water level or measure the correct position of the two clamping rings to ensure that the Crossbeam is perfectly perpendicular to the direction of travel of the wheelchair. In case of an installation with converging clamping rings, the locking pins must be inserted from the top (see photo below).



Installation:

Clamping Rings - Horizontal Alignment

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3. Secure one of the two clamping rings by tightening the screws lightly. Insert the crossbeam (with the clamp's screws facing forwards) and then fix it in place with the locking pin (as shown in the first photo)

Check the horizontal alignment using the second clamping ring: move it forwards or backwards (as in the third photo), position it so that the crossbeam can move freely within its seat. Once the ideal position has been found, lock the crossbeam into the second clamping ring by inserting the dedicated locking pin. Also tight the screws of the second clamping lightly.



Installation:

Clamping Rings – Vertical Alignment

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4. The following cases have been identified:

- a) Oval CLAMPING RINGS: vertical alignment is guaranteed by the shape of the CLAMPING RINGS itself, and no other check is required.
- b) Round CLAMPING RINGS for converging frames: rotate the Clamping rings so that the CROSSBEAM can move freely in its seat when coupling/uncoupling (as shown in stage 3).
- c) Round CLAMPING RINGS for parallel frame (see Figure): rotate the Clamping rings so that the CROSSBEAM is perfectly horizontal and positioned minimum 2 cm from the wheelchair seat.



Installation:

Clamping Rings – Warning

KLAXON®

	Always check the needs of the user before securing the CLAMPING RINGS in their final position (meeting the technical requirements for installation of the TWIST system and the characteristics of the wheelchair).
	After aligning the Clamping rings, ensure the CROSSBEAM can be easily removed.
	Once the CROSSBEAM has been positioned, ensure that it is exactly centred and parallel to the ground.

Installation:

Clamping Rings – Fix in place

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5. Tighten the fixing clamps' screw lightly so as they can maintain their position. To do so tighten all the screws lightly and alternatively.



Installation:

Clamping Rings – Fix in place

KLAXON®

6. Tightening the Clamping Rings' screws:
After checking the vertical and horizontal alignment of the two Clamping rings (crossbeam), apply copper grease to the screws' thread (one by one), then secure them to the frame of the wheelchair, tighten the screws with a torque wrench set to 10Nm. Tighten with 1-2-1 sequence and repeat the sequence until both screws are tightened at the specified torque.



	Tight the Clamping Rings screws with a torque wrench set to 10Nm (with copper grease).
	When tightening the clamping ring screws with the torque wrench, ensure that the vertical and horizontal alignments have not been altered.

Installation:

Centring the Crossbeam

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Once the CROSSBEAM has been positioned, ensure that it is exactly centred and parallel to the ground.

Installation:

Centring the Crossbeam

KLAXON®

7. Loosen the fixing clamps' screws. Position the square section of the Crossbeam in the exact centre of the space between the two Clamping rings (moving the Crossbeam to the right or left). The allowed tolerance is equal to ± 0.5 mm. Once the CROSSBEAM has been positioned centrally, gently tighten the two screws of the fixing clamps so as to eliminate the backlashes but allow the adjustment at page 48. Use the grooved ruler present on the crossbeam to help you adjust and to centre it equally on both sides.



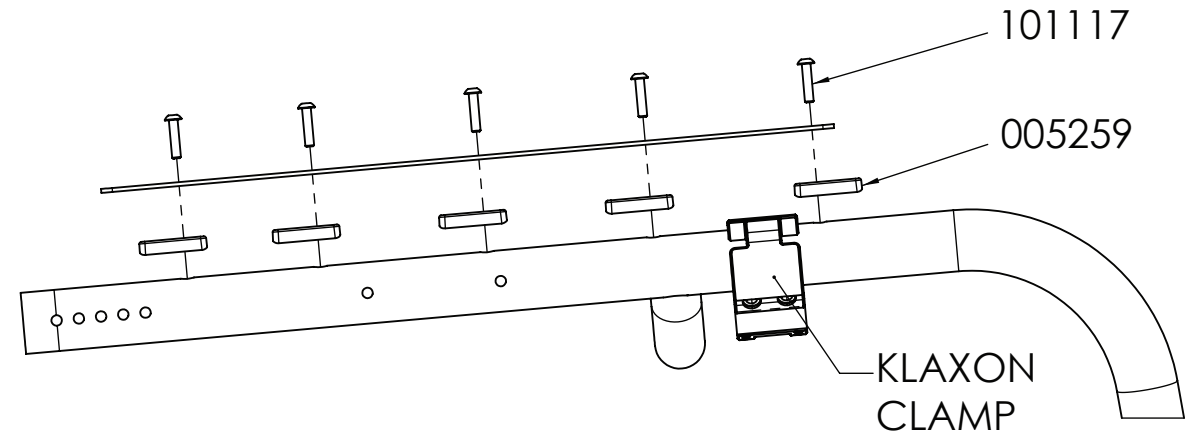
Installation:

Reassembling

8. After carefully checking the KLICK connection system has been installed on the wheelchair, reassemble the parts which were removed previously in Point 1 (brakes, seat supports, etc.). To adjust and reassemble them in their correct position, refer to the wheelchair use and maintenance manual.

NOTE: Spacers (005259) and longer screws (101117) are included and installed where the previous screws were installed on the seat rail. The spacers allow clearance for the Klaxon clamp.

KLAXON®

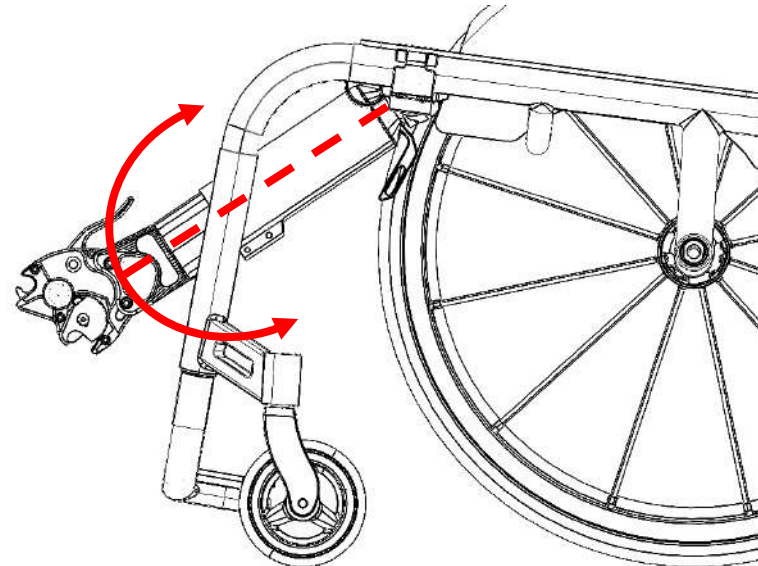
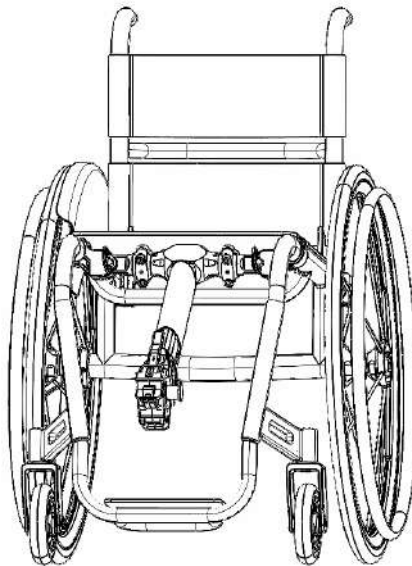


Description of the components:

Connector adjustment

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1. Insert the Connector in the Crossbeam. The Connector must be free to rotate for adjustment.

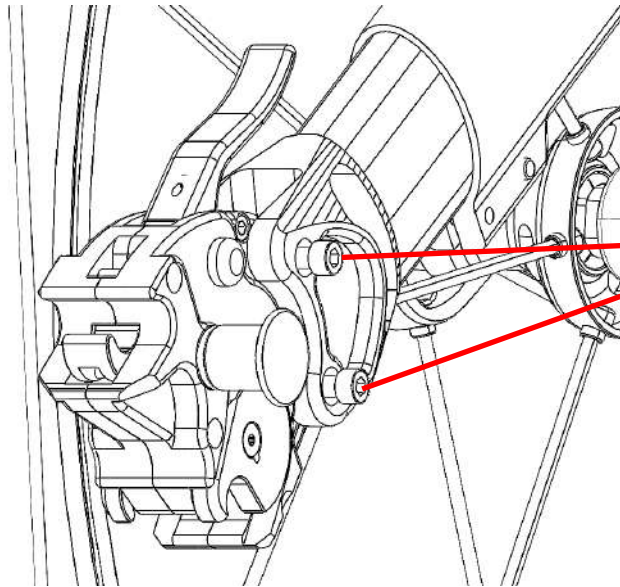


Description of the components:

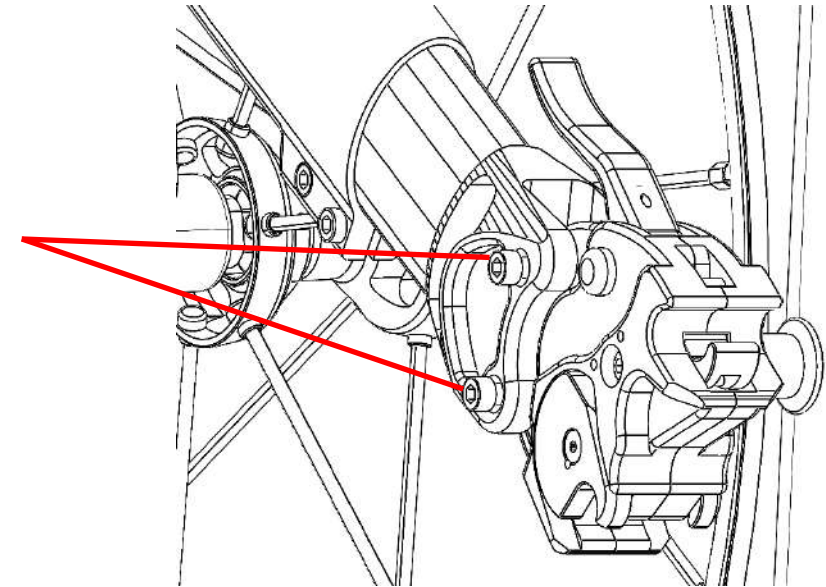
Connector adjustment

KLAXON®

2. Provisionally tighten lightly the 4 fixing screws of the Front Hook until all the backlashes are eliminated.



Fixing Screws

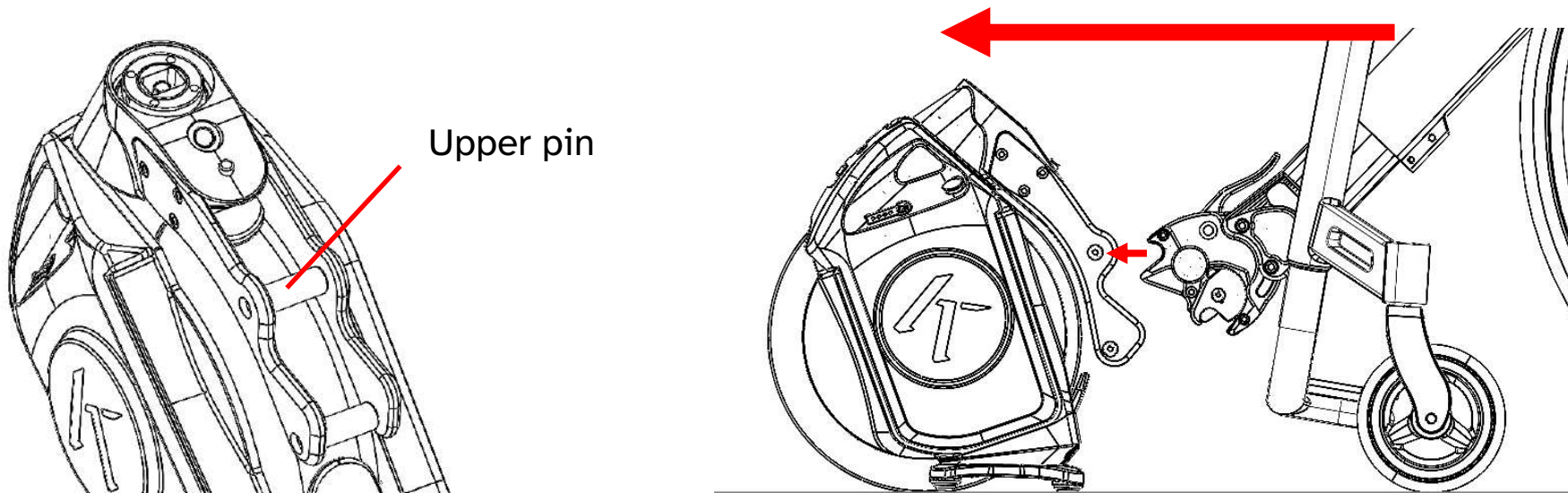


Description of the components:

Connector adjustment

KLAXON®

3. Place the Twist on the ground in front of the wheelchair. Bring the wheelchair closer until the upper pin of the Twist rests on its seat on the Front Hook.



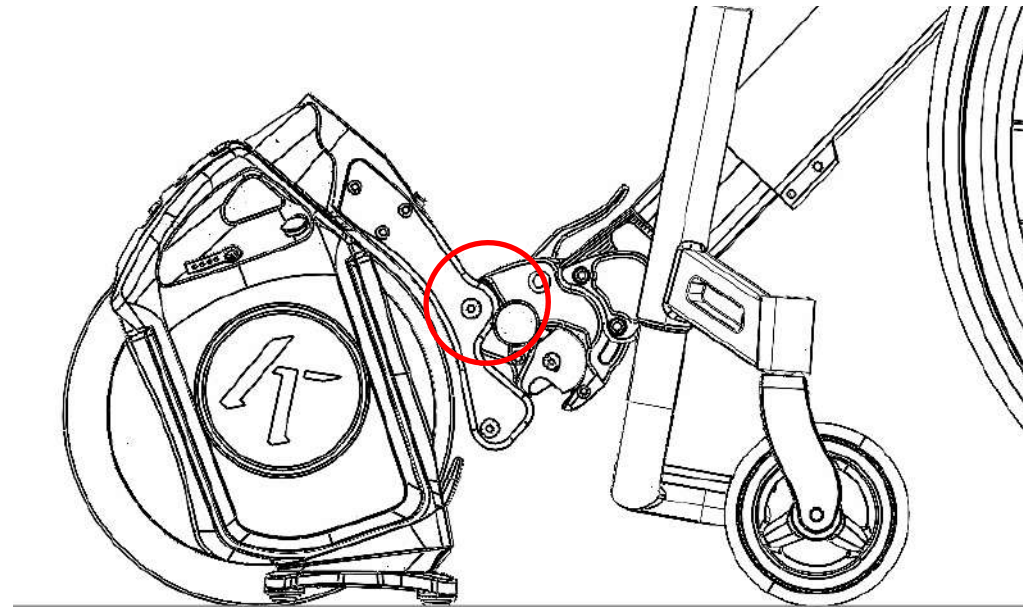
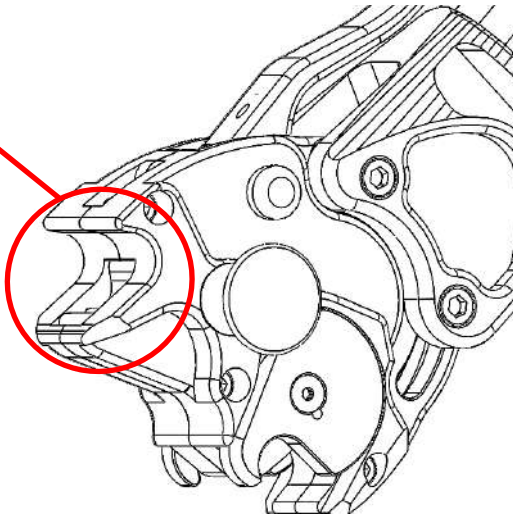
Description of the components:

Connector adjustment

KLAXON®

4. Once the upper pin of the Twist is correctly placed on its seat on the Front Hook, tight lightly the two screws of the fixing clamps so it does not loose the adjustment made at the previous point.

Seat of the
upper pin



Description of the components:

Connector adjustment

KLAXON®

5. Firmly lift the Linking Lever and raise it as far as it can reach; the red button will trigger outwards. Make sure that the green sign appears at the base of the button, indicating that the Linking has been correctly performed and that the system is safe. If the green mark does not appear, repeat the operation by lifting the lever firmly to its end position.

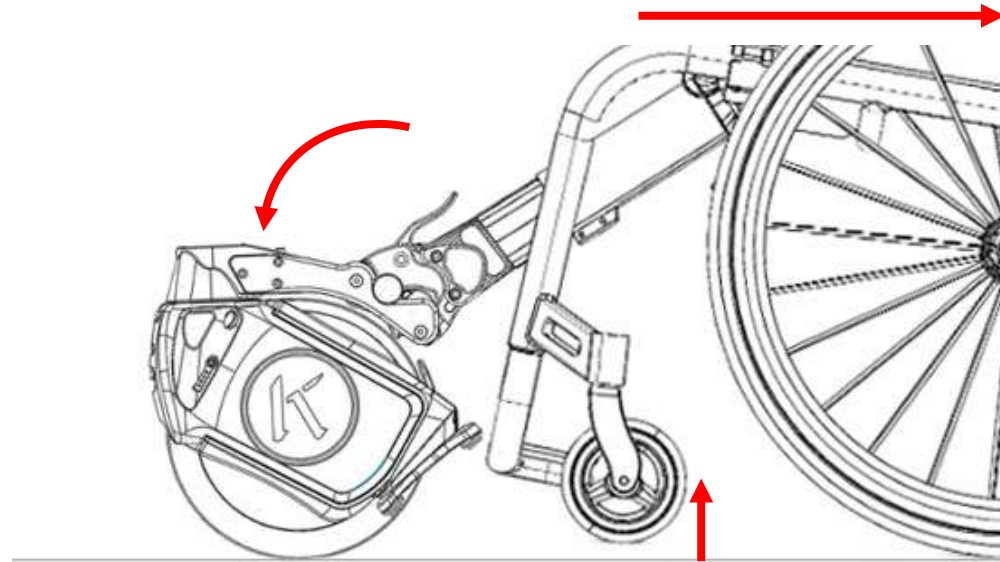
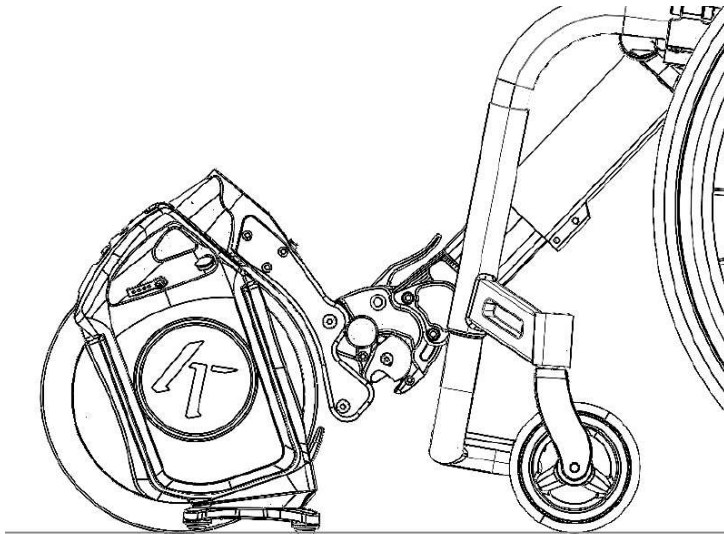


Description of the components:

Connector adjustment

KLAXON®

6. Push the two wheels of the wheelchair forward at the same time to establish the complete linking of the TWIST to the wheelchair and to lift up the front castors



Description of the components:

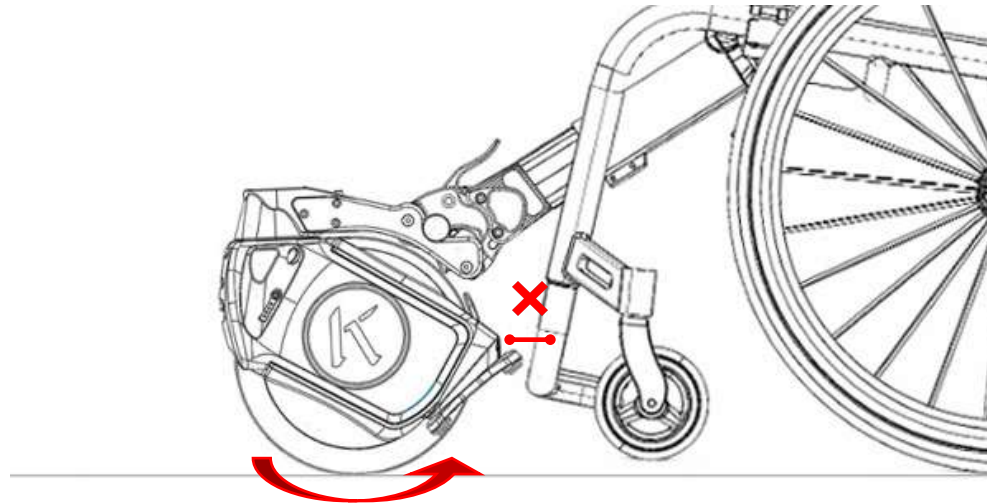
Connector adjustment

KLAXON®

7. Check that the distance between the Twist and the wheelchair's footrest (i.e. the user's feet) is appropriate.



The distance is appropriate when, during a complete rotation of the Twist, the footrest/user's feet never come into contact with the device.

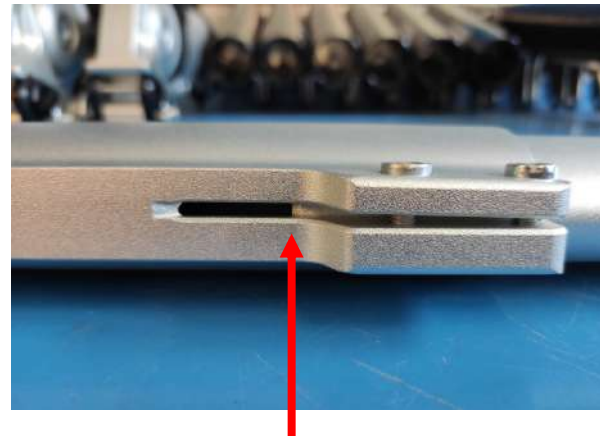
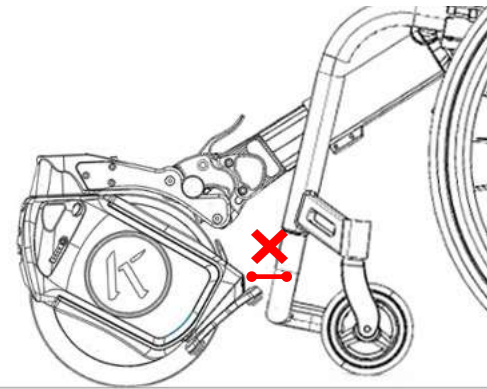


Description of the components:

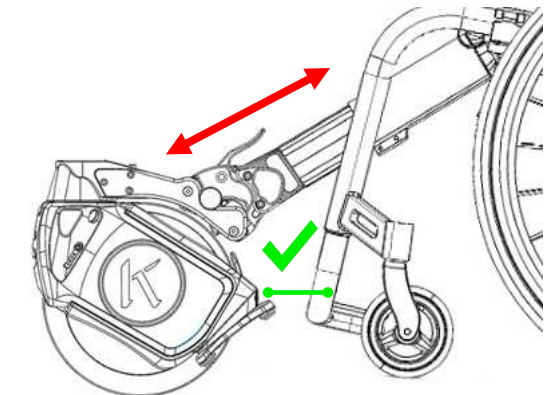
Connector adjustment

KLAXON®

8. If necessary extend the Connector by first loosening the two locking screws on the right side. When extending the Connector do it accordingly the user's need.



Maximum
extension possible

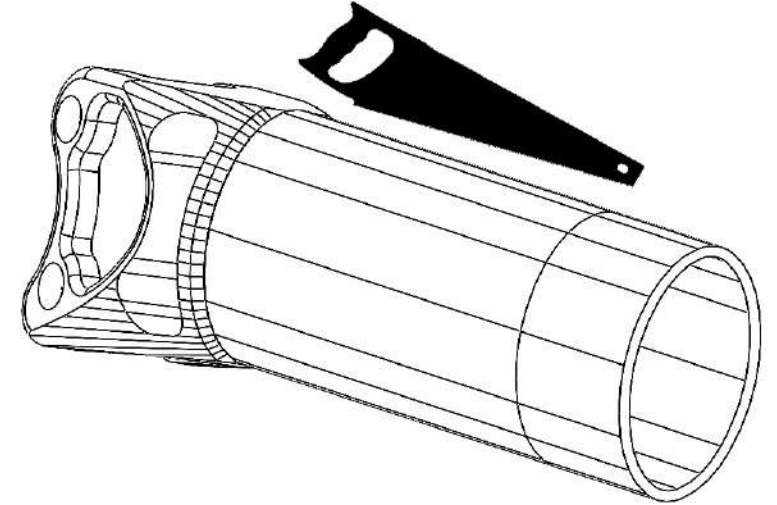


Description of the components:

Connector adjustment

KLAXON®

9. If the Connector is too long, the excess part of the smaller oval can be cut to the desired size.

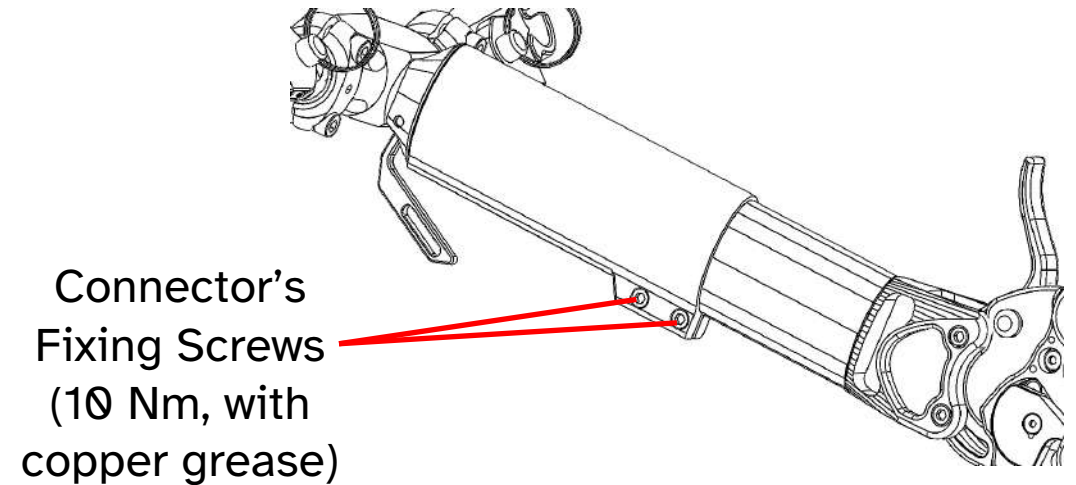


Description of the components:

Connector adjustment

KLAXON®

10. Once the correct length is set, apply copper grease on the two fixing screws' thread (one by one) and tighten them using an adjustable torque wrench set to 10 Nm.



Description of the components:

Connector adjustment



11. Using the 4 screws of the Linking System, proceed with the correct adjustment of the steering set-up. It is important to check that the steering angle is correct in relation to the ground. Refer to the following 3 scenarios.

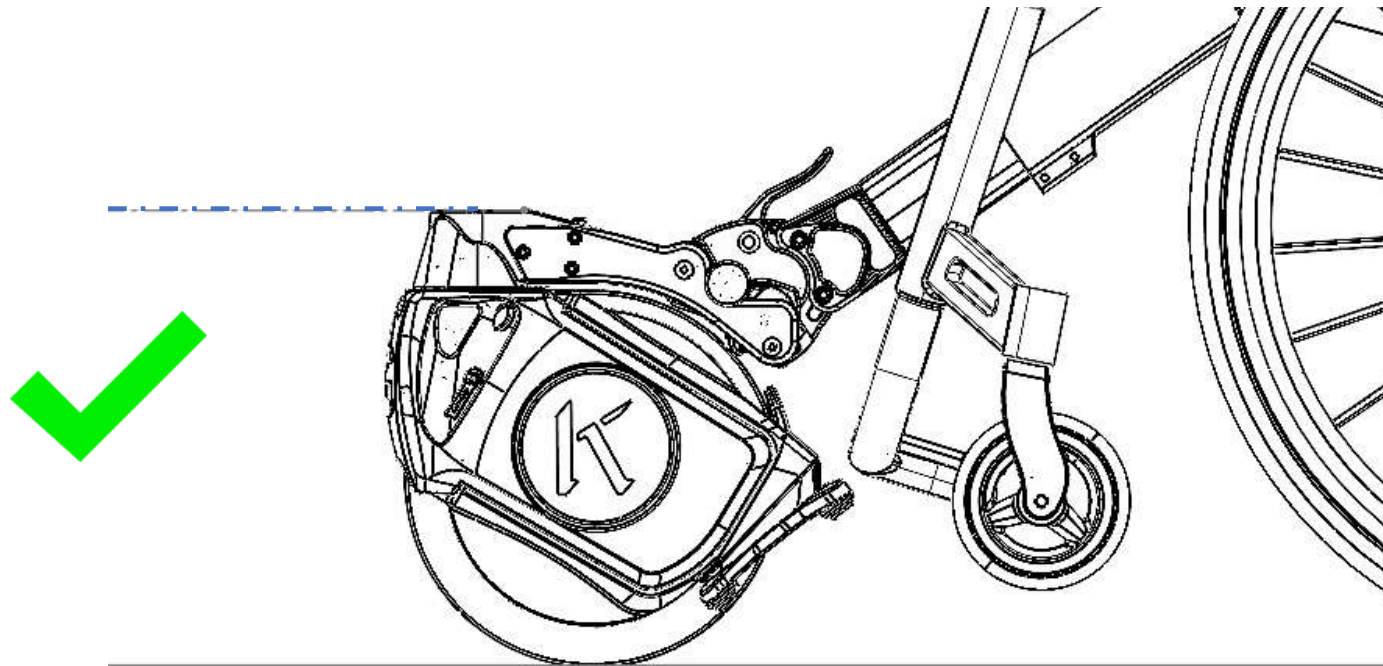
Klaxon recommends clockwise inclination (looking at the device from the left once it is linked to the wheelchair) of between 2 and 6 degrees. Use an electronic leveller if available. Alternatively, you can use any “leveller” app available for your smartphone. If you do not have an electronic leveller, use a manual one to ensure that the inclination is not contrary to what is indicated.

Description of the components:

Connector adjustment

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1st Scenario: 0° inclination, very neutral steering, particularly suitable for low speeds. In this position it is possible to lift the front castors to their maximum height.



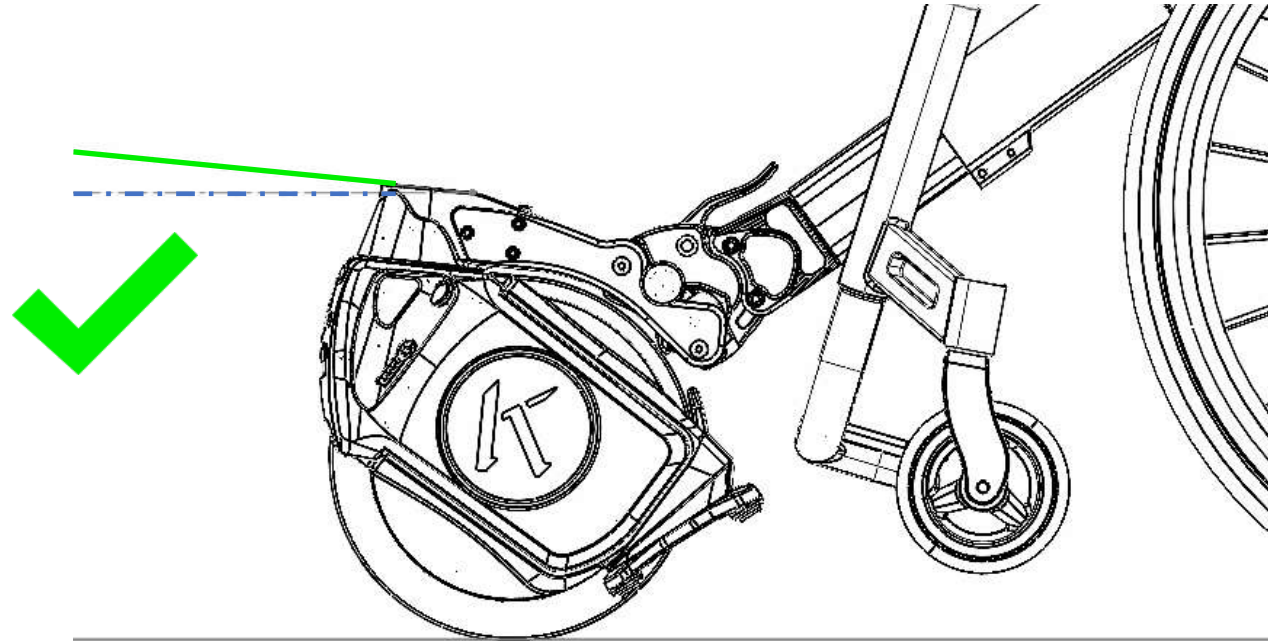
Inclination 0°

Description of the components:

Connector adjustment

KLAXON®

2nd Scenario: Inclination of up to 6°. More directionality at the maximum speed but with slightly harder steering. In this position the front castors are lifted to the minimum height possible.



Inclination up to 6°

Description of the components:

Connector adjustment

KLAXON[®]

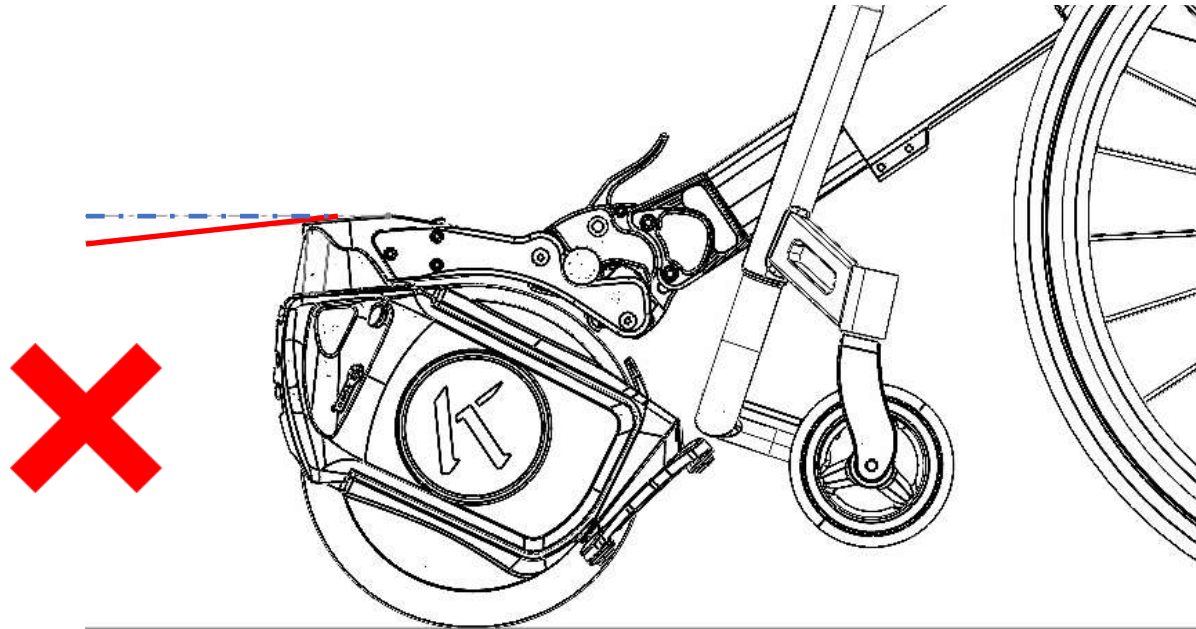
NOTE	Mounting at an angle of 5° or 6° will also be particularly suitable for riding with the handlebar installed.
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Description of the components:

Connector adjustment

KLAXON®

3rd Scenario: Inclination below 0°. If mounted with an inclination of less than 0°, riding will be difficult due to the instability of the front wheel. This inclination is incompatible with the correct usage.



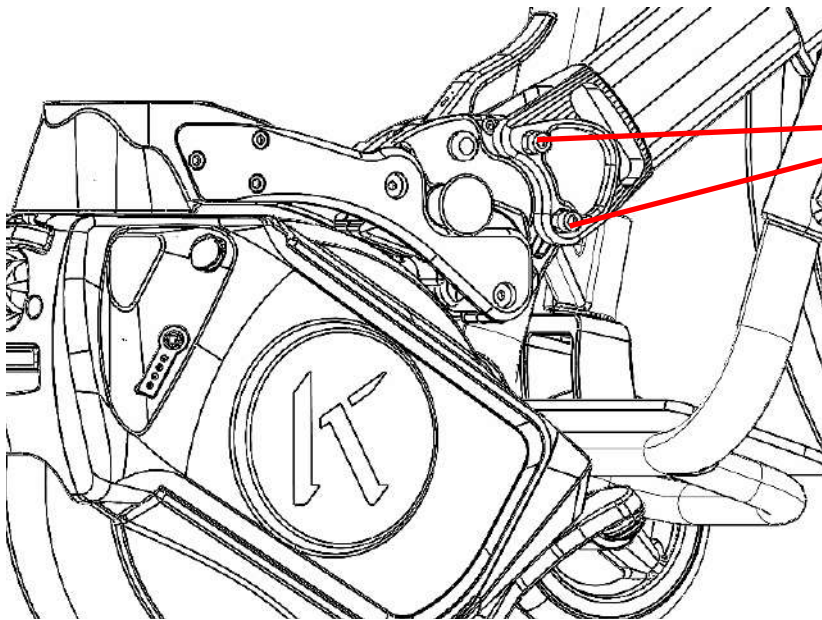
Inclination below 0°

Description of the components:

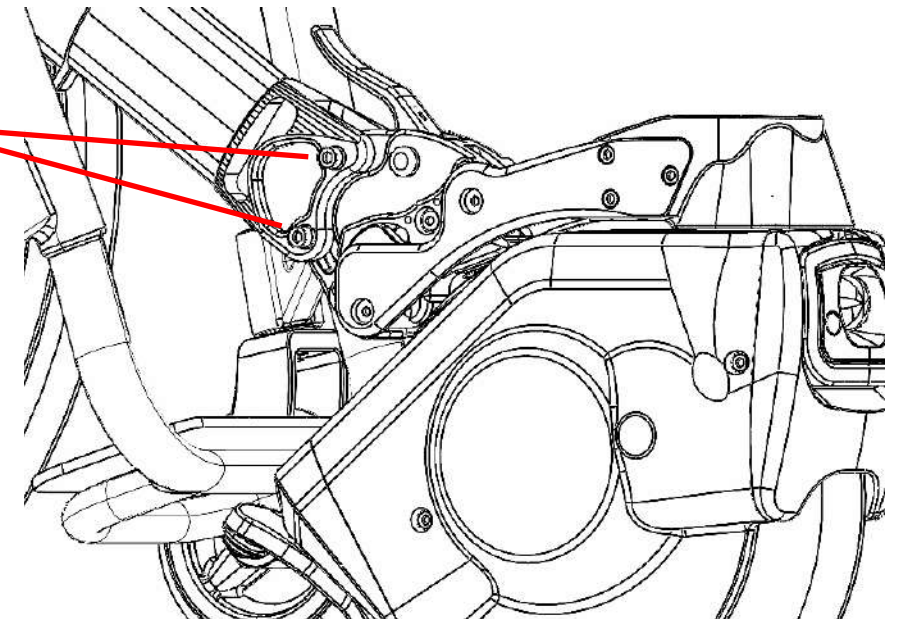
Connector adjustment

KLAXON®

12. Once the correct position has been found: tighten definitively the 4 fixing screws of the Front Hook with a torque wrench set to 10Nm



Fixing Screws

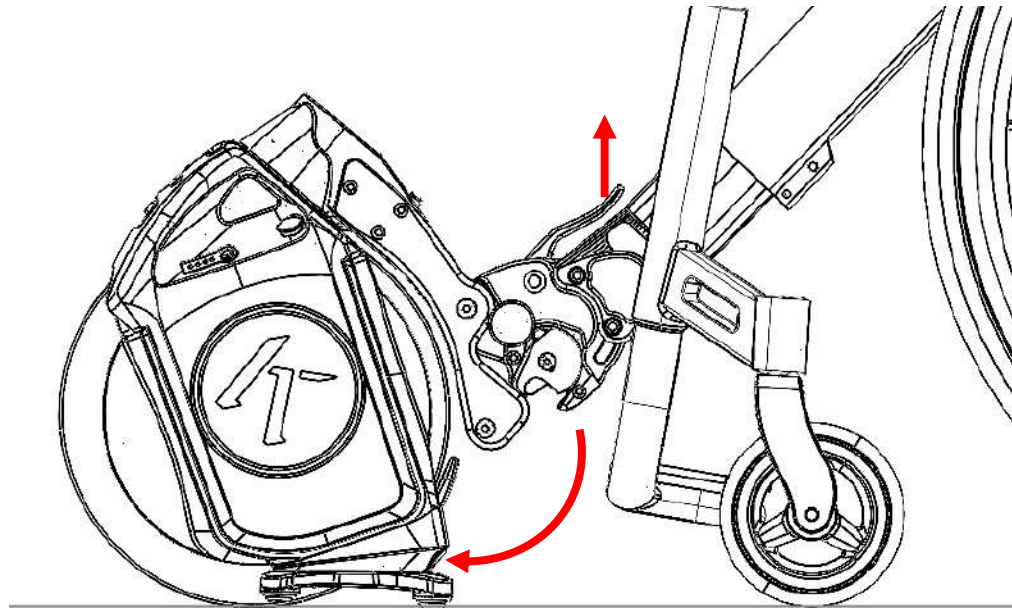


Description of the components:

Connector adjustment

KLAXON®

13. Raise the Unlinking Lever all the way up to disengage the lower pin from the Linking System. The Twist will now be resting on the ground on its stand while remaining engaged to the upper pin.

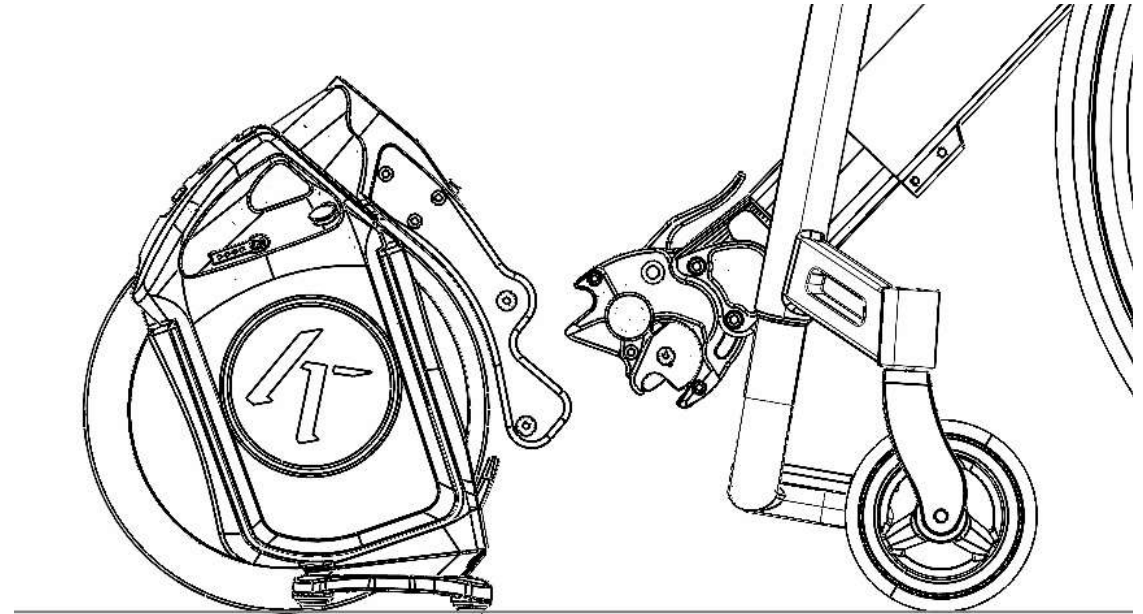
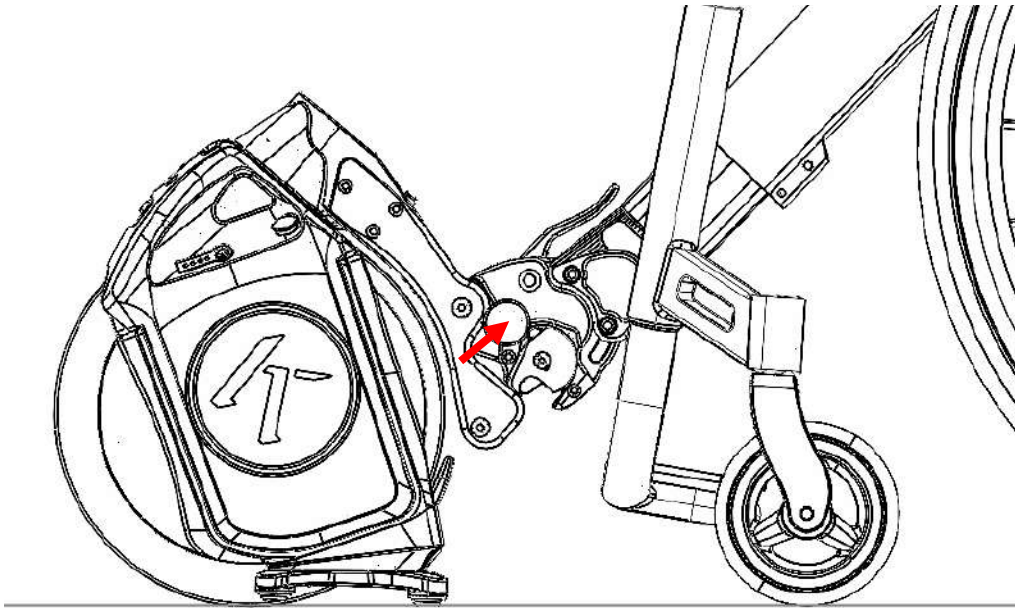


Description of the components:

Connector adjustment

KLAXON®

14. Press the red Safety Button to disengage the Twist from the Linking System completely.

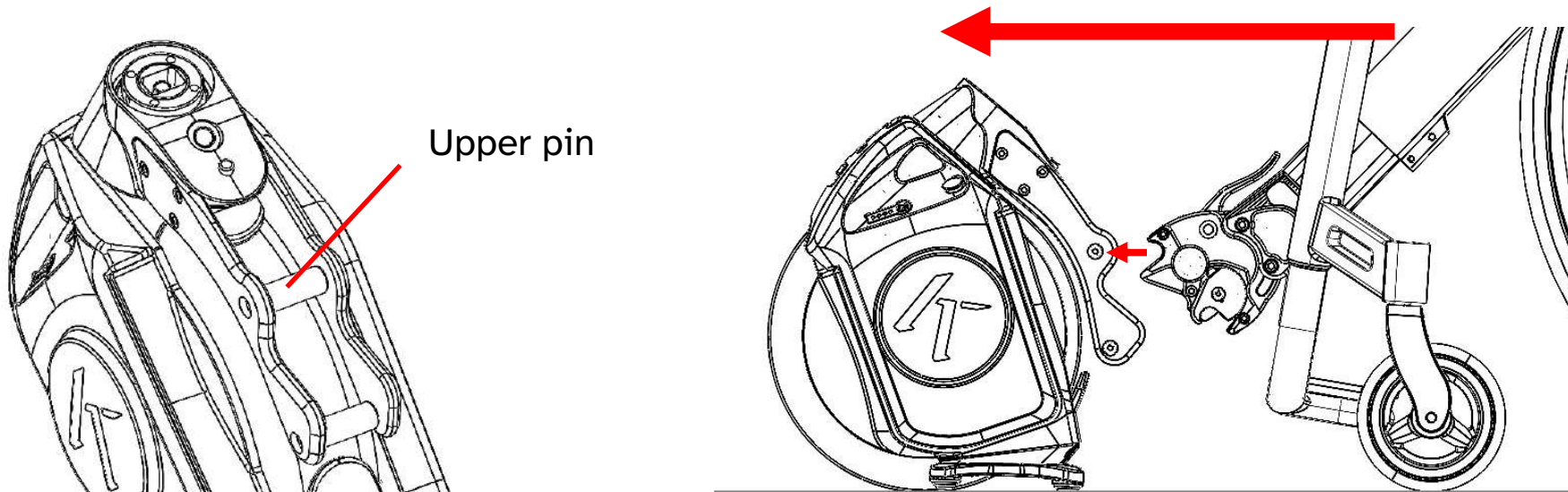


Description of the components:

Connector adjustment

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15. Place again the Twist on the ground in front of the wheelchair. Lightly unscrew the two fixing clamps' screws, bring the wheelchair closer and adjust the inclination of the connector until the upper pin of the Twist rests on its seat on the Front Hook.



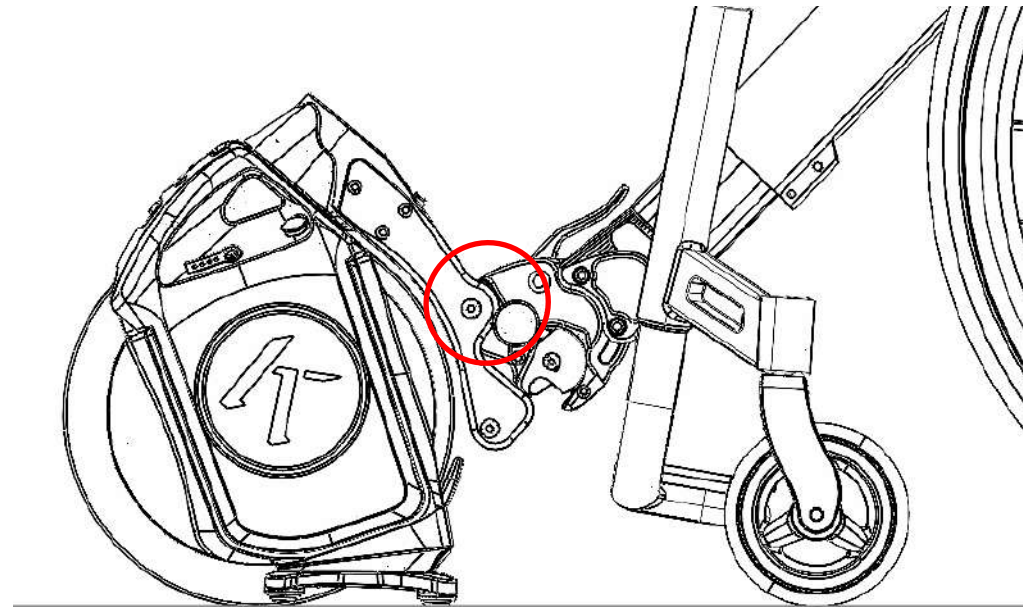
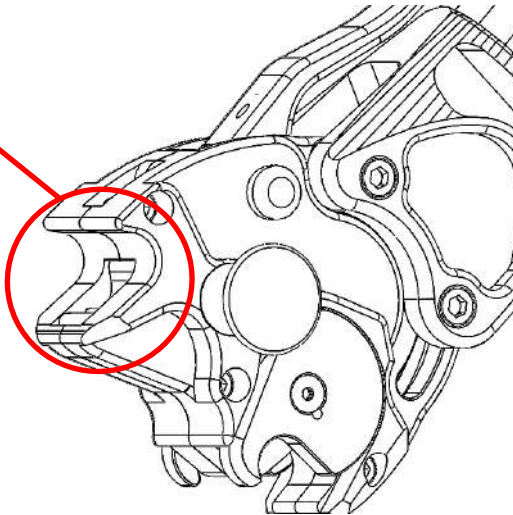
Description of the components:

Connector adjustment

KLAXON®

16. Once the upper pin of the Twist is correctly placed on its seat on the Front Hook, tight lightly the two screws of the fixing clamps so it does not loose the adjustment made at the previous point.

Seat of the
upper pin

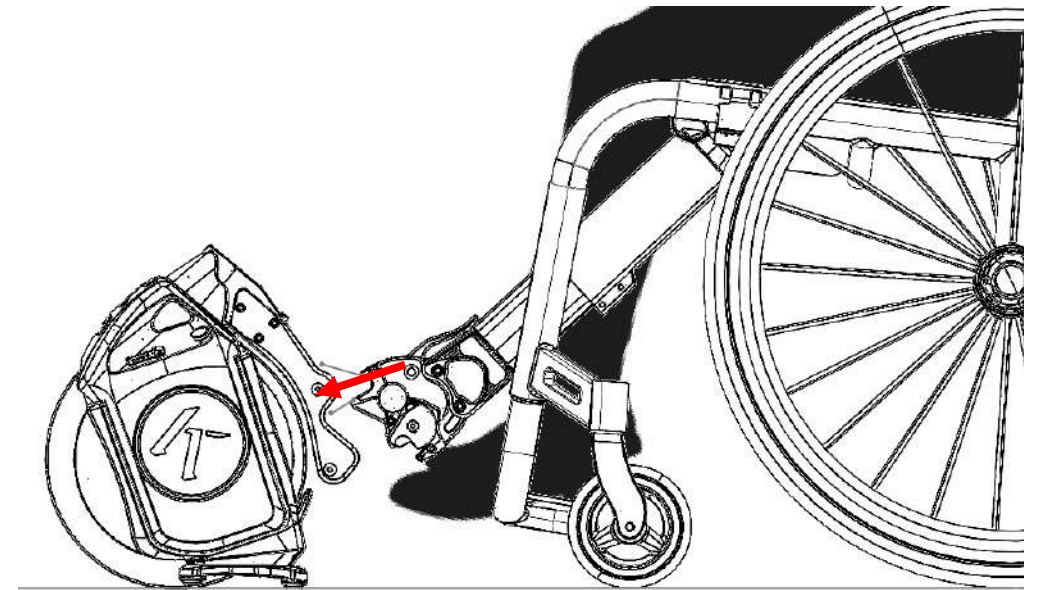


Description of the components:

Connector adjustment

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17. At this stage it is necessary for the user, or in its absence another person of similar weight, to sit on the wheelchair. Check again that the seat of the upper pin is perfectly in line and in front of the upper pin. If necessary move the Connector until the correct seat/pin alignment is found. Alignment is correct when the user on board the wheelchair, is able to engage the Front Hook on the upper pin by manoeuvring the wheelchair with the handrails. Do not completely connect the Twist during this operation to avoid to loose the crossbeam adjustment.



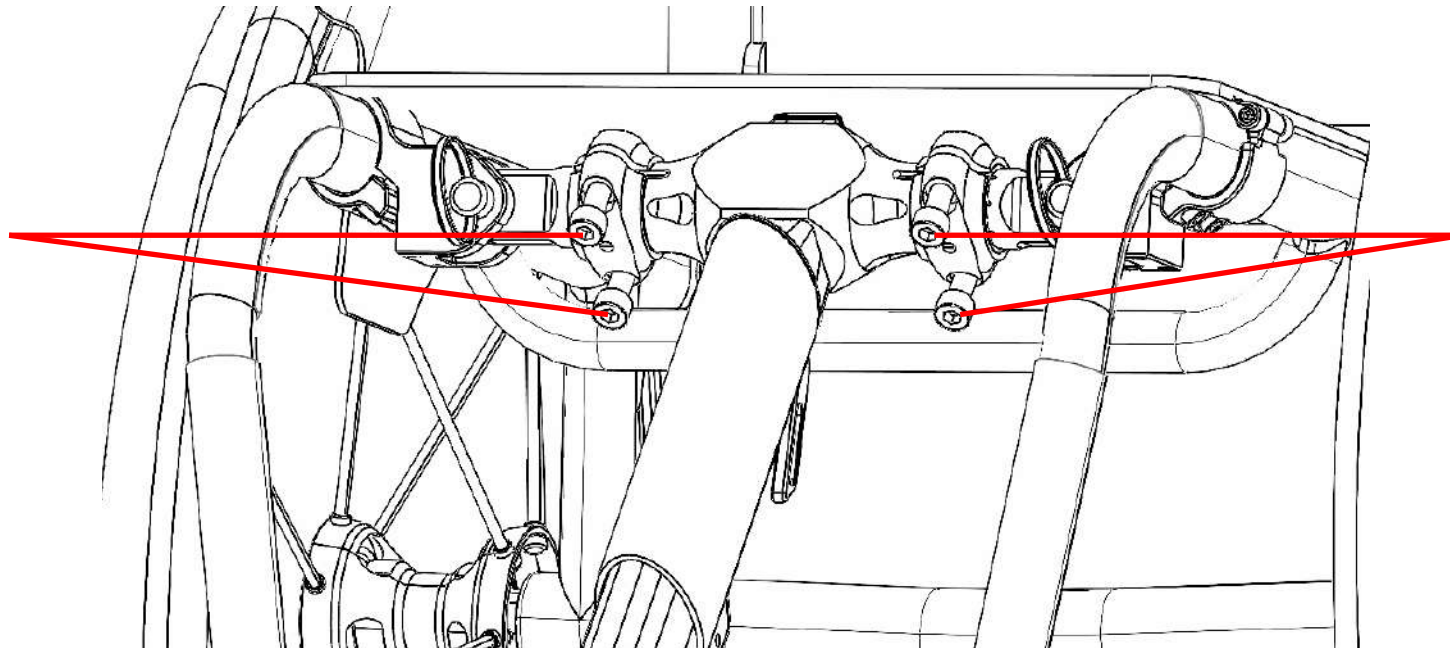
Description of the components:

Final adjustment

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Once this position has been defined, it is possible to permanently tighten the screws securing the crossbeam using a torque wrench calibrated to 25Nm (with copper grease).

Fixing Screws of
the crossbeam
25 Nm



Fixing Screws of
the crossbeam
25 Nm

Description of the components:

Final Warning

KLAXON®



Check that all screws are tightened correctly before attempting to link the Twist with the user in the wheelchair.



To check for correct installation, try performing the Twist linking and unlinking operation several times as described in the user manual. For safety reasons, carry out the operation with the user or a person of similar weight on board.

Linking system:

Crossbeam permanent fix

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1. After having performed the correct installation and established that the setting is perfect and definitive it is recommended to permanently fix the position of the crossbeam by using the Spring Type Straight Pins (included in the installation set).



Linking system:

Crossbeam permanent fix

KLAXON®

2. Make sure that the Strap is adjusted and tightened in the definitive position. Use a Drill bit of 5mm to open an hole. Keep drilling until you perceive the first void



Linking system:

Crossbeam permanent fix

KLAXON®

3. Insert the Spring Type Straight Pins and fix it with a hammer. The final result is highlighted by a circle in the last image. Repeat the procedure for all the two holes.

