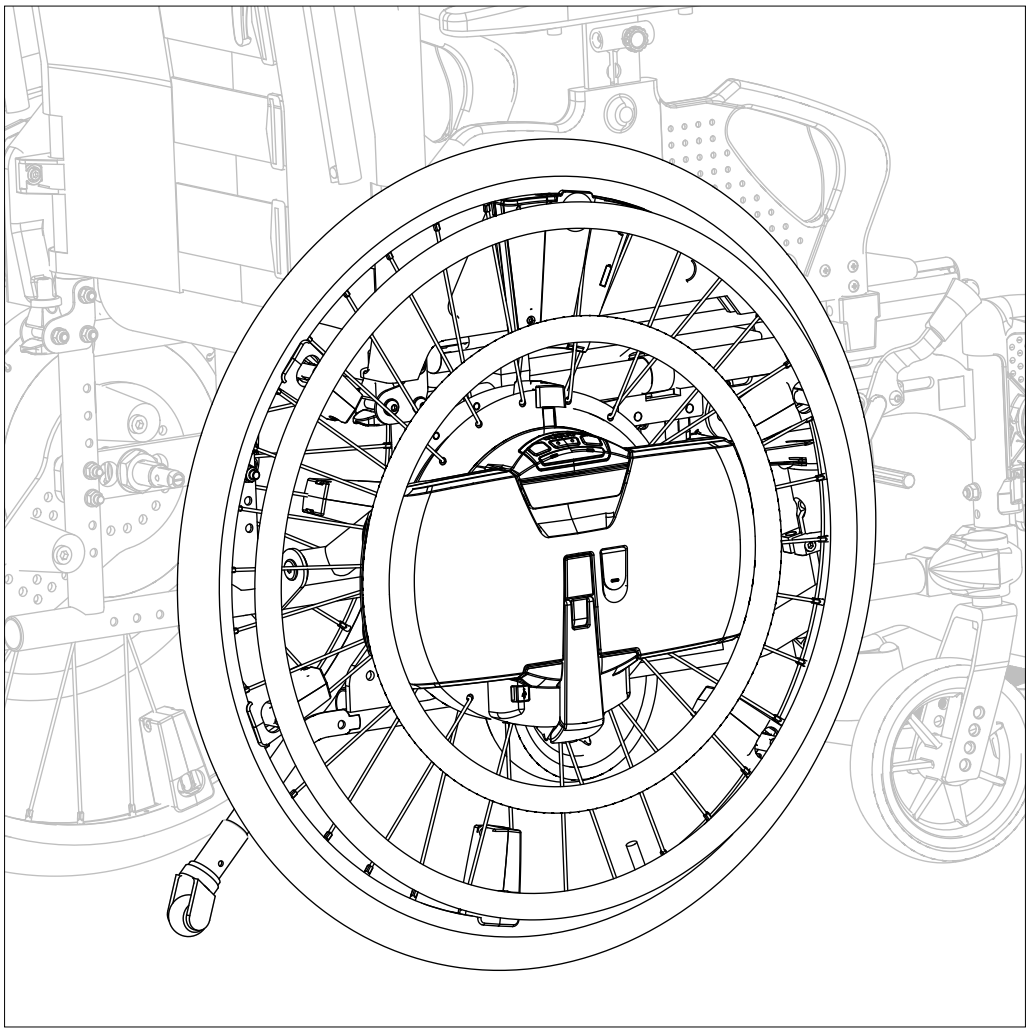


ASSEMBLY INSTRUCTIONS EN

WheelDrive

Power assist

Empulse

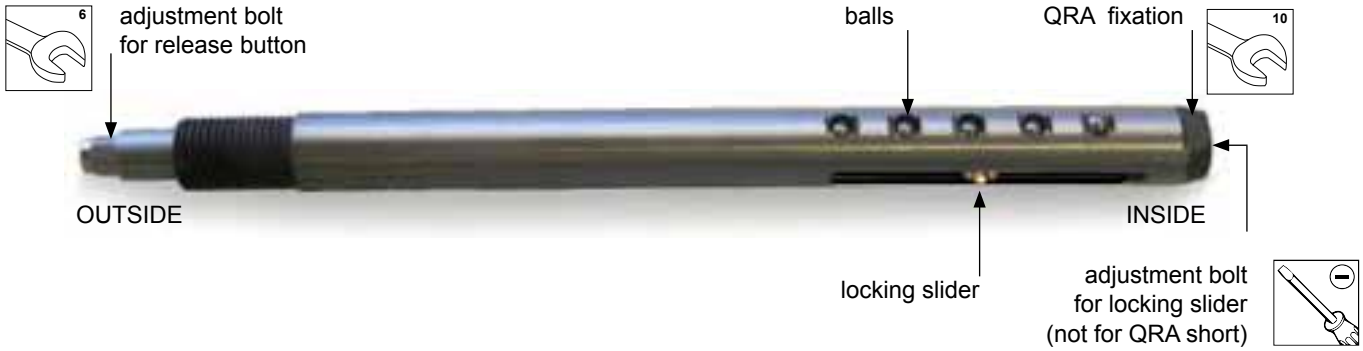
9011311D

Preparation before driving with the WheelDrive

The assembly of the WheelDrive should be performed by qualified professionals.
Before driving with the Power assist, following actions need to be taken:

- Remove the contact covers
- Click the battery in the WheelDrive
- Follow the steps in the next paragraphs:
  - Determine which quick release axle (QRA) to use
  - Mounting the QRA
  - Releasing the QRA ball lock
  - Setting the QRA balls and adjusting the axle tip to the release button
  - Mounting additional extender brackets (optional) for the support blocks
  - Mounting the support blocks
- Mounting the wheels on the chair and adjust the support blocks

Quick release axle (QRA)



Determine which QRA to use

Two types of quick release axles are provided.

- Quick release axle for receivers of 25-75 mm
- Quick release axle short for a receiver of 37 mm

Each type comes in 2 diameters: 12 and 12,7 mm. Be sure to choose the right axle size before installing the WheelDrive. To determine the difference between 12 or 12,7 mm, look at the rib in the middle of the QRA. An axle without rib is a 12,7 mm QRA. An axle with rib is a 12 mm QRA.

Axle diameter Determine which QRA diameter you need to use, based on the receiver of the wheelchair frame. If you have no proper measuring device to measure the diameter of your axle receiver, you can also determine the required axle diameter by trial and error: the axle has to be a tight fit. Ensure that there is no play and that the axle can only be moved along the length of the axle.

Axle length If you have a wheelchair with a tilting mechanism, it might be useful to use the short quick release axle. Using the short QRA prevents conflicts between the QRA and the wheelchair's tilt mechanism. Before installing the short QRA, make sure the wheelchair frame is fitted with a 37 mm receiver. Alternatively replace the receiver as fitted with a 37 mm receiver. See in the next paragraph how to mount and adjust the QRA.

Mounting the quick release axle (QRA)

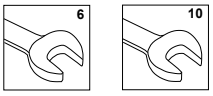
Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
- Turn the release button adjustment completely into the outside end of the QRA. This can be done by hand or with an open ended spanner 6 mm.
- Put the QRA in the motor housing and tighten with your hand until you feel resistance.
- Tighten the axle completely into the housing with an open ended spanner 10 mm on the QRA fixation. You need to turn the axle many times until the axle is fully secured.

⚠ **Warning!** When the axle is not properly secured in the motor, it may come loose!

Relevant article numbers
9008490 Mounting set 12 mm
9008491 Mounting set 12,7 mm
9008494 Mounting set 12 mm, short
9008495 Mounting set 12,7 mm short

Tools used
Open ended spanner, 6 mm
Open ended spanner, 10 mm



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Note! When the axle is not properly secured in the motor, it may come loose!

Releasing the QRA ball lock

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
- Before you mount the WheelDrive to the wheelchair, the QRA balls need to be released (unlocked).
- The QRA is locked if the slider is aligned with a pair of balls. The axle tip with the adjustment bolt for the locking slider is visible on the inside of the wheel.
- Unlock the axle by turning the adjustment bolt for the locking slider with a screwdriver. The slider indicator will become unaligned with the balls and the balls are released.
- You can mount the WheelDrive to the wheelchair.

Tools used
Screwdriver

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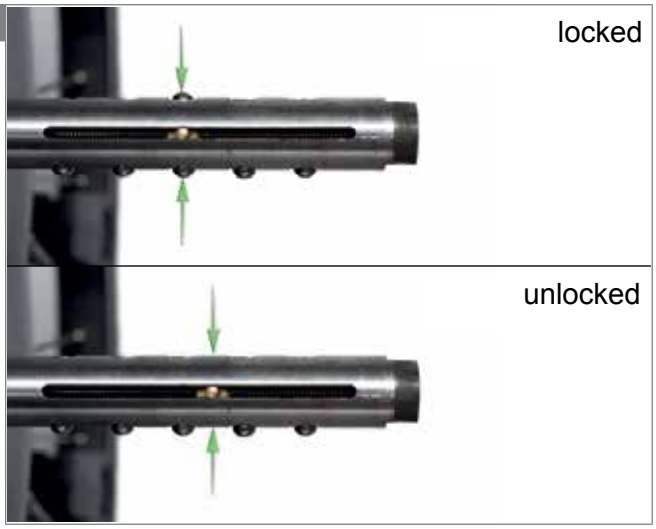

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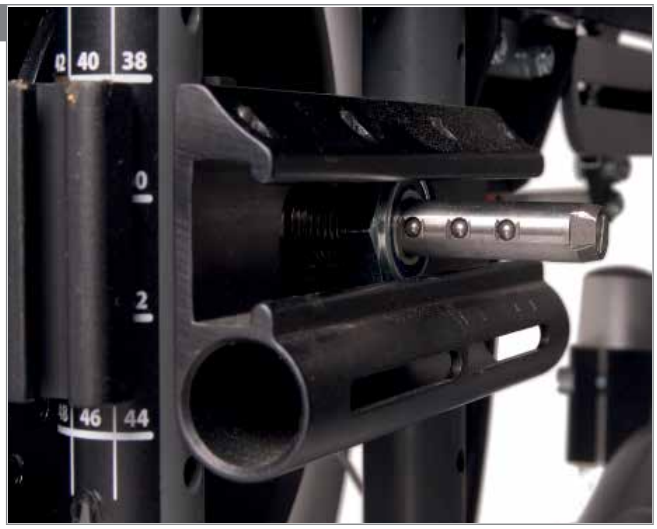

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Setting the QRA balls and adjusting the axle tip to the release button

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
- Put the WheelDrive with anti-tip and the QRA completely in the axle receiver. The anti-tip plate should touch the axle receiver.
- On the inside, loosen the QRA with an open ended spanner 10 mm until a ball comes fully out of the axle receiver.

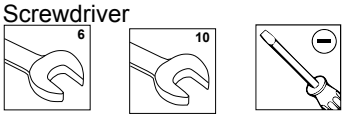
⚠ **Warning!** Do not loosen the axle more than 10 mm outwards (second pair of balls). The axle will not be properly secured in the motor and may come loose!

- The QRA is in its correct position, to lock itself to the axle receiver.
- On the outside, turn the adjustment bolt for the release button with a open ended spanner 6 mm. The outside tip of the QRA should just touch the quick release button on the wheel handle. If the space between axle tip and button is too large, the wheel cannot be removed properly. If the space between axle tip and button is too small, the ball lock will unlock and the wheel may come loose.
  Note! When the tip of the axle touches the quick release button do not continue. Tip; adjust the tip of the axle at a distance of 1 to 2 mm from the quick release button.
- Remove the wheel and, on the inside, adjust the adjustment bolt for the locking slider with a screwdriver. The slider should be aligned with the pair of balls to lock these balls at the length of the axle receiver.

⚠ **Warning!** Make sure that the slider is perfectly aligned of the balls. If not, the ball lock may come unlocked and the axle loose to the wheelchair.

- Put the wheel back on the wheelchair frame by pushing the release button located on the handle.
- End check: remove the wheel and put the wheel back on. When you hear a distinct click the QRA is properly adjusted. When you do not hear a distinct click, it means the balls cannot protrude from the QRA. The QRA will not lock the axle in the receiver. Repeat the previous steps to fine-tune the setting of the QRA.
  Note! When adjusting the bolt on the outside tip, use a screwdriver on the slider adjustment bolt on the inside tip of the QRA to keep the slider perfectly aligned with the balls.

Tools used
Open ended spanner, 6 mm
Open ended spanner, 10 mm
Screwdriver



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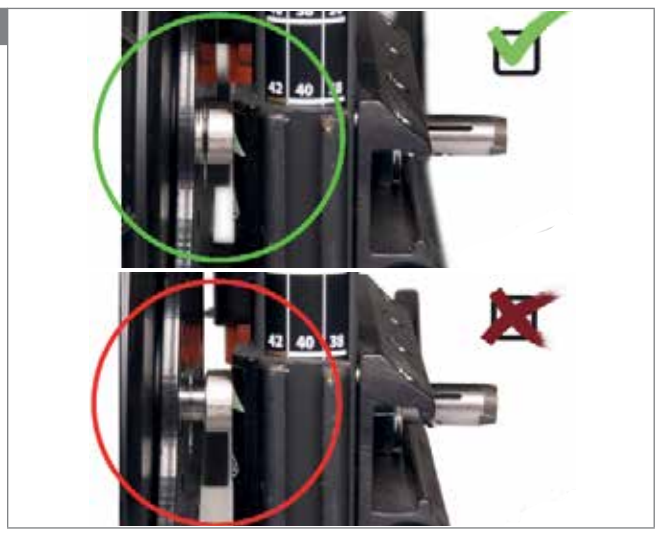

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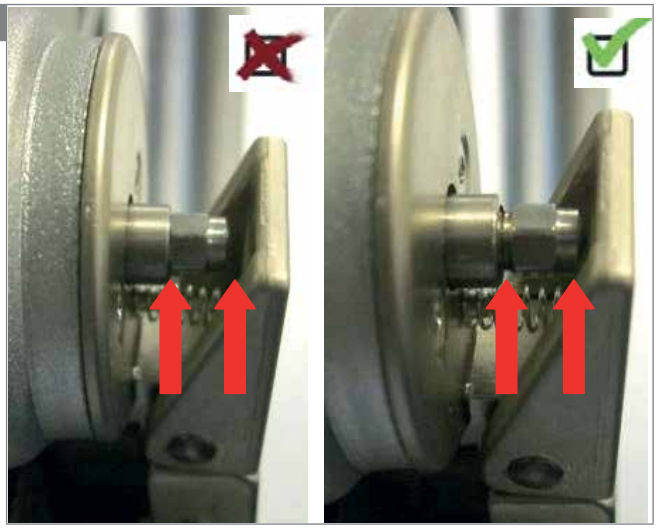

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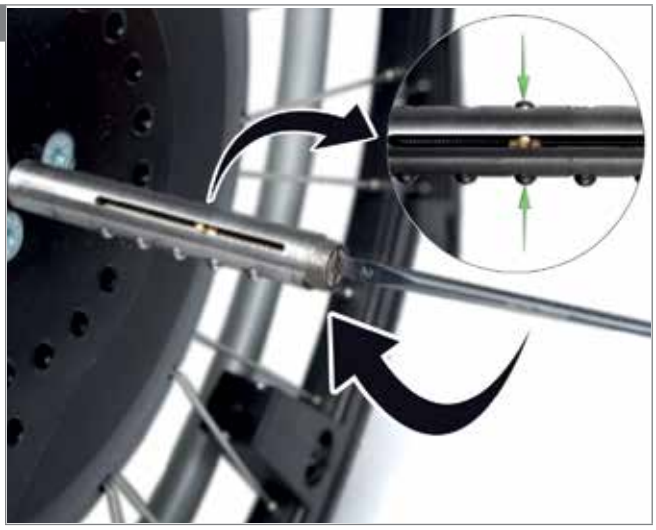

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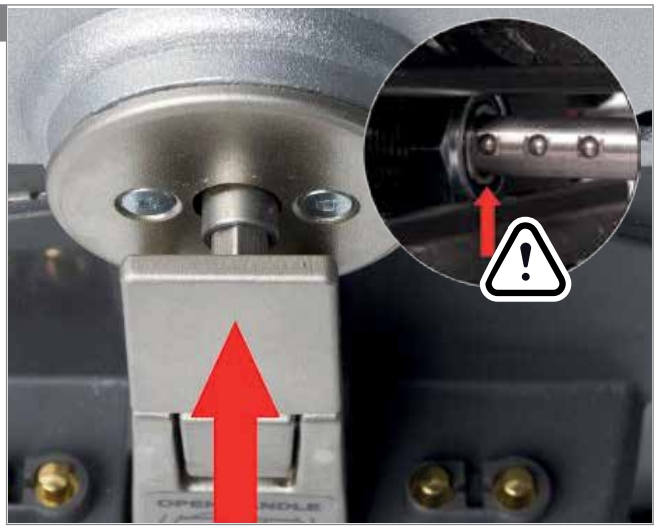

Mounting additional extender brackets (optional) for the support blocks

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

In some cases there is insufficient space to position the support blocks on the anti tip plate. In other cases the support blocks might interfere with other wheelchair parts or a tilting mechanism. In those situations optional additional extender brackets can be useful.

Two additional extender brackets are available as an option. Use only the bracket best fitted for the circumstances.
Note! Do not mount one bracket on the other bracket.

Instructions
- Choose the best fitting bracket, search for a possible position for the bracket and determine which mounting holes to use.
- Fix the bracket with two bolts, using a torque wrench (25 Nm).
- Search for a possible position for the support blocks on the bracket, close to the frame.
- Tighten the support blocks-bolt finger tight, so the blocks can still rotate around the bolt.
- Rotate the support block against the frame and tighten the bolt

Tools used
Torque wrench 25 Nm, hexagonal 5 mm bit

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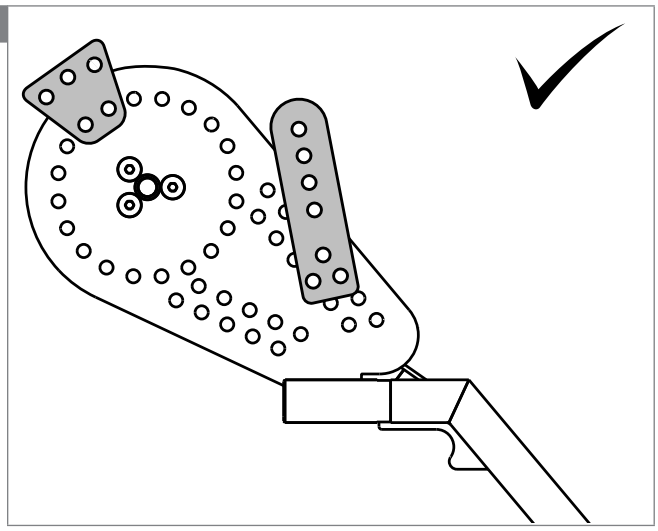

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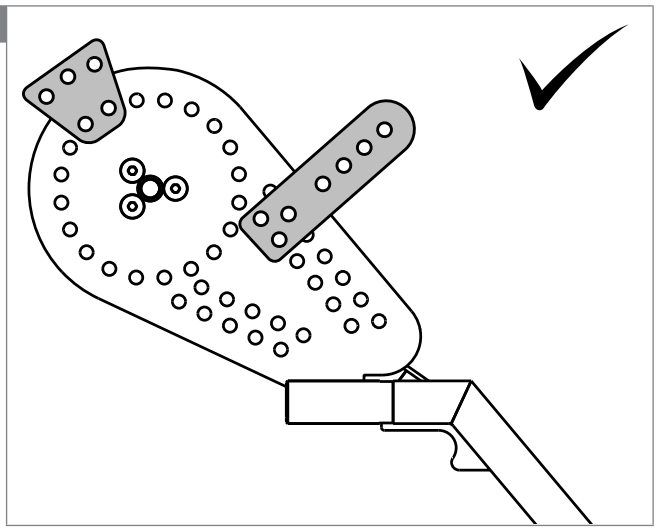

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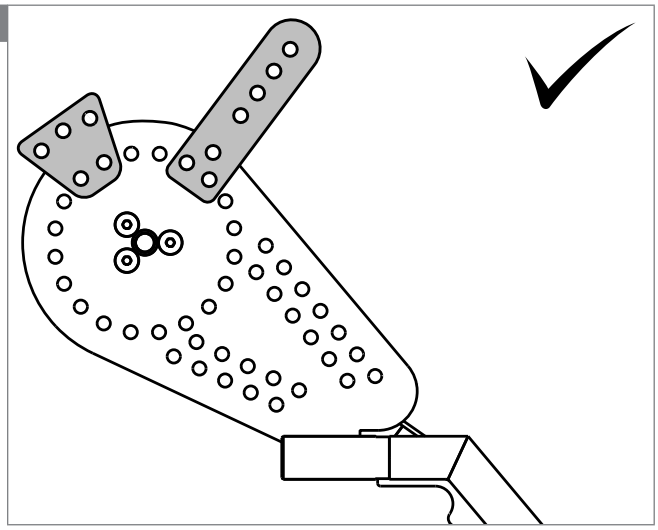

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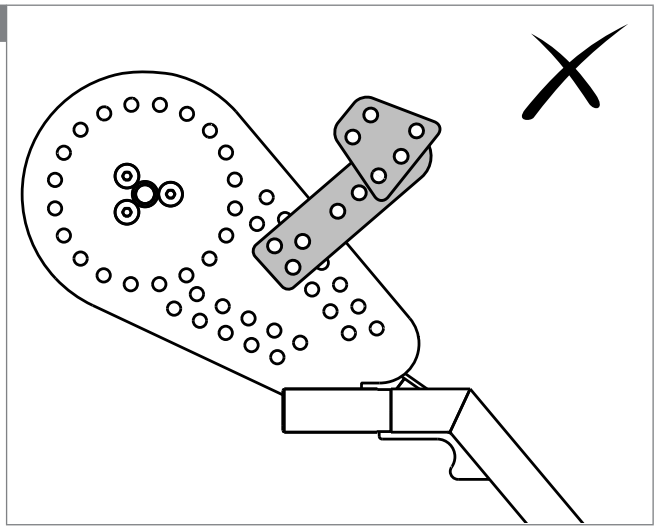

Mounting the support blocks on the WheelDrive

Preparation
To prevent the risk of injury, always turn off the Power assist and remove the battery.

Instructions
- Position the anti-tip wheel 6 cm above the ground by using the supplied carton triangle.
- Assemble the 4 support block parts.
- Determine the position for the first support block close to the frame that counters the rearward rotation of the motor and the anti-tip plate. Tighten the support block-bolt finger tight, so the block can still rotate around the bolt.
- Determine the position for the second support block close to the frame that counters the forwards rotation of the motor and the anti-tip plate. Tighten the support block-bolt finger tight, so the block can still rotate around the bolt.
  Note! Make sure that both blocks stop rotational movement in opposite directions.
  Note! Make sure that the supporting area of the wheelchair frame is stiff enough for countering the motor torque.
- Place the plastic film on the support block to create a proper play for taking off the wheel.
- Rotate the support blocks one after another clockwise towards the frame and tighten the bolt with a torque wrench 6 mm (25 Nm).
- Remove the plastic film from the block by pulling the pull tab. It is important to remove the film smoothly, to make sure the block and film are not too tight to the frame.
  Note! The support blocks may not mount too lose. When the blocks are loose along the frame, the anti-tip plate rotates with the motor
- Make sure the support blocks will be fixed over half way through the frame of the wheelchair (step 5)

Relevant article numbers
9008490 Mounting set 12 mm
9008491 Mounting set 12,7 mm
9008494 Mounting set 12 mm, short
9008495 Mounting set 12,7 mm short

Tools used
Torque wrench 25 Nm, hexagonal 6 mm bit

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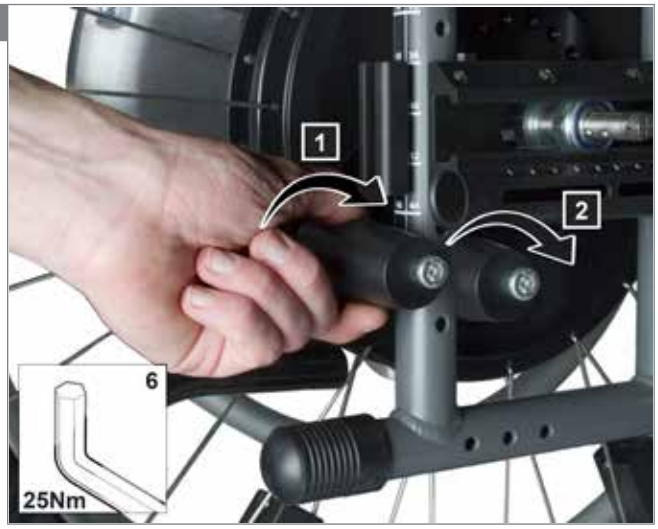

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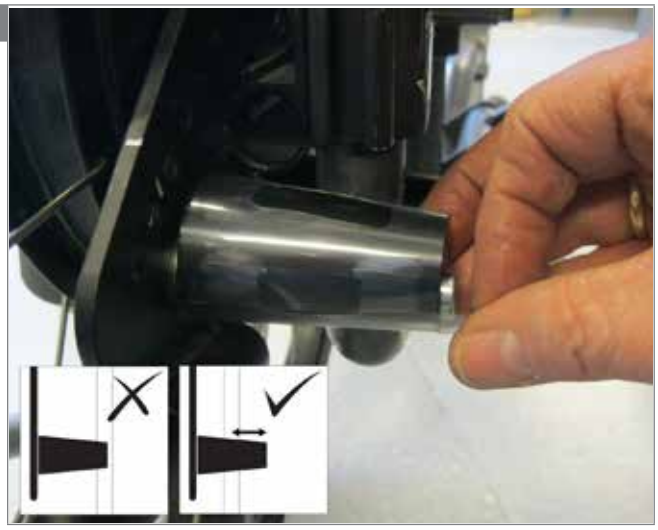

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