



INSTRUCTION SHEET

CHANGING CAMBER ANGLE ON RIGID WHEELCHAIRS



This document:

- Explains the seat-to-floor differences when changing the camber angle on rigid wheelchairs
- Describes how to adjust the height of the axle on rigid wheelchairs
- Lists the parts required for changing camber angle on rigid wheelchairs
- Describes how to disassemble and assemble the axle on rigid wheelchairs

Please, also refer to the other documents of the series available at [motioncomposites.com](https://www.motioncomposites.com) (Support and Education/How-to documents):

- Camber, rear wheel parallelism, toe-in, toe-out, and how to verify alignment (MC-MTKG-WI-0001)
- Perform rear wheel alignment on Motion Composites folding wheelchairs (MC-MTKG-WI-0002)
- Perform rear wheel alignment on Motion Composites rigid wheelchairs (MC-MTKG-WI-0003)
- Rear wheel camber parts and hardware for folding and rigid wheelchairs (MC-MTKG-INF-0001)
- Changing camber angle on folding wheelchairs (MC-MTKG-WI-0004)
- **Changing camber angle on rigid wheelchairs (MC-MTKG-WI-0005) (this document)**

Wheelchair models:

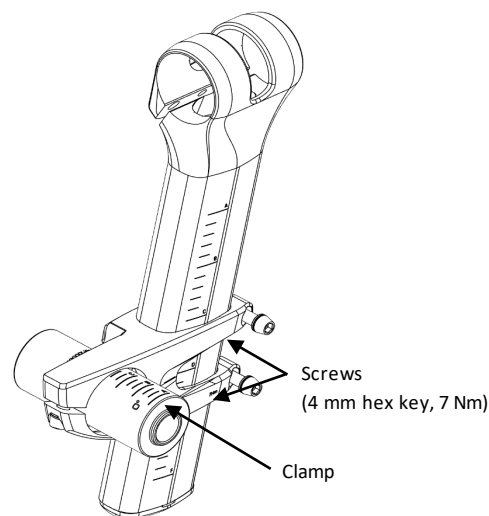
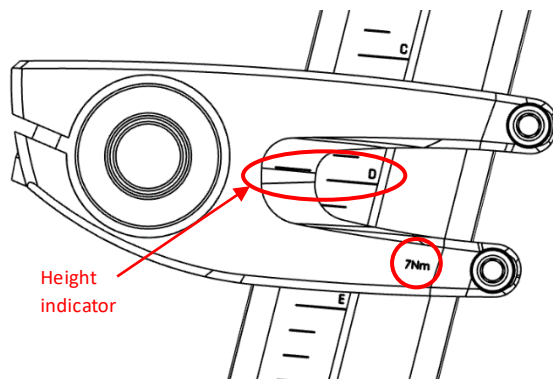
- APEX A (Aluminum)
- APEX C (Carbon)
- APEX P (Pediatric)

Tool(s) required:

- Torque wrench
- 5/8" flat wrench
- 4 mm hexagonal key
- Worktable or a flat and even surface
- Wheelchair support or any kind of object to hold the wheelchair

CHANGING CAMBER ANGLE AND SEAT-TO-FLOOR HEIGHT

- If you want to change the rear wheels camber angle on a chair note that it will affect the rear seat-to-floor height.
- To get the same seat-to-floor height you must verify and maybe adjust the rear wheel height when reassembling the axle bushing on the mounting tube.
- Adjusting axle height:
 - Loosen the 2 screws on the camber tube clamps
 - Adjust the seat-to-floor height by moving the clamps up or down.
 - Tighten the 2 screws on the camber tube clamps
 - Apply a torque of **7 Nm** as printed on the clamps.

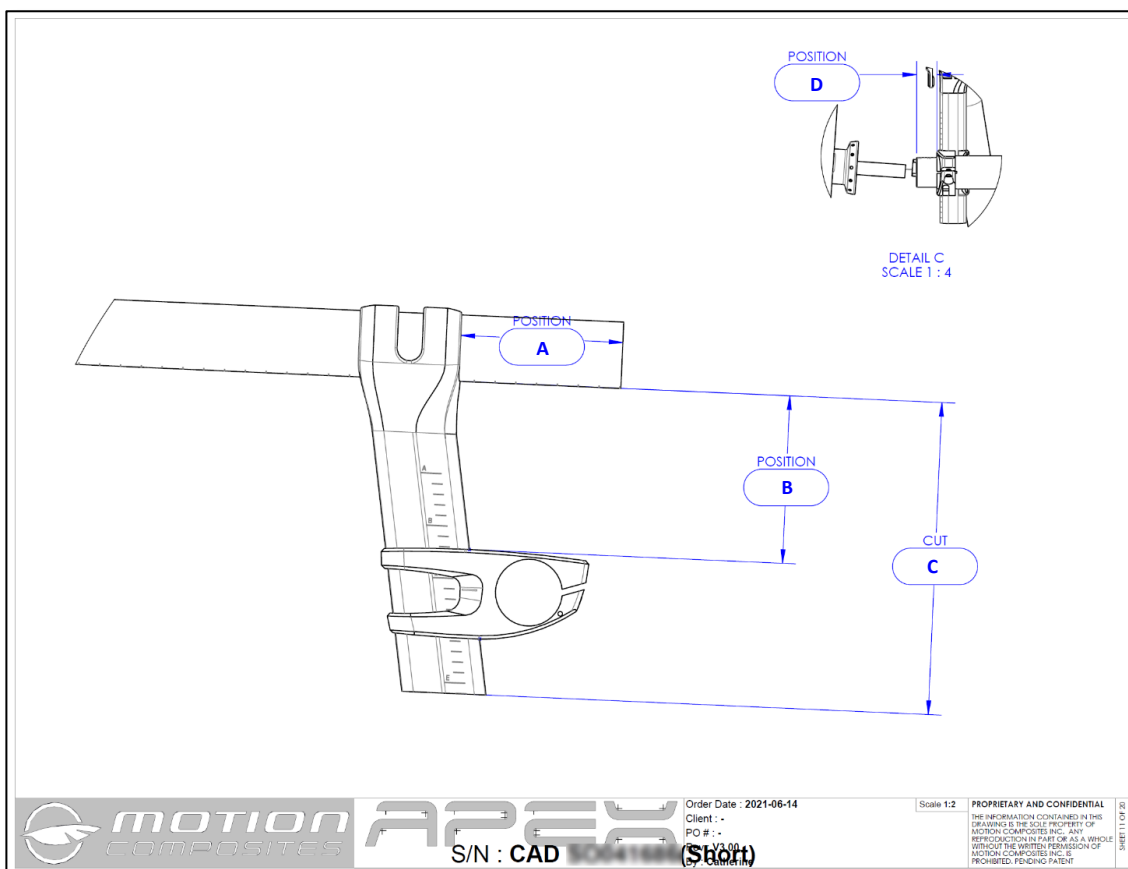




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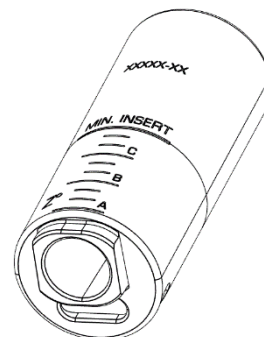
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- If you need the original setting values A, B, C and D (image below) for this specific wheelchair, please contact Motion Composites Customer Experience team and ask for the CADs of the wheelchair (serial number mandatory).



PARTS REQUIRED FOR CHANGING CAMBER ANGLE ON RIGID WHEELCHAIRS

- These are the part numbers for rigid wheelchairs axle bushings. The part numbers are the same for right and left sides:
 - 0 degree: **0021043**
 - 2 degrees: **0021044**
 - 4 degrees: **0021045**
 - 6 degrees: **0021046**
 - 8 degrees: **0021047**



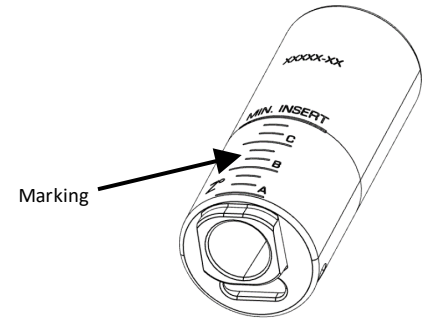
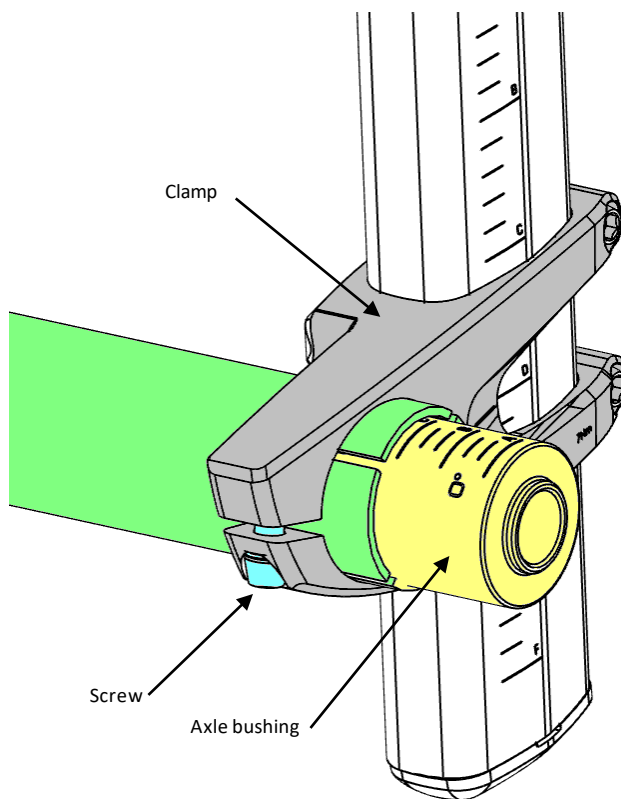


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CHANGING CAMBER ANGLE ON RIGID WHEELCHAIRS

REAR WHEEL AXLE DISASSEMBLY

- Remove the rear wheels and rest the frame on a support of some kind.
- **Take note of the axle bushing lateral position** using the line marks (A, B, C) on the bushing.
- Loosen the retaining screw.
- Remove the axle bushing.



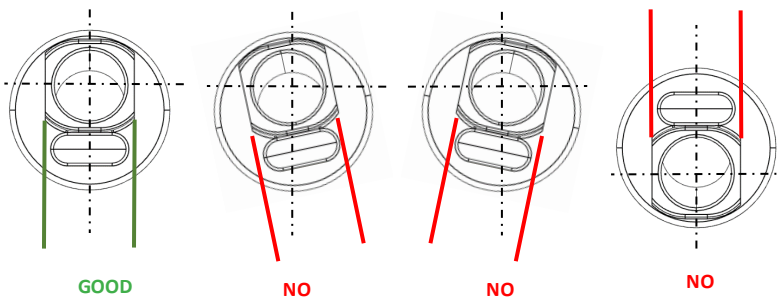
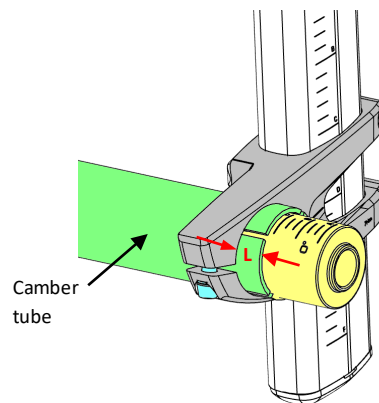


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REAR WHEEL AXLE ASSEMBLY

- Make sure that the **lateral position** of the **camber tube** is **symmetric** from side to side (illustration).
 - Adjust if needed. Length "L" should be the same on **both sides**.
- Insert the **axle bushing** in the **clamp**.
 - Place it at the **same lateral position** (in and out) as noted when disassembling.
 - Place the **markings** on the **top**
- If the **camber angle** is **other than 0°**, place the **thickest part of the axle bushing** toward the **bottom** and the flat edges of the bushing parallel to the vertical axis (illustrations below).
- The correct orientation of the axle bushing for aligned wheels should be near this position
 - This is the **"zero" orientation**.
 - The correct orientation of the axle bushings for aligned wheels should be around this position.



- Put the wheels on the chair.
- Check the clearances:
 - Check if the **distance** between the **tire** and the **armrest** (if any) is at least **1/2" (13 mm)**.
 - Check if the **distance** between the **spokes** and the **armrest receiver** (if any) is at least **1/8" (3 mm)**.
- To get **more clearance**, position the axle bushing toward the outside of the chair.
 - The **maximum outside position** is marked on the axle bushing (illustration).
- Check the wheel alignment. See the document "Perform rear wheel alignment on Motion Composites folding wheelchairs".
 - When everything is correct, tighten the screw with a torque of **7 Nm**

