



## INSTRUCTION SHEET

# SET THE CENTER OF GRAVITY ON FOLDING WHEELCHAIRS



This document explains how to **adjust** the center of gravity of Motion Composites **folding wheelchairs**. The center of gravity is adjusted differently depending on the **type of rear wheel mounting plate**:

- Multi-position
- 6 positions non-reversible
- 12 positions reversible

The documents mentioned in below are available at [motioncomposites.com](http://motioncomposites.com) (Support and Education/How-to documents):

- Squaring the front caster housings (MC-MTKG-WI-0008)
- Changing camber angle on folding wheelchairs (MC-MTKG-WI-0004)
- Changing camber angle on rigid wheelchairs (MC-MTKG-WI-0005)

### Wheelchair model(s)

### Tool(s) and materials required

- HELIO C2/XC2/A6/A7/Kid/K
- VELOCE
- CHRONOS
- PLATINUM 1/2
- COBALT 1/2
- MOVE

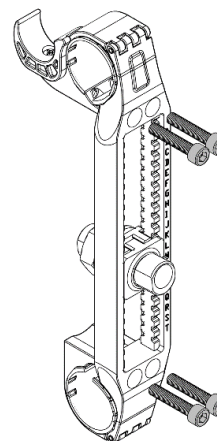
- Worktable or flat leveled surface
- Wheelchair support or any other object to support the wheelchair
- Measuring tape
- Torque wrench
- Hex keys (Allen keys): 4 mm, 5 mm
- Medium strength threadlocker adhesive (Blue Loctite)

### IMPORTANT INFORMATION

- **REMINDER:** The further **forward the center of gravity is**, the **more responsive the chair is**. The further **back the center of gravity is**, the **more stable the chair is**.
- When the **center of gravity is changed** **and** the seat has a **slope**, **the position of the front caster housing must be checked and adjusted if necessary**
  - **Changing center of gravity** shifts the **angle of the front caster housing**, which may need to be **repositioned to a 90° angle** relative to the **floor**
  - See instruction sheet "**Squaring the front caster housings**" (MC-MTKG-WI-0008)
- When the **center of gravity is changed**, **the rear seat height** should also be **checked and adjusted if necessary**
  - To adjust the rear seat height, raise or lower the rear wheel axle
  - See the instruction sheet "**Changing camber angle on folding wheelchairs**" (MC-MTKG-WI-0004). The first few pages explain how to adjust the rear seat height, among other things

### ADJUSTING THE CENTER OF GRAVITY ON A CHAIR WITH MULTI-POSITION MOUNTING PLATES

- The **multi-position mounting plate** is used on the following models: **HELIO A7/C2/XC2/Kids/K - PLATINUM 1/2 - VELOCE**
- If possible, place the chair on a **worktable**
- **Remove** one or both **wheels** and place a **support under the chair**
- **Unscrew** and **completely remove** the **4 screws** holding the rear wheel **mounting plate** using a **5 mm hex key**



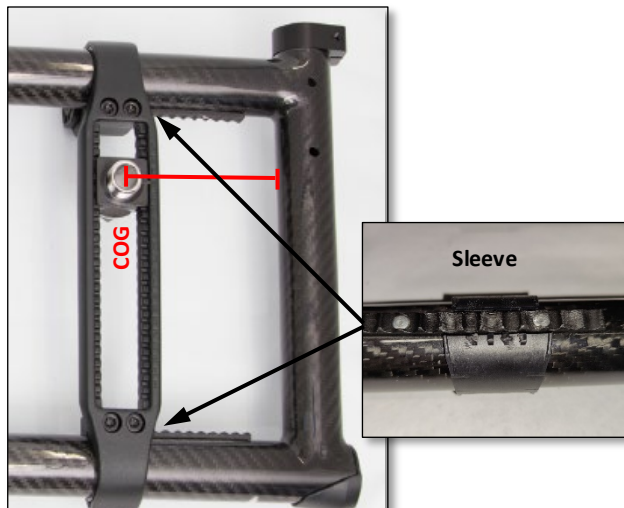


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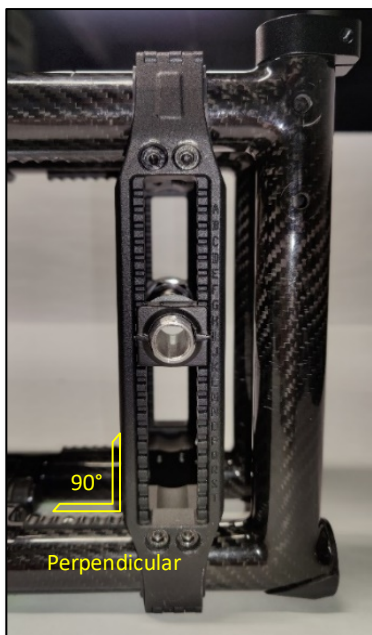
# SET THE CENTER OF GRAVITY ON FOLDING WHEELCHAIRS

- **Open the mounting plate hinges** at the top and bottom
- **Move the mounting plate and the top and bottom plastic sleeves** along the frame to the **location of the center of gravity (COG)** as **prescribed by the therapist**.

- **Center of gravity** can be adjusted from **1" to 3 ¾"** or **4"**, depending on the model in **¼ inch increments**
- **IMPORTANT:** The **center of gravity** is measured between the **inside of the rear vertical tube** of the frame and the **center of the axle receiver** (large photo)
- **ATTENTION:** The **plastic sleeves** must **not cover the notched rails** (small photo)



- **Close the hinges**
  - **CAUTION:** Make sure that the **mounting plates** are **perpendicular** to the **frame tube** at the **top and bottom** (see photo) and that the **hinges** are **properly closed** on the plastic **sleeves** and the **notched rails**.
- Apply **medium strength threadlocker adhesive** (blue Loctite) to the last threads of all screws
- **Insert and screw in the 4 screws** that hold the mounting plate
- If **both rear mounting plates are properly attached**, there should be approximately **¼" (6 mm)** of **space** between the **two seat rail brackets** when the chair is closed
- Apply a tightening **torque of 12 Nm** to the **4 screws** of the mounting plate





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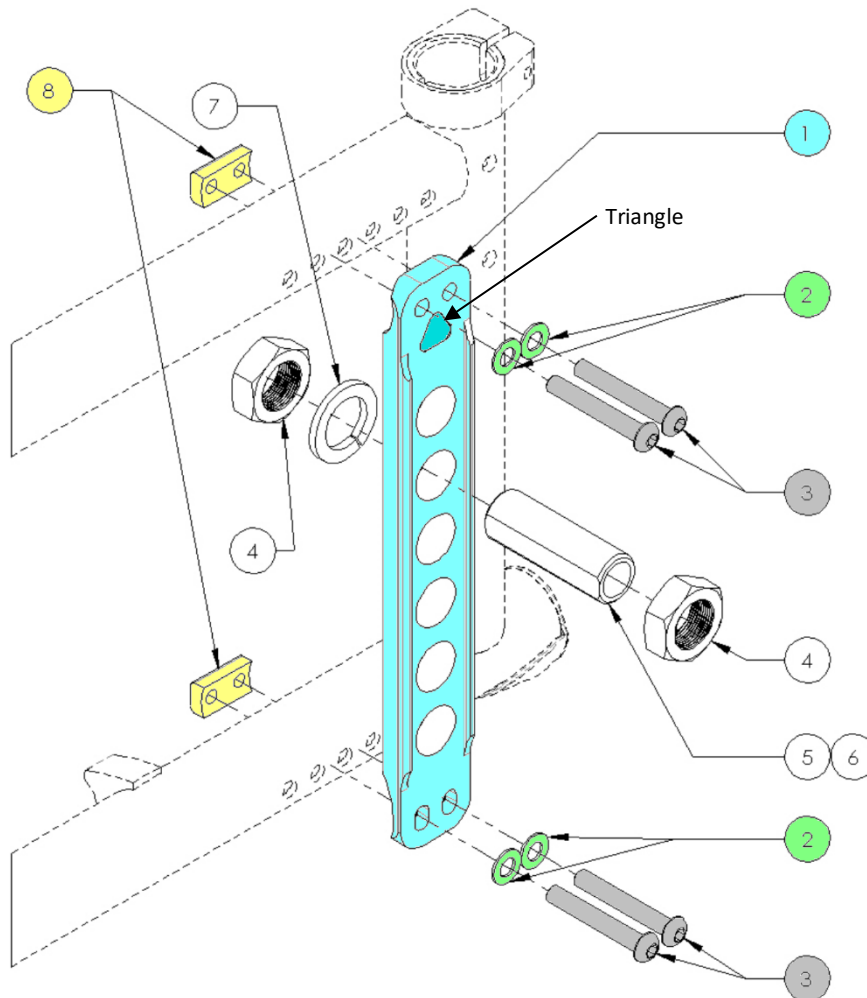
### ADJUSTING THE COG ON A CHAIR WITH 6 POSITIONS NON-REVERSIBLE OR 12 POSITIONS REVERSIBLE MOUNTING PLATES

Models: **MOVE - CHRONOS**

- These models use a **6 positions non-reversible** mounting plate

Models: **HELIO A6 - COBALT 1/2**

- These models use a **reversible 12 positions** mounting plate
- If possible, place the chair on a **worktable**
- **Remove** one or both **wheels** and place a **support under the chair**
  - If it is a **12 positions reversible** mounting plate, **note** whether the **triangle** is **positioned up or down**
- Completely **remove** the **4 screws** (#3) holding the **mounting plate** (#1) to the rear wheels using a **4 mm hex key**
  - Be careful not to drop or lose the **washers** (#2) and **threaded retainers** (#8) on the back of the frame



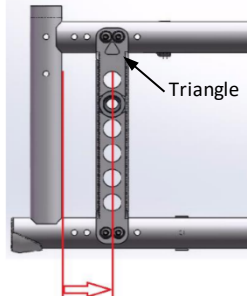


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# SET THE CENTER OF GRAVITY ON FOLDING WHEELCHAIRS

- **Position** the mounting plate where **the center of gravity** should be as **prescribed** by the **therapist**.
  - If it is a **12 positions reversible** mounting plate, **install the triangle** in the **same position** as noted at disassembly (**up** or **down**). Note that you may need to adjust it again to adjust the rear seat height, which may involve reversing the plate
  - There are **5 possible positions** for the **12-position reversible** mounting plates

**CENTER OF GRAVITY** *Extract from an order form*



Triangle

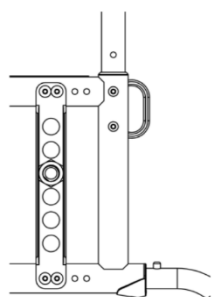
**Choose position of rear wheel axle plate:** \_\_\_\_\_  
 Measure distance from front of back post to center of axle receiver.  
*Default setting is at 1" 1/4*

	Most stable				Most responsive
AMPUTEE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3/4"	1" 1/4"	1" 3/4"	2" 1/4"	2" 3/4"

*If a configuration issue arises due to the choice of the Center Of Gravity (COG) Motion Composites reserves the right to reduce or increase the COG to the closest position.*

- There are **2 possible positions** for the **6 positions non-reversible** mounting plates

**CENTER OF GRAVITY** *Extract from an order form*



**Choose position of rear wheel axle plate:** \_\_\_\_\_  
 Measure distance from front of back post to center of axle receiver.  
*Default setting is at 3/4"*

	Most stable		Most responsive
AMPUTEE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3/4"		2"

- **IMPORTANT:** The **center of gravity** is measured between the **inside of the rear vertical tube** of the frame and the **center of the axle receiver**
- Apply **medium strength threadlocker adhesive** (blue Loctite) to the last threads of all screws
- Insert the **washers** into the **screws**
- **Insert** and **screw** the **4 screws** that hold the mounting plate to the threaded retainer that you have placed on the back of the frame tube opposite the screws
- Apply a tightening **torque of 7 Nm** to the **4 screws** of the mounting plate