INSTRUCTION SHEETS

CONVERT A STANDARD WHEELCHAIR INTO A ONE ARM DRIVE WHEELCHAIR

COMPATIBLE WITH A6-A7-C2-MOVE-VELOCE WHEELCHAIRS

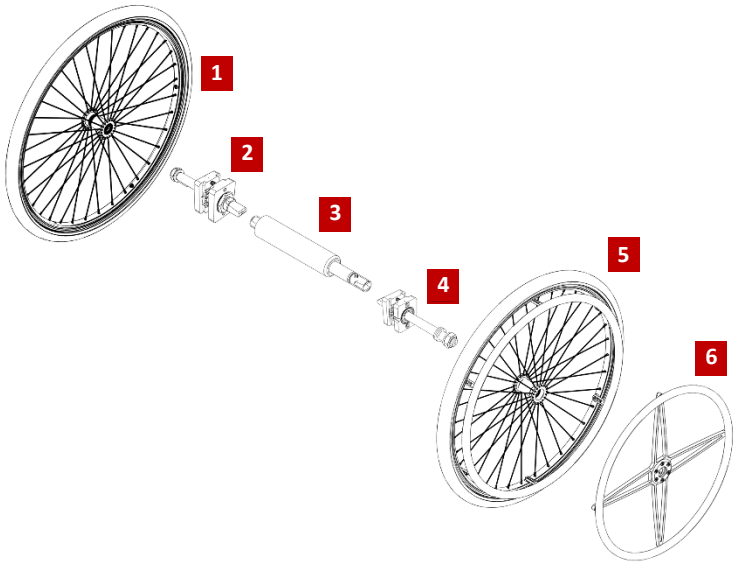
Before starting the conversion of the wheelchair, make sure you have all the parts on hand. Parts must be ordered through your representative or the Motion Composites Customer Experience Team. Have the serial number of the chair available before ordering.

Material(s) required:

- The parts you should have are:
  - Two **Newton One wheels** (#1 and #5) **24 inches** with **tires**
    - The **wheel hub** on the **driving** side (#5) is a standard hub with **two bearings**
    - The **driving wheel** is the one **with a handrim**
    - Unless specifically requested, the **driven wheel** (#1) is the one **without** a **handrim**
    - If you have ordered a **driven wheel** with a **handrim**, it can be distinguished by the **keyway** on the **outer side of the hub** and a bearing on the inner side of the hub
  - Two **mounts with shafts** (#2 and #4)
    - The appearance of the wheel mount may vary depending on the **type of mounting plate**: **V2B** (shown) or **T2**
    - The mount with the **longest shaft** is the one on the **driving wheel side**.
  - **One arm drive handrim** (#6) assembled on a cross link plate
  - A **drive shaft** (#3)
    - The **length of the shaft** you received depends on the **width of the chair**

Tool(s) required:

- 12 Nm adjusted torque wrench
- 19 mm socket wrench
- 26 mm open-end wrench or 26 mm hexagonal socket
- Hexagonal socket 19 mm
- 5/8" open-end wrench
- 5 mm Allen key
- Flat head screwdriver
- Hammer



The **driving wheel** is the one that does the propulsion. It is the one **with** a **handrim**.

The **driven wheel** is the one that is driven by the driving wheel. It is the one **without a handrim**.

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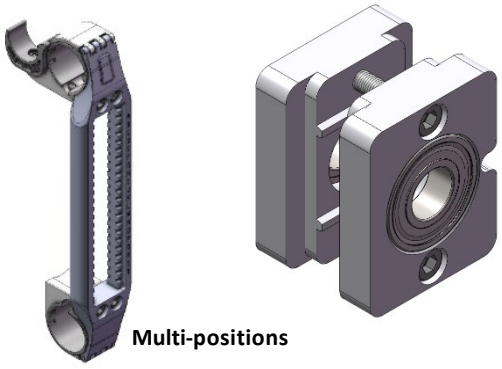
DISASSEMBLY

- **Note** the **rear seat-to-floor height** and the **position of** the original **wheel mount** on the **mounting plate** (letter or hole, depending on the mounting plate model)
- **Remove** the **wheels** and place the **wheelchair** on a **stand**
- Remove the **wheel mounts** but keep the **mounting plates in place**

INSTALL THE WHEEL MOUNTS

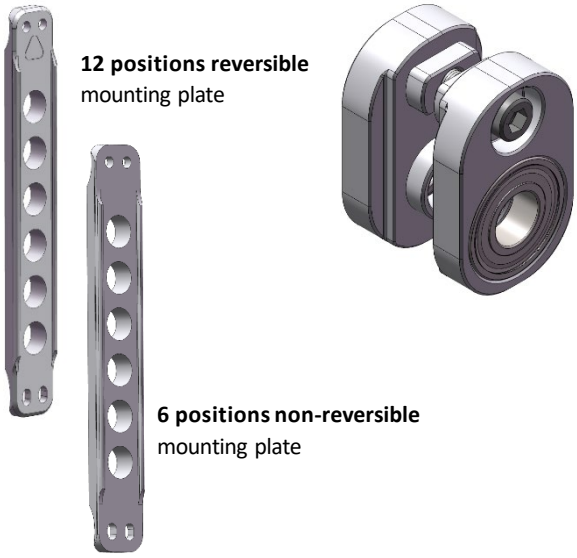
- There are **two types** of **wheel mounts,** as there are **two main families** of rear wheel **mounting plates** on the different models of Motion Composites **folding chairs**

- **V2B rectangular wheel mounts** for **multi-positions mounting plates**:
  - Wheelchair models: **HELIO A7/C2/VELOCE**



Multi-positions
mounting plate

- **Oblong wheel mounts T2** for **6 positions non-reversible mounting plates** or for **12 positions reversible mounting plates**:
  - Chair models: **HELIO A6** - **MOVE**



12 positions reversible
mounting plate

6 positions non-reversible
mounting plate

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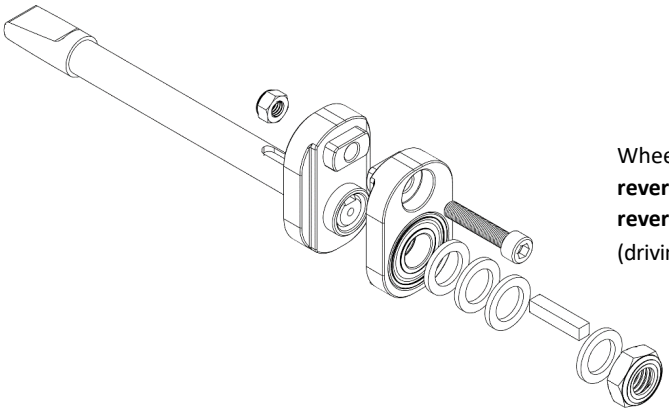
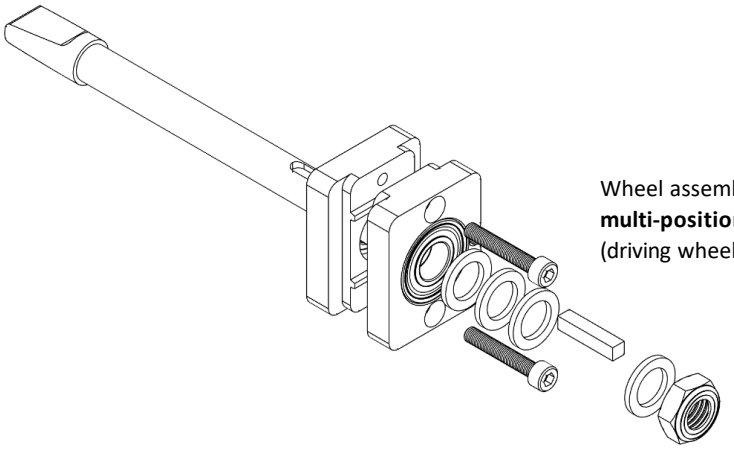
- **Make sure you** have **all the parts** for the **wheel and shaft assemblies** shown below.



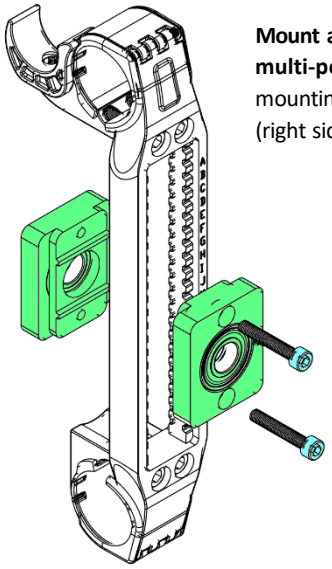
Wheel assembly for **12 positions reversible** and **6 positions non-reversible** mounting plate (driving wheel side shown)



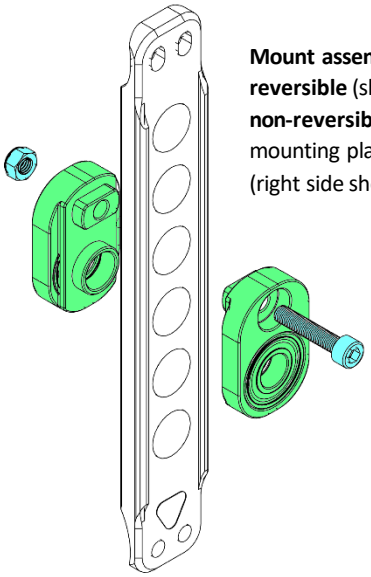
Wheel assembly for **multi-position** mounting plate (driving wheel side shown)

CONVERT A STANDARD WHEELCHAIR INTO A ONE ARM DRIVE WHEELCHAIR

- Assemble the **left** and **right wheel mounts** to the rear wheel **mounting plates** using a **5 mm** hex key
- **Position** the **wheel assembly** on the **mounting plate** in the **same place** as the **previous wheel assembly**
  - **Check** the **rear seat-to-floor height** and **adjust** the **height of the wheel mounts if necessary**.
- **Do not tighten the screws completely at** this time



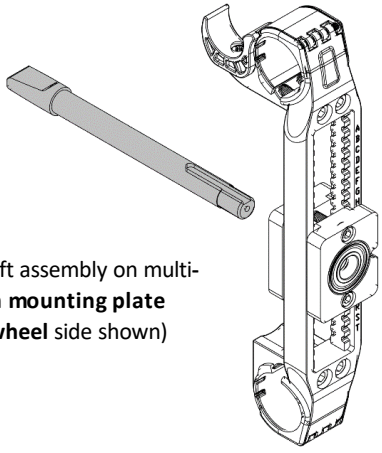
Mount assembly on **multi-position** mounting plate (right side shown)



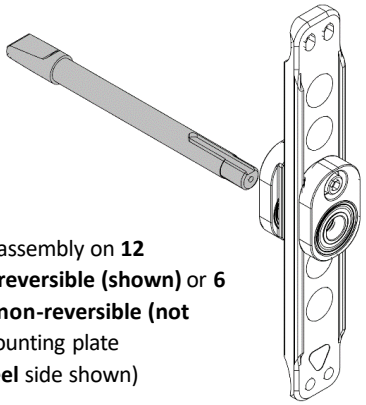
Mount assembly on **12 positions reversible** (shown) or **6 positions non-reversible** (not shown) mounting plate (right side shown)

INSTALL THE AXLE SHAFTS

- Insert the **two (2) axle shafts** into the **wheel assemblies** with the **threads** to the **outside of the chair**
  - The **long shaft** is installed on the **side of the driving wheel** (the one, where there will be the One Arm Drive handrim)
  - The **short shaft** is installed on the **driven wheel side**
- **Tighten** the wheel mount **screws**. Apply a tightening **torque** of **12 Nm**

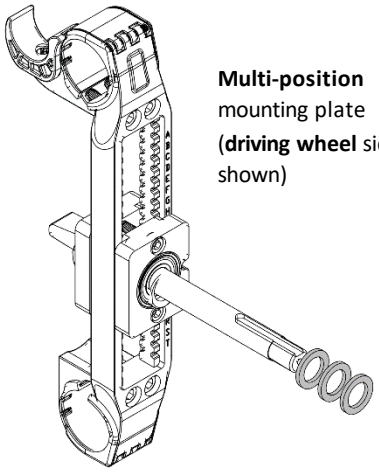


Axle shaft assembly on multi-**position mounting plate** (**drive wheel** side shown)

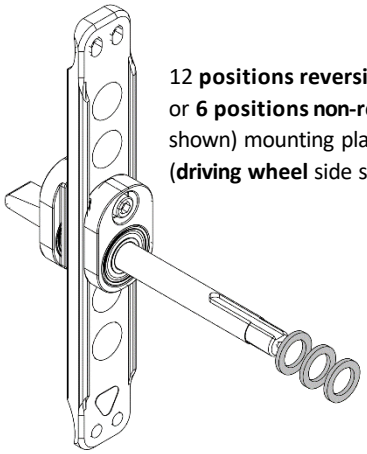


Axle shaft assembly on **12 positions reversible (shown)** or **6 positions non-reversible (not shown)** mounting plate (**drive wheel** side shown)

- Insert **three (3) washers** on **each shaft** as shown



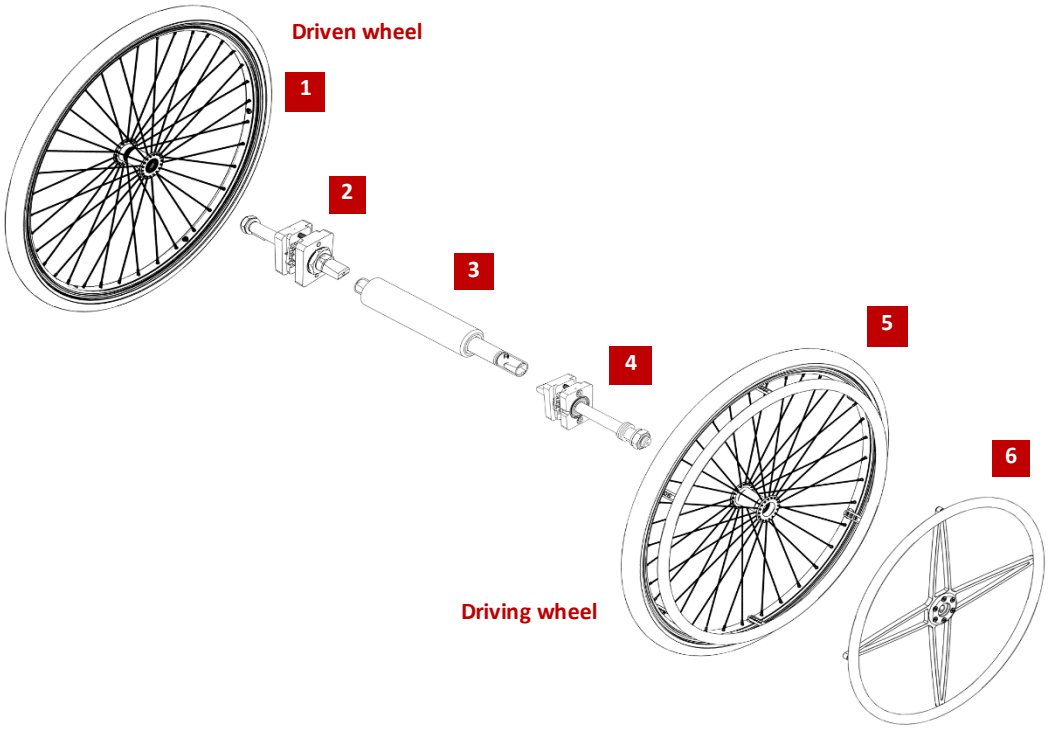
Multi-position mounting plate (**driving wheel** side shown)



12 **positions reversible** (shown) or **6 positions non-reversible** (not shown) mounting plate (**driving wheel** side shown)

- Install the **wheel with the handrim** (#5) on the **long shaft** (#4), on the **driving wheel side**
- Insert the **One Arm Drive handrim** (#6) on the shaft (#4) on the **driving wheel side**

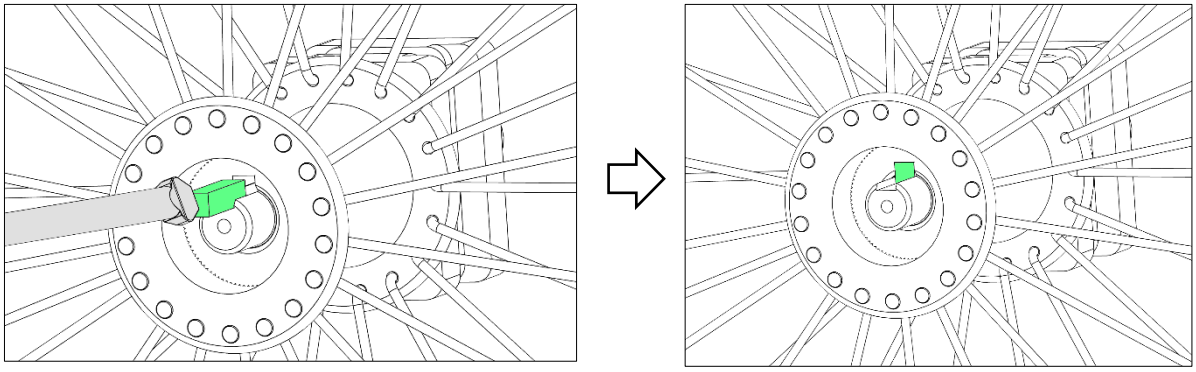
- Install the **wheel without handrim** (#1) on the **short shaft** (#2) on the **driven wheel side**



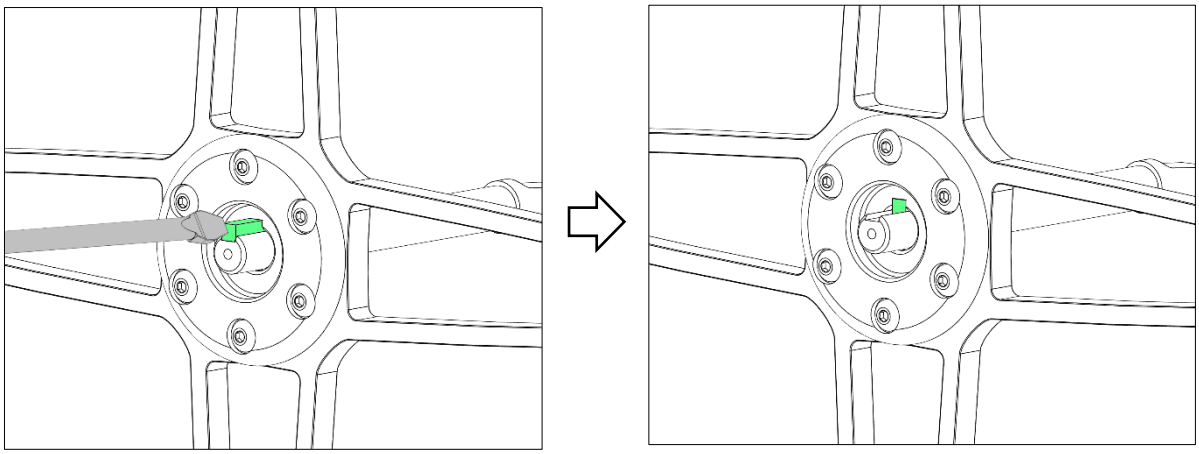
CONVERT A STANDARD WHEELCHAIR INTO A ONE ARM DRIVE WHEELCHAIR

- Install the **keys** in the **keyways** on **both sides**:
  - On the **driven wheel** side, the **key** is installed into the **wheel hub**
  - On the **driving wheel** side, the key is installed into the **center plate** of the **cross-shaped support** of the **One Arm Drive handrim**
  - Use a **flathead screwdriver** and **hammer** and **gently tap** the key **into** the **keyway** (shown on the left)
  - **Insert** the **key until flush** with the **surface** (shown on the right)

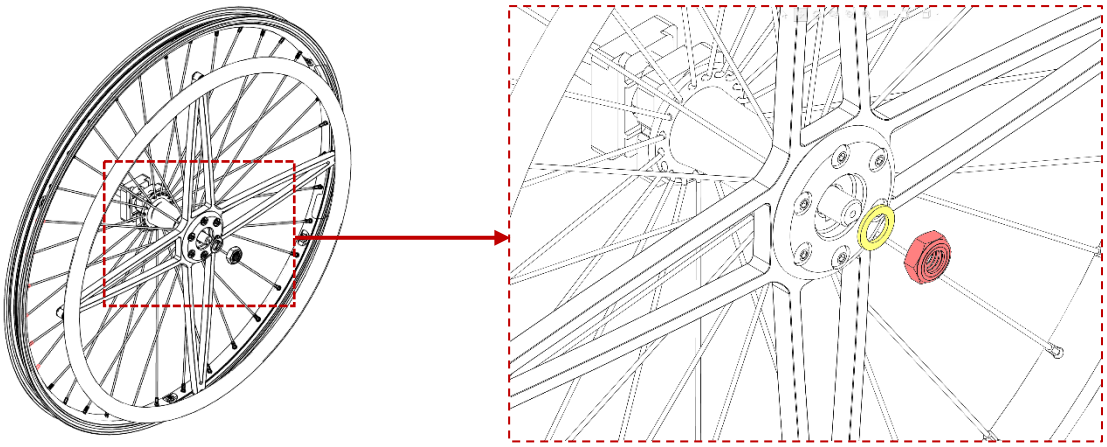
Driven wheel side



Driving wheel side



- Assemble the two wheels to the shafts with a **washer** and a **bolt**
  - Socket wrench and hexagonal socket: **19 mm**
  - Driving wheel shown below. The procedure is the same for the driven wheel
- **Tighten** so that **there is no axial play,** but **not too much so** as **not to restrict the wheel bearings** and **damage** the **bearings**. There is no specific tightening torque to apply



ASSEMBLE THE DRIVE SHAFT AND TEST THE ONE ARM DRIVE MECHANISM

- **Insert** the **end of** the **drive shaft** onto the **shaft of one of the wheels** (#1)
- **Compress** the **drive shaft** and **insert the other side of** the drive shaft onto the **shaft of the other wheel** (#2)
- **Make sure** the shaft is **securely installed** before using the wheelchair
- **Test** the **One Arm Drive system** by **going straight ahead** and **turning** on **both sides**