Assembly instructions: tendons

Bastian Deutschmann, Jens Reinecke and Alexander Dietrich

{Bastian.Deutschmann, Jens.Reinecke, Alexander.Dietrich}@dlr.de
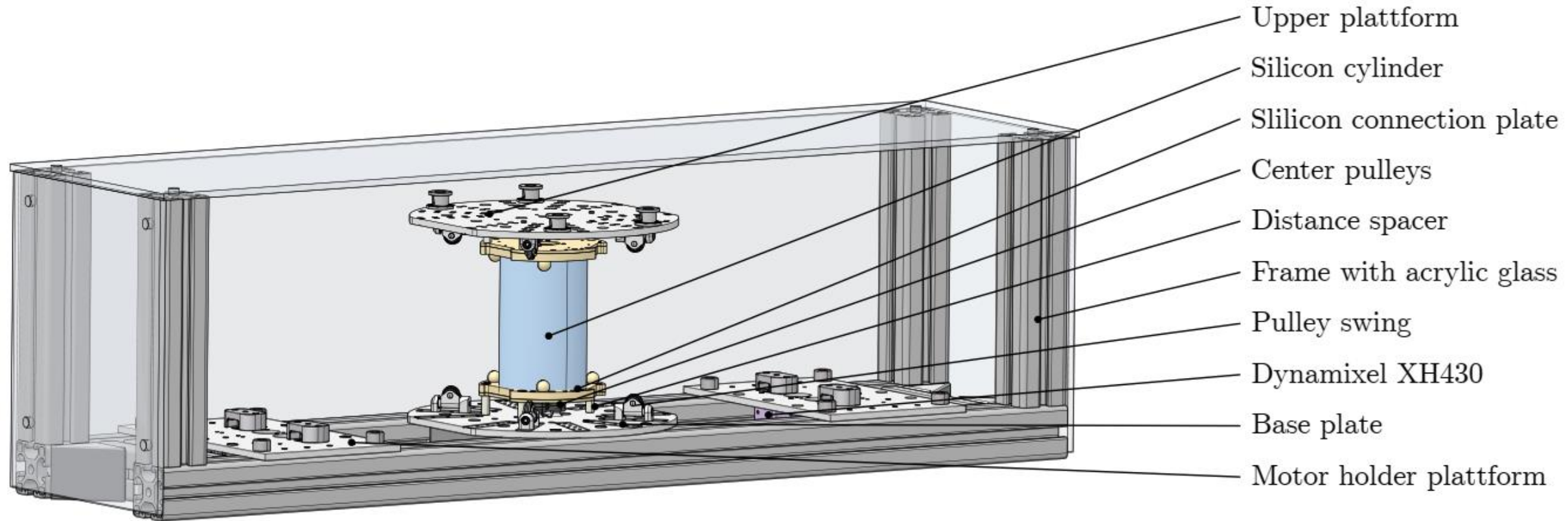
Overview testbed

Fig. 2: Overview of the proposed open source tendon-driven continuum mechanism with all involved components.

Components

Assumption: steal tendons are used

Assembled parts

- Continuum mechanism with pulley swings

Manufacturing parts

- n_t x tendon whinch

- Tendons (e.g. steal or dynamixel)

Off-the-shelf parts:

- n_t x screw (M6 x lenght?) and corresponding nut (M6)

- Ferrul to crimp

Tools:

- Crimp plyers
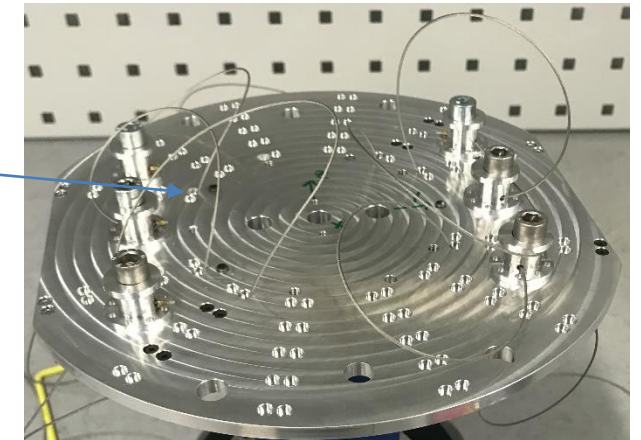
- Tendon cutting plyers
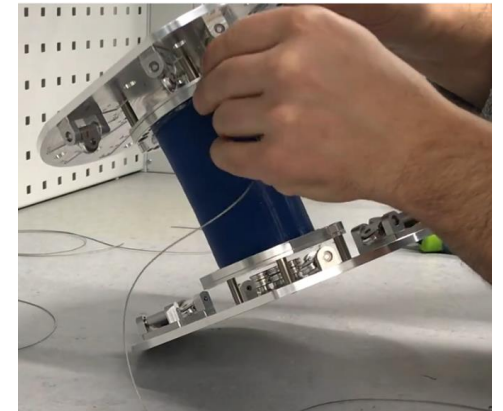
- Allenkey

- 10mm spanner

Assembly instructions: routing of tendons in pulley swing

Tools:

- Cutting plyers
- Tape measure

Instructions:

- Cut n_t tendons to predefined length (how to do it?)
- Input tendon from the outside into the upper and the lower pulley swing for every tendon
- Route the tendon through the upper platform by one of the holes

Assembly instructions: termination of tendons in upper platform

Tools:

- Allenkey
- Crimp plyers
- Crimps (Ferules)

Instructions:

- Route the upper end of a tendon through the middle of a whinch using the small holes
- Crimp the tendon on the outer side with a ferule using the crimp plyers
- Mount the whinch with the tendon onto the upper platform using the M6x(length) screw and the corresponding nut.