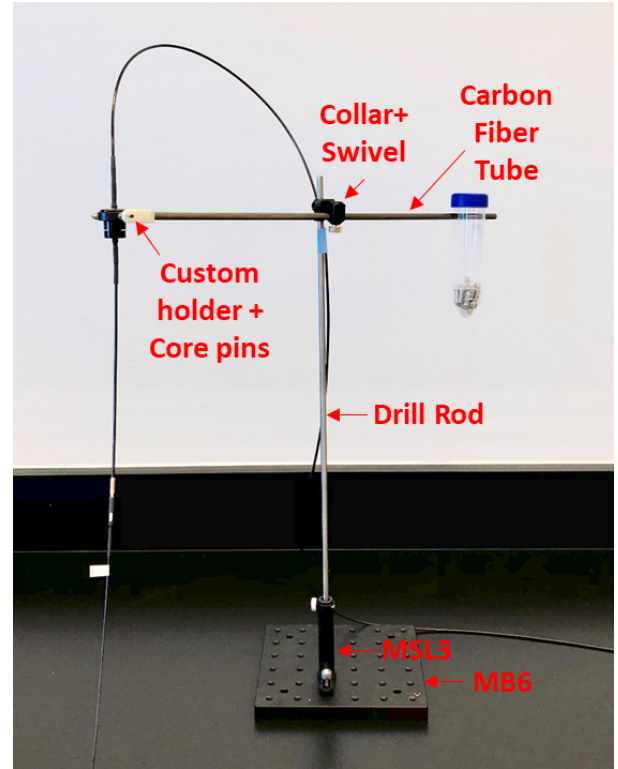


Mouse Balance Arm

Parts List:

1. Aluminum Breadboard (6" x 6" x 1/2", 1/4"-20 Taps; ThorLabs; Cat # MB6)
2. Swivel-Base Mini-Series Post Holder, (3" (76 mm) Tall, 1/4" (M6) Slot; ThorLabs; Cat # MSL3)
3. Oil Hard Drill Rod (7/32" diameter, 36" long; Grainger; Cat # 33J316)
4. Mini Series Post Collar (ThorLabs; Cat # MSR2)
5. Mini-Post Swivel Post Clamp (360° Continuously Adjustable; ThorLabs; Cat # MSWC)
6. 6 mm carbon fiber tube - 1 m (0.236" OD, 39.37" long; CST; Cat # T518Lm)
7. Core Pin (0.060" Diameter, 2-1/2" Long; McMaster-Carr; Cat # 98378A405)
8. Gimbal holder for commutator/fiber rotary joint (Custom printed)



Notes on Fabrication:

- The drill rod, carbon fiber tube, and core pins can be cut to length with a Dremel metal cutting wheel.
- The continuously adjustable swivel sits on top of the post collar. Adjust the set screw so the swivel moves freely – may require heat to loosen.
- Adjust the position of the post collar on the drill rod for the required height of the balance arm.
- Drill a hole in a 50 ml conical tube to fit the carbon fiber tube and fill with screws or pennies. Adjust the weight and location to balance the Rotary Joint on the opposite end.
- The gimbal holder was custom printed using a 3D printer. Insert the core pins through the hole in the gimbal holder and into the head of the set screw on the gimbal ring (purchased separately from Med Associates, Inc).

Links to Supplies:

<https://www.mcmaster.com/98378a405>
<https://www.thorlabs.com/thorproduct.cfm?partnumber=MSL3>
<https://www.thorlabs.com/thorproduct.cfm?partnumber=MSWC>
<https://www.thorlabs.com/thorproduct.cfm?partnumber=MSR2>
<https://www.thorlabs.com/thorproduct.cfm?partnumber=MB6>
http://www.cstsales.com/Carbon_Fiber_Tubes.html
<https://www.grainger.com/product/GRAINGER-APPROVED-Oil-Hard-Drill-Rod-33J316?searchBar=true&searchQuery=33J316>