

Assembly of Optical Fiber holders for Stereotaxic Surgery

Parts List

Print -

1. Stereotax Arm Adapter
2. Dowel
3. Optical fiber holder

Purchase:

4. [Gorilla Glue - 5 min epoxy](#)
5. [Ceramic Split Sleeves](#)
6. [Stainless Steel Raised Knurled-Head Thumb Screw - 10-32 Thread Size, 3/4" Long, 1/2" Diameter Head](#)
7. [Stainless Steel Raised Knurled-Head Thumb Screw M3 x 0.50 mm Thread Size, 6 mm Long](#) (2 needed for each holder)
8. [uxcell Knurled Threaded Insert, M3 x 3mm \(L\) x 5mm \(OD\) Female Thread Brass Embedment Nuts, Pack of 100](#)

Instructions after printing:

Heat Sets

For PLA prints, you will need to install the heat sets in three places via a soldering iron and heat set adapter. For resin prints I recommend using gorilla glue epoxy. In either case you want to avoid getting epoxy or excess PLA in the threading of the heat sets. Try to push them in steadily so that they are straight. If you use PLA some excess material might wind up in the cavity of the adapter or dowel end. Use a needle or pliers to fish out this excess while it is still molten from the heat of the soldering iron. If it solidifies it may inhibit use. Do this in two places:

- 1) the stereotax adapter hole on its front face
- 2) the end of the dowel

Both heat sets will provide threading for the M3 thumb screws. The thumb screws make removal after the head cap sets SO much easier.

Sleeve attachment

Use epoxy to glue the ceramic split sleeve to the optical fiber holder. Let dry thoroughly before use.

Sanding (Optional but recommended):

Use 400 grit sand paper to sand the non-fiber end of the optical fiber holder that goes into the dowel. This will make it very smooth so that it slides easily in and out of the dowel end. You want a very smooth action so that after release of the thumb screw you can use the z-control of the stereotax arm to pull the dowel off of the optical fiber holder.