

Cord-Operated Prosthetic Finger Scaled Product Design Presentation

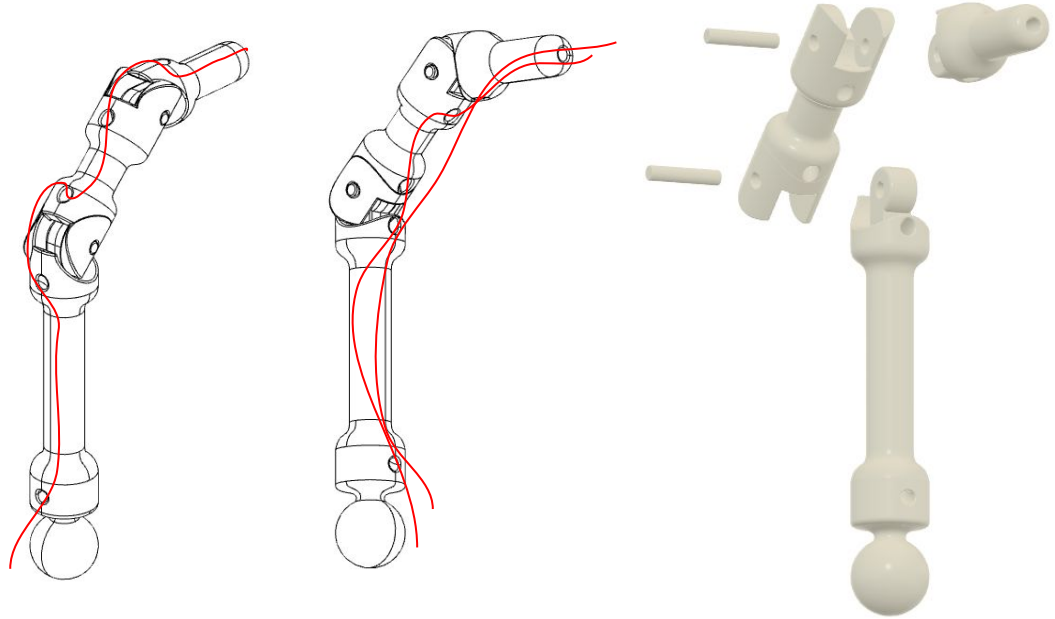
Tom McIlwain



Overview

A prosthetic finger that is operated by cords running through it and is designed to be attached to a corresponding prosthetic hand.

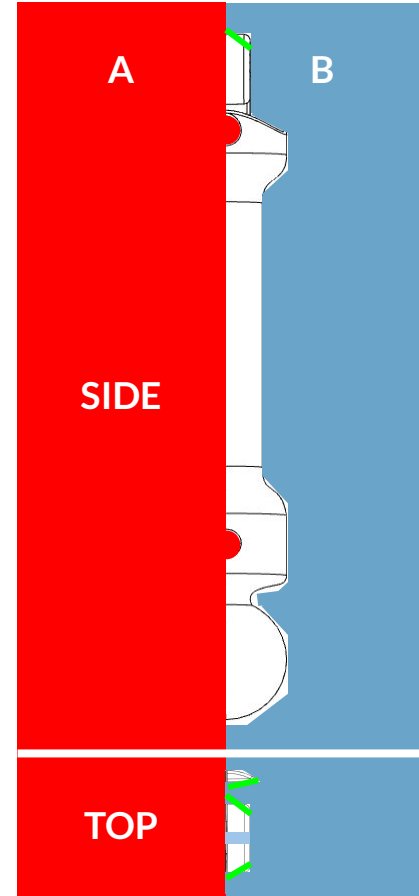
Each part is made of polyamide nylon using injection molding.



Bone 1



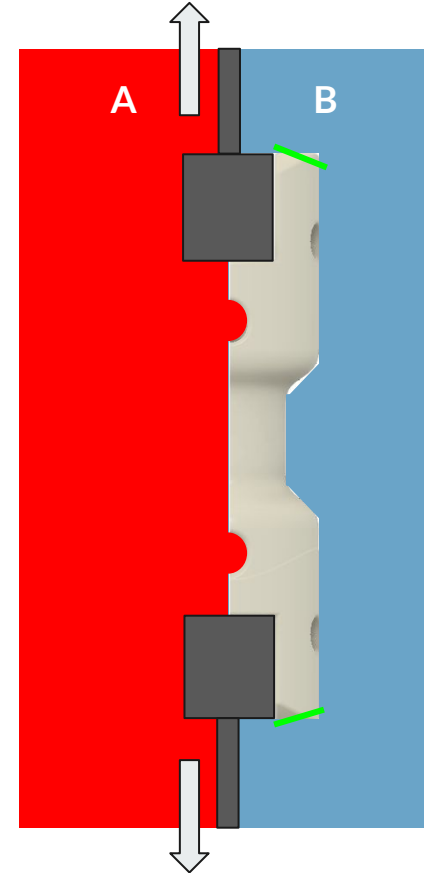
- Split in half for two individual injection molding parts
- Shelled for constant wall thickness of 0.03"
- All edges has been smoothed
- Draft angles added (1°) shown in green



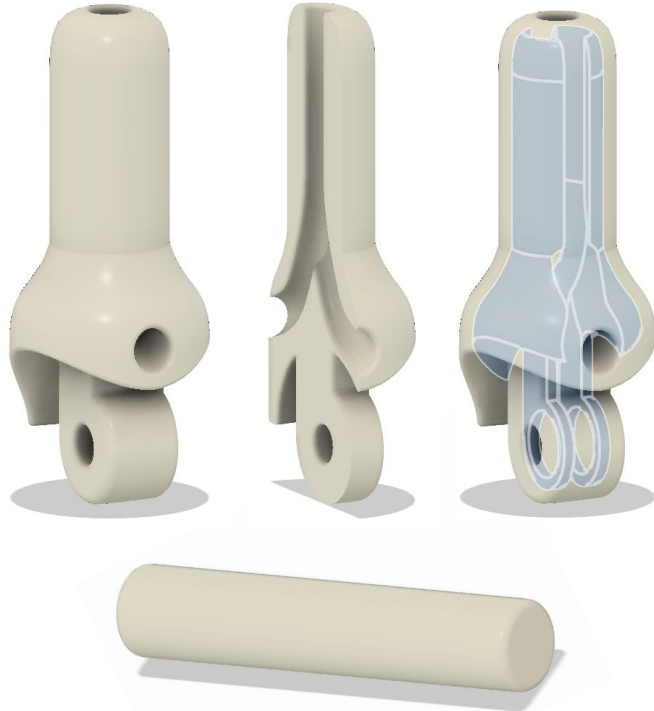
Bone 2



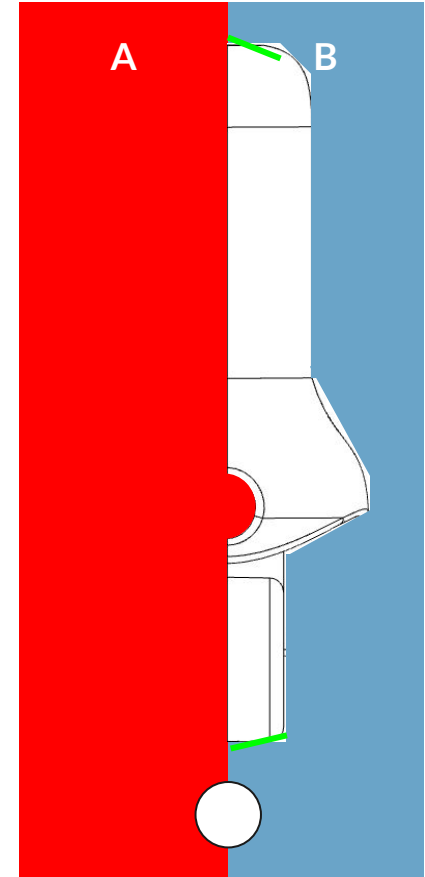
- Split in half for two individual injection molding parts
- All edges has been smoothed
- Draft angles added (1°) shown in green
- Use slides on the mold



Bone 3 and Pin



- Split in half for two individual injection molding parts
- Shelled for constant wall thickness of 0.03"
- All edges has been smoothed
- Draft angles added (1°) shown in green



Cost per finger

Part Description	QTY	Material	Source	Source Part Number	Unit of measurement	Cost	Notes
Bone 1, 2, 3 and Pin	n	Nylon Plastic Pellets	McMaster-Carr	5305N11	Cardboard Box (50 lbs)	\$364.00	1 finger = 3.87 g
					Total Cost	364	

- Each finger = 3.87 grams
- Rounding to include sprues = 4 grams

Material: Nylon Plastic Pellets from McMaster-Carr (\$360 for 50 lbs (22,680 grams))

$$22680 / 4 = 5670 \text{ prosthetic fingers}$$

$$360 / 5670 = \text{\textbf{\$0.0635 per finger}}$$

This does not include the cost of injection molding, only the materials.