DRAG

Version 1: 06.02.24

Maker Guide

DRAG is an assistive device that enables users to write or draw without having to form a tight closed grip with their fingers. Simply rest your hand on the ergonomic mouse-shaped body, then press and DRAG.

Who

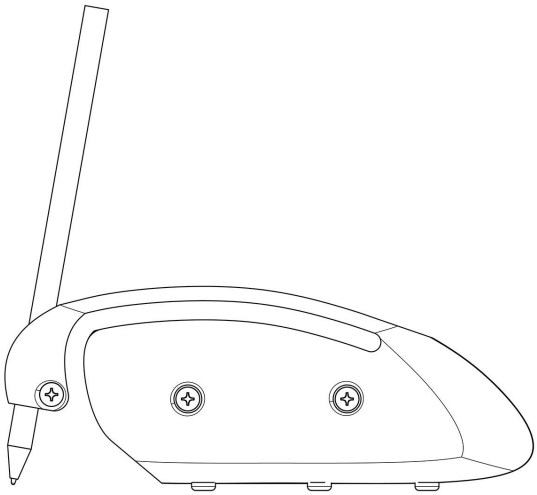
DRAG is designed for individuals with arthritis, reduced hand strength, or mobility challenges that make gripping writing tools difficult.

Why

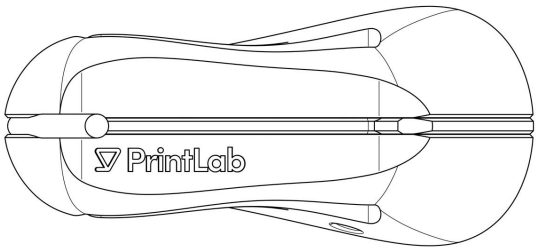
Traditional pens and pencils can cause discomfort or pain—DRAG offers a comfortable alternative that supports independence and creativity.

How

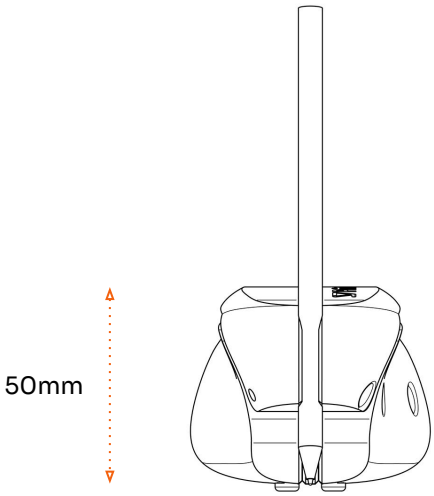
Users rest their hand on the device and press down to write or draw. Its symmetrical design makes it suitable for both left and right-handed users.



133mm



60mm



50mm

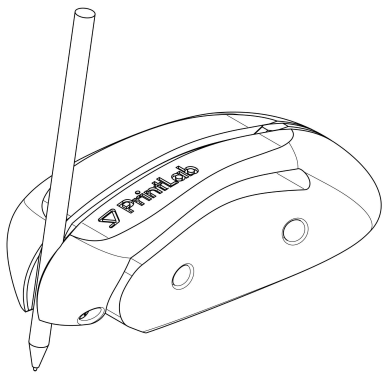
≈Weight (excluding pen): 78g

Parts List

*3D Printed Components

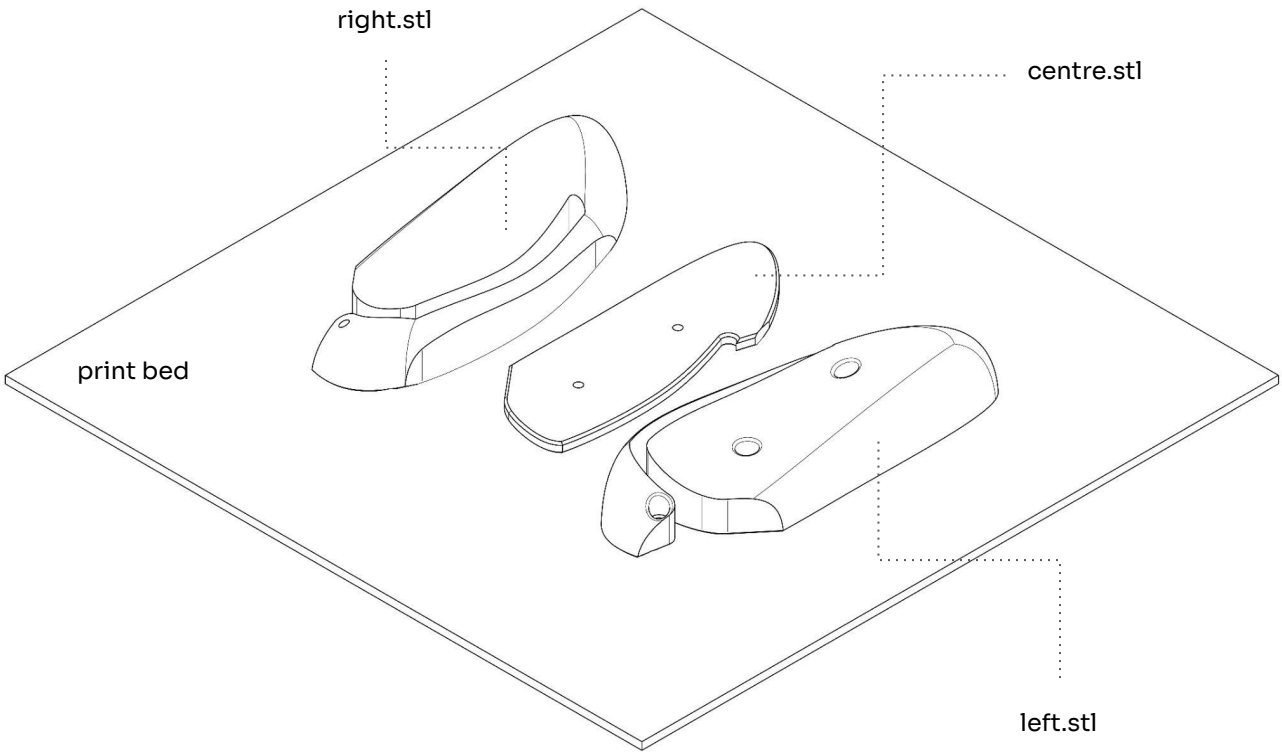
Description	Qty	≈ Cost (USD)	Purchase Link
M3 X 20mm Machine Screws	3	$1.68 (pack of 6)	https://bit.ly/4bbDLzT
6mm Diameter Mouse Skates (Optional but recommended for smoother operation)	6	$9.99 (pack of 20)	https://bit.ly/3HEc5Gy
*Left Plate	1	$0.86 (PLA material cost)	-
*Centre Plate	1	$0.27 (PLA material cost)	-
*Right Plate	1	$0.85 (PLA material cost)	-
Pen (up to 12mm diameter)	1	-	-

Tools Required
3D Printer with PLA filament
Screwdriver (Type dependent on screws used)



3D Printing

Print 1 of 1

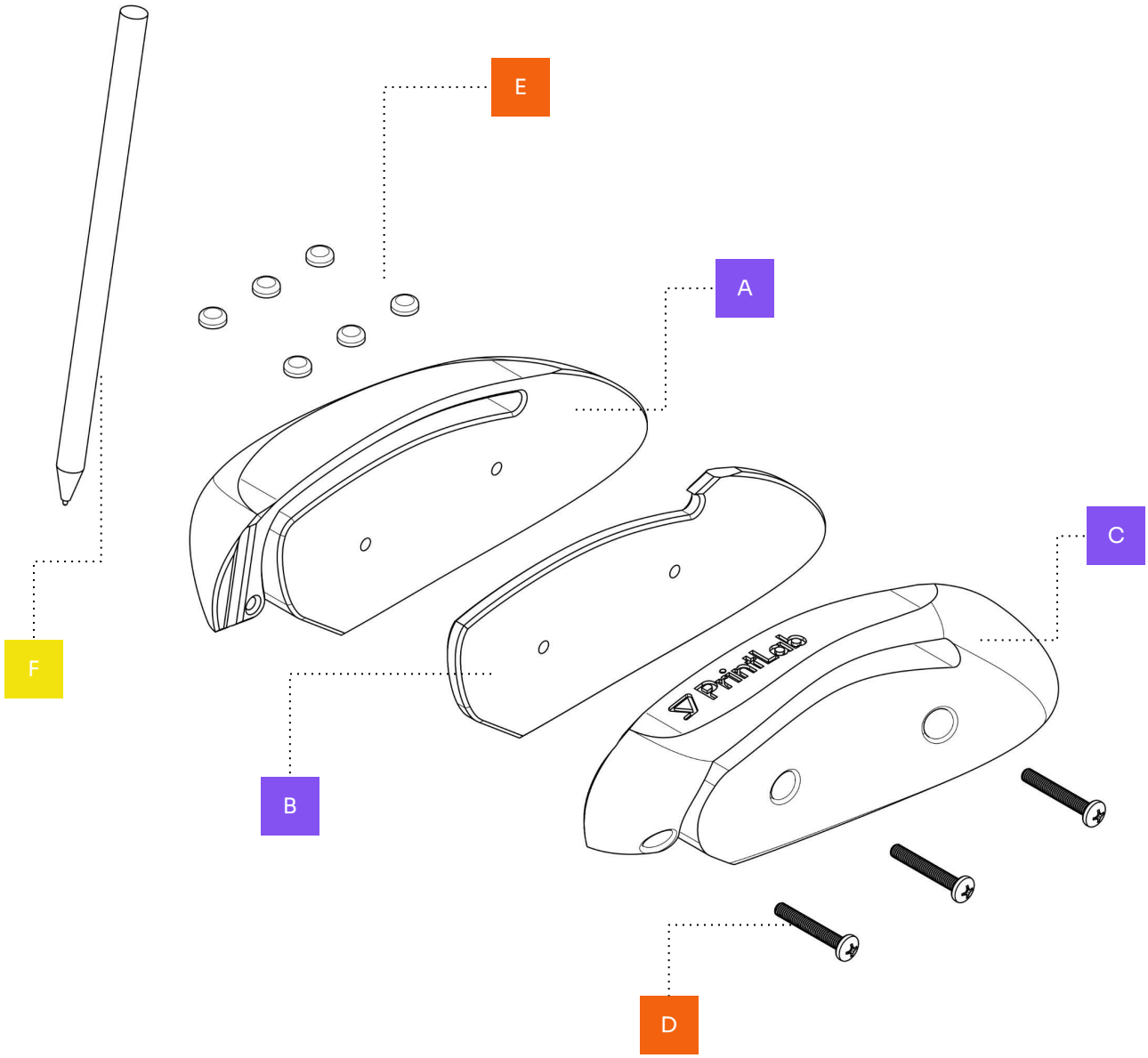


Settings	
Technology	FFF
Material	PLA
Nozzle Diameter	0.4mm
Layer Height	0.2mm
Infill	15%
Support	None

All 3 files may be 3D printed on the same print bed using the 'All Parts.stl' file. Alternatively, for multi-colour versions, you can use the individual STL files to set up your own print beds as required.

Statistics	
Print Time	4 hours
Mass	76g
Material Cost	$2 (USD)

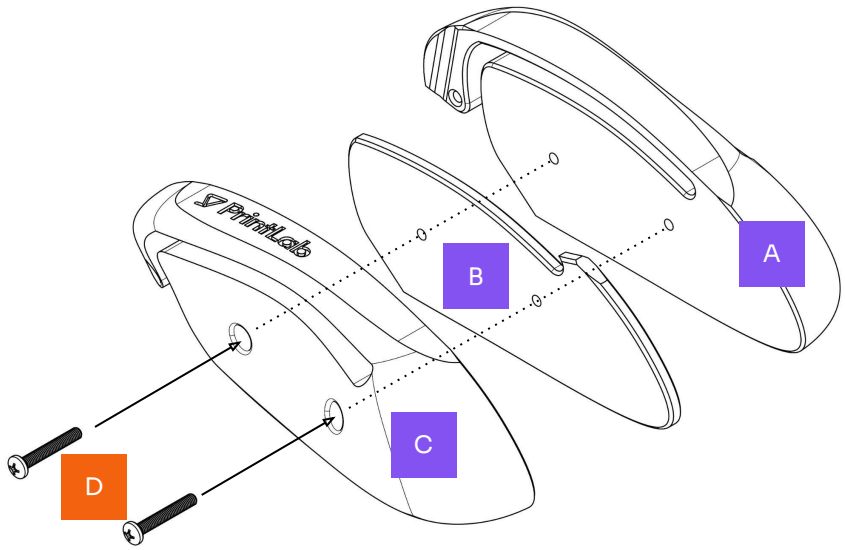
Assembly



	A	1 x 3D printed right plate
	B	1 x 3D printed centre plate
	C	1 x 3D printed left plate
	D	3 x M3x20 machine screws
	E	6 x 6mm diameter adhesive mouse skates (optional)
	F	1 x pen

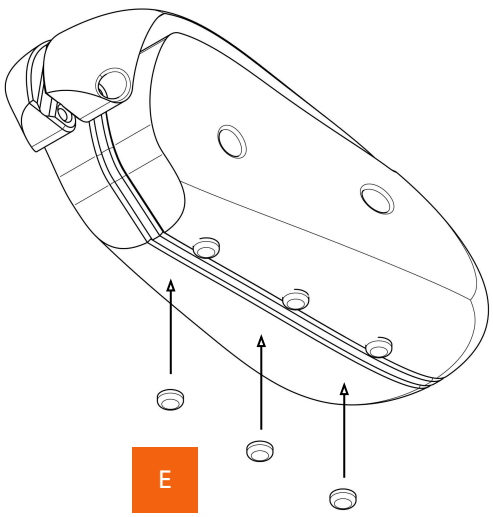
Step 01

Press the 3 plates together, ensuring the shapes and holes align with each other. Then connect them with 2 screws.



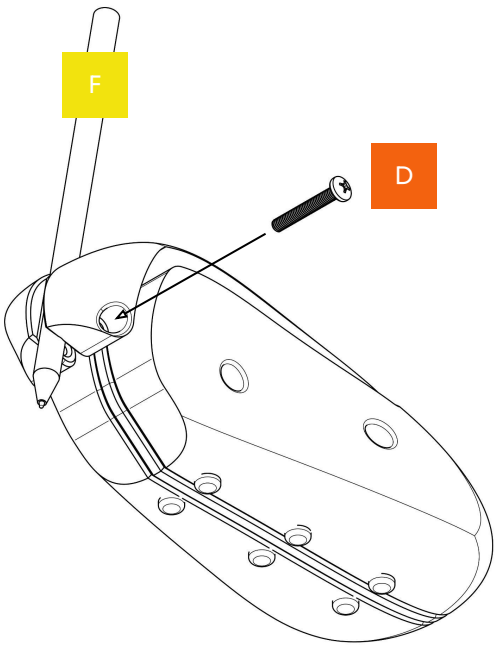
Step 02

(Optional Step). Place a series of adhesive mouse skates onto the underside of the left plate and right plate. Position them on the inner edges where the device will meet the paper or surface it is being used on.



Step 03

Place a pen into the groove and tighten a screw through the left plate and into the right plate. When you begin to feel the groove tighten around the pen, slide then pen so the tip is just above the writing/drawing surface when placed on its base. Tighten the screw further until the pen is secure in position.



Usage

DRAG can be used for both writing and drawing. Simply rest your hand on the mouse-shaped body and place 2 fingers either side of the pen. To activate the pen, gently press your 2 fingers down and drag to write or draw. You may also experiment with different pen positions to suit your needs. To do this, loosen the screw and slide the pen to a different position, before retightening.

Video Link

https://youtu.be/jLhclw5cxS8?si=J6FFzyjbMjab_von

Scaling

Currently, the design cannot be scaled using slicing software, as this would also reduce the size of screw holes—making standard screws unusable. In the future, we plan to develop a parametric version of the model, allowing you to input custom dimensions while keeping screw holes and key features at the correct size.

Evolving the Design

We're especially keen to see how others might refine and adapt the design. For example, creating alternative forms for different grip styles or consolidating parts to simplify the build.

Contacting the Designer

We welcome your feedback and suggestions. Please get in touch at hello@weareprintlab.com.

DRAG