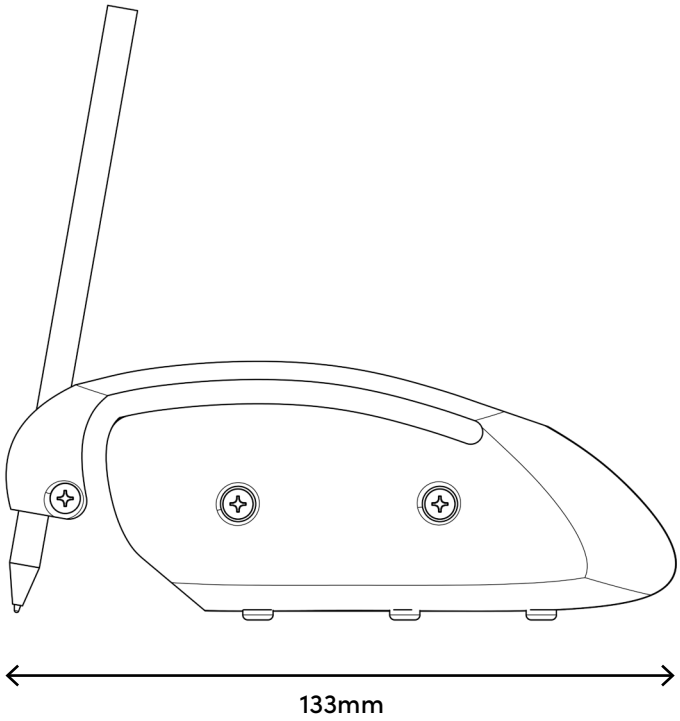
DRAG

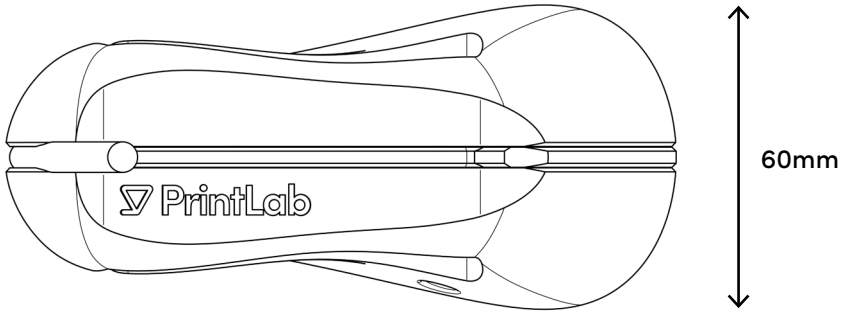
Maker Guide

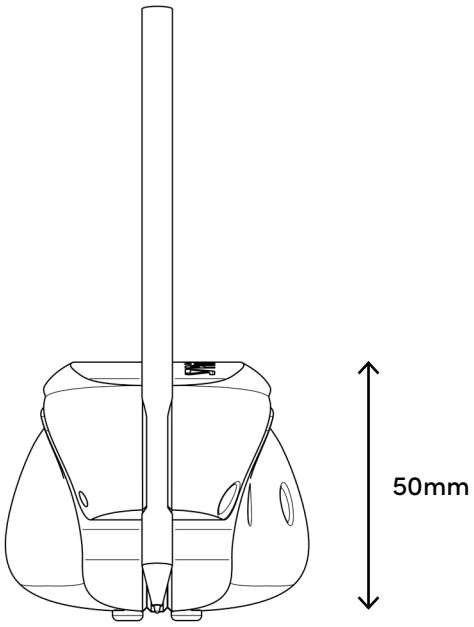
v2. 22nd February 2024 - screw holes in left and centre plates updated to clearance holes

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. The device is suited for people with arthritis or other hand mobility issues that cause pain or discomfort when writing or drawing. Its symmetrical design also caters to the needs of both left and right-handed users.

Video of device in action: https://bit.ly/47RFs2M
Video of design process and rationale: https://bit.ly/47RFOGE







≈Weight (excluding pen): 78g

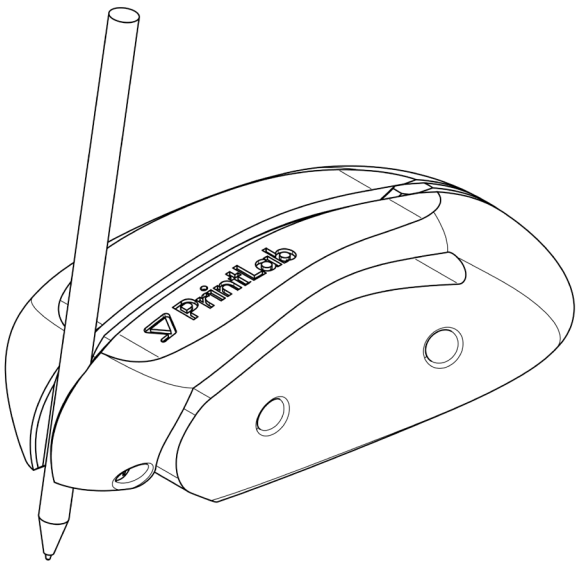
MATERIALS

Description	Qty Required	≈ Cost (USD)	Example Options
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
3D Printed Left Plate	1	$0.86 (PLA material cost)	-
3D Printed Centre Plate	1	$0.27 (PLA material cost)	-
3D Printed Right Plate	1	$0.85 (PLA material cost)	-
Pen (up to 12mm diameter)	1	-	-

Tools Required

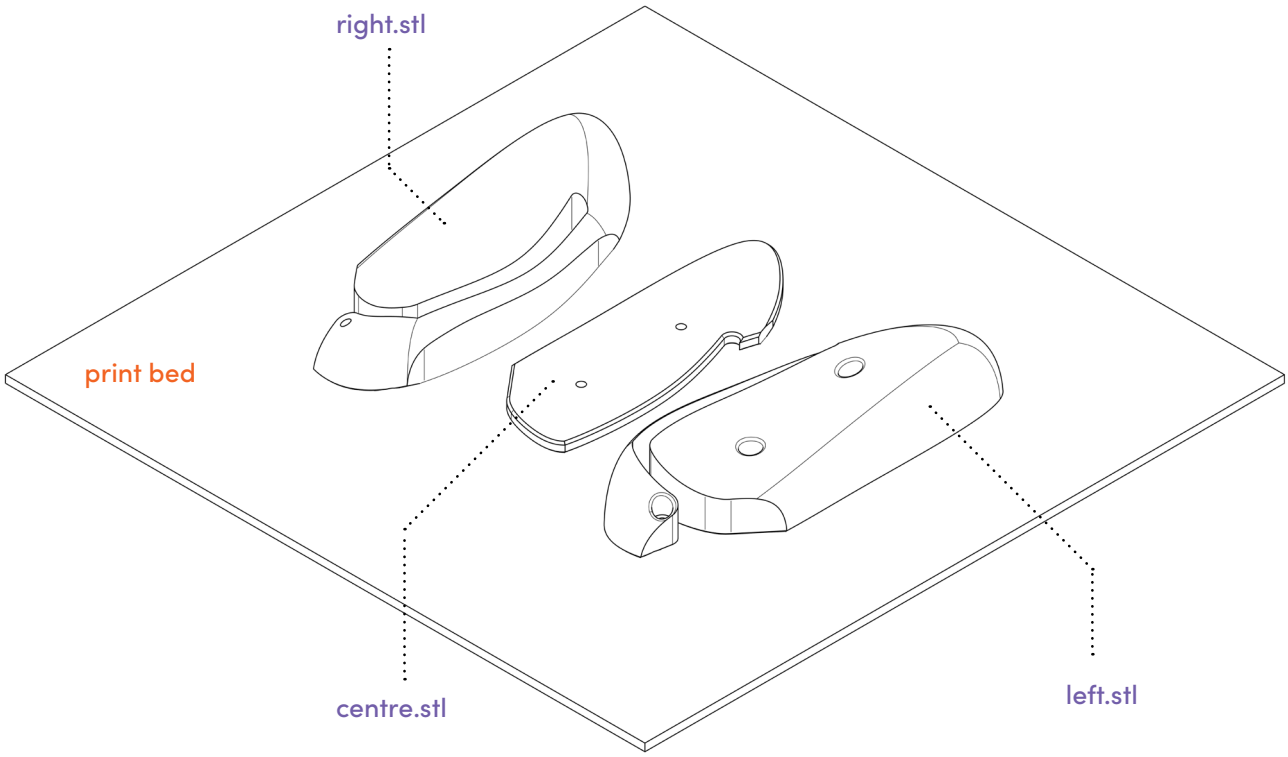
3D Printer with PLA filament

Screwdriver (Type dependent on screws used)



3D PRINTING

All 3 files may be 3D printed on the same print bed. Please follow the below guidance on orientation and print settings.



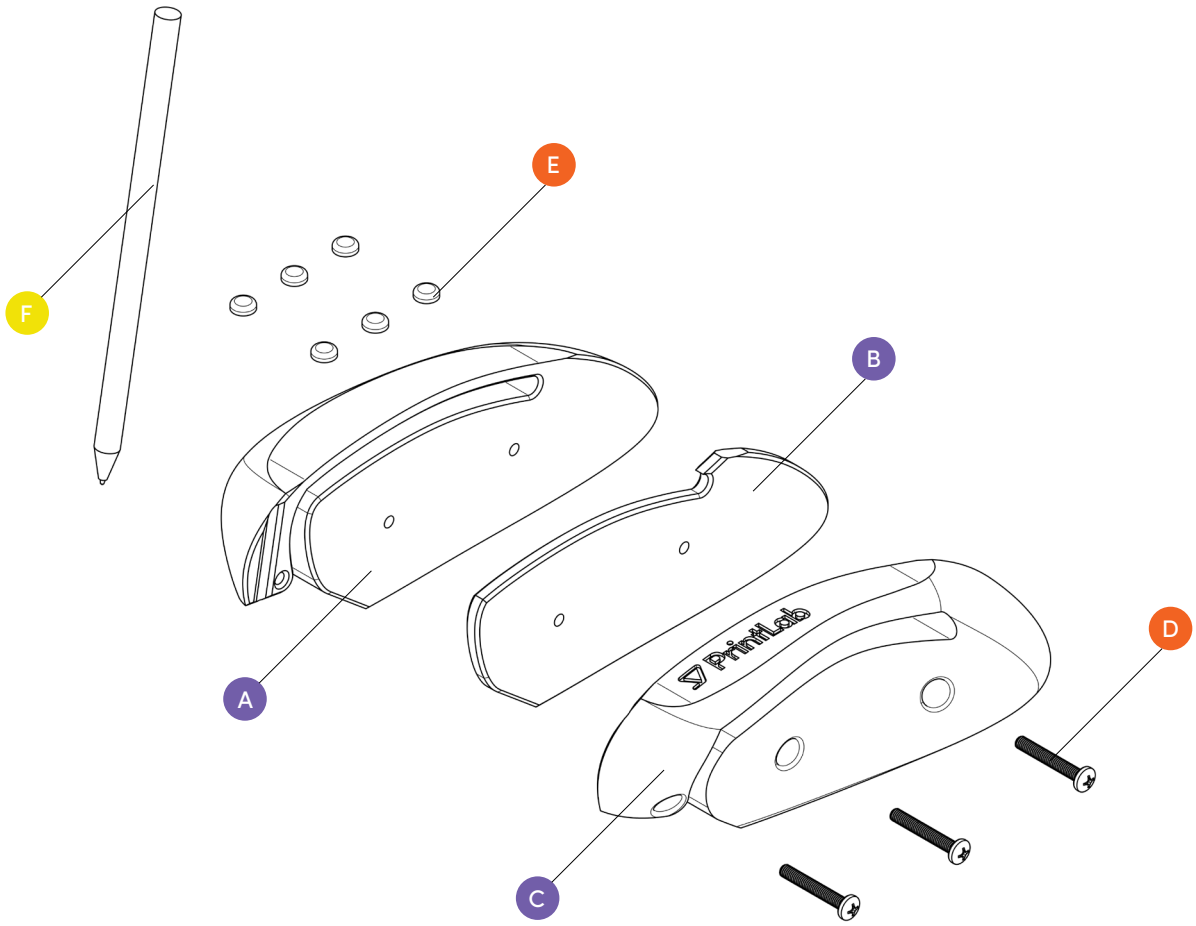
Settings

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

Estimated Stats

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

ASSEMBLY



Parts List

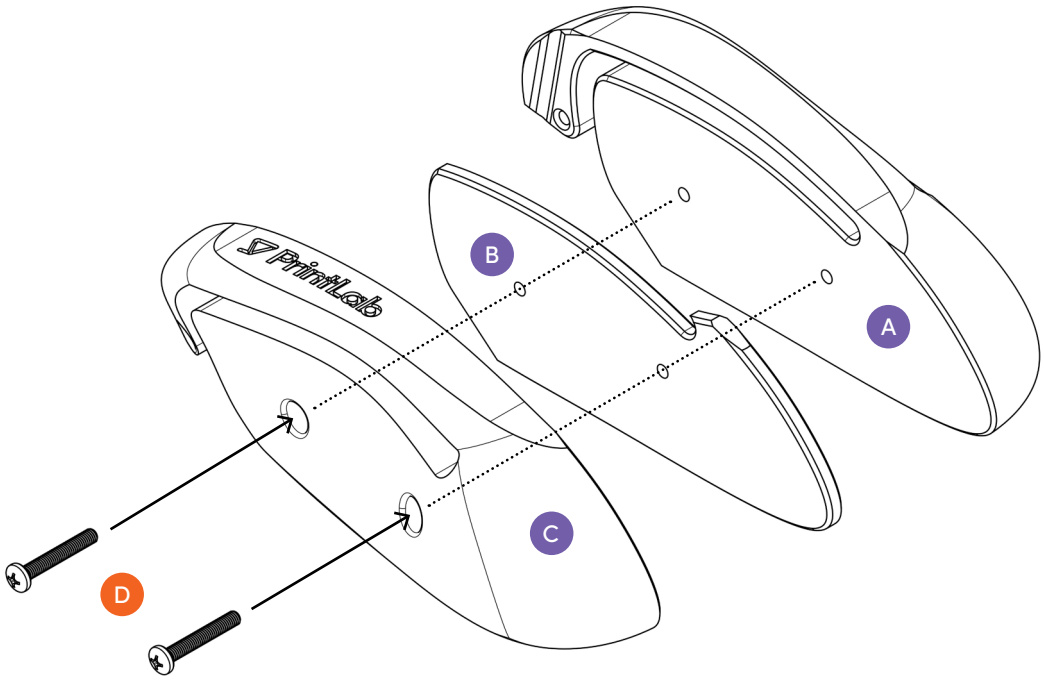
- A. 1 x 3D printed right plate
- B. 1 x 3D printed centre plate
- C. 1 x 3D printed left plate
- D. 3 x M3x20 machine screws
- E. 6 x 6mm diameter adhesive mouse skates (optional)
- F. 1 x pen

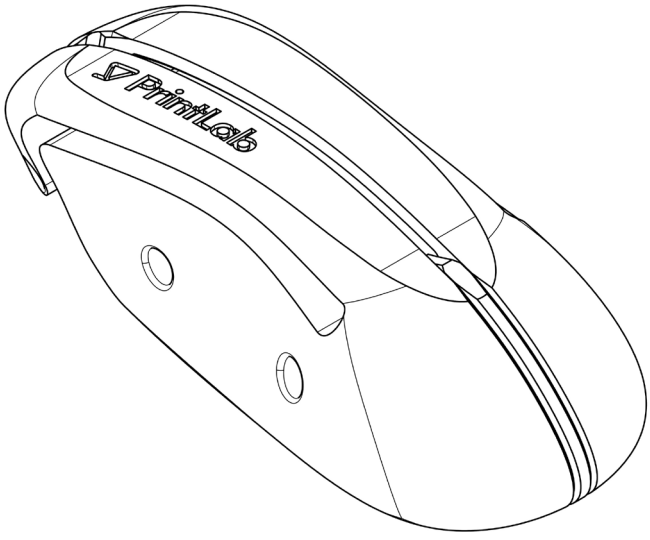
Tools Required

Screwdriver
(Type dependent on screws used)

01.

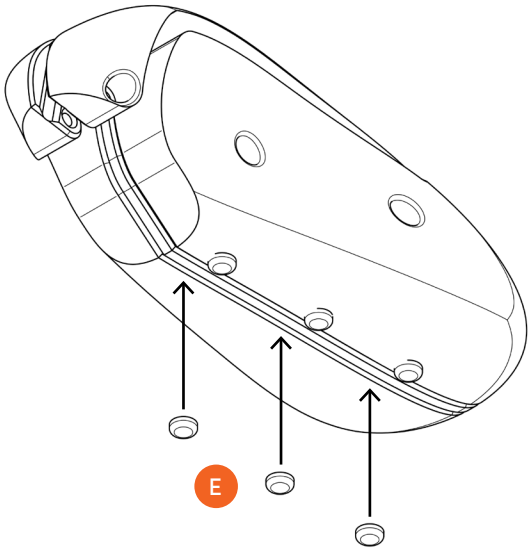
Press the 3 plates together, ensuring the shapes and holes align with each other. Then connect them with 2 screws.





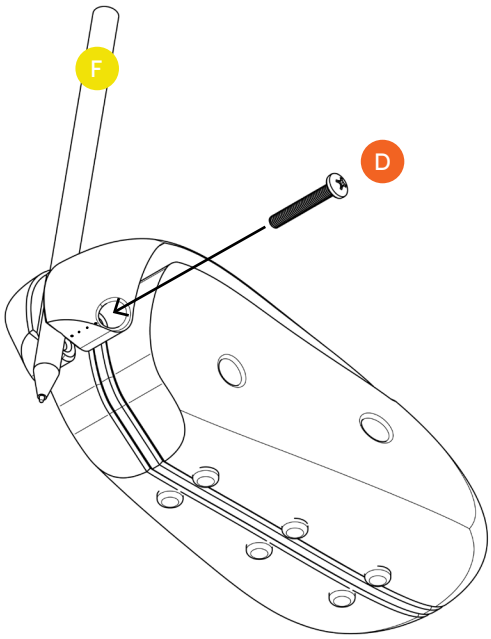
02.

(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.



03.

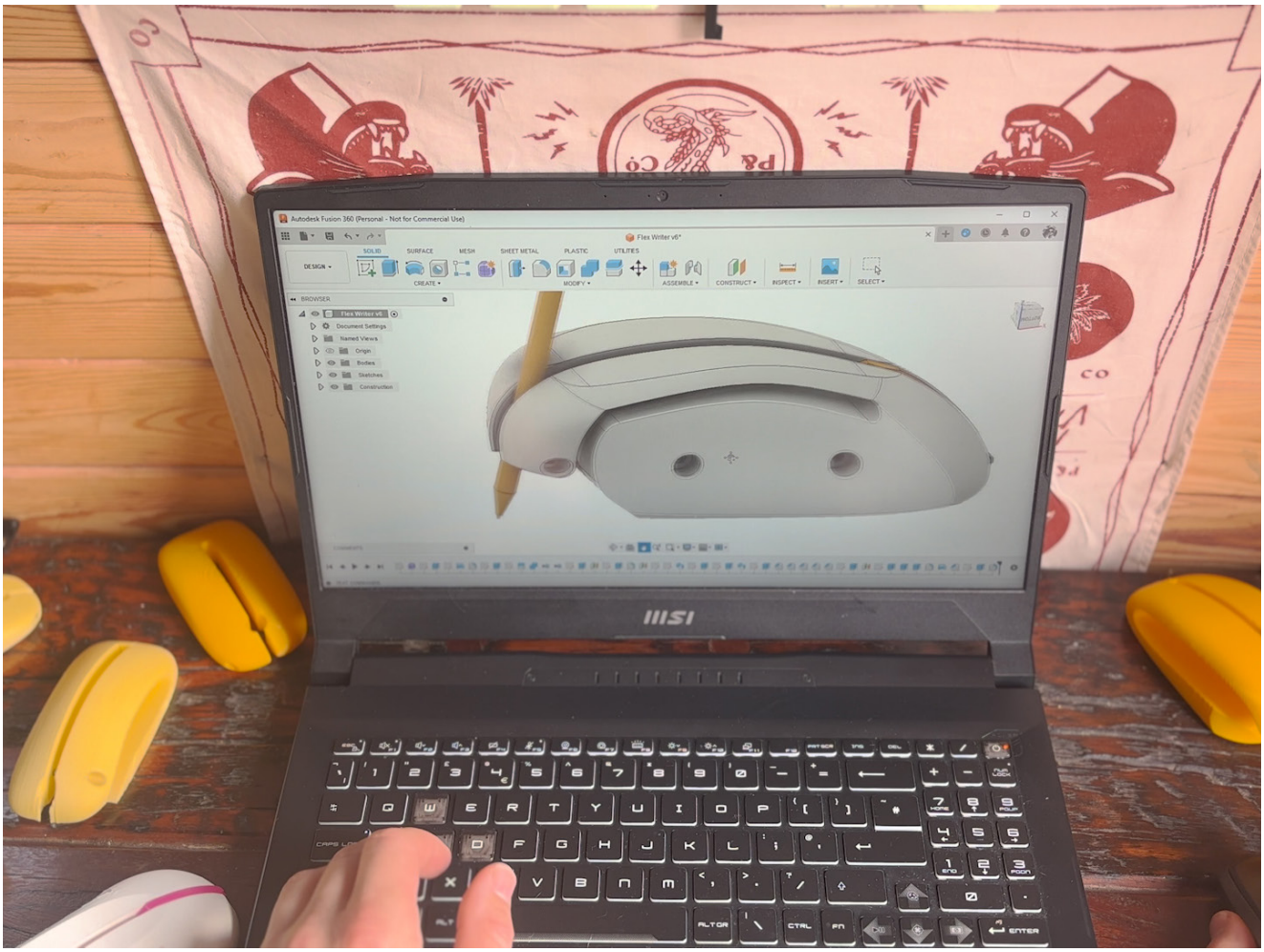
Place a pen into the groove and tighten a screw through the left plate and into the right plate. When you begin to feel the groove tighten around the pen, slide then pen so the tip is just above the writing/drawing surface when placed on its base. Tighten the screw further until the pen is secure in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

EVOLUTION



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