Heal_02: Logitech MX Tactile Anti-Slip Perimeter Locators

S Sid

VIEW IN BROWSER

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Summary

A non-destructive, snap-on tactile locator and accessibility set engineered specifically for the Logitech MX

Gadgets > Computers

Tags: accessibility logitechmx lowdexterity

Accessibility Problem & Target Need

The Logitech MX Mechanical features a sleek, low-profile switch field with minimal switch travel (3.2 mm) and uniform keycap height. While great for general typing, this flat topography presents real physical barriers for several user groups:

- **Peripheral Neuropathy & Reduced Tactile Sensation:** Users with diabetic neuropathy, nerve compression, or reduced fingertip sensitivity cannot easily feel standard subtle home-row bumps, leading to constant drift and misaligned inputs.
- **Motor Tremors, Ataxia:** Users experiencing involuntary tremors or spastic muscle contractions frequently slip off low-profile keycaps mid-stroke or inadvertently strike adjacent keys in high-stakes directional tasks.

- **Low Vision / Touch-Orientation:** Typists and adaptive gamers who cannot visually track key legends require distinct, unambiguous tactile relief to instantly register positional boundaries without looking down.
- **Adaptive & One-Handed Gaming:** Provides positive mechanical stops that prevent hand displacement when navigating or holding sustained movement vectors.

Heal_02 series brings keycaps which provide increased grip, tactile structure which enables quicker orientation and edge guard lips which reduce key slip possibilities. The keys were designed to fit WASD or Arrow Keys and include north, east, west and south lip keycaps.

3D Printing Guidelines

- **Material: TPU 95A / 85A** (elastic stretch fit, non-marring, acoustic vibration dampening) or calibrated **PETG**.
- **Layer Height:** 0.12 mm - 0.16 mm.
- **Perimeters:** 3 walls (100% solid shell).
- **Supports:** None required (prints flat on skirt base).

Note: While the models can be printed with pla/pla+, since the structure is minimal it needs material strength. Using PETG is recommended because of that. You can also print tpu gaskets or top layer if you want an even better anti-slip grip.

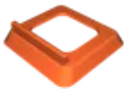
Key Structural Features

1. **Windowed Aperture:** Fully exposes key legends (W, A, S, D, Arrows) and stock texture.
2. **Continuous Retention Shelf:** Hooks over keycap shoulders to prevent over-insertion and provide downward load transfer.
3. **Corner Gussets:** Diagonal structural trusses reinforce all four corners against diagonal racking and outward splay.
4. **Clearance:** Switch travel simulation confirms **0.0 mm3 collision** at full 3.2 mm stroke.

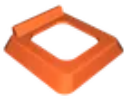
Model files

models 11 files

heal02_4key_plate.3mf



heal02_west.step

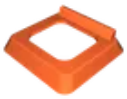


heal02_north.step

heal02_east.step

heal02_south.step

heal02_4key_plate.step



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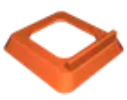

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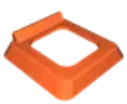

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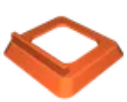

heal02_west.stl

heal02_4key_plate.stl

assembled.scad

keycaps.scad

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