



Magnetic quick tool switch system for Ender 3/Pro + E3D V6



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Summary

Tired of swapping nozzles? With this tool swap system, put your spare E3D V6 hotends to use!

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Tags: [upgrade](#) [switch](#) [magnet](#) [nozzle](#) [e3d](#) [hotend](#) [v6](#) [magnets](#) [ender](#) [ender3](#) [ender3pro](#) [hotswap](#) [toolswap](#) [quickswap](#)

I made this because I was tired of having to break out the wrenches to swap the nozzles and then having to re-tune the ABL probe offsets between nozzles. Also magnets are pretty neat.

With this hotend swap system, if you have multiple E3D V6 hotends laying about, you can set them up with different nozzles and quick-swap them whenever you want! Just use a list of pre-worked out z-offsets per hotend whenever you swap.

The dimensional accuracy of your printer has to be fairly good to pull this off, and I suggest 0.2mm print for better detail.

You will need:

- Min **8x round neodymium magnets (6mmx2mm)**, 4 for base adapter (pink - mag_e3d_mount_base) and 4 per hotend adapter (fire orange - mag_e3d_mount_tool)
- Min **3x 20mm M3x0.5** hex bolts, 2 per hotend adapter
- Min **4x M3 hex nuts**, 2 per hotend adapter
- 6x 6mm **M3x0.5** hex bolts
- **5015 blower fan** for part cooling
- **Stock E3D V6 fan + fan clip** for heatsink
- Nail glue (cyanoacrylate) for gluing in magnets
- Some way to swap out wires for heatsink fan, part cooling fan, heater cartridge and thermistor quickly near the hotend - I used **JST-XH connections** for everything but the heater cartridge, for which I used **Deans T plugs**
- **Length of PTFE tubing** per hotend

Recommended print settings:

- PETG or PLA+ for heat resistance in the case of catastrophic print failure
- 0.15mm layer height
- 30%+ infill
- Support from bed for hotend adapter (red - mag_e3d_mount_tool)
- Support from bed for fan duct (green - mag_e3d_mount_duct) - lay the stl down with support for the duct
- Please print hotend clip (mandarin orange) so that the “DK” embossing is on the bed

Assembly tips:

- **MAKE SURE THE MAGNETS IN THE BASE ADAPTER AND THE TOOL ADAPTER ARE IN THE CORRECT (ATTRACTING) ORIENTATION BEFORE GLUING!!!!**
- The embedded nuts may need a bit of pushing to get in - the slots are designed such that the slot walls are aligned with the parallel sides of the nut
- Yellow overhang part (mag_e3d_mount_overhang) may be optional, but I find that it reduces drooping of the whole assembly
- The heater block wires can be routed between the heatsink and the fan duct

Model files

mag_e3d_mount_base.stl

📄 big flat side down

mag_e3d_mount_tool.stl

📄 big flat side down, support for magnet holes

mag_e3d_mount_clip.stl

📄 flat side down

mag_e3d_mount_bltouch.stl

📄 flat side down

mag_e3d_mount_overhang.stl

📄 hole should be aligned in z axis

mag_e3d_mount_duct.stl

📄 long, thin side down, support for duct

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