



Magmagic - the magnet powered pen!



digoz

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Summary

Tired of the brutality of springs? Try Magmagic. This pen uses magnets to extend or retract the ink cartridge.

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Magmagic

Update Feb 9th 2022: Adjusted tolerances of insert and retainers for smoother operation.

Magmagic is a pen with retractable ink cartridge powered by humanity's best friend: magnets! Just pull out the insert, flip it and put it back in. Goodbye springs!

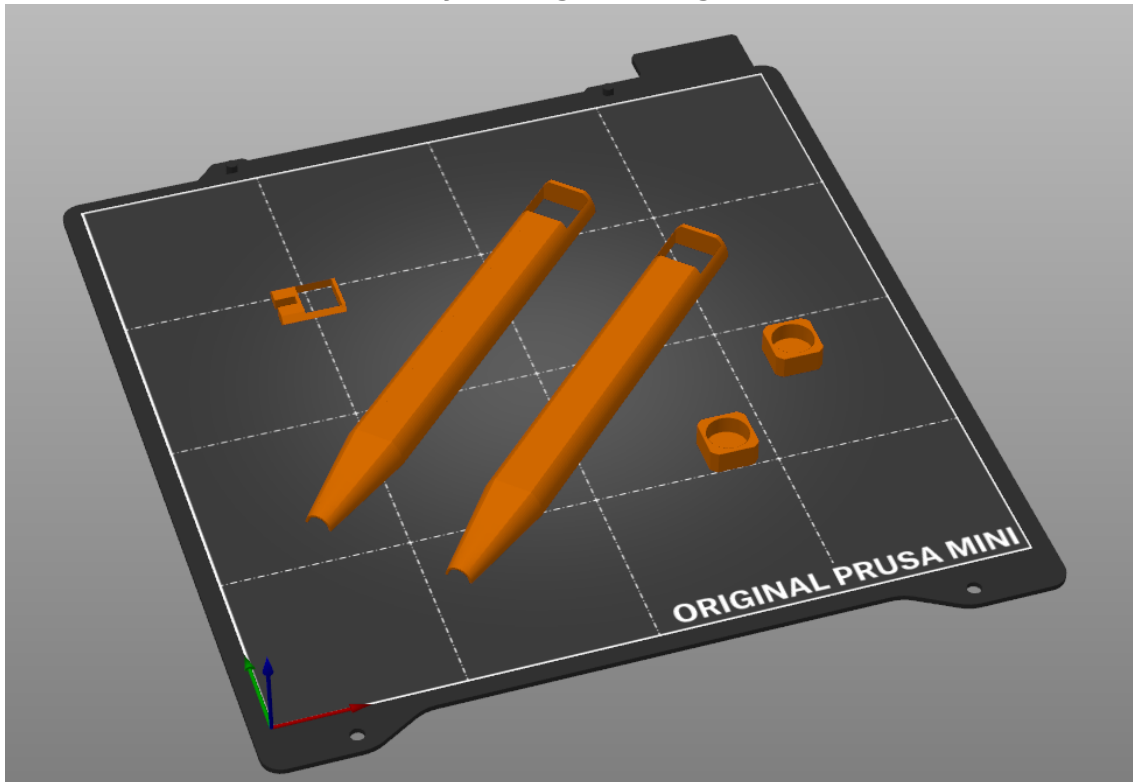
The print requires:

- a common Bic Crystal cartridge
- 6 cylindrical neodymium magnets (10mm diameter x 3mm thickness)

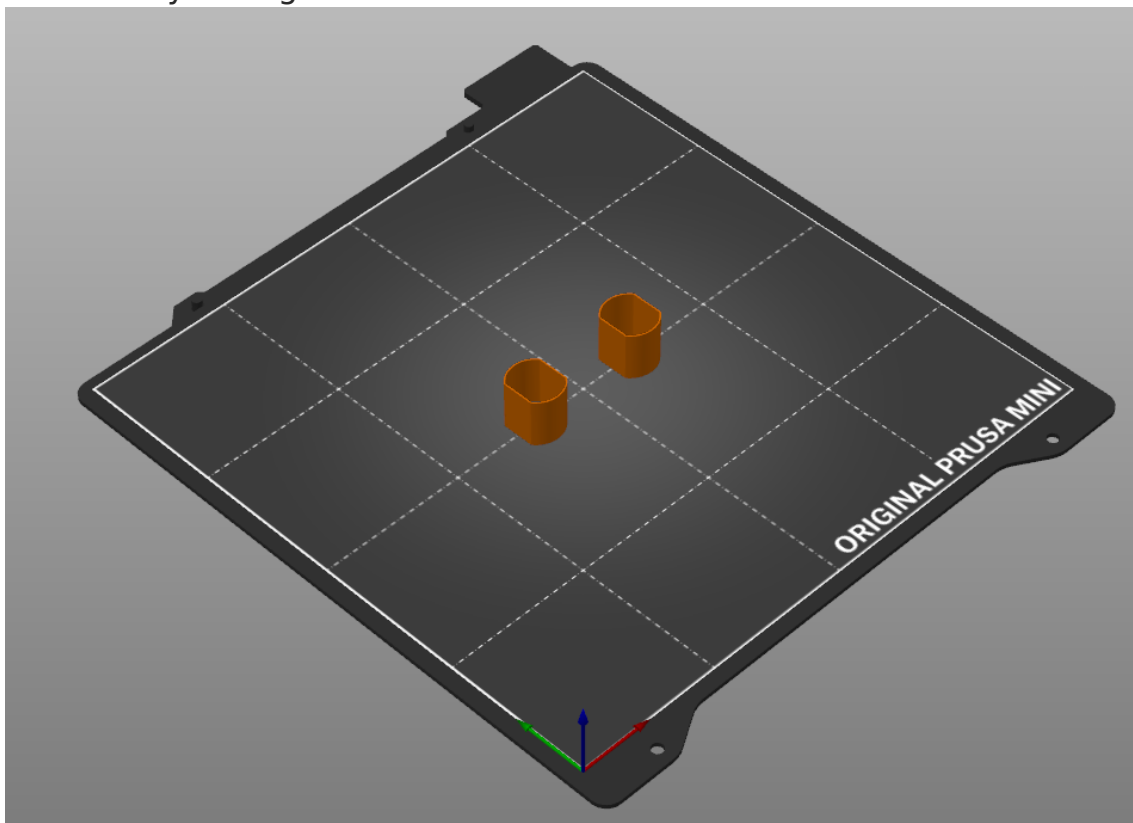
Print tips and assembly:

1. Print body (x2), holder, insert (x2) together. Body can be printed with no supports if you lay it down on its hollow side (see pic). I used a 0.4

mm nozzle and 0.10 mm layer height with great results.



2. Print retainers with one perimeter only (they look better imho) and remember to check "Detect thin walls" to achieve the best results. They can be printed up face up (see pic). Usual 0.4 mm nozzle and 0.1 mm layer height.



3. Trim the Bic Crystal cartridge to 10 cm and insert it in the holder, together with three magnets.

4. Close the body of the pen and use the retainers to hold it together. No glue here, so it's simple to exchange the cartridge when exhausted!
5. Sandwich the three remaining magnets in the insert and add two points of glue to keep the two parts together.
6. Stick the insert in and enjoy magmagic!

Model files



magmagic_insert.stl



magmagic_holder_cartridge.stl

☐ v2 - rounded inner edges and increased tolerances



magmagic_body.stl

☐ v3 - increased tolerances of insert socket



magmagic_retainer.stl

☐ v3 - increased tolerances

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