MAKERX Designs

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Small-Part Storage Print & Setup Guide

A four-drawer case with 24 divider layouts. Stack it or screw it to the wall.

PLA · No Supports · 24 Drawer Layouts · Stackable

Built by MakerX Designs · Virginia Beach, VA · makerxdesigns.com · © 2026

Screws, connectors, nozzles and beads end up in one jar, and finding one part means emptying it. This case holds four drawers, and each drawer can be divided the way its parts need.



Two cases stacked: eight drawers.

How it works

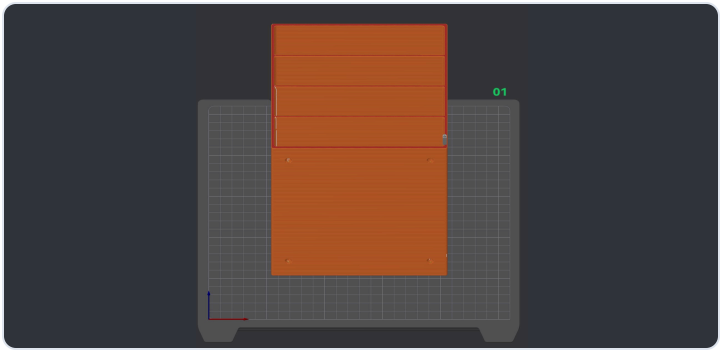
- **Four drawers per case.** Each slot is 146.4 mm wide and 35 mm tall, and the 34.2 mm drawer slides in with room to spare.
- **24 divider layouts.** Uniform grids from one open bin (1x1) to sixteen compartments (4x4), plus eight mixed layouts with wide and narrow strips. Mix them freely; every drawer fits every slot.
- **Lift-out drawers.** Pull one all the way out and carry it to the bench.
- **Stacks without hardware.** Four rounded feet under each case drop into four dimples on the top of the case below.
- **Wall-mountable.** Four countersunk screw holes in the back.

In the download

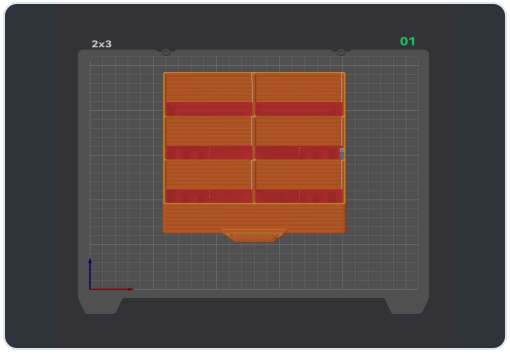
File	What it is
`small-part-storage-base-unit.3mf`	**Start here.** The case, with the tested profile set up.
`small-part-storage-drawer-<layout>.3mf`	One file per drawer layout (24 in all), profile set up.
The same names in `.STL`	The bare models, for your own slicer profile.

The case is 152.4 × 154.6 × 155.4 mm; a drawer is 145.4 × 158.5 × 34.2 mm. Both fit a 180 × 180 mm bed.

1 · Print it



The case: 10 h 10 m, 415.45 g. It prints on its back with the openings up.



A drawer (2x3 shown) prints upright, open side up.

Drawer	Time	Filament	Drawer	Time	Filament	Drawer	Time	Filament
1x1	2 h 10 m	97.76 g	2x3	3 h 32 m	128.77 g	4x1	3 h 12 m	129.47 g
1x2	2 h 41 m	108.08 g	2x4	3 h 52 m	139.01 g	4x2	3 h 52 m	139.53 g
1x3	2 h 56 m	118.38 g	3x1	2 h 53 m	118.89 g	4x3	4 h 29 m	149.58 g
1x4	3 h 12 m	128.68 g	3x2	3 h 29 m	129.03 g	4x4	5 h 5 m	159.63 g
2x1	2 h 39 m	108.32 g	3x3	3 h 59 m	139.15 g	mix-1-2	2 h 55 m	113.45 g
2x2	3 h 6 m	118.55 g	3x4	4 h 28 m	149.31 g	mix-2-1	2 h 56 m	113.45 g
mix-1-3	3 h 10 m	118.56 g	mix-1n-1w	2 h 37 m	108.33 g	mix-1n-2w	2 h 58 m	115.18 g
mix-3-1	3 h 8 m	118.56 g	mix-1w-1n	2 h 39 m	108.32 g	mix-2w-1n	2 h 58 m	115.17 g

A full case with four drawers is one case print plus four drawer prints. Open each 3MF in a slicer that imports 3MF projects and **say yes** when it asks to load the project's settings.

The profile baked into the 3MFs

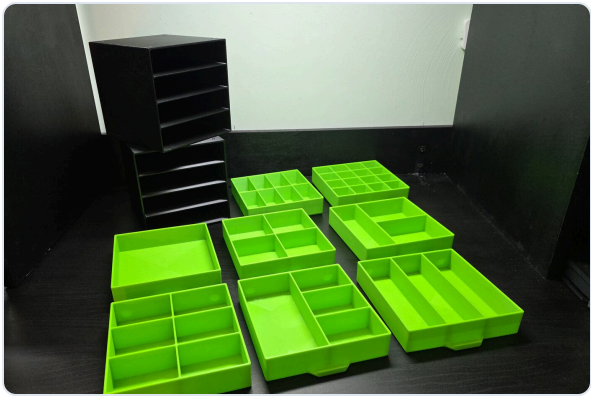
Using your own profile instead? Match these. Sliced for a 0.4 mm nozzle, 0.20 mm layers.

Setting	Case	Drawers
Walls	2	**3**
Infill	10 % gyroid	10 % gyroid
Top / bottom	5 / 3	5 / 3, concentric top
Supports / brim	None / none	
Material	**PLA** · 220 °C nozzle · 60 °C bed	

2 · Pick your layouts

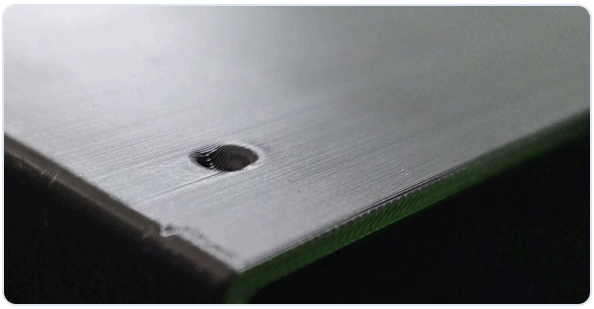
Grids are named across × deep, looking at the drawer from its handle. A `2x3` is two compartments side by side and three from front to back.

Mixes list their strips left to right. Each number is how many pockets that strip has from front to back. A plain number is a half-width strip; `n` is a narrow third and `w` a wide two-thirds. So `mix-1n-2w` is a narrow strip with one long pocket beside a wide strip split into two.



Eight of the 24 layouts.

3 · Stack it

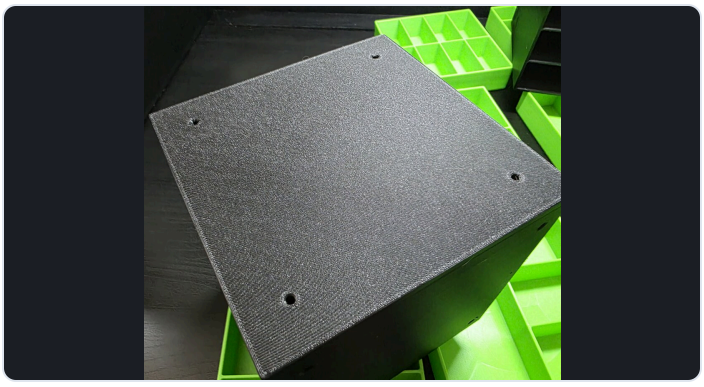


One of the four dimples on top.

1. Set the second case on top of the first, fronts flush.
2. Slide it until its four rounded feet drop into the four dimples. The feet are 2.2 mm tall and the dimples 2.5 mm deep, so the cases sit flat on each other.

The feet keep a stack from sliding apart; they do not lock it. Wall-mount a tall stack, or keep it low.

4 · Mount it on a wall



Four screw holes in the back.



Drawer back: the two recesses clear a screw head.

1. **Take the drawers out** and hold the case where it goes.
2. **Drive flat-head screws from inside the case** through the back. The holes are 3.8 mm with a countersink 7.5 mm across, so a #6 or M3.5 flat-head screw sits flush. Use an anchor that suits your wall.
3. **Slide the drawers back in.** If a screw head sits a little proud, the round recesses in the back of each drawer clear it.

Where precision meets the printer

Thanks for printing this. If it gets the small parts out of the jar and into a drawer you can find them in, that is exactly what it was designed to do.

For years my design world existed entirely behind a screen. As a mechanical engineer I spent countless hours building complex CAD models, but there was always a missing link — the ability to hold an idea in my hands. That changed in January 2026, when I went headfirst into 3D printing. The moment that first layer stuck to the bed, the gap between concept and reality vanished.

Coming from a background where precision is everything, tolerances aren't suggestions to me — they are a religion. I didn't want to print trinkets; I wanted to apply industrial engineering discipline to desktop manufacturing. Every wall count, every layer height and every infill percentage in this guide is a deliberate decision backed by testing. If a part can't handle the environment it was built for, it goes back to the drawing board.

Three principles behind every print

01

Functional Engineering

High-utility, real-world solutions rather than purely decorative models. If it doesn't solve a practical problem, it doesn't leave the workstation.

02

Rigorous Tolerances

Designed in professional CAD with mechanical intent — press-fits that click and assemblies that work straight off the build plate. No sanding, no filing, no guesswork.

03

Bridging the Gap

Industrial structural integrity at maker speed. Proving a desktop printer can produce parts worthy of real engineering applications is what drives every release.

The workshop

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A note on sharing

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A **Like** or a **Favorite** on the model page takes a second and genuinely helps. A **Boost** helps more than either — it is what puts a design in front of makers who would never otherwise come across it. And if you **Follow** me, new models and updates land in your feed as they are released. However you choose to support it, thank you — it is what keeps everything here free to download.

Built one? Post a make with a photo of your drawers — I would love to see what layouts you chose.

Happy printing. — MakerX Designs · makerxdesigns.com · © 2026