MAKERX Designs

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Cleaning Supply Box Print & Assembly Guide

An under-sink caddy with sized pockets and a pinned loop handle.

PET-G · No Supports · 2 Plates · Large-Format Bed

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Cleaning supplies under the sink tip over, roll to the back and never come out together. This box holds the whole kit upright in sized pockets and carries it from room to room in one hand.



Loaded and ready to carry.

How it works

- **Nine sized pockets.** Four tall pockets for full-size trigger spray bottles, a round pocket for a cleanser can, two round pockets for aerosol cans, a rectangular pocket and a small center pocket.
- **A roomy loop handle.** The oval opening is 131.6 × 61 mm with rounded inner edges, so a full hand fits.
- **Pinned, not glued.** The handle's stem slides into a slot in the box, and one printed pin locks it in.
- **PET-G throughout.** It holds up to cleaning sprays and drips better than PLA.

In the download

File	What it is
`cleaning-supply-box.3mf`	**Start here.** Plate 1: the box, with the tested PET-G profile set up.
`cleaning-supply-box-handle-and-pin.3mf`	Plate 2: the handle and the pin, profile set up (the pin has its own solid-infill override).

`cleaning-supply-box.STL`
`cleaning-supply-box-handle.STL`
`cleaning-supply-box-pin.STL`
	The bare models, for your own slicer profile.

Three parts. The box is 319.3 × 260.5 × 120.65 mm; the handle stands 307.3 mm tall. No hardware needed.

1 · Print it

Plate	Time	Filament	Length
1 · Box	16 h 17 m	862 g	280 m
2 · Handle + pin	3 h 00 m	137 g	45 m
Total	**19 h 17 m**	**about 1 kg**	325 m

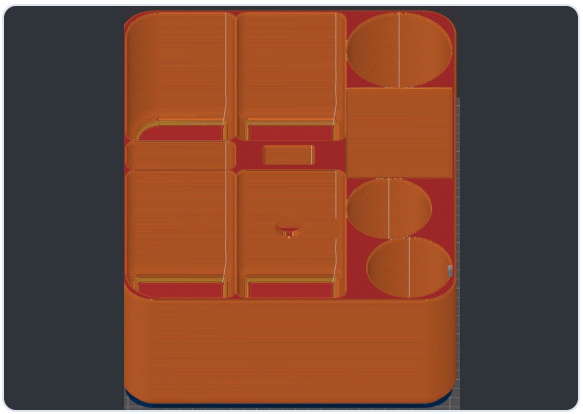


Plate 1: the box prints upright, pockets open, no supports.

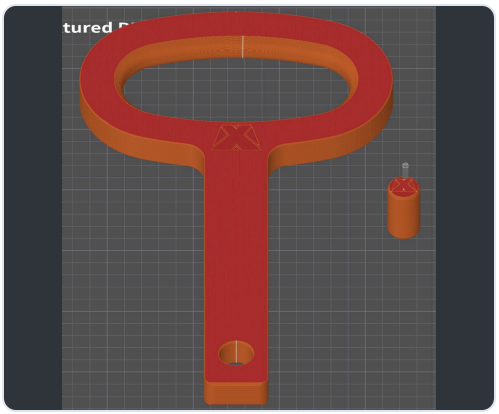


Plate 2: the handle lies flat; the pin stands on end.

> **Needs a large-format printer**
> The box is 319.3 × 260.5 mm and its 5 mm brim adds 10 mm each way, so plan on a bed of at least 330 × 271 mm. The handle is 307.3 mm long.

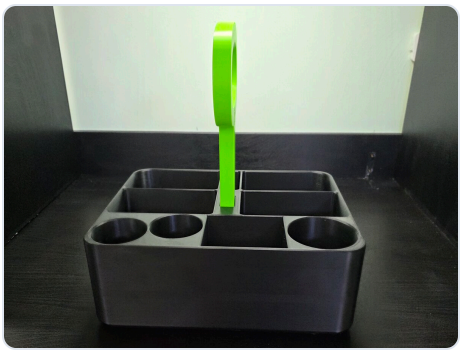
1. Open each 3MF in a slicer that imports 3MF project files. When it asks whether to load the project's print settings, **say yes**.
2. Print the pin **standing on end** with **100% infill and 4 walls**, and keep the seam at the **back** so it forms one straight ridge (both already set in the 3MF).

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	Box	Handle	Pin
Walls	2	3	**4**
Infill	8 % gyroid	15 % gyroid	**100 %**
Top / bottom	4 / 3	5 / 5	5 / 5
Brim	5 mm outer	None	None
Material	**PET-G** · 250 °C nozzle · 70 °C bed · no supports · back seam		

2 · Assemble it



The stem sits in the center slot.



The pin head shows inside the pocket wall.



Done: lift it by the loop.

1. **Slide the handle's stem down into the center slot** until the hole in the stem lines up with the hole in the box wall. It should go in by hand.
2. **Find the pin's seam** — a faint straight ridge running down one side.
3. **Turn that ridge UP,** into the pointed top of the teardrop-shaped hole in the box wall.
4. **Press the pin through** the box wall and the handle. It slides through the box and is a snug press fit in the handle.

Why the seam goes up

The box hole is only about 0.2 mm per side bigger than the pin — about the height of the seam ridge. Ridge up, it rides in the empty point of the teardrop and only the handle grips the pin. Ridge anywhere else, it also rubs through both box walls and the pin feels much tighter.

If a fit is too tight

Pin won't press in: scale the pin to 99.5% and reprint, or sand it lightly. **Handle won't slide into its slot:** scale the handle's width to 99%. Printers differ; these parts were tuned on a printer where 0.30 mm per side went in by hand.

Where precision meets the printer

Thanks for printing this. If it keeps the cleaning kit together and out from under the sink in one trip, 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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IF THIS ONE EARNED ITS SPOT

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Built one? Post a make with a photo of it loaded — I would love to see what yours carries.

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