

Couch Cup Holder Print & Fit Guide

A press-fit replacement for the cup holder your recliner gave up on.

[One Plate](#)[Tree Supports](#)[Pre-Configured 3MF](#)

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

The OEM holder in my reclining couch cracked and the replacement part no longer exists. This one drops into the same opening, grips on friction alone, and pulls straight back out when you want to wash it.

In the download

File	What it is
makerx-couch-cup-holder.3mf	Start here. One plate, oriented, with the tested profile and the tree supports already set up.
makerx-couch-cup-holder.stl	The raw mesh for your own slicer. Import it mouth-up; it needs supports either way.

1 · Measure your cutout first

Do this before you start a four-hour print

This holder was modeled to the opening in *my* couch. A friction fit only works when the hole matches, and nothing about the part is adjustable once it is sliced.

The part	
Overall size	82.2 × 82.2 × 56.5 mm
Fits an opening of	about 82 mm across, at least 57 mm deep below the surface
On the plate	49.48 g PLA · 16.59 m · 3 h 48 m

Measure the hole itself, not the trim ring around it, and check there is clear space underneath for the body to drop through. If your opening is a different diameter, leave a comment on the model page and I will size one to match.

2 • Slice it

- 1 Open `makerx-couch-cup-holder.3mf` in Creality Print, or any slicer that imports 3MF project files.
- 2 When it asks whether to load the project's print settings, **say yes** — that is the whole point of the 3MF, and it brings the support setup with it.
- 3 Confirm your printer and filament, then slice. Using the STL instead? Sit it mouth-up on the plate and turn tree supports on before you slice.

★ Supports are not optional here

The lip overhangs the body all the way round, so it has nothing to print onto. Tree supports on auto at a 30 ° threshold is what the profile ships with, and they come away by hand.

3 • The profile baked into the 3MF

Using your own profile instead? Match these — all sliced and print-tested on a Creality Hi with a 0.4 mm nozzle.

Quality	
Layer height	0.10 mm
Nozzle	0.4 mm
Walls	2 loops
Top / bottom	5 / 3 layers
Infill	15 % grid

Supports & adhesion	
Supports	Tree, auto
Threshold	30 °
Brim	Outer only, 5 mm

Material & plate	
Filament	PLA as sliced · PETG recommended
Nozzle temp	220 °C
Bed temp	60 °C
Plate	Epoxy resin

What it costs you	
Print time	3 h 48 m
Part	40.21 g
Support	9.26 g

Why PETG is worth it here

PLA prints beautifully and looks great, but a cup holder lives in a sunlit room and takes a warm mug and daily abuse. PETG shrugs that off. Slow the outer wall a little if you switch.

4 • Before you hit print

- ☐ You have measured the opening in your furniture.
- ☐ Tree supports confirmed **on**.
- ☐ Brim present — the base ring is narrow and this print runs for four hours.
- ☐ Around 50 g of filament left on the spool.

5 • Off the plate

- 1 Let the plate cool completely. Warm PLA is soft, and the lip is the one feature that has to stay round.
- 2 Flex the plate and lift the part off, then peel the outer brim away from a corner.
- 3 Twist the tree supports off by hand. They are anchored to the underside of the lip and generally let go in two or three pieces.
- 4 Run a fingernail or a deburring blade around the underside of the lip where the supports met it. Anything left proud there is what will stop the holder seating flush.

★ Clean the lip underside properly

This is the only fussy step in the whole build. The lip is what sits on the upholstery, so a leftover support nub reads as a holder that will not go all the way in.



Straight off the plate. The tree supports fan out under the lip — that is the 9.26 g the slicer quoted.

6 • Fit it

- **Push straight down, evenly.** Start it square and press with your palm. Rocking it in one side at a time is how you scuff the lip.
- **Snug is right; forced is not.** It should take firm hand pressure and then stop flush. If it needs a mallet, your opening is undersized — scale the model down a fraction of a millimeter rather than fighting it.
- **Too loose?** A single wrap of PTFE tape or a thin strip of felt around the body takes up a millimeter and stays invisible once it is seated.
- **It comes back out.** Hook a finger under the lip and pull. Wash it in the sink and drop it back in — nothing is glued.



Seated in the arm caddy. The textured lip covers the cut edge of the opening.

7 • Making it yours

- **Resizing.** Scale **X and Y together** to match a different opening and leave Z alone, so the lip keeps its proportions and the depth stays usable.
- **Color.** The MakerX mark on the outer wall faces the plate as it prints, so it comes out crisp — a paint pen wiped flat picks it out nicely.
- **Print a spare.** Most couches have two arms.

Where precision meets the printer

Thanks for printing this one. If it earned a permanent spot in your living room, 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

Mechanical engineering degree · SolidWorks precision modeling · two Creality Hi printers · Virginia Beach, Virginia · every design free to download.

A note on sharing

I'm thrilled when people use and share these designs. I just ask that you respect the license shown on the model listing and give the required credit, so I can keep contributing to the collective workshop.

IF THIS ONE EARNED ITS SPOT

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.

Got an opening this one doesn't match — a different diameter, a shallower arm, a boat or a car console? Leave a comment on the model with the measurement. That is where the next size starts.

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