

2004 Dodge Running Board Trim — Print Guide

A discontinued part, reverse-engineered from the one that was left.

[One Part](#)[271 mm Tall](#)[PET-G](#)

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The customer had lost the passenger-side trim off his running board. The part was discontinued years ago, no aftermarket replacement existed, and the only reference in the world was the driver-side trim still bolted to the truck. So that is what it was measured from.

The print is proven. The fit is the part that varies.

Sliced and printed several times with no trouble, so the page-2 profile is tested rather than theoretical. What cannot be promised is the fit: this is a **one-off part reverse-engineered from one truck**, measured by hand with no factory drawings. **Check it against your own vehicle first**, using the page-3 cross-sections.

In the download

File	What it is
makerx-dodge-running-board.3mf	Start here. The part, oriented and supported, with the profile that produced the fitted one.
makerx-dodge-running-board.STL	The bare mesh, for cross-sectioning or re-orienting yourself.

Before you start

- ☐ **Your printer can hold it:** 221.8 × 56.7 mm on the plate, **271.5 mm tall**. A 220 mm bed is 1.8 mm short, and many machines stop below 271 mm in Z. Printed here on a 256 × 256 mm Creality Hi.
- ☐ **You have PET-G, not PLA.** The material is part of the design — page 2.
- ☐ **You have measured your own trim**, or will print the page 3 cross-sections first.
- ☐ **You can spare the machine for a day.** 21 h 16 m in one run.

1 • Slice it

- 1 Open `makerx-dodge-running-board.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**. The orientation matters as much as the numbers — the part is stood on end so the visible face is never touched by a support.
- 3 Slice, and check the preview matches the figures below. They come off the run that produced the fitted part, and this profile has been printed several times since without issue — if your numbers land close to these, you are on the tested path.

2 • The profile baked into the 3MF

Quality	
Layer height	0.12 mm
Walls	3 loops
Top / bottom	5 / 5 layers
Infill	25 % gyroid
Supports	Tree, auto, 30 °
Brim	5 mm

Material & plate	
Filament	PET-G
Nozzle temp	250 °C
Bed temp	80 °C
Sliced on	Creality Hi, 0.4 mm nozzle

What it costs you	
The part	221.8 × 56.7 × 271.5 mm
Print time	21 h 16 m
Filament	263.28 g · 88.99 m
Rough cost	\$3.69

PET-G, not PLA — and that is the point of the part

This is the only PET-G project I publish. A running board trim lives outside, gets stepped on, and sits in a black car park in July; PLA would sag out of shape the first hot afternoon. PET-G takes the heat and it flexes instead of snapping, which is what lets the trim clip over its mounting without cracking. When the customer questioned whether PET-G was flexible enough, a cross-section sample was bent by hand in front of him to settle it.

Supports really are needed here, and they are 18 % of the spool

Most MakerX models ship with the support flag set and generate nothing, so the honest test is always the sliced G-code and not the checkbox. On this one the breakdown reads **48.13 g of support plus 0.27 g of interface** against a 263.28 g total. That material is real, it is doing a job, and turning supports off will fail the print.

3 • Prove the fit before you print the whole thing

This is the step that saved the project, and it is worth stealing for any long part you are reverse-engineering.

- 1 **Print a PLA prototype first.** Cheap material, same geometry. The prototype on this job surfaced both dimensional errors and a design flaw that were baked into the first model — found for a few hours and a few grams instead of after a full-length run.
- 2 **Then cut cross-sections and print those.** Slice a short section off each end of the STL and print just those. They take minutes, and a section that seats correctly on the vehicle proves the contour along its whole length far more cheaply than the real part does.
- 3 **Check both ends, not one.** A trim this long can be right at one end and out at the other. Sections from both ends is what confirmed full contour compliance before any material was committed.
- 4 **Only then run the full part.** 21 hours, 263 g, and by that point you already know it fits.

4 • Printing a 271 mm tower

- **Leave the brim on.** The part stands 271 mm tall on a 222 × 57 mm footprint. That is a tall, narrow thing to keep stuck down for the better part of a day, and the 5 mm brim is in the profile for exactly that reason.
- **Keep the drafts off it.** PET-G is far better behaved than ABS, but a cold gust across a tall part still invites a layer to lift. Close the enclosure or the room.
- **Start it when you can look in on it.** Nothing here is delicate, but a 21-hour print that fails unattended at hour eighteen costs a whole spool and a day.

★ Take the tree supports off while the part is still warm

PET-G bonds to its own supports much more willingly than PLA does — left to go stone cold, those 48 grams fight you and it is easy to mark the finished face. Lift them off shortly after the print ends, working from the thin ends of the branches inward, and use flush cutters rather than pulling.

5 • If your trim is not quite this trim

- **Different year or cab.** Measure yours against the STL before scaling anything. A uniform scale is almost never the right correction for a trim — the mounting features need to stay put while the length changes.
- **Something else discontinued.** That is the interesting half of this. If you have a part with no replacement in sight and the original still exists to measure, get in touch — it is exactly the kind of problem this workshop enjoys.

Where precision meets the printer

Thanks for reading this one. It started with a truck missing a piece of trim that nobody sells any more, which is about the most satisfying problem this hobby produces.

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.

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.

GOT A PART NOBODY SELLS ANY MORE?

This one existed because a customer kept the half that had survived. If you have a discontinued part and the original still exists to measure, that is a solvable problem — and it is the kind of work I most enjoy taking on.

Custom and one-off design work is what this page is for. Tell me what you are missing.

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