MAKERX Designs

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Fidget Spider Web Print & Play Guide

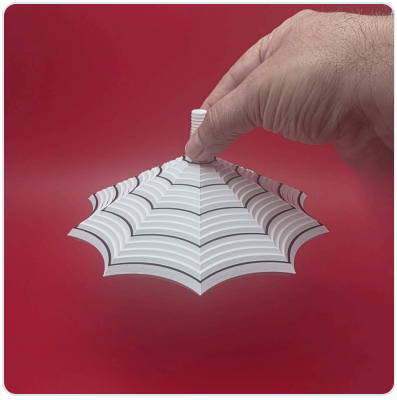
A desk fidget that changes shape with every move of the stem.

Print in Place | No Supports | 17 Rings

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A fidget toy that keeps your hands busy at your desk. It sits flat as a spider web, and every way you move the stem gives it a different look.

It is **one print with no assembly**. Seventeen nested rings and the stem come off the plate already captured inside each other, so there is nothing to glue, snap or fit together. The version in the photos is white rings with black web strands.



Lift it by the stem and the rings drop into a cone.

Ways to play

- **Twist the stem** with the web flat on the desk. The rings shift against each other into mesmerizing designs.
- **Push and pull** the stem from side to side for a whole different set of visuals.
- **Lift it up** by the stem and the rings drop into a cone.
- **Raise and lower it** on the desk. It makes a satisfying sound as the rings come back down.
- The stem is **textured**, so it has a tactile feel under your fingers.

In the download

File	What it is
`fidget-spider-web-assembly.3mf`	**Start here.** The whole web on one plate, strands assigned to black, with the tested profile already set up. 4 h 0 m.
`fidget-spider-web-assembly.STL`	The same part as a plain mesh, for any slicer. It is already lying flat in print orientation.

1 · Check your bed

The part	
Footprint	**178.2 × 169.5 mm**
Height	39.2 mm with the stem; the rings are 9.2 mm
Rings	17, gaps widening toward the rim
Print time	4 h 0 m
Filament	97.11 g in two colors

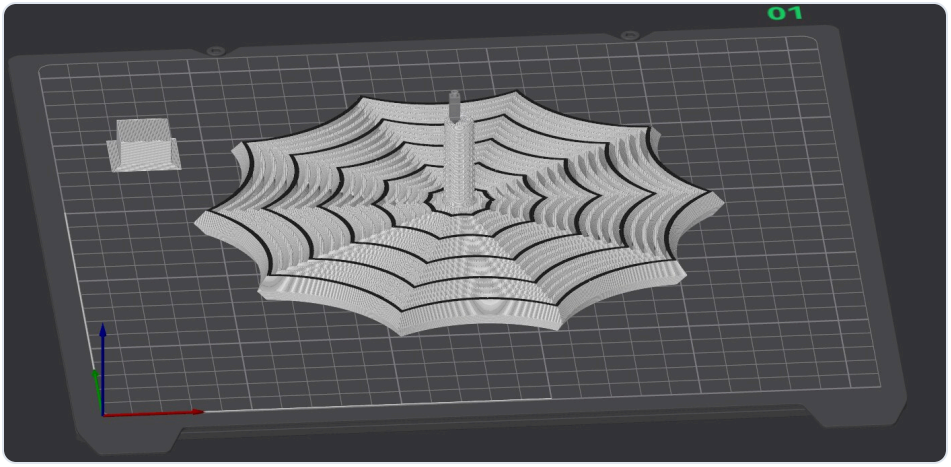


It prints flat, just as it rests.

With black strands the slicer adds a prime tower beside the web, so leave room for it on the plate.

2 · Slice it

1. Open `fidget-spider-web-assembly.3mf` in Creality Print, or any slicer that imports 3MF project files. When it asks whether to load the project's print settings, **say yes**.
2. The web is already flat on the plate and the strands are assigned to black. Slice and print.
3. **One color instead?** Set the strand filament to the same spool as the rings, or load the STL on its own. There are then no filament changes to wait on.
4. **Different colors?** The rings and the strands each take their own filament. Swap either to suit your spools.



As sliced: one part, flat on the plate, with the prime tower to its left.

3 · The profile baked into the 3MF

Using your own profile instead? Match these. Sliced and print-tested on a Creality Hi 1 with a 0.4 mm nozzle.

Quality	
Layer height	**0.20 mm**
First layer	0.20 mm
Nozzle	0.4 mm
Walls	2 loops
Top / bottom	5 / 3 layers
Infill	10 % gyroid

Material & plate	
Filament	PLA
Nozzle temp	220 °C
Bed temp	60 °C
Plate	Epoxy resin
Supports	**Off**
Brim	None

Two colors	Filament
White rings	93.60 g
Black web strands	0.63 g
Purge and prime tower	2.88 g, for 2 filament changes

Why the gaps get wider toward the rim

The gap between rings is tightest next to the stem and widens toward the rim. The outer rings have the longest way to turn, so they get the most room, and every ring keeps moving instead of binding. Keep the **2 walls** and the layer height as set: thicker walls eat into those gaps.

4 · Off the plate

1. Let the plate cool, then lift the whole web off in one piece. There is no support and no brim to remove.
2. Pick it up by the stem. Every ring should drop and hang below the one inside it.
3. If a ring stays flat, the first layer has joined it to its neighbor. Hold the web flat and work that ring gently side to side until it breaks free.

Where precision meets the printer

Thanks for printing this one. If it ends up in your hand every time you sit down at the desk, 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

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IF THIS ONE EARNED ITS SPOT

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Printed it in your own colors? Post a make with a photo — I would love to see what it looks like in something other than white and black.

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