



## Mechaspider 40mm Fan Grill



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updated 7. 5. 2024 | published 7. 5. 2024

### Summary

I have 4028 fan that spins at a sensible 25000RPM, and frankly that scares me. So I made a lightweight grill for it.

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So, I just installed a Sanyo Denki 9GAX0412P3S001 in my V-Core 3.1. I've also named it the "The Glutton". At 25000RPM, it generates 32CFM for your parts cooling, but I will assume it will greedily eat anything it can get its blades on.

So, most 40mm fan grills about are decorative or restrictive. I wanted a grill that was light weight, kept wires from getting too close even if they touched the grill, and would print easy. And when I drew out the leg, I felt it looked like a spider leg, so I called it the Mechaspider and here we are.

It's actually pretty damn strong: When printed in ASA, It can support over 20lbs (9Kg) of constant force on the spines of the grill without breaking (tested with a weight for 20 minutes, but don't do this while installed cause the center plate will flex in on the fan spindle), and it weighs about 1.4g. And the idea of the spines on the grill is to minimize distortion of the air on intake by the fan blades, and if an errant wire gets too close, instead

of resting flat, the angles of the cover would likely prevent the cable from resting close enough to a blade to cause trouble. I've also attached a light weight version of this that should maintain all of the same structural rigidity, but limit the weight to 1.33g. I'd like to get it down to 1g, but I think I'd have to sacrifice too much strength and protection to get there.

Anyways, enjoy! And please ignore the rat's nest\* of cables in the photo: I just confirmed functionality of the printer last night, so now I can finally start the cable routing.

\*Rat's nest. Rat Rig. Get it? I'll see myself out.

## Model files

**mecha-spider-40mm.stl**



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**mecha-spider-40mm-lw.stl**



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