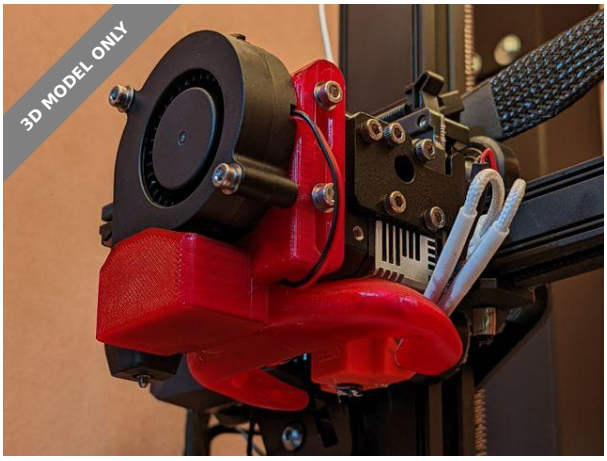


Ender 3 S1 Twin Jet 5015 Fan Duct

TX_Ryan

VIEW IN BROWSER

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Summary

Ender 3 S1 5015 fan duct with twin air jets for bidirectional part cooling.

3D Printers > 3D Printers - Upgrades

Tags: fanmount 5015fanduct coolingduct 5015blower ender3s1

Update: Revised STL to rotate matching recommended print configuration and repaired non-manifold issue some people experienced.

The stock S1 cooler isn't exactly great, and I wanted a bi-directional cooling design with a stronger 5015 blower so I designed this part.

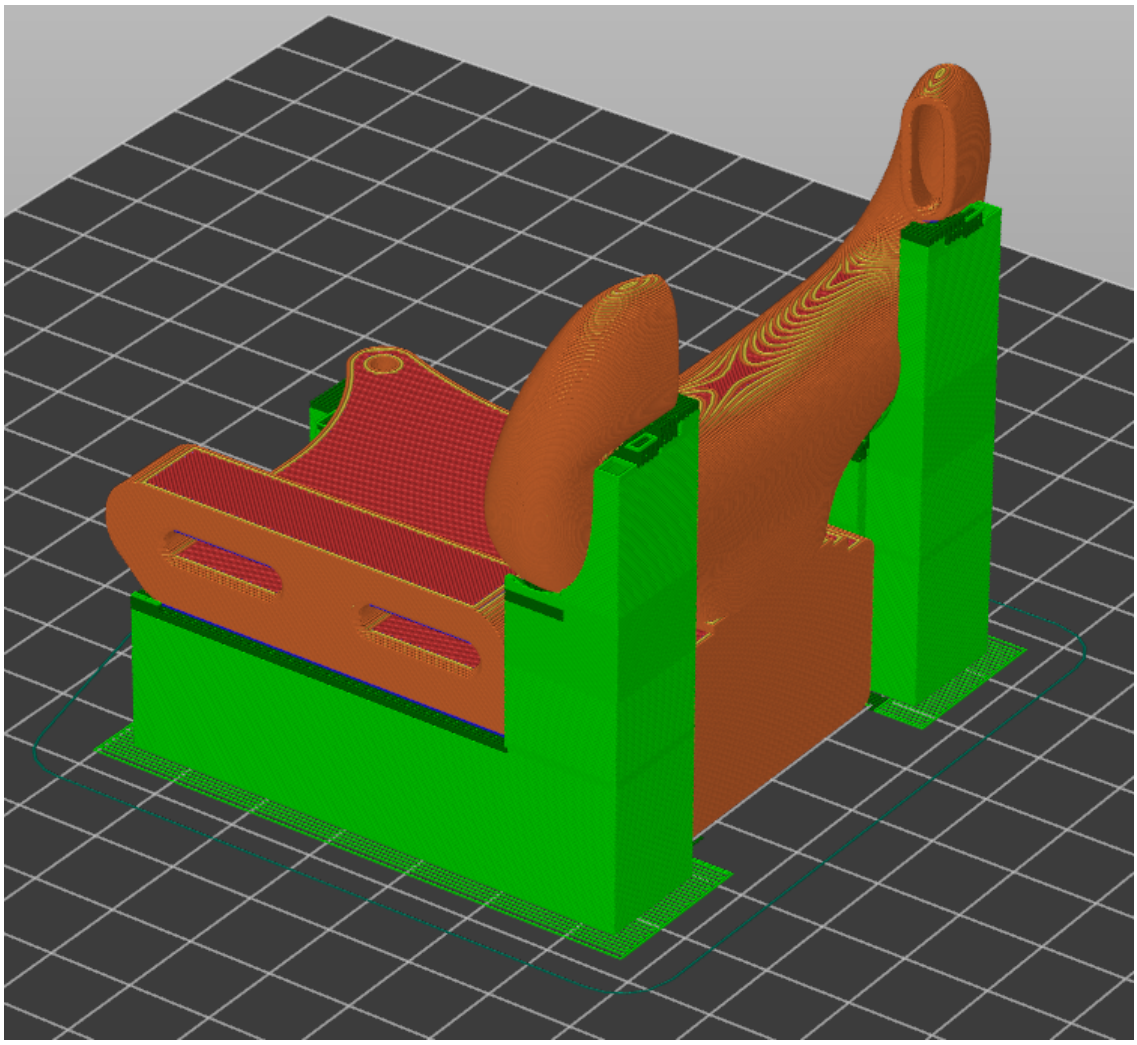
In my pictures of the part I am using a copperhead hotend, but the design allows for vertical adjustment and this should work with stock and most other hotends.

My Settings

- I printed with 0.2mm layer height and because I wanted the part to be really strong I went nuts with a 40% infill but you can probably go lower than that.
- I used Overture Clear Red PETG for my final part because I like how it looks and I want the added thermal performance of PETG.

Recommendations For Printing:

- Probably best to use PETG (or ABS etc) for this to increase heat resistance compared to PLA, but you may be able to get away with PLA at your own risk (I wouldn't recommend it).
- De-select “Don't support bridges” or the equivalent option in your slicer.
- Only use "supports from build plate" or the equivalent option in your slicer.
- You may need to clean up some bridging hang-downs inside the duct after printing but at least for me it wasn't that bad. May vary by your printer performance/settings.
- **Update**: File has been rotated to match the recommended print orientation.



Hardware I Used:

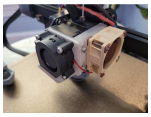
- **Fan:** I used this Winsinn model from amazon, the fit is alright but some other designs may vary your fit. The fit I experienced is quite tight, so this will vary by how well your printer is dialed in. https://www.amazon.com/gp/product/B07DB7DLMM

- **Bolts:** I used M3 bolts for mounting the fan and the duct to the print head. I ordered this kit from amazon to cover any and all of my M3 screw needs.
  LINK REMOVED - Amazon changed the product associated
- **Wires:** For wiring the fan up I spliced the wires from the fan to one of these from amazon. Personally I soldered the wires together then heat-shrinked the connections but you can use whatever you're comfortable with for joining the small wires together.
  https://www.amazon.com/gp/product/B013JRWCBU

This is a remix of the part below as I used the 5015 fan mount as a base then designed my own t-spline fan duct and merged the parts together. Big props to NBR for this design as a great starting point, and a good video on the topic of E3S1 fan upgrades.
https://www.thingiverse.com/thing:5238521

NBR's video on E3S1 Fan Upgrades:

This remix is based on



Ender 3 S1 Bolt-on Fan Duct
by NathanBuildsRobots

Model files



e3s1_twinjet_5015_cooling_duct-rev2.stl

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