



Q: The support material prints but will not stick. Why?

A: Thin support structures can come loose from the print bed. Maximizing the surface contact improves print success.

PRINT QUALITY

1. The original model failed because the support material did not adhere to the print bed.
2. By using a Brim or Raft that is wide enough to give the support a base to build from, the problem is eliminated.

PROBLEM

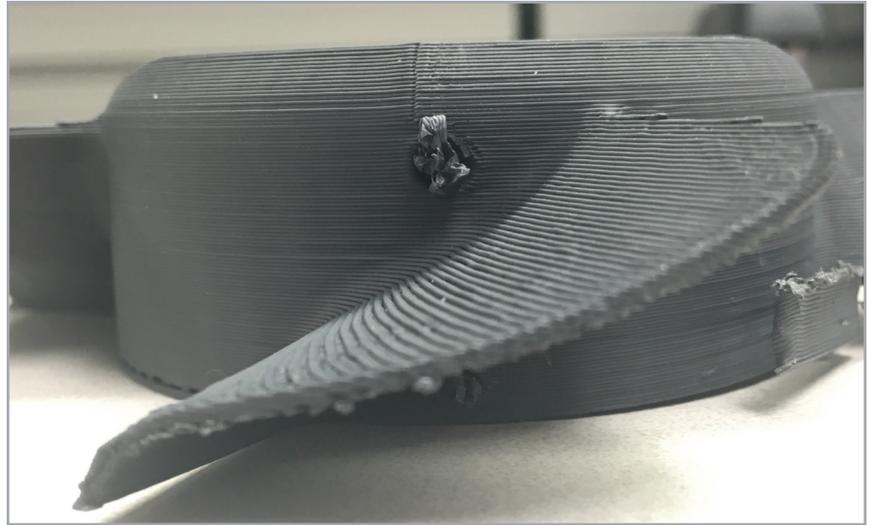
The support material did not stick to the print surface. Minimal surface contact did not allow the material to adhere properly.

- Use Skirt/ Brim: Yes
- Skirt Offset from Part: 0.00mm
- Skirt Outlines: 10

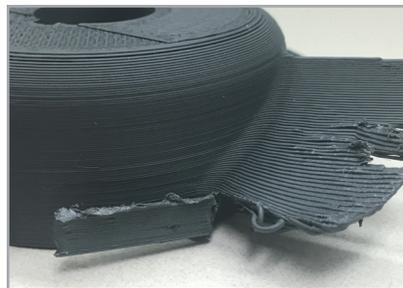
CORRECTIVE ACTION

Increasing the number of skirts (with a 0mm offset, we refer to this as a brim.) allows the support to build from a single layer of material as a base. Some part geometries may require a thicker base. In this case, use a raft.

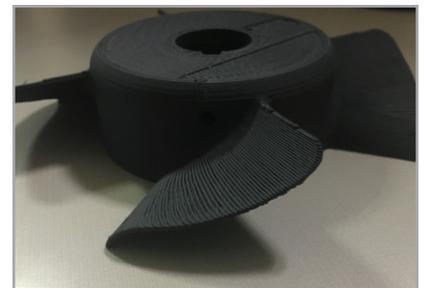
- Use Skirt/Brim: Yes
- Skirt Layers: 1
- Skirt Offset from Part: 0.00mm
- Skirt Outlines: 45



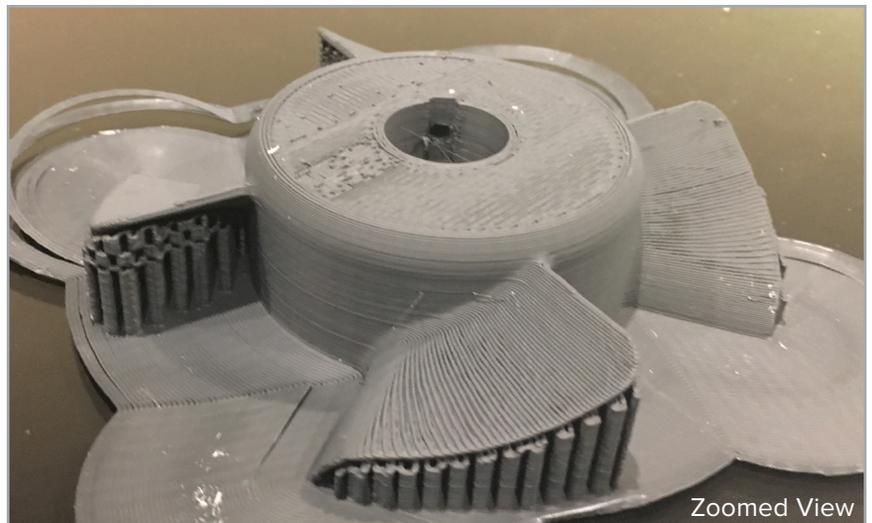
Failed Print: The brim of the print does not provide any surface area for the support material to build on. The print failed and caused the blades to be damaged during printing when the support broke loose.



Failed Print



Fixed Print



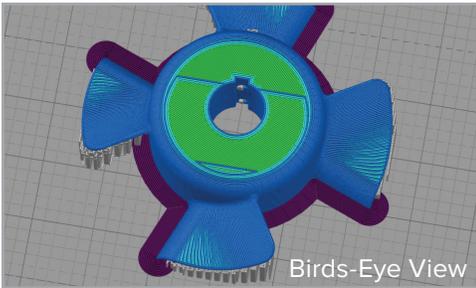
Zoomed View

Fixed Print: The brim is wide enough for all of the support material to build on.

CASE STUDY PROBLEM | SOLUTION

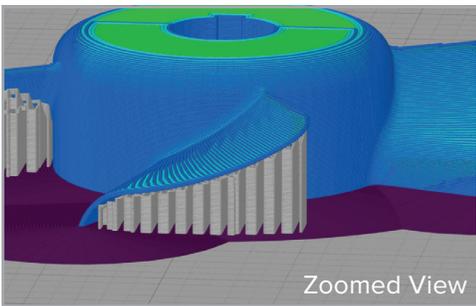


Rule of Thumb: Only make one adjustment at a time, so you can see the result of the change.



Birds-Eye View

Model, Sliced: The brim only extends 10 passes around

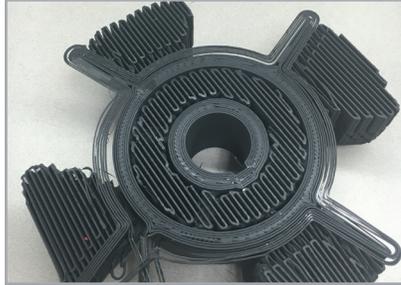


Zoomed View

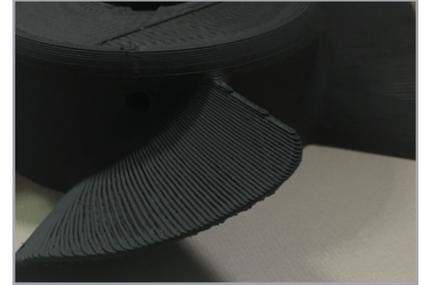
Model, Sliced: The support is directly in contact with the print surface.

KEY POINTS

Maximizing the surface contact of the support material by adding a brim, improves the print process.



Failed Print: The brim of the print does not provide any surface area for the support material to build on.



Fixed Print: The brim is wide enough for all of the support material to build on, producing a good print.

PRINT PROCESS SETTINGS	BEFORE FIX BAD PRINT	AFTER FIX GOOD PRINT
Material Type	PLA	PLA
Bed Temperature	80C	80C
Nozzle Size	.6mm	.6mm
Nozzle Temperature	200C	200C
Flow Rate (Extrusion Multiplier)	1.00	1.00
Extrusion Width	.72mm	.72mm
Print Speed	100mm/s	100mm/s
Layer Height	.3mm	.3mm
Number of Perimeters	3	3
Top Layers	10	10
Bottom Layers	10	10
Infill Percentage	15%	15%
Support Structures	none	none
Use skirt/brim	yes	yes
Skirt layers	1	1
Skirt offset from part	0.00mm	0.00mm
Skirt outlines	10	45

Skirt: A skirt is an outline that surrounds your part but does not touch the part

Brim: A brim surrounds the part like a skirt but with a 0.00mm offset (like the brim of a hat).

Raft: A raft is a latticework of filament that prints directly underneath the part.

