



## Spreader Arms for Kossel Wire Braces 2020 (Fix Volume Loss)



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### Summary

Spreader arms for my Kossel wire/cable frame brace kit here: <https://www.thingiverse.com/thing:2941886> The original...

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Spreader arms for my Kossel wire/cable frame brace kit here: <https://www.thingiverse.com/thing:2941886>

The original brace kit does wonders for frame rigidity, but comes at the price of some of the printable volume. I racked my brain for a good, long-lasting way to update the braces to move the wires out, then realized there was a simpler way. These spreaders push out the wires to reclaim most\* of the lost volume.

(\* Specifically, I'd guesstimate these reclaim between 50 and 60% of the loss, but they reclaim almost all of it down low, so nice for printing long stuff -- just gradually less as the height increases and the wires slope back inward. I didn't want to push the arm spread toooooo wide until I could get some good testing on the 100mm version, but assuming they don't have

any breakage issues, I may publish, say, a 140mm version that would get back more.)

Print 3 of these.

BOM:

- 6 M4x12mm bolts
- 6 M4 nuts

## **Print Settings**

### **Printer:**

Anycubic Linear Kossel XL

### **Rafts:**

No

### **Supports:**

Yes

### **Resolution:**

0.2

### **Infill:**

50

### **Filament:**

Hatchbox PLA

### **Notes:**

Use thick walls and top/bottom -- I went with 3 perimeters + Cura's alternating bonus perimeter, 6 top/bottom layers. Also print at the hot end of the material range to ensure good layer adhesion (I used 210C).

You'll need supports, too. I recommend support roofs.

## **Post-Printing**

### **Mounting instructions:**

Tips: You'll need to loosen up the wires if you've got an existing wire brace installation. I found it easiest to screw the spreader arms on before snapping the wires into place on the ends. Small rolls of scotch tape,

sticky-side out, make it much easier to keep the nuts in position to screw into.

Mount the arms on the inside of the frame uprights. They should be positioned such that the wires can pass over the ends without deflecting up or down (so the wires should look exactly straight if viewed side-on). There's some wiggle room built into the design for this, so don't stress.

Once they're mounted, re-tighten the wires per the instructions for the original brace kit.

## How I Designed This

Designed from scratch in Sketchup.

Category: 3D Printer Accessories

## Model files



**kossel\_wire\_brace\_spreader\_arm\_100mm\_v1.stl**

[Find source .stl files on Thingiverse.com](#)

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