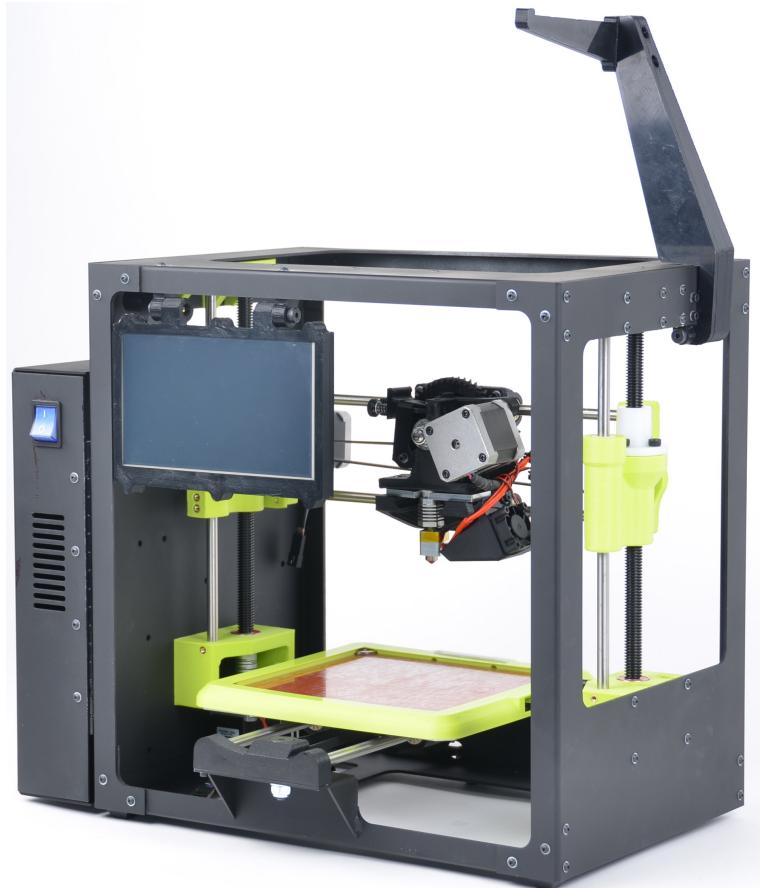


LULZBOT MINI DEVELOPER'S GUIDE



LulzBot Mini Developer's Guide

by Aleph Objects, Inc.

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Published by Aleph Objects, Inc., 626 West 66th Street, Loveland, Colorado, 80538 USA.

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20140913

Contents

Introduction

Welcome Aboard	vii
Audience	viii
Open Source Hardware, Free Software	viii
1 LulzBot Mini	
Developer Overview	9
1.1 LulzBot Mini	10
1.2 Versions	10
1.3 Begonia Photos	10
1.4 Schedule	19
2 Mechanical	
Cartesian Bot in X, Y, Z	21
2.1 Intro	22
2.2 Begonia Renders	22
2.3 Begonia 3D Printed Parts	30
2.4 Begonia Bed	30
2.5 Begonia Extruder	33
2.6 Begonia LCD	35
2.7 Begonia Spool	38
2.8 Begonia X	41
2.9 Begonia Y	43
2.10 Begonia Z	45
2.11 Begonia Misc	48
2.12 Begonia Drawings	52
2.13 Camillia Drawings	52
3 Electrical	
Power Supply, wiring	53

CONTENTS

3.1	Electrical Layout	54
4	3D Printer Controller	
	 Mini-RAMBo	55
4.1	Intro	56
5	Contact	
	 Phone, Email, Web, Location	57
5.1	Support	58
5.2	Sales	58
5.3	Websites	58

List of Figures

1.1	Begonia Front Photo	11
1.2	Begonia Left Photo	12
1.3	Begonia Back Photo	13
1.4	Begonia Right Photo	14
1.5	Begonia Spool Arm Up Photo	15
1.6	Begonia Spool Arm Down Photo	16
1.7	Begonia Green Color Scheme Photo	17
1.8	Begonia Black Green Color Scheme Photo	18
2.1	Begonia Front Render	23
2.2	Begonia ISO Render	24
2.3	Begonia Left Render	25
2.4	Begonia Right Render	26
2.5	Begonia Right Render	27
2.6	Begonia Top Render	28
2.7	Begonia Bottom Render	29
2.8	Begonia 3D Printed Bed Corner Render	31
2.9	Begonia 3D Printed Bed Cover Render	31
2.10	Begonia 3D Printed Bed Fan Mount Render	32
2.11	Begonia 3D Printed Belt Clamp Render	32
2.12	Begonia 3D Printed Extruder Body Hex Render	34
2.13	Begonia 3D Printed Extruder Mount Render	34
2.14	Begonia 3D Printed LCD Back Cover Render	36
2.15	Begonia 3D Printed LCD Catch Render	36
2.16	Begonia 3D Printed LCD Hinge Render	37
2.17	Begonia 3D Printed LCD Mount Render	37
2.18	Begonia 3D Printed Spool Arm Render	39
2.19	Begonia 3D Printed Spool Hinge Render	39
2.20	Begonia 3D Printed Spool Mount Render	40
2.21	Begonia 3D Printed X End Idler Render	42
2.22	Begonia 3D Printed X End Motor Render	42
2.23	Begonia 3D Printed Y End Idler Render	44
2.24	Begonia 3D Printed Y Rod Mount Render	44
2.25	Begonia 3D Printed Upper Z Left Render	46

List of Figures

2.26 Begonia 3D Printed Upper Z Right Render	46
2.27 Begonia 3D Printed Lower Z Left Render	47
2.28 Begonia 3D Printed Lower Z Right Render	47
2.29 Begonia 3D Printed Double Bearing Holder Render	49
2.30 Begonia 3D Printed Fan Mount Render	49
2.31 Begonia 3D Printed Handle Bar Render	50
2.32 Begonia 3D Printed Cable Carrier Mount Render	50
2.33 Begonia 3D Printed Extruder Mt Top Double Bearing Holder Render	51

Introduction

Welcome Aboard

Audience

This is a developer's guide to hacking on the LulzBot Mini 3D Printer. It is meant for developers, not users, of the printer.

Open Source Hardware, Free Software

Aleph Objects, Inc. is a Loveland, Colorado, USA company that manufactures Open Source Hardware using Free Software.

For more info, visit <http://www.alephobjects.com>.

LulzBot Mini

Developer Overview

1.1 LulzBot Mini

The LulzBot Mini is a 3D Printer currently under development. The abbreviated name is mini-dev.

The source files are available here:

<http://devel.lulzbot.com/mini/>

1.2 Versions

Each new version of the mini-dev has a new name, with the next letter in the alphabet.

- Azalea - First Prototype
- Begonia - Second Prototype, being built now
- Camellia - Third Prototype
- Daffodil - First Production batch

1.3 Begonia Photos

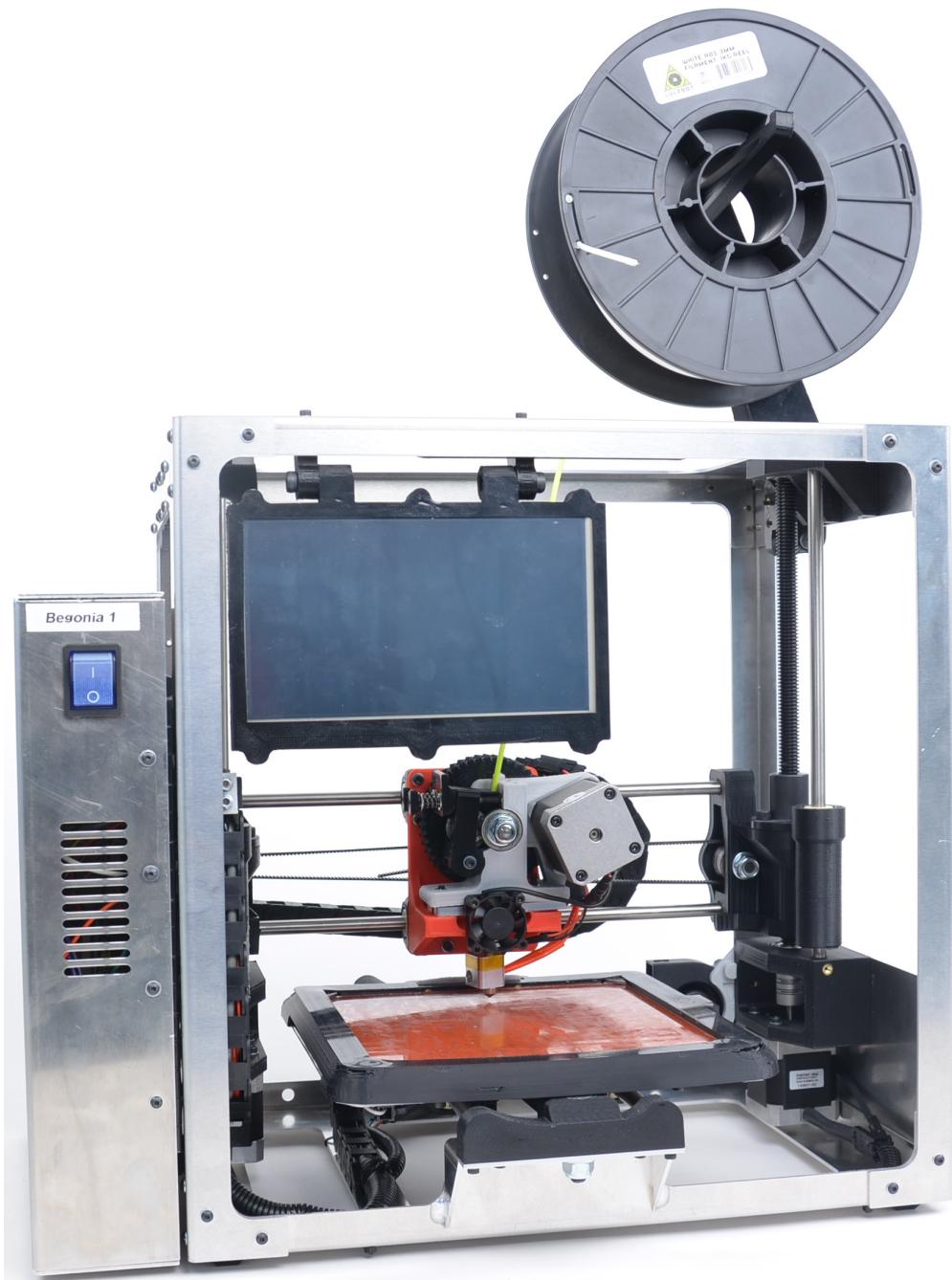


Figure 1.1: Begonia Front Photo

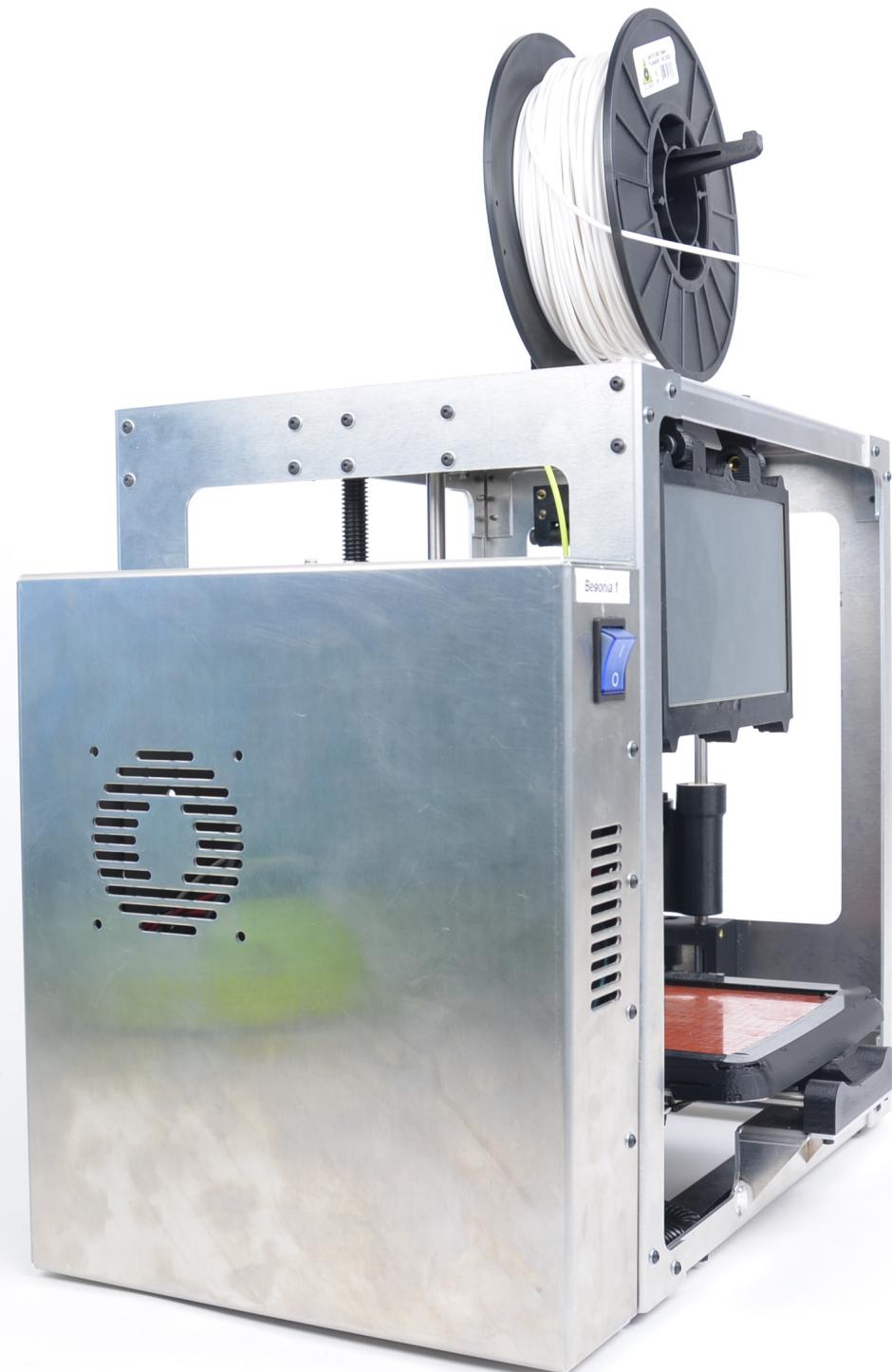


Figure 1.2: Begonia Left Photo

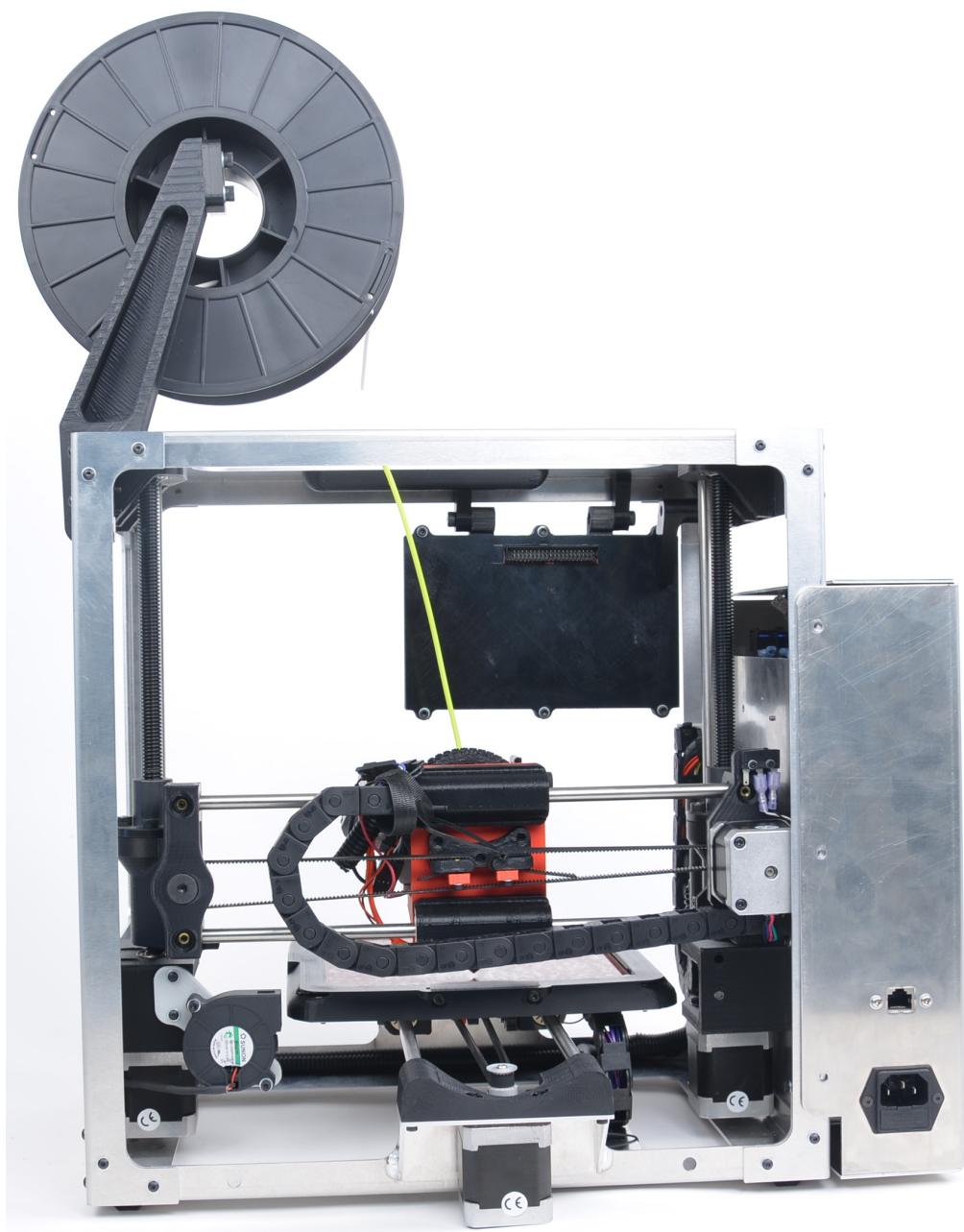


Figure 1.3: Begonia Back Photo

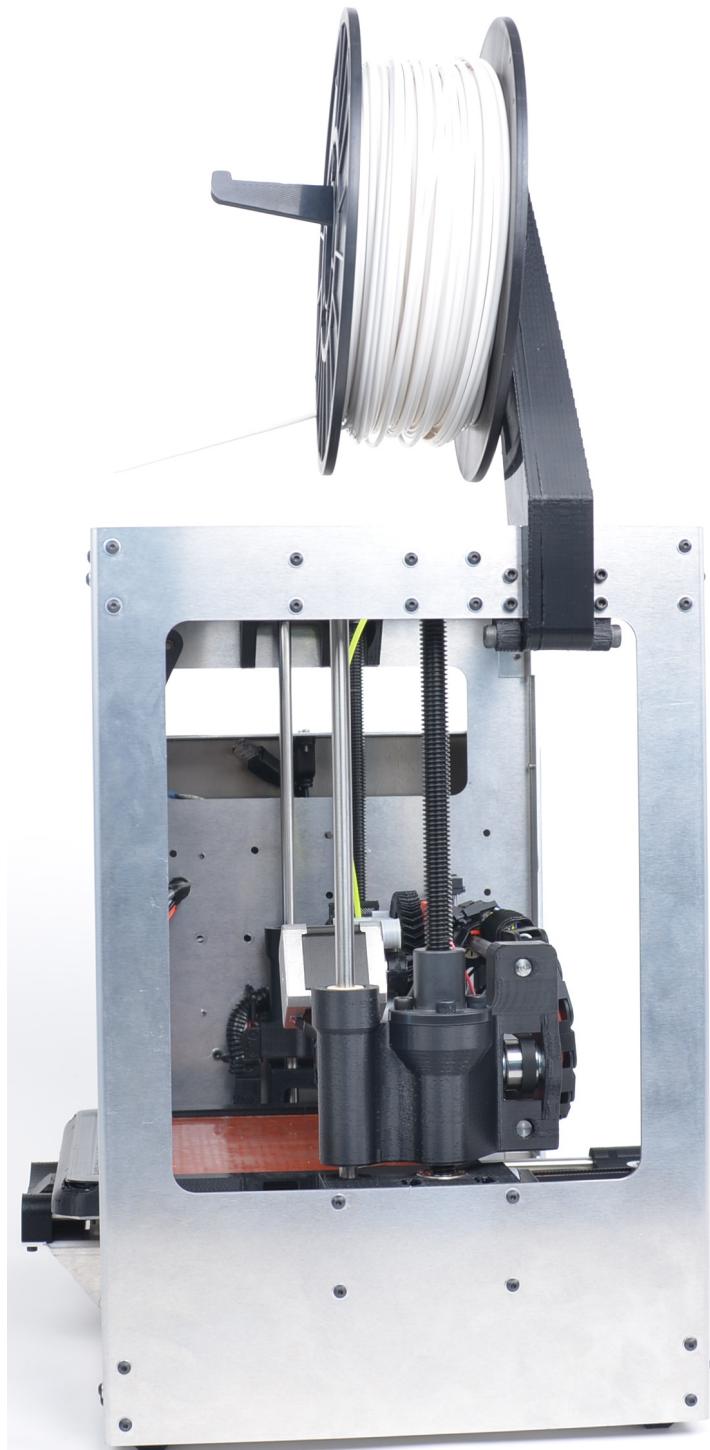


Figure 1.4: Begonia Right Photo

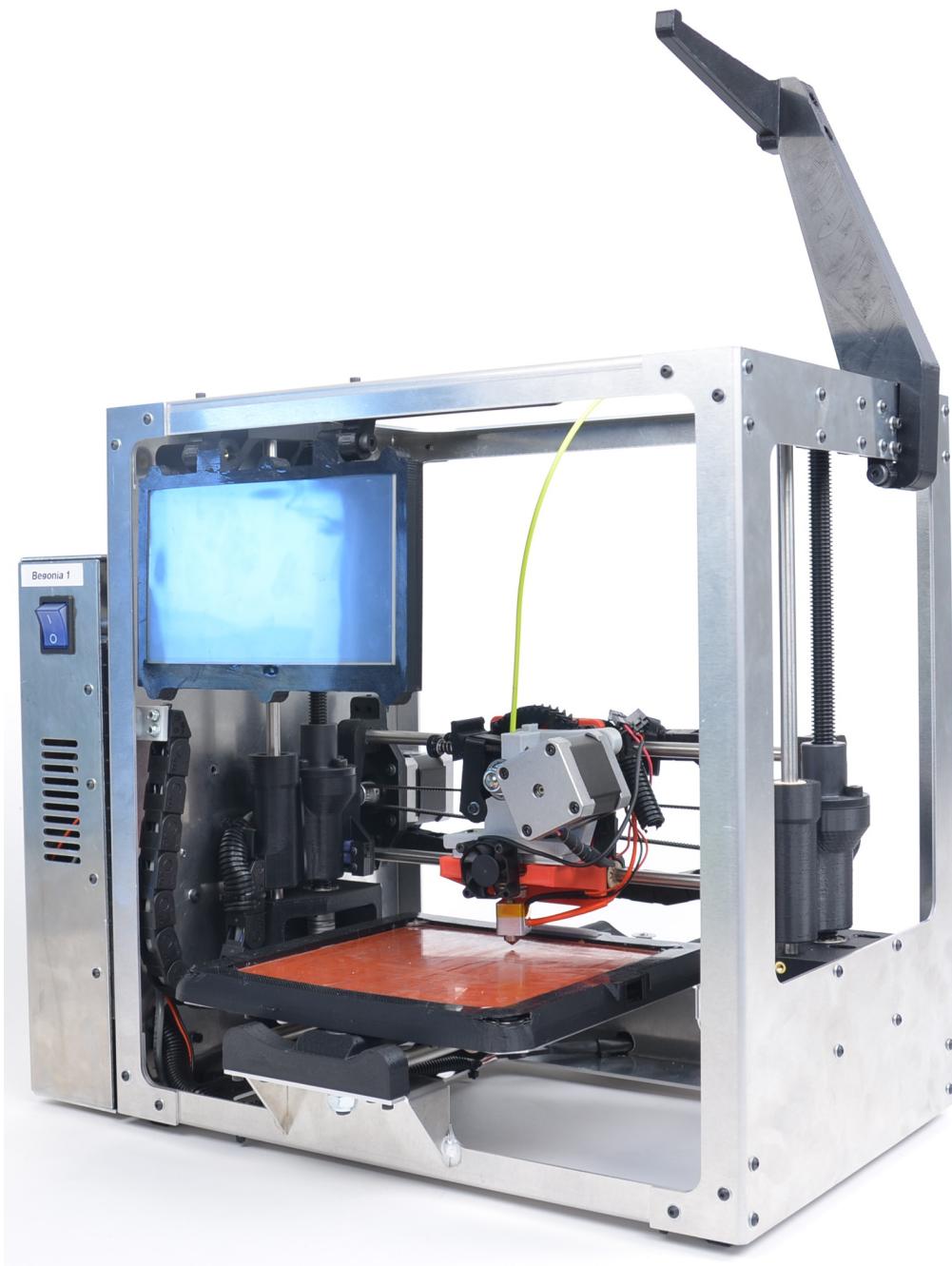


Figure 1.5: Begonia Spool Arm Up Photo

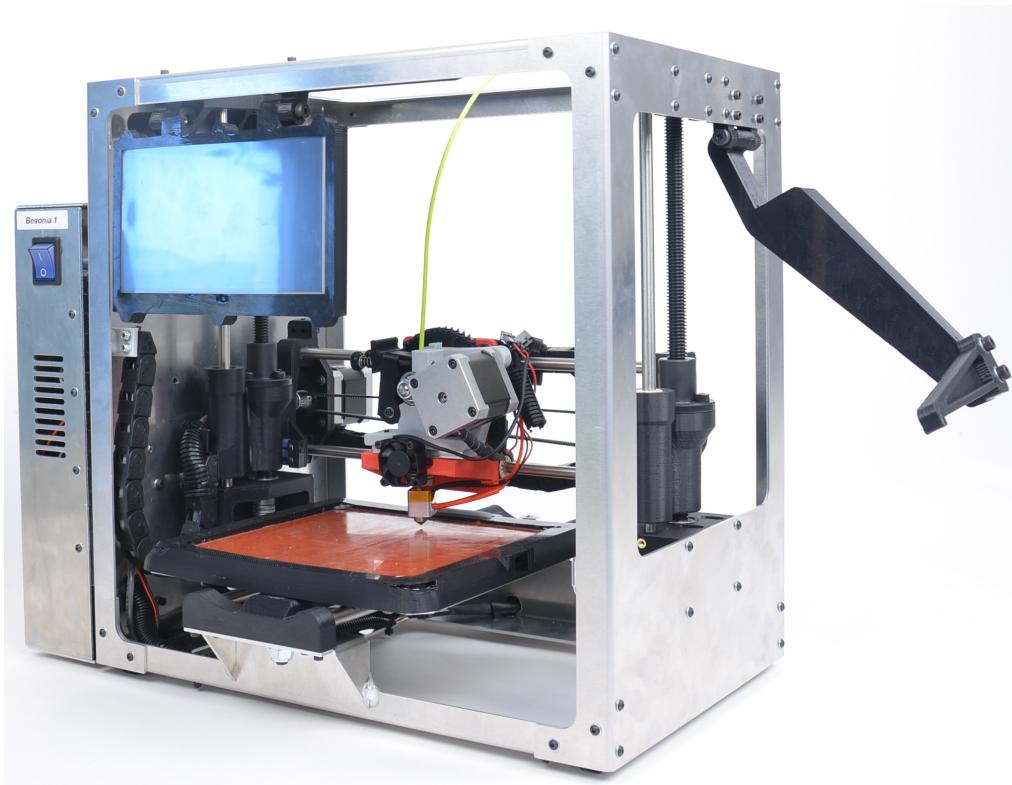


Figure 1.6: Begonia Spool Arm Down Photo



Figure 1.7: Begonia Green Color Scheme Photo

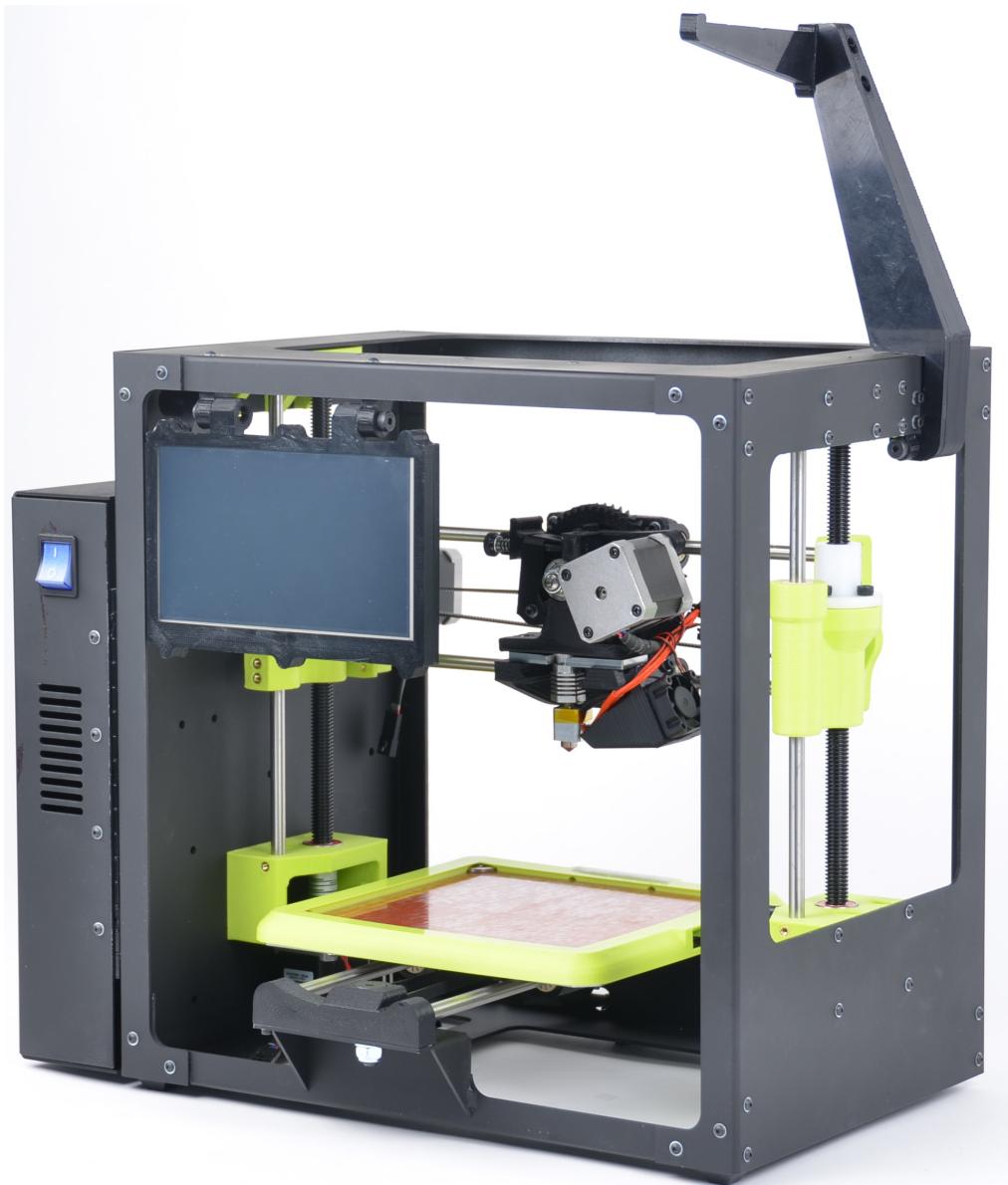


Figure 1.8: Begonia Black Green Color Scheme Photo

1.4. SCHEDULE

1.4 Schedule

The schedule is updated weekly. It is in Libre Office spreadsheet format.
The latest version is available here:

http://devel.lulzbot.com/mini/program_management/

Mechanical

Cartesian Bot in X, Y, Z

2.1 Intro

Mechanical hardware specs and parts are in these subdirectories:

<http://devel.lulzbot.com/mini/>

2.2 Begonia Renders

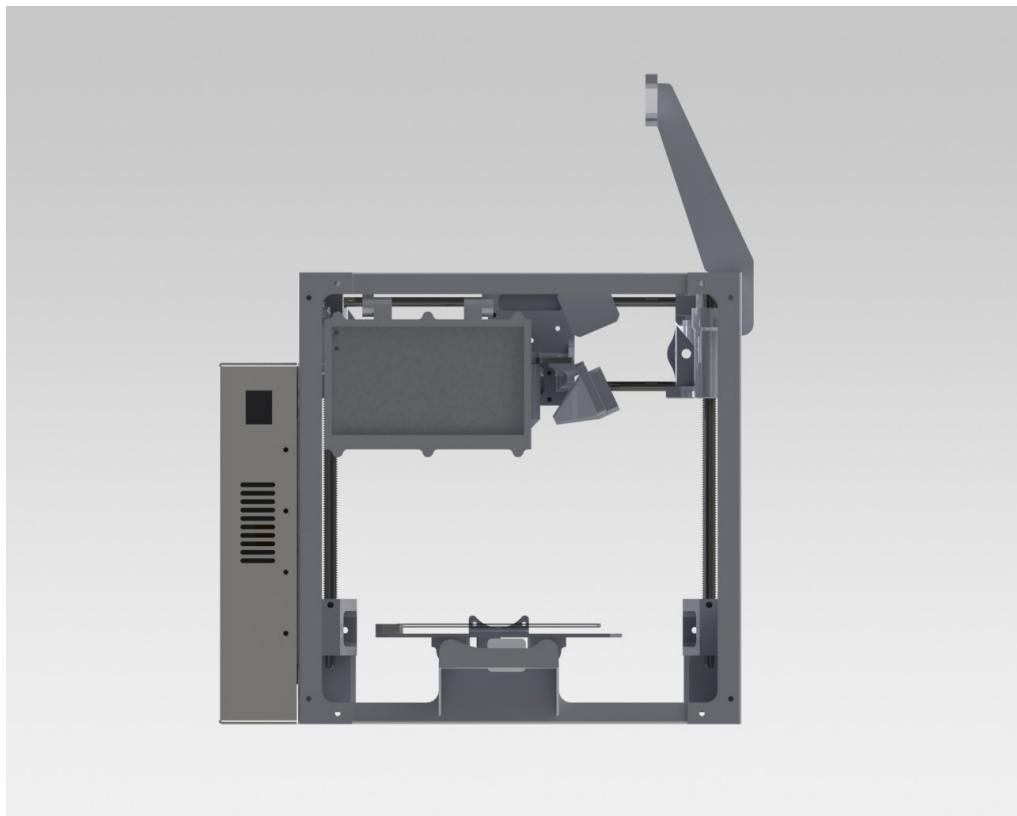


Figure 2.1: Begonia Front Render

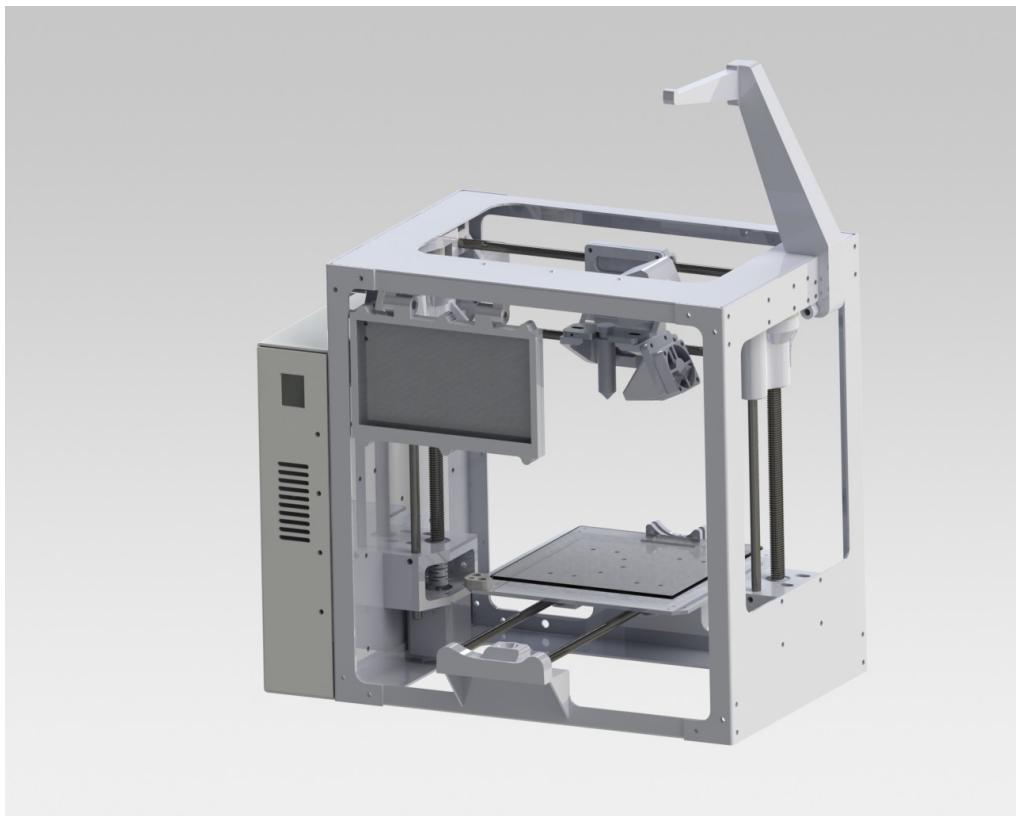


Figure 2.2: Begonia ISO Render

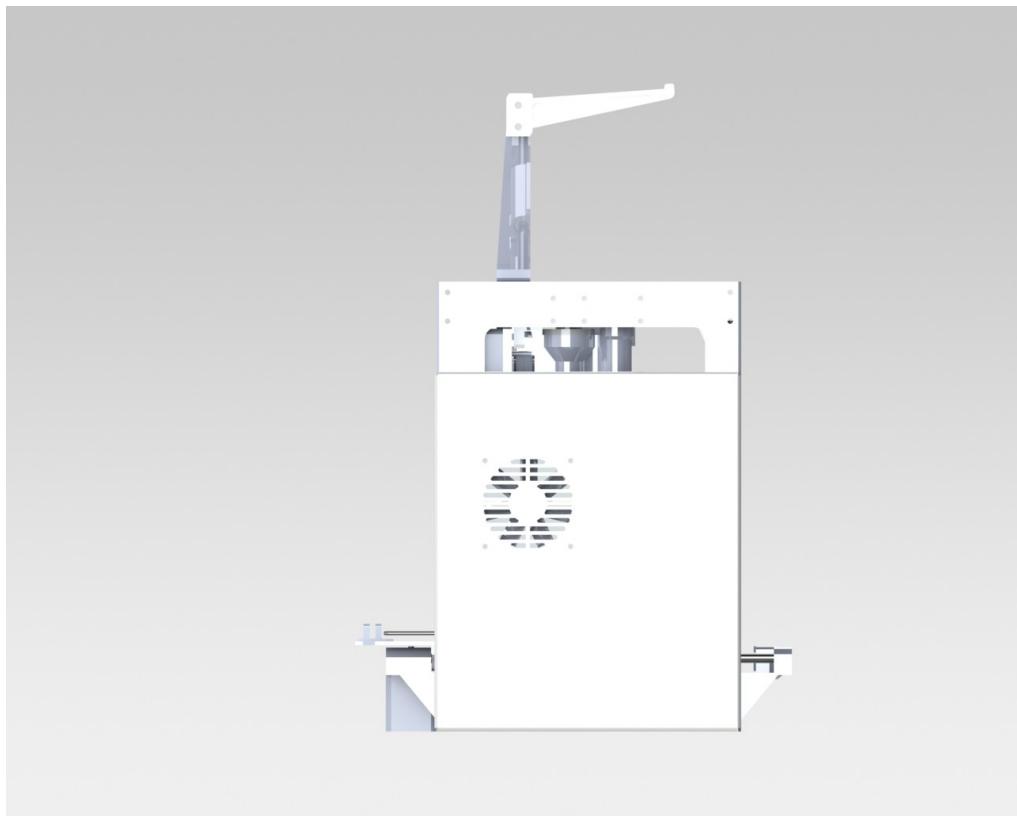


Figure 2.3: Begonia Left Render

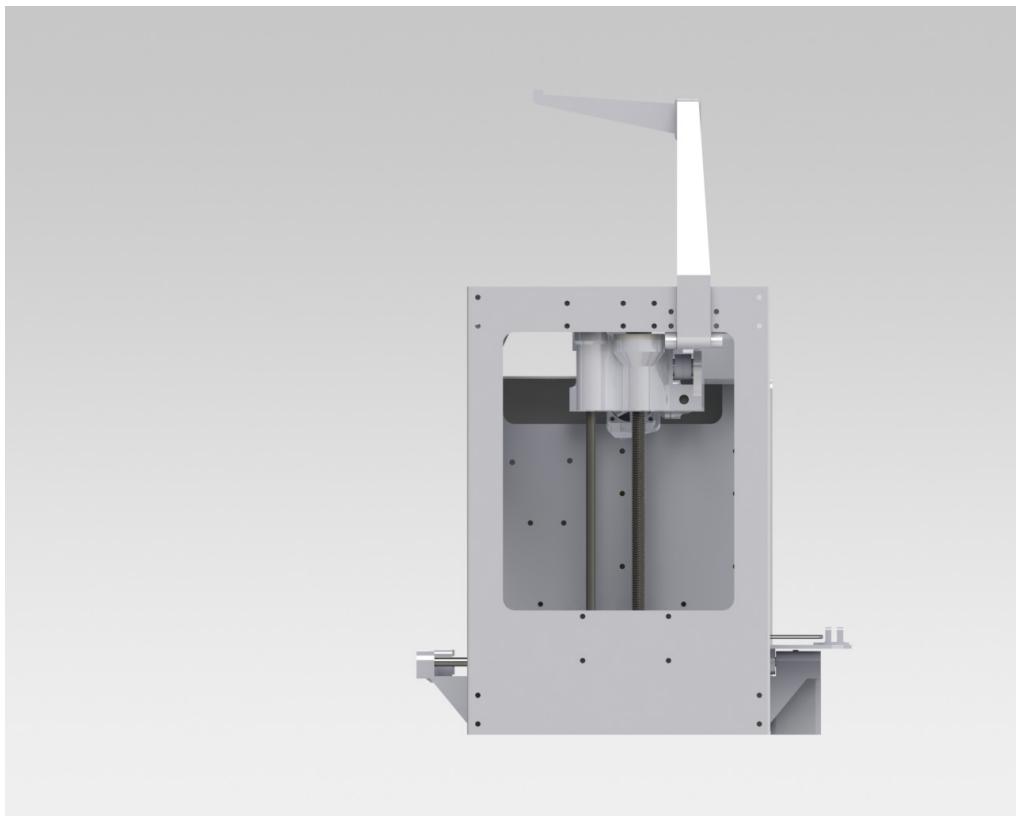


Figure 2.4: Begonia Right Render

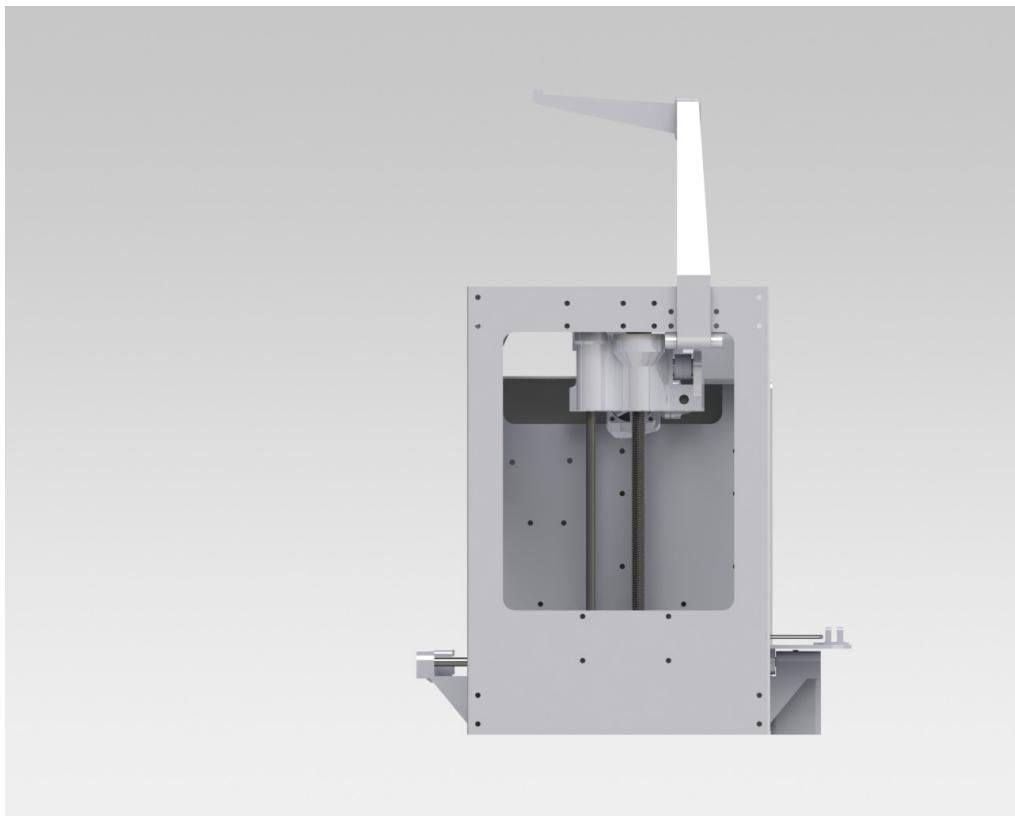


Figure 2.5: Begonia Right Render

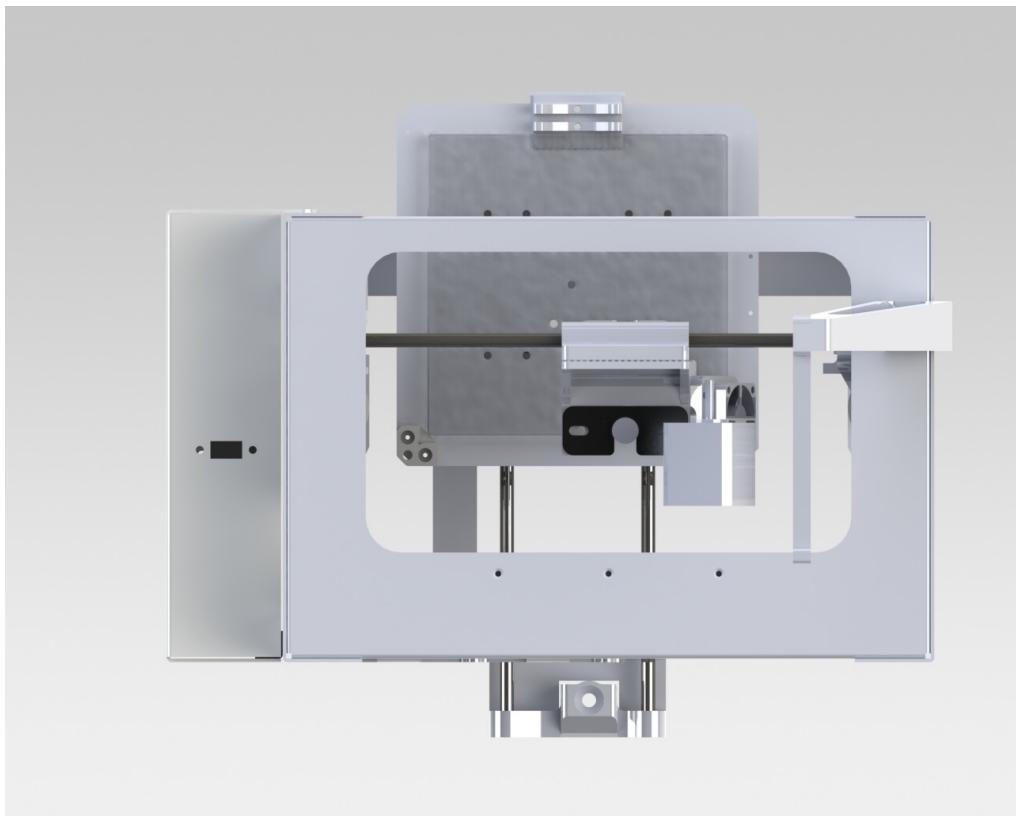


Figure 2.6: Begonia Top Render

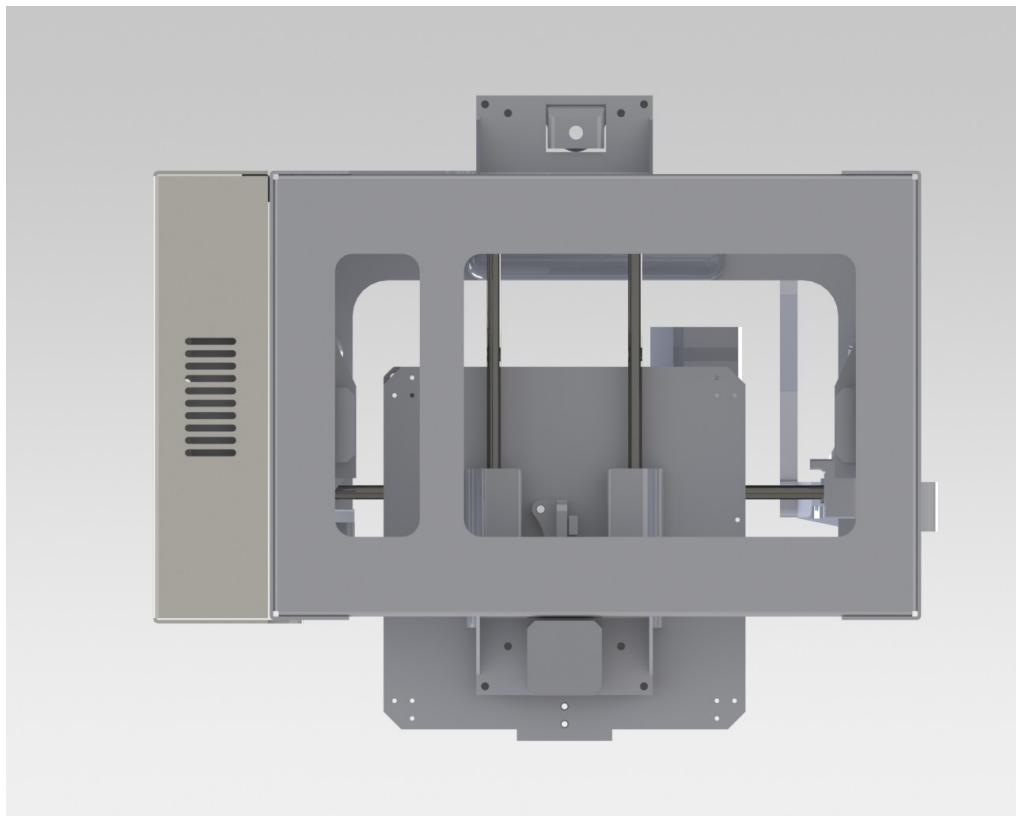


Figure 2.7: Begonia Bottom Render

2.3 Begonia 3D Printed Parts

2.4 Begonia Bed

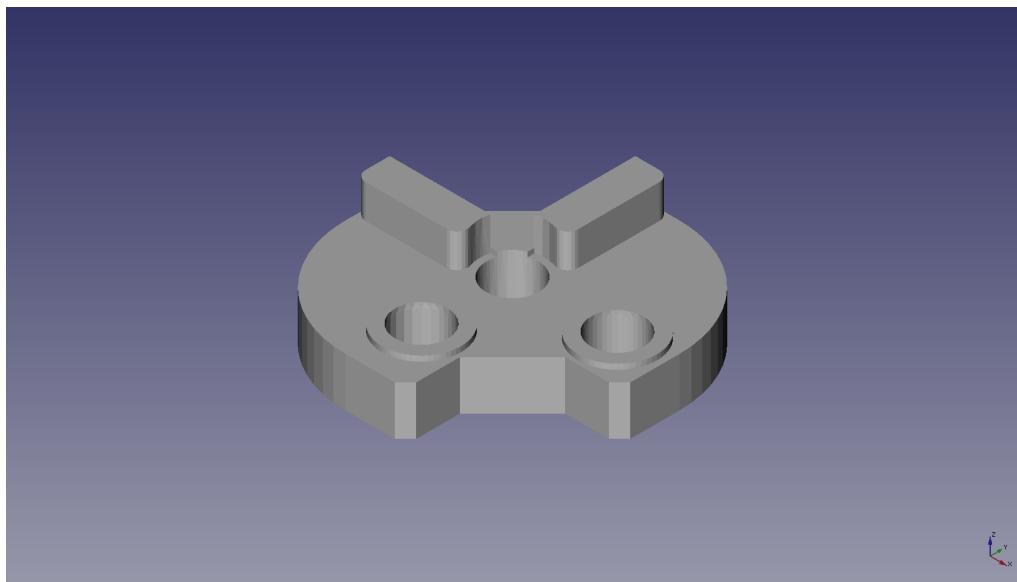


Figure 2.8: Begonia 3D Printed Bed Corner Render

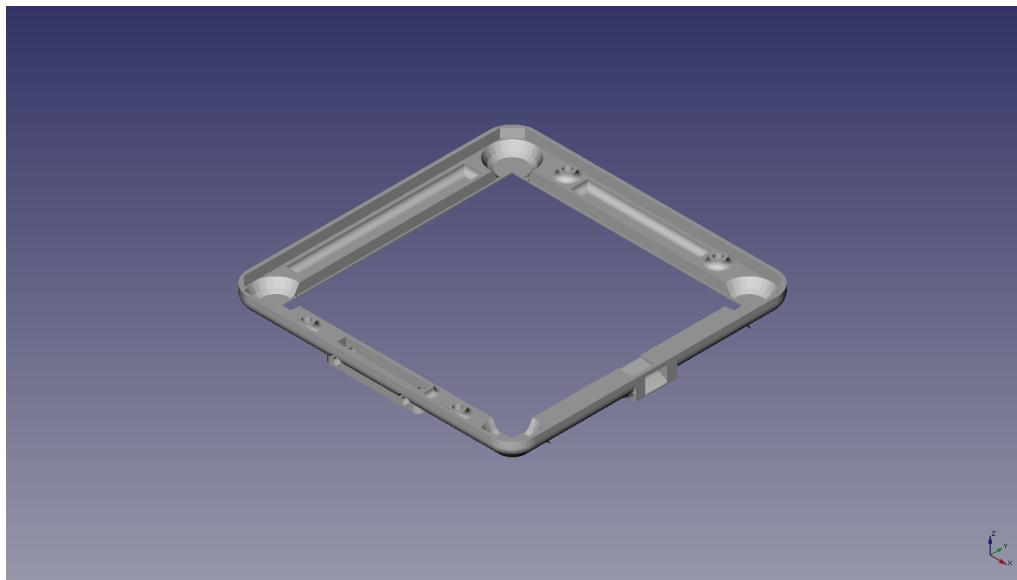


Figure 2.9: Begonia 3D Printed Bed Cover Render

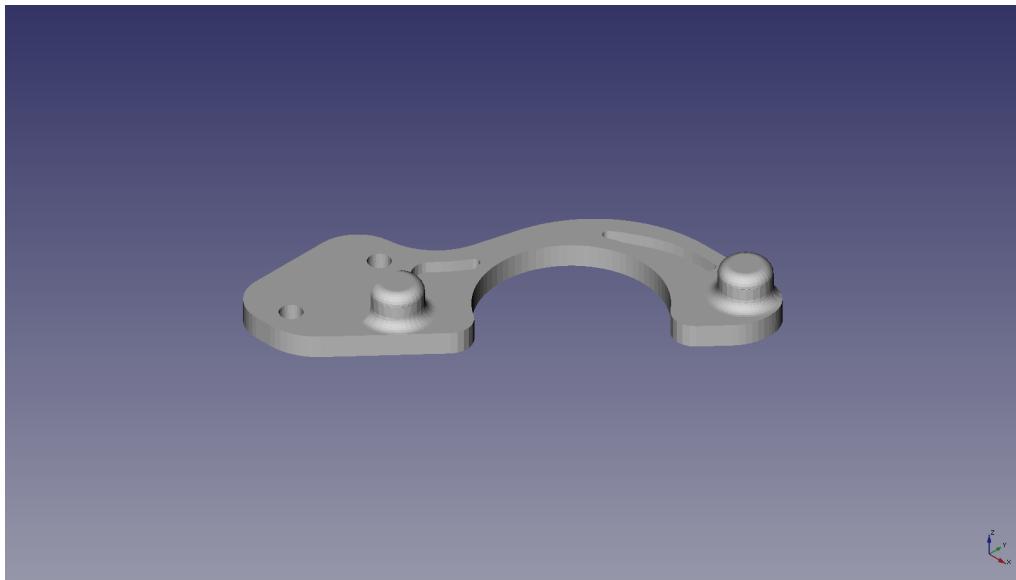


Figure 2.10: Begonia 3D Printed Bed Fan Mount Render

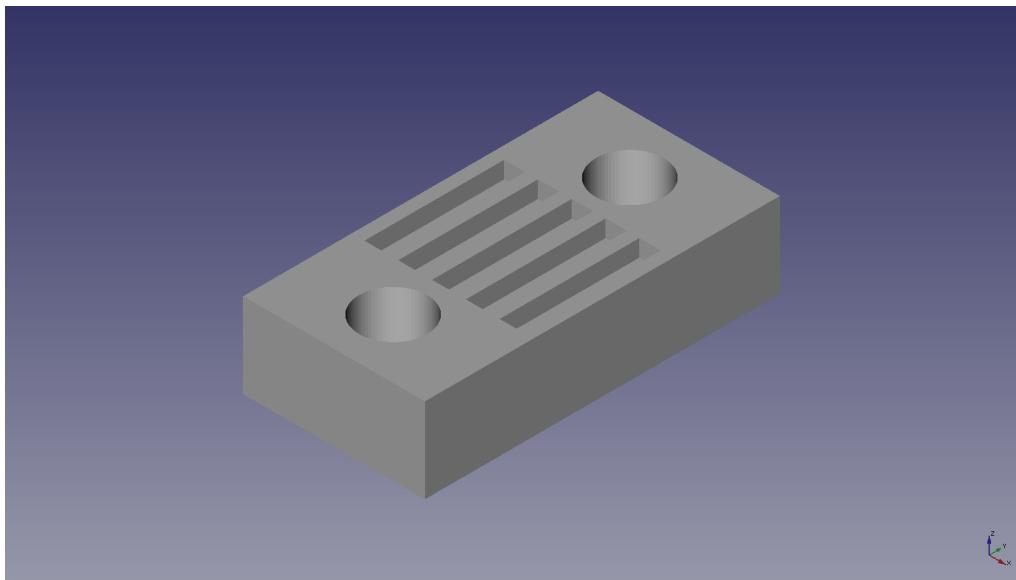


Figure 2.11: Begonia 3D Printed Belt Clamp Render

2.5. BEGONIA EXTRUDER

2.5 Begonia Extruder

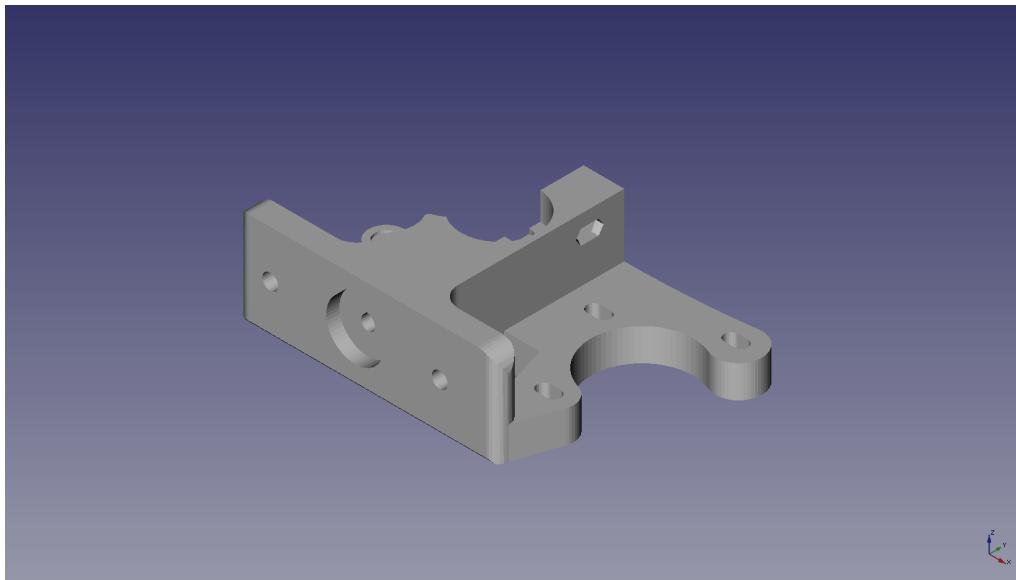


Figure 2.12: Begonia 3D Printed Extruder Body Hex Render

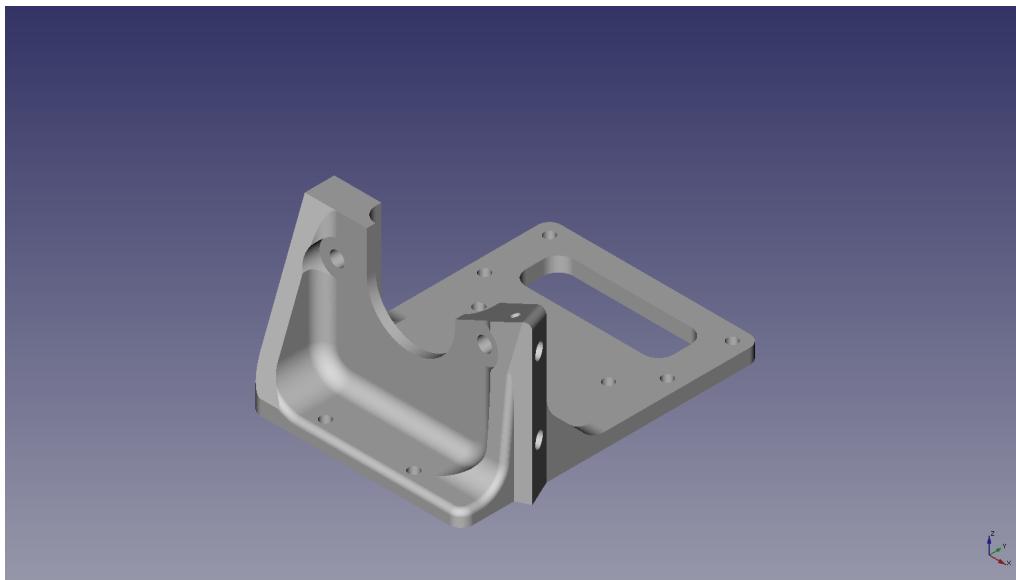


Figure 2.13: Begonia 3D Printed Extruder Mount Render

2.6 Begonia LCD

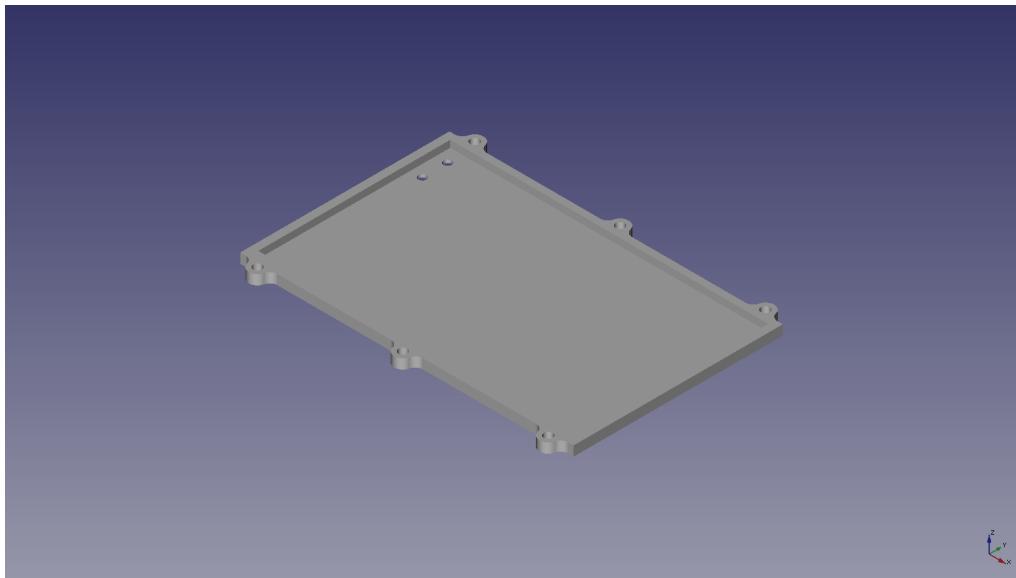


Figure 2.14: Begonia 3D Printed LCD Back Cover Render

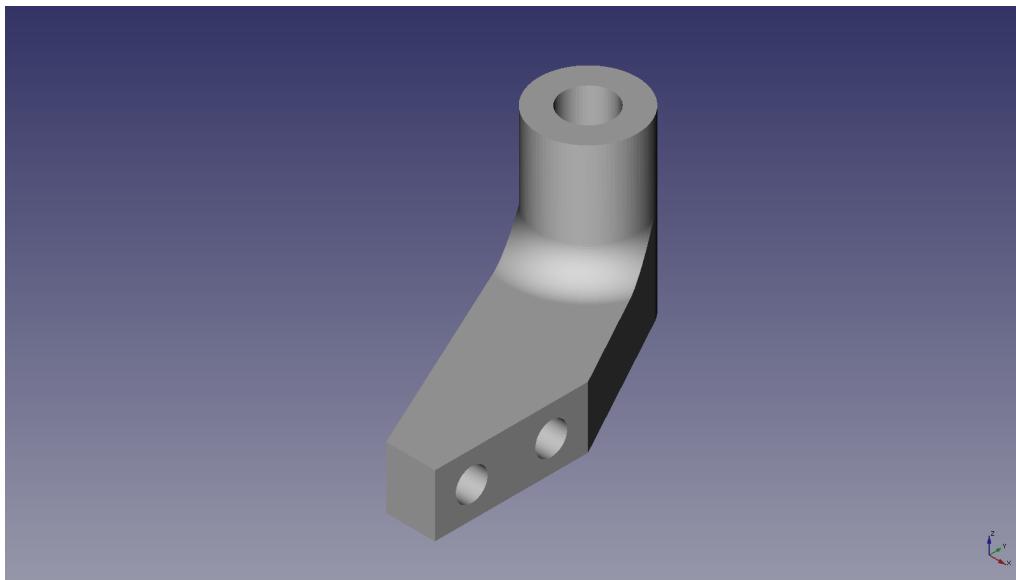


Figure 2.15: Begonia 3D Printed LCD Catch Render

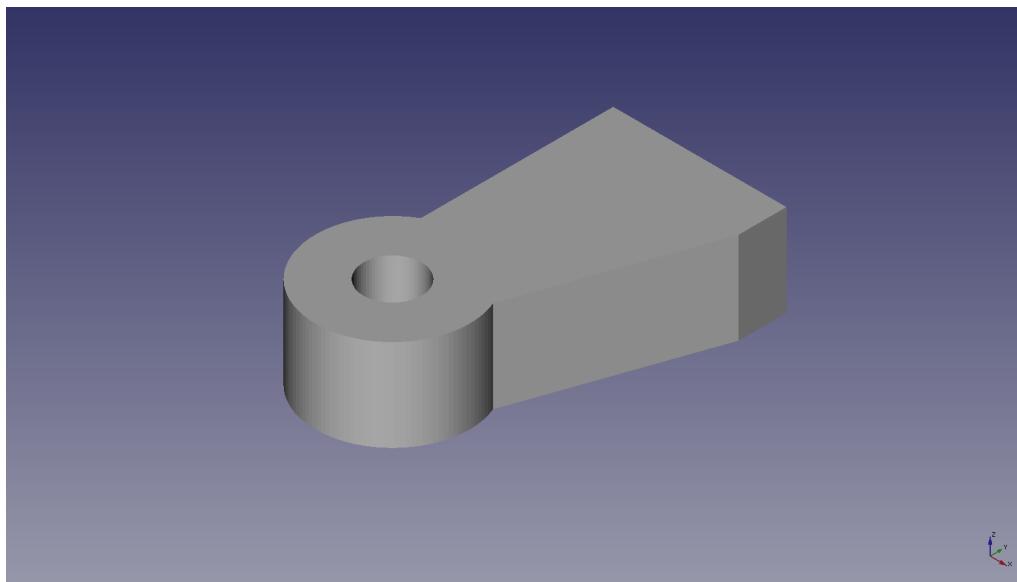


Figure 2.16: Begonia 3D Printed LCD Hinge Render

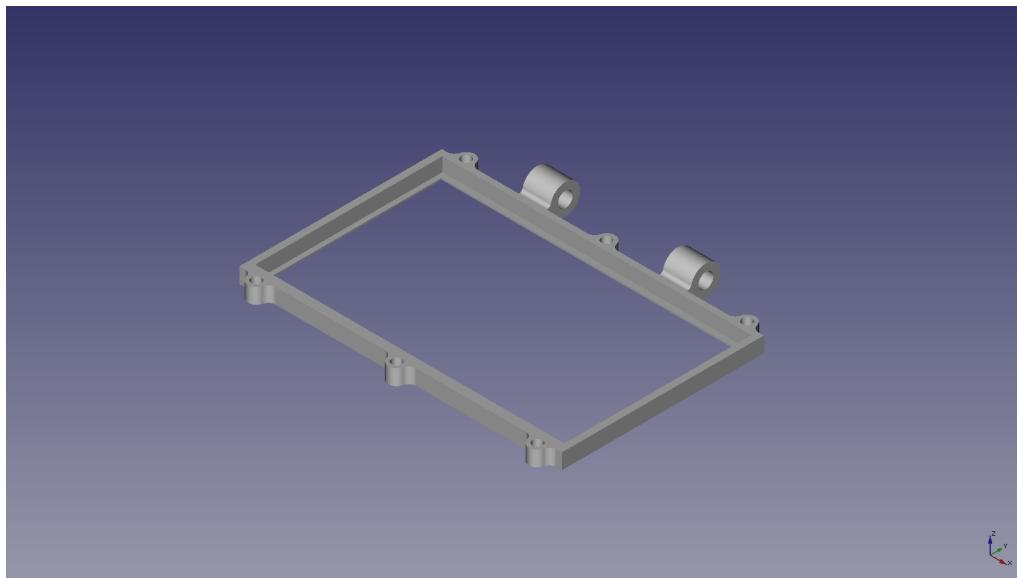


Figure 2.17: Begonia 3D Printed LCD Mount Render

2.7 Begonia Spool

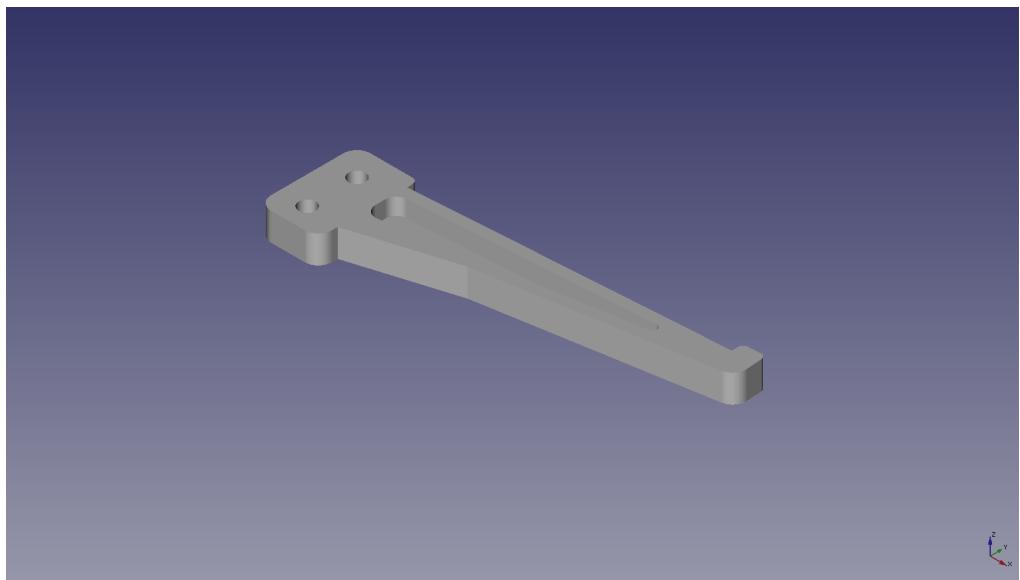


Figure 2.18: Begonia 3D Printed Spool Arm Render

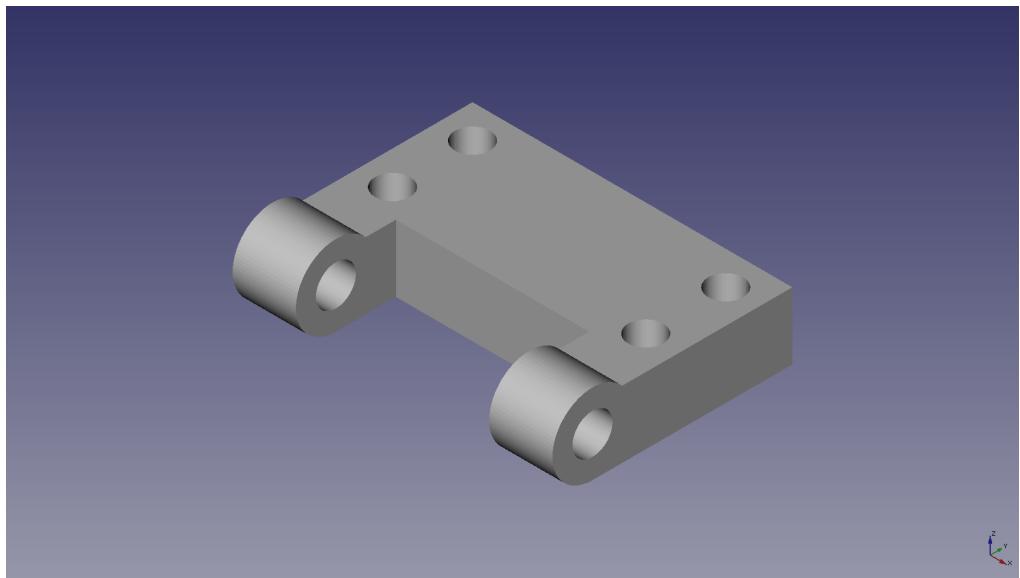


Figure 2.19: Begonia 3D Printed Spool Hinge Render

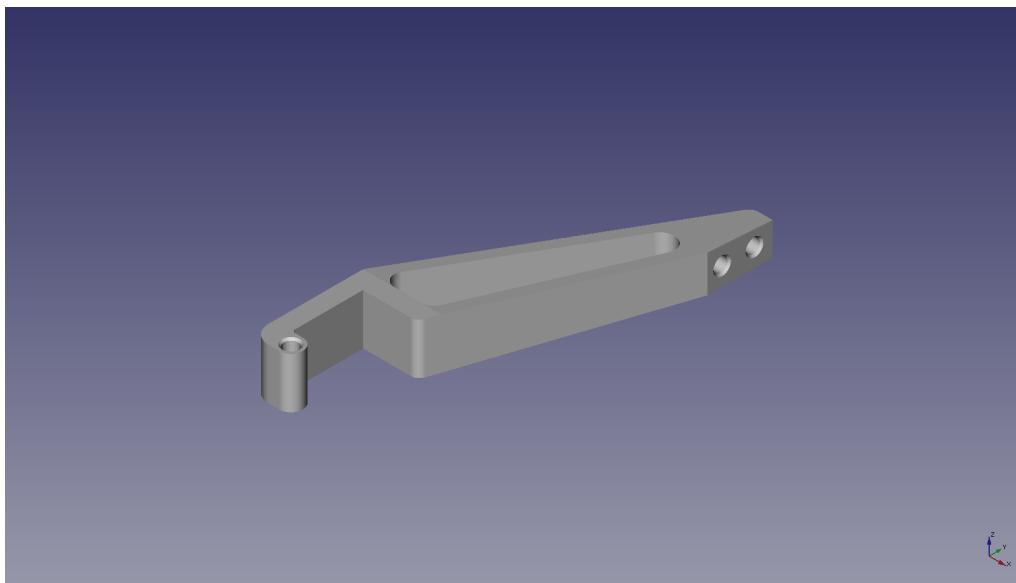


Figure 2.20: Begonia 3D Printed Spool Mount Render

2.8 Begonia X

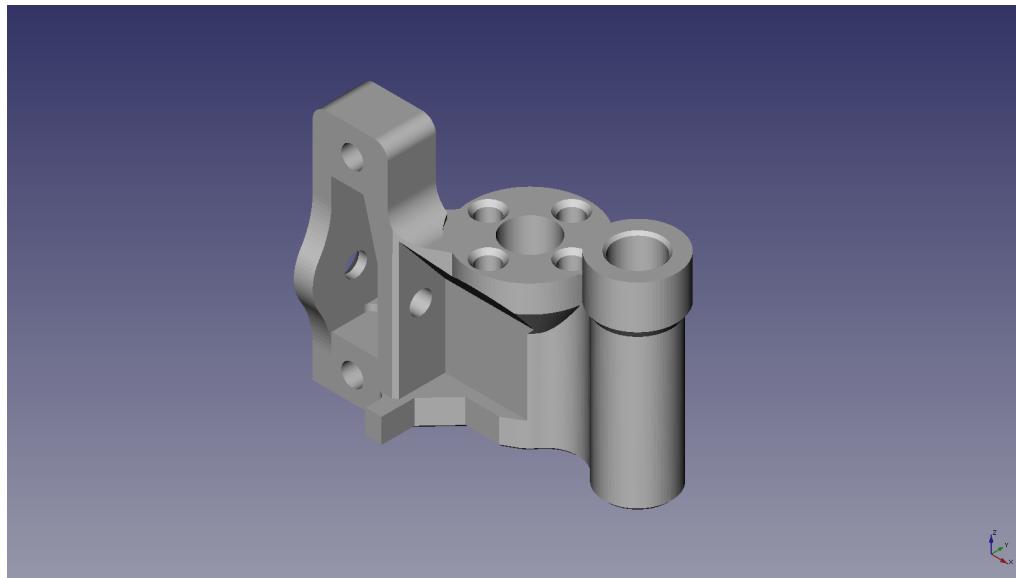


Figure 2.21: Begonia 3D Printed X End Idler Render

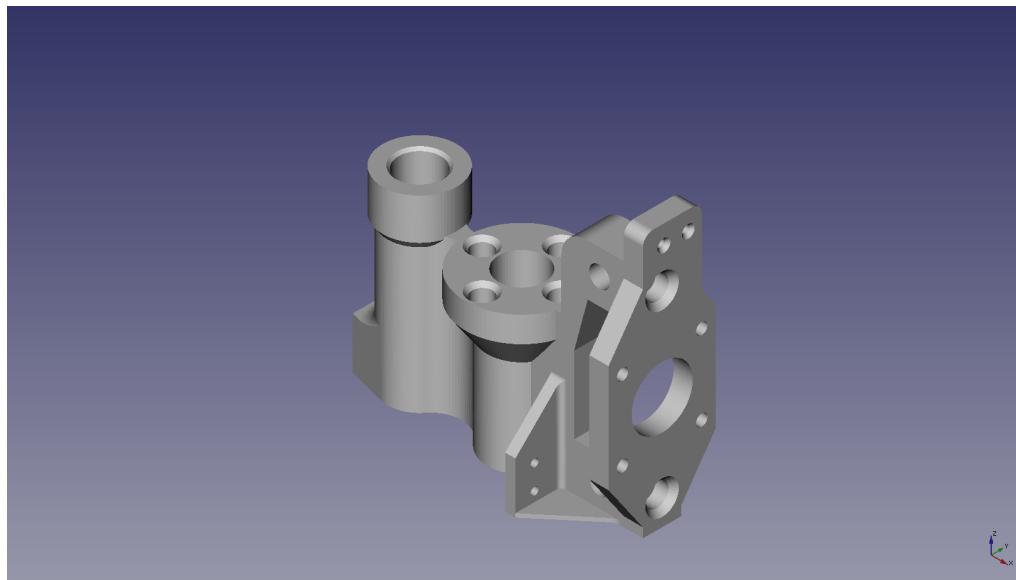


Figure 2.22: Begonia 3D Printed X End Motor Render

2.9 Begonia Y

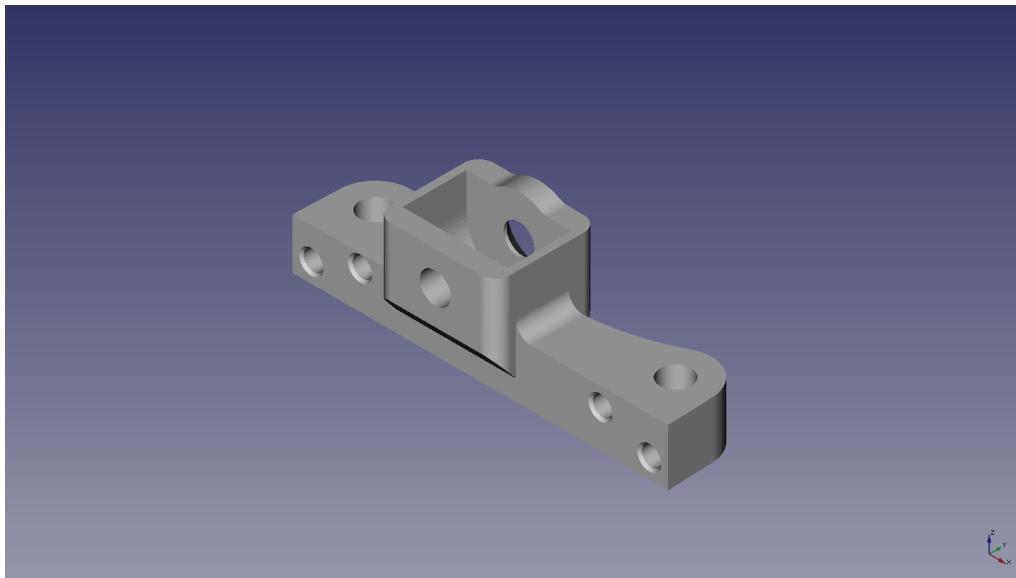


Figure 2.23: Begonia 3D Printed Y End Idler Render

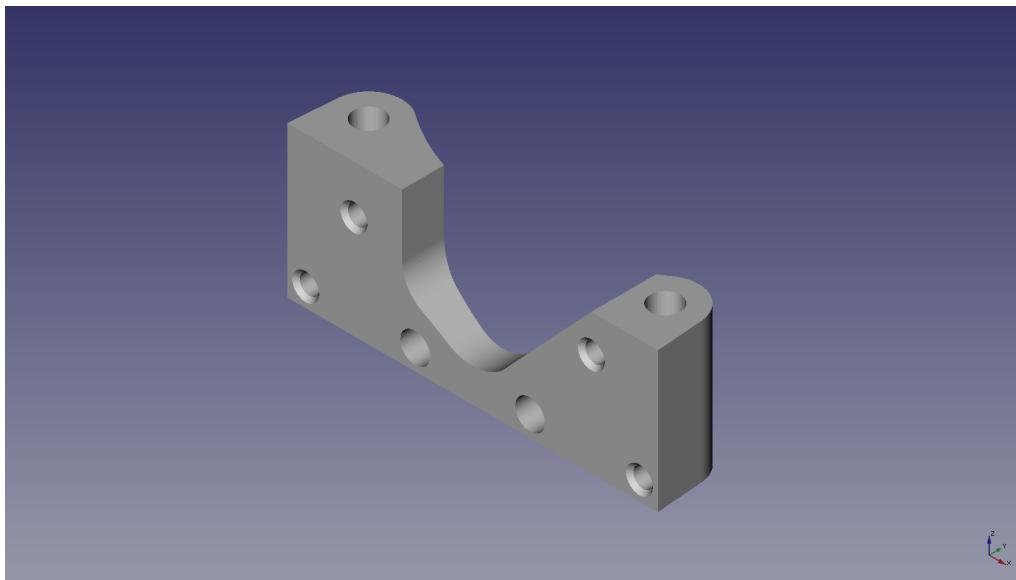


Figure 2.24: Begonia 3D Printed Y Rod Mount Render

2.10 Begonia Z

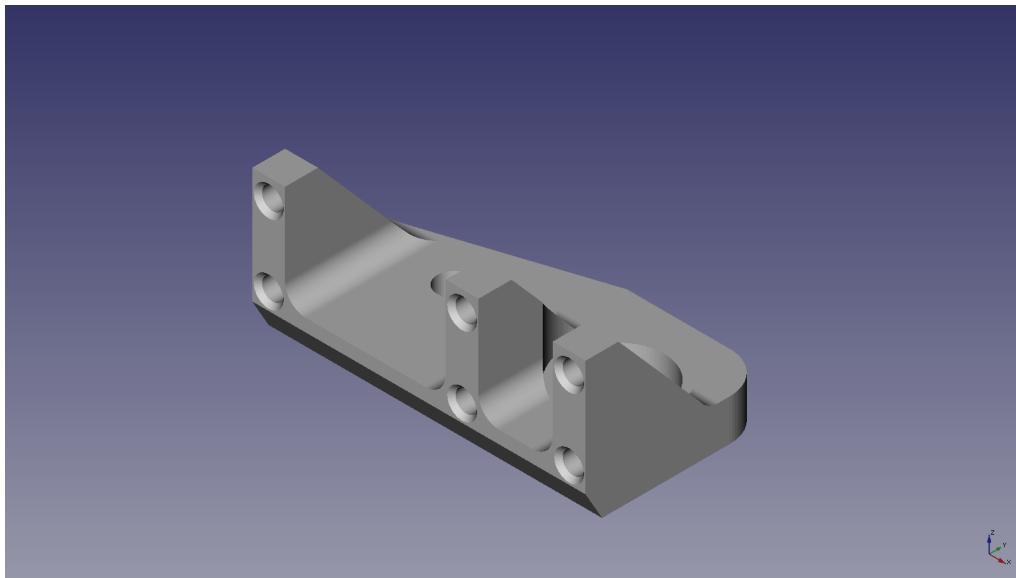


Figure 2.25: Begonia 3D Printed Upper Z Left Render

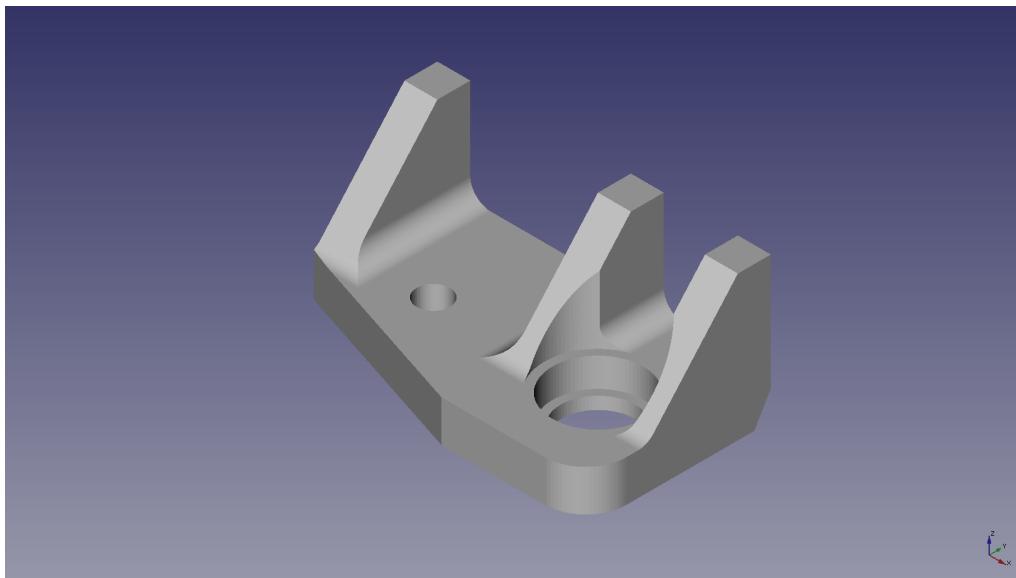


Figure 2.26: Begonia 3D Printed Upper Z Right Render

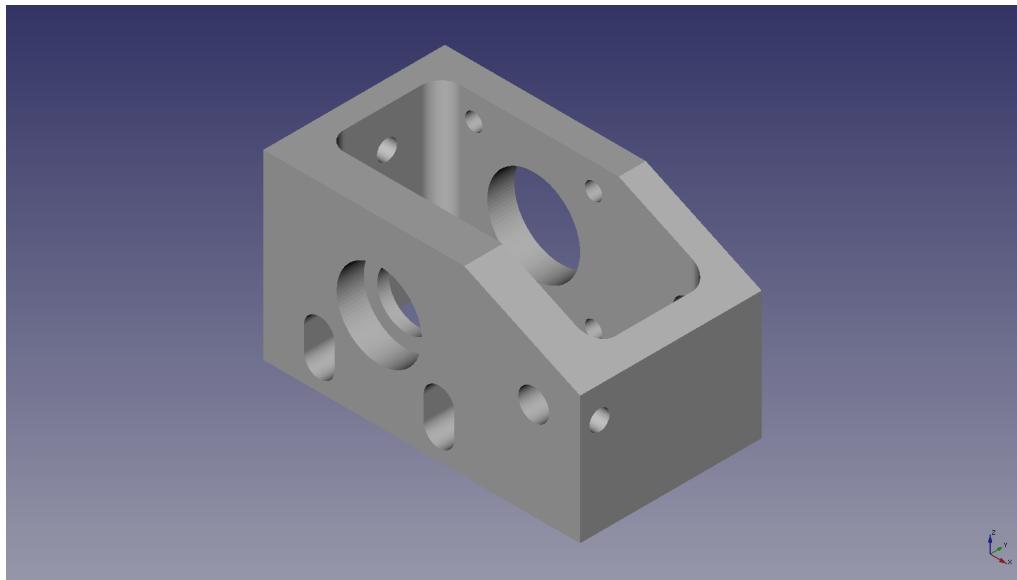


Figure 2.27: Begonia 3D Printed Lower Z Left Render

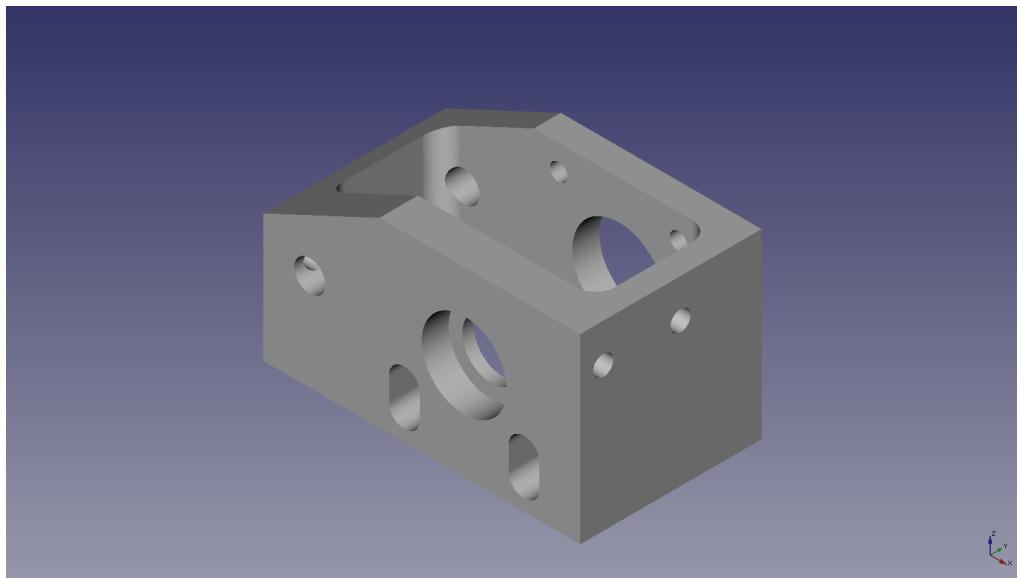


Figure 2.28: Begonia 3D Printed Lower Z Right Render

2.11 Begonia Misc

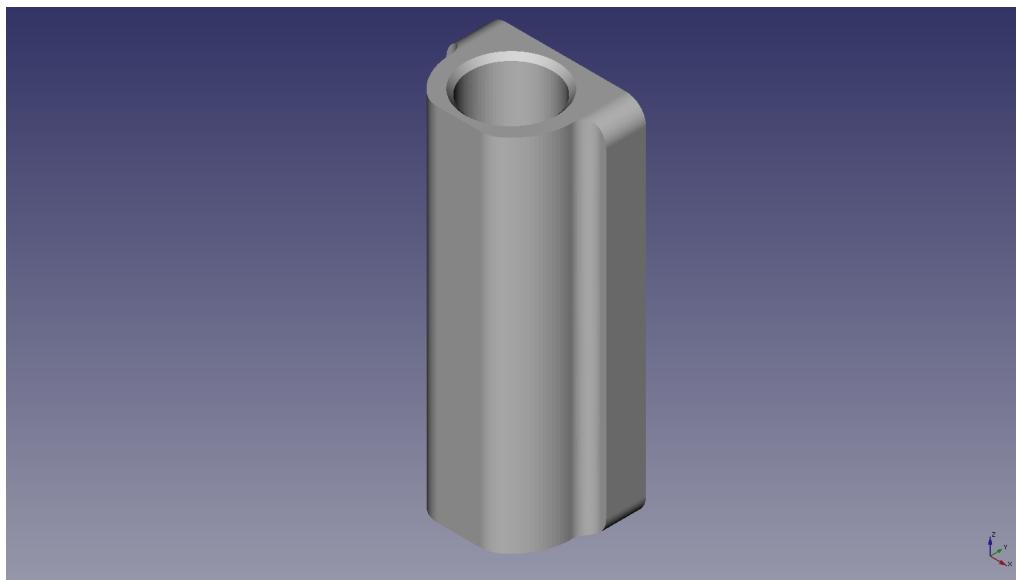


Figure 2.29: Begonia 3D Printed Double Bearing Holder Render

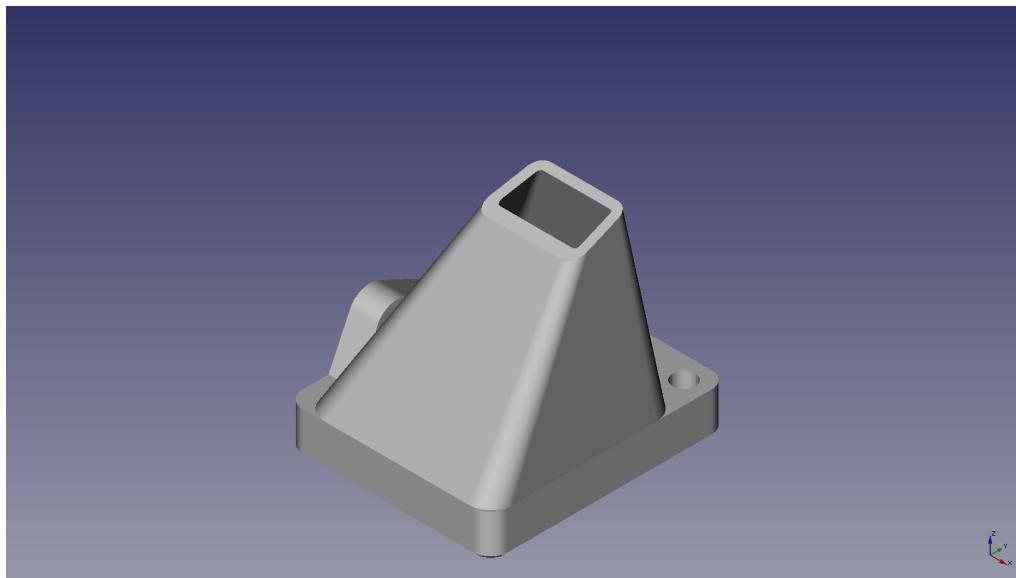


Figure 2.30: Begonia 3D Printed Fan Mount Render

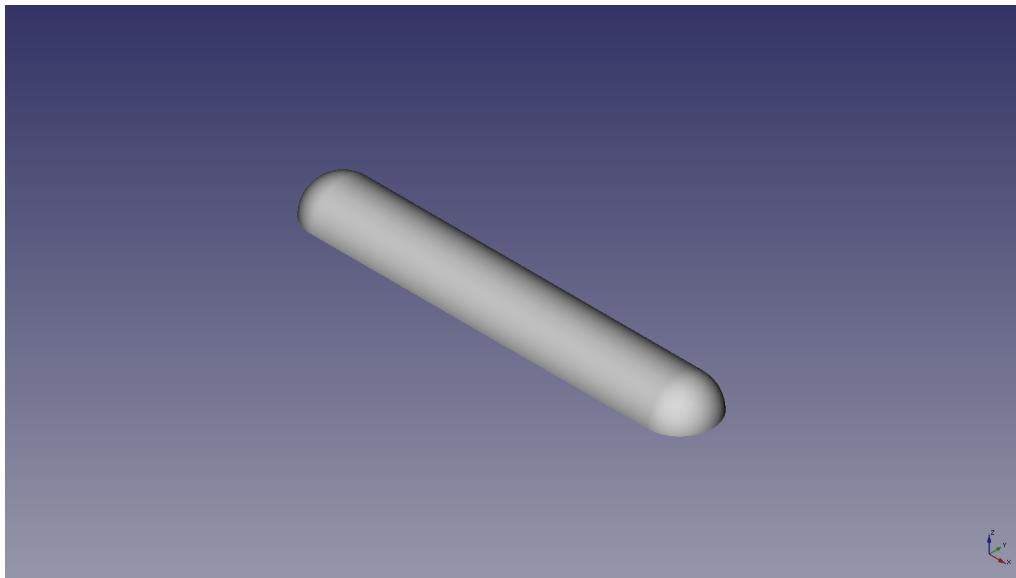


Figure 2.31: Begonia 3D Printed Handle Bar Render

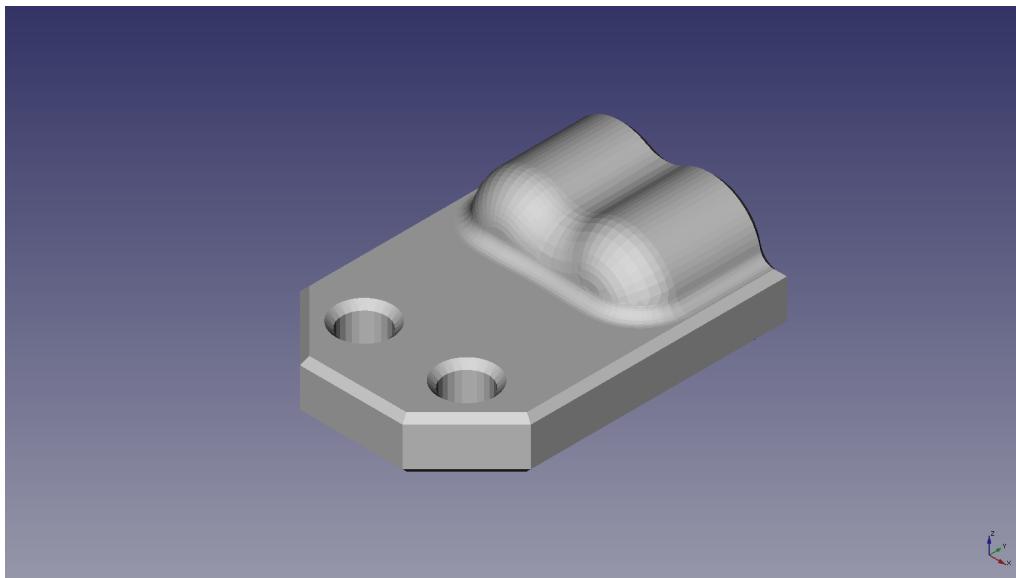


Figure 2.32: Begonia 3D Printed Cable Carrier Mount Render

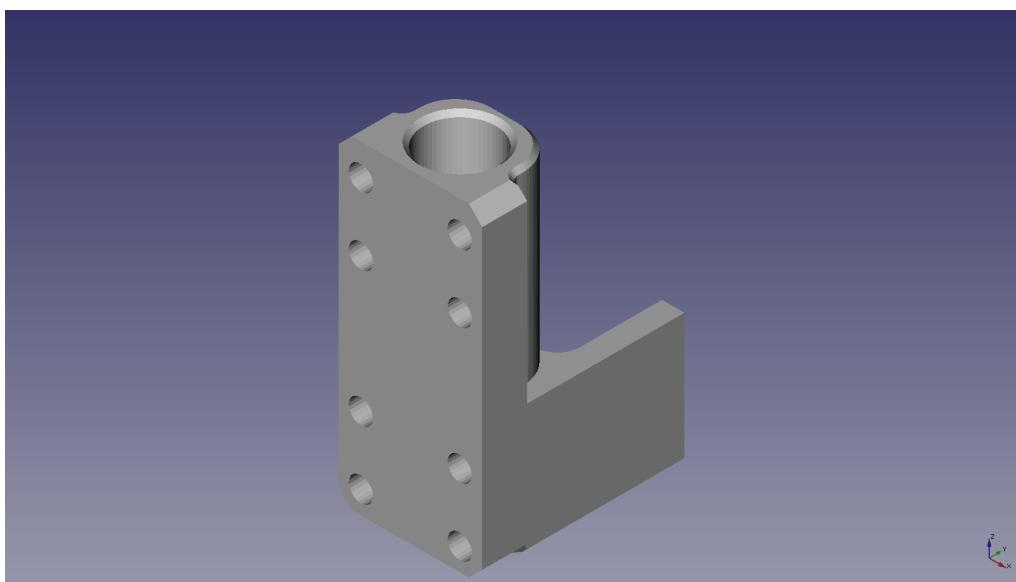


Figure 2.33: Begonia 3D Printed Extruder Mt Top Double Bearing Holder Render

2.12 Begonia Drawings

2.13 Camillia Drawings

Electrical

Power Supply, wiring

3.1 Electrical Layout

3D Printer Controller

Mini-RAMBo

4.1 Intro

The printer controller will be the RAMBo-Mini.

Contact

Phone, Email, Web, Location

5.1 Support

Email: support@alephobjects.com

Phone: +1-970-377-1111 x610

LulzBot Forum

<http://forum.lulzbot.com>

5.2 Sales

Email: sales@alephobjects.com

Phone: +1-970-377-1111 x600

5.3 Websites

Aleph Objects, Inc.

<http://www.alephobjects.com>

LulzBot 3D Printers

<http://www.lulzbot.com>

Colophon

Created with 100% Free Software

GNU/Linux

\LaTeX Memoir
