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## Before printing

- level print bad using ruler
- calibrate extruder

M501 - read settings from eeprom

extrude 6 \* 5 mm

590 \* 30 / 33 = 536

M92 E536

M500

power cycle

M501 verify

## Circle problems

This draws horizontal line instead of arc on our PrintBot+

```
;G28 ; home all axes
G90 ; use absolute coordinates
G21 ; set units to millimeters
```

```
;G1 X61.628 Y34.350
G1 X58.424 Y32.410
G1 X54.886 Y31.118
G1 X51.195 Y30.536
G1 X47.418 Y30.669
G1 X43.512 Y31.608
G1 X40.118 Y33.186
```

```
M104 S0 ; turn off temperature
;G28 X0 ; home X axis
M84 ; disable motors
```

## parts to print

<http://www.thingiverse.com/dpavlin/favorites>

## Printrbot + Upgrades X-bridge, Extruder Mount, Y-Clips...

- <http://www.thingiverse.com/thing:31012>
- <http://polakiumengineering.org/?p=1905> (including description and shop!)

## FreeCAD models

- [glass\\_holder.fcstd](#)

## glass on printerbed

- screws and nuts:  
<http://www.printrbottalk.com/forum/viewtopic.php?f=21&t=1614&p=12374&hilit=glass#p12350>
- printable glass clips: <http://www.thingiverse.com/search?q=printrbot+glass&sa=Search>
  - ◆ 3mm glass - <http://www.thingiverse.com/thing:24807>
  - ◆ 4mm/3.75mm glass - <http://www.thingiverse.com/thing:25659>
  - ◆ <http://www.thingiverse.com/thing:22429>
  - ◆ Easily Adjustable Printrbot Glass Clips <http://www.thingiverse.com/thing:27269>
  - ◆ Printrbot LC+ Heated Bed Clips Side & Front <http://www.thingiverse.com/thing:26947>
  - ◆ use existing outer holes <http://www.thingiverse.com/thing:29658>

## fan mount for printing ABS

<http://www.thingiverse.com/thing:24545>

## Z-Axis Stabiliser Ends

- needs rod - <http://www.thingiverse.com/thing:23663>
- Top Joiner - Plastic Cross Beam <http://www.thingiverse.com/thing:33322>
- threaded rod - <http://www.thingiverse.com/thing:23038>

## Y-Axis

- Printrbot + y axis belt bracket tensioner <http://www.thingiverse.com/thing:26213>

## bad leveling

- Spring Loaded Bed Leveling System <http://www.thingiverse.com/thing:27720>
  - ◆ below printbed, requires modification to y belt
- Longer Y Axis Belt Clips <http://www.thingiverse.com/thing:29496>
- Y Bar End w/ Nut Trap (10/20mm, 13mm y-belt clip) <http://www.thingiverse.com/thing:26840>
- Printrbot LC Plus Adjustable bed leveling nut lock <http://www.thingiverse.com/thing:27395>

## extruder

- Extruder Measurement Tool <http://www.thingiverse.com/thing:29566>
- Short Printrbot extruder gear (fishbone) <http://www.thingiverse.com/thing:28870>
- GoPro camera Nema 17 attachment <http://www.thingiverse.com/thing:32646>

## filament guide

- <http://www.thingiverse.com/thing:24526>
  - ◆ "Bearing" for Printrbot filament guide thingy <http://www.thingiverse.com/thing:27634>
- <http://www.thingiverse.com/thing:27574>

## printrbot replacement parts

- PrintrPlate - Printrbot Full Build Tray <http://www.thingiverse.com/thing:30398>
- ExtruderPlate <http://www.thingiverse.com/thing:30787>
- Original Printrbot (abdrumm) <http://www.thingiverse.com/thing:16990>

## Forum topics and our issues

### poor fit of laser cut parts

<http://www.printrbottalk.com/forum/viewtopic.php?f=6&t=1052>

(solved with a little bit of force)

### bad bearings

<http://www.printrbottalk.com/forum/viewtopic.php?f=6&t=1383>

WIP: ordering replacement

### hot extruder motor

<http://www.printrbottalk.com/forum/viewtopic.php?f=15&t=1688>

WIP: print spur gears <http://www.thingiverse.com/thing:26243>

## **z stop badly aligned**

<http://www.printrbottalk.com/forum/viewtopic.php?f=70&t=1711#p12886>

## **bed leveling with ruler**

<http://www.printrbottalk.com/forum/viewtopic.php?f=29&t=662>

## **vertical rods issue**

<http://www.printrbottalk.com/forum/viewtopic.php?f=6&t=1615>

WIP: print Printrbot LC+ Z-nut Keeper <http://www.thingiverse.com/thing:29608>

## **Useful forum topics**

- PrintrBot parts <http://www.printrbottalk.com/forum/viewtopic.php?f=72&t=418>
- Printing Surfaces <http://www.printrbottalk.com/forum/viewtopic.php?f=16&t=453&p=12198>