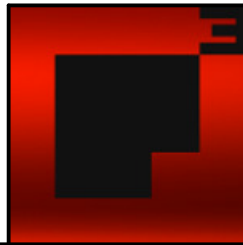
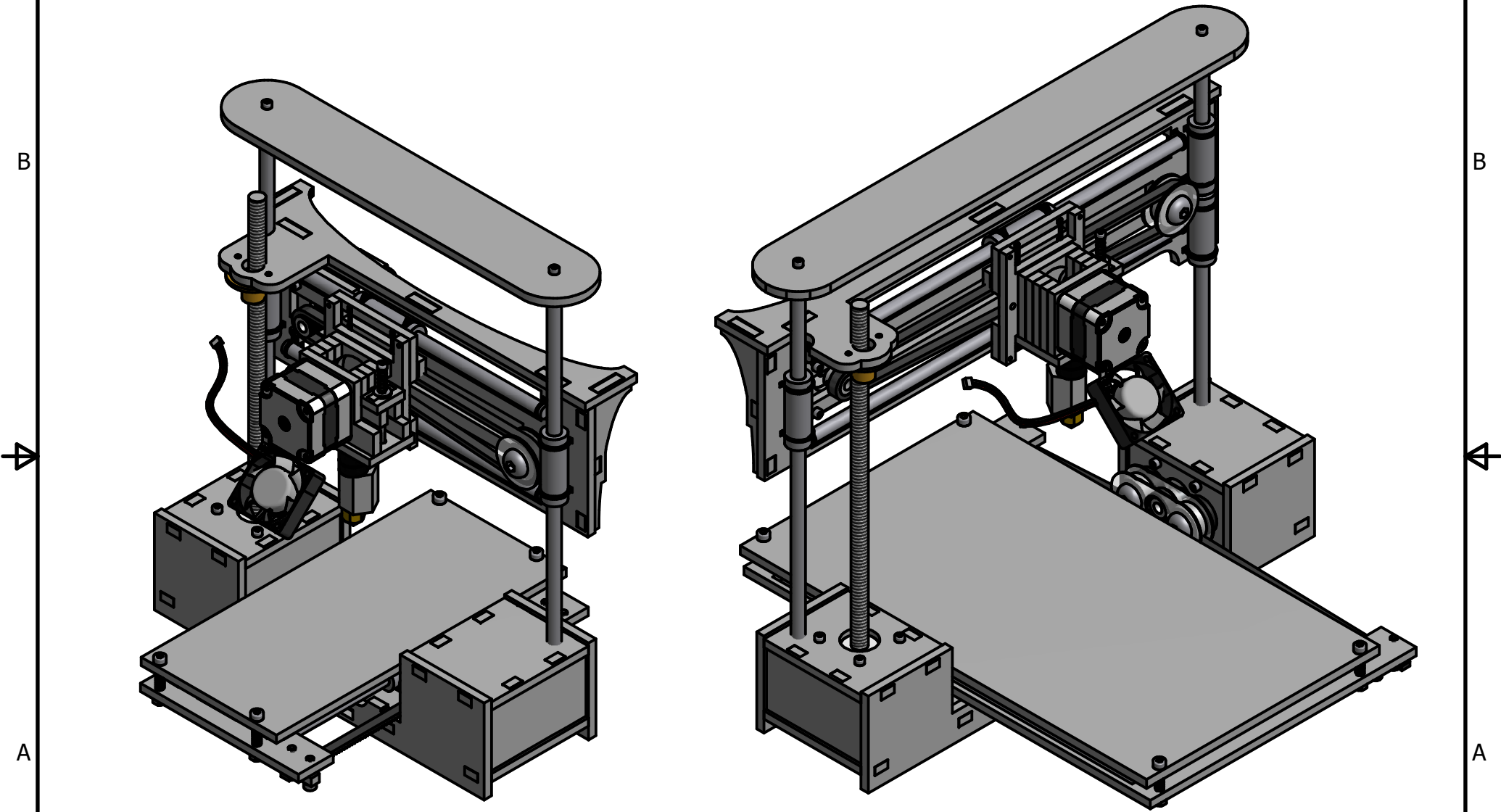


2 ↓ 1

QU-BD - OneUp AND TwoUp PRINTER ASSEMBLY INSTRUCTIONS



| | | | |
|---|--------------|---|-----|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE QU-BD - OneUp AND TwoUp PRINTER ASSEMBLY INSTRUCTIONS | | | |
| DRAWN BY: JasonDsktop | SIZE | A | REV |
| DRAWING DATE: 1/22/2014 | SHEET 1 OF 3 | | |

2



1

QU-BD One Up Specs :

Minimum Layer Height: 50 Microns (Lower is Better)

Frame Material: Black Melamine MDF

Max Travel: Approximately 100x100x125mm

Maximum Travel Speed: 150mm/s

Maximum Print Speed: 100mm/s

Bed Material: Acrylic (or Basalt with Heated Bed Upgrade)

Heated Bed: No, electronics support it so it can be added later

Linear Motion Type: X/Y Belts and Linear Bearings | Z Precision
ACME Screws / Linear Bearings

X-Motor: NEMA 17 Motors w/ Up To 16x Microstepping

Y-Motor: NEMA 17 Motors w/ Up To 16x Microstepping

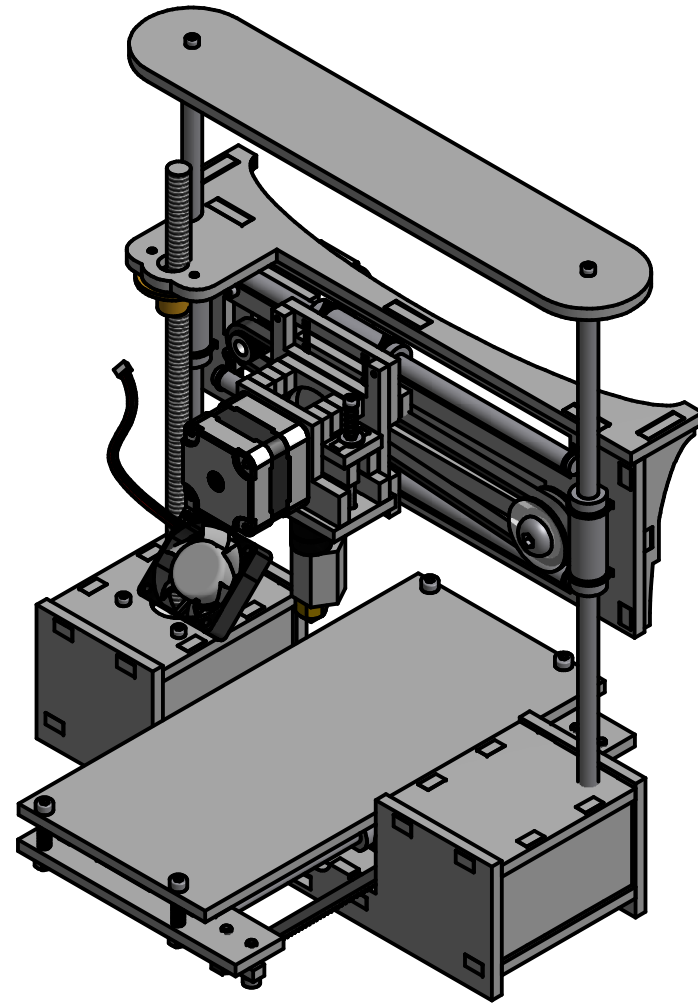
Z-Motor: NEMA 17 Motors w/ Up To 16x Microstepping

Electronics: Printboard Electronics

Firmware: Marlin

Extruder: anUBIS w/ PTFE Liner for Reliable Printing

Filament: 1.75mm PLA, HIPS, Carbon PLA, Laywoo (or with optional
heated bed upgrade adds support for ABS!)



QU-BD

4200 Hoerner Rd
Little Rock, AR 72209-2416

TITLE
QU-BD - OneUp AND TwoUp PRINTER
ASSEMBLY INSTRUCTIONS

DRAWN BY: JasonDsktop

SIZE
A

REV

DRAWING DATE: 1/22/2014

SHEET 2 OF 3

QU-BD Two Up Specs :

Minimum Layer Height: 50 Microns (Lower is Better)

Frame Material: Black Melamine MDF

Max Travel: Approximately 175x175x125mm

Maximum Travel Speed: 150mm/s

Maximum Print Speed: 100mm/s

Bed Material: Acrylic (or Basalt with Heated Bed Upgrade)

Heated Bed: No, electronics support it so it can be added later

Linear Motion Type: X/Y Belts and Linear Bearings | Z Precision ACME Screws / Linear Bearings

X-Motor: NEMA 17 Motors w/ Up To 16x Microstepping

Y-Motor: NEMA 17 Motors w/ Up To 16x Microstepping

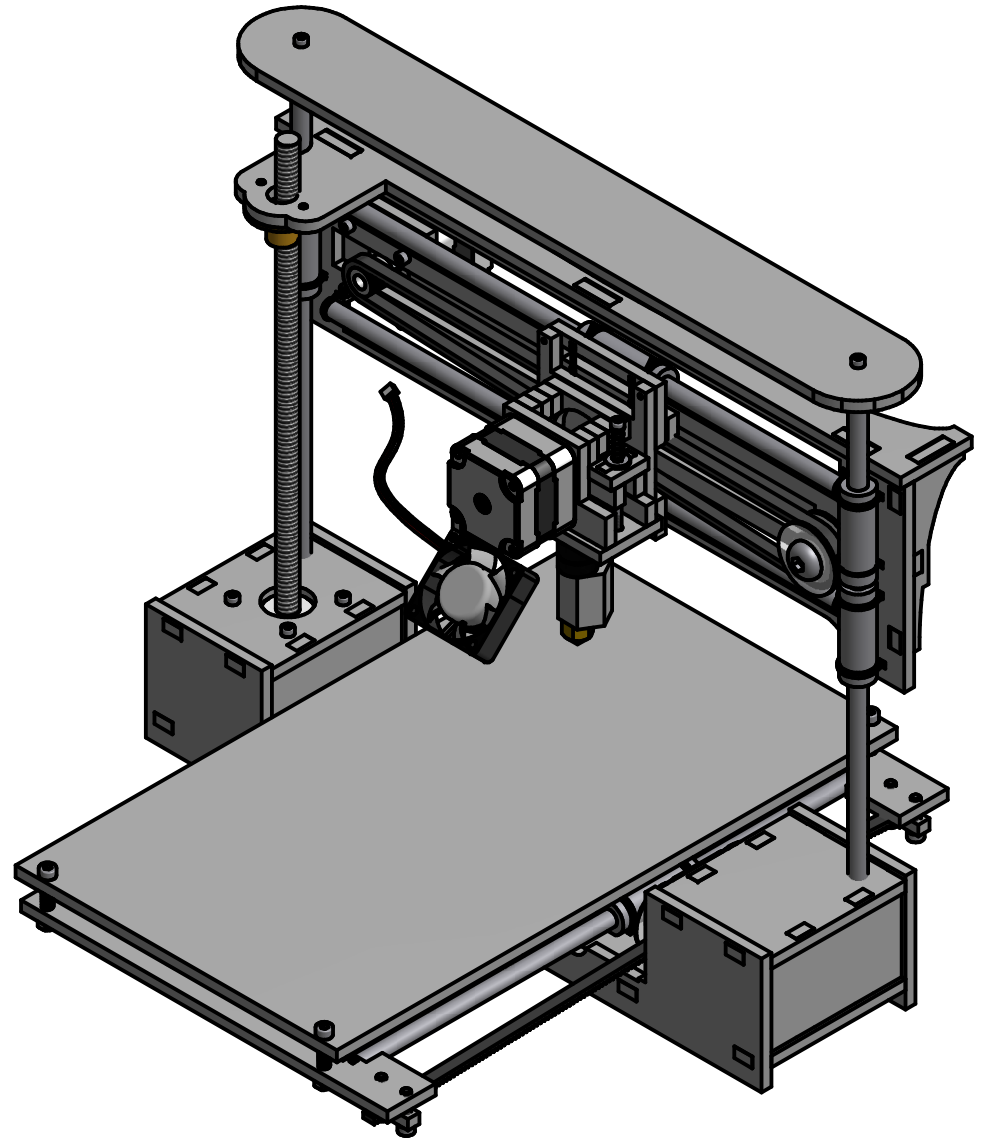
Z-Motor: NEMA 17 Motors w/ Up To 16x Microstepping

Electronics: Printrboard Electronics

Firmware: Marlin

Extruder: anUBIS w/ PTFE Liner for Reliable Printing

Filament: 1.75mm PLA, HIPS, Carbon PLA, Laywoo (or with optional heated bed upgrade adds support for ABS!)



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|---|--------------|-----|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE QU-BD - OneUp AND TwoUp PRINTER ASSEMBLY INSTRUCTIONS | | | |
| DRAWN BY: JasonDsktop | SIZE A | REV | |
| DRAWING DATE: 1/22/2014 | SHEET 3 OF 3 | | |



SUGGESTED MODIFICATIONS AND UPGRADES

Suggested upgrades

1.) Flash the printboard with the latest firmware. This upgrade/update is recommended only if your fan and sd card aren't working. To flash the printboard follow the instructions listed here:

<http://www.fabric8r.com/forums/showthread.php?1308-customizing-marlin-firmware-for-the-one-up-and-two-up>

2.) The y-axis print bed belt drive assembly on the TwoUp can be upgraded to the 3d printed version made by Macattack. This upgrade is to strengthen the assembly as the current one is fairly fragile. This update also attaches the drive directly to the stepper motor and not the mdf making a much more solid connection. Replaces parts: JJ, KK, LL, & MM. This modification/upgrade can also be done for the OneUp but the files must be altered to remove thickness that part mm would have taken up.

3d files located here: <http://www.thingiverse.com/thing:212989/#files>
file names needed are: "ydriveupperbody.stl" and "ydrivelowerbody.stl"

3.) Z-axis threaded rod misalignment. If you have a misalignment in the z-axis threaded rod and the lead screw nut (part bb) by about 3mm you can order/request a replacement of part YZTOPPLATE to fix the issue (be sure to specify whether you have a OneUp or a TwoUp). If you cannot order a replacement YZTOPPLATE for the x-axis gantry due to gluing it down or other means of permanent fastening then printing spacers or attaching a flexible coupling might be required to remove the z-banding (wobble) in your prints. The OneUp spacers are different from the TwoUp spacers so make sure you are choosing the appropriate spacer to fix the issue.

OneUp

3d files located here: <http://www.thingiverse.com/thing:213752/#files> (thanks to Toybuilder)
file names needed are: "one_up_bearing_holder_with_side_capture.stl" (will need 2)

TwoUp

3d files located here: <http://www.thingiverse.com/thing:212989/#files> (thanks to Macattack)
file names needed are: "two-up_x_gantry_spacer_-_left.stl" and "two-up_x_gantry_spacer_-_right.stl" (1 ea)

4.) End stops - while the software can handle all of the stops and starts having at the least a z-axis end stop can be very beneficial. Even though the software can be told where to make x, y, and z equal to zero, it will still allow the extruder to go past these limits. While not a huge deal for the x and y as the main structure of the printer will keep from having serious damage occur, the z axis has a protruding piece (the hot end) which can damage the build platform and the hot end itself, especially when its at temperature. End stops are relatively cheap depending on where you purchase them through and come in both mechanical and optical versions. The printboard already supports the x, y, and z end stops so just attaching them correctly is all you need to do.



QU-BD

4200 Hoerner Rd
Little Rock, AR 72209-2416

TITLE

SUGGESTED MODIFICATIONS AND UPGRADES

DRAWN BY: Jeepguy42

SIZE

A

REV 0

DRAWING DATE: 1/17/2014

SHEET 1 OF 3



SUGGESTED MODIFICATIONS AND UPGRADES CONT.

- 5.) Better washers/spacers for around X axis bearing. These can either be printed or purchased through a local hardware store.
X-Gantry Pulley Guide washers: 3/8" Fender Washers (Outside Diameter of 1 1/4") or printed : <http://www.thingiverse.com/thing:220008>
- 6.) Printed extruder body. This part will replace most if not all of the mdf in the extruder assembly. This is meant to strengthen this particular part and make it more stable: <http://www.thingiverse.com/thing:221453>
- Additionally this modification can be used in conjunction with the extruder_backing_plate_stockno.stl posted at: <http://www.thingiverse.com/thing:223327>
- 7.) Printed belt clamp. This part attaches to the Back side of the current MDF extruder assembly. It is used to making a non-permanent attachment to the X-Axis belt: <http://www.thingiverse.com/thing:218670>
- 8.) Filament guide clip. Some People have been experiencing the filament walking off the filament extruder brass feeder nut. This simple part attaches to the top of the Extruder assembly and guides the filament through the feedernut keeping it from walking off: <http://www.thingiverse.com/thing:225915>
- 9.) Settings Suggestion:
"A design error in the original QU-BD OneUp exhibited very strong banding in the Z-direction (I originally attributed it to Z-wobble, but realized a few days later that it was banding, not wobble).
Whosawhatsis (who is now a part of the team at Deezmaker) wrote about this quite some time ago, but I had forgotten about that document until this post on fabric8r reminded me of it. He calls it Z-ribbing, which I think is a far more evocative term.
The ACME Z-screw is a 3/8"-12 having 12 turns per inch, that's 1 turn per 1/12", or 1 turn per 2.116(666...) mm.
With a 200 step motor, that yields .010583(333...) mm per full step [*]. From the repeating 3's, we know that every 3 steps yields a terminating decimal. So layer heights should be in multiples of 0.03175 mm to eliminate the rounding errors that leads to this error.
So, on the OneUp/TwoUp, the desirable layer thicknesses are: 0.03175, 0.0635, 0.09525, 0.127, 0.15875, 0.1905, 0.22225, 0.254, 0.28575, 0.3175, and 0.34925 mm/layer" (<http://toybuilderlabs.com/blog/2014/1/19/choosing-the-right-layer-height>)
- Toybuilder



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|--|-----------|--------------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE SUGGESTED MODIFICATIONS AND UPGRADES | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/17/2014 | | SHEET 2 OF 3 | |

PRINTABLE REPLACEMENT PARTS

- 1.) Extruder base (Part R, basicHEM): <http://www.thingiverse.com/thing:212431>
- 2.) Y-Axis Replacement belt clamps (Part M, YMAIN_BELTCLAMP): <http://www.thingiverse.com/thing:224414> .



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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | |
| TITLE SUGGESTED MODIFICATIONS AND UPGRADES | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 |
| DRAWING DATE: 1/17/2014 | | SHEET 3 OF 3 |

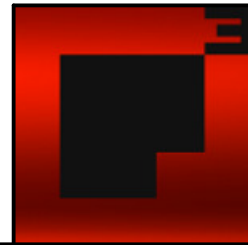
OneUp/TwoUp PRINTER PARTS

PART: A
 OneUp NAME: MAINPLATE_r5
 TwoUp NAME: MAINPLATE_2U_r8
 QTY: 1

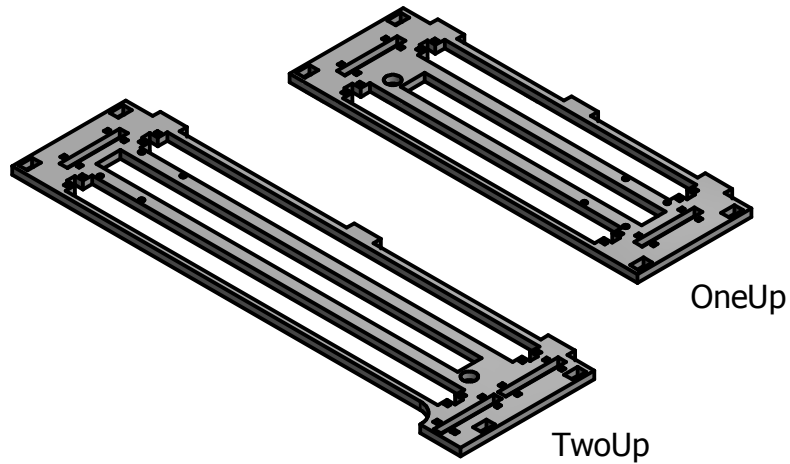
PART: B
 OneUp NAME: LSIDEPLATE_r5
 TwoUp NAME: LSIDEPLATE_2U_r4
 QTY: 2

PART: C
 OneUp NAME: XMAIN_r7
 TwoUp NAME: YMAIN_2U_r7
 QTY: 1

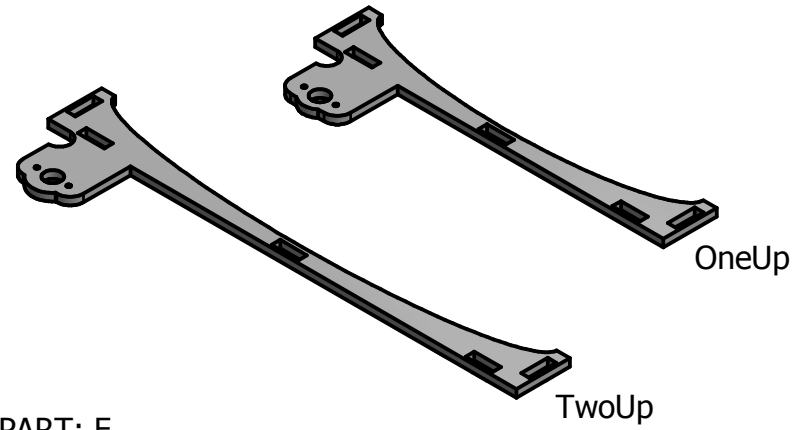
PART: D
 OneUp NAME: BUILDPLATFORM_r2
 TwoUp NAME: BUILDPLATFORM_2U_r4
 QTY: 1



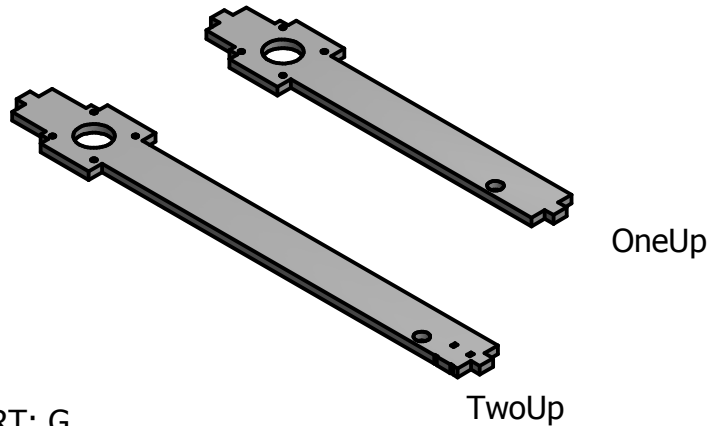
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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | |
| TITLE OneUp/TwoUp Parts List | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV |
| DRAWING DATE: 1/3/2014 | SHEET 1 OF 9 | |



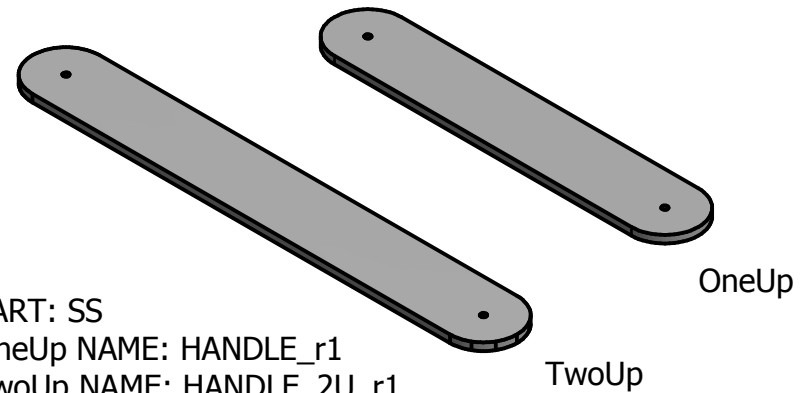
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 OneUp NAME: YZMAIN_r8
 TwoUp NAME: YZMAIN_2U_r15
 QTY: 1



PART: F
 OneUp NAME: YZTOPPLATE_r7
 TwoUp NAME: YZTOPPLATE_2U_r11
 QTY: 1



PART: G
 OneUp NAME: YZREARBRACE_r12
 TwoUp NAME: YZREARBRACE_2U_r18
 QTY: 1



PART: SS
 OneUp NAME: HANDLE_r1
 TwoUp NAME: HANDLE_2U_r1
 QTY: 1

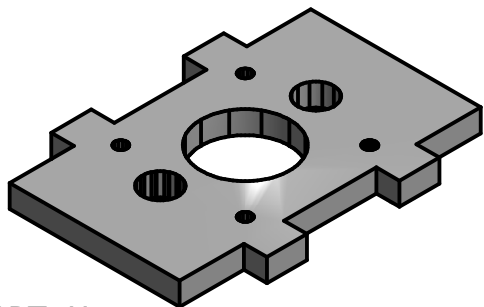


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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE OneUp/TwoUp Parts List | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV | |
| DRAWING DATE: 1/3/2014 | SHEET 2 OF 9 | | |

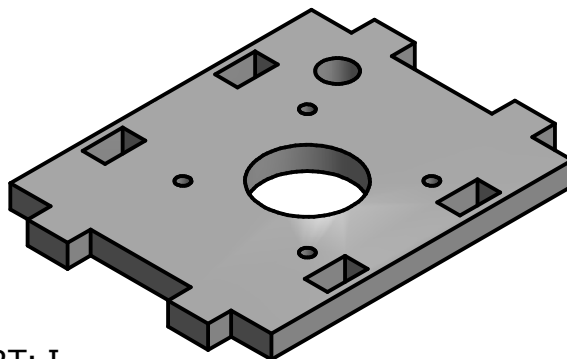
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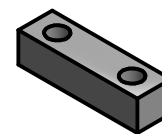
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PART: H
NAME: Y-MOTORMOUNT_r2
QTY: 1



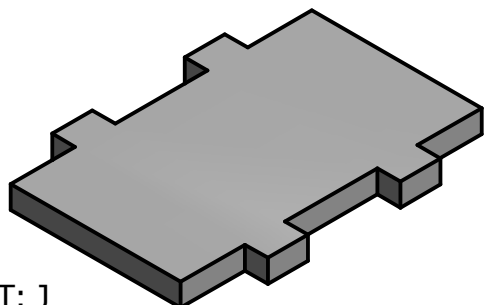
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NAME: Z-TOPPLATE_r2
QTY: 1



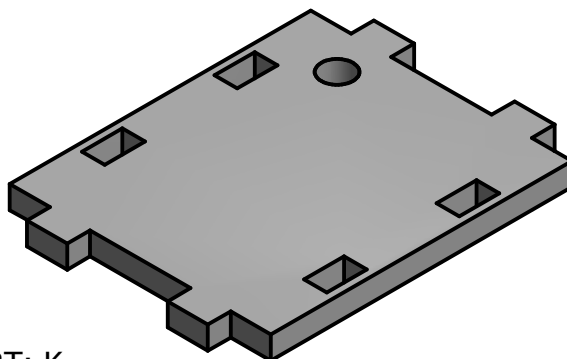
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NAME: YMAIN_BELTCLAMP_r1
QTY:2

B

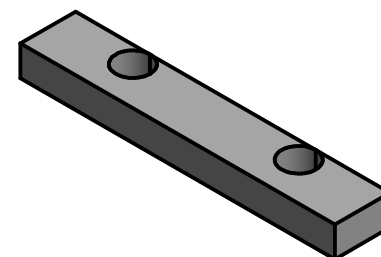
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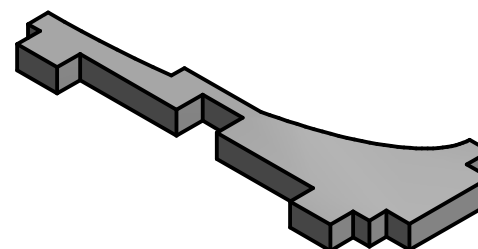
PART: J
NAME: Y-MOTORMOUNT_NULL_r1
QTY: 3



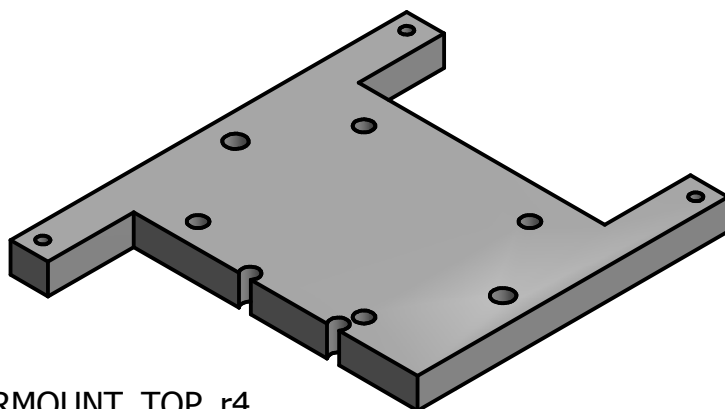
PART: K
NAME: Z-TOPPLATE_NULL_r3
QTY: 1



Part: N
NAME: YEXTRUDERMOUNT_BELT_r3
QTY:1



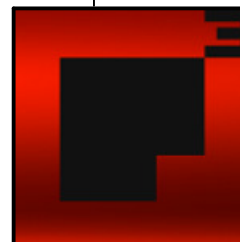
PART: O
NAME: XZSIDEBRACE_r3
QTY: 2



Part: L
NAME: YEXTRUDERMOUNT_TOP_r4
QTY:1

A

A



QU-BD

4200 Hoerner Rd
Little Rock, AR 72209-2416

TITLE
OneUp/TwoUp Parts List

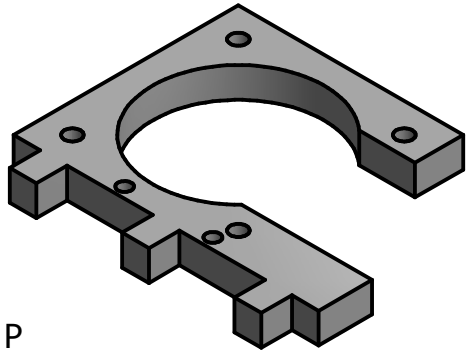
DRAWN BY: Jeepguy42 SIZE A REV

DRAWING DATE: 1/3/2014 SHEET 3 OF 9

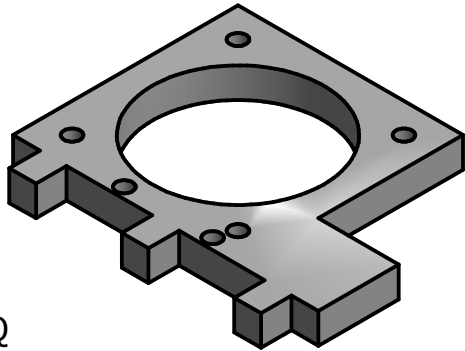
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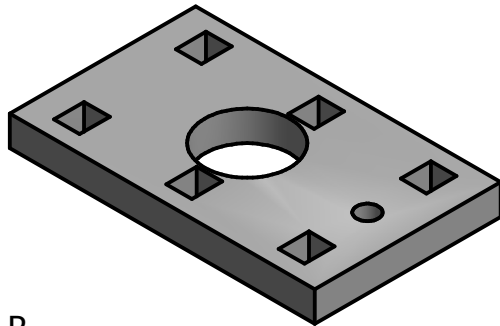
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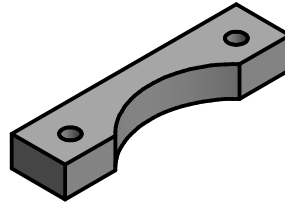
Part: P
NAME: basic01_r3
QTY:1



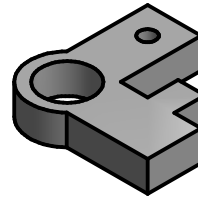
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NAME: basic04_r3
QTY:1



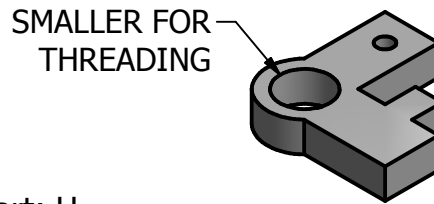
Part: R
NAME: basicHEM_r3
QTY:1



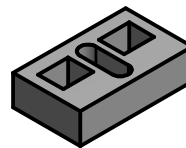
Part: S
NAME: basic02_r1
QTY:3



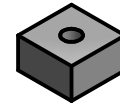
Part: T
NAME: basicLEV_r1
QTY:1



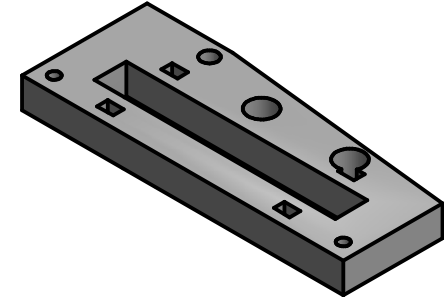
Part: U
NAME: basicLEV_thread_r2
QTY:1



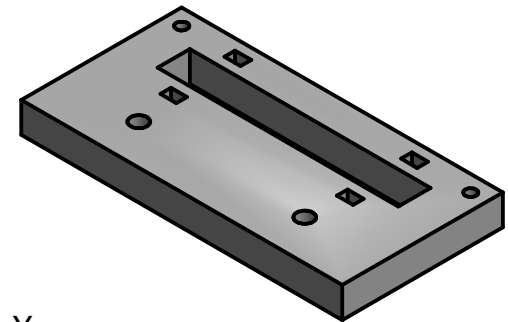
Part: V
NAME: basicLEVCAP_r2
QTY:1



Part: W
NAME: basicSPACER_r1
QTY:1



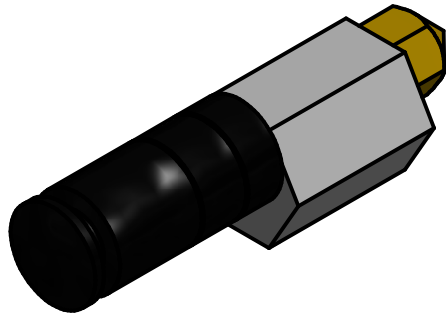
Part: X
NAME: YEXTRUDERMOUNT_r5 - BTM
QTY:1



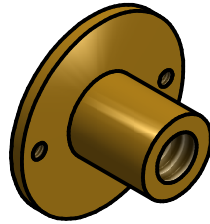
Part: Y
NAME: YEXTRUDERMOUNT_r5 - TOP
QTY:1



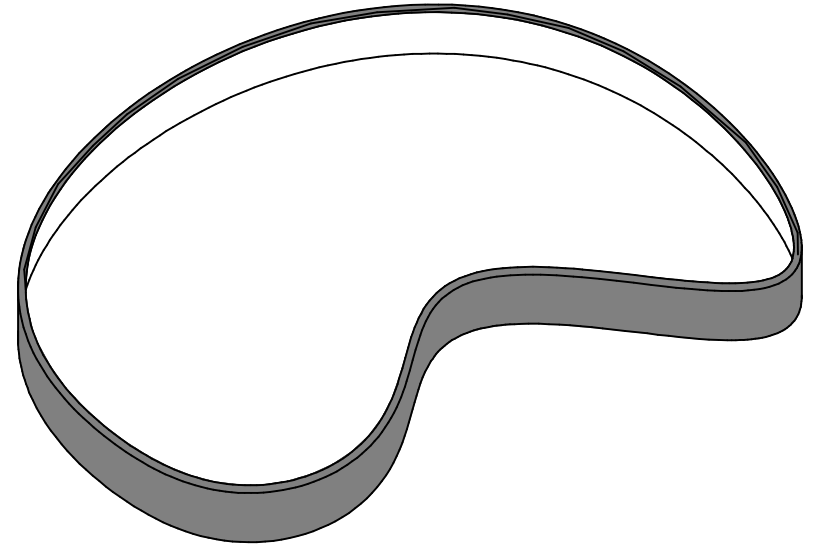
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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE OneUp/TwoUp Parts List | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV | |
| DRAWING DATE: 1/3/2014 | SHEET 4 OF 9 | | |



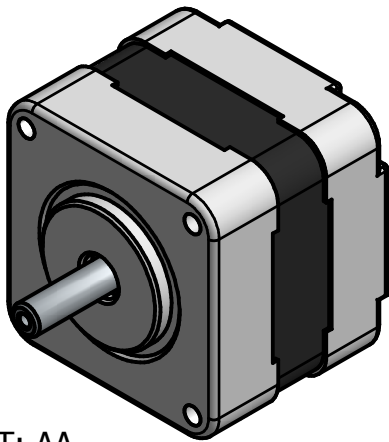
PART: Z
TYPE: anUbis HOT END
QTY: 1



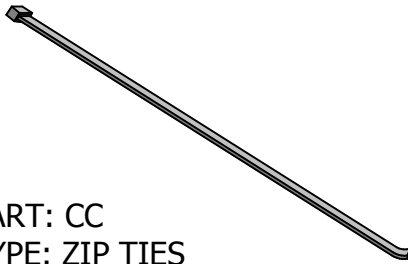
PART: BB
TYPE: 3/8-12 ACME LEAD
SCREW NUT
QTY: 1



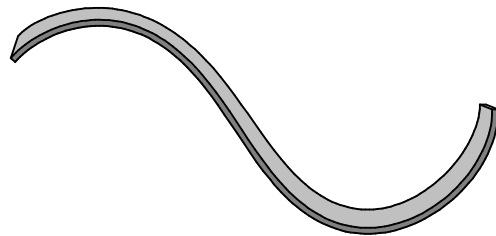
PART: EE
NAME: 300mm HTD3 TOOTHED BELT
QTY: 1



PART: AA
TYPE: NEMA 17 STEPPER MOTOR
QTY: 4



PART: CC
TYPE: ZIP TIES
QTY: 25

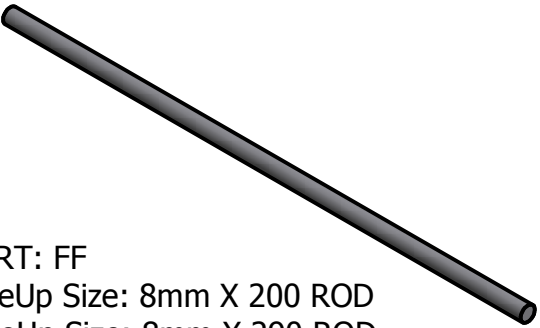


PART: DD
TYPE: STRAIGHT TOOTHED BELT
QTY: 1

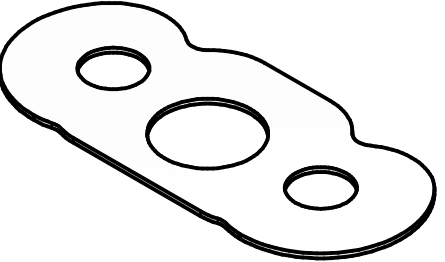


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|---|--------------|---|-----|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE OneUp/TwoUp Parts List | | | |
| DRAWN BY: Jeepguy42 | SIZE | A | REV |
| DRAWING DATE: 1/3/2014 | SHEET 5 OF 9 | | |

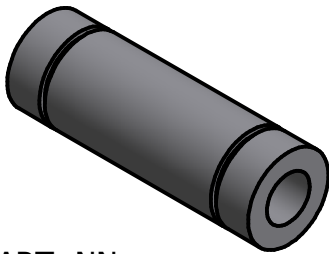
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PART: FF
OneUp Size: 8mm X 200 ROD
TwoUp Size: 8mm X 290 ROD
QTY: 4



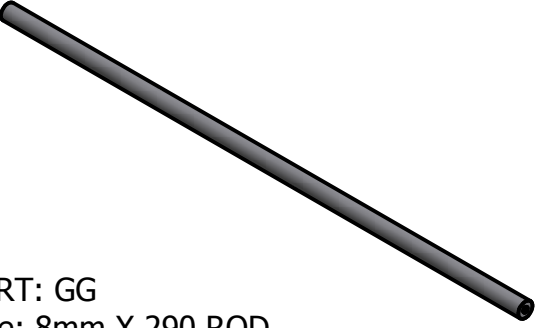
PART: JJ
NAME: Y-BEARINGSPACER_r3
QTY: 2




PART: NN
P/N: LM8LUU LINEAR BEARING
OneUp QTY: 6
TwoUp QTY: 7



PART: QQ
P/N: 12-HTD3-05
ALUMINUM PULLEY
QTY: 2




PART: GG
Size: 8mm X 290 ROD
Note: Threaded Holes
QTY: 2



PART: KK
NAME: Y-pt03125ACRYLIC_r1
QTY: 6



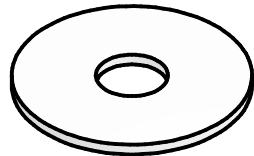
PART: OO
P/N: R1038-2RS BALL BEARING
QTY: 1



PART: RR
TYPE: BRASS FEEDER NUT
QTY: 1



PART: HH
Size: 3/8"-12 ACME SCREW
QTY: 1



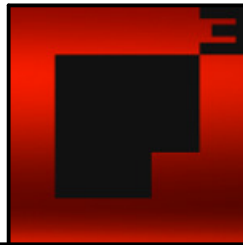
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NAME: Y-pt06125ACRYLIC_r2
QTY: 2



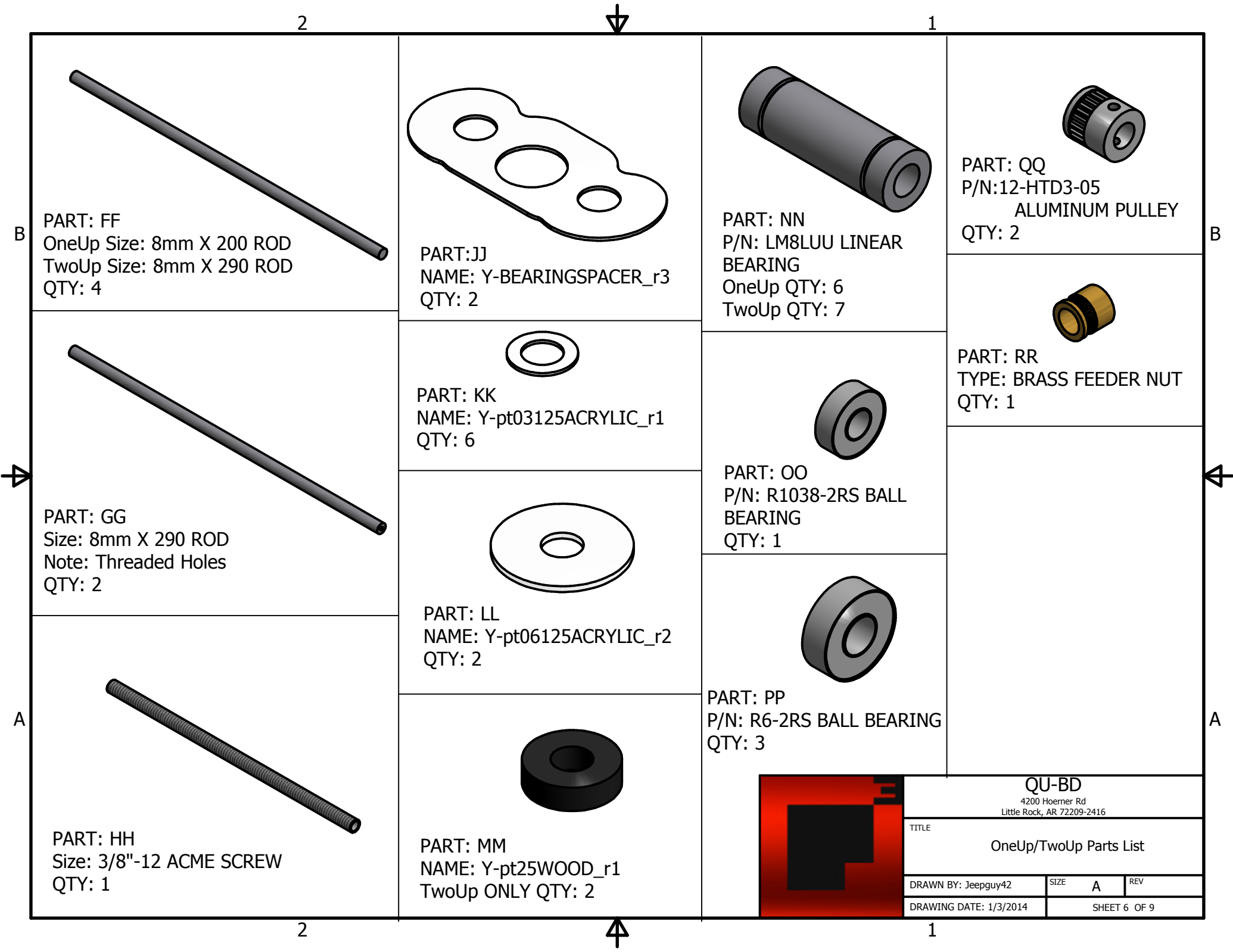
PART: PP
P/N: R6-2RS BALL BEARING
QTY: 3

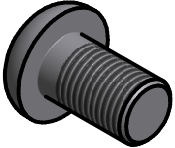




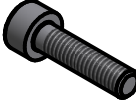

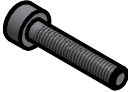
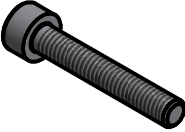

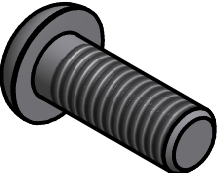
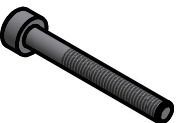


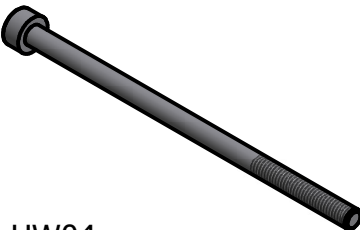
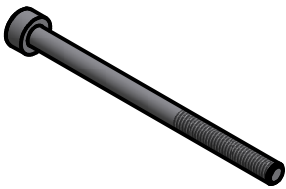






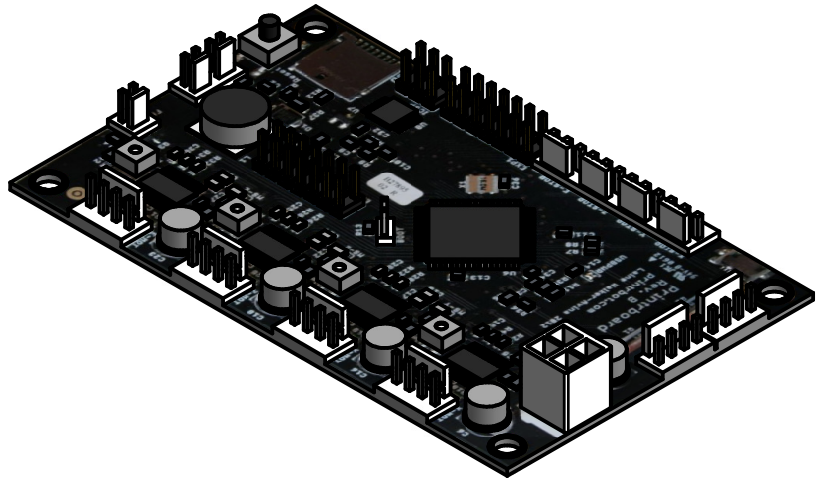
PART: MM
NAME: Y-pt25WOOD_r1
TwoUp ONLY QTY: 2



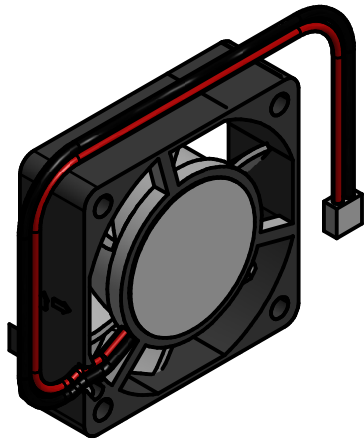
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|---|--------------|-----|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | |
| TITLE OneUp/TwoUp Parts List | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV |
| DRAWING DATE: 1/3/2014 | SHEET 6 OF 9 | |



| | | | |
|---|---|--|---|
|  <p>PART: HW01 SIZE: 3/8"-16 X 5/8" BUTTON HD BOLT QTY: 1</p> |  <p>PART: HW05 SIZE: M3 X 8 SCKT HD QTY: 11</p> |  <p>PART: HW09 SIZE: M4 X 8 SCKT HD QTY: 4</p> |  <p>PART: HW14 SIZE: M3 FLAT WASHER QTY: 6</p> |
|  <p>PART: HW02 SIZE: 3/8"-16 X 3/4" BUTTON HD BOLT OneUp ONLY QTY: 2</p> | |  <p>PART: HW10 SIZE: M4 X 16 SOCKET HD QTY: 4</p> |  <p>PART: HW15 SIZE: #6 FLAT WASHER QTY: 1</p> |
| <p>PART: HW03 SIZE: 3/8"-16 X 1" BUTTON HD BOLT OneUp QTY: 1 TwoUp QTY: 3</p> |  <p>PART: HW06 SIZE: M3 X 16 SCKT HD QTY: 4</p> |  <p>PART: HW11 SIZE: M4 X 25 SOCKET HD QTY: 4</p> |  <p>PART: HW16 SIZE: #6-32 HEX NUT QTY: 1</p> |
|  |  <p>PART: HW07 SIZE: M3 X 30 SCKT HD QTY: 2</p> |  <p>PART: HW12 TYPE: MEDIUM SPRING QTY: 4</p> |  <p>PART: HW17 SIZE: M4 HEX NUT QTY: 4</p> |
|  <p>PART: HW04 SIZE: #6-32 X 2 1/2" SCKT HD QTY: 1</p> |  <p>PART: HW08 SIZE: M3 X 45 SCKT HD QTY: 3</p> |  <p>PART: HW13 TYPE: HEAVY SPRING QTY: 1</p> |  <p>PART: HW18 SIZE: #8-32 X 1/8" SET SCREW QTY: 4</p> |
| | |  |  <p>PART: HW19 SIZE: M3 X 3 SET SCREW QTY: 1</p> |
| <p>QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416</p> <p>TITLE OneUp/TwoUp Parts List</p> <p>DRAWN BY: Jeepguy42 SIZE: A REV: DRAWING DATE: 1/3/2014 SHEET 7 OF 9</p> | | | |



PART: EL01
TYPE: Printrboard Rev D
QTY: 1



PART: EL02
TYPE: 12V x 40mm Fan
QTY: 1

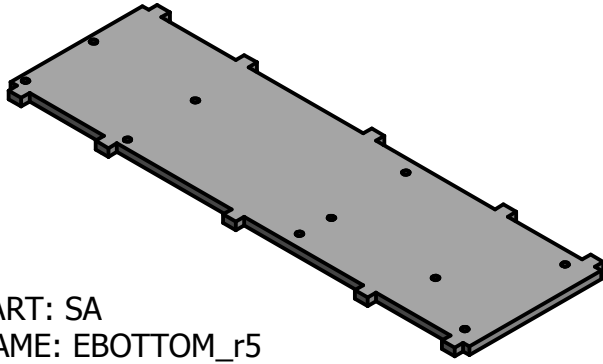


PART: EL02B
TYPE: Fan Attachment Bracket
QTY: 1



| | | |
|---|--------------|-----|
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ELECTRONICS CARRIER



PART: SA
NAME: EBOTTOM_r5
QTY: 1

QU-BD

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TITLE

OneUp/TwoUp Parts List

DRAWN BY: Jeepguy42

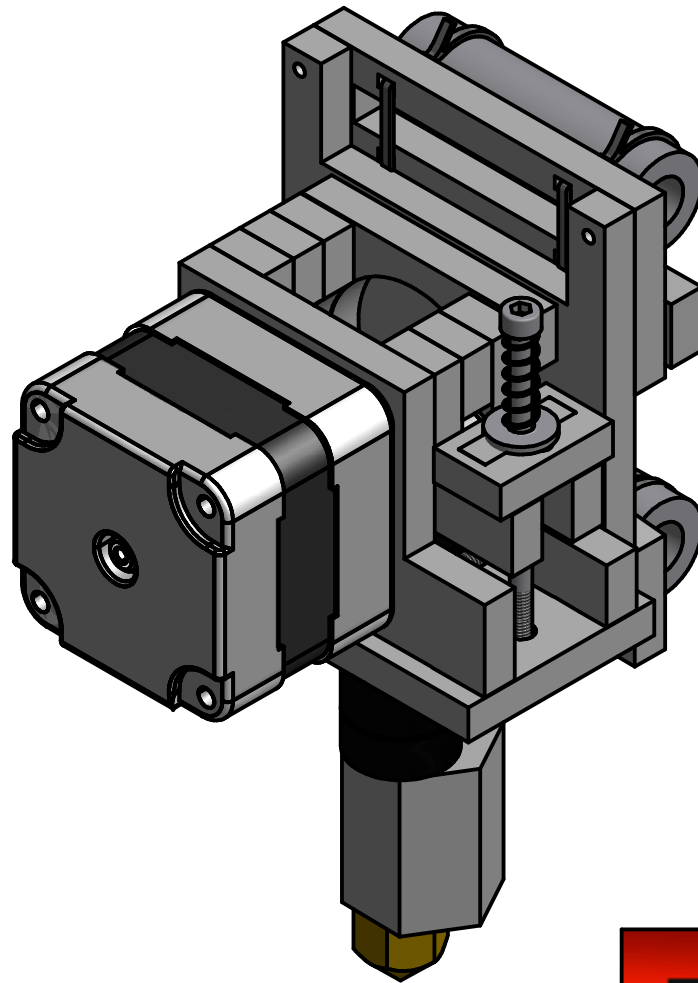
SIZE A

REV

DRAWING DATE: 1/3/2014

SHEET 9 OF 9

Extruder Assembly Instructions

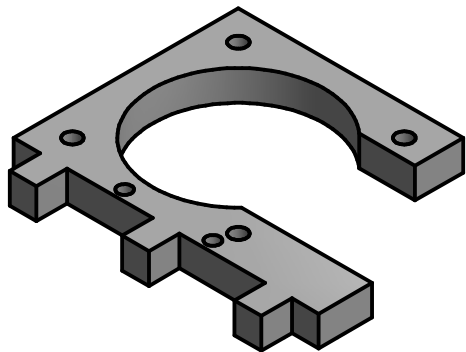


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| TITLE OneUp/TwoUp Extruder Assembly Instructions | | | |
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| DRAWING DATE: 12/30/2013 | | SHEET 1 OF 13 | |

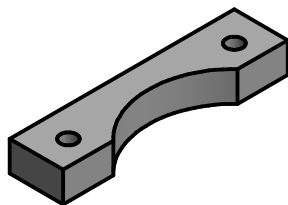
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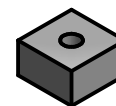
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Part: P
QTY:1



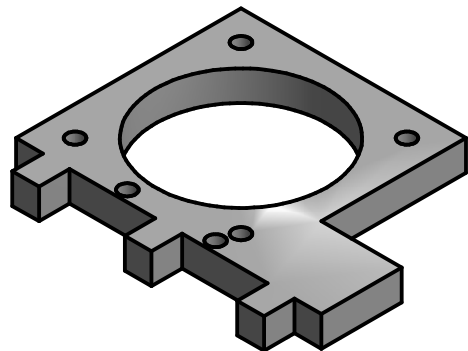
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QTY:3



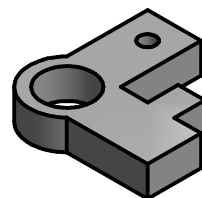
Part: W
QTY:1

B

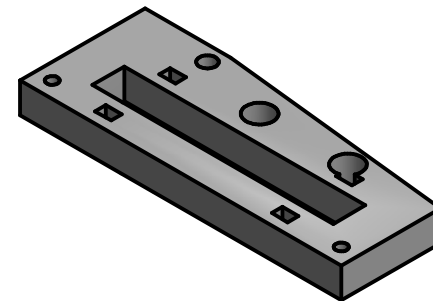
B



Part: Q
QTY:1

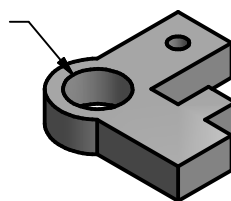


Part: T
QTY:1

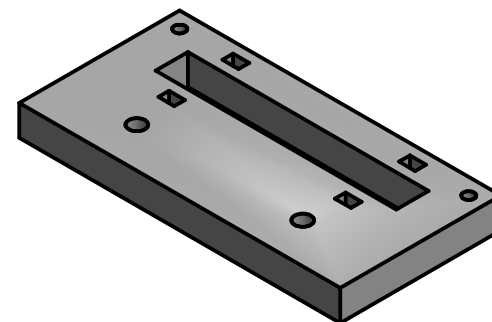


Part: X
QTY:1

SMALLER FOR
THREADING



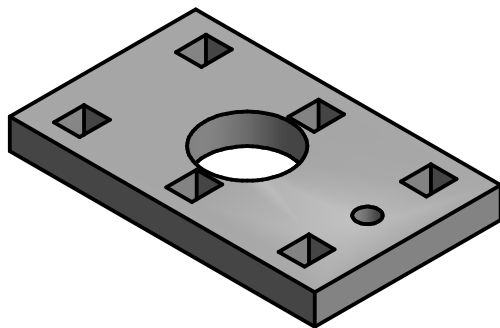
Part: U
QTY:1



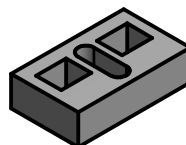
Part: Y
QTY:1

A

A



Part: R
QTY:1

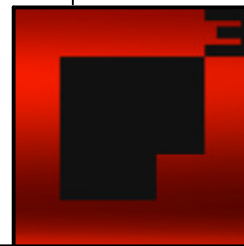


Part: V
QTY:1

2



1



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TITLE

OneUp/TwoUp Extruder Assembly
Instructions

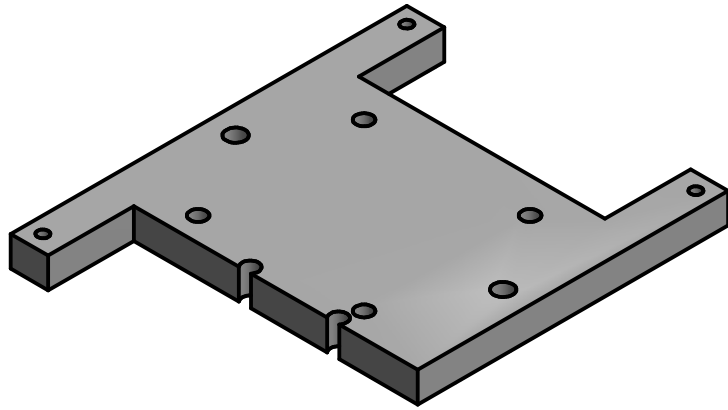
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SIZE A

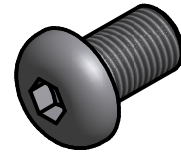
REV 0

DRAWING DATE: 12/30/2013

SHEET 2 OF 13



Part: L
QTY:1



=HW01
QTY:1

3/8"-16 X 5/8"
BUTTON HD BOLT



=KK
QTY:2

SMALL ACRYLIC
WASHER



=OO
QTY:1

3/8" X 5/8" X 5/32"
BALL BEARING



=HW14
QTY:6



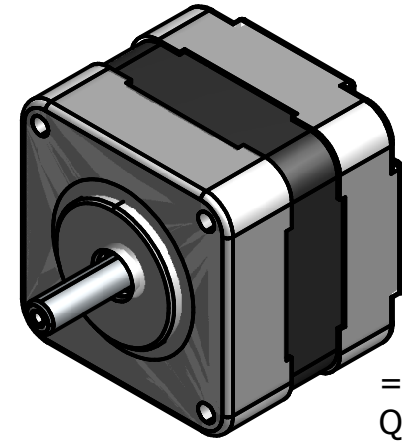
=HW15
QTY:1



=HW16
QTY:1



=HW13
QTY:1



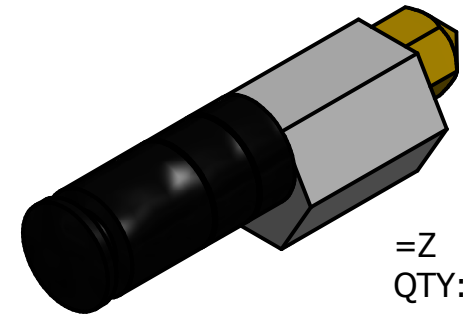
=AA
QTY:1



=RR
QTY:1

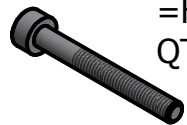


=HW19
QTY:1



=Z
QTY:1

UBIS HOT HED



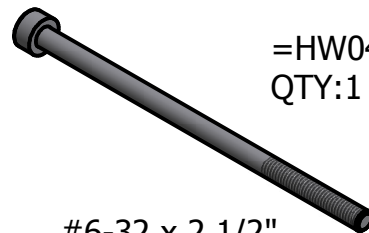
=HW07
QTY:2

M3 x 30mm
SOCKET HD BOLT



=HW08
QTY:3

M3 x 45mm
SOCKET HD BOLT



=HW04
QTY:1

#6-32 x 2 1/2"
SOCKET HD BOLT



QU-BD

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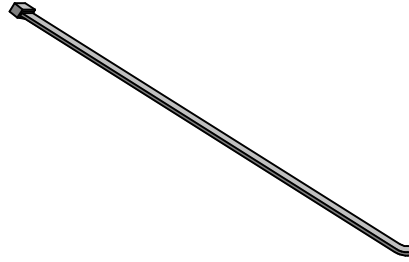
TITLE
OneUp/TwoUp Extruder Assembly
Instructions

DRAWN BY: Jeepeguy42 SIZE A REV 0

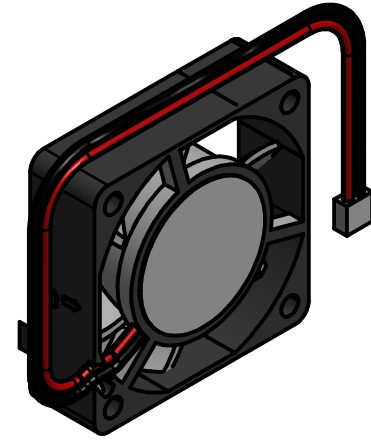
DRAWING DATE: 12/30/2013 SHEET 3 OF 13



PART: NN
 NAME: LM8LUU LINEAR BEARING
 QTY: 2



PART: CC
 NAME: ZIP TIES
 QTY: 4



PART: EL02
 NAME: 12x40mm
 FAN
 QTY: 1



PART: EL02B
 NAME: FAN ATCH.
 BRACKET
 QTY: 1



PART: HW05
 SIZE: M3 X 8 SCKT HD
 QTY: 1



QU-BD

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TITLE
**OneUp/TwoUp Extruder Assembly
 Instructions**

| | | |
|---------------------|--------|-------|
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 |
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| | |
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| DRAWING DATE: 12/30/2013 | SHEET 4 OF 13 |
|--------------------------|---------------|

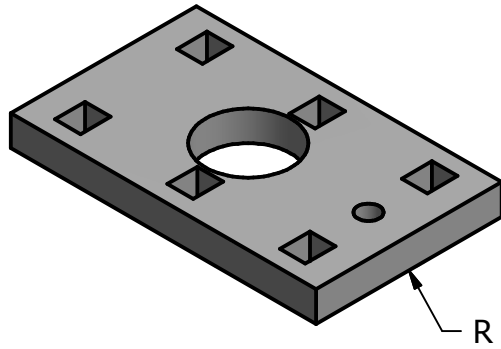
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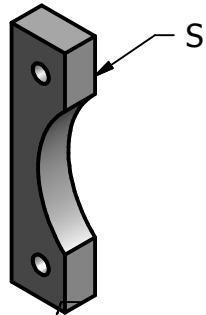
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1

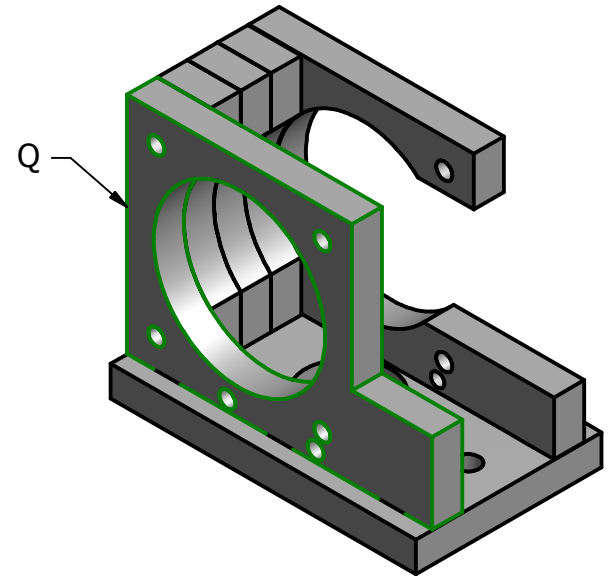
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3

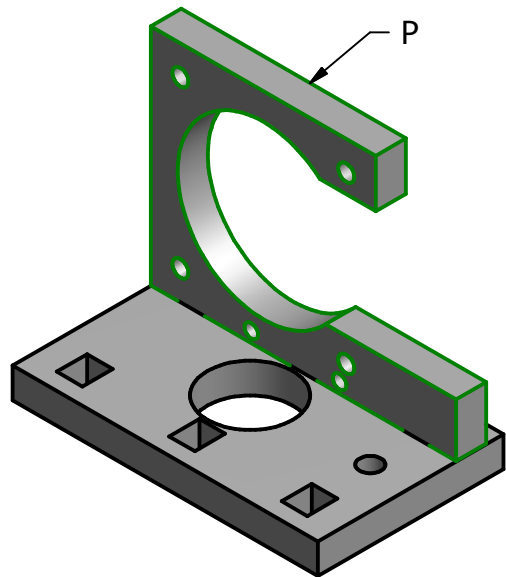


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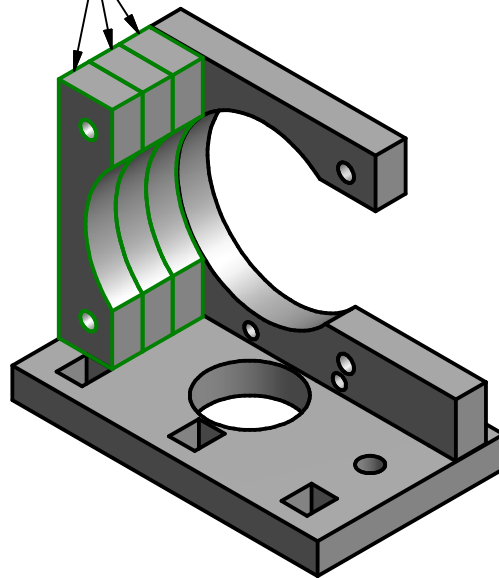


B

2



A

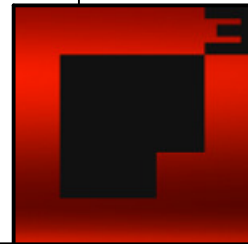


A

2



1



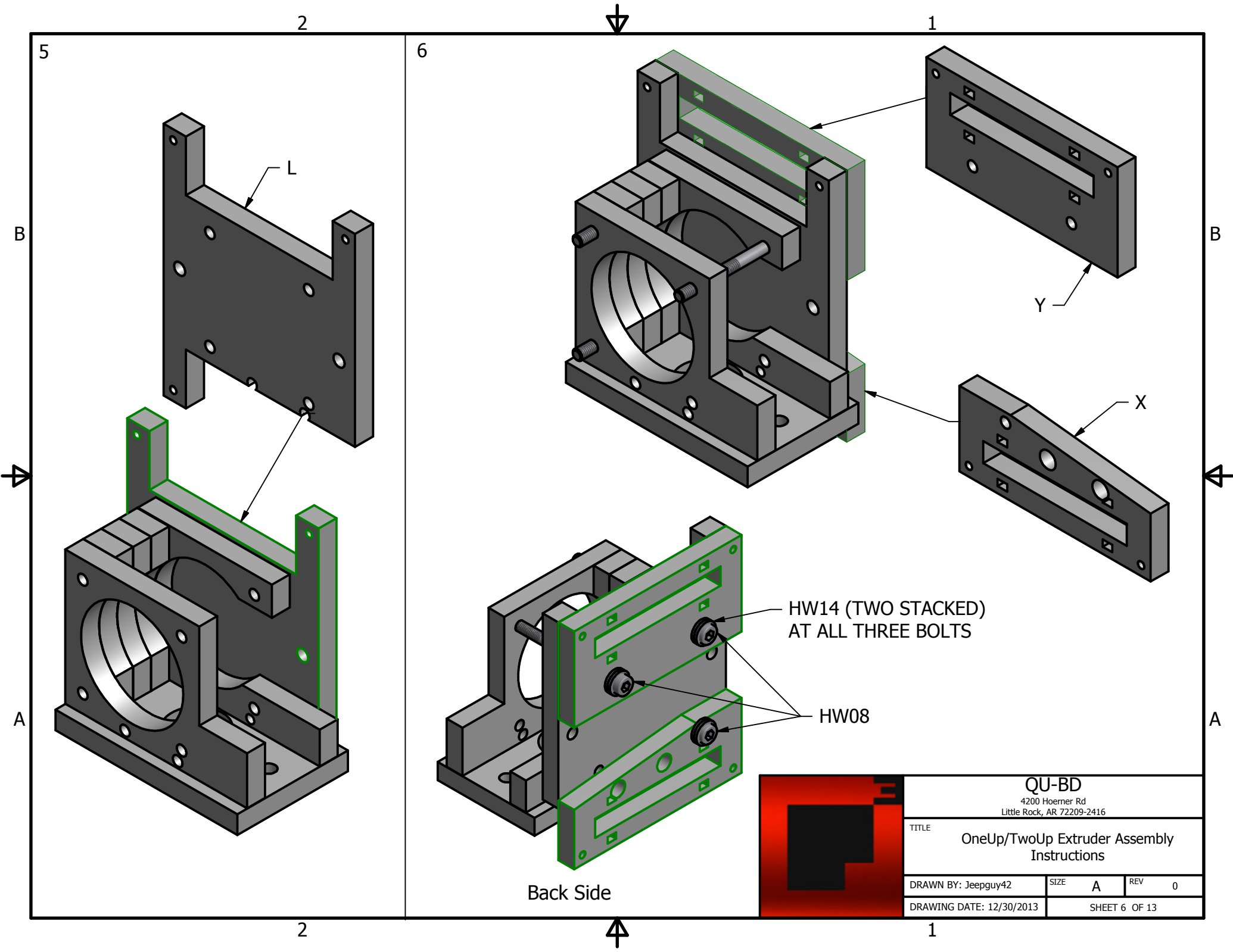
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OneUp/TwoUp Extruder Assembly
Instructions

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5

2

6

1

2

1

L

Y

X

HW14 (TWO STACKED)
AT ALL THREE BOLTS

HW08

Back Side

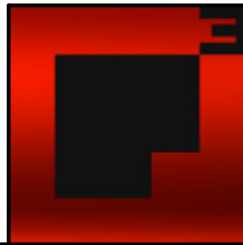
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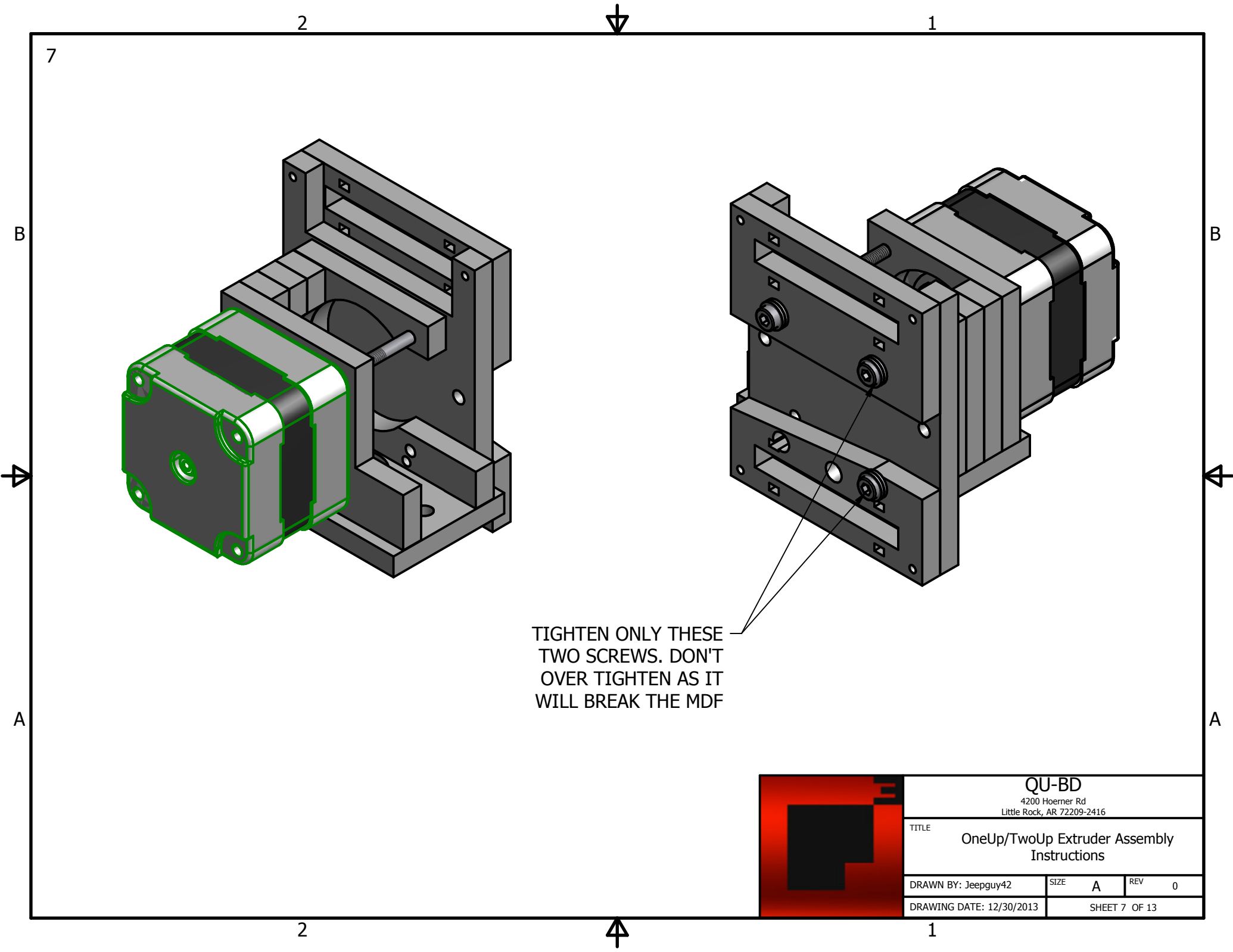
4200 Hoerner Rd
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TITLE
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Instructions

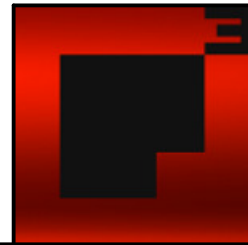
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|---------------------|--------|-------|

| | |
|--------------------------|---------------|
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|--------------------------|---------------|





TIGHTEN ONLY THESE
TWO SCREWS. DON'T
OVER TIGHTEN AS IT
WILL BREAK THE MDF



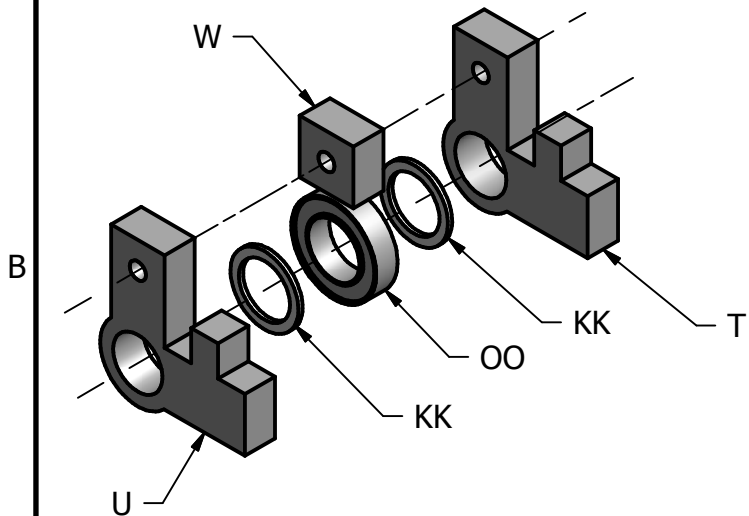
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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE OneUp/TwoUp Extruder Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 12/30/2013 | | SHEET 7 OF 13 | |

2



1

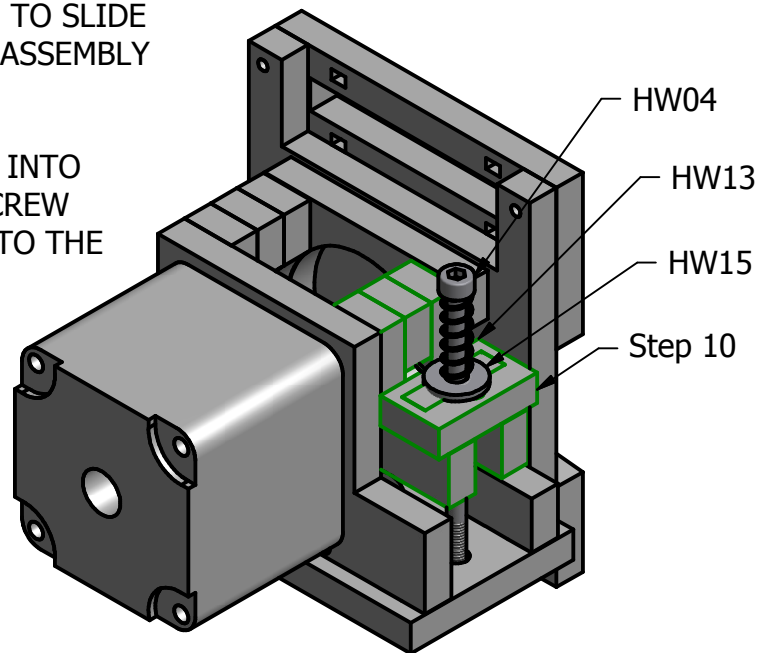
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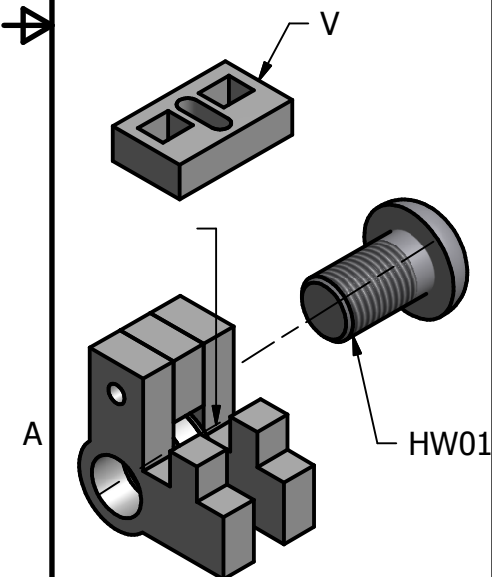
11

SLIDE OUT UNTIGHTENED M3X45 SCREW (HW08) ENOUGH TO SLIDE IN THE TENSIONER SUB ASSEMBLY SHOWN IN STEP 10.

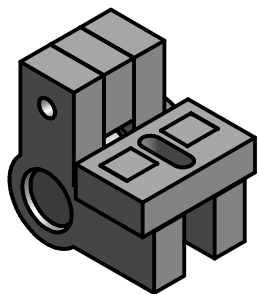
CAREFULLY SLIDE BACK INTO PLACE THROUGH THE SCREW HOLES AND TIGHTEN INTO THE STEPPER MOTOR



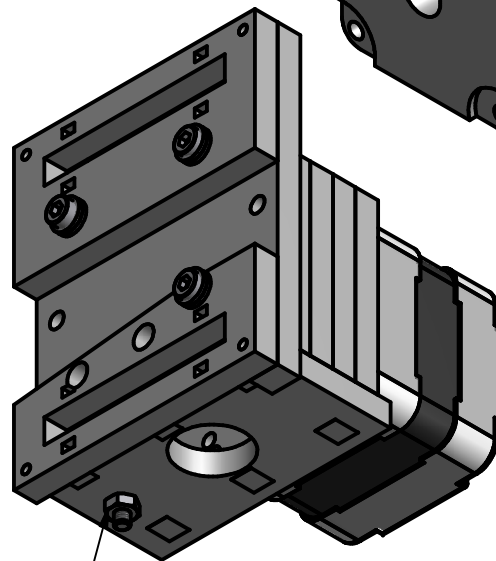
9



10



HW16



SLIDE THE SPRING (HW13) ONTO THE LONG SCREW (HW04) AND PLACE WASHER (HW15) AT ITS BASE. SLIDE THROUGH THE TENSIONER SUB ASSEMBLY DOWN THROUGH THE HOLE IN "R" AND LIGHTLY FASTEN THE NUT (HW16) INTO PLACE TO HOLD TENSIONING SUBASSEMBLY IN PLACE



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OneUp/TwoUp Extruder Assembly
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2



1

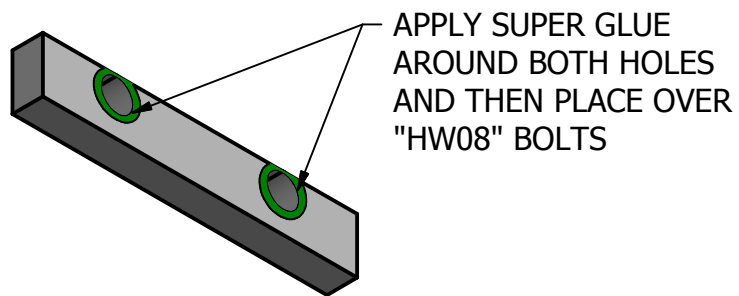
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1

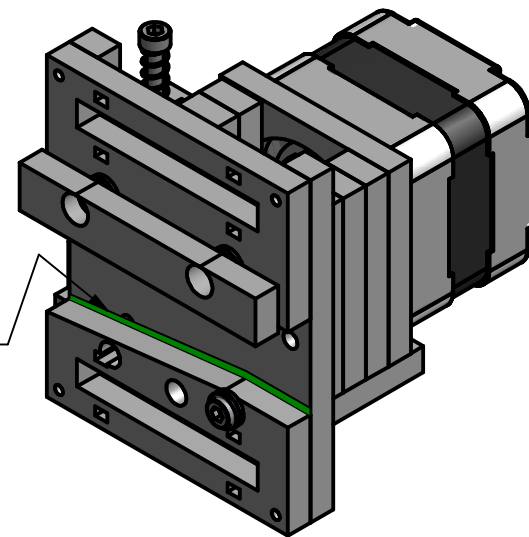
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B



13

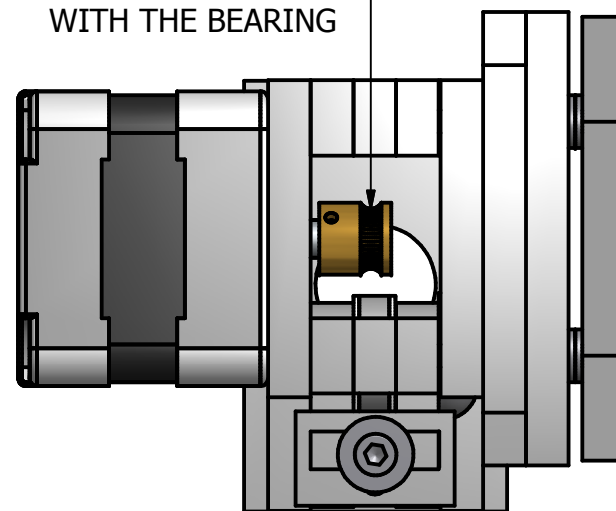
MAKE SURE LOWER BAR IS LEVEL AND APPLY A SMALL AMOUNT OF SUPER GLUE ALONG EDGE TO HOLD IN PLACE



B

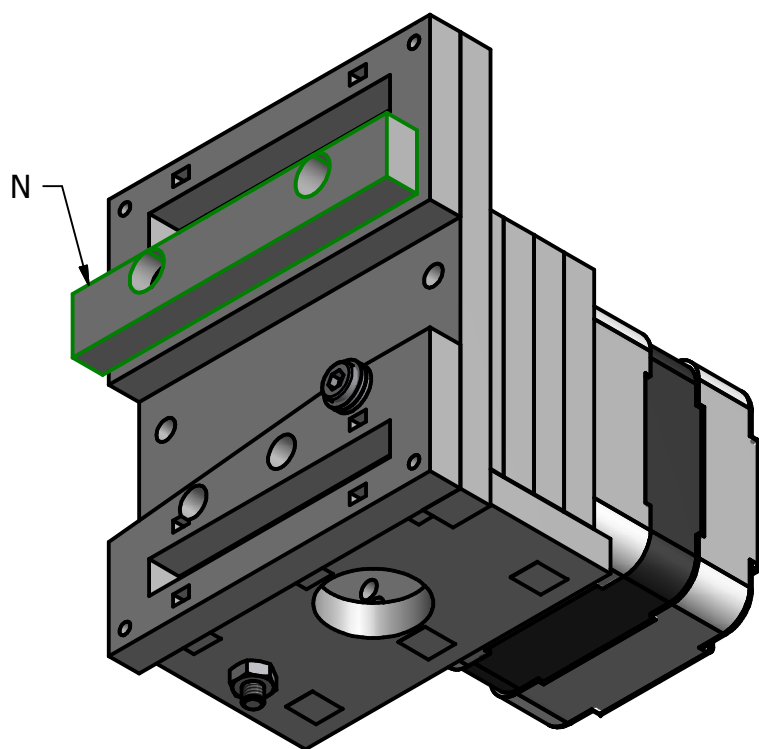
14

VERIFY THAT GROVE IN THE NUT IS IN LINE WITH THE BEARING



A

A



A

2



1



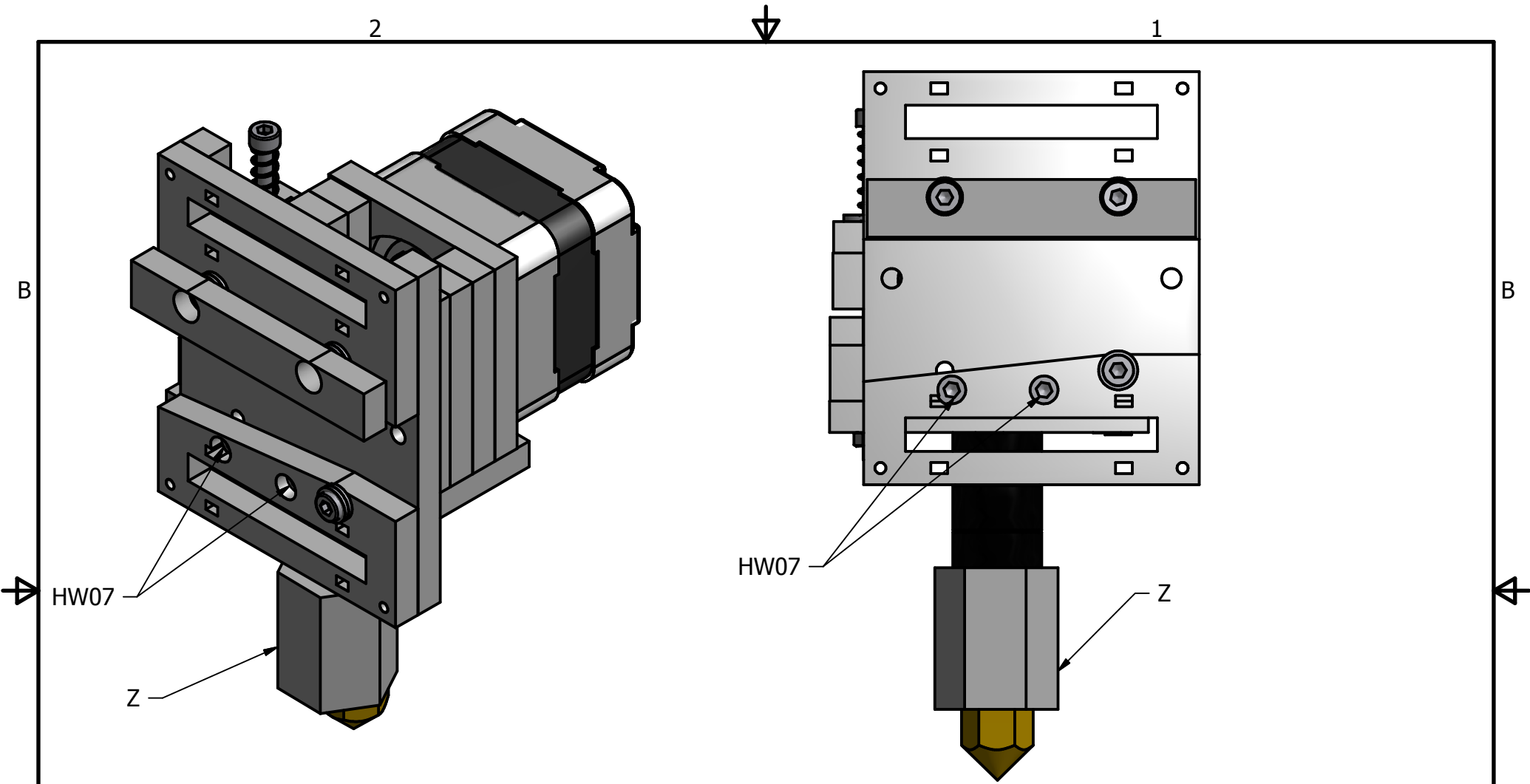
QU-BD

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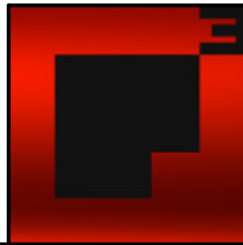
TITLE
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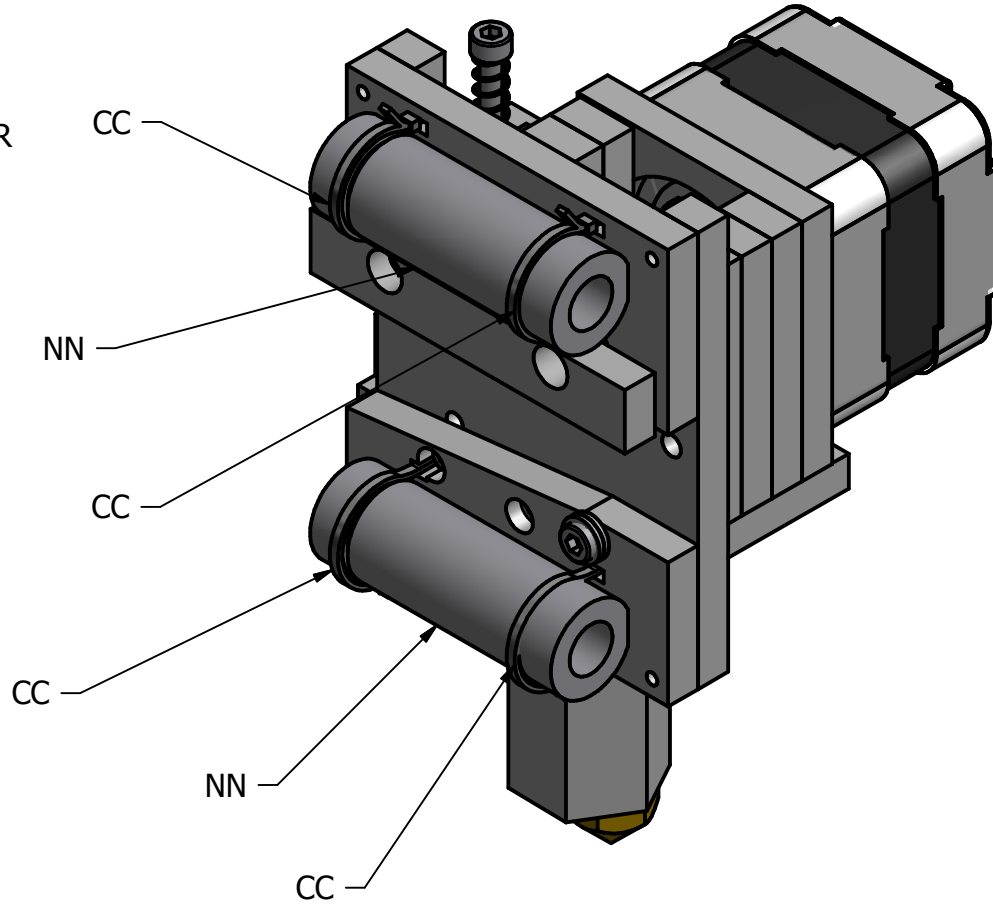


HOT END IS SLID UP THROUGH PART R UNTIL GROVE IS JUST VISIBLE THROUGH SLOT UNDER TENSION SUBASSEMBLY. SCREW HW07 THROUGH TWO HOLES IN BACK SIDE UNTIL THEY REACH THE GROOVE. SLIDE HOT END UP OR DOWN UNTIL THE GROVE IS CENTERED ON THE M3 X 30 SCREWS (HW07) THEN COMPLETELY SEAT THE SCREW. THIS WILL SECURE THE HOT END IN PLACE.



| | | | |
|---|-----------|----------------|--|
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ATTACH LINEAR BEARING TO EXTRUDER ASSEMBLY AT THIS POINT AT THE DESIGNATED LOCATIONS USINT 4 ZIPTIES



| | | |
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2

REMOVE THE LOWER LEFT OR LOWER RIGHT SCREW IN THE EXTRUDER STEPPER MOTOR HOUSING. THIS SCREW WILL BE REUSED TO ATTACH THE FAN TO THE STEPPER MOTOR. BE AWARE THAT THE FIT HERE IS VERY TIGHT. AND SOME MODIFICATION AND WORK MAY NEED TO BE DONE ON THE BRACKET IN ORDER TO GET THE FAN TO HOLD IN PLACE.

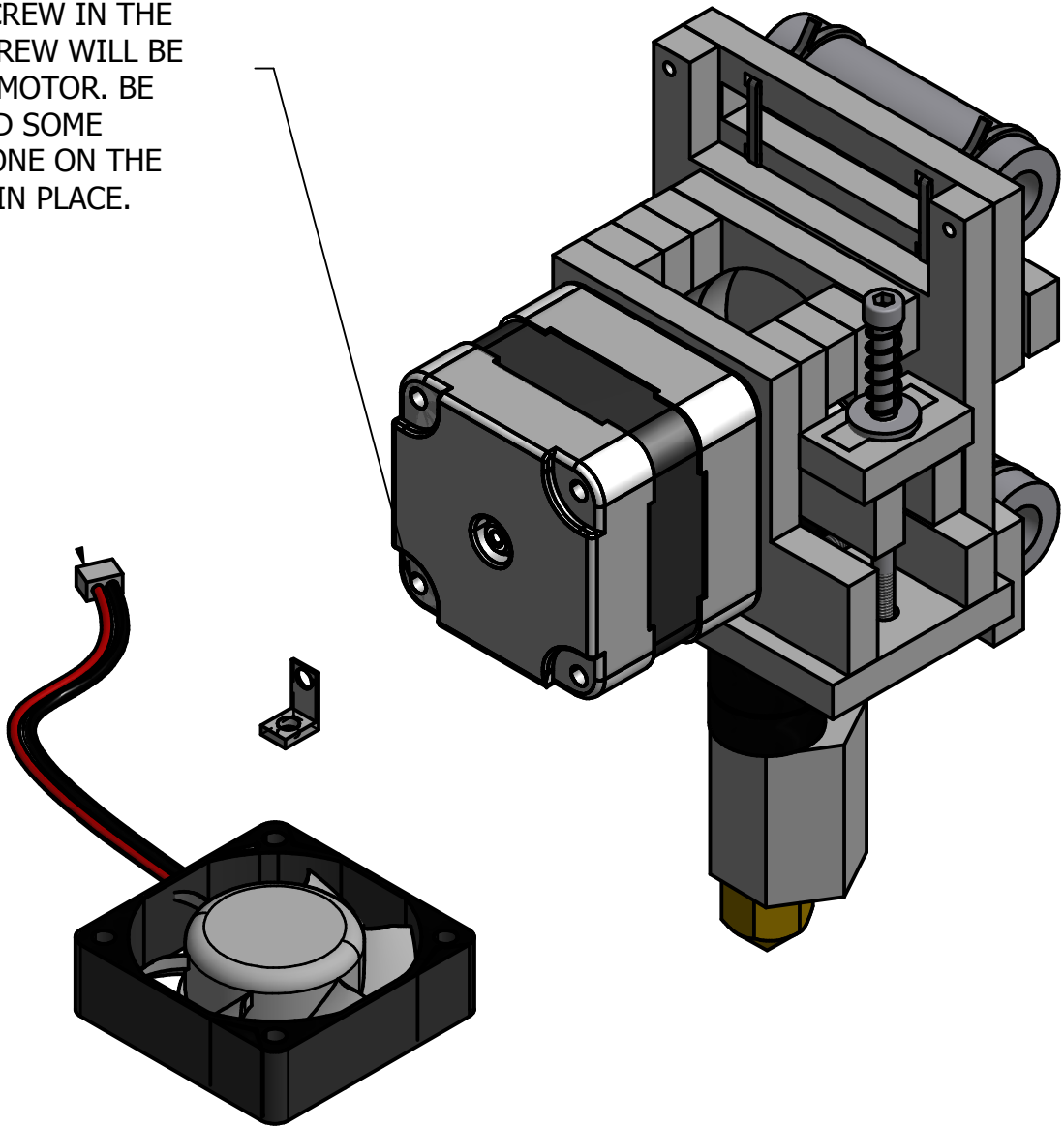
B

ENSURE THE FAN IS FACING THE PROPER DIRECT (GRILL TOWARDS HOTEND). THIS IS ESSENTIAL AS THE AIR FLOW NEEDS TO BE DIRECTED PROPERLY TO COOL. AL ENSURE THE WIRES ARE IN THE UPPER LEFT OR RIGHT SIDE OF THE FAN DEPENDING ON THE SIDE YOUR ELECTRONICS ARE ON (FROM THE BACK) IN ORDER TO KEEP THE WIRE TOWARDS THE TOP FOR EASY PLACEMENT.

USE AN M3X8 (HW05) TO ATTACH THE FAN BRACKET TO THE FAN (FOR BETTER HOLD EITHER USE AN M3X10 (NOT SUPPLIED)

A

BEND THE BRACKET TO A 45° ANGLE TOWARDS THE HOTEND AND ATTACH THE FAN AND BRACKET TO THE STEPPER MOTOR USING THE SCREW THAT WAS REMOVED.



| | | | |
|---|--|---|-------|
| QU-BD | | | |
| 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE | OneUp/TwoUp Extruder Assembly Instructions | | |
| DRAWN BY: Jeepguy42 | SIZE | A | REV 0 |
| DRAWING DATE: 12/30/2013 | SHEET 12 OF 13 | | |

2

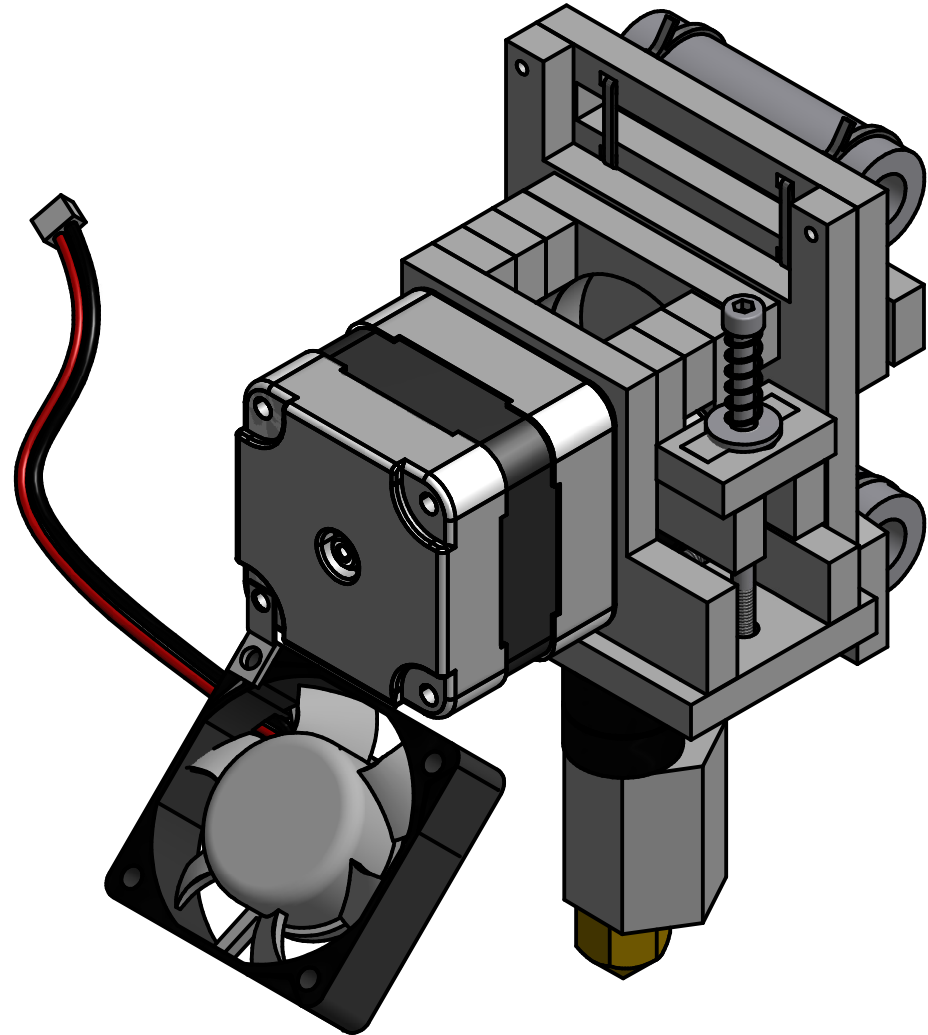
1

A

B

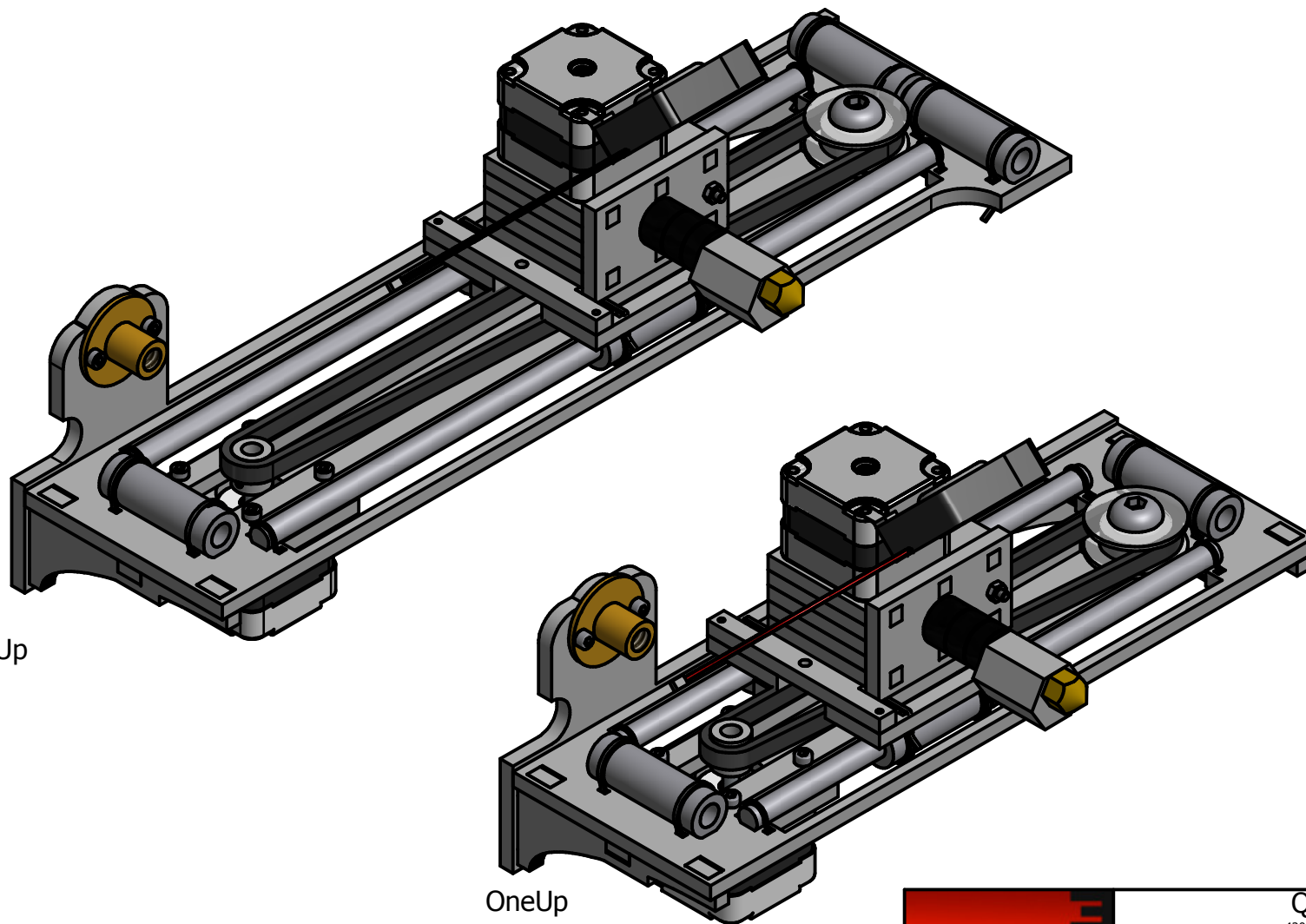
THIS SHOULD BE WHAT YOUR FINAL ASSEMBLY LOOKS LIKE.

THIS CONCLUDES THE EXTRUDER ASSEMBLY INSTRUCTIONS.



| | | | |
|---|------|----------------|-------|
| QU-BD | | | |
| 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE | | | |
| OneUp/TwoUp Extruder Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE | A | REV 0 |
| DRAWING DATE: 12/30/2013 | | SHEET 13 OF 13 | |

OneUp and TwoUp Gantry Assembly Instructions



TwoUp

OneUp



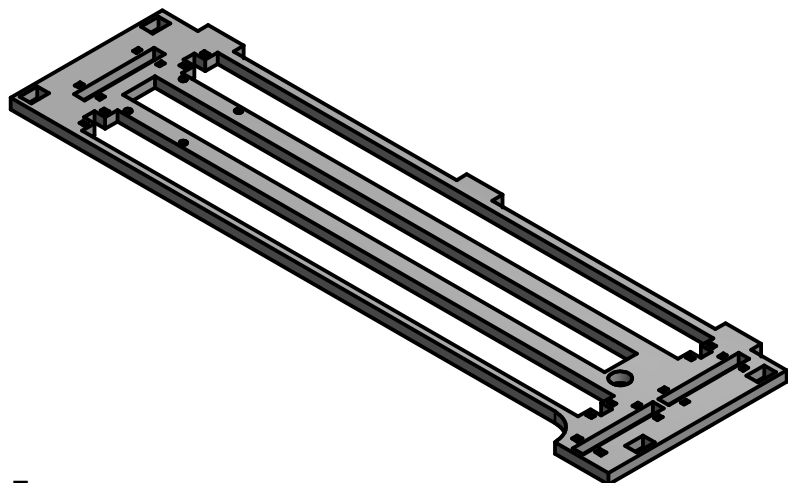
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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | | SHEET 1 OF 10 | |

2

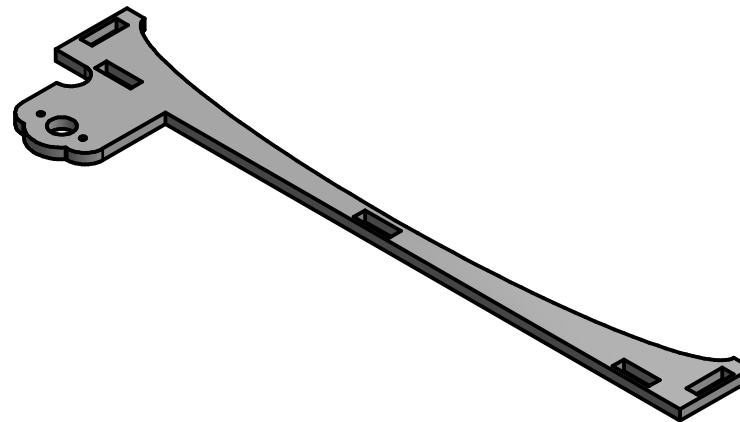
1

B

B



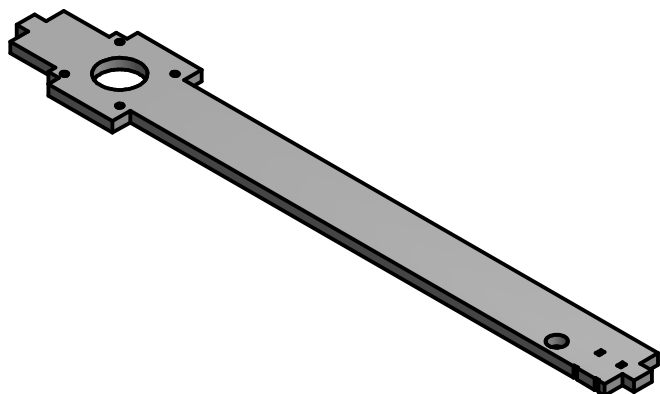
PART: E
QTY: 1



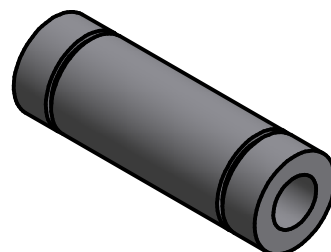
PART: F
QTY: 1

A

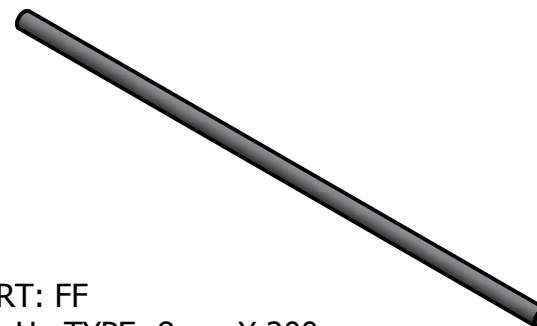
A



PART: G
QTY: 1



PART: NN
NAME: LM8LUU LINEAR BEARING
OneUp QTY: 2
TwoUp QTY: 3

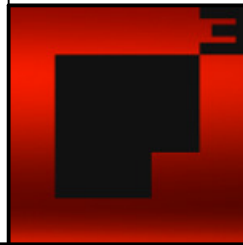


PART: FF
OneUp TYPE: 8mm X 200mm
TwoUp TYPE: 8mm X 290mm
QTY: 2

2

1

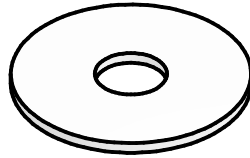
A



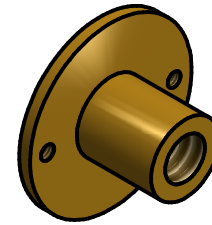
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|---|-----------|---------------|--|
| QU-BD | | | |
| <small>4200 Hoerner Rd Little Rock, AR 72209-2416</small> | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | | SHEET 2 OF 10 | |



PART: HW05
 TYPE: M3 X 8mm SKT HEAD SCREW
 QTY: 2



PART: LL
 TYPE: LARGE ACRYLIC WASHER
 QTY: 2



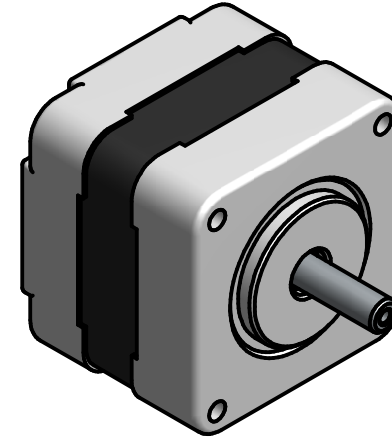
PART: BB
 TYPE: 3/8-12 ACME LEAD SCREW NUT
 QTY: 1



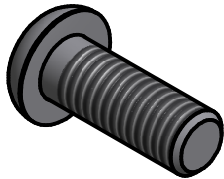
PART: HW06
 TYPE: M3 X 16mm SKT HEAD SCREW
 QTY: 4



PART: PP
 TYPE: R6-2RS BALL BEARING
 QTY: 1



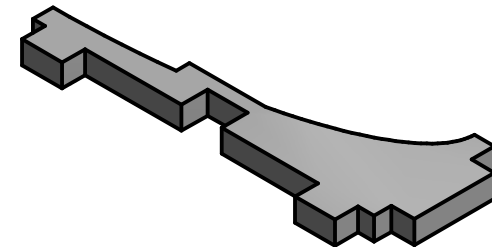
PART: AA
 TYPE: NEMA 17 STEPPER MOTOR
 QTY: 1



PART: HW03
 TYPE: 3/8"-16 X 1" BT HD SCREW
 QTY: 1



PART: QQ
 TYPE: 12-HTD3-05
 ALUMINUM PULLEY
 QTY: 1



PART: O
 QTY: 2



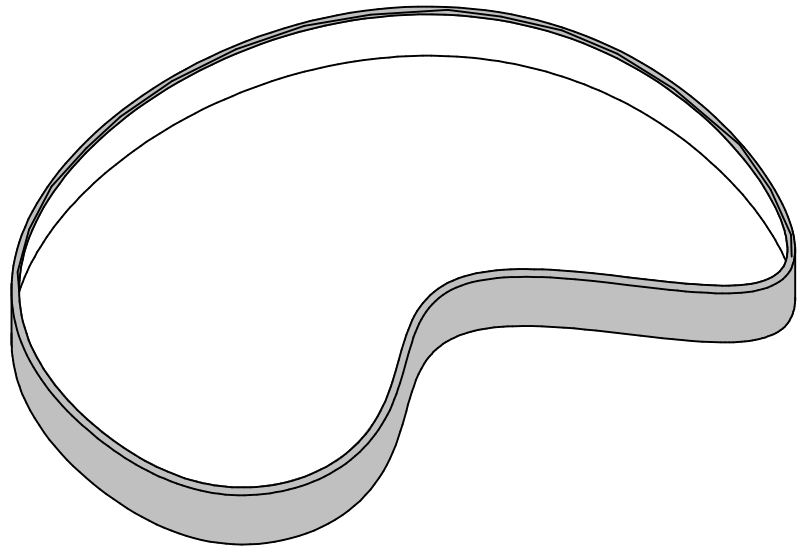
PART: KK
 TYPE: SMALL ACRYLIC WASHER
 QTY: 2



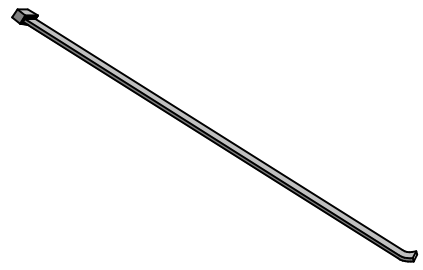
PART: HW18
 TYPE: #8-32 X 1/8" SET SCREW
 QTY: 2



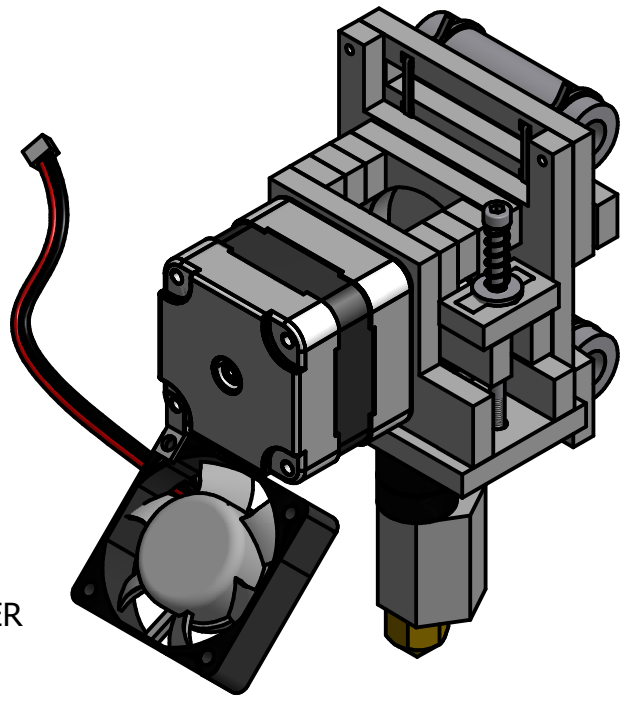
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|---|-----------|---------------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | | SHEET 3 OF 10 | |



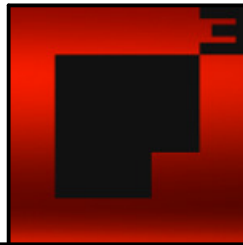
PART: EE
 NAME: 300mm HTD3 TOOTHED BELT
 QTY: 1



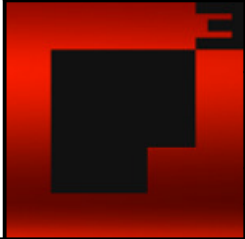
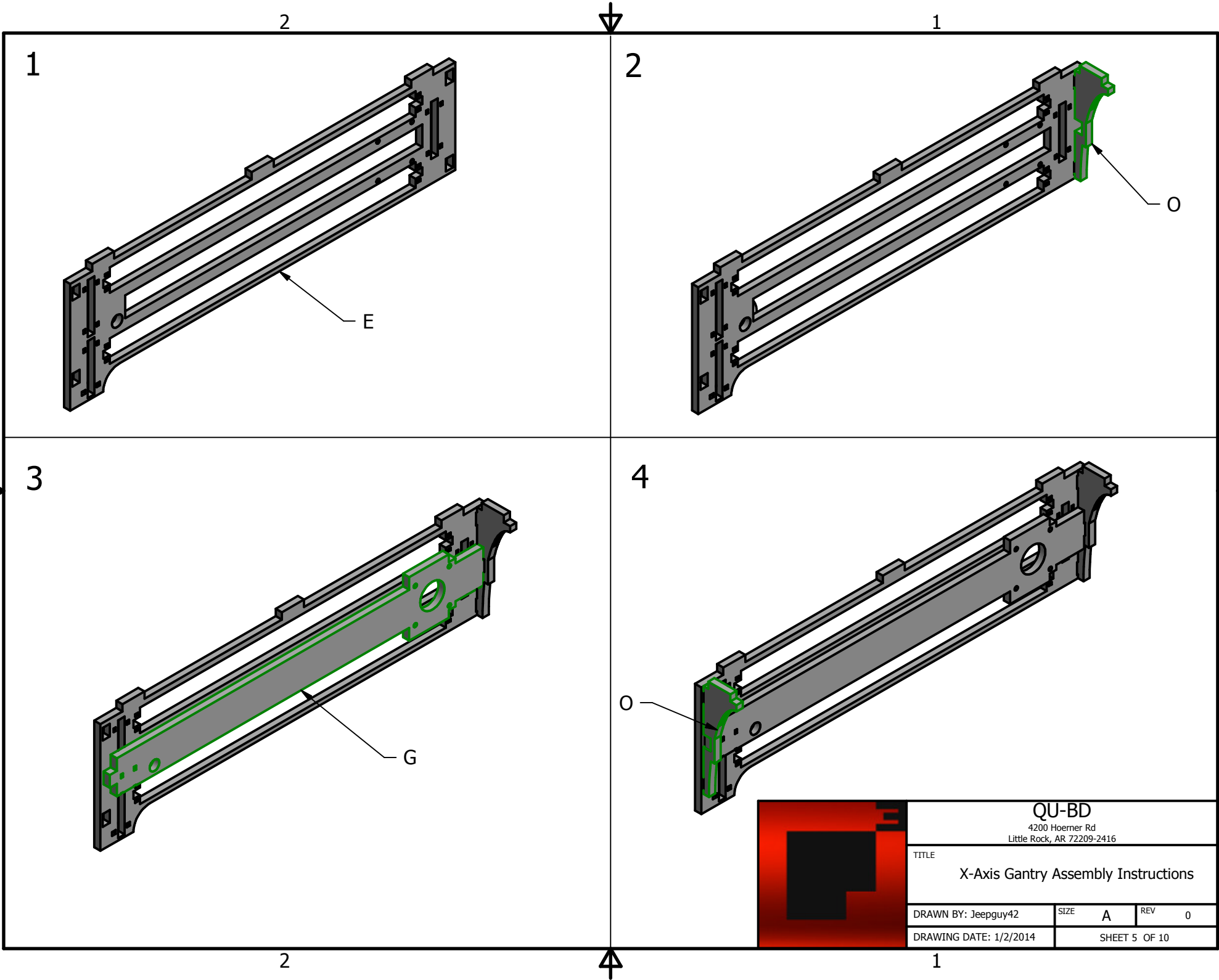
PART: CC
 NAME: ZIP TIES
 OneUp QTY: 8
 TwoUp QTY: 10



PART: EXTRUDER
 ASSEMBLY
 QTY: 1



| | | | |
|---|-----------|---------------|--|
| QU-BD | | | |
| 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | | SHEET 4 OF 10 | |



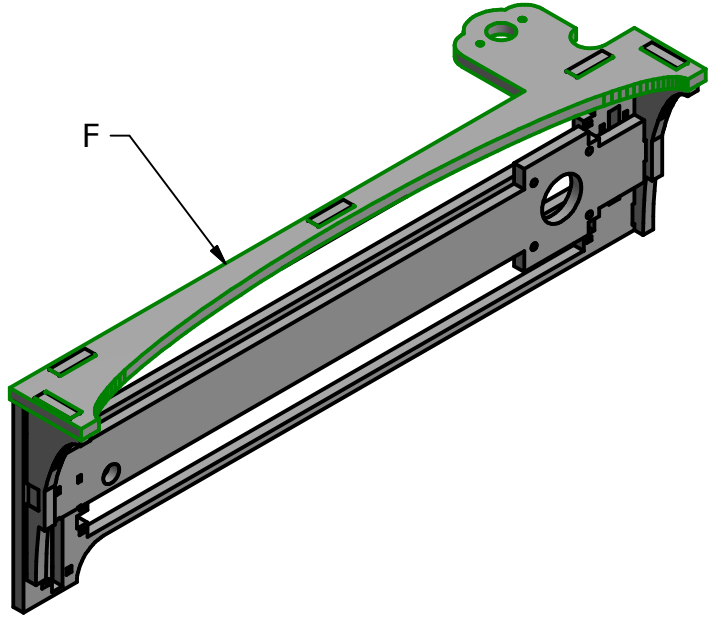
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|---|---------------|----------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | SHEET 5 OF 10 | | |

5

2

B

A

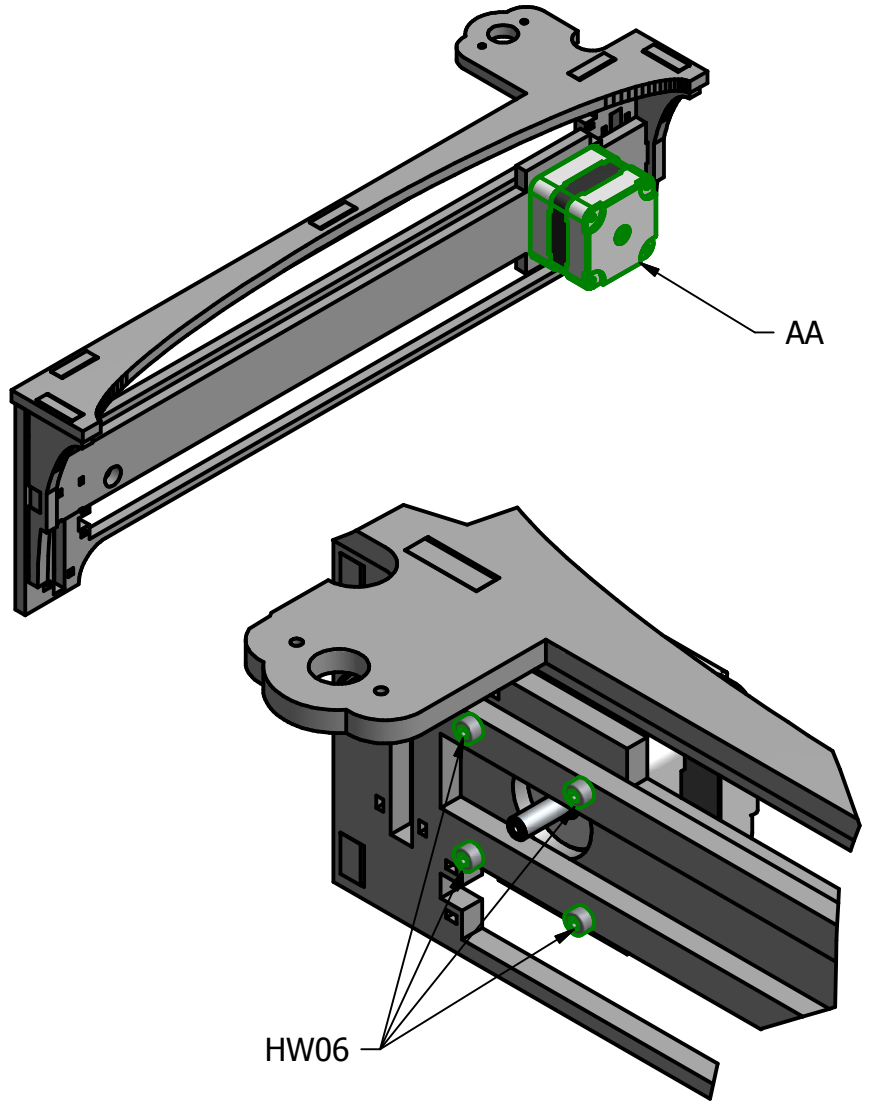


6

1

B

A

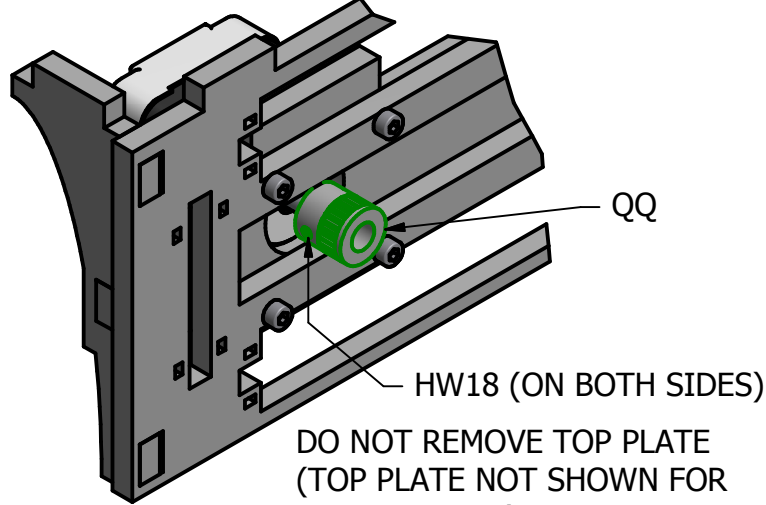


QU-BD

4200 Hoerner Rd
Little Rock, AR 72209-2416

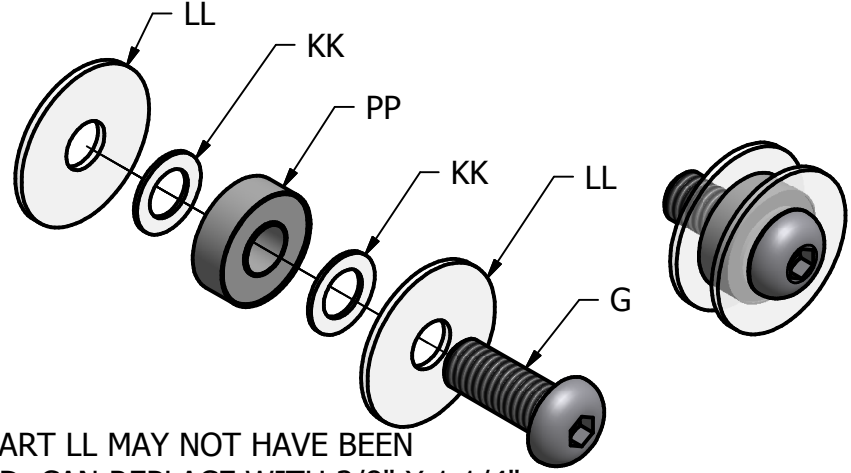
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|-------------------------------------|---------------|---|-------|
| TITLE | | | |
| X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE | A | REV 0 |
| DRAWING DATE: 1/2/2014 | SHEET 6 OF 10 | | |

7



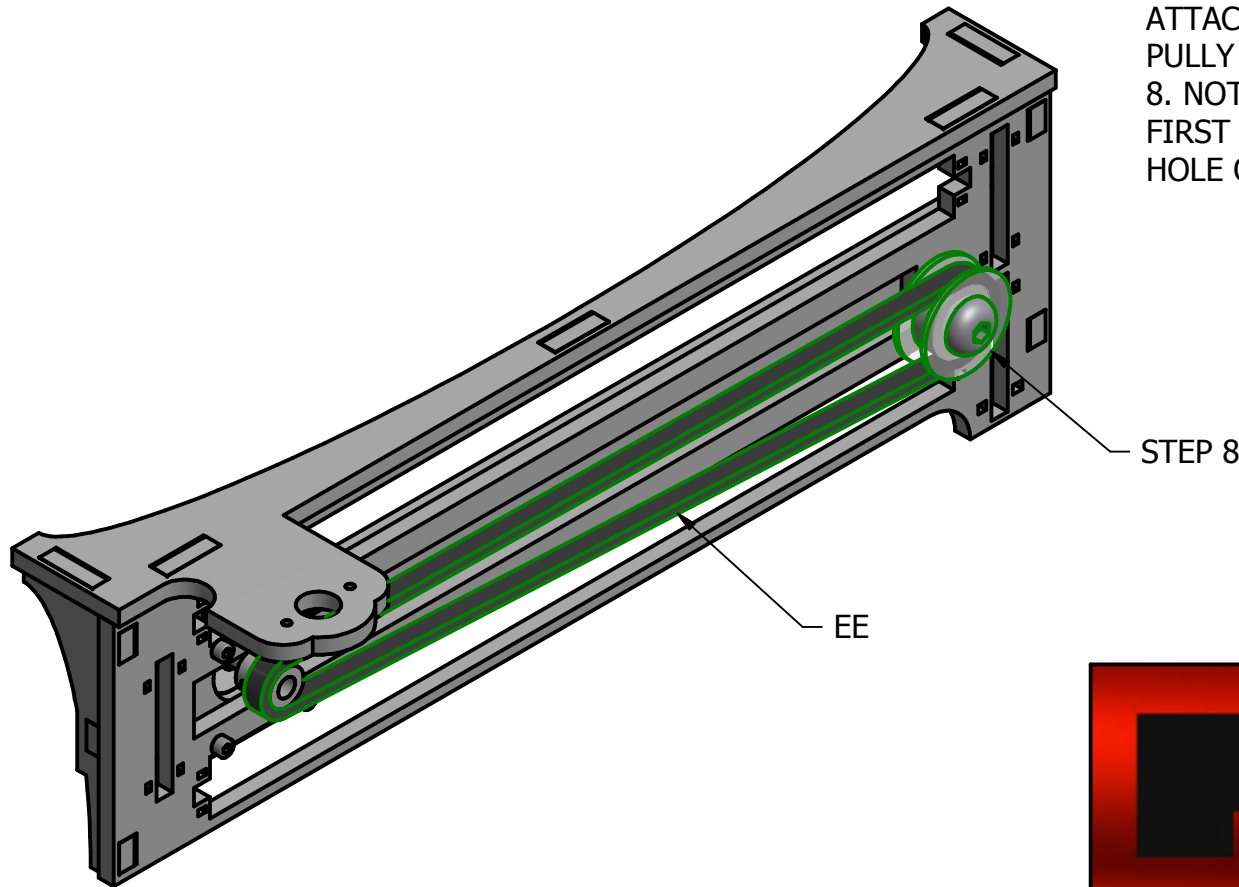
DO NOT REMOVE TOP PLATE
(TOP PLATE NOT SHOWN FOR
CLARITY ONLY)

8



NOTE: PART LL MAY NOT HAVE BEEN
SUPPLIED. CAN REPLACE WITH 3/8" X 1 1/4"
FENDER WASHERS

9

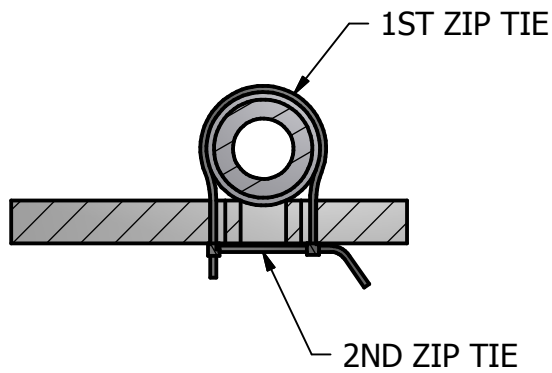


ATTACH 300mm BELT TO BOTH ALLUMINUM
PULLEY AND BEARING ASSEMBLY FROM STEP
8. NOTE: PLACE BELT ON ALUMINUM PULLEY
FIRST THEN PUT BEARING ASSEMBLY INYO
HOLE ON PART A, THIS WILL BE TIGHT.

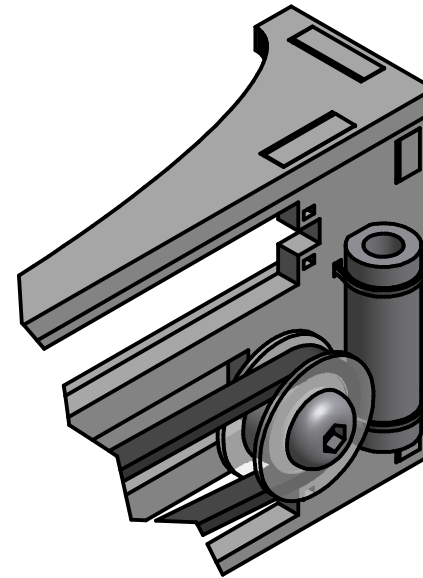


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|---|---------------|----------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | SHEET 7 OF 10 | | |

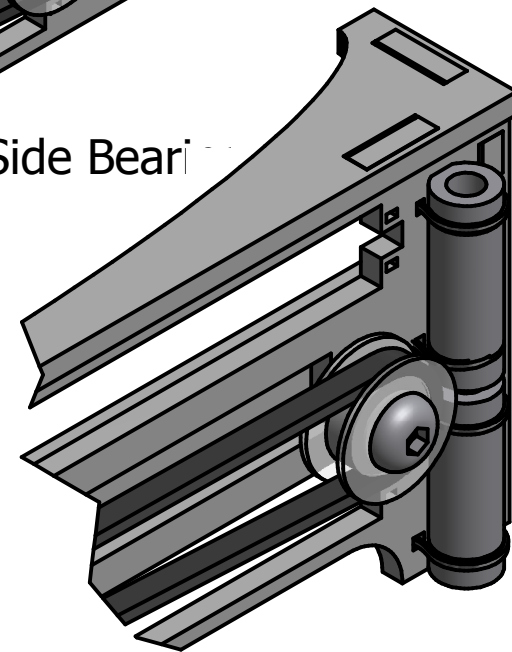
10



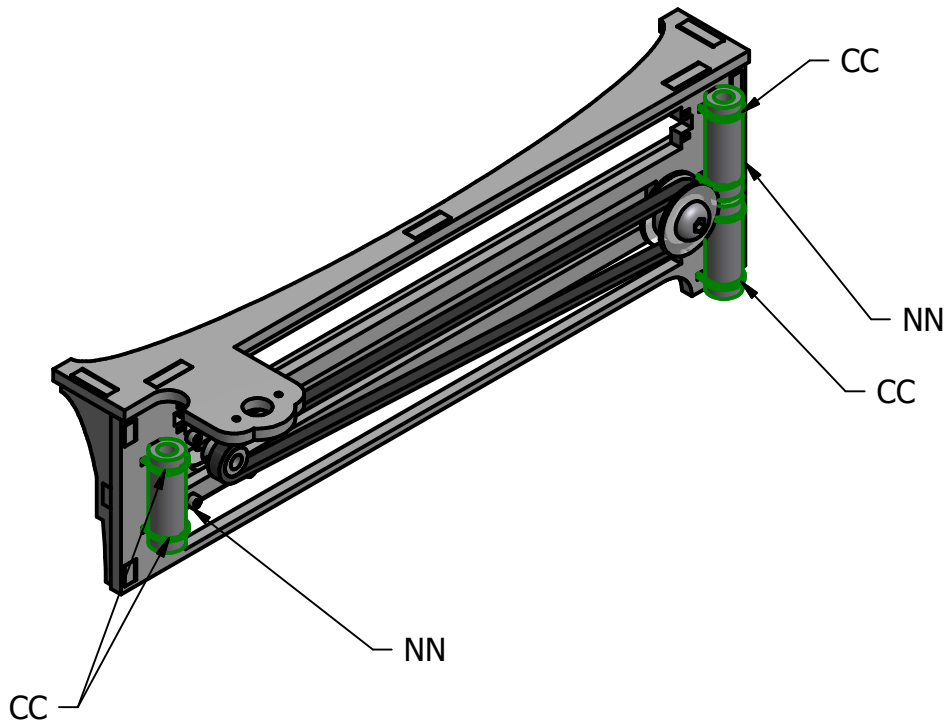
IF YOU HAVE SPARE ZIP TIES, THIS MODIFICATION CAN BE USED TO STRENGTHEN THE CONNECTIONS BETWEEN THE MDF AND THE LINEAR BEARINGS



OneUp Right Side Bearing

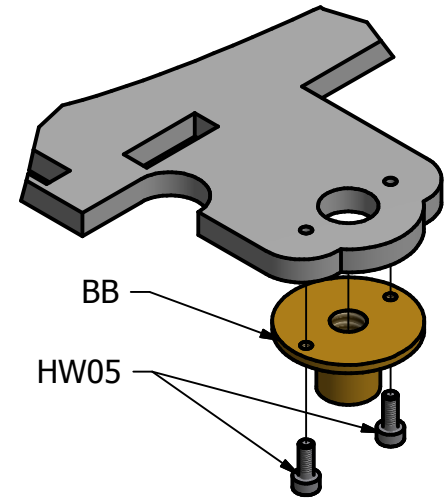
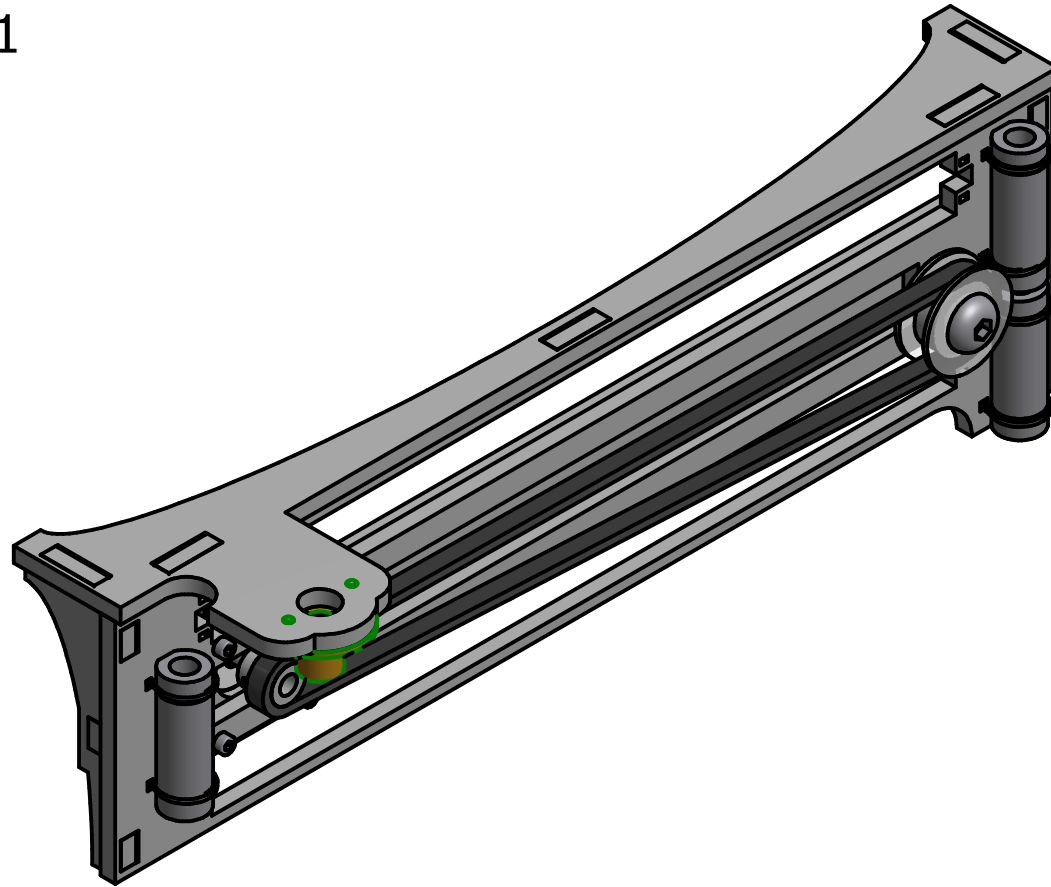


TwoUp Right Side Bearing Setup



| | | | |
|---|---------------|----------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | SHEET 8 OF 10 | | |

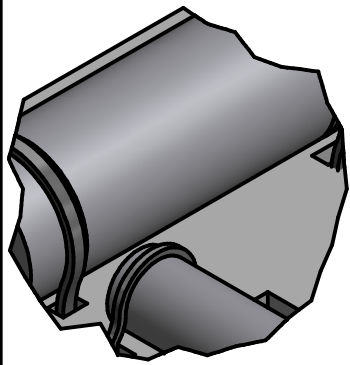
11



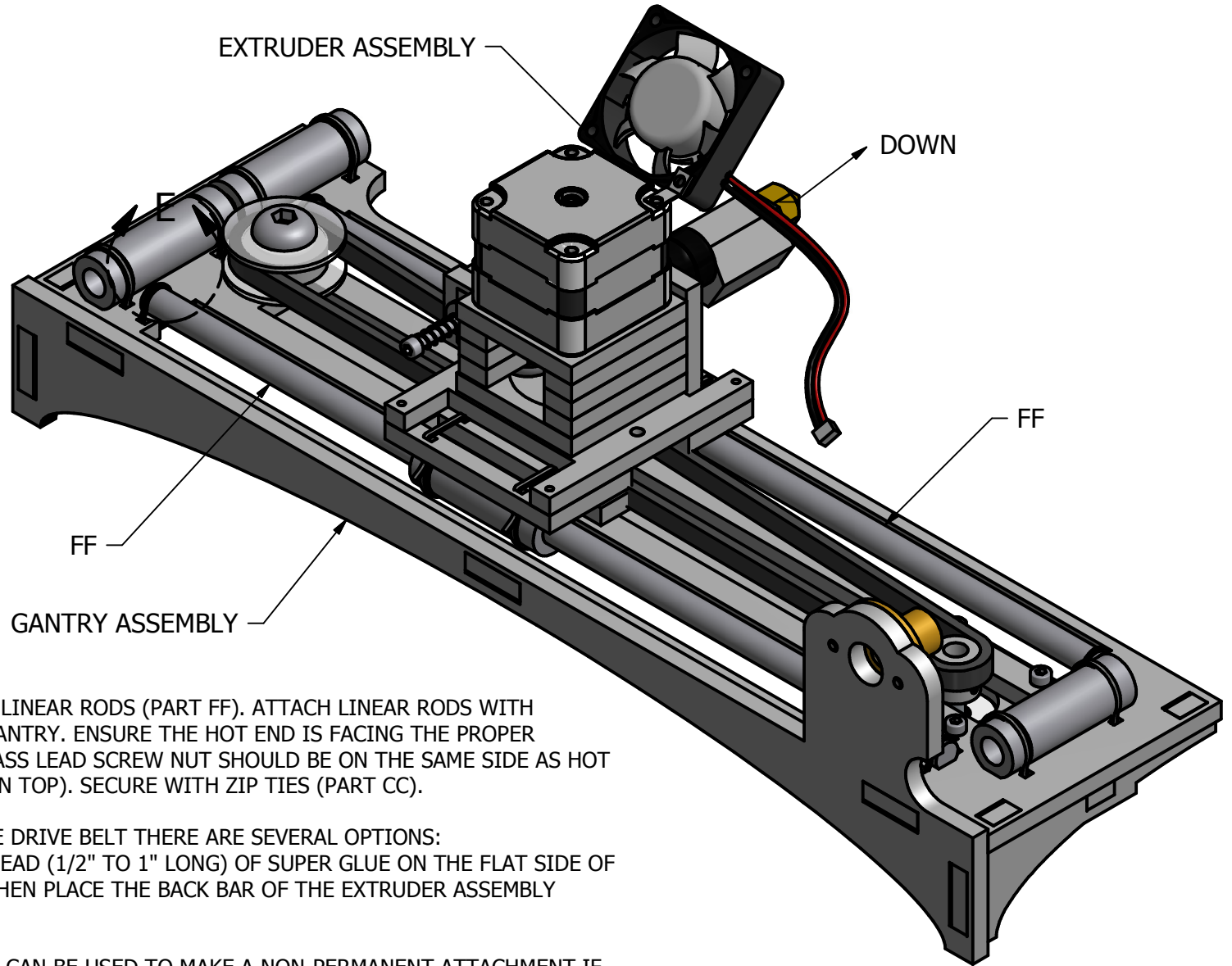
PARTS REMOVED FOR CLARITY ONLY



| | | | |
|---|---------------|---|-------|
| QU-BD | | | |
| 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE | | | |
| X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE | A | REV 0 |
| DRAWING DATE: 1/2/2014 | SHEET 9 OF 10 | | |



DETAIL E



SLIDE EXTRUDER ASSEMBLY ONTO LINEAR RODS (PART FF). ATTACH LINEAR RODS WITH EXTRUDER ASSEMBLY TO X-AXIS GANTRY. ENSURE THE HOT END IS FACING THE PROPER DIRECTION (NOTE: THE Z-AXIS BRASS LEAD SCREW NUT SHOULD BE ON THE SAME SIDE AS HOT END AND TOP PLATE SHOULD BE ON TOP). SECURE WITH ZIP TIES (PART CC).

TO ATTACH THE EXTRUDER TO THE DRIVE BELT THERE ARE SEVERAL OPTIONS:

A.) [PERMANENT] PLACE A SMALL BEAD (1/2" TO 1" LONG) OF SUPER GLUE ON THE FLAT SIDE OF THE BELT ON THE TOP SECTION. THEN PLACE THE BACK BAR OF THE EXTRUDER ASSEMBLY CENTERED ONTO THE SUPERGLUE.

B.) A STRONG DOUBLE SIDED TAPE CAN BE USED TO MAKE A NON-PERMANENT ATTACHMENT IF MODIFICATION WILL BE DONE IN THE FUTURE.

C.) USING ANOTHER 3D PRINTER PRINT ONE OF SEVERAL OPTION POSTED ON THE FORUMS

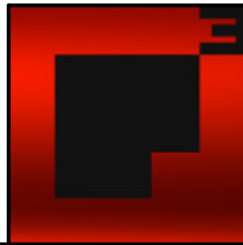
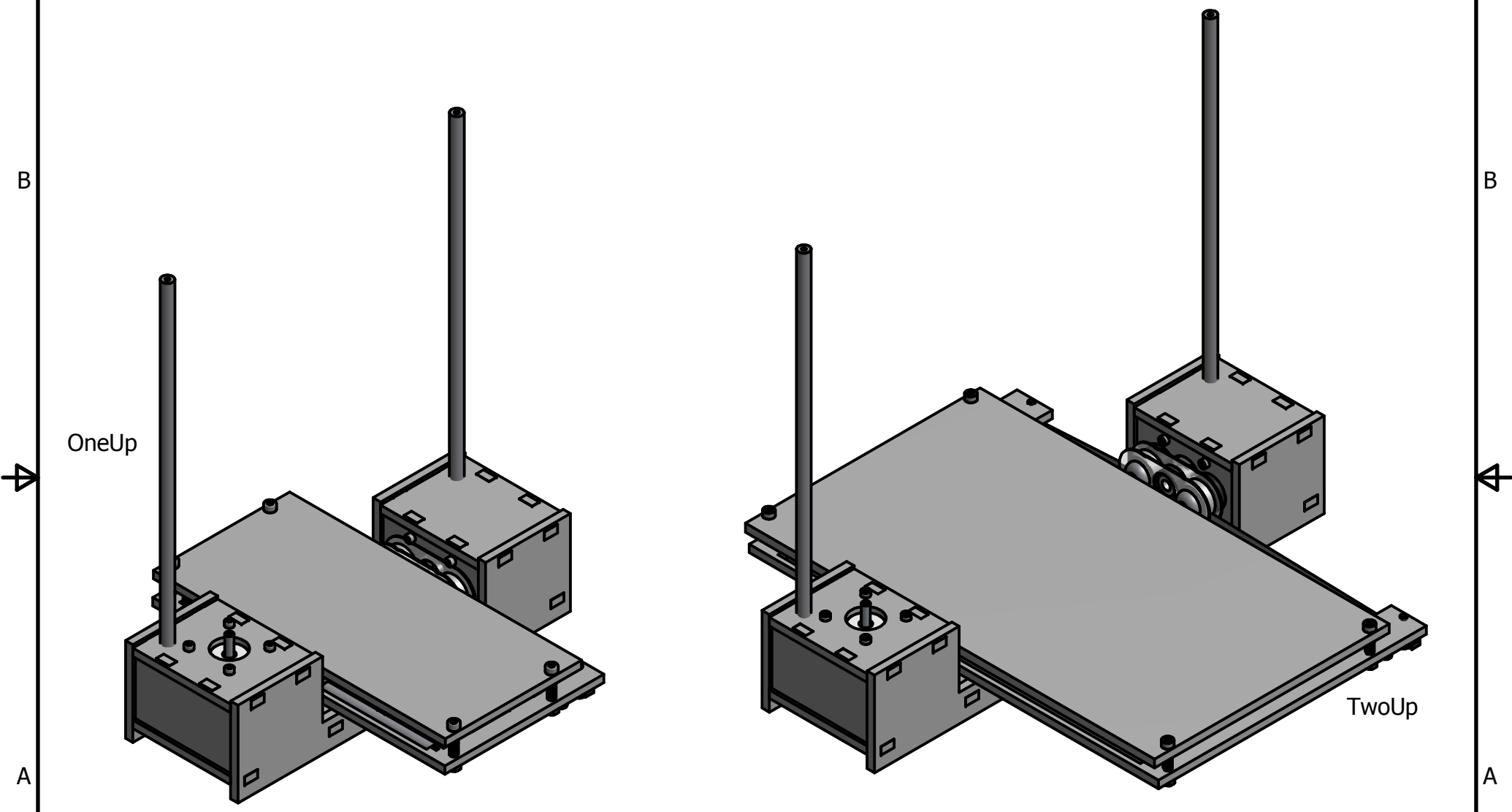
<http://www.fabric8r.com/forums/forumdisplay.php?23-QU-BD-OneUp-and-TwoUp-Tech-Support>

THIS CONCLUDES THE GANTRY ASSEMBLY.



| | | | |
|---|-----------|----------------|--|
| QU-BD | | | |
| 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE X-Axis Gantry Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 1/2/2014 | | SHEET 10 OF 10 | |

OneUp and TwoUp Base Assembly Instructions



| | | | |
|---|-----------|---------------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE Base Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 12/31/2013 | | SHEET 1 OF 11 | |

2

1

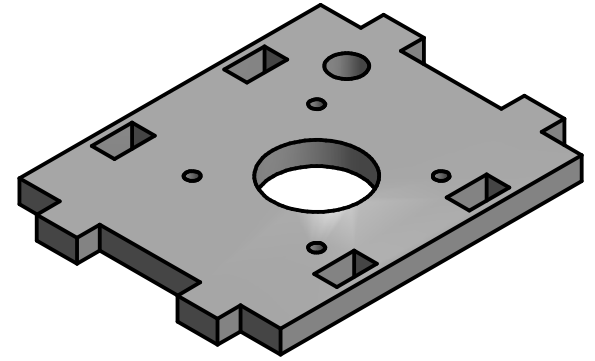
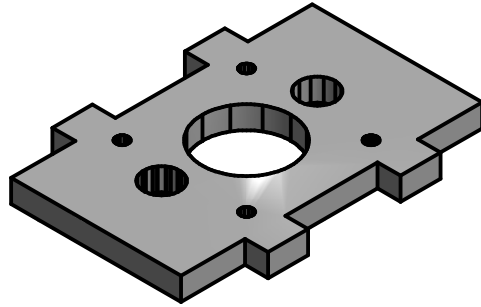
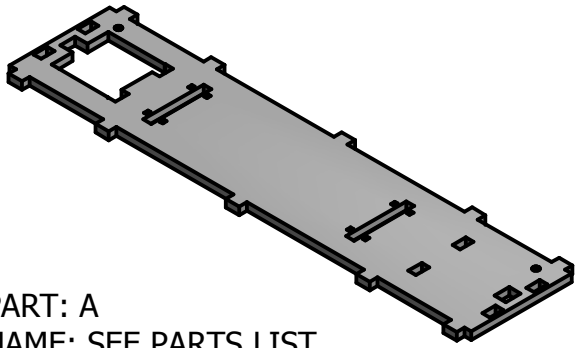
2

1

2



1



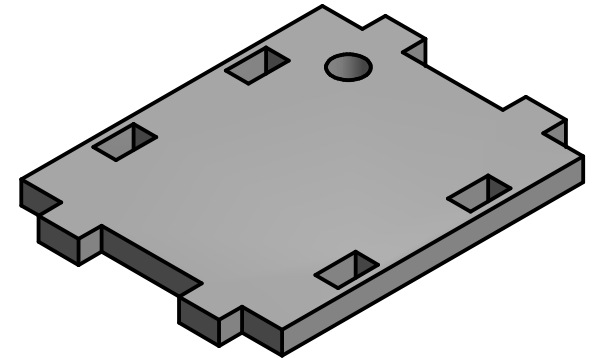
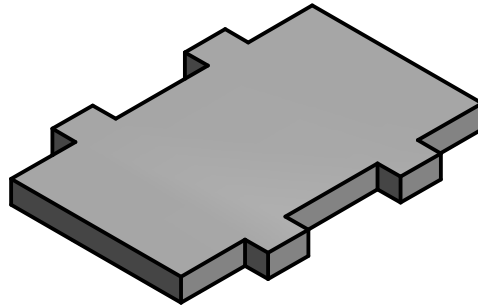
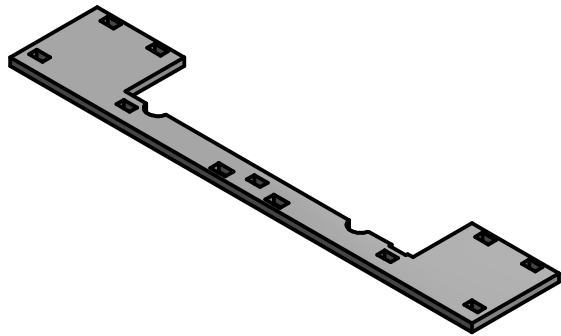
B

PART: A
NAME: SEE PARTS LIST
QTY: 1

PART: H
QTY: 1

PART: I
QTY: 1

B



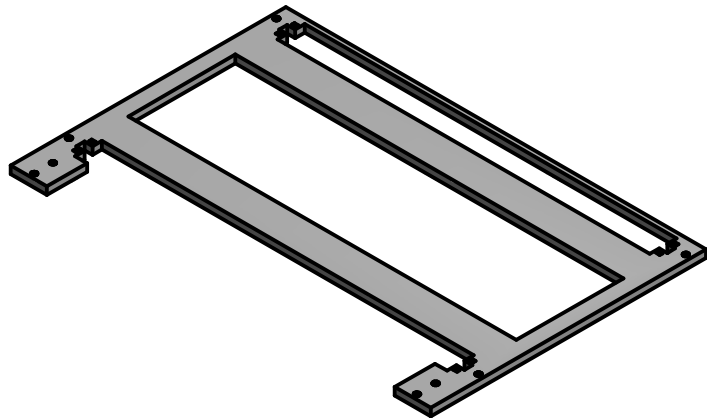
PART: B
QTY: 2

PART: J
QTY: 3

PART: K
QTY: 1



A



PART: C
QTY: 1

A

NOTE: SEE PARTS LIST FOR PART NAMES

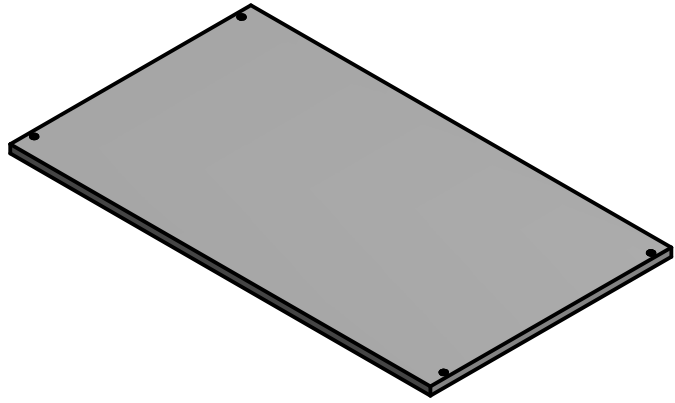


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|---|------------------------------|----------------------|--|
| QU-BD | | | |
| <small>4200 Hoerner Rd Little Rock, AR 72209-2416</small> | | | |
| TITLE Base Assembly Instructions | | | |
| <small>DRAWN BY: Jeepguy42</small> | <small>SIZE</small> A | <small>REV</small> 0 | |
| <small>DRAWING DATE: 12/31/2013</small> | <small>SHEET 2 OF 11</small> | | |

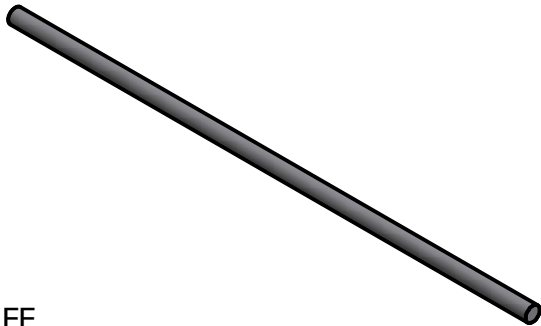
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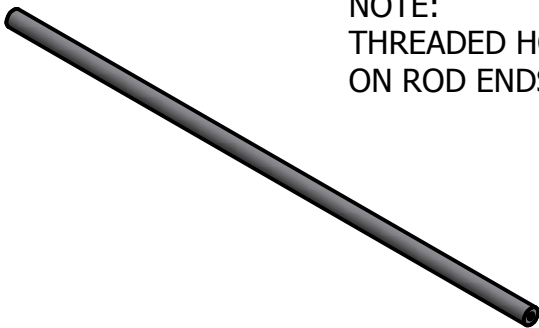
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PART: D
QTY: 1

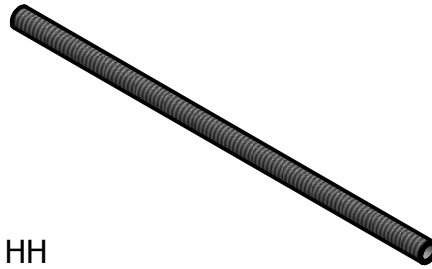


PART: FF
QTY: 2

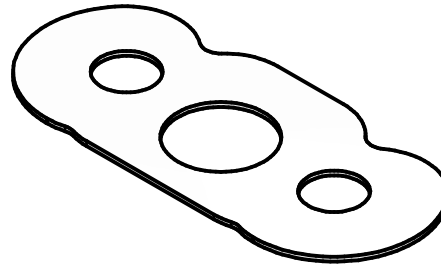


PART: GG
QTY: 2

NOTE:
THREADED HOLES
ON ROD ENDS



PART: HH
QTY: 1



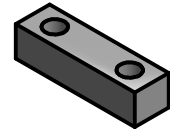
PART: JJ
QTY: 2



PART: KK
QTY: 4



PART: MM
TwoUp ONLY
QTY: 2



PART: M
QTY: 2



PART: PP
TYPE: R6-2RS BALL BEARING
QTY: 2



PART: QQ
QTY: 1
SCALE: 2:1



PART: HW18
TYPE: 8-32 X 1/8" SET SCREW
QTY: 2



QU-BD

4200 Hoerner Rd
Little Rock, AR 72209-2416

TITLE

Base Assembly Instructions

DRAWN BY: Jeepguy42

SIZE A

REV 0

DRAWING DATE: 12/31/2013


SHEET 3 OF 11



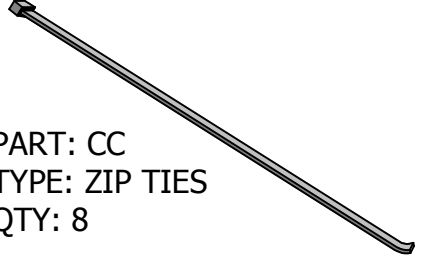
PART: HW02
TYPE: 3/8"-16 X 3/4"
OneUp ONLY
QTY: 2




PART: HW03
TYPE: 3/8"-16 X 1"
TwoUp ONLY
QTY: 2



PART: HW12
TYPE: MEDIUM SPRING
QTY: 4



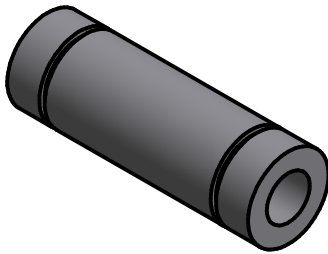
PART: CC
TYPE: ZIP TIES
QTY: 8



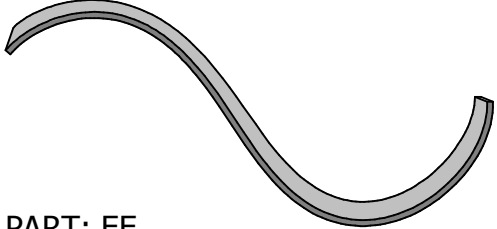
PART: HW05
TYPE: M3 X 8 SC HD
QTY: 8



PART: HW09
TYPE: M4 X 8 SC HD
QTY: 2



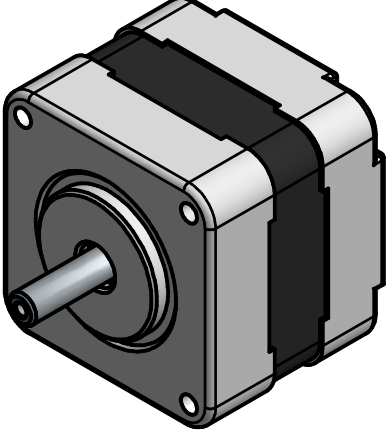
PART: NN
TYPE: LM8LUU
QTY: 2



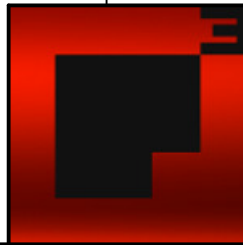
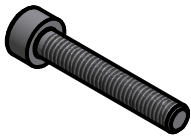
PART: EE
TYPE: STRAIGHT TOOTHED BELT
QTY: 1




PART: HW10
TYPE: M4 X 16 SOCKET HD
QTY: 4



PART: AA
TYPE: NEMA 17 STEPPER MOTOR
QTY: 2

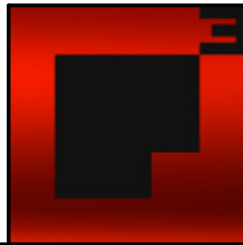
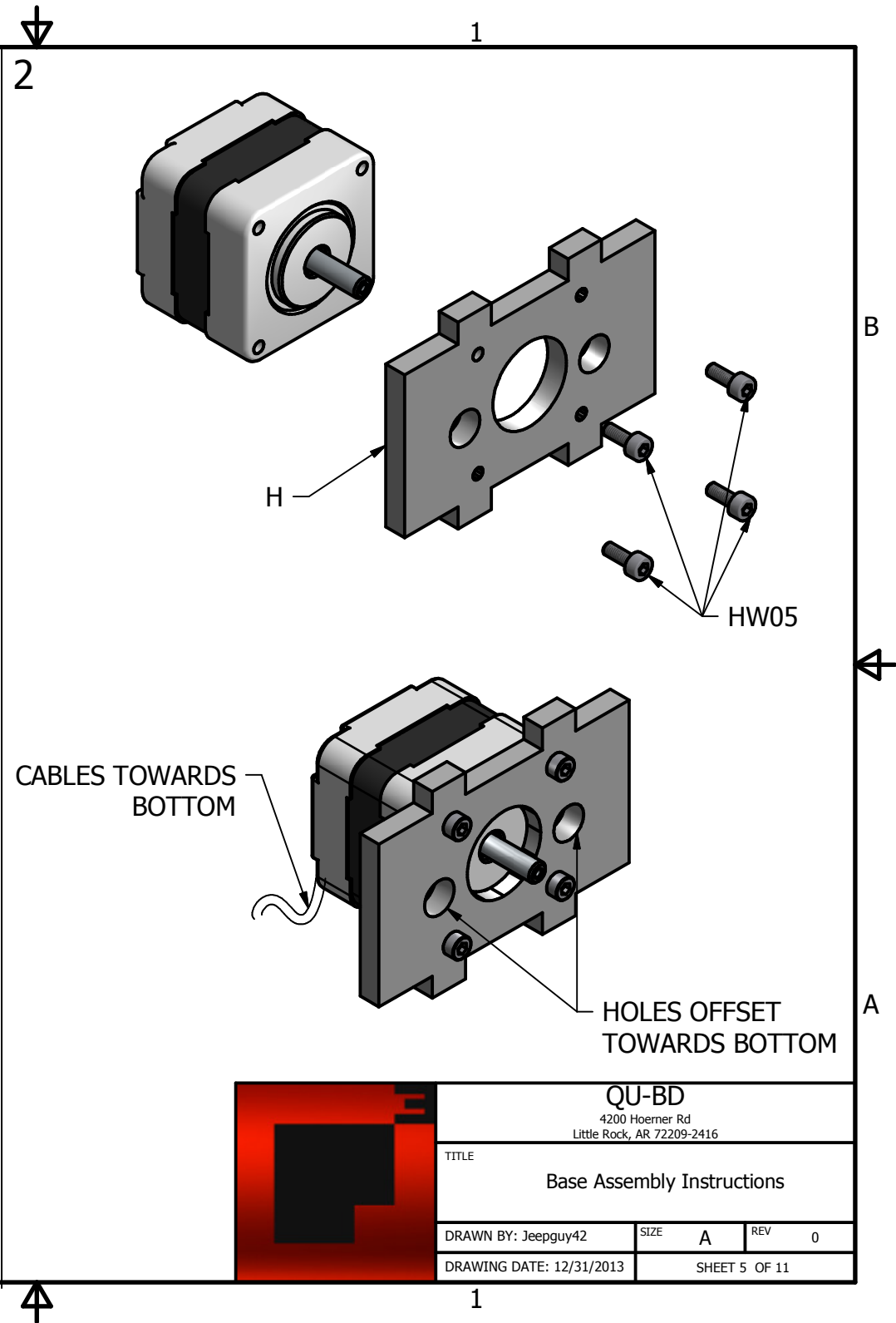
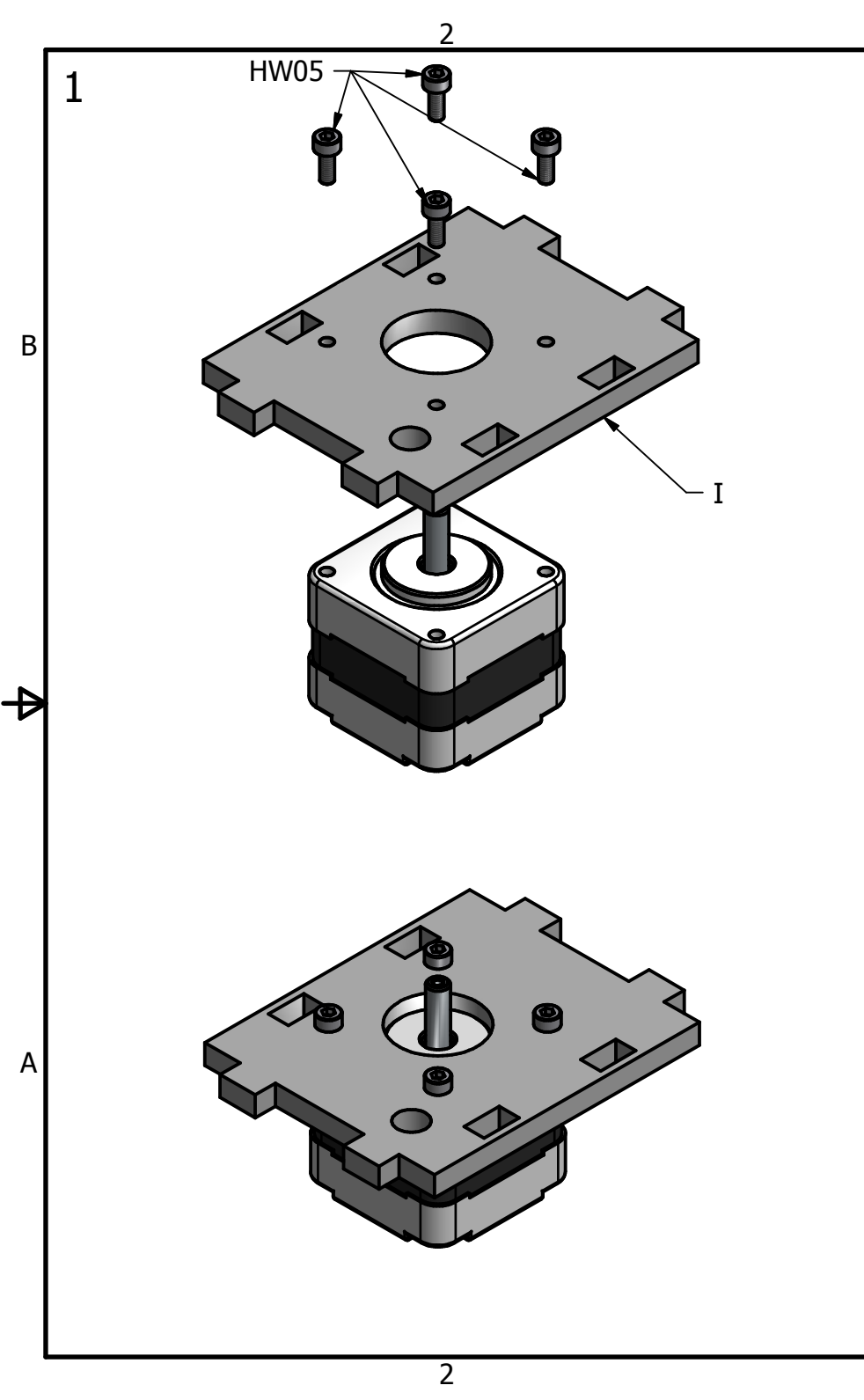



PART: HW11
TYPE: M4 X 25 SOCKET HD
QTY: 4



PART: HW17
TYPE: M4 HEX NUT
QTY: 4

| | | | |
|---|-----------|---------------|--|
| QU-BD | | | |
| 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
| TITLE Base Assembly Instructions | | | |
| DRAWN BY: Jeepguy42 | SIZE A | REV 0 | |
| DRAWING DATE: 12/31/2013 | | SHEET 4 OF 11 | |



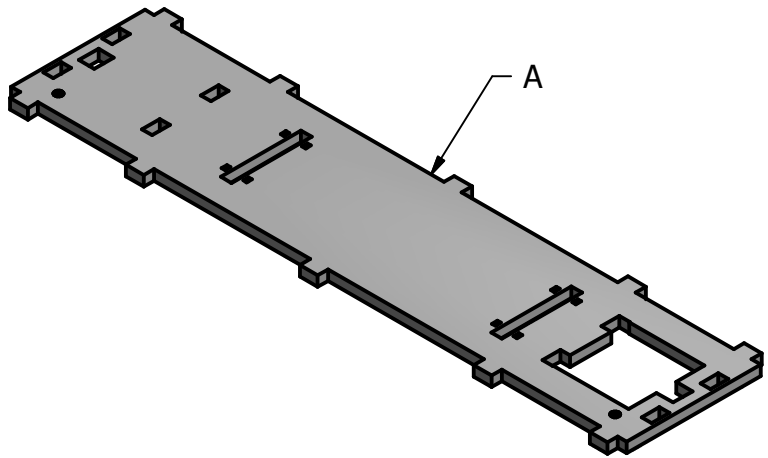
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|---|---------------|----------|--|
| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | | |
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2

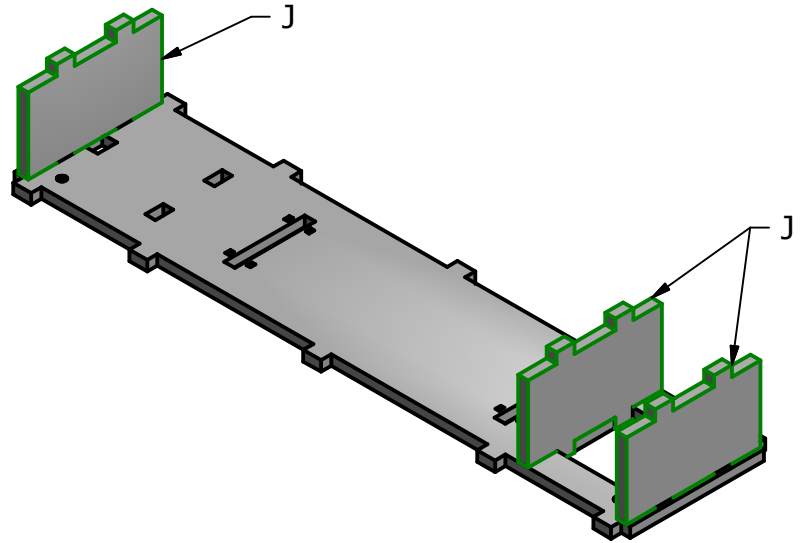


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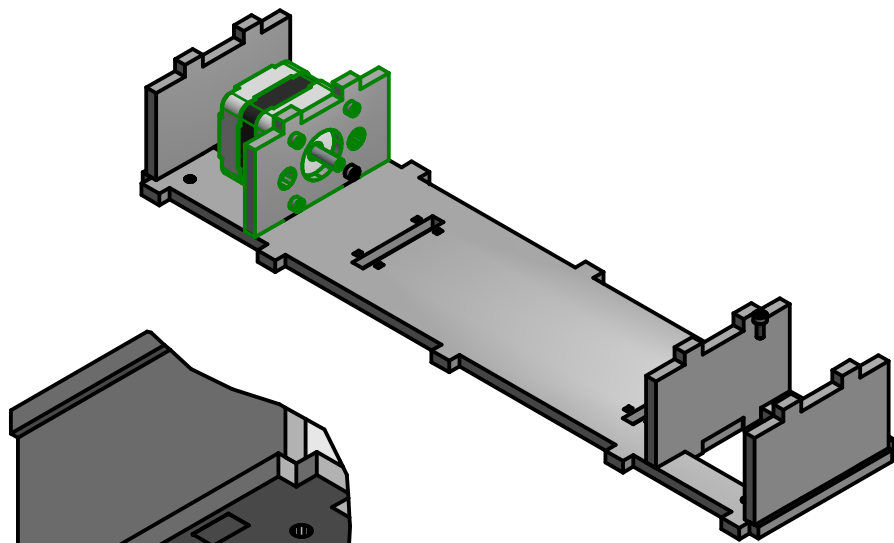
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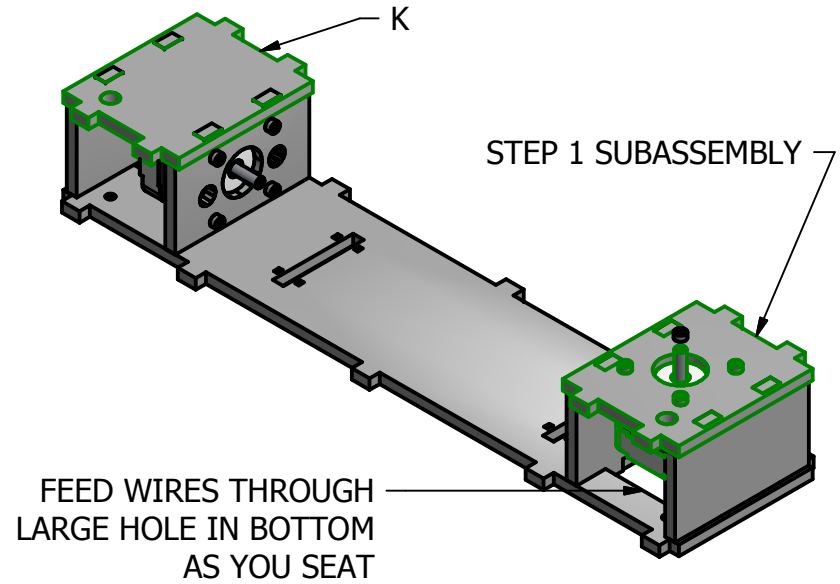
4



5



6



ENSURE WIRES FROM STEPPER MOTOR ARE PULLED DOWN AND OUT THROUGH HOLE IN PART A



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2



1

B

B

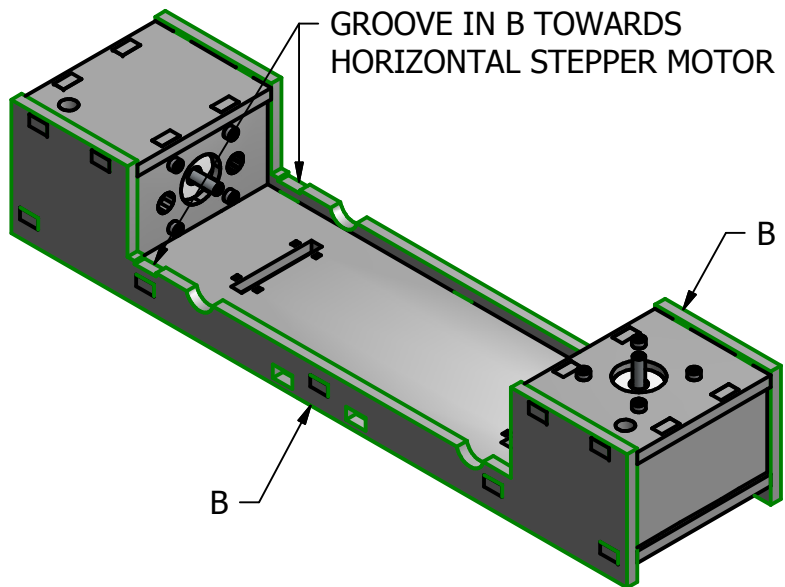
A

A

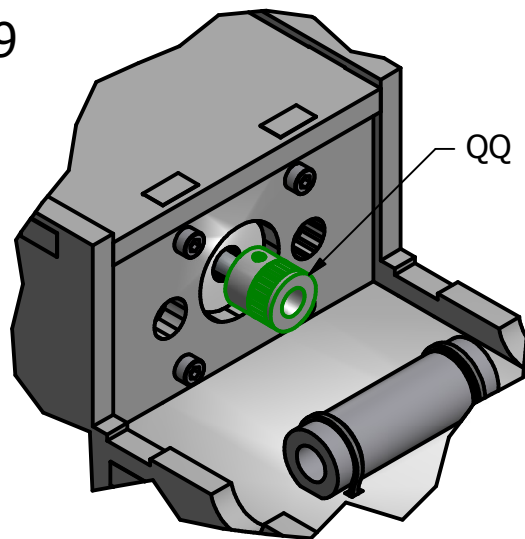
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1

7

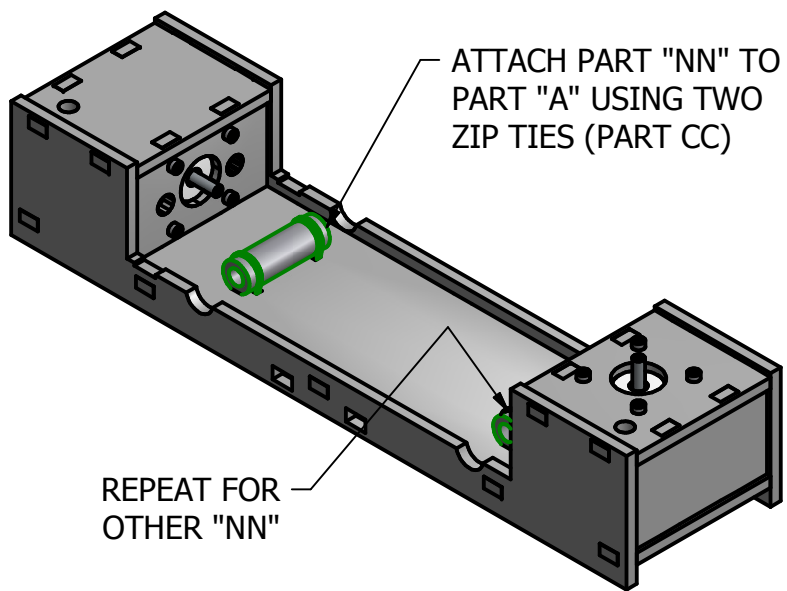


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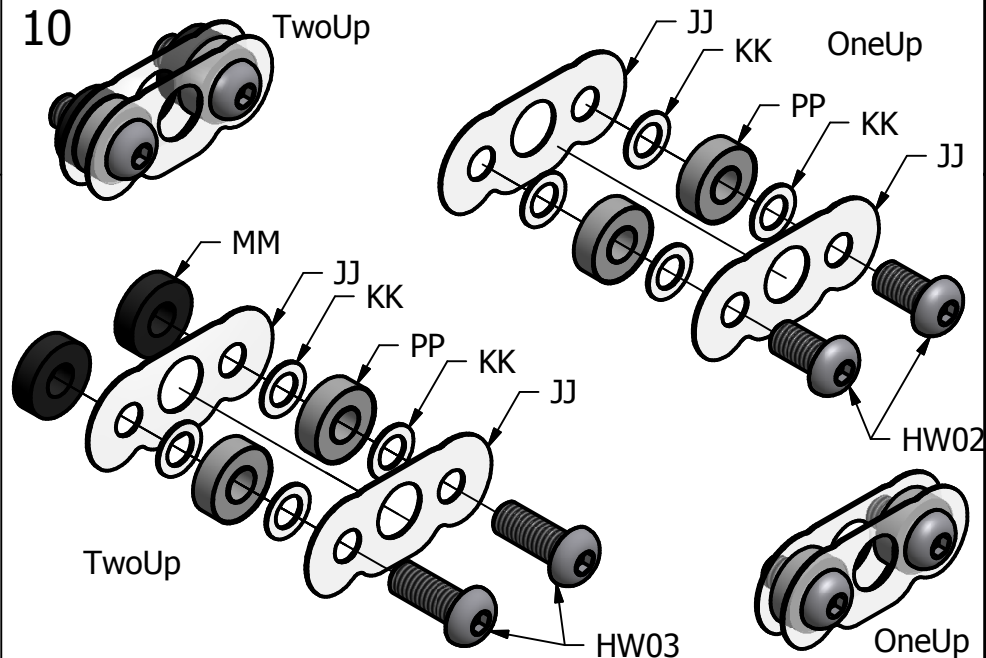
FASTEN PART "QQ" TO THE HORIZONTAL STEPPER MOTOR USING TWO #8-32 X 1/8" SET SCREWS (HW18). DO NOT TIGHTEN COMPLETELY AT THIS POINT

8



DO NOT OVER TIGHTEN ZIPTIES AS THEY CAN BREAK THROUGH THE MDF SLOTS AT THIS CONNECTION POINT

10



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REV 0

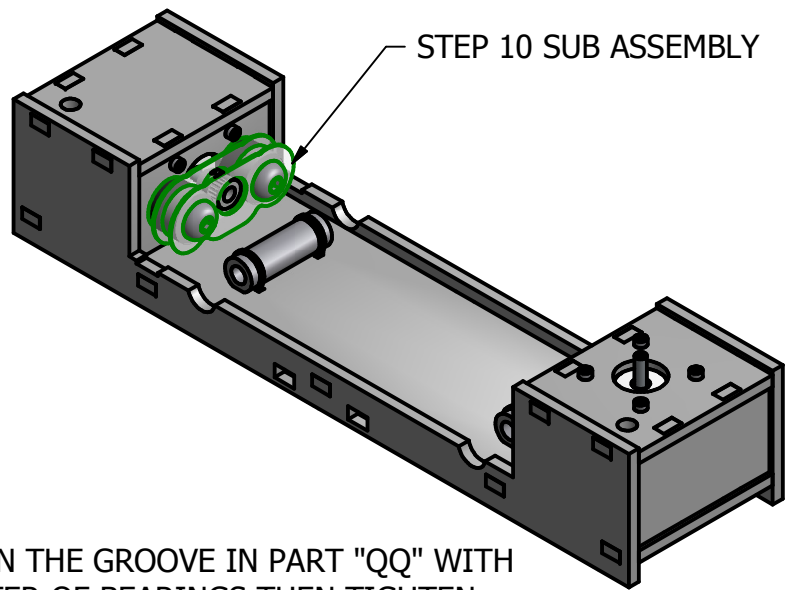
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2

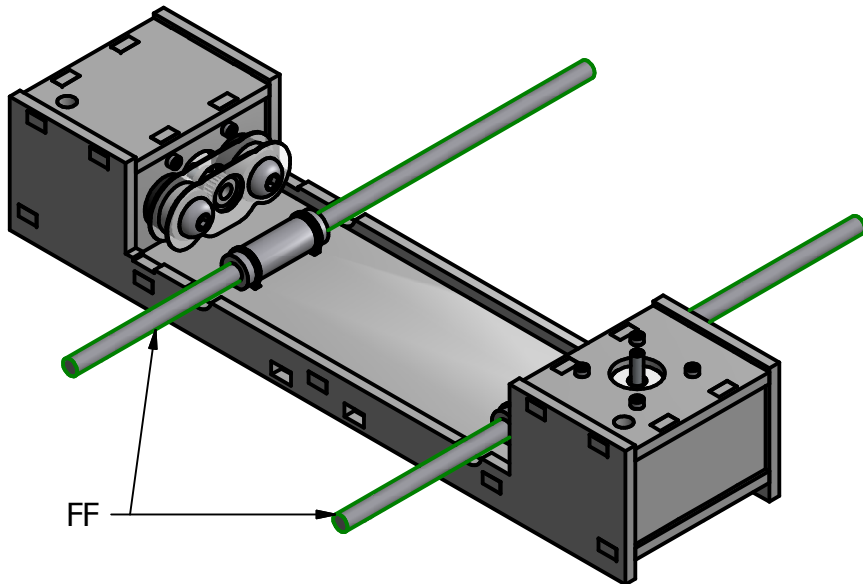
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11

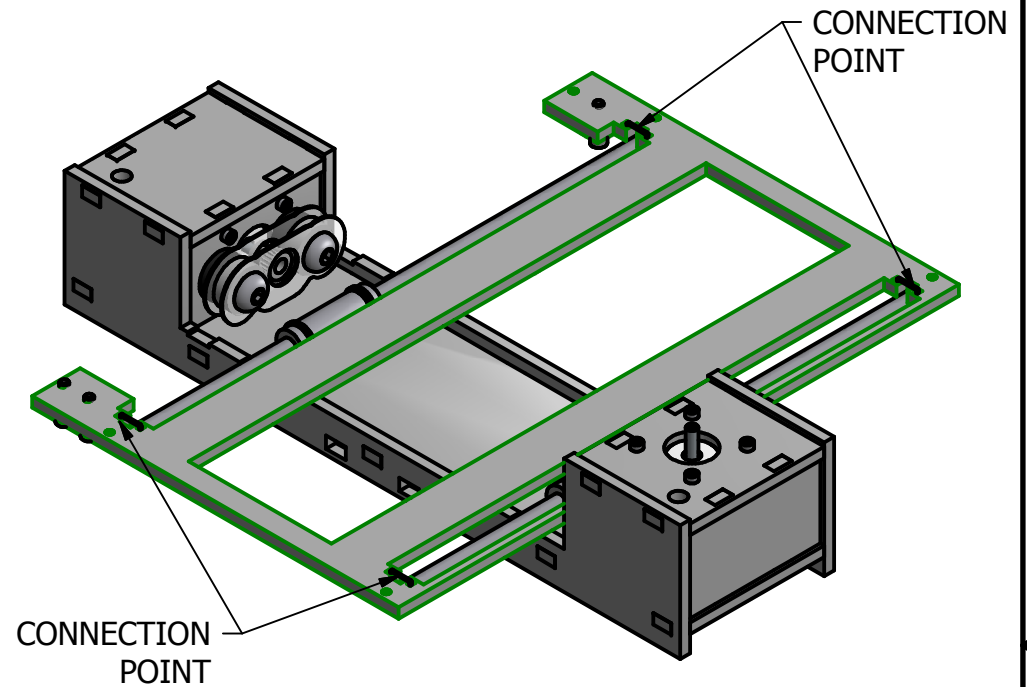


ALIGN THE GROOVE IN PART "QQ" WITH CENTER OF BEARINGS THEN TIGHTEN COMPLETELY.

12



13



ATTACH PART "C" TO PART "FF" USING FOUR ZIP TIES (PART CC). PART "C" SHOULD BE ON TOP OF THE RODS AND THE RODS SHOULD SIT INSIDE THE SLOTS IN PART "C". DO NOT OVER TIGHTEN ZIPTIES AS THEY CAN BREAK THROUGH THE MDF SLOTS AT THIS CONNECTION POINT. ENSURE THE OPENING IS TOWARDS THE HORIZONTAL STEPPER MOTOR



QU-BD

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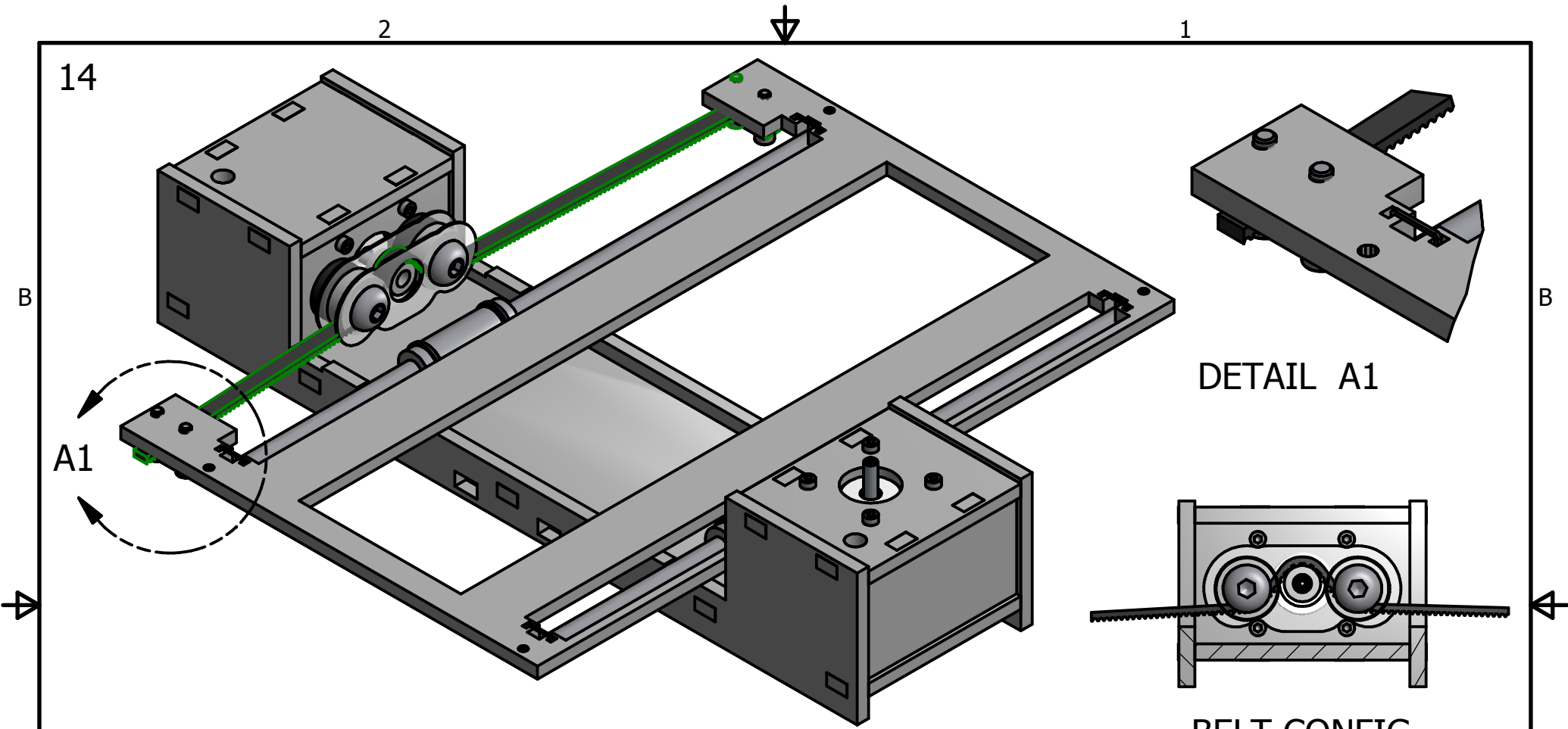
SIZE

A

REV 0

DRAWING DATE: 12/31/2013

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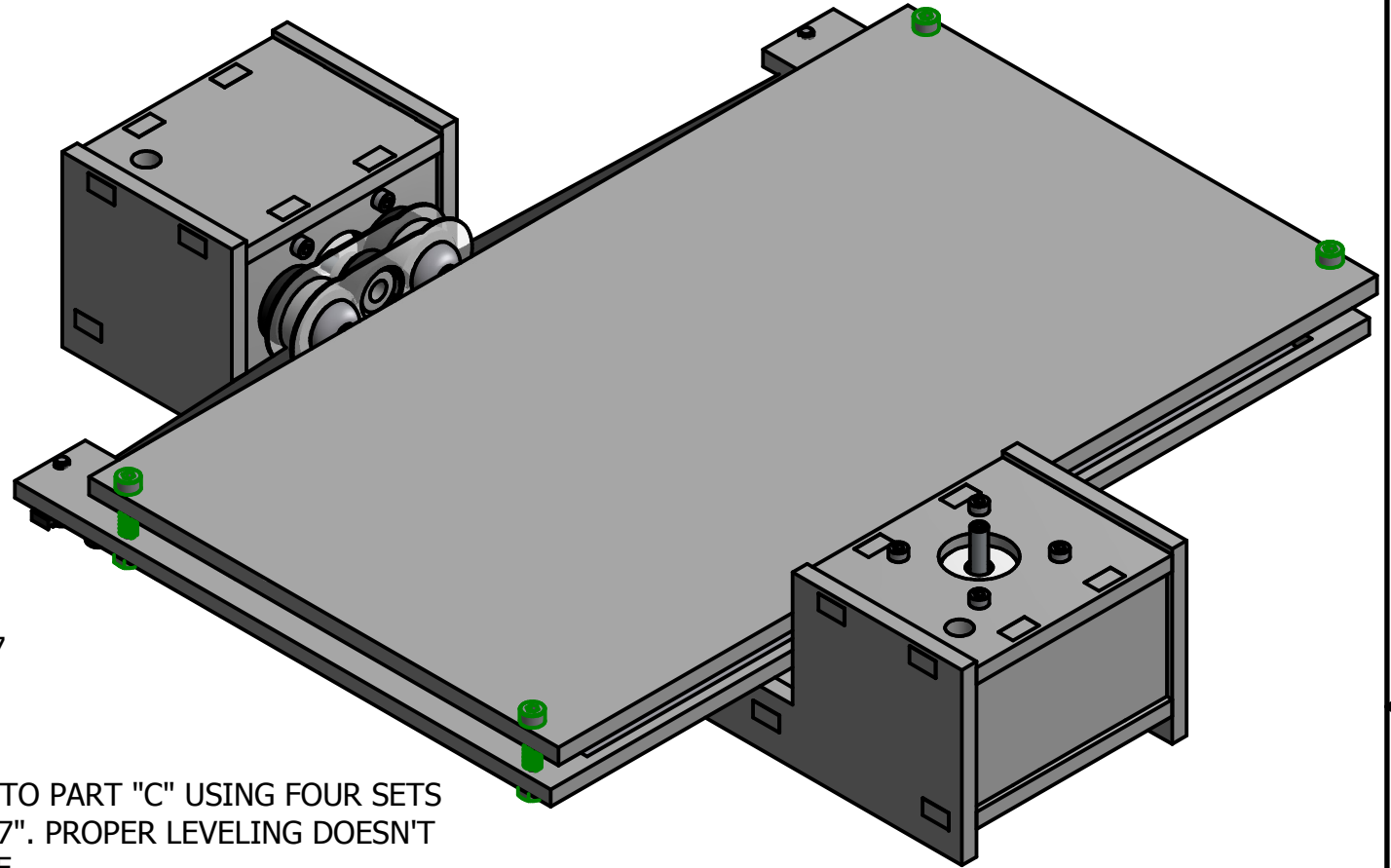
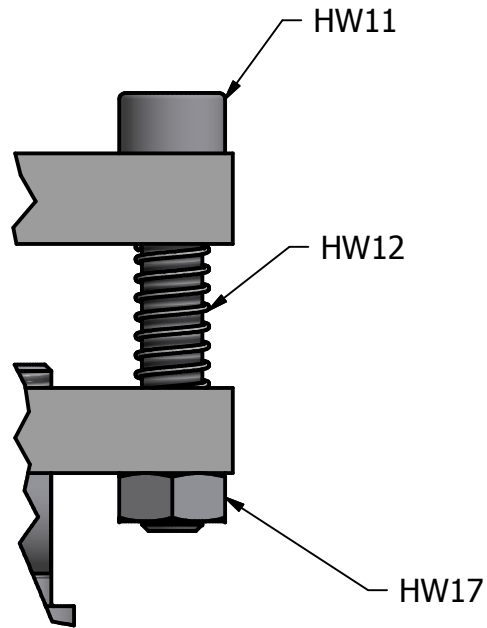


RUN BELT (PART DD) THROUGH BEARINGS AND ALUMINUM PULLEY AS SHOWN IN THE BELT CONFIG. ENSURE THE TEETH IN BELT ARE FACING DOWN. TO ATTACH THE BELT TO PART "C", YOU WILL NEED TWO PART "M" AND FOUR PART "HW10". PART "HW10" SHOULD BE FASTENED IN FROM THE BOTTOM OF PART "C". PUT ONE SIDE OF THE TOOTHED BELT IN PLACE UNDER ONE OF THE CLAMPS (PART M) AND TIGHTEN (SEE DETAIL A1). NEXT PULL THE OTHER SIDE OF THE BELT TOWARDS THE OTHER CLAMP. PULL ANY SLACK OUT OF THE FASTENED SIDE UNTIL TIGHT. PULL THE REMAINDER OF THE BELT AND PLACE UNDER THE SECOND CLAMP. PULL BELT TIGHT WHILE CLAMPING (THIS WILL ENSURE ACCURATE Y-AXIS MOVEMENT).



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ATTACH BUILD PLATFORM (PART D) TO PART "C" USING FOUR SETS OF PART "HW11","HW12" AND "HW17". PROPER LEVELING DOESN'T HAVE TO BE ACHIEVED AT THIS TIME.

TO LEVEL EITHER:

A.) USE BUBBLE LEVEL AND MAKE PERFECTLY FLAT IN BOTH X AND Y DIRECTIONS

B.) AFTER GANTRY IS ASSEMBLED AND INSTALLED, LOWER THE GANTRY AND LOCATE EXTRUDER NOZZLE TO ONE CORNER OF THE BUILD PLATFORM AND MOVE THE PLATFORM UP/DOWN TO NOZZELS LOWEST POINT (NOZZLE SHOULD JUST TOUCH THE PLATFORM). THEN MOVE THE EXTRUDER NOZZLE TO THE NEXT CORNER AND BRING UP/DOWN TO THE NOZZLE. REPEAT FOR ALL CORNERS. THIS WILL NOT LEVEL THE BED TO THE GROUND BUT LEVEL IT TO THE EXTRUDER WHICH IS MORE RELIABLE.



QU-BD

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A

REV 0

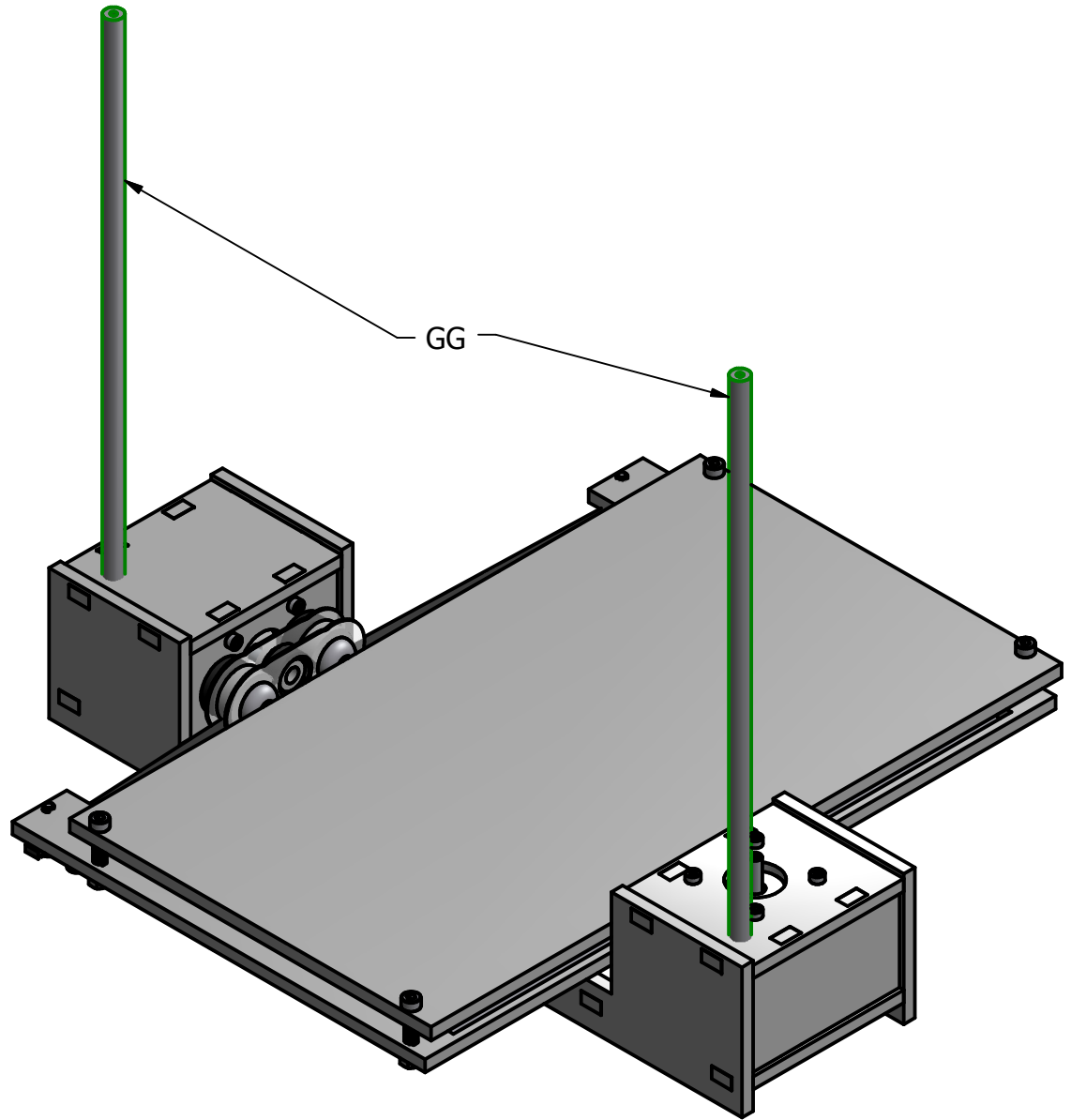
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16

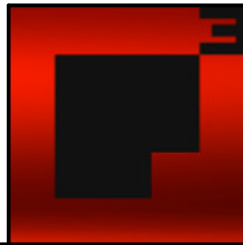
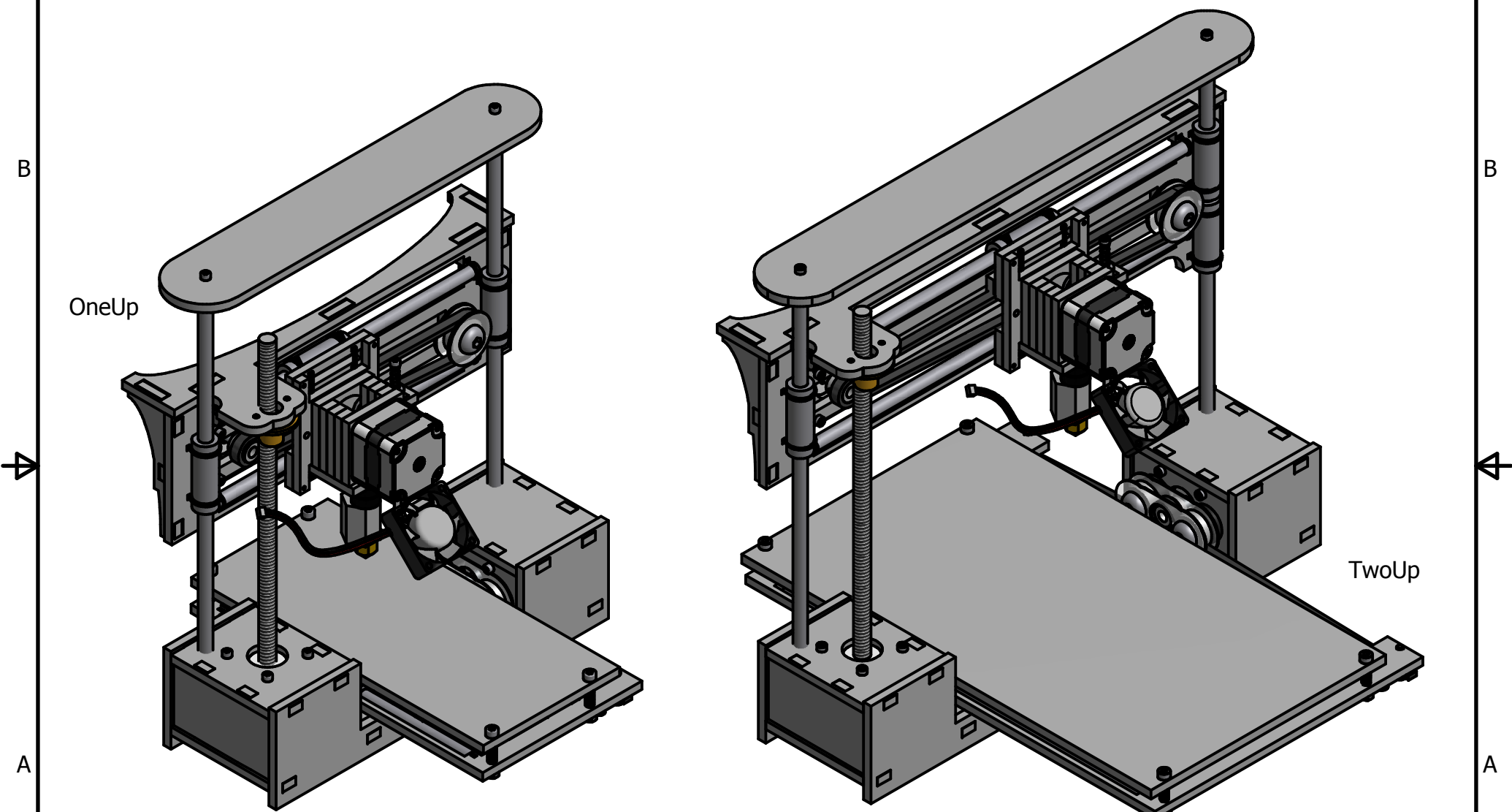
THE VERTICAL RODS (PART GG) HAVE THREADED HOLES ON BOTH ENDS. THES SLIDE INTO THE TWO HOLE ON PARTS I & K. THEY SHOULD SEAT ALL THE WAY DOWN ONTO PART A AND ARE SECURED USING TWO M4X8 (HW09) SCREWS THROUGH THE BOTTOM OF PART A. THE TOP TWO HOLES WILL REMAIN OPEN UNTIL THE X-AXIS GANTRY IS ATTACHED.

THIS COMPLETES THE BASE ASSEMBLY OF THE TwoUp 3D PRINTER.



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OneUp and TwoUp Final Assembly Instructions



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| TITLE FULL PRINTER INSTRUCTIONS/BOARD PIN LABELS | | | |
| DRAWN BY: Jeepguy42 | SIZE | A | REV |
| DRAWING DATE: 1/10/2014 | SHEET 1 OF 5 | | |

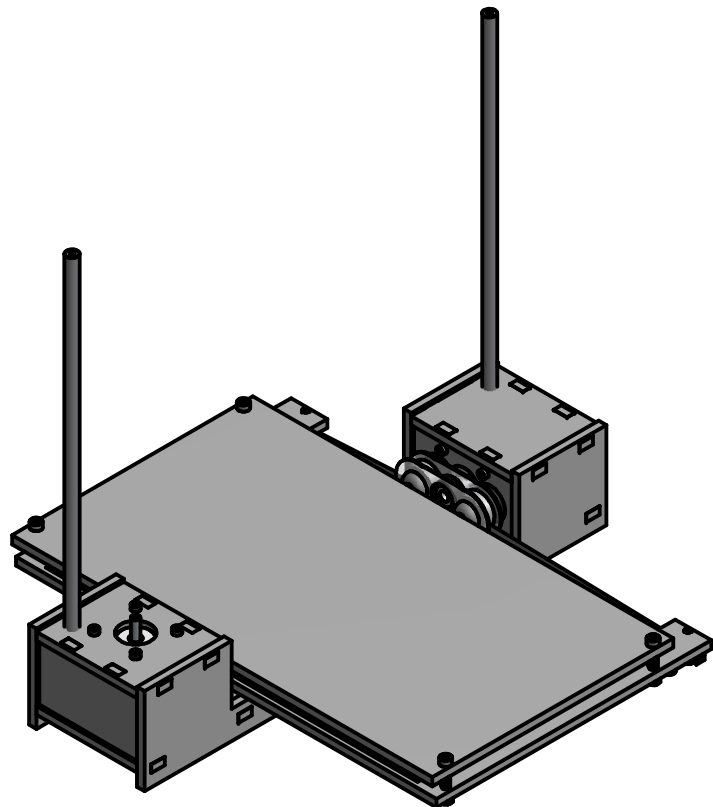
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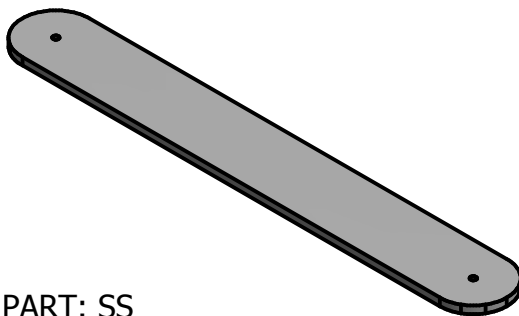
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B

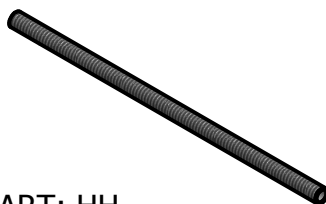
B



Base Assembly
QTY: 1



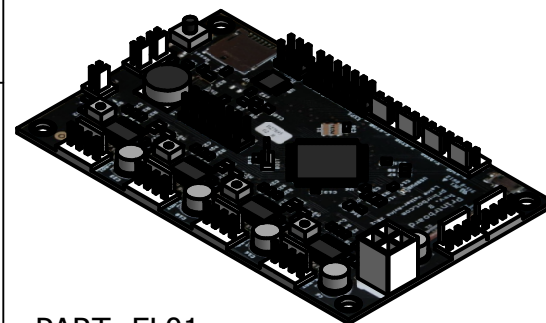
PART: SS
QTY: 1



PART: HH
Size: 3/8"-12 AMCE SCREW
QTY: 1



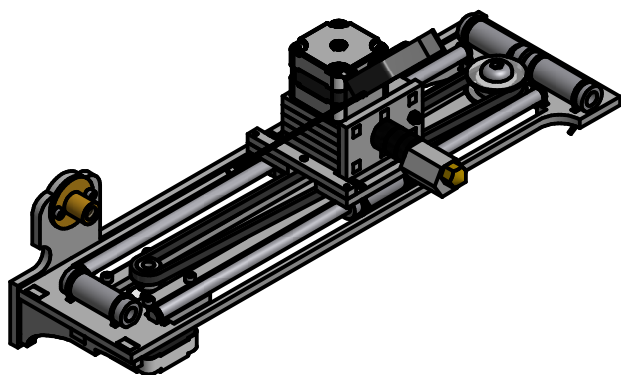
PART: HW05
TYPE: M3 X 8 SCKT HD
QTY: 2



PART: EL01
TYPE: Printboard Rev D
QTY: 1

A

A



Gantry/Extruder Assembly
QTY: 1

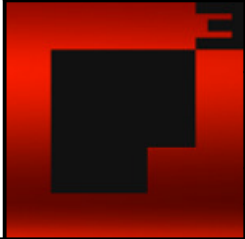
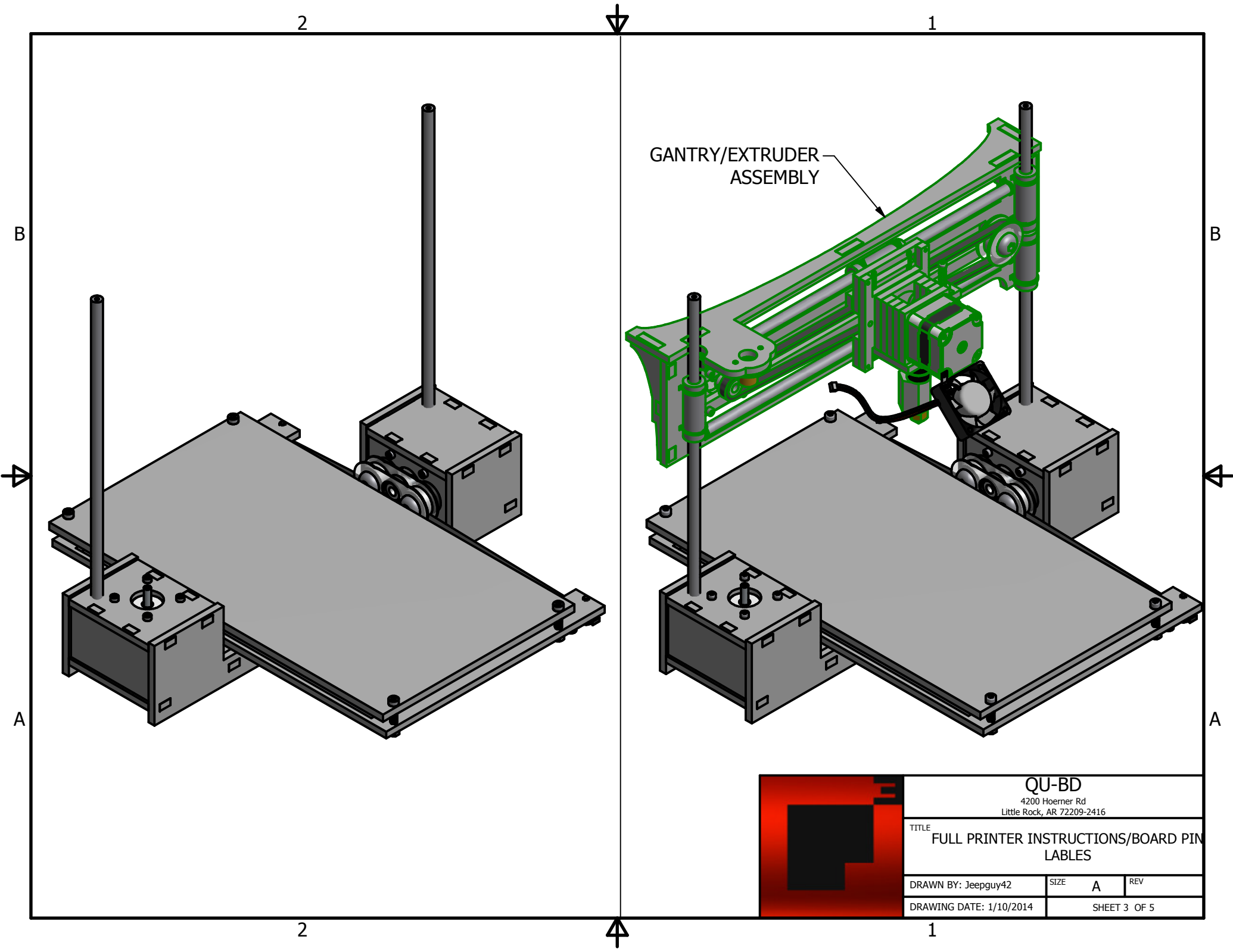
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1



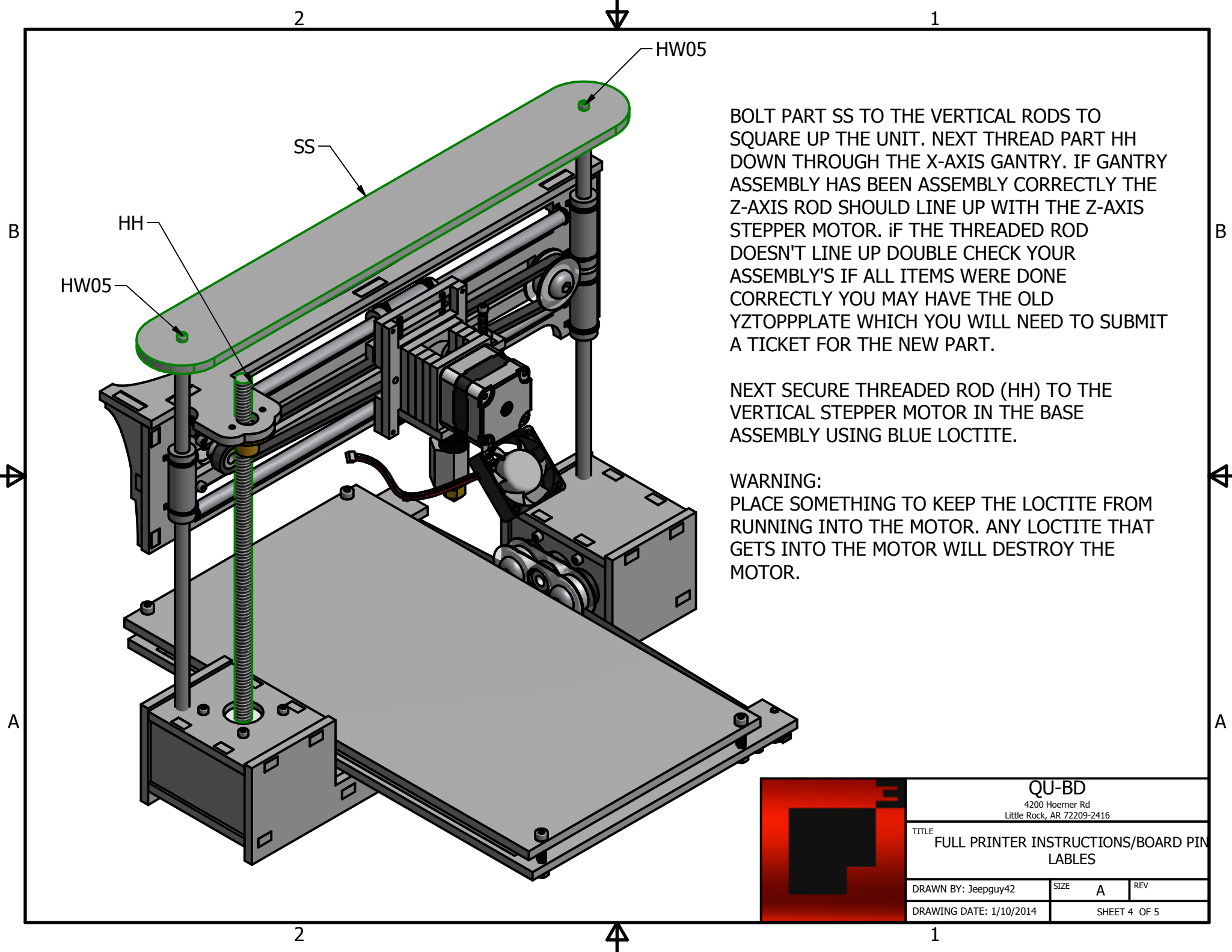
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| QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | |
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2

1



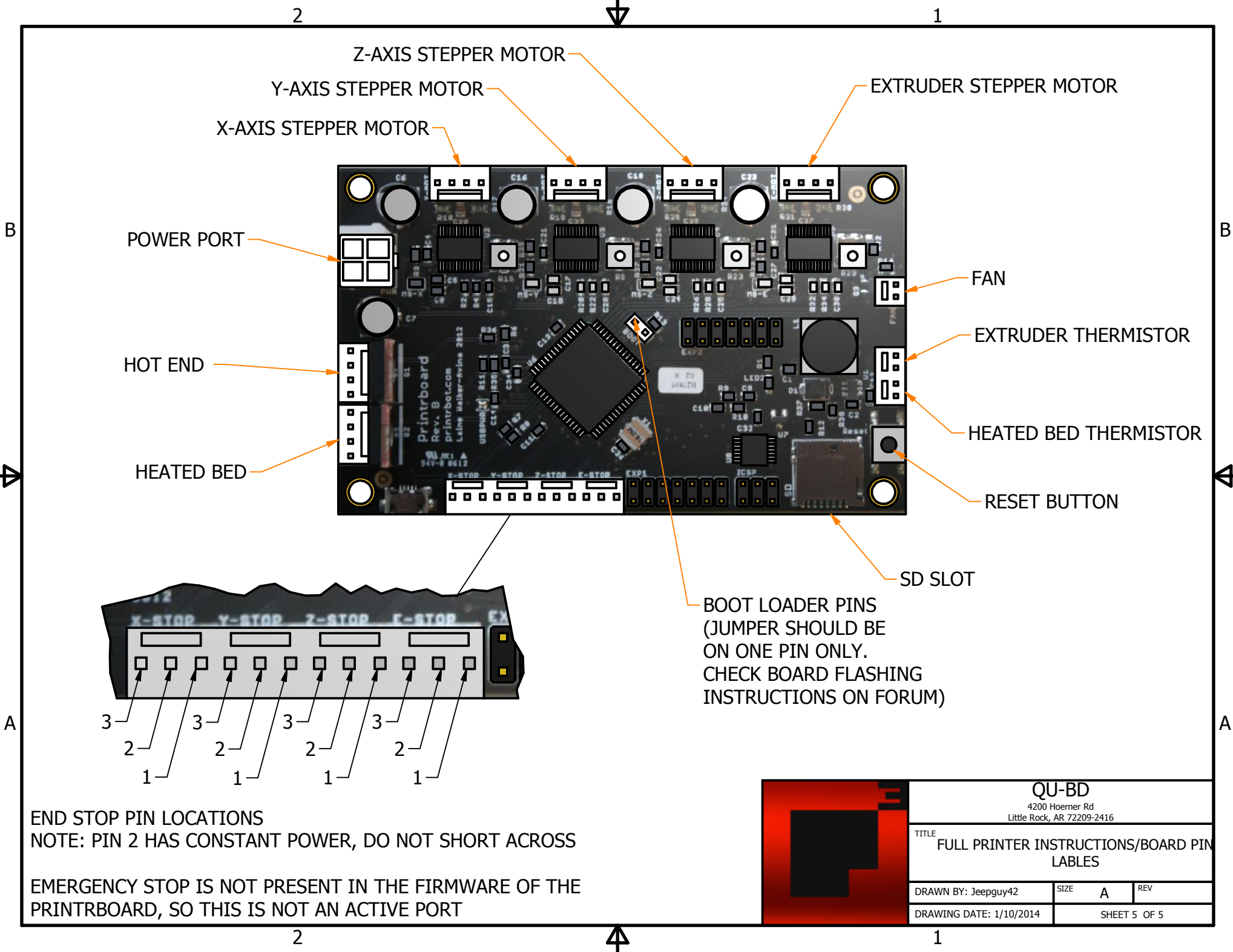
BOLT PART SS TO THE VERTICAL RODS TO SQUARE UP THE UNIT. NEXT THREAD PART HH DOWN THROUGH THE X-AXIS GANTRY. IF GANTRY ASSEMBLY HAS BEEN ASSEMBLY CORRECTLY THE Z-AXIS ROD SHOULD LINE UP WITH THE Z-AXIS STEPPER MOTOR. IF THE THREADED ROD DOESN'T LINE UP DOUBLE CHECK YOUR ASSEMBLY'S IF ALL ITEMS WERE DONE CORRECTLY YOU MAY HAVE THE OLD YZTOPPLATE WHICH YOU WILL NEED TO SUBMIT A TICKET FOR THE NEW PART.

NEXT SECURE THREADED ROD (HH) TO THE VERTICAL STEPPER MOTOR IN THE BASE ASSEMBLY USING BLUE LOCTITE.

WARNING:
PLACE SOMETHING TO KEEP THE LOCTITE FROM RUNNING INTO THE MOTOR. ANY LOCTITE THAT GETS INTO THE MOTOR WILL DESTROY THE MOTOR.



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Z-AXIS STEPPER MOTOR
 Y-AXIS STEPPER MOTOR
 X-AXIS STEPPER MOTOR
 EXTRUDER STEPPER MOTOR

POWER PORT

HOT END

HEATED BED

FAN

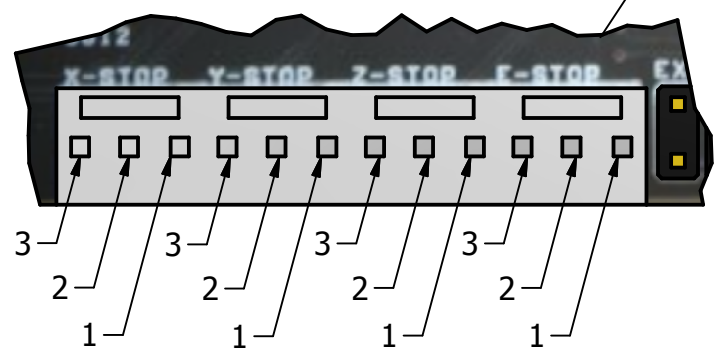
EXTRUDER THERMISTOR

HEATED BED THERMISTOR

RESET BUTTON

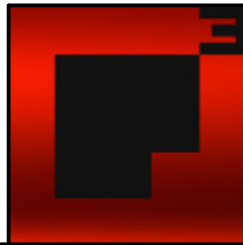
SD SLOT

BOOT LOADER PINS
 (JUMPER SHOULD BE ON ONE PIN ONLY.
 CHECK BOARD FLASHING INSTRUCTIONS ON FORUM)



END STOP PIN LOCATIONS
 NOTE: PIN 2 HAS CONSTANT POWER, DO NOT SHORT ACROSS

EMERGENCY STOP IS NOT PRESENT IN THE FIRMWARE OF THE PRINTRBOARD, SO THIS IS NOT AN ACTIVE PORT




| | | |
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Special Thanks

Special thanks to the active members who assisted in critiquing the instructions sheets and making them as perfect as we could. Thank you guys for the suggestions and opinions. I hope that these instructons help everyone assembly their printers with as little pain and frustrations as possible.

MacAttack, Dpharris, Toybuilder, laird, tth, drs, Jwag, jqsteward, Kasss Gnarl, Winterkill, and all those who's name I missed.

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|---|--|---|-----|
|  | QU-BD 4200 Hoerner Rd Little Rock, AR 72209-2416 | | |
| | TITLE | | |
| DRAWN BY: JasonDsktop | SIZE | A | REV |
| DRAWING DATE: 1/20/2014 | SHEET 1 OF 1 | | |