


Build Plate Assembly		
	Created by: Joshua Vasquez	last edited: 1/14/2020
	SCALE: 1:2	SHEET 1 OF 11

2

1

Cut a length of 16 AWG wire to 1m. Strip the ends and crimp a ring terminal to either end.

B

B

A

A

Grounding Wire Fabrication



Created by:
Joshua Vasquez

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SCALE: 1:2

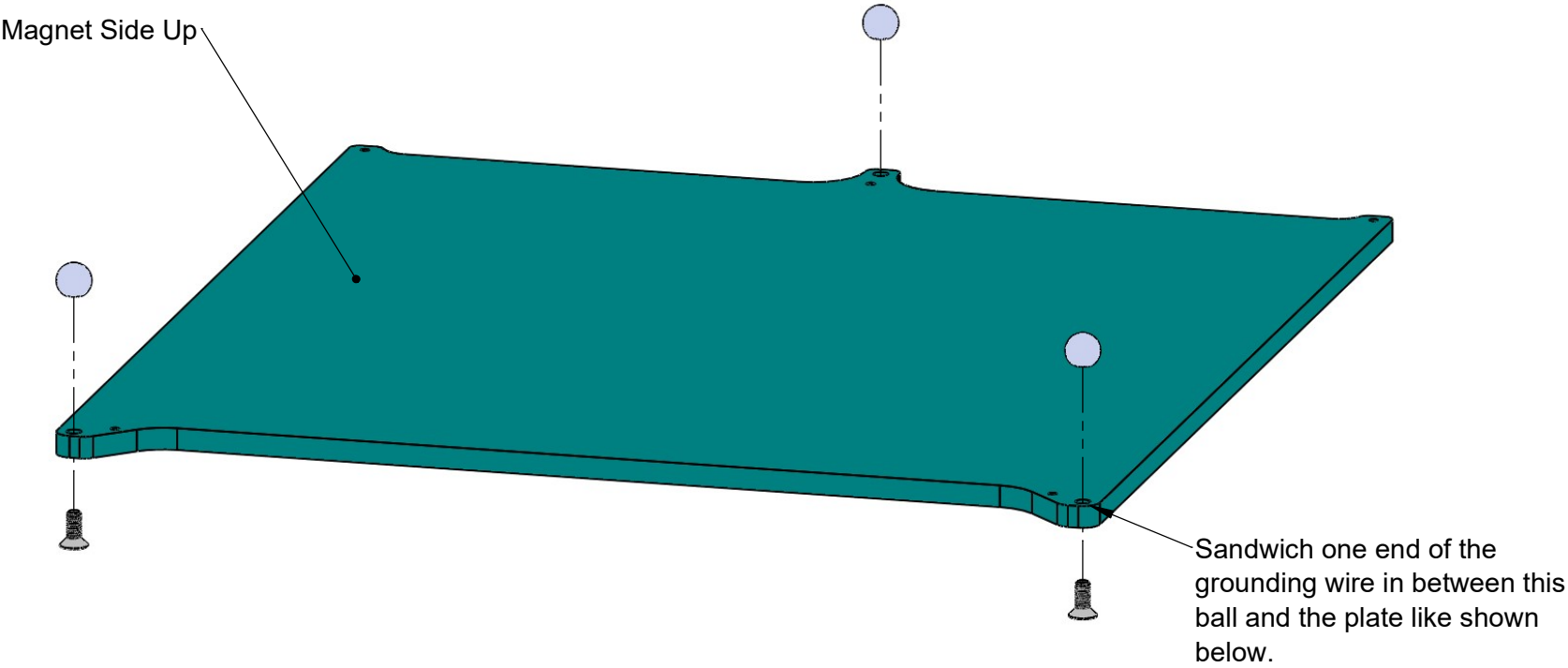
SHEET 2 OF 11

2

1

Note: the aluminum bed plate is delicate and very very flat! For the next few steps, work with the bed plate on top of a piece of cardboard to prevent it from resting directly on a table.

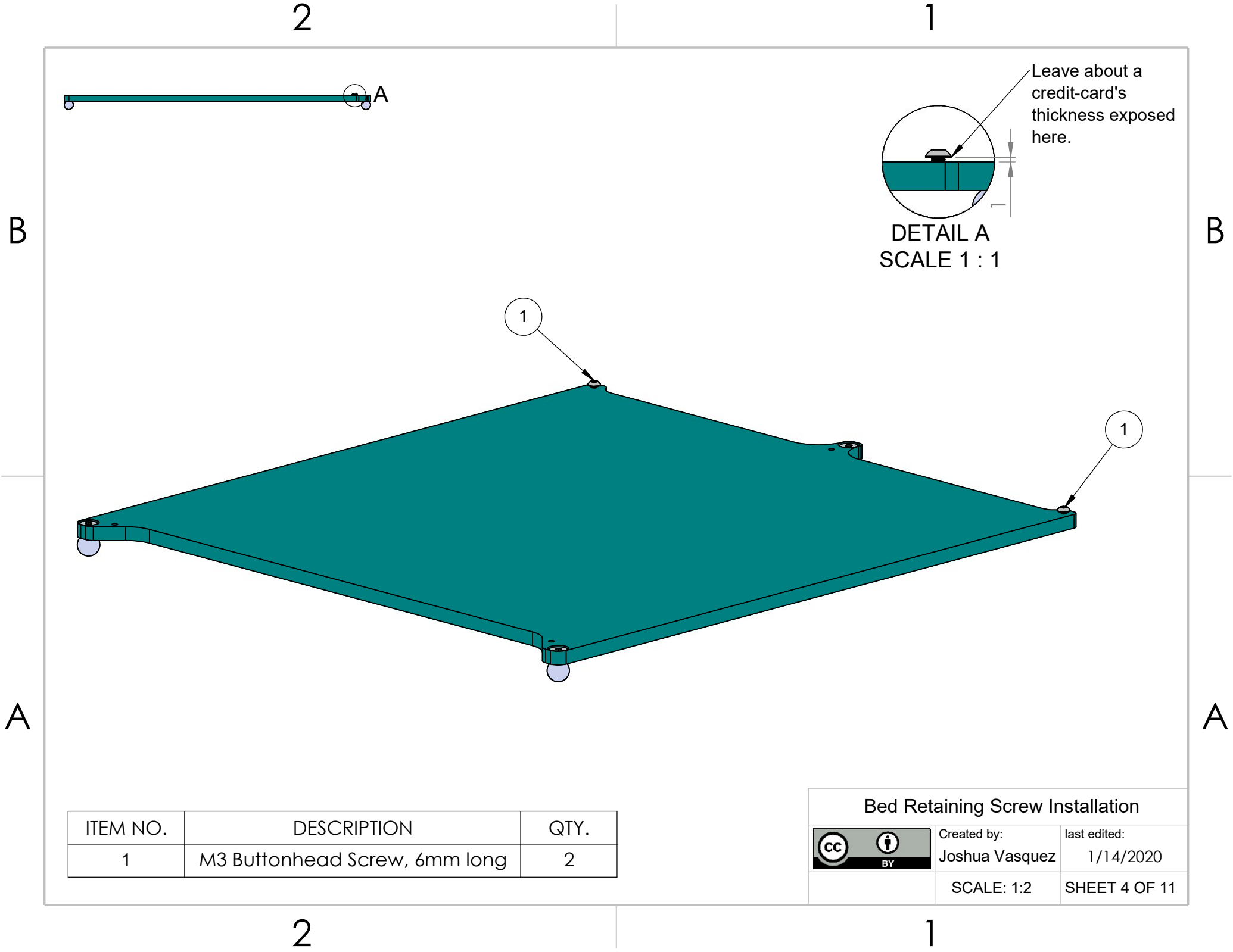
Note: the aluminum bed plate also contains an array of high-strength high-temperature magnets. Keep small magnetic objects like screws and screwdrivers away from these magnets during assembly.



TODO: image here

ITEM NO.	DESCRIPTION	QTY.
1	Bed Plate	1
2	10mm steel balls with M4 threads	3
3	M4 Flathead screw, 10mm long	3

Kinematic Ball Installation		
	Created by: Joshua Vasquez	last edited: 1/14/2020
	SCALE: 1:2	SHEET 3 OF 11



ITEM NO.	DESCRIPTION	QTY.
1	M3 Buttonhead Screw, 6mm long	2

Bed Retaining Screw Installation		
	Created by: Joshua Vasquez	last edited: 1/14/2020
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2

1

Grip a Solder Terminal Lug firmly with pliers at about the halfway point. Then bend it about 90 degrees with your finger. Make 3 pieces.

B




B

A

A

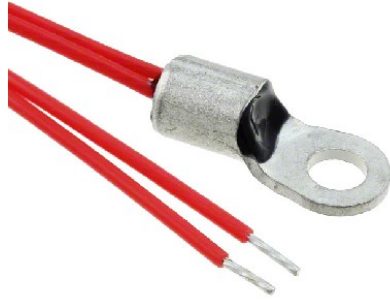
2

1

Spring Anchor Creation		
	Created by: Joshua Vasquez	last edited: 1/14/2020
	SCALE: 1:2	SHEET 5 OF 11


We recommend that you use the NTC Ring Lug Thermistor for measuring bed temperature instead of the Heated Pad's built-in thermistor. We will reuse the wires from the heated pad, however.

First cut the two thin red wires from the Heated Pad at the tip of the bed. Then solder them to the two exposed leads of the Ring Lug Thermistor. Insulate the connections with heat shrink tubing.



This Ring Lug Thermistor will be screwed into the bed in the next step.

Image Credit: Digikey

Thermistor Wiring		
	Created by: Joshua Vasquez	last edited: 1/14/2020
	SCALE: 1:2	SHEET 6 OF 11

2

1

Note the orientation of the thermistor.
Also note that wires are not shown here.

B

B

Magnet Side Up

DETAIL B
SCALE 1 : 1

C

B

D

DETAIL C
SCALE 1 : 1

DETAIL D
SCALE 1 : 1

A

ITEM NO.	DESCRIPTION	QTY.
3	M3 Buttonhead Screw, 6mm long	3
5	Bent M3 Solder Terminal Lug	3
6	Ring Lug Thermistor	1

Spring Anchor Installation



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SCALE: 1:2

SHEET 7 OF 11

2

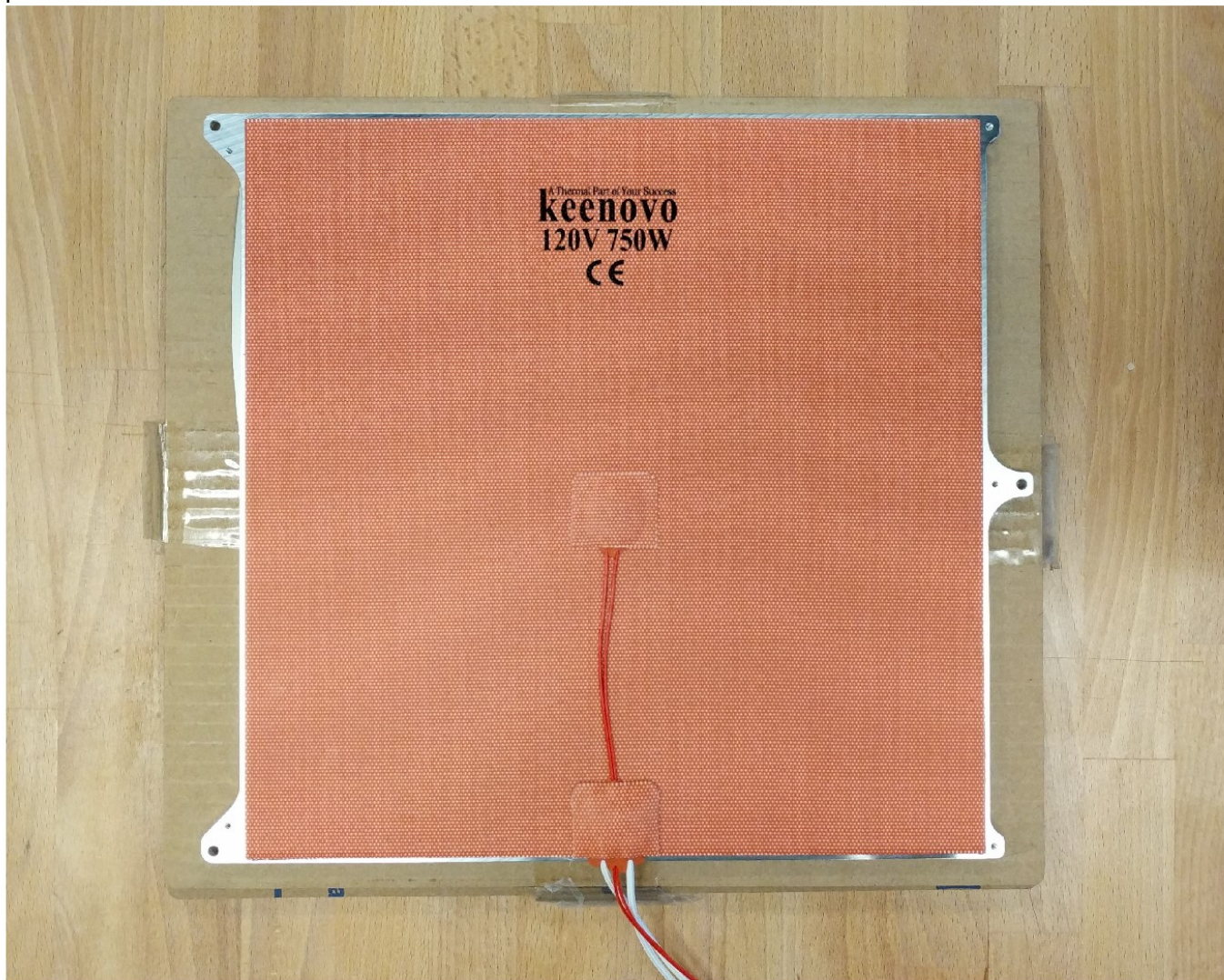
1

2

1

Install the Heated Pad by peeling away the sticky layer and placing it on top of the magnet side.

Note the orientation of the plate! The wires will stick out from the side. Also note that there will be a border on all sides since the pad is 300x300mm and the plate is 305x305mm.



Heated Pad Installation



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SCALE: 1:2

SHEET 8 OF 11

(In this image the built-in thermistor was used.)

2

1

2


1

Collect the thermistor wires, grounding wire, and bed heater wires into once bunch. Tape the far ends together and run the bunch through the cable sleeve. Zip tie or heat shrink the ends to prevent fraying.

TODO: image here

TODO: image here

Crimp a ring terminal to each white bed heater wire as shown below.

Bed Wire Management		
	Created by: Joshua Vasquez	last edited: 1/14/2020
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2

1

Create 3 Springs from the spring stock by cutting it to length and folding over the first loop with pliers. These springs should measure between 16 and 18mm center-loop-to-center-loop



Note: this extension spring stock is not to be confused with the Spring Guide, which has a smaller diameter.

ITEM NO.	DESCRIPTION	QTY.
1	Extension Spring Stock (McMaster-Carr: 9665K12)	60mm

Bed Spring Fabrication



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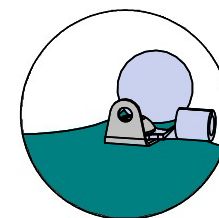
SCALE: 1:2

SHEET 10 OF 11

2

1

Loop one end of each spring through the exposed hoop of each spring anchor.
Feel free to squeeze the loop closed with a set of pliers such that it doesn't fall out.



DETAIL E
SCALE 1 : 1



E

F

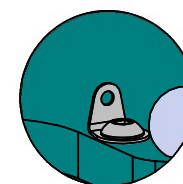


DETAIL F
SCALE 1 : 1

The bed is complete! Set it aside for now.



G



DETAIL G
SCALE 1 : 1

B

A

2

1

Bed Spring Installation



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SCALE: 1:2

SHEET 11 OF 11