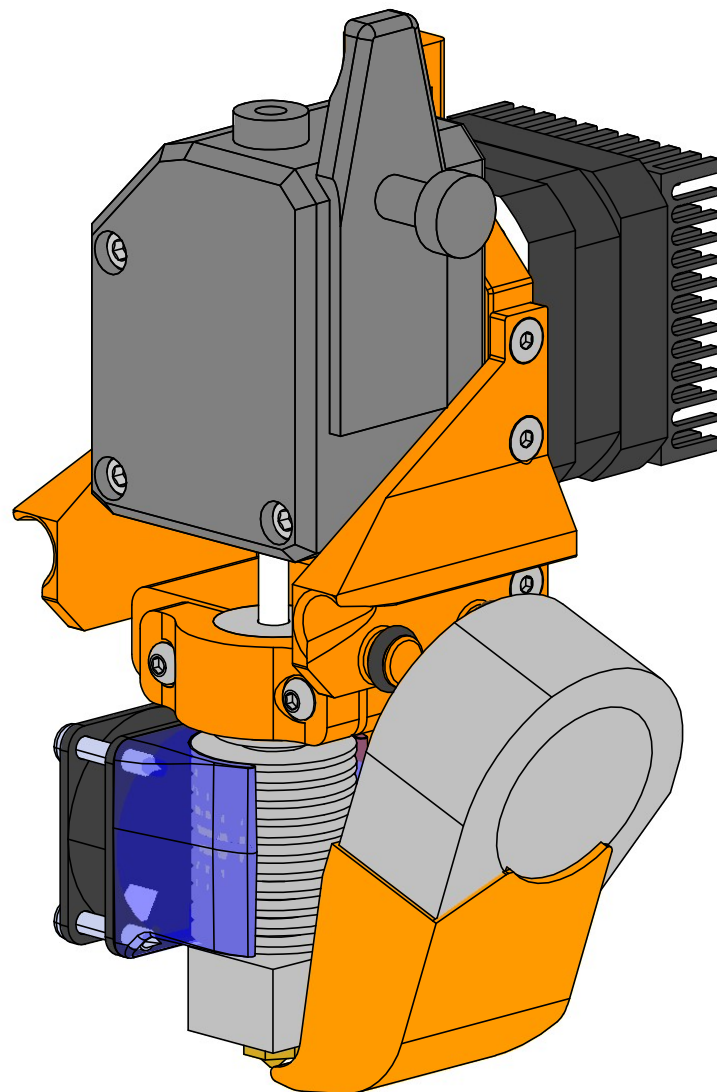


2

1

B

B



A

A

2

1

### Default Extruder Assembly



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Joshua Vasquez

last edited:  
9/28/2020

SCALE: 1:1

SHEET 1 OF 14

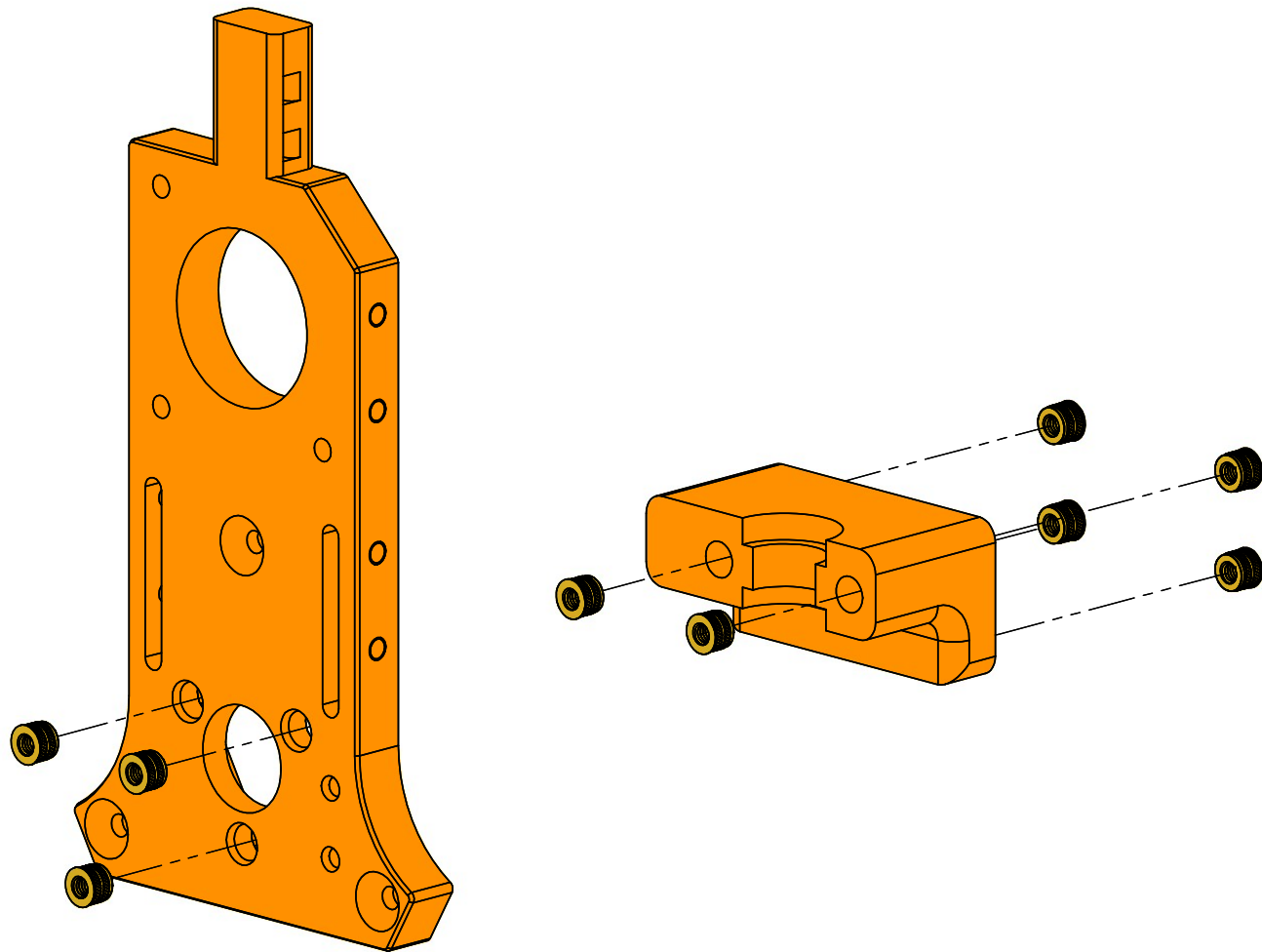
2

1

Install the following inserts from the directions shown using the *plate press technique*.

B


B



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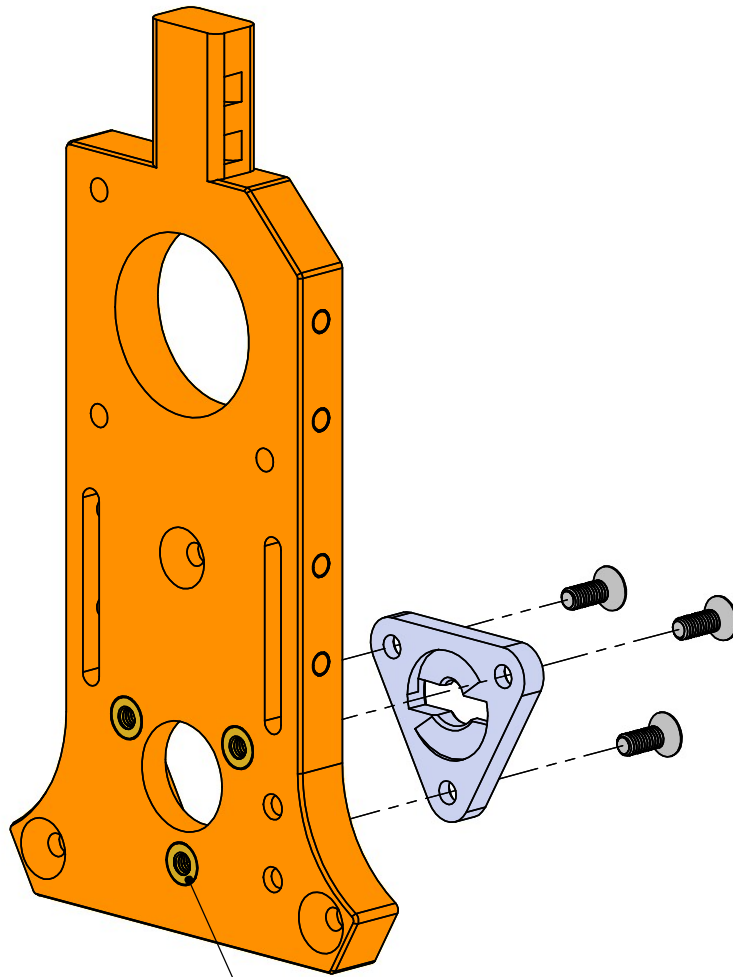
A

| ITEM NO. | DESCRIPTION                | QTY. |
|----------|----------------------------|------|
| 2        | M3 Tapered Heat Set Insert | 9    |
| 3        | Groovemount Base           | 1    |
| 4        | Base Tool Plate            | 1    |

| Heat Set Insert Installation                                                          |                               |                           |
|---------------------------------------------------------------------------------------|-------------------------------|---------------------------|
|  | Created by:<br>Joshua Vasquez | last edited:<br>9/28/2020 |
|                                                                                       | SCALE: 1:1                    | SHEET 2 OF 14             |

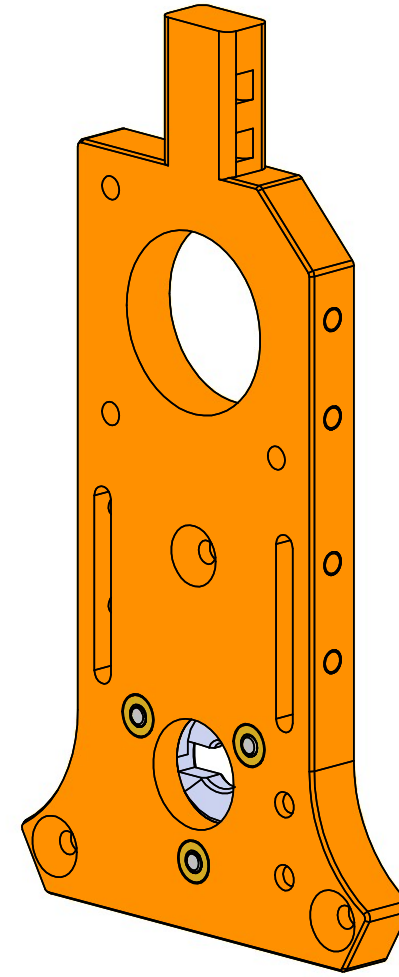
2


1



These inserts may have left behind some "oozy" debris on the back. You can clear this debris by screwing a screw all the way from the other end and then removing it.

| ITEM NO. | DESCRIPTION                  | QTY. |
|----------|------------------------------|------|
| 1        | Wedge Plate                  | 1    |
| 2        | Base Tool Plate with Inserts | 1    |
| 3        | M3 Flathead Screw, 8mm long  | 3    |



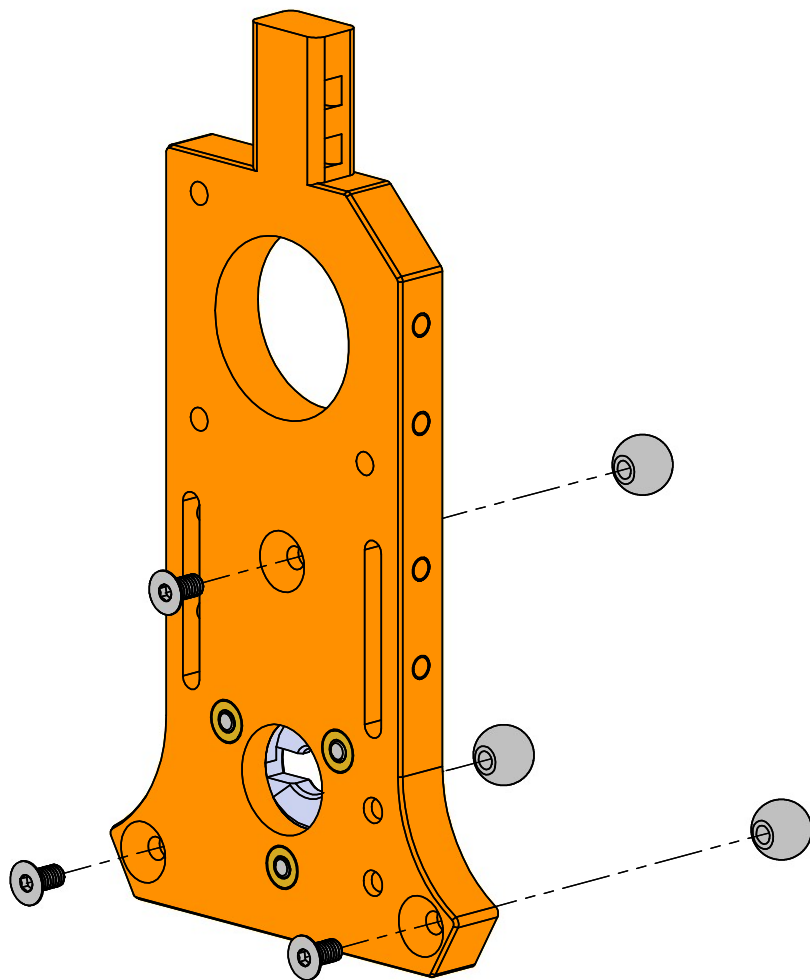
| Wedge Plate Installation                                                              |                               |                           |
|---------------------------------------------------------------------------------------|-------------------------------|---------------------------|
|  | Created by:<br>Joshua Vasquez | last edited:<br>9/28/2020 |
|                                                                                       | SCALE: 1:1                    | SHEET 3 OF 14             |

B

B

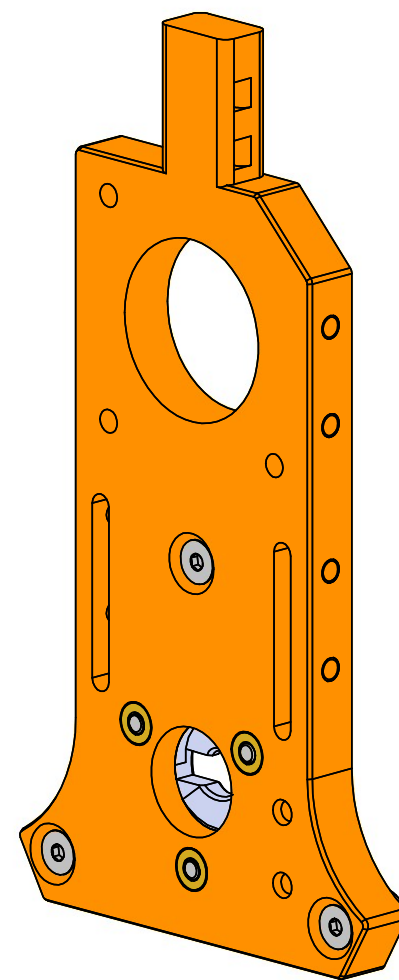
A


A



| ITEM NO. | DESCRIPTION                 | QTY. |
|----------|-----------------------------|------|
| 4        | M3 8mm Threaded Tool Balls  | 3    |
| 5        | M3 Flathead Screw, 6mm long | 3    |

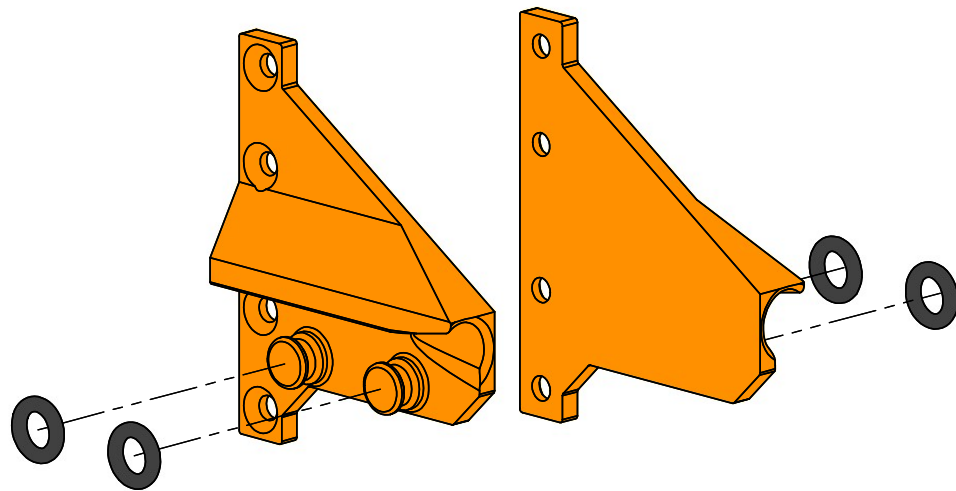
2



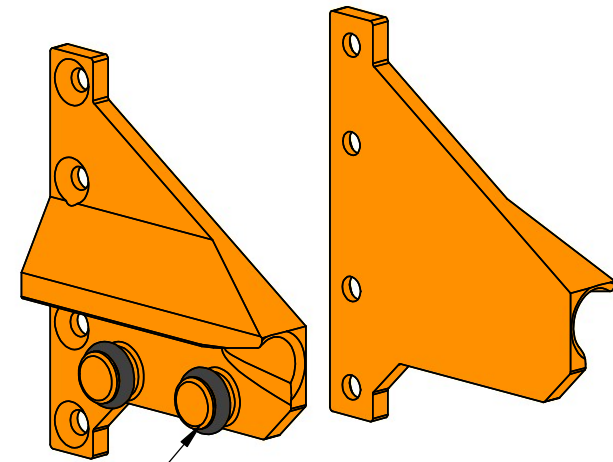
| Tool Ball Installation                                                                |                               |                           |
|---------------------------------------------------------------------------------------|-------------------------------|---------------------------|
|  | Created by:<br>Joshua Vasquez | last edited:<br>9/28/2020 |
|                                                                                       | SCALE: 1:1                    | SHEET 4 OF 14             |

1

B



Exploded View



Assembled View

Recommended: apply a small amount of lubricant like white lithium grease to each o-ring.

B

A

| ITEM NO. | DESCRIPTION     | QTY. |
|----------|-----------------|------|
| 1        | Left Tool Wing  | 1    |
| 2        | Right Tool Wing | 1    |
| 3        | 5x9x2 O Ring    | 4    |

## Parking Wing Assembly



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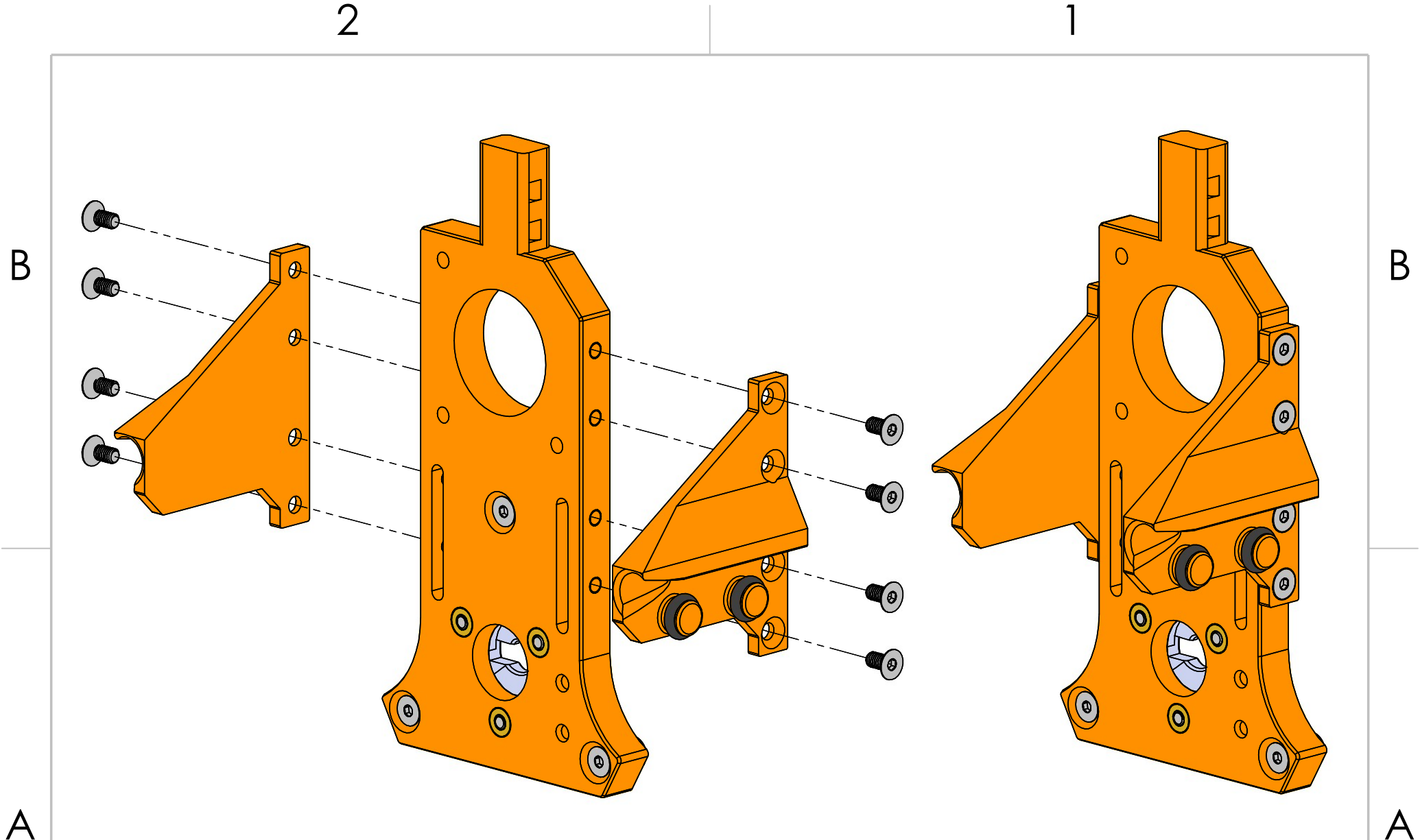
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SCALE: 1:1

SHEET 5 OF 14

2

1



| ITEM NO. | DESCRIPTION                 | QTY. |
|----------|-----------------------------|------|
| 1        |                             | 1    |
| 2        |                             | 1    |
| 3        | Base Tool Plate Assembly    | 1    |
| 4        | M3 Flathead Screw, 6mm long | 8    |

Tool Plate Assembly

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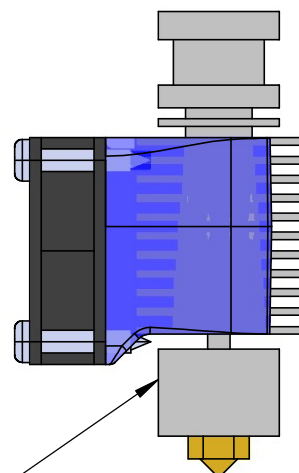
SCALE: 1:1

SHEET 6 OF 14

Follow the V6 or Volcano Hotend Assembly Instructions from E3D to assemble the hotend shown below.

[V6 Instructions](#)

[Volcano Instructions](#)



Temporarily wire your extruder to your machine, perform a heater calibration, and fully hot-tighten the extruder. Then disconnect the wires.

[heater calibration instructions](#)

hot-tightening instructions are at the end of the Extruder Assembly instructions.

### Hotend Cold Assembly



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SHEET 7 OF 14

2

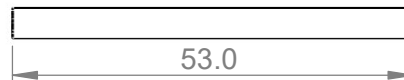
1

The PTFE Tube length is different depending on what hotend you will use (V6 or Volcano).

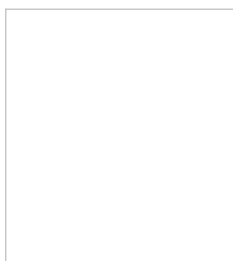
For the V6, cut 62mm of PTFE Tube.



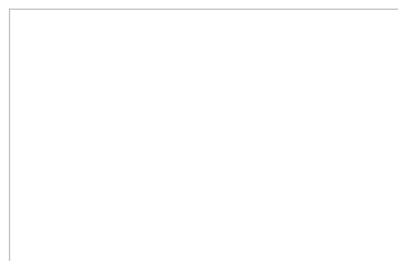
For the Volcano, cut 53mm of PTFE Tube.



In both cases, ensure that the resulting cut is clean on both ends.

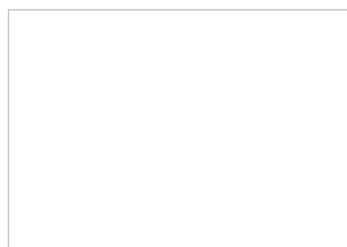
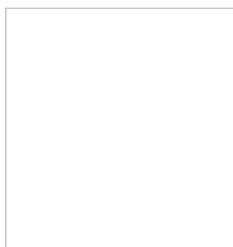


Ok!



Not Ok!

With a box cutter blade, "shape" one end of the PTFE tube into a slight cone like shown below.



Ensure that the PTFE tube is **clean** after this step, as small flake of tubing can lead to nightmarish clogging scenarios.

When finished push the tube all the way into the hotend until it stops. The "shaped" end should stick out.

## PTFE Tube Prep



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SCALE: 1:1

SHEET 8 OF 14

2

1

B

B

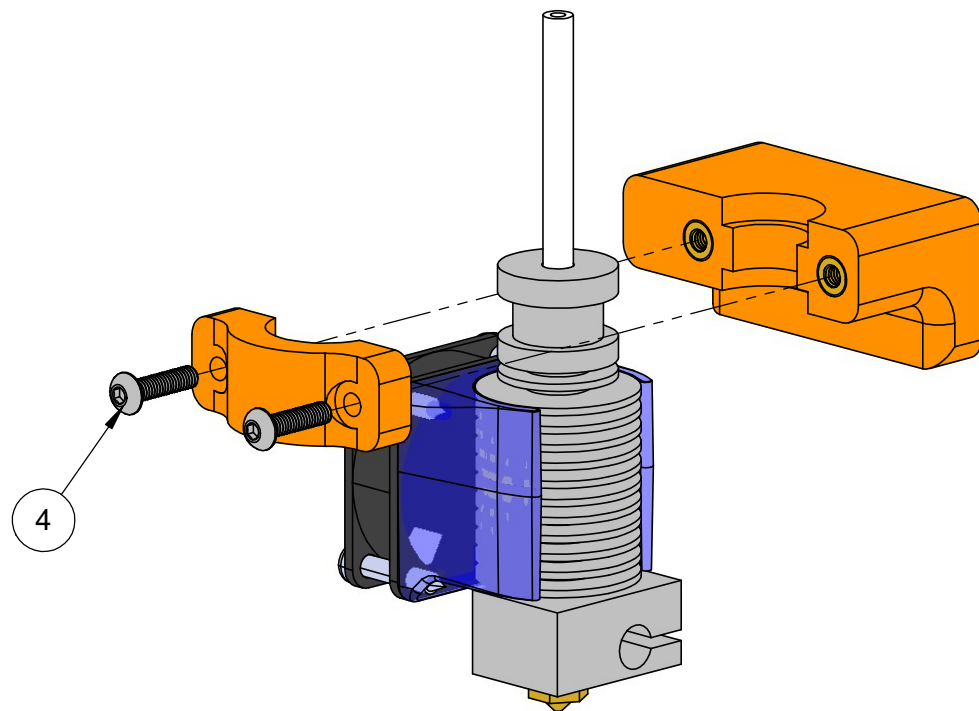
A

A



B

B



A

A

| ITEM NO. | DESCRIPTION                    |   |
|----------|--------------------------------|---|
| 1        | Hotend Assembly with PTFE Tube | 1 |
| 2        | Groovemount Base with Inserts  | 1 |
| 3        | Groovemount Clip               | 1 |
| 4        | M3 Buttonhead Screw, 12mm long | 2 |

### Hotend Base Assembly



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SHEET 9 OF 14

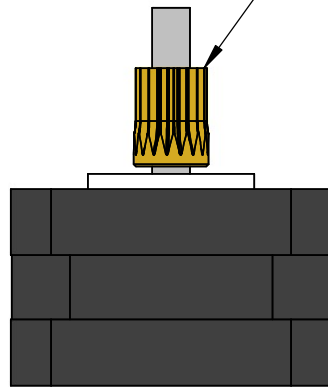
2

1

B

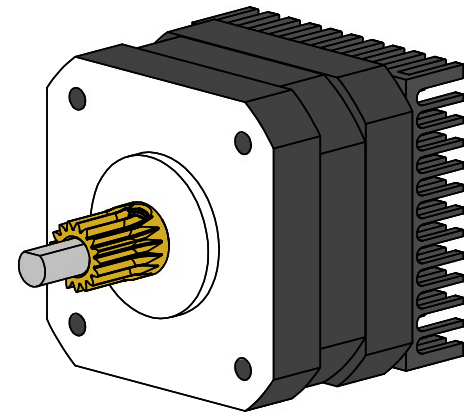
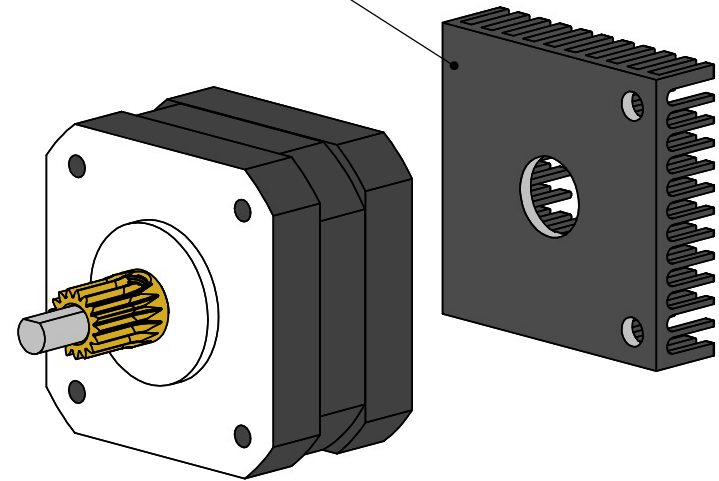
A

2



Note that this gear is installed opposite the suggested orientation in the Bondtech instructions.

Attach with double-sticky heat-transfer tape.



| ITEM NO. | DESCRIPTION                                | QTY. |
|----------|--------------------------------------------|------|
| 1        | Bondtech Motor Gear with Included Setscrew | 1    |
| 2        | Nema 17 Stepper Motor                      | 1    |
| 3        | Nema 17 Motor Heatsink                     | 1    |
| 4        | Double-Sided Heat Transfer Tape 40x40mm    | 1    |

2

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B

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### Pancake Motor Assembly



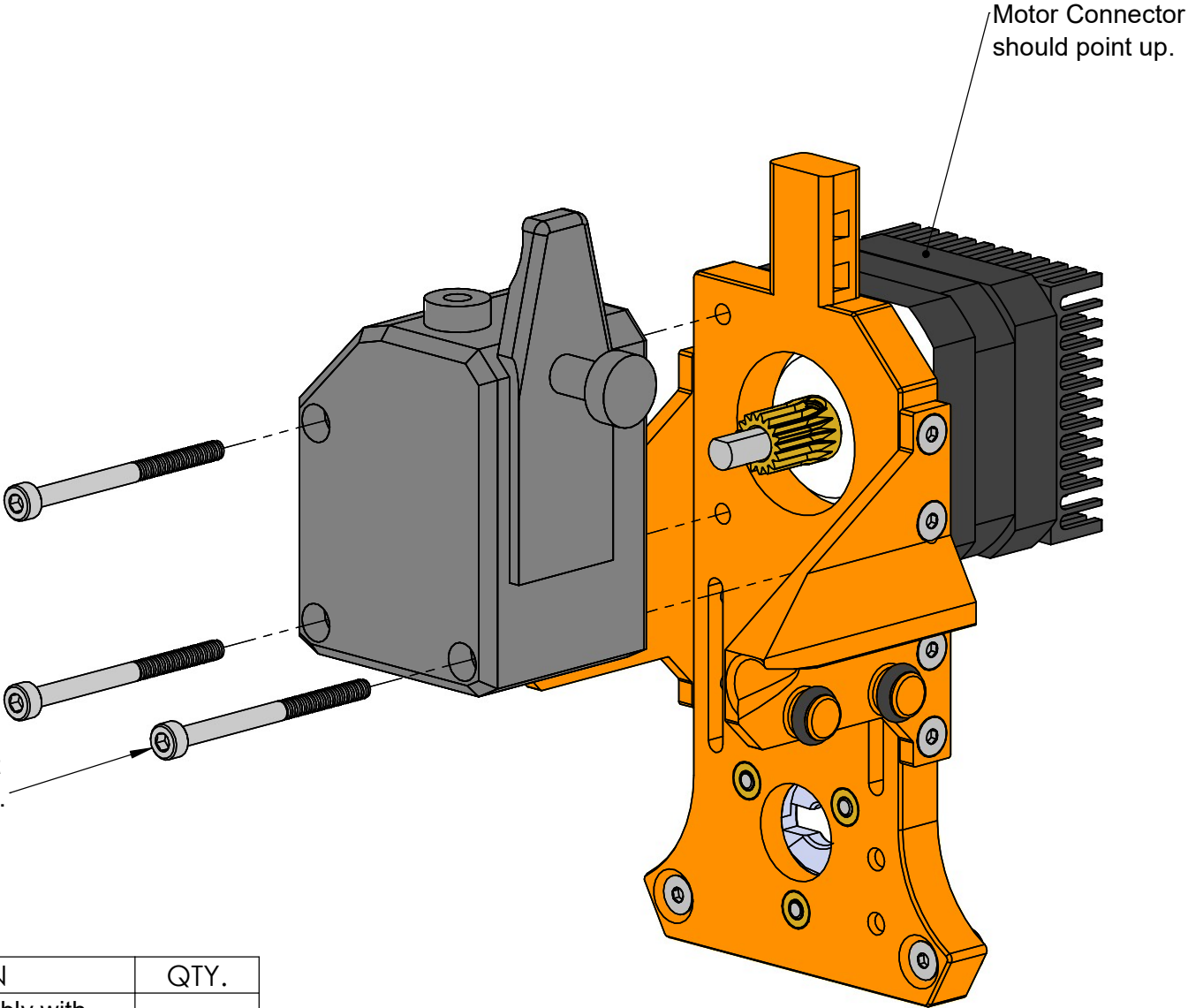
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SCALE: 1:1

SHEET 10 OF 14

Install the groovemount adapter into the BMG Extruder housing first.



These are 5mm longer than what came with the Bondtech extruder.

| ITEM NO. | DESCRIPTION                                    | QTY. |
|----------|------------------------------------------------|------|
| 1        | BMG Extruder Assembly with Groovemount Adapter | 1    |
| 2        | M3 Socket Cap Screw, 40mm long                 | 3    |
| 3        | Pancake Stepper Motor Assembly                 | 1    |
| 4        | Tool Plate Assembly                            | 1    |

CC

BY

Extruder Pusher Installation

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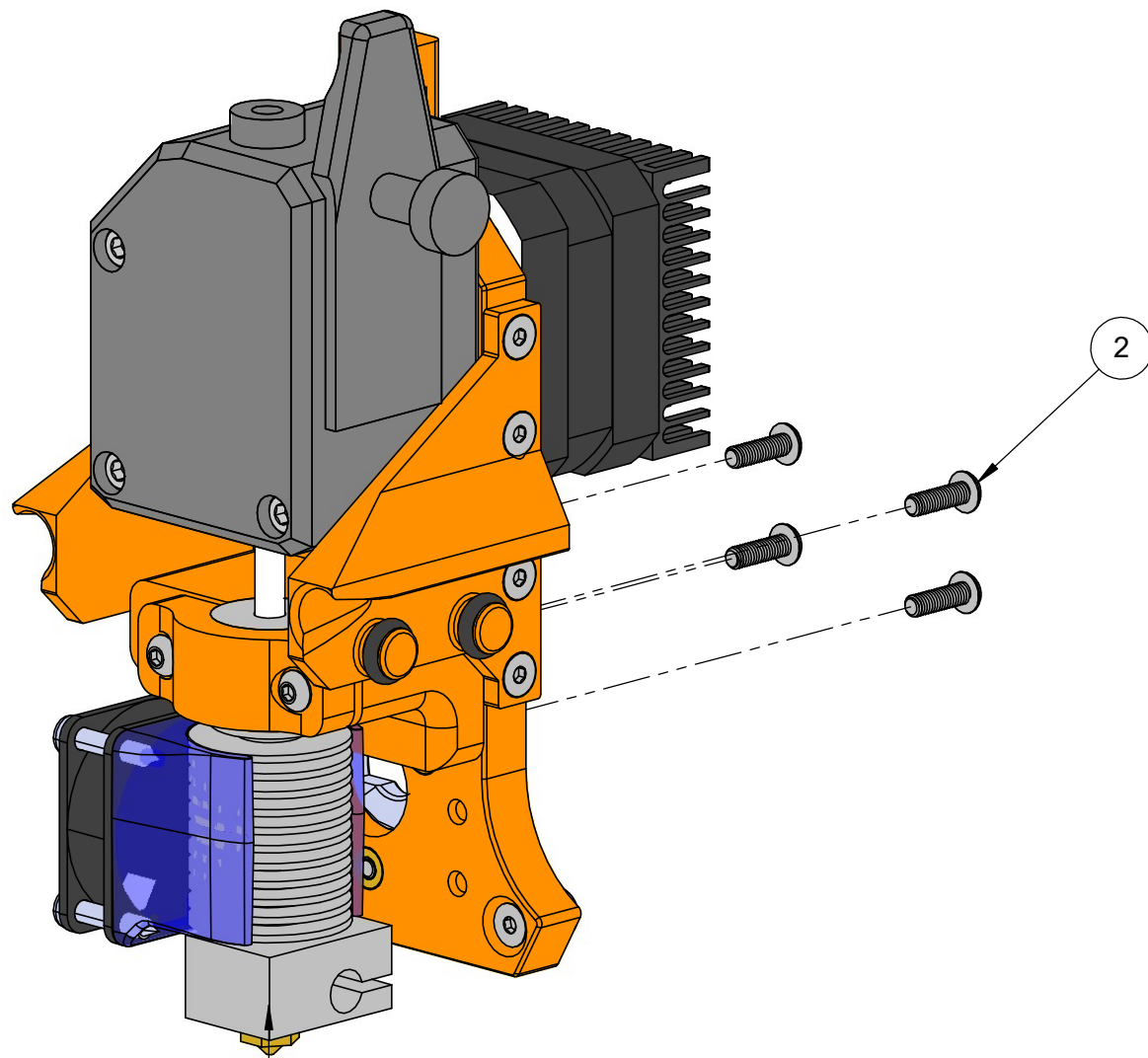
SHEET 11 OF 14

2

1

B

B



A

A

Push the PTFE tube in the hotend assembly all the way into the BMG Extruder until it hard stops. Then secure the resulting position with the four screws.

| ITEM NO. | DESCRIPTION                    | QTY. |
|----------|--------------------------------|------|
| 2        | M3 Buttonhead Screw, 10mm long | 4    |

### Hotend Installation



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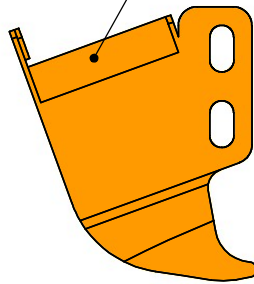
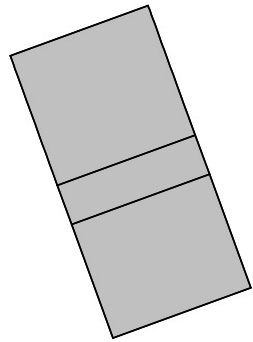
SHEET 12 OF 14

2

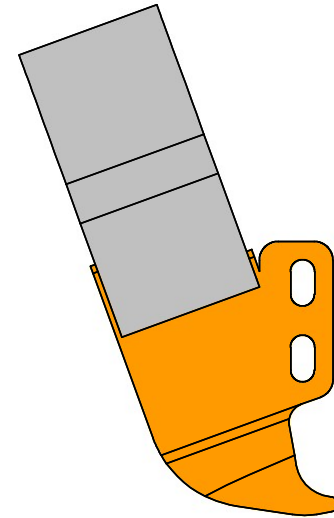
1

B

B



Hit the inner lip with a dab of superglue. Let set for 30 sec.  
(You can defeat it later with a boxcutter blade, if needed.)



A

A

| ITEM NO. | DESCRIPTION         | QTY. |
|----------|---------------------|------|
| 1        | Blower Fan Shroud   | 1    |
| 2        | 4020 24V Blower Fan | 1    |

### Fan and Shroud Assembly



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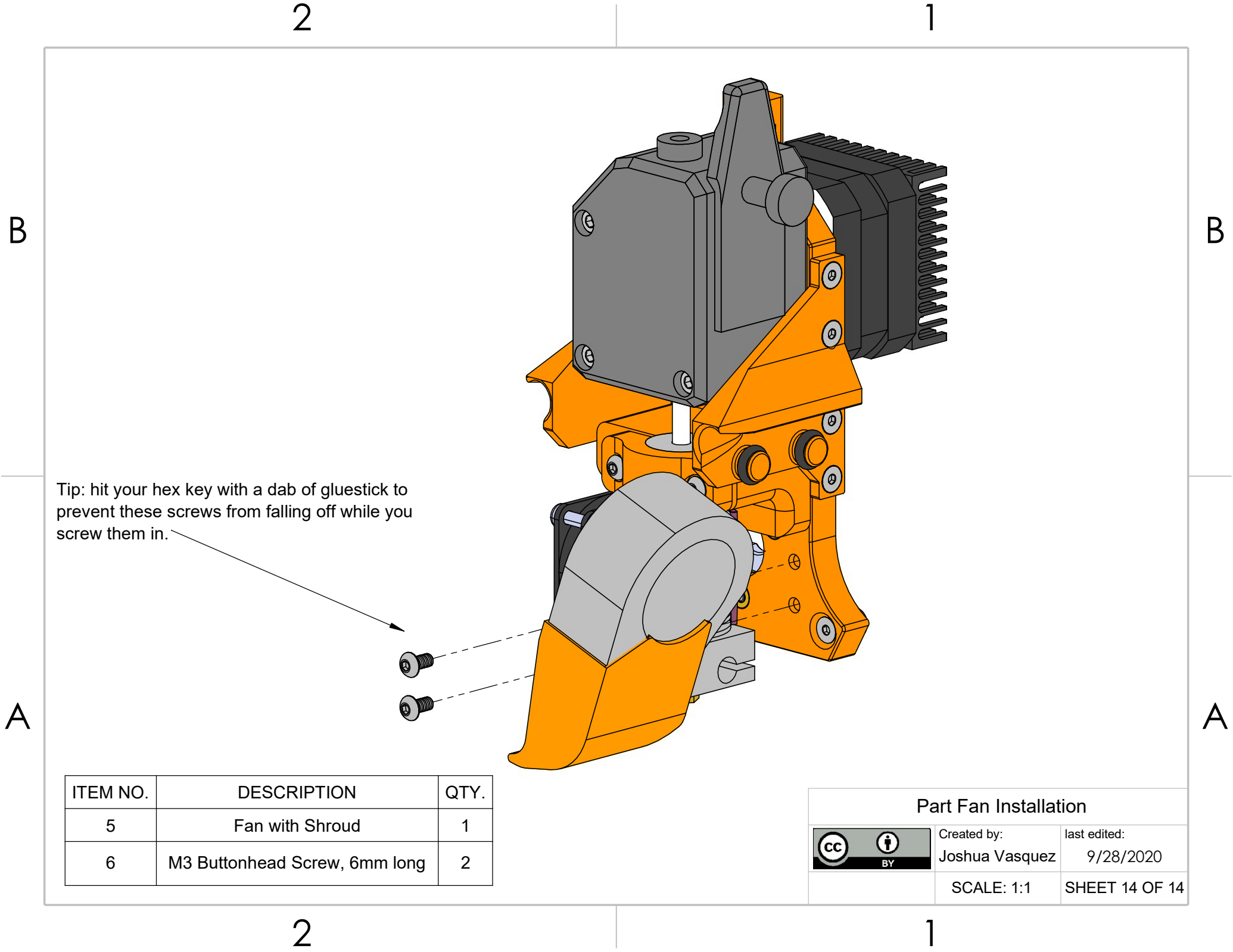
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SCALE: 1:1

SHEET 13 OF 14


2

1



Tip: hit your hex key with a dab of gluestick to prevent these screws from falling off while you screw them in.

| ITEM NO. | DESCRIPTION                   | QTY. |
|----------|-------------------------------|------|
| 5        | Fan with Shroud               | 1    |
| 6        | M3 Buttonhead Screw, 6mm long | 2    |

| Part Fan Installation                                                                 |                               |                           |
|---------------------------------------------------------------------------------------|-------------------------------|---------------------------|
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|                                                                                       | SCALE: 1:1                    | SHEET 14 OF 14            |