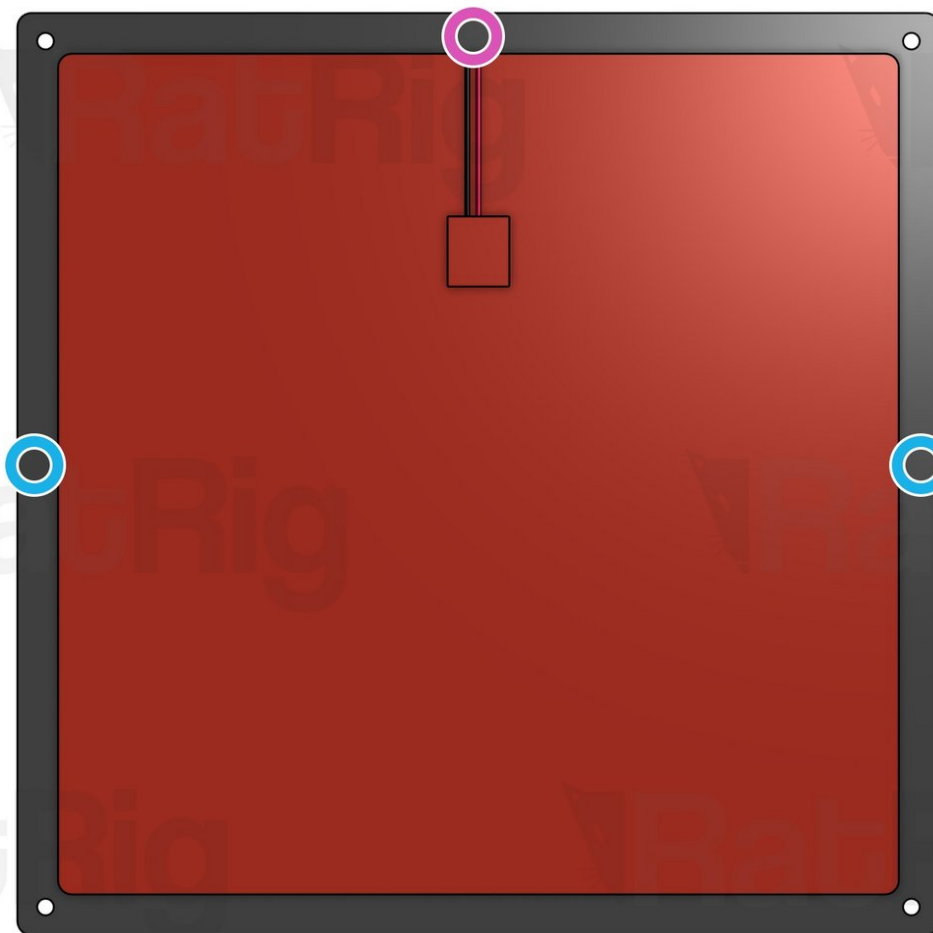


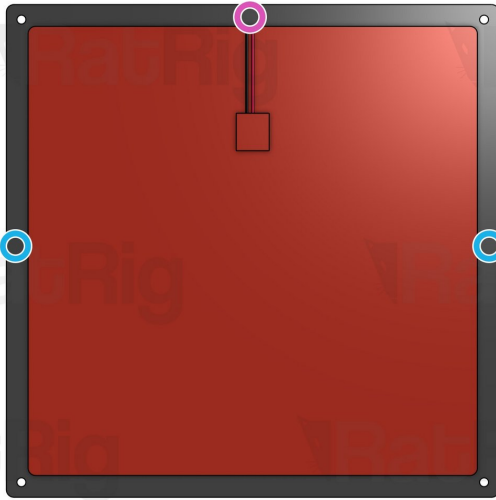
Rat Rig

02. B - Bed Assembly: adapt a bed from an older V-Core

Written By: Rat Rig



Step 1 — Assess the position of your heat pad



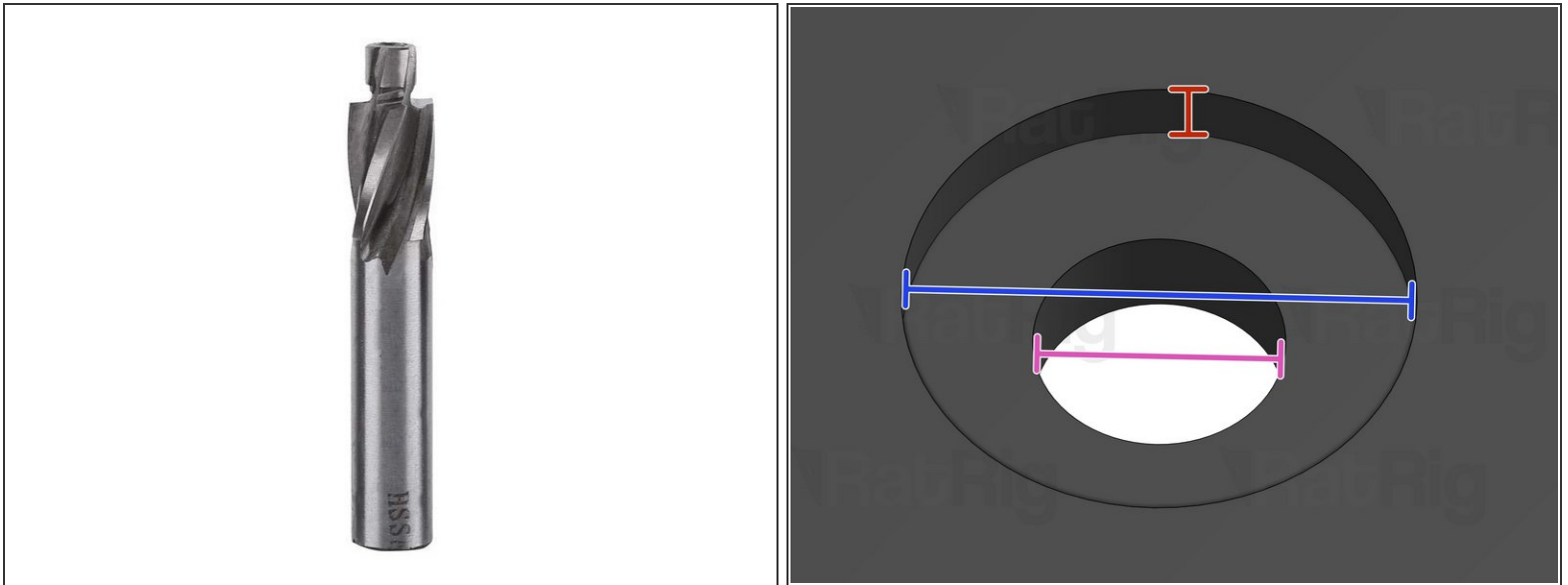
- ❗ Remove your existing bedplate from its assembly and turn it upside down.
- This is where you should drill a hole, aligned with the ones at the corners. Do you have enough space for the hole or is the heat pad in the way?
- If your heat pad is in the way, you can drill the hole on one of the sides. If you do this, your cable management won't be as neat and tidy, since you will have cables coming out the side of the bed.

Step 2 — Drill guiding hole



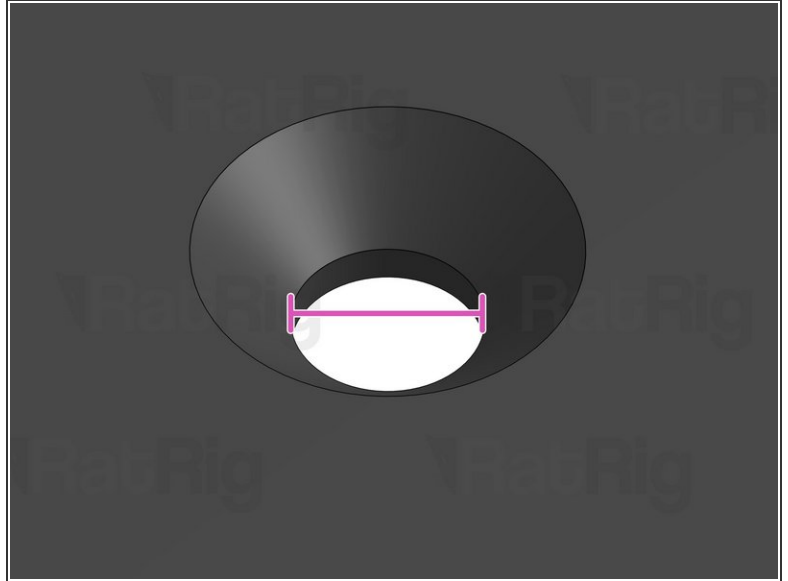
- With the aid of a ruler, use a pencil to mark the position of the hole. Be rigorous!
- 10mm
- 164.5mm
- Use a Power drill with a small diameter drill bit (3mm or less) to make a guiding hole.

Step 3 — Option 1: Use a Flat Step Drill Bit



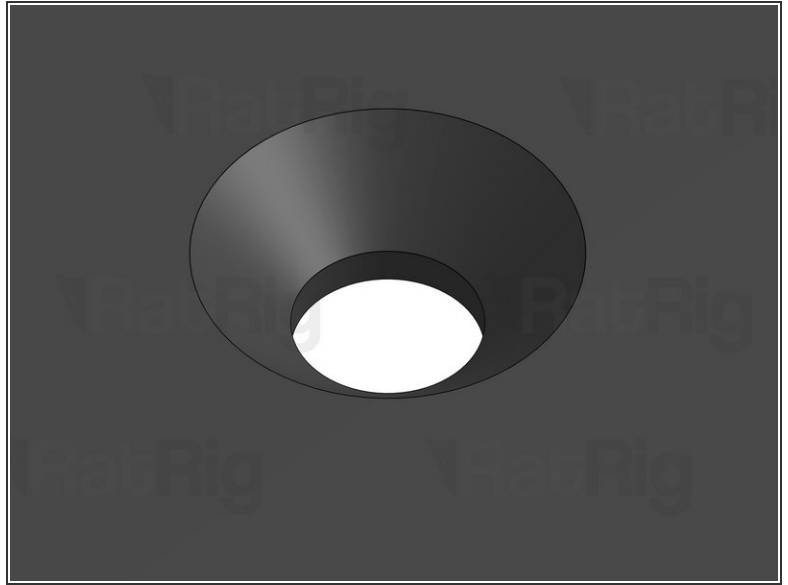
- The idea is to have a 5mm hole through the plate, with a 10mm x 1.6mm counterbore.
 - You will need to make the "pilot hole" diameter match the guide section of your step/counterbore drill bit. Use the initial 3mm hole and widen it accordingly to your tools (no larger than 5~6mm).
 - The main counterbore part of your drill bit should be 10mm or wider. Use it to drill a ~1.6mm deep counterbore. The counterbore should be no deeper than 2mm.
- ⚠ The counterbore should be no deeper than 2mm.**
- After your counterbore is done, make sure you can drill out the center through-hole to 5mm (ideal), or 6mm(alternative).
- 5mm
 - 1.6mm
 - 10mm

Step 4 — Option 2: Use a 45° Countersink drill



- Enlarge your guiding hole from 3mm to 5mm.
- Use a common countersink drill bit with a 45° angle to drill a countersink. Drill slowly, and check depth with a screw as you go. Stop when the countersink is deep enough to just fit the screw head.

Step 5 — Option 3: use 2 drills of different sizes



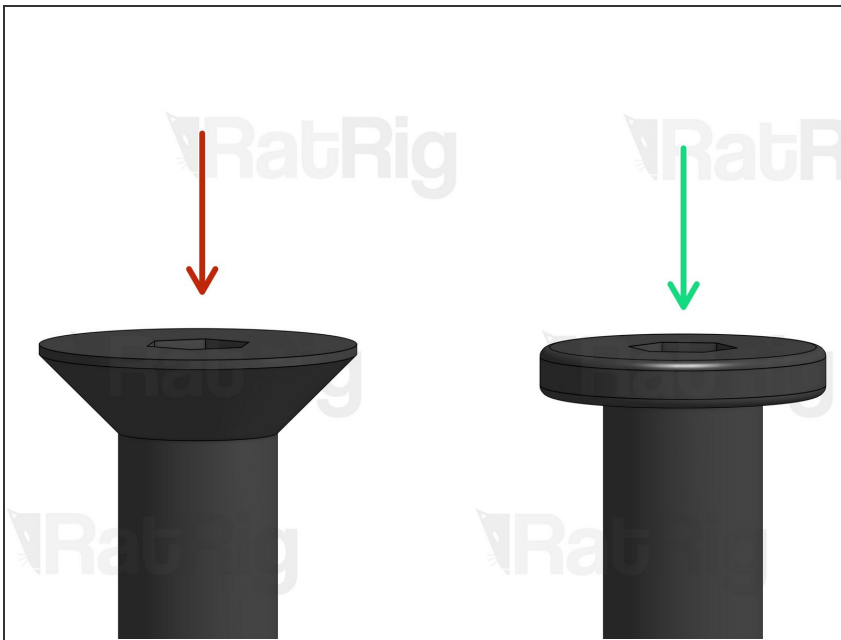
- i** Using a regular drill bit makes it harder to achieve a nice finish and may result in an imperfect fit (ie. Most drill bits have a flatter angle compared to the countersink 45° screws, but at the same time they're not totally flat for the low profile screw type either).
- Enlarge your guiding hole from 3mm to 5mm.
 - **SENSITIVE STEP:** This step is easiest done on a proper drill press to avoid an irregular hole. Make sure your bed is well fixed. Very slowly enlarge your 5mm hole with a 10mm drill - drill until you can fit the head of a low profile screw inside the hole, in such a way that the screw is flush with the bed surface.

Step 6 — Option 4: Simple 5mm hole



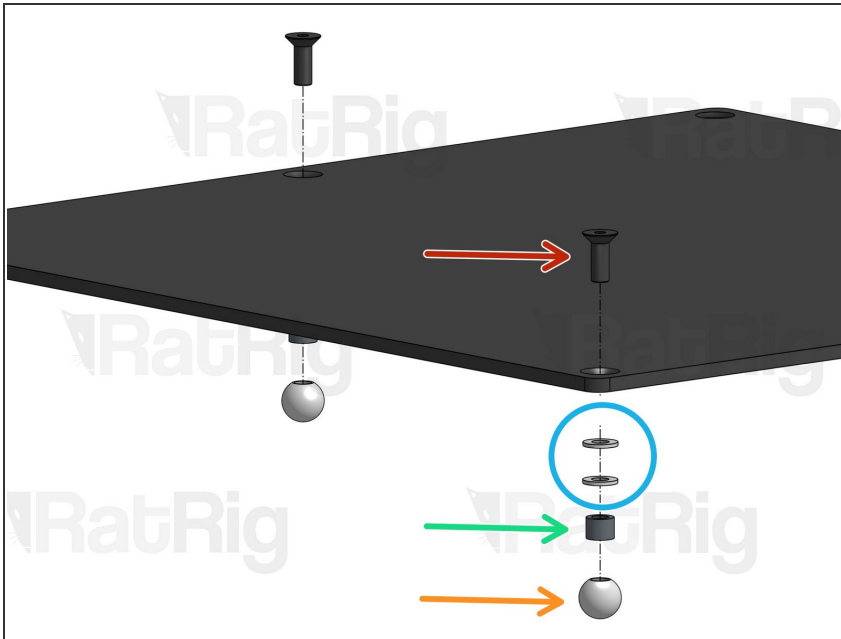
- i** If your print surface does not cover the screw area, or does not interfere with the screw head, all you need is to enlarge your 3mm hole into a simple 5mm hole. No countersink or counterbore necessary.

Step 7 — Bed mounting screw type



- Depending on the way you drilled your hole, you may use one of these screws or the other to mount your bed (both are included in the kit):
 - Countersink Screw M5x16mm
 - Low Profile Screw 15mm

Step 8 — Set up Bed Mounts



- The screw you chose on the previous step.
- ONLY IF NEEDED: Depending on the thickness of your bed and depth of its holes, you may need to use either 1 or 2 Precision shims sandwiched between the 6mm Spacers and the bed.
- ① Try to assemble the bed mount on the back without using precision shims. Is the screw still loose even after tightening it all the way down? If so, use precision shims as spacers. 1 may be enough, or 2 may be needed.

⚠ Use the same number of shims on all bed mounts!

- Spacer 6mm
- Steel Ball
- ① Repeat step for the 3 mounting points.