

Some tips for assembling your BMEK

Manifest

Main Parts



Top Case

Plate

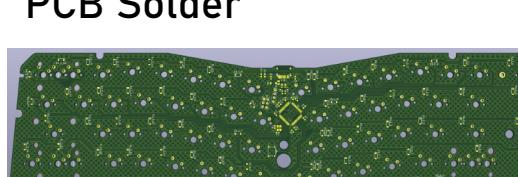
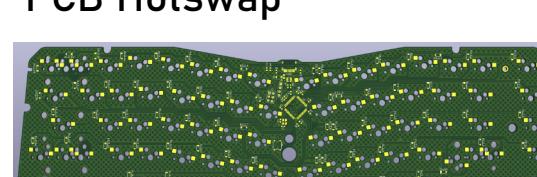
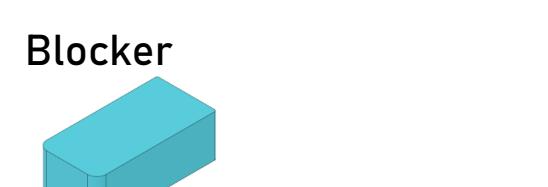


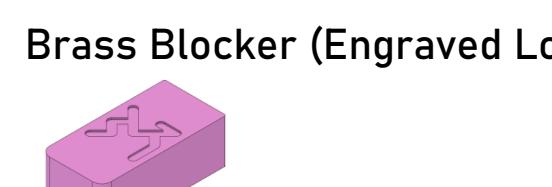
Plate (Flex)



PCB Solder



PCB Hotswap



Blocker



Brass Blocker (Engraved Logo)



Bottom Weight



Screws

5x ISO 4762 M2.5x0.45x8mm (Main Case Screws)

14x ISO 4762 M2x0.4x4mm (8x for Plate, 5x for PCB, 1x for Blocker)

3x ISO 10642 M3x0.5x6mm (Countersunk screw for bottom weight)

Note: The Brass Blockers in the GB have slightly shorter threads than the regular ones. For these there are shorter M2x0.4x3mm screws provided.

Other

4x Self-gluing rubber feet, circular, 10mm diameter

1x Hex Key 1.5mm

1x Hex Key 2mm

Overall Assembly

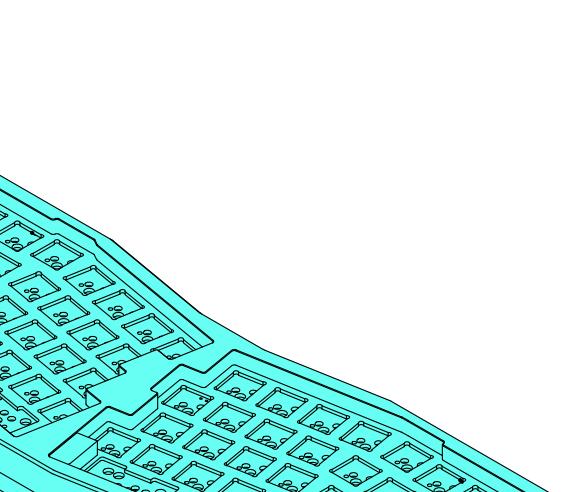
Disassemble first!

For safer shipping, the BMEK comes mostly assembled with plate & PCB inside the case. However, I recommend to disassemble the case entirely first, and build the PCB & Plate assembly outside of the case first.

Don't over-tighten screws!

Once metal surfaces made contact, extra tightening will cause threads and/or screw heads to strip!

Especially stripping the hex screw head can be painful, as it is difficult to extract stripped screws from the countersunk holes.



Case bent?

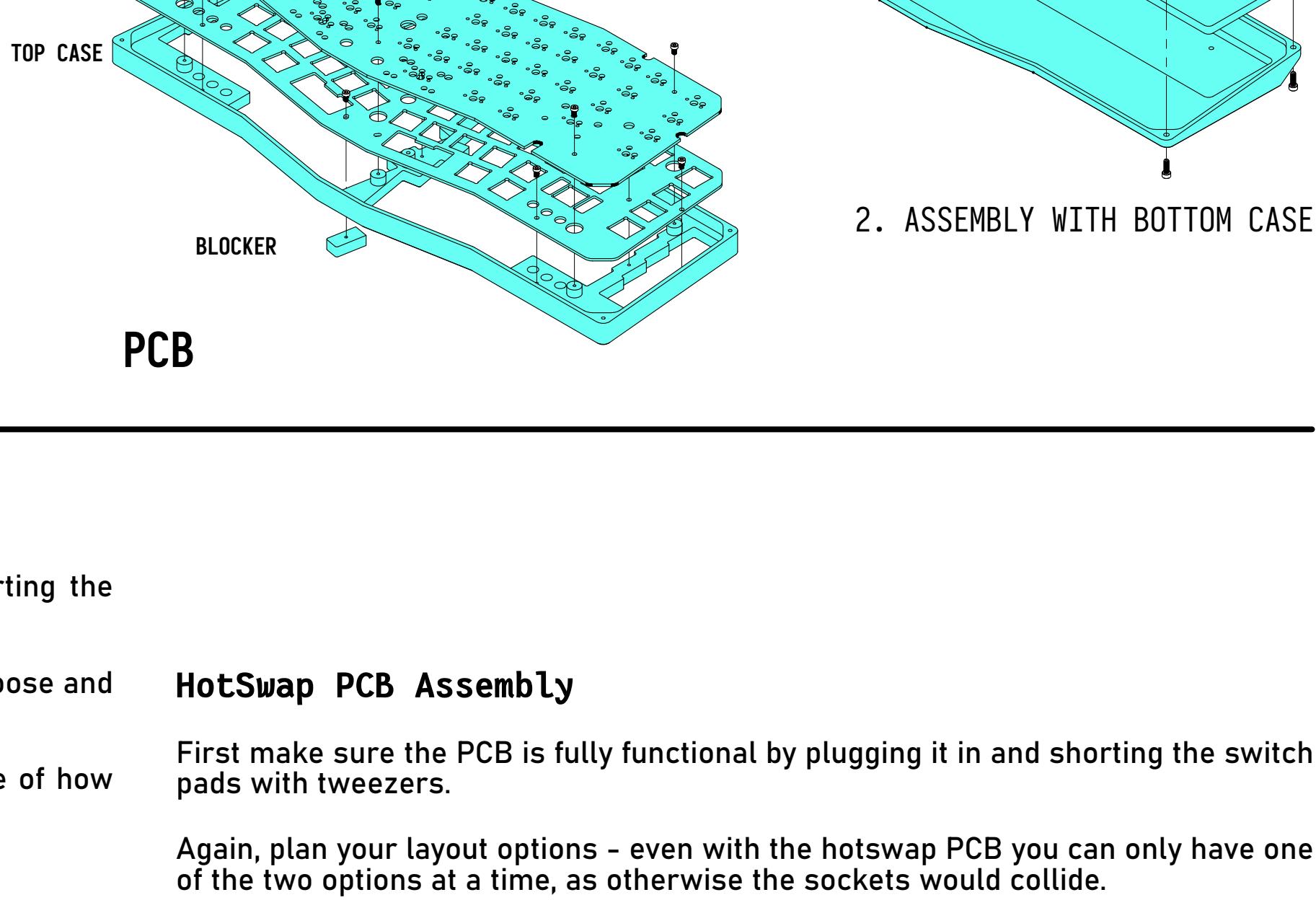
The bottom cases have a slight curve to them from the anodization/hardening process. This is no reason for concern, as the center case screw will pull it straight nicely during assembly. Take care not to over-tighten the case screws, though!

Seam visible?

The BMEK does not feature a seamless design, so the seam between the top and bottom case will always be somewhat visible. For best alignment, I usually start by tightening only the center screw until it starts putting on pressure, and then I'll carefully align top and bottom case before further tightening the rest of the screws.

Brass Blockers

The brass blockers have slightly shorter threads than the regular aluminum blockers, so to make sure you can fully tighten them, use the shorter M2 screws that should be provided in the envelope.



Plan Layout

First make sure the PCB is fully functional by plugging it in and shorting the switch pads with tweezers.

Take a good look at the PCB and understand what layout you want to choose and where to solder the switches (see below for layout options).

I also suggest to start by mounting the stabilizers to the PCB (because of how painful it is if you forget them).

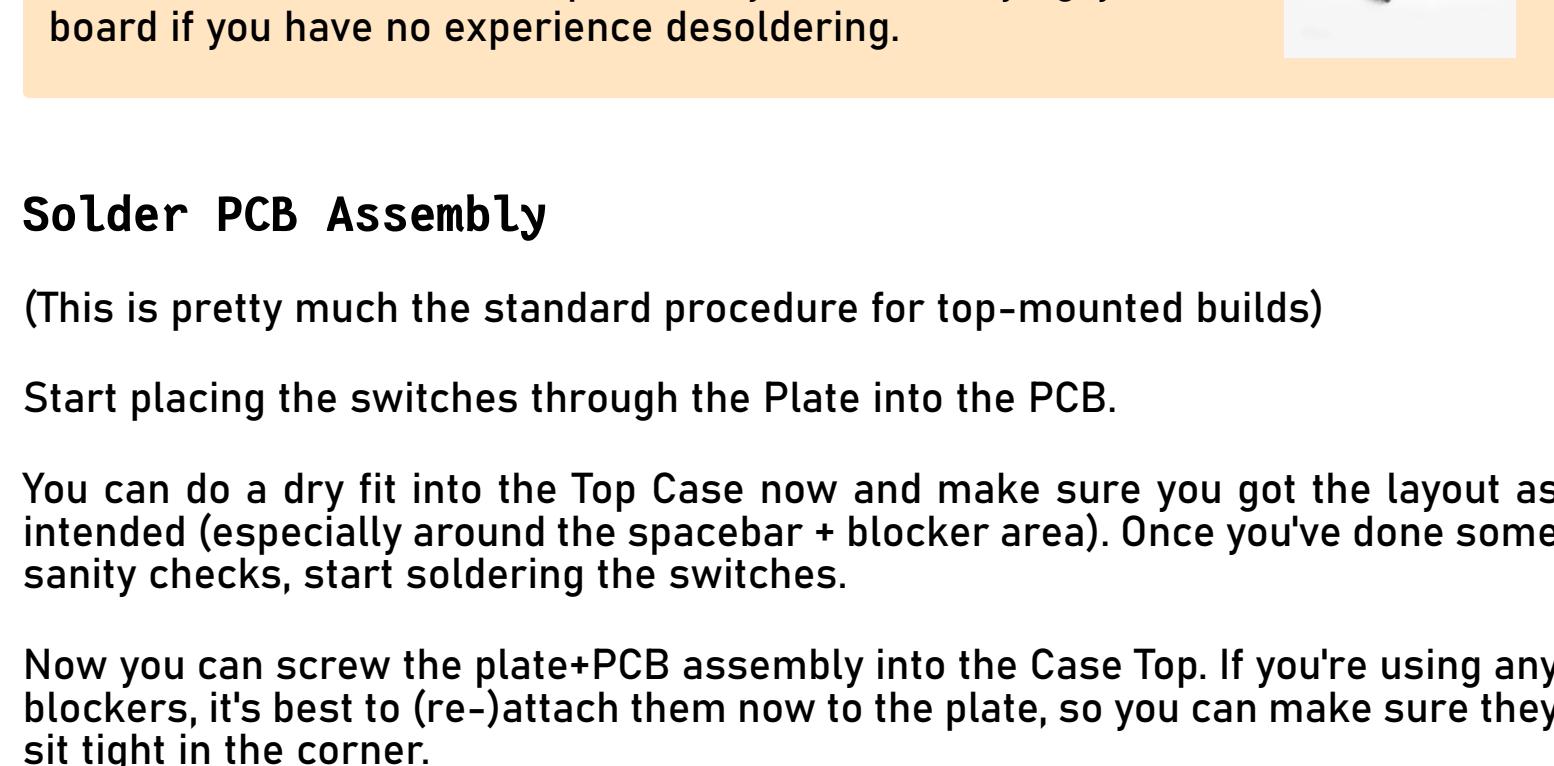
Layout Options:

2U backspace VS Split backspace

2.75u right shift VS split right shift

2.75u spacebar VS 2.25u spacebar (both left and right half)

2.25u left shift vs ISO-style split left-shift



Mount your Stabilizers before Soldering!

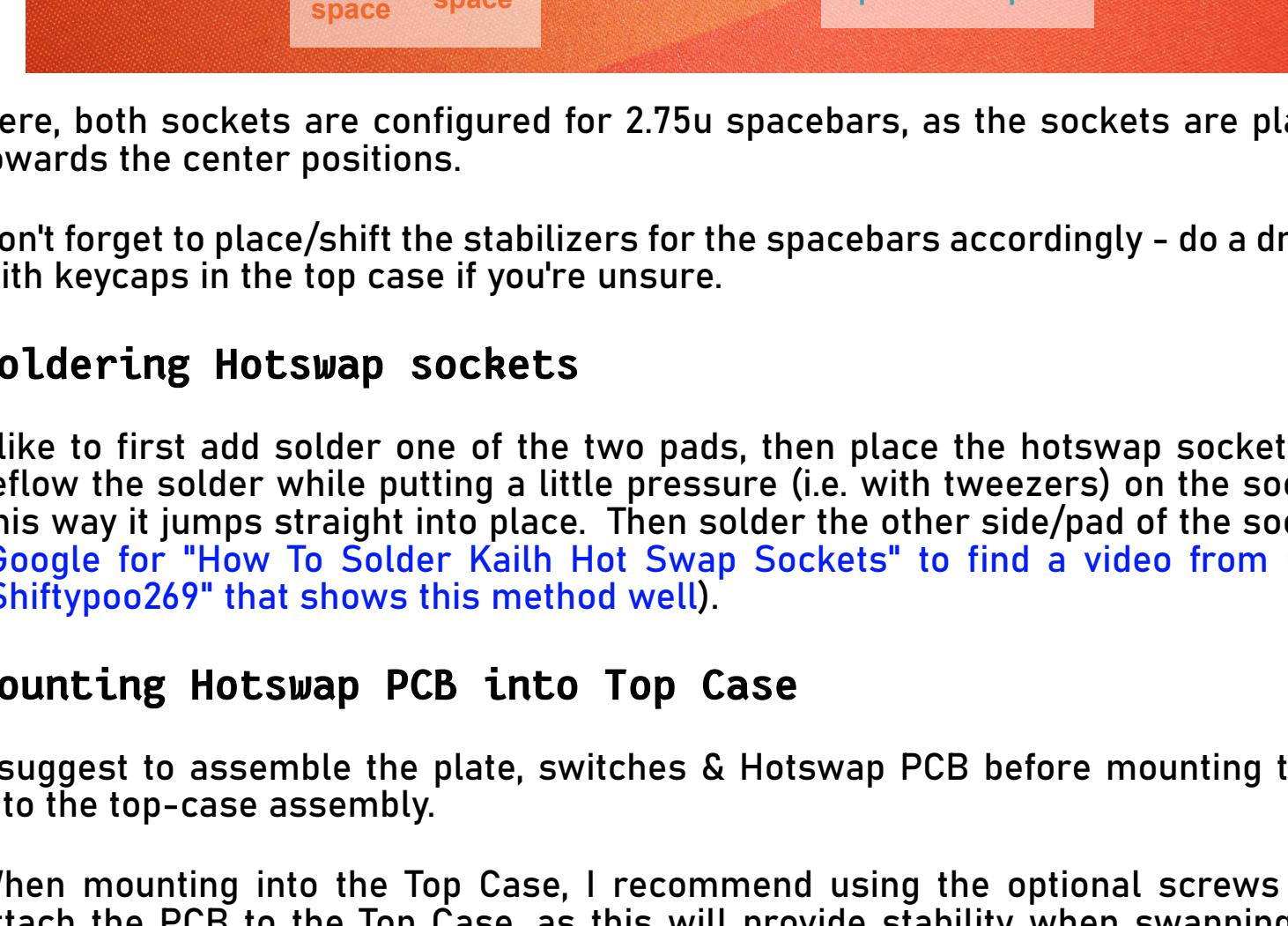
If you forget to, you'll have to desolder your switches, which can be a lot of work and potentially risk destroying your board if you have no experience desoldering.

HotSwap PCB Assembly

First make sure the PCB is fully functional by plugging it in and shorting the switch pads with tweezers.

Again, plan your layout options - even with the hotswap PCB you can only have one of the two options at a time, as otherwise the sockets would collide.

The image below shows how the hotswap sockets should be soldered:



Here, both sockets are configured for 2.75u spacebars, as the sockets are placed towards the center positions.

Don't forget to place/shift the stabilizers for the spacebars accordingly - do a dry-fit with keycaps in the top case if you're unsure.

Soldering Hotswap sockets

I like to first add solder one of the two pads, then place the hotswap socket and reflow the solder while putting a little pressure (i.e. with tweezers) on the socket. This way it jumps straight into place. Then solder the other side/pad of the socket. (Google for "How To Solder Kailh Hot Swap Sockets" to find a video from user "Shiftypoo269" that shows this method well).

Mounting Hotswap PCB into Top Case

I suggest to assemble the plate, switches & Hotswap PCB before mounting them into the top-case assembly.

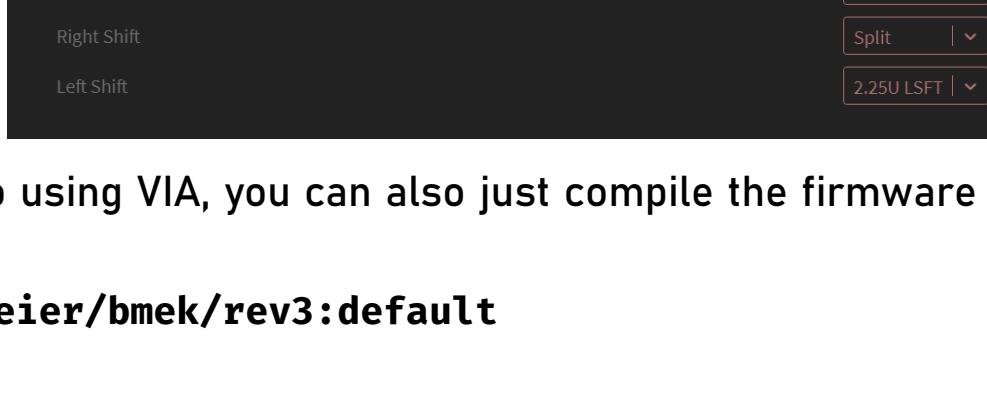
When mounting into the Top Case, I recommend using the optional screws that attach the PCB to the Top Case, as this will provide stability when swapping out switches in the future.

Configuration

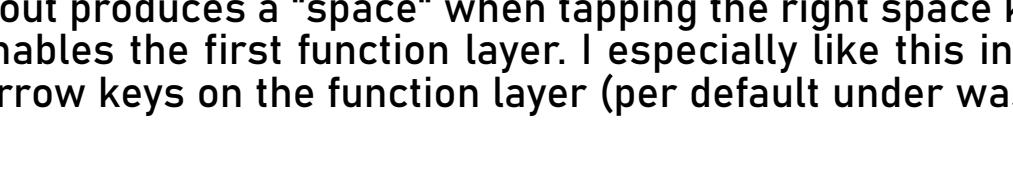
"Hacks"

Remapping keys & changing LEDs:

The PCBs come pre-flashed with the VIA firmware. VIA is a tool that allows you to configure your keymap on the fly, as well as configuring Macros, changing the LED color & more. You can get VIA on: caniusevia.com



In VIA, on the left side under "LAYOUTS", you can configure the layout options for the BMEK (i.e. if you're using split backspace, split left-shift, etc.).



Alternatively to using VIA, you can also just compile the firmware with plain old QMK:

```
make bemeier/bmek/rev3:default
```

Spacebar == FN:

The default layout produces a "space" when tapping the right space key, but when holding it, it enables the first function layer. I especially like this in combination with the nav/arrow keys on the function layer (per default under wasd and hjkl).

Add a LED Diffuser:

You can cover the LED holes from the inside of the case with a small piece of white paper & scotch tape to diffuse the LEDs:

