INSTALATION

you will only need to change two types of fixings to install this mod…

8 off M3 x 30 BHCS (for the motors - these replace the M3 x 35 BHCS)

2 off M3 x 14 BHCS (for the umbilical attachment - these will replace the M3 x 10 BHCS)

you will also require…

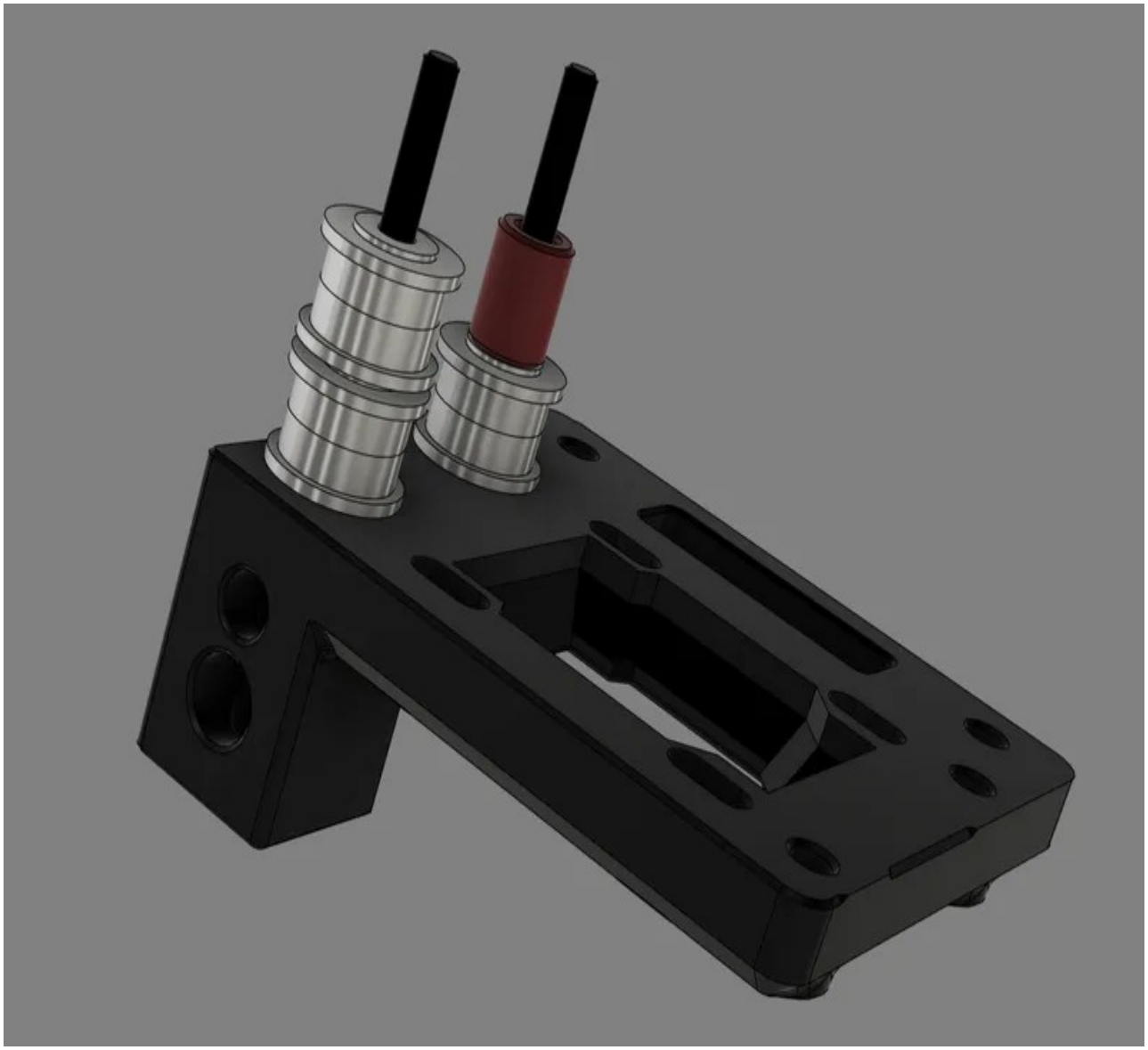
2 off 625 (ZZ or RS) bearings

now that you have these, print off all the files (pre laid on a V0 bed)
I've labelled each side **A** and **B** for easy install (and to remind yourself what side it should be on)

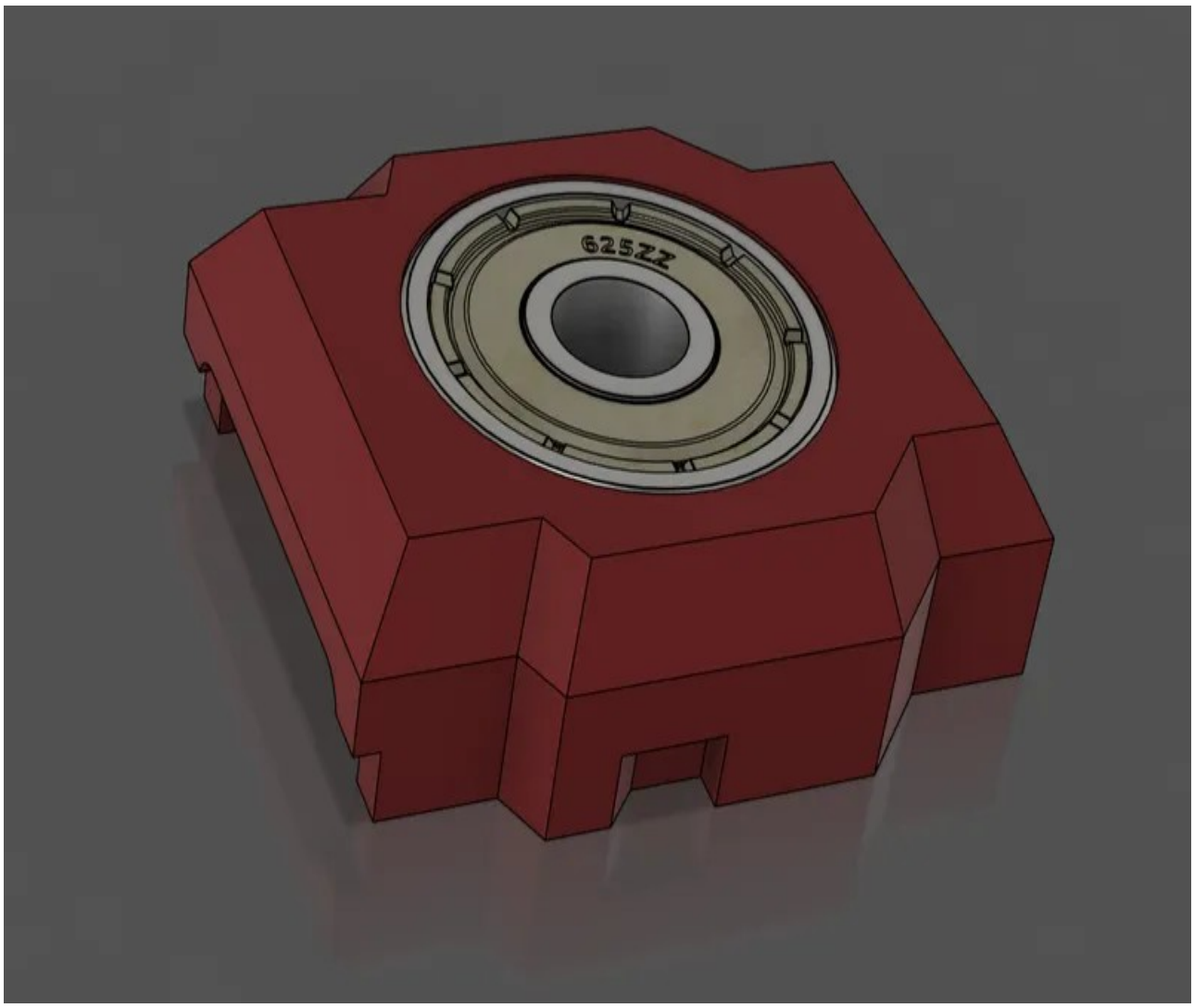
the actual installation as fairly easy, as with the standard setup i have kept all the original fixing points and as many fixings as per the original too.

the heat set threaded inserts go into the L**ower AB Motor Frame** as before but all of them flush.
(**4** off Threaded inserts per motor mount - **8** in total for both sides)

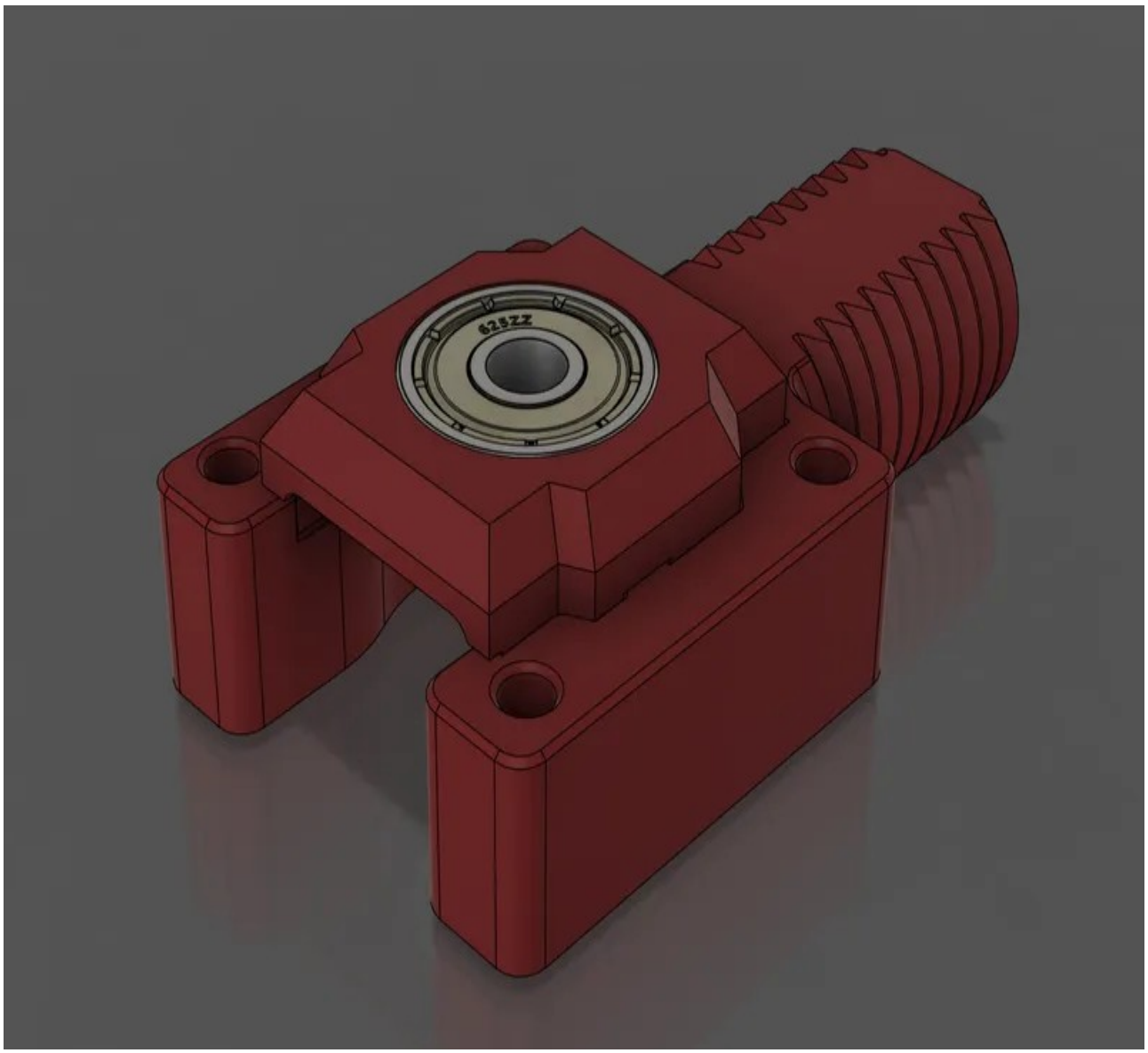
now its just a case of building up the bearing stacks as per the manual.
taking the **Upper AB Motor Frame** and building **upside down**



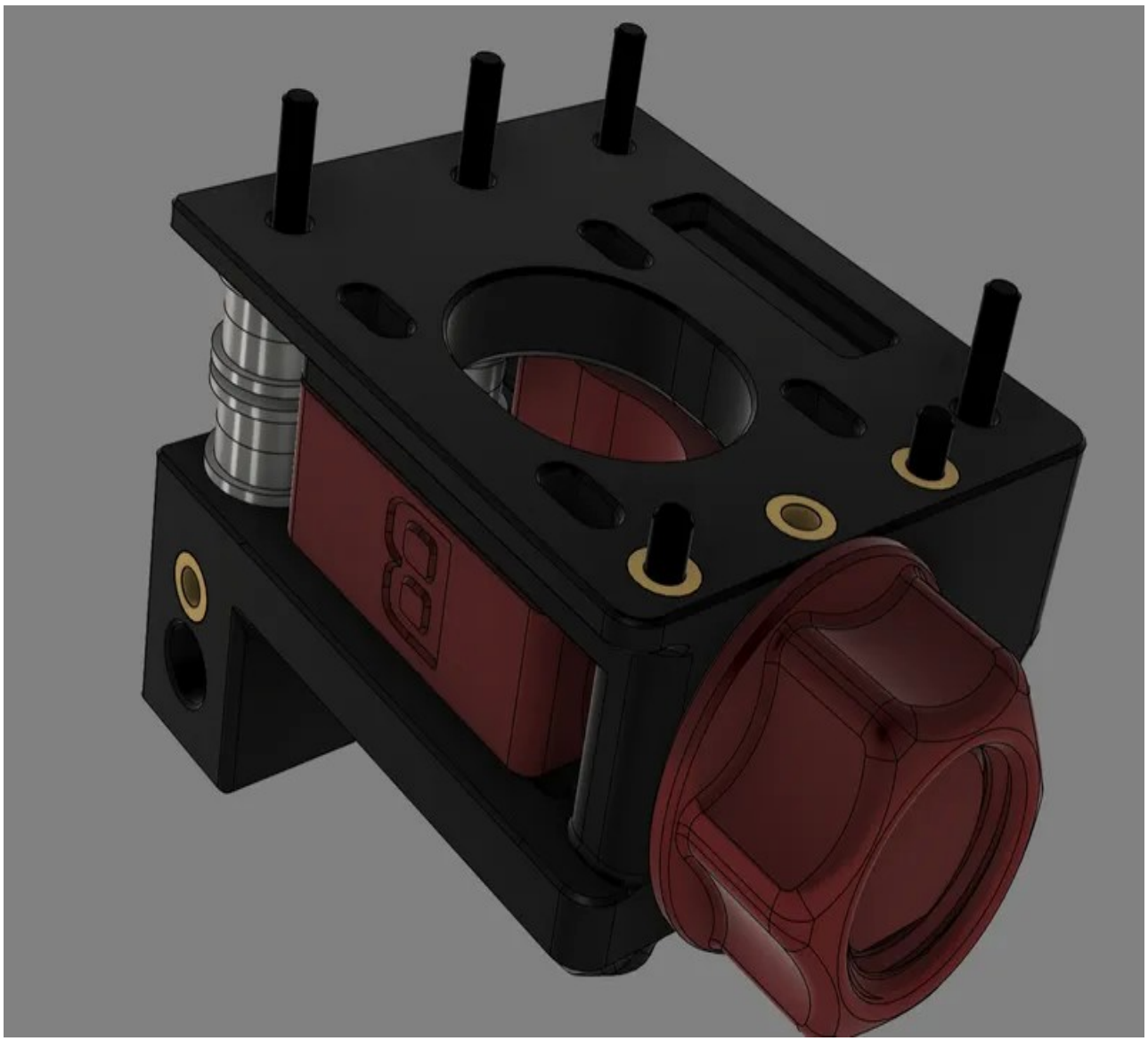
next insert the bearing into the **Top Tensioner Bearing Housing**
this must be flush with the top.
it will be a good press fit (I turned the bearing housing upside down and pressed down with my palm on the table until it was flush with the table)



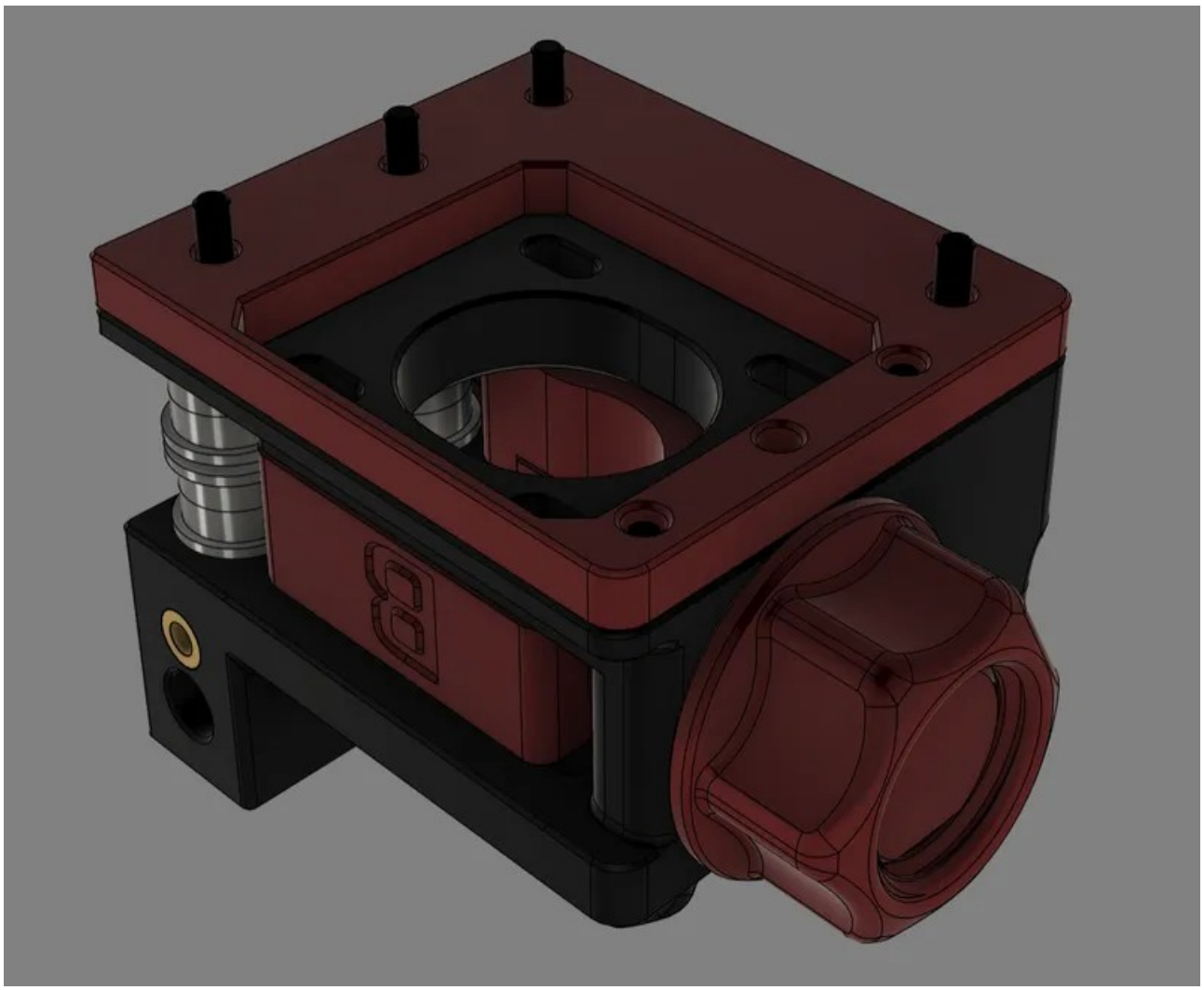
this should now just klick onto the top of the **Tensioner**



after that insert the **Tensioner** into the **Lower AB Motor Frame** and add the **Tensioner Nut** to hold it in place. align the **Upper** and **Lower** parts and fit together.
add in the 2 off M3 x 35 BHCS and 2 off M3 x 30 BHCS screws.



now add the **AB Motor Plate** to the bottom.



at this point you can re-install it back onto the printer (hopefully you haven't knocked the nuts out of place)

now this is where the real fun begins!

once back on the frame and secure (**remember not to over tighten the bearing stacks though**) add the **4 off M3 x 30 BHCS** screws for the motor.

the Motor has been raised **5mm** into the **AB Motor Frame** so we need to **lower the pullies** by **5mm** down the shaft.
it's ok to leave them loose if you want.

now get you belt and loop it into the **Motor Frame** and push it right to the back of the **tensioner!**

this is the tricky part…

with the belt looped at the back slide up the motor making sure to get the looped belt over the pully and slide the motor shaft into the top bearing!

once you've successfully done that **loosely tighten down** the motor to hold it in place.

now get yourself a cup of tea - you deserve it!

all that is left is to run the belts as per the manual and tension.

also **don't forget** to make sure your pullies are **tightened** (don't want to have headaches trying to figure out why your printer isn't working properly later)

warning - when I installed this I found I needed and extra 2 teeth on each belt.
I can only assume that this is because the motor shaft is not deflecting under load any more.

I'm **not** going to recommend a tension here because there are many factors that will change what you may end up using, but I will tell you what I'm running.

so, i have…

- **MOONS** motors running at **1.1 Amps**
- tension is set to 138Hz
- **Fushi** Bearings
- motor temp (after 3 hours print time) was 10 degrees less than on standard setup.
- travel speed of 800mm/s @ 30k accel before motor stall

for starters set the belt tension to the recommended 110Hz and slowly increase the tension until you either notice performance degradation or the motor temps start to rise too much.