Bosch Manufacturing Guide

By Yulia Gitter

- This document will walk you through the use of Bosch Rexroth parts starting with measuring components, cutting 45x45 profile Bosch struts, tapping holes on struts, cleaning, and assembling using Bosch Vertical Quick Connects.

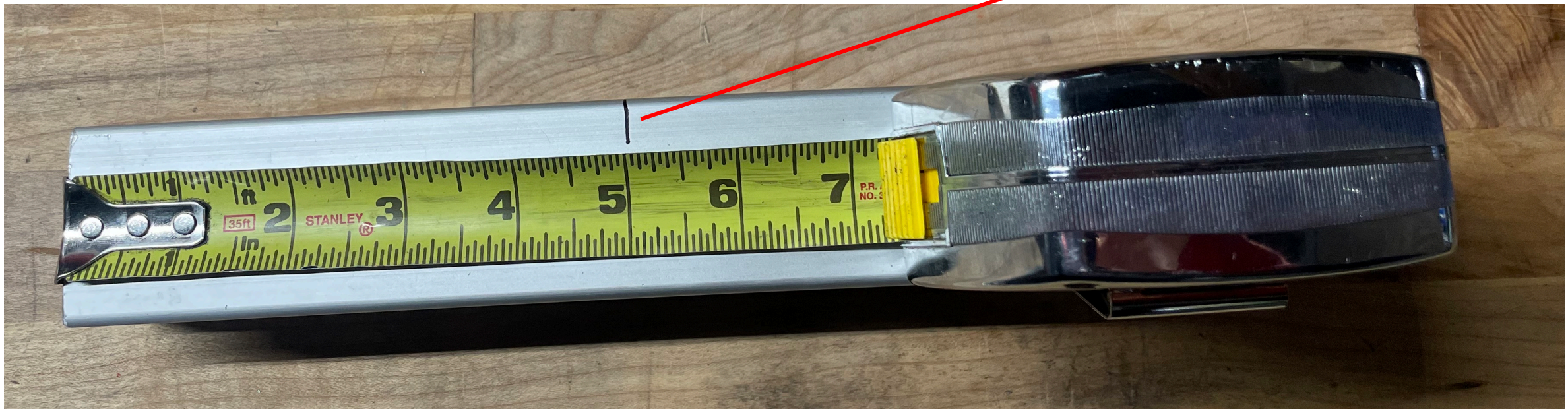
- Bosch Quick Connects are stronger and can support much more force than other assembly parts. These Quick Connects are also the most versatile and easiest to modify.

Measure

1) Take tape measure and start at left end of Bosch stick.
2) Pull tape measure right, past desired length.
3) Mark with sharpie, at left side of tic mark (just top part as shown below.

Note:

- Measure twice, cut once.
- Sharpie adds thickness to the measurement up to 1/16” in addition to where you align with tape measure mark so consistent placement is important.
- Left side will be your desired length for cut if the tic mark is oriented on the top side of the tape measure.



Cold Saw

Blade Leaver

Blade Guard

Control Panel

Blade

Vice

Vice Adjustor

Cold Saw Control Panel

Off Button

On Button

Emergency Stop

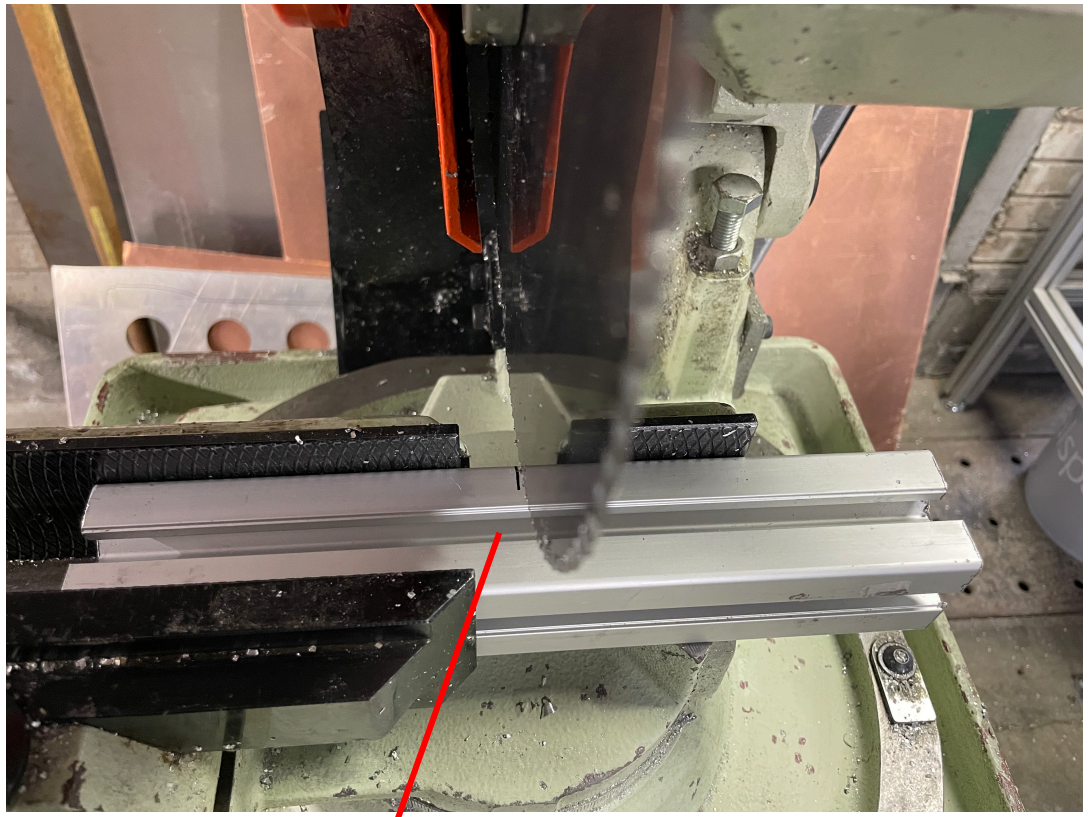
Coolant Switch
0 : Off
I : On

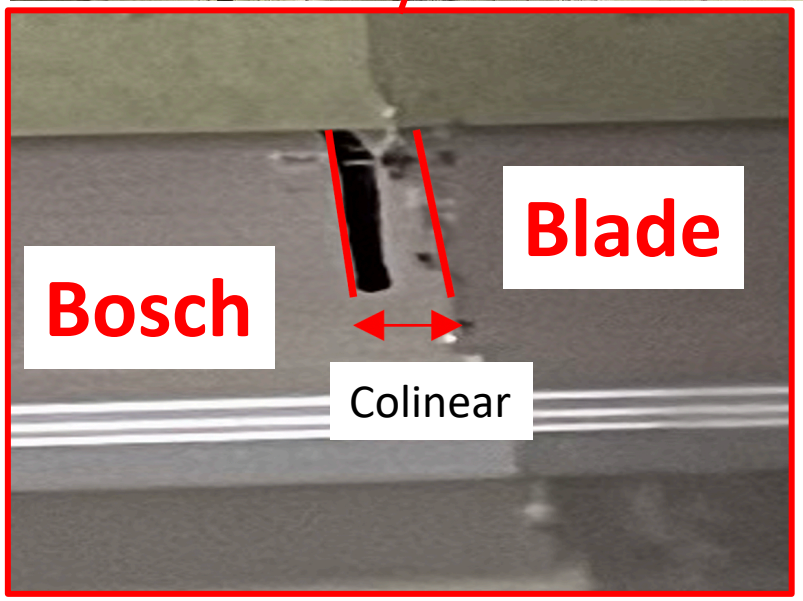
Cut

1) Insert measured Bosch piece into cold saw vice such that tic mark is facing upward closest to blade.
2) Align Bosch side to side such that left edge of tic mark aligns with left blade side.
3) Tighten down vice and double check alignment. Bosch can shift as tightening down using the vice adjustor.
4) Once set, push green button on control panel on.
5) Switch cooling fluid switch to the on position.
6) Grab blade lever and hold on button of blade lever to start blade and start flow of cooling fluid.
7) Let run for second then slowly pull down on lever to make cut.
8) Once through, lift up on lever and release button to keep blade going.

Note:

- Do not need to run cooling fluid through entire cut. Switch cooling fluid to off after letting fluid run on Bosch piece.
- Line was measured to left edge and so essential to line left side of blade up with that left edge. Otherwise could contribute to being another 1/16” off so could be as much as 1/8” total which can make a large difference with enough off cuts.
- Left chunk still in vice will be the correct length cut.

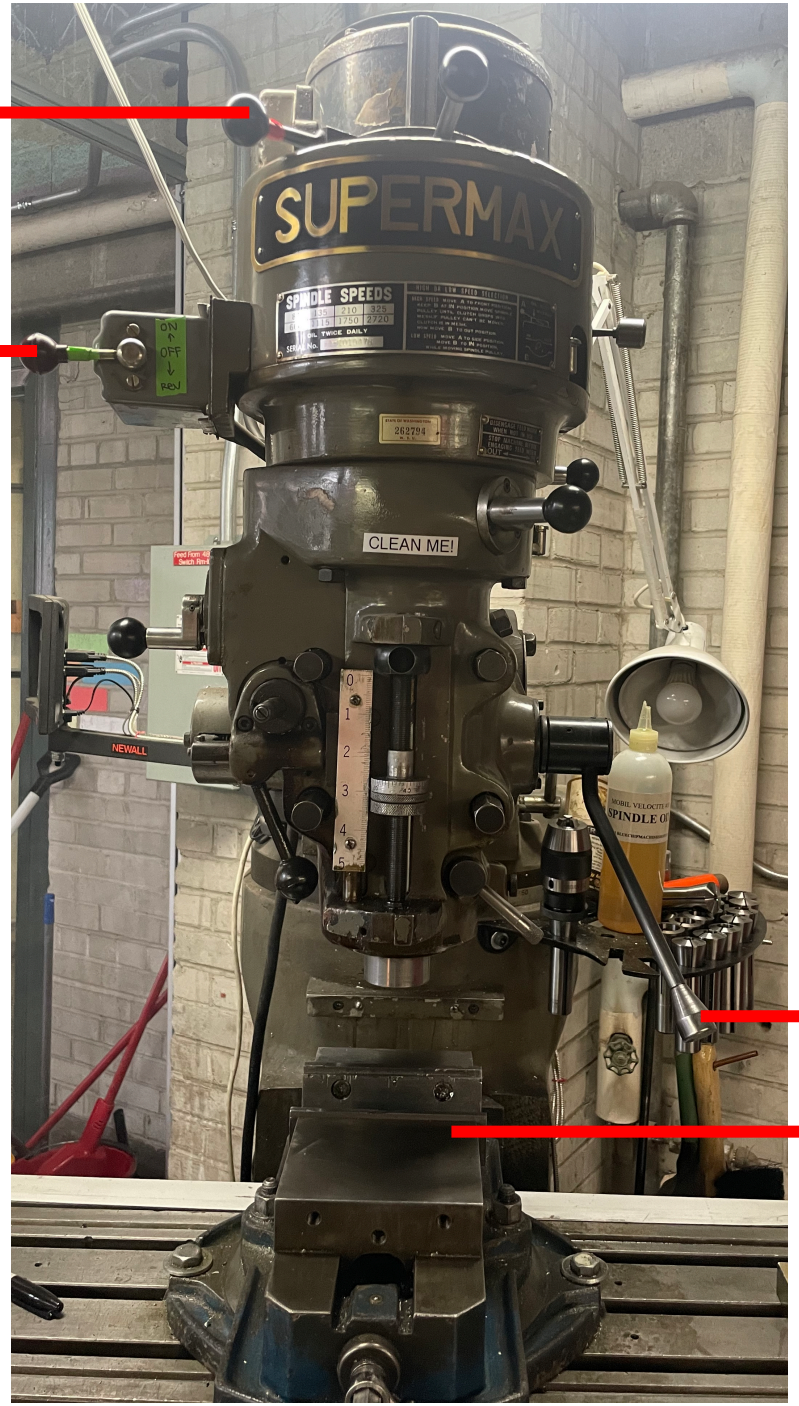


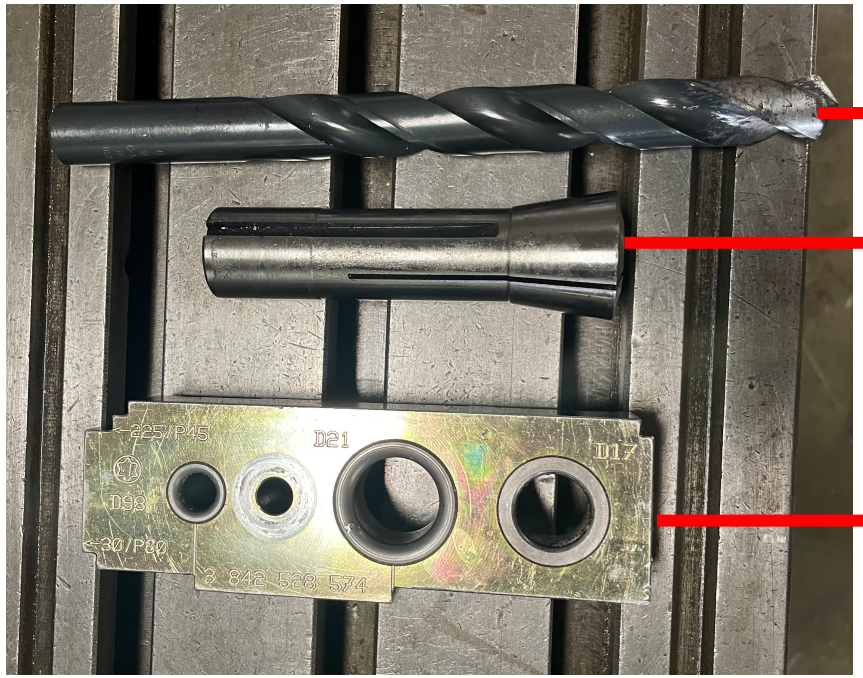


Mill

Break Lever

Start Lever





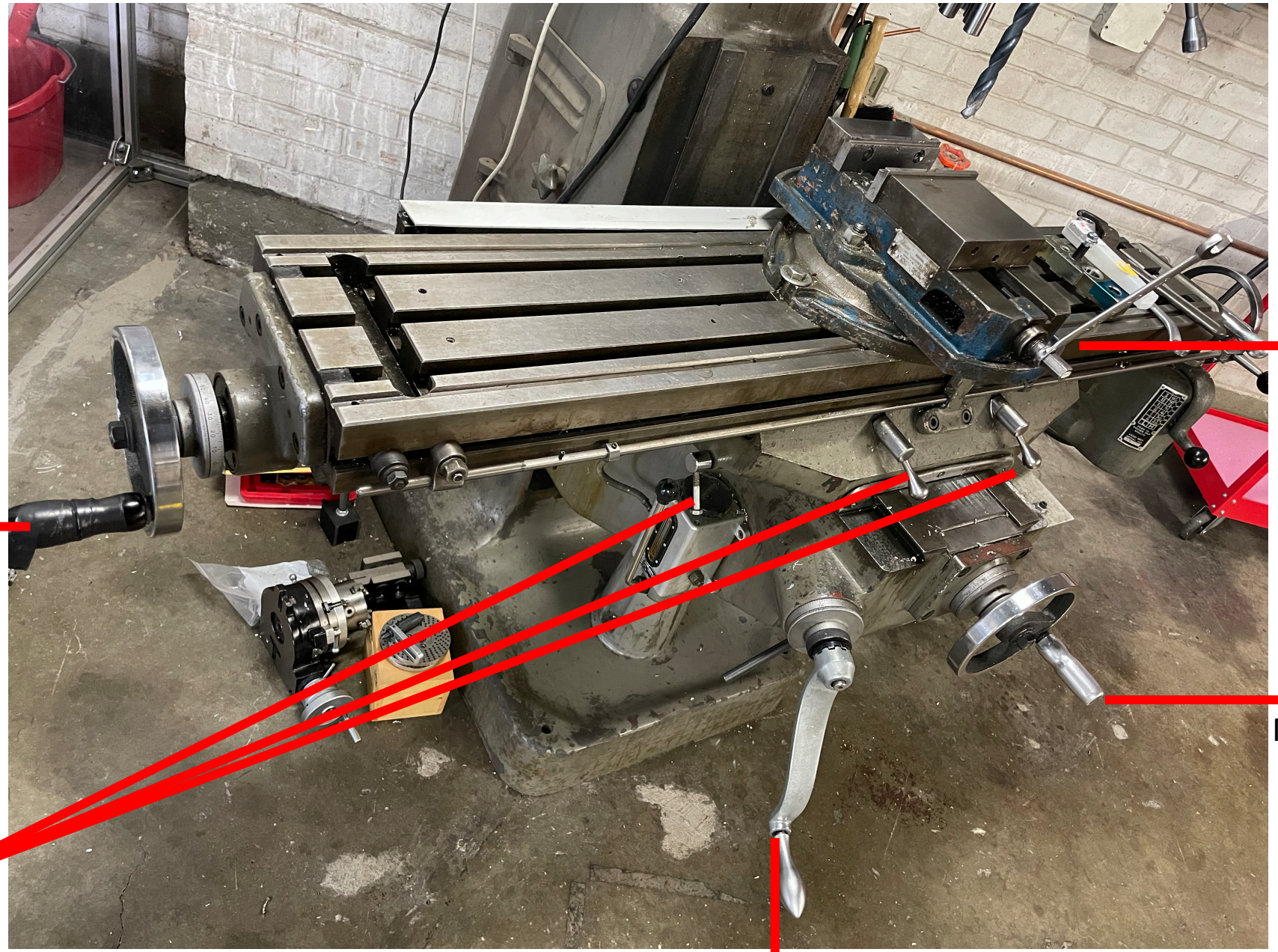
Drill Bit

Chuck

Jig

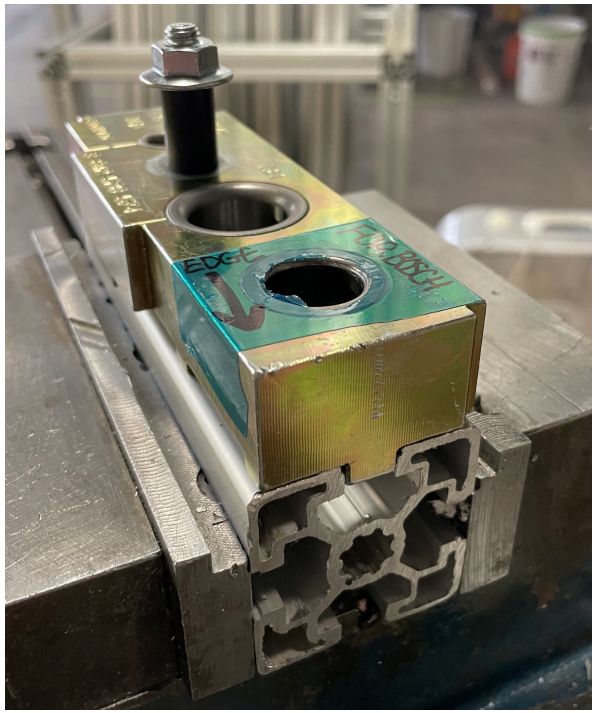
Up/Down lever

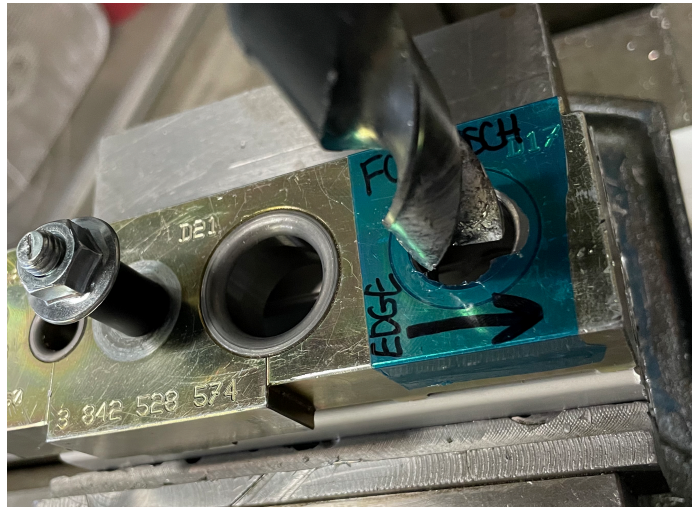
Vice


Tighten Vice
Move Left and right
Move Back and Forth
Platform Locks
Move Up and Down

Tap

1) Make sure chuck and drill bit is tight in mill.
2) Insert Bosch stick into Jig such that the desired tap side aligns with the right side of the vice edge and tighten down.
3) Insert jig such that green taped end is sitting flush with the end of Bosch that the tap is desired.
4) Tighten down nut on jig to keep in place.
5) Align drill bit with green taped hole by moving back and forth and side to side appropriately. This is ¾” from the right side of edge and specific to Bosch components. **BUT DO NOT STICK BIT DOWN INTO JIG** or it will get stuck. Jig is just there for alignment purposes.
6) Once drill bit is aligned with jig, lock platform in place.
7) Take jig off Bosch.
8) Put small amount of spindle oil to point where drill bit will contact Bosch.
9) Keeping clear of drill bit, turn on mill using ”start lever” by pushing upward.
10) Slowly pull down on drill bit lever to lower bit while running on Bosch
11) Incrementally go down a little then pull up a little then repeat till hole through Bosch.
12) Go back all the way up on the drill bit lever and turn off drill bit.
13) If part needs 2 taps, take out from jig and flip over, and repeat process. One side will have the hole so for uniformity, flip such that the old hole just created is also face up so holes are on same side.



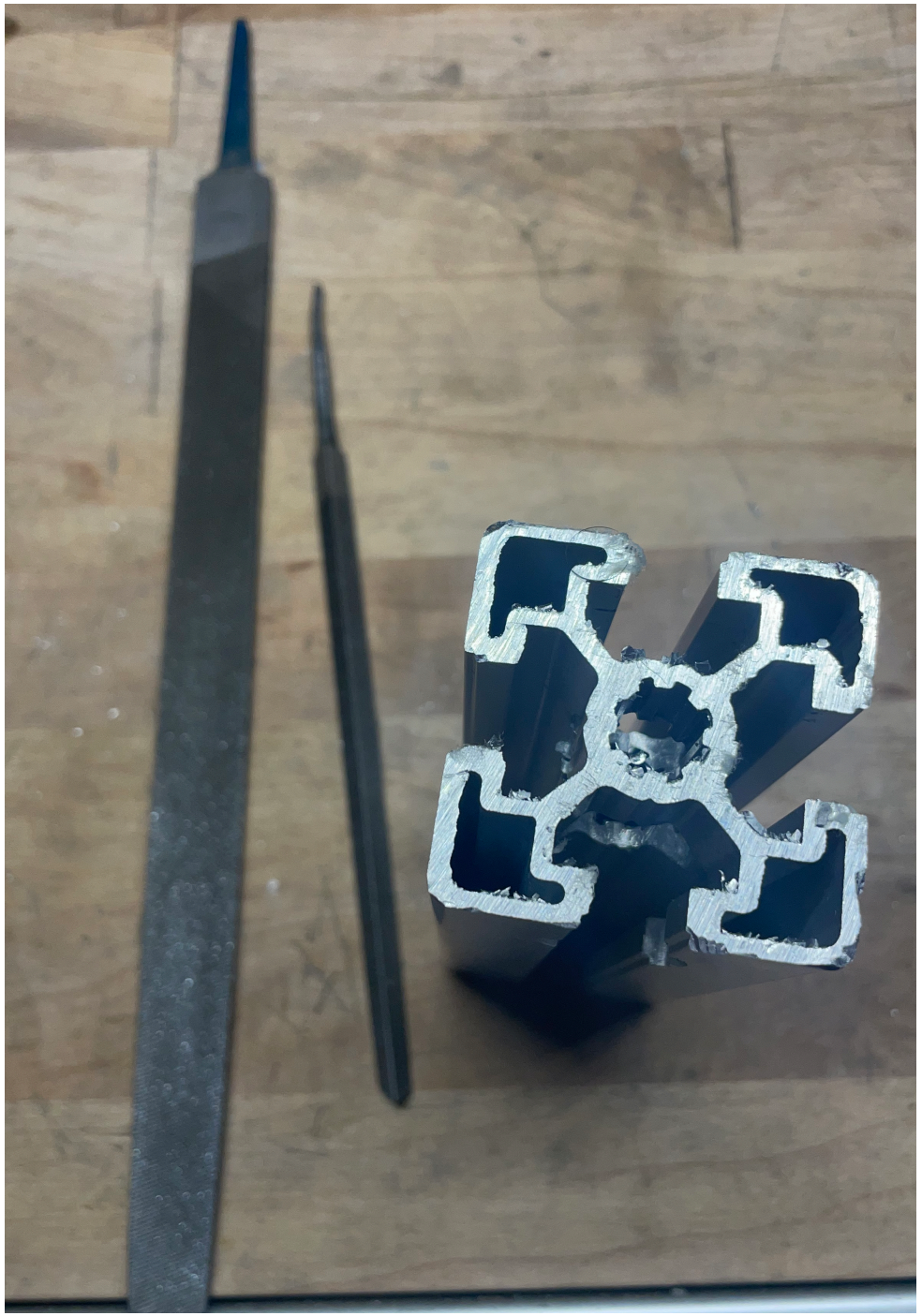


Note:

- If drill bit gets stuck while drilling, immediately stop machine by pushing the start leaver to the horizontal position, then push up drill bit handle then start again.

Clean

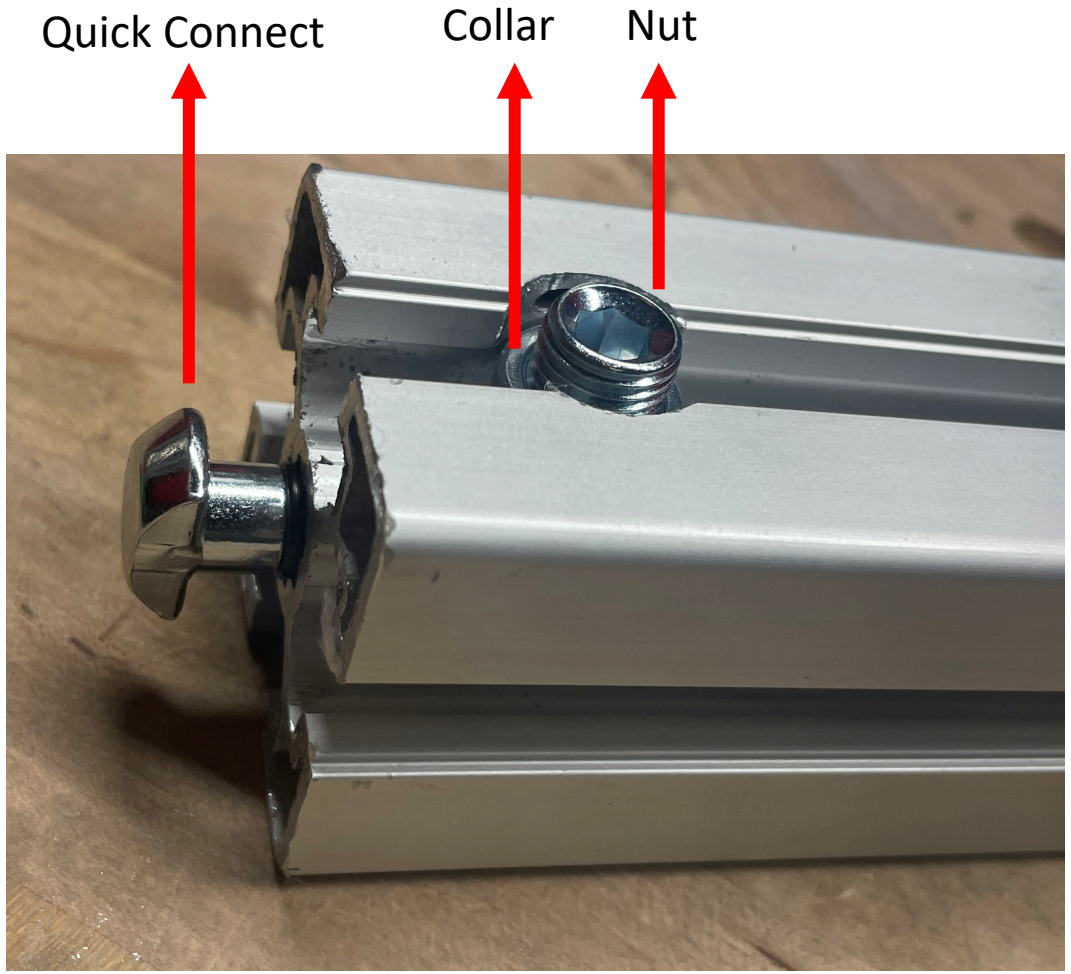
- Metal edges can be very sharp!
- Uneven metal shards can also cause assemblies to be uneven too which will result in crooked builds.
- Make sure to file all cut edges inside and out to reduce the likelihood
- Also wipe down oils off with paper towels



Bosch Assembly

- Take collar and insert vertical quick connect such that divot on quick connect is facing up toward the threaded side of the collar.
  - Quick connects work by tightening by the groove with the nut.
- Thread nut pointed end down into collar it will eventually lock the quick connect into place.
- This is the reason the dimension of the hole put in the Bosch is vital.
  - If too close to edge, the quick connect will not tighten sufficiently.
  - If too far from edge, the T on the vertical quick connect will not fit in the Bosch profile.

Bosch Assembled



Side profile to see how locks in