

## T-Groove Plate Installation

The T-Groove plates will be mounted on a series of MDF (Supawood) boards cut as described below:

2 x 19mm (or 3 x 16)mm MDF board cut to the inside dimension of the machine frame. It should be able to slide in easily. Do not force the plates into the frame. This is the base and you will need one more board.

One more or uppermost MDF board must be cut to the absolute cutting area size less 5mm (i.e. 1000 x 600 = 995mm x 595mm board). This will enable you to mill the top layer to ensure a perfectly flat and level surface.

The first 2(3) boards should be screwed and glued together to form a thick, stable base for the construction. Ensure that the boards are pressed firmly together before screwing and/or gluing them fast to prevent any flexing.

Insert the T-Groove nuts into the bottom slot of the inside of the machine frame to create the rests for the MDF base. Depending on the size machine bed you will need between four and 6 nuts and bolts. The rests (shown in Fig 1) will ensure that the T-groove plates are connected to the machine and not resting on the workbench below. Inserting the T-Groove nuts may require some effort. Don't give up; they do fit, sooner or later as shown below.



(Fig 1)

Lay the thick MDF under-construction inside the frame on the bolts you have just inserted. You should also be able to lift the bed out easily. However it should also not move around in the frame.

Now place the smaller (cut area less 5mm) board on top in such a position that the Zero point of the machine lies directly over the corner of the board. The milling bit centre should be on the corner. This will allow you to mill the entire board to make it level. You can check your position by manually moving the milling head around the outer edge to ensure that the board is in line with the machine path by using the Jog function in WinPCNC.

You should now screw down the last smaller board. Be sure to counter sink the screws about 1mm or so. If you do not, you will end up milling the screw heads off.

Using the biggest endmill cutter you have, mill the board flat. Usually I would mill down about 0.5mm. If you miss any spots you can adjust the depth till the board is milled completely flat. (Watch out for the screws!)

Now you can pre drill holes inside the grooves of the T-Groove plate for fastening the plates to the MDF base. You can use relatively small self tapping screws which should be counter sunk into the aluminium plate. This will prevent your clamping nuts from getting stuck when you slide them in a groove where a screw is. Be sure to clean the burr of the flat side of the T-Groove plates after drilling. Remember the more precise the level of the bed, the better the accuracy when milling in the z axis.

Ensure that the T-groove plate is within the cutting area with enough overlap in all directions.

Now you have a base that is stable and removable if you need to mill a larger workpiece.

Fig 3 represents the build up of the construction; however the alignment of the T-groove plates to the shown graphic may be different.

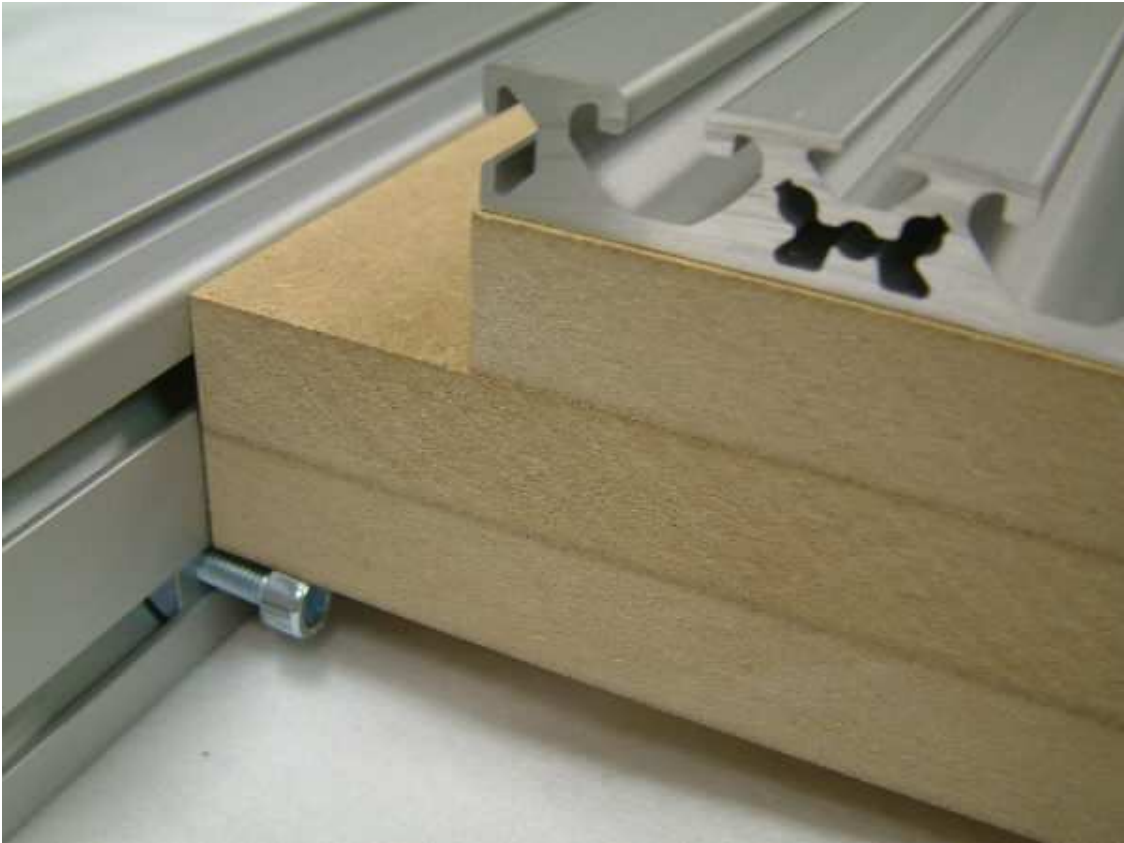


Fig 2