

Simon's super simple Quick Change Tool-post for the SL

All the securing bolts are M5, with the main bolt being M6. These should be steel (stainless if possible) cap heads, and are readily available.

The tool-post consists of two main machined parts. The Top Hat post and the tool-holder. These can be made of steel, brass or aluminium dependant upon the materials you are likely to be machining and the likely abuse you are going to give them!

Aluminium works perfectly well providing you are careful with setting up and caring for the post. In this form it should accept 3/8th tooling without problems.

The system is very simple. The top hat post is secured to the cross slide with an M6 shouldered bolt, I have included an elongated 'T' nut to provide additional support, but a standard one will do just as well. Similarly, the flange on the top hat is simply to add a little lateral support.

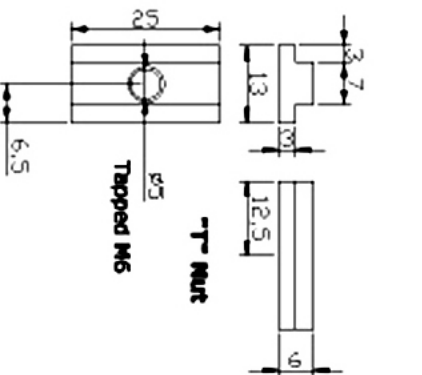
Once the top hat post is secured, the tool-holder(s) drop over the post and are secured by a pinch bolt on the tailstock side. By locking the tool-piece into a holder (without shims) the height of the cutting edge is the adjusted using the stop bolt and lock nut. By making up a series of tool-holders for differing applications, the height setting is repeatable to +/- 0.005" as long as everything is kept clean.

The actual dimensions are reasonably non-critical with the exception of the bottom of the tool bit recess. If you make it too high, the cutting edge of the tool will be above the centreline and you won't be able to drop it down. Hence the circular rebate in the bottom of the tool-holder. This allows the tool-holder to drop over the top hat post flange and keep the tool height low enough to gain some adjustment.

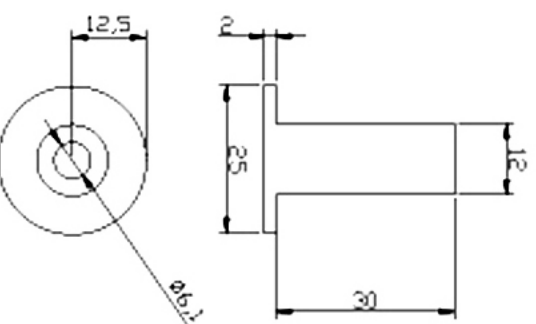
Paradoxically, the thinner you make the top hat dimensions the easier it is to machine the tool-holder, but the less stable the entire tool-post will be. I made one of these to fit a Drummond 25 years ago using only a single tool-bit and a set of hand tools. Once you have a basic one set up then you can machine better holders to fit the top hat post.

A boring bar holder should be high on the list of tool holders to make. You can drill a support hole instead of a recess.

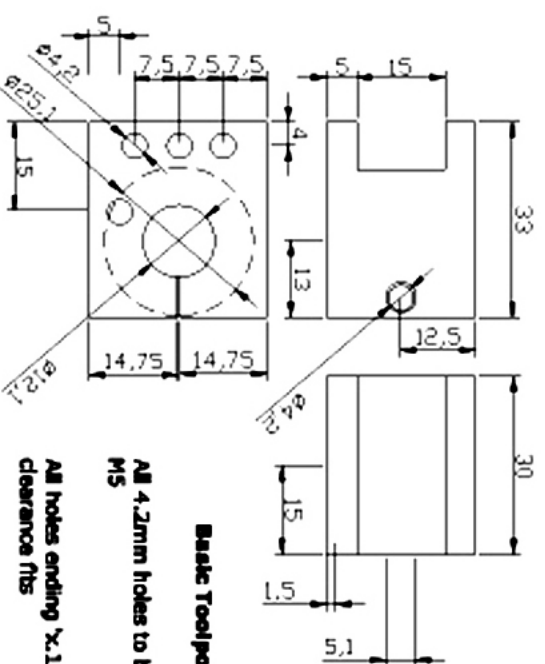
If you have access to a boring bar, a slitting saw and an end mill then this project is a breeze. A good beginner project for your lathe. I will post additional tool-post drawings and photos as and when I have them.



Material: Mild Steel



Material: Mild Steel,
Brass or Aluminium



All 4.2mm holes to be tapped
M5

All holes ending 'x.1' are
clearance fits

Material: Mild Steel, Brass or Aluminium depending upon application

Not to Scale: All dimensions in Millimeters

Drawing describes basic toolpost. Additional Toolposts will be needed
for boring bars etc.

Methodology: Top Hat post is secured to Cross Slide.

Tool is secured and centered to its own drop over post.

Height is set using depth screw and locked. Position should be repeatable without
shims.

Project Name	Port Number
Unitmat SL	Quick Change Toolpost
Designer	Drawing Number
Simon Smith	SL-QCTP