

Making toolholders for a Sieg type Quick Change Toolpost

A friend got me a good deal on a Quick Change Toolpost for the Sieg C6 lathe, I only needed to turn the recess at the bottom of the block out to a slightly larger diameter to get it to fit my HBM 290 lathe. I had made a simple quick change toolpost when I first got my HBM 290 lathe, but for each new tool-holder I needed, I had to find a large chunk of steel and machine it. The material needed for making tool-holders for the Sieg type QCTP was much smaller and far easier to find.



To make a tool-holder I used a piece of mild steel about 28 x 66 x 47 mm, the work was squared in the milling machine and the position of the dovetail was marked out. A recess was milled first using a slot drill, see left photo.

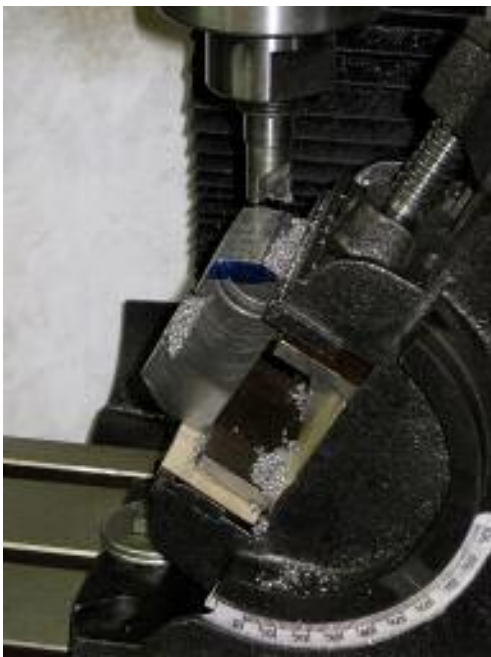
The first part of the dovetail was milled using a home-made dovetail cutter with a carbide insert, right photo.

I used a multi tooth HSS dovetail cutter for the finishing cut.

Then the corners were marked and the work was transferred to my tilting vice, see left photo.

After milling the first corner to dimension, I zeroed the quill DRO and turned the work around in the vice and milled the other side.

Using the quill DRO made it easy to get the second corner to the same dimension as the first.



I could now test the tool holder to see how it fit the toolpost – right photo.

Then a 4.3mm hole was drilled and tapped M5 for the height adjustment.

I used a 14mm slot drill to mill the slot for the tool to a depth of 13mm. The slot was placed a bit lower than on the original tool-holders so I could use the cutting tools I already had. Some of my existing tools couldn't be lowered enough to get the cutting edge on lathe centre line when using the original tool-holders supplied with the Sieg QCTP.

I drilled and tapped the 6.8mm holes for the tool clamping screws.



Later I also made a parting-off tool-holder; most of the machining was as described above. I used the same procedure for clamping the HSS parting-off blade as I had used for the rear mounted parting-off tool-holder I made earlier. The photo shows the tool-holder with a small HSS parting off blade.



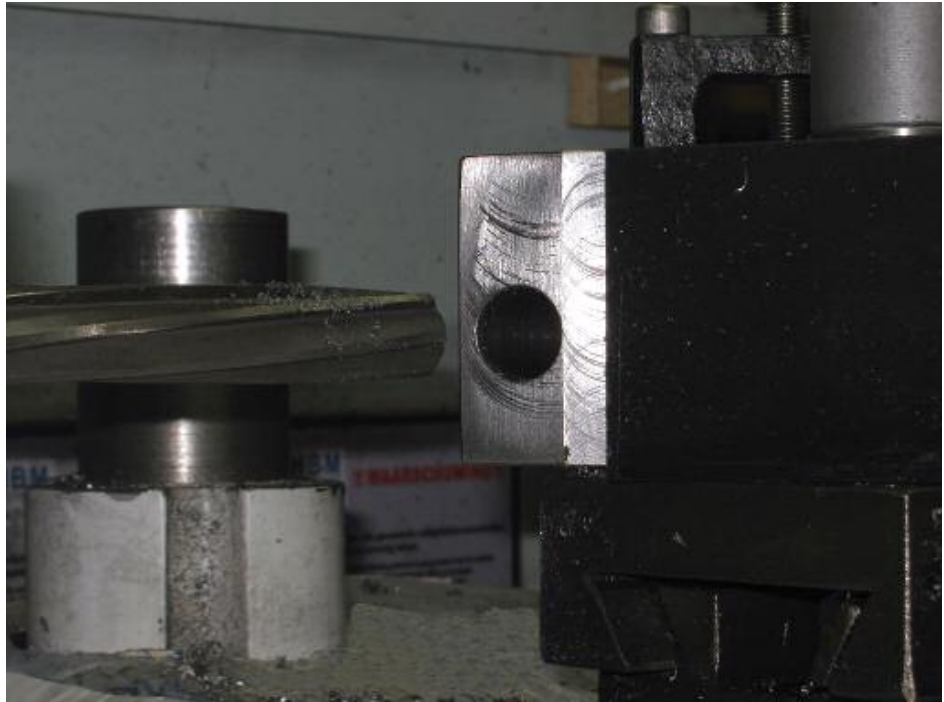
Boring bar tool-holder for a Sieg type QCTP

I have several round boring bars and Sieg doesn't seem to make tool-holders with a round hole. You can clamp a round bar in the original tool-holders, but the clamping screws mar my boring bars that are made of mild steel. I wanted tool-holders with a round hole to take my boring bars, and preferably with a split down to the boring bar hole and a couple of clamping screws. I have used a similar kind of holder for boring bars on my smaller lathe and was very satisfied with it, the HBM 290 is a larger lathe so I wanted a more substantial holder.

The dovetail part of the holder was made as described earlier and mounted in the toolpost about 1mm above the top of the topslide and the long side parallel to the lathe centre line. This way it will be possible to adjust the centre line of the hole in the boring bar holder both below and above the lathe centre line. The position for the hole for the boring bar was marked and a centre drill used to start the pilot hole. After the pilot hole was drilled it was opened up to 13.5mm and I used a 14mm reamer to get the hole to dimension. I used the lathe automatic feed and slow speed for the reaming operation. Because I placed a 1mm shim under the tool-holder before drilling the hole, it ended up slightly lower than on the drawing, I don't think that matters much.

The next job will be to make a saw cut from the top to the 14mm hole and drill and tap for the clamp screws.

First I drilled two 5mm holes for the clamping screws, to a depth of about 22mm. Since I only had a 50mm diameter slitting saw I realised it wouldn't reach from the top of the tool-holder to the top of the 14mm hole, so my only option was to use a hack-saw for that cut (right photo).

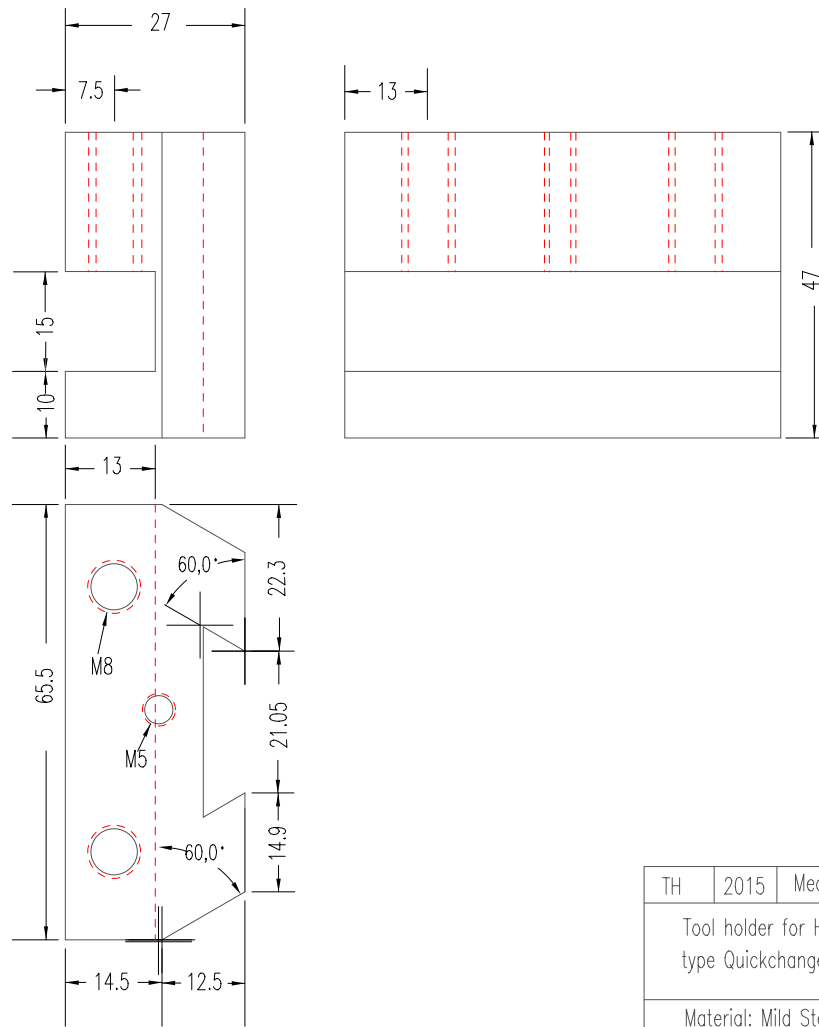
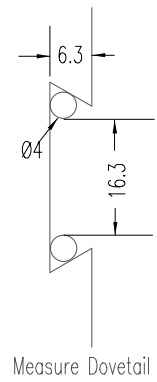


On the other hand it was possible to make the other cut using my 50mm diameter slitting saw – see right photo. There wasn't much clearance but I managed to get the job done.

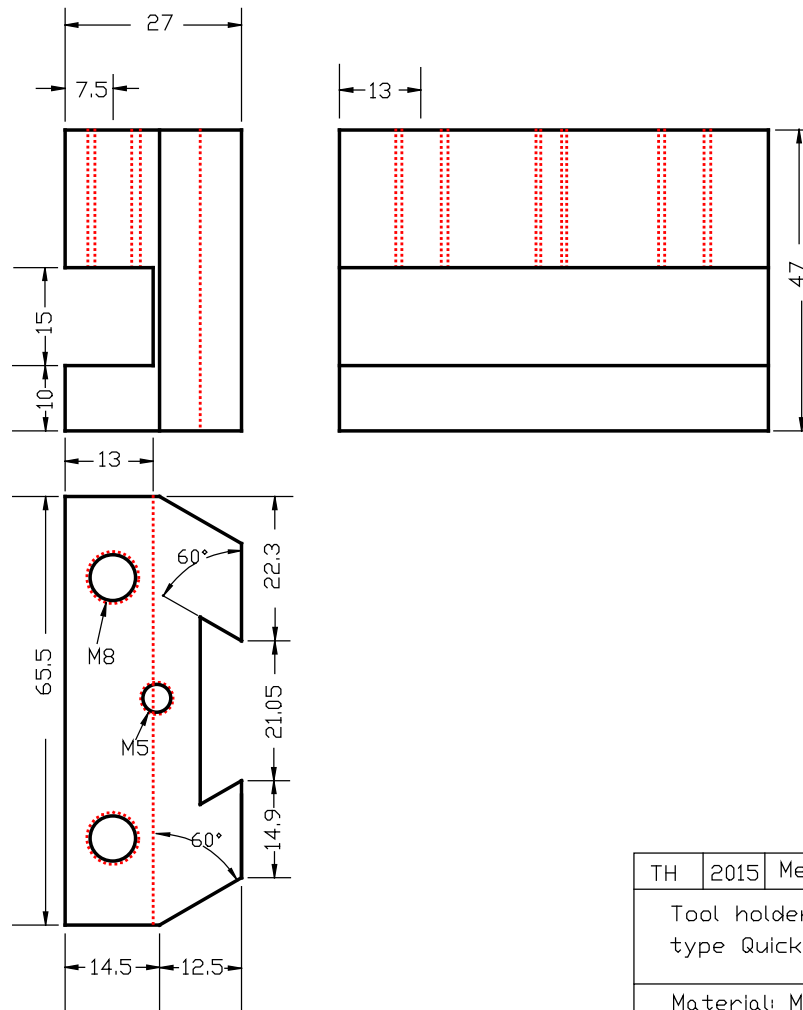
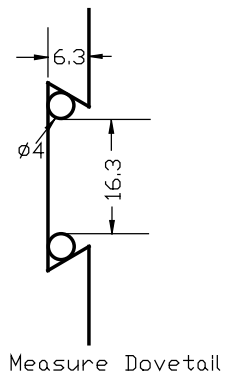
With the slits made the two 5mm holes could be opened up to 6mm to the depth of the first saw cut and the 5mm part of the holes tapped M6.



Must make the height adjuster and find a couple of suitable washers.

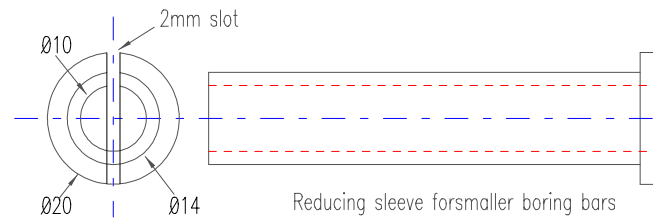
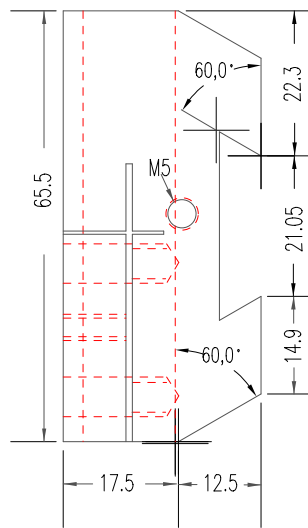
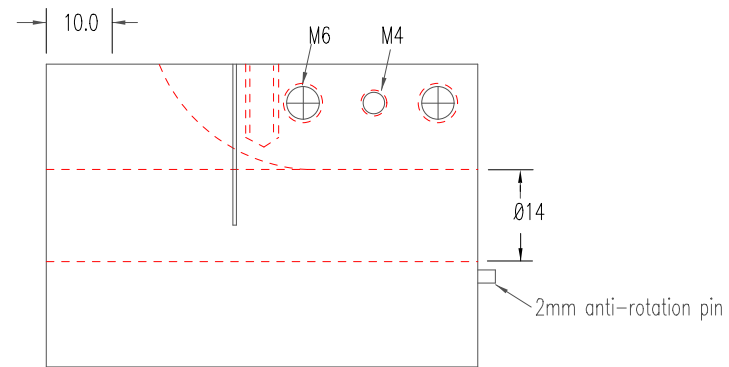
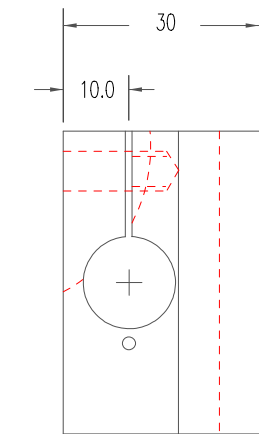
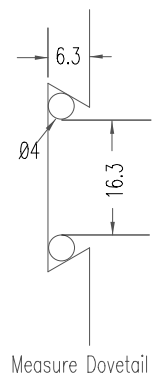


TH	2015	Measurements in mm	☉	▭
Tool holder for HBM 290, Sieg type Quickchange toolpost				
Material: Mild Steel				

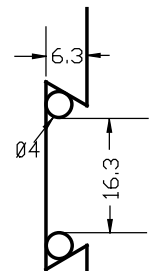
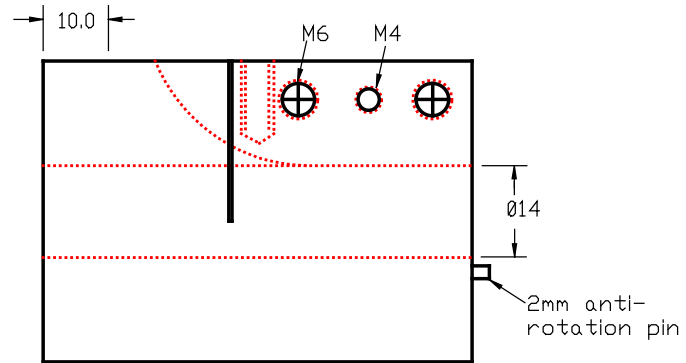
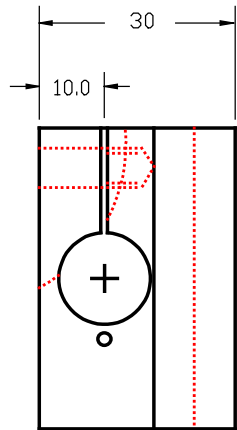


TH	2015	Measurements in mm	☉	◻
Tool holder for HBM 290, Sieg type Quickchange toolpost				

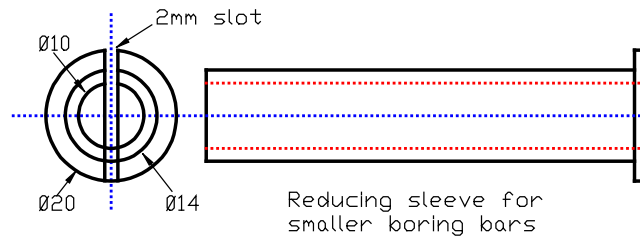
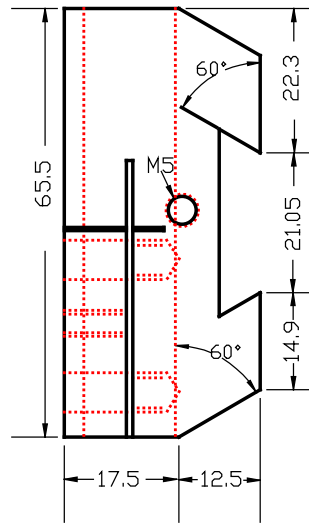
Material: Mild Steel



TH	2015	Measurements in mm	⊙	▭
Boring Bar Toolholder for HBM 290, Sieg type toolpost				
Material: Mild Steel				



Measure Dovetail



Reducing sleeve for smaller boring bars

TH	2015	Measurements in mm	©	□
Boring Bar Toolholder for HBM 290, Sieg type toolpost				
Material: Mild Steel				