

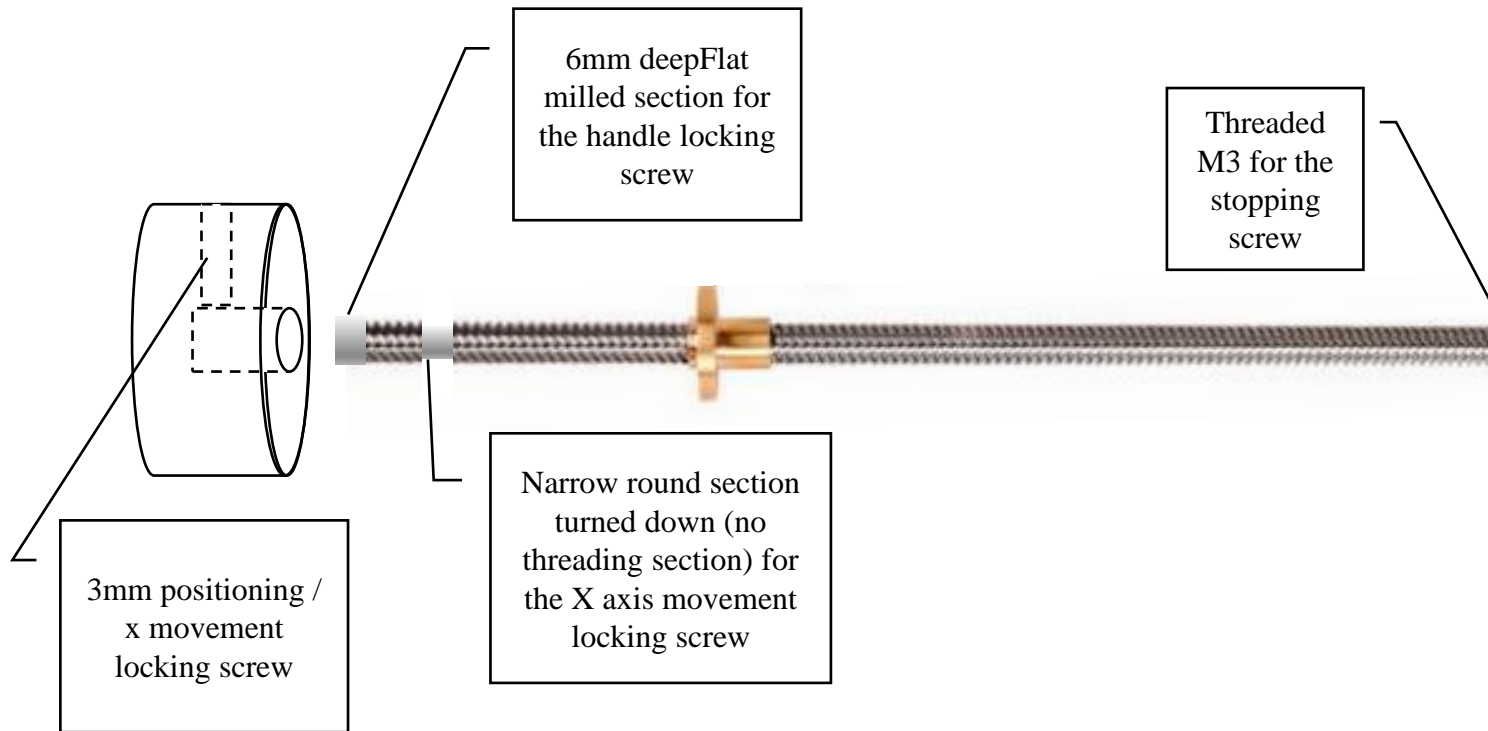
**Drawings for  
a shop-made  
Compound rest  
for the**

**Unimat SL 1000 Lathe**

**Smallathe, Mar.2022**

## The lead screw

88mm/3.46" long lead screw (the length depends on your ways/travel length)  
 It **must** be a 6mm threaded rod as the unimat spindle core is 6mm ID.



## Recommendation:

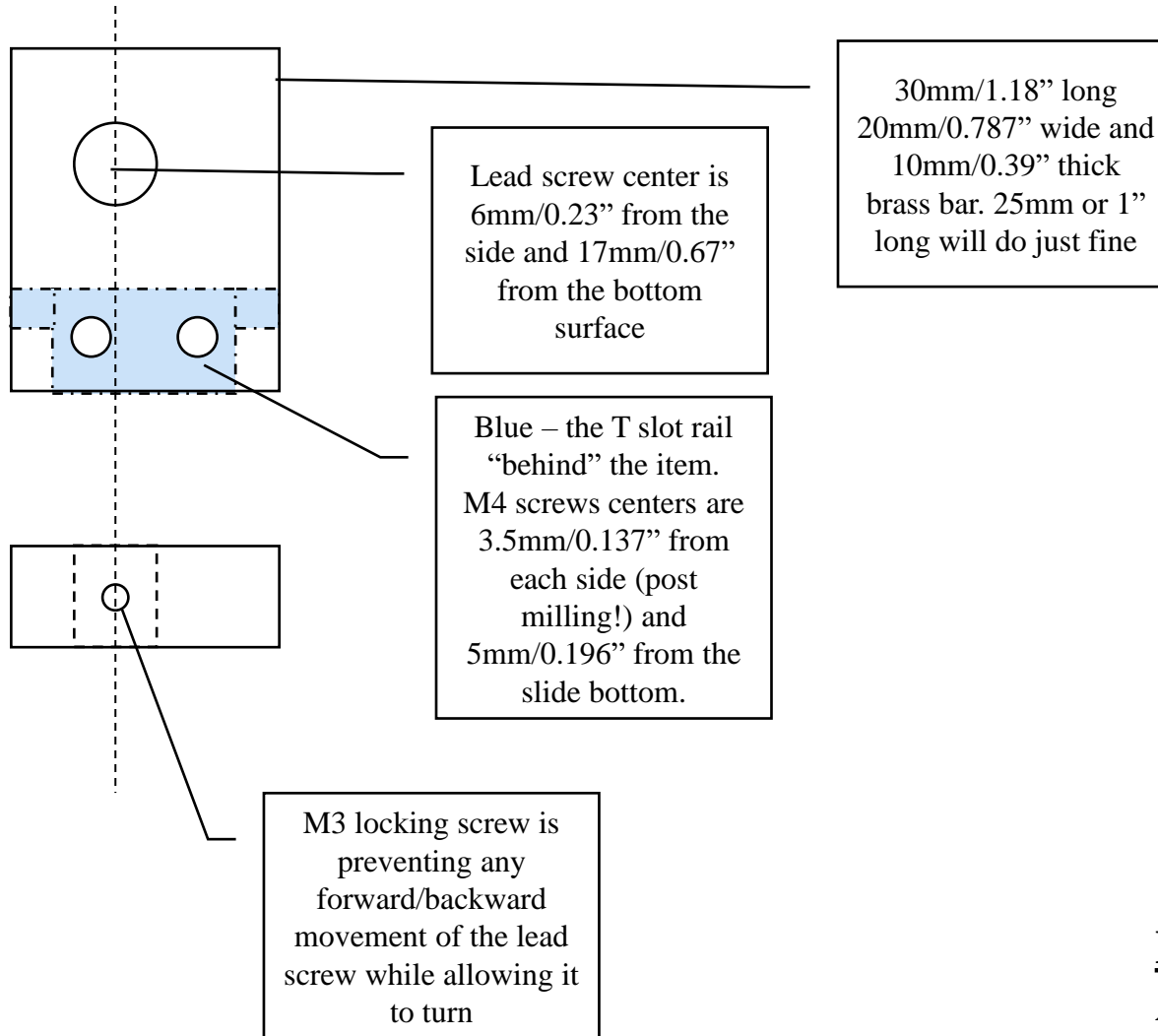
Like the bed a 77cm/3" long lead screw will be long enough and allow for a 50mm/2" travel.

The lead screw is a 6mm OD  
 - 3D printer lead screw.  
 You buy it along with the brass nut.



## The back plate

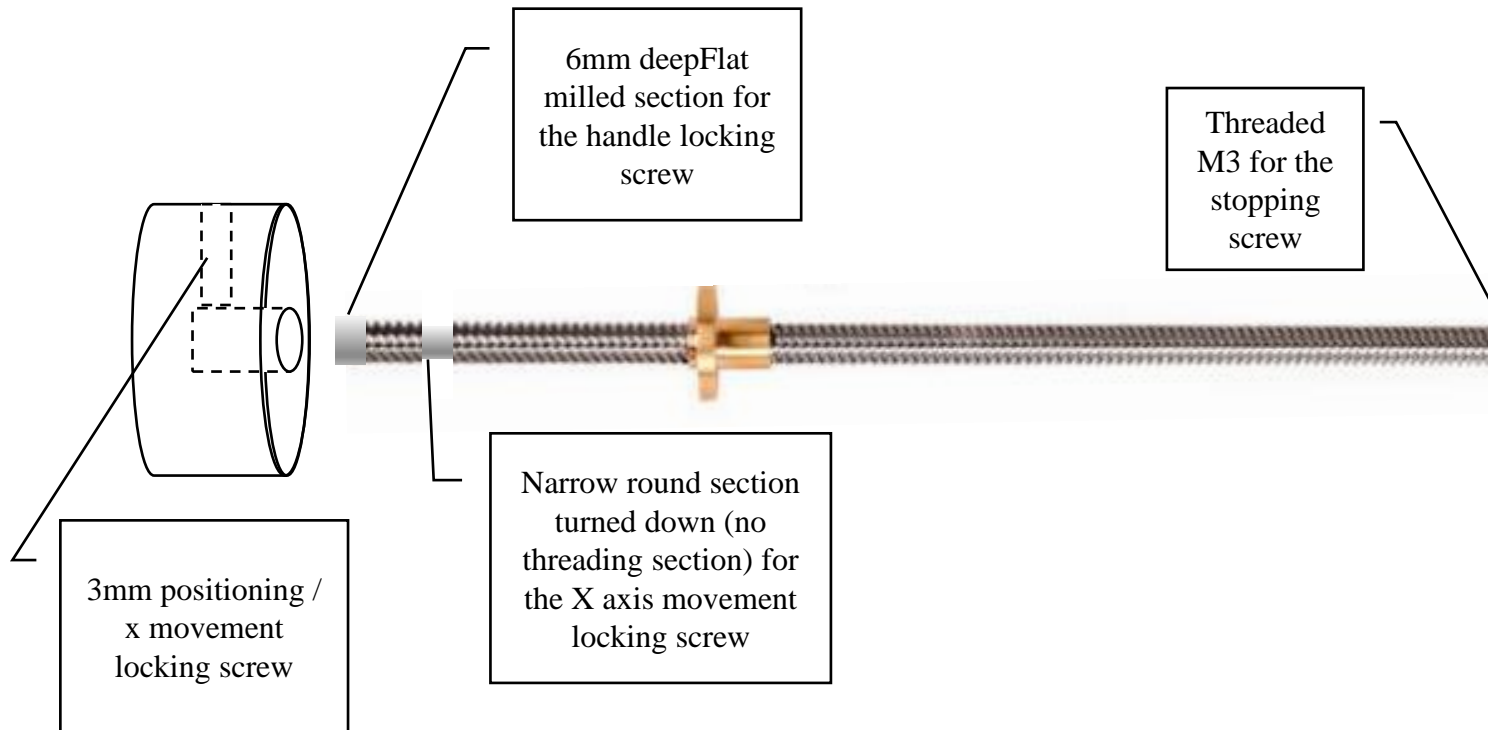
Stock: 20x10mm brass stock (as is)



**Recommendation:**  
A 25mm or 1" total  
length will do just fine  
for this piece

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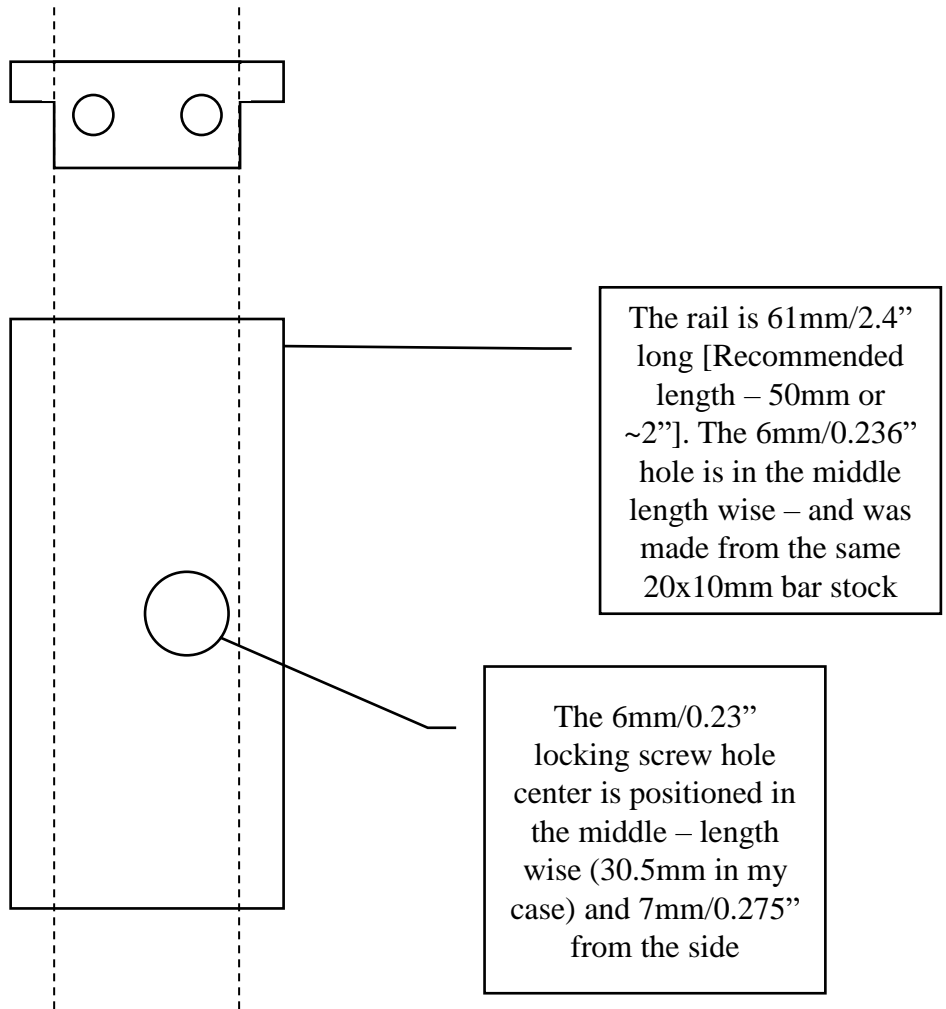


## Recommendation:

Like the bed a 77cm/3" long lead screw will be long enough and allow for a 50mm/2" travel.

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- 3D printer lead screw.  
You buy it along with the brass nut.





**Recommendation:**  
 Make the bed length – 50mm or ~2", not longer!.

The hole center is 12.75mm/0.5" above the **top** of the piece and 10mm ID to match the lead screw nut OD. Drilled with the backplate hole

The T slot top is 20mm/0.787" wide and the base is 17mm/0.67" to match the T base. Tolerance is 0.1mm/0.004"

A 20x20mm or a 0.787x0.787" that is 41.5mm/1.63" long brass bar was used to make this part

13.5mm/0.53"

Cutting tool cavity 4.8mm/0.18" tall & 5mm/0.196" deep

**1. Crucial:** The bottom of the 4x4mm HSS tool must be 12mm/0.47" above the lathe carriage.

**2.** The cutting tool cavity bottom is 4.5mm/0.177" above the bottom of the piece

4.5mm/0.177"

3.5mm/0.137"

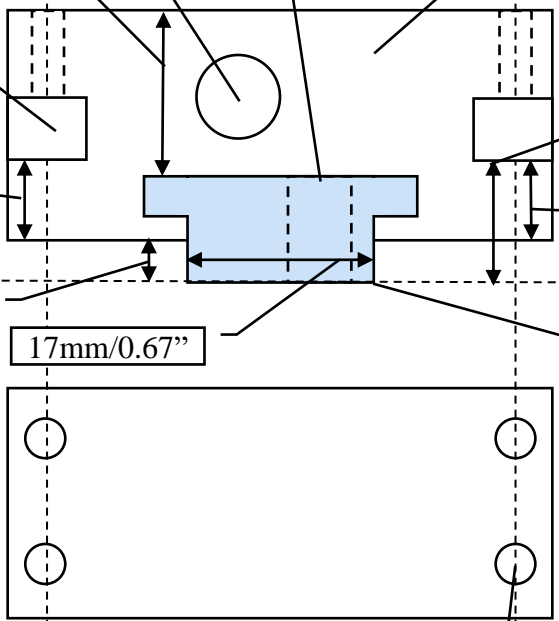
17mm/0.67"

**3.** The bottom of the T rail extends 3.5mm/0.137" from the unit bottom.

**A must:**

**1+2+3:** The tip of the cutting tool must be 12mm above the lathe carriage – in line with the center of the spindle

The locking screws are M4 and are located 3.5mm/0.138" from the right/left edges and 5.5mm/0.21" from the top and bottom edges in the drawing.





## **Last few notes:**

I have bought some 6x4mm HSS tool steel bits for the compound rest. This allows me to hold the tool steel bit more tightly, without any required angle – as I grind off the clearances.

Knurled handle for this piece is a wonderful idea (wish I could do that) so scrap the tiny handle idea and use a knurled round nob to hold and move the lead screw.

I hope you make one yourself.

If you do – I would highly appreciate a picture!

Feel free to email me (through my webpage below), as questions – I'll be happy to help a unimat-mate :)

Enjoy

Saar

[www.spicecandies.com](http://www.spicecandies.com)

March2020