

HM Series CNC Conversion

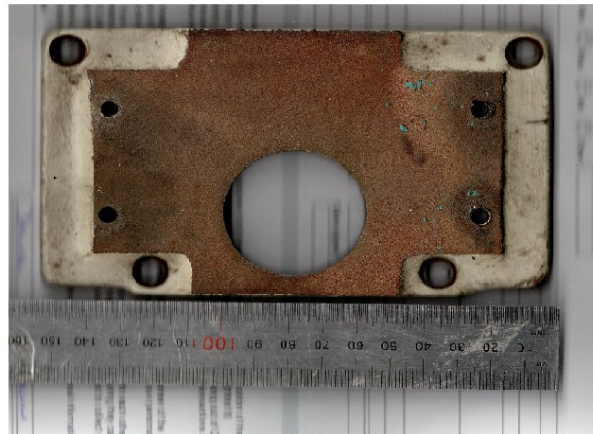
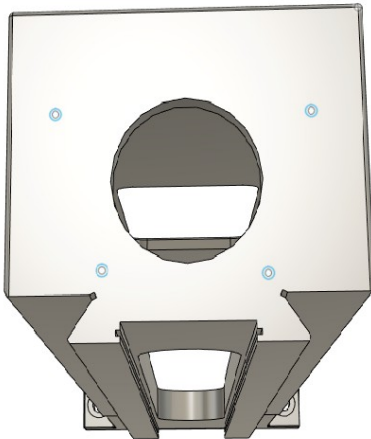
In the HM series there are a few different manufacturers of these castings , to ensure the best possible fitment we try and custom make each plate set to the machine .

To do this we need to identify the main Z casting and some critical dimensions.

Please fill in dimensions on last page and email to us.

If once you have your kit you find something that does not fit correctly , need some advice / guidance then please contact our engineering team on 0412770696 .

Type A

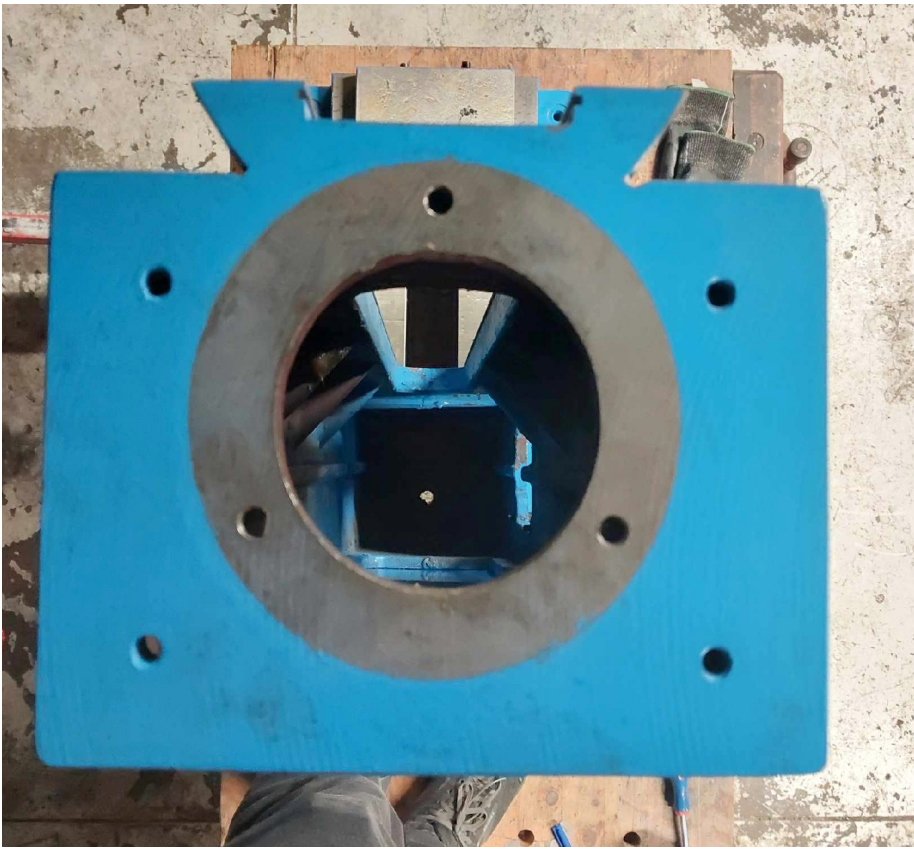


Type B

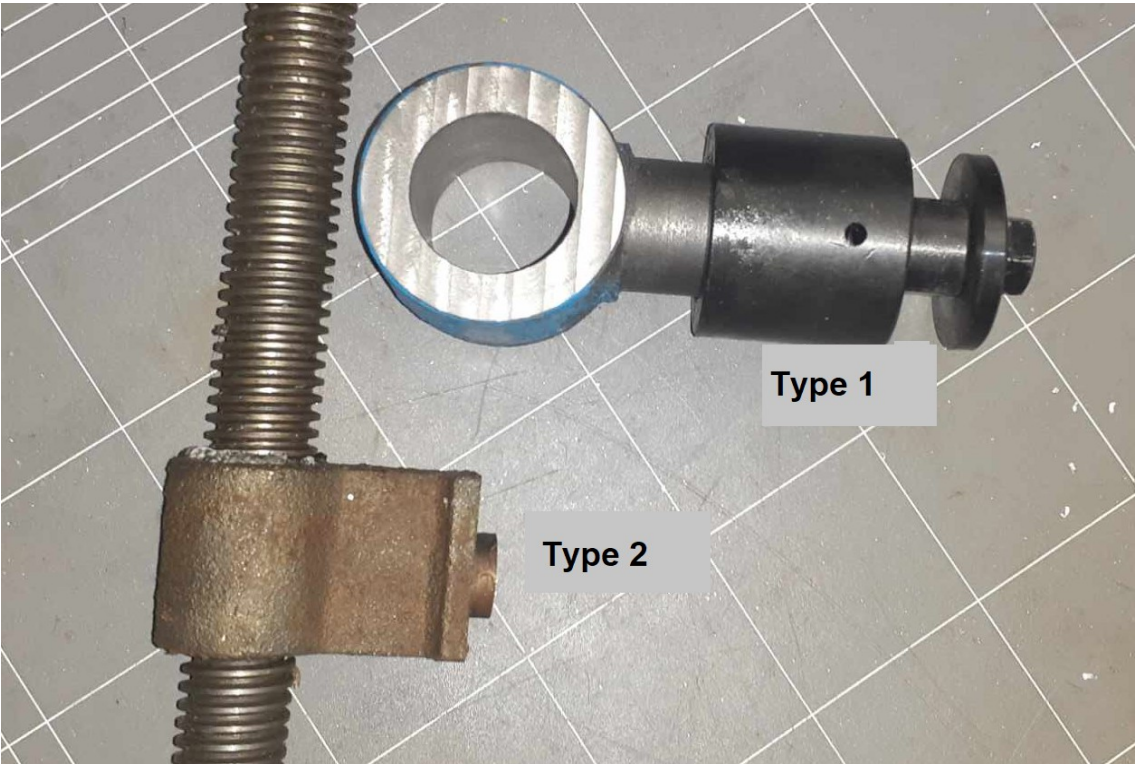
This can also come with no drillings on some machines – the kit has provisions for you to drill and tap the holes.



Type C



There are also two different Z leadnuts used on these models



Measurement required Z

Measure the spigot on the Z leadnut casting and note down this value D1 on the dimension page



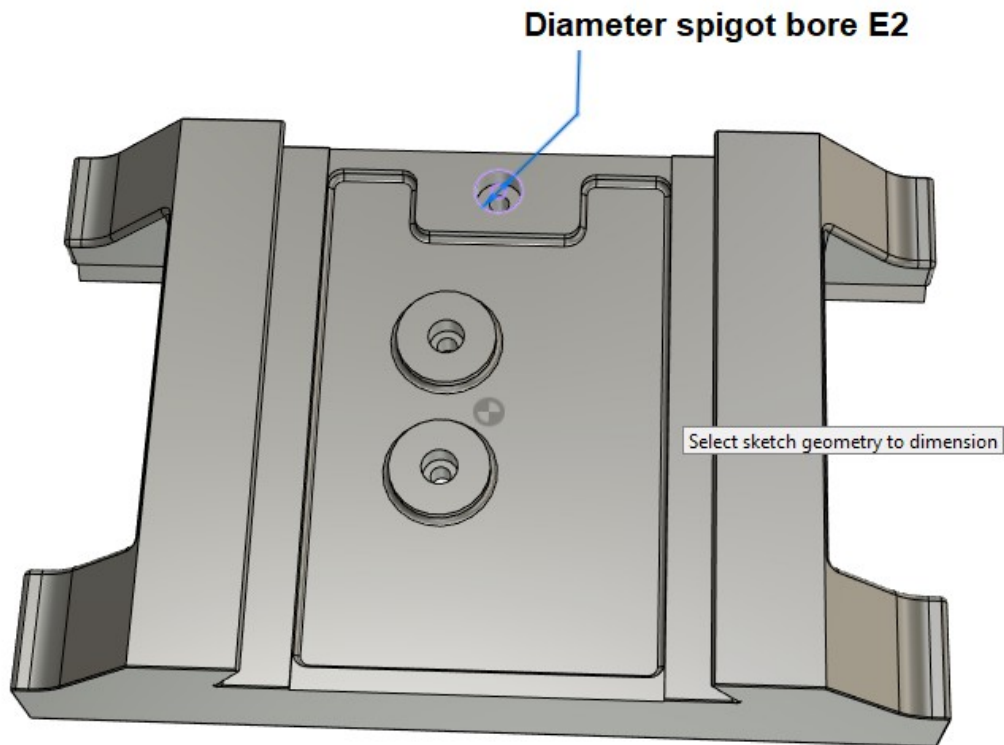
Also check the bore of the spigot recess of the Z saddle and note down this value D2 on the dimension page

Measurement required Y

Measure the spigot on the Y leadnut casting and note down this value E1 on the dimension page



Measure the bore of the spigot in the Y saddle and note down this value E2 on the dimension page

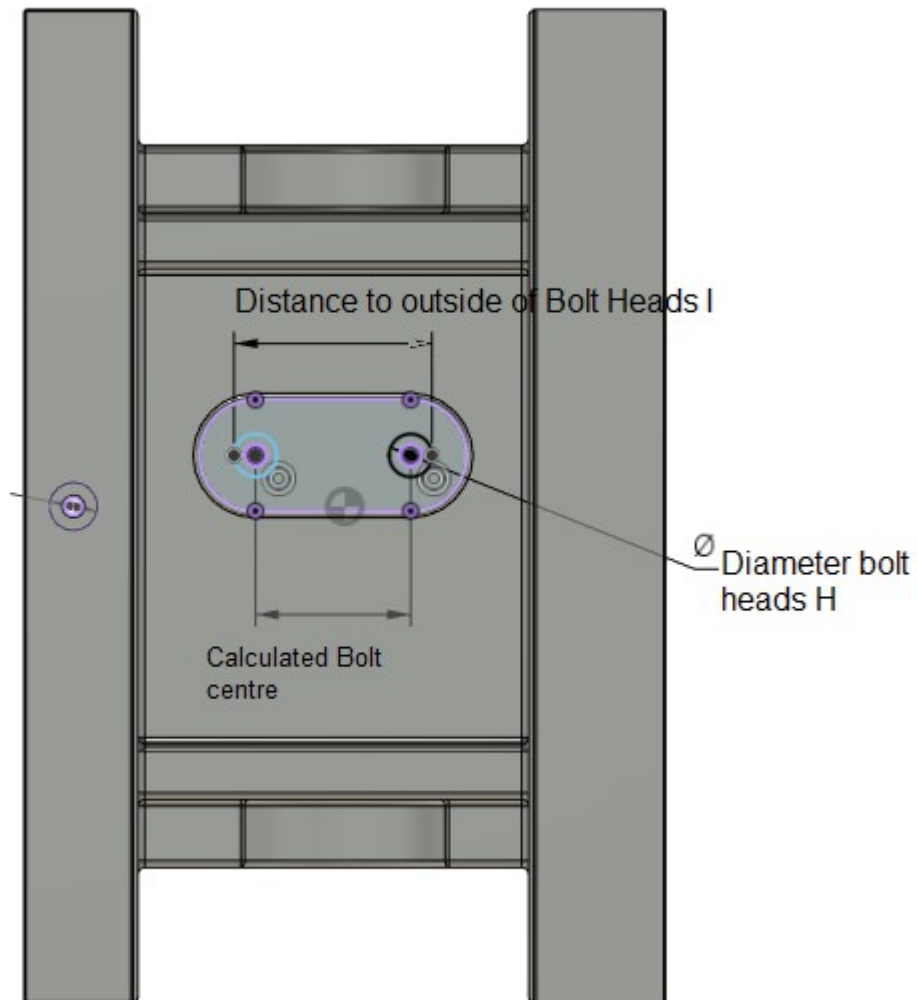


Measurement required X

Place 2 cap screws in the holes that hold the X ballnut in place .

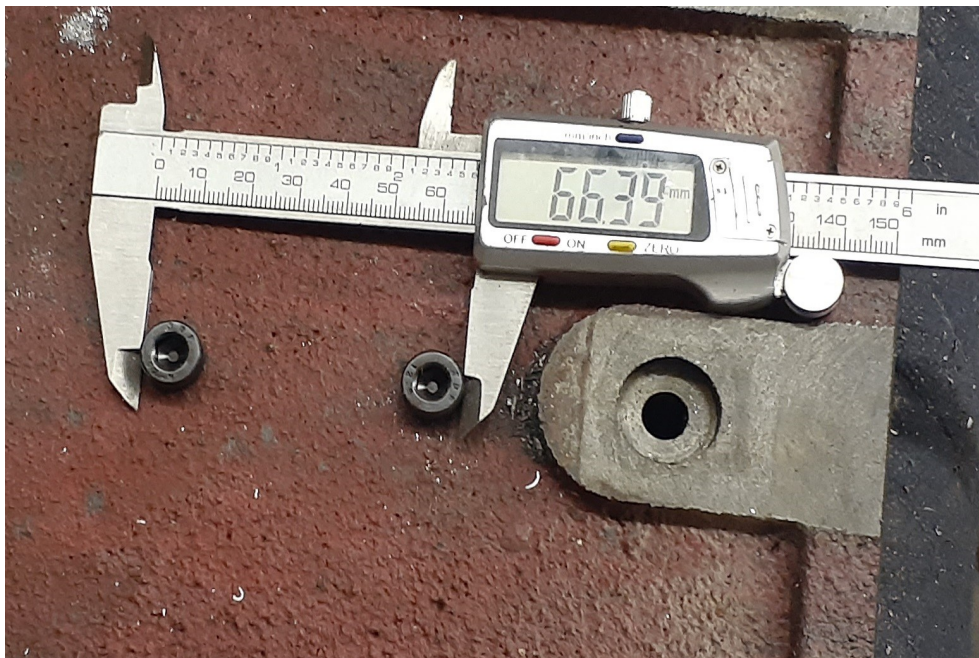
Measure the diameter of the bolt heads and note down this value H on the dimension page

Now measure the from the outside of one bolt head to the outside of the other bolt head and note down this value I on the dimension page



From this we can calculate the bolt centre spacing J more accurately

$$J = I - H$$

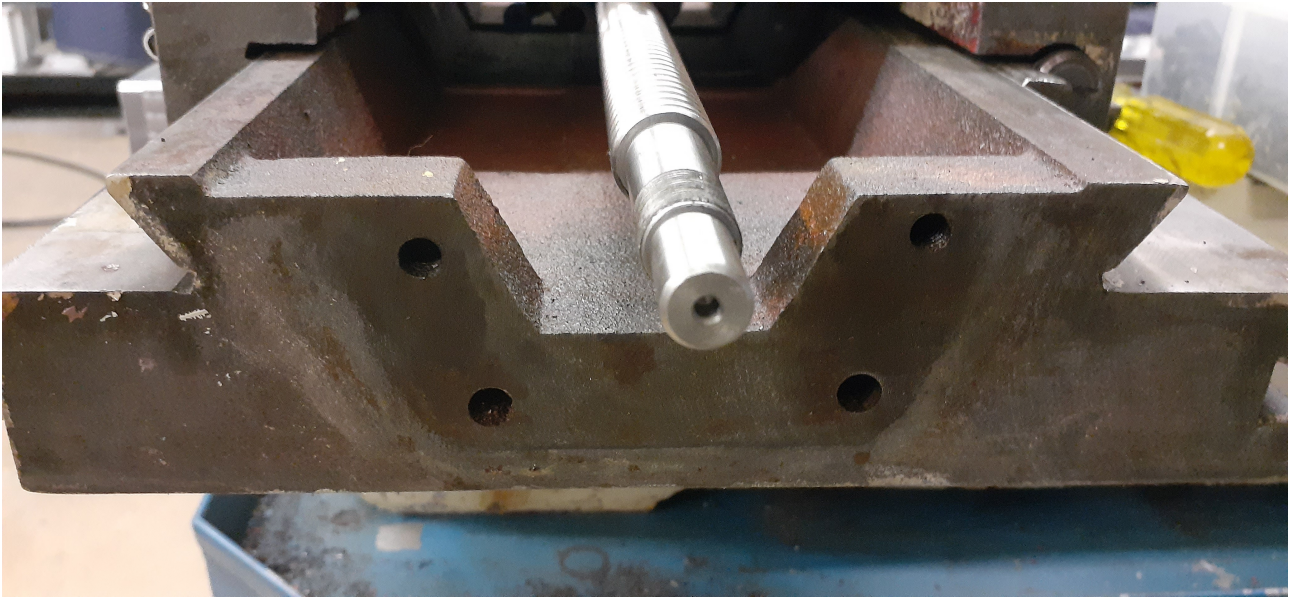


In this example $J = 66.39 - 12.84$
 $= 53.55$

The nominal is usually 54mm so a slight slotting of the holes may be required , we make the ballnut adapter to a nominal size of your machine so minimal filing required

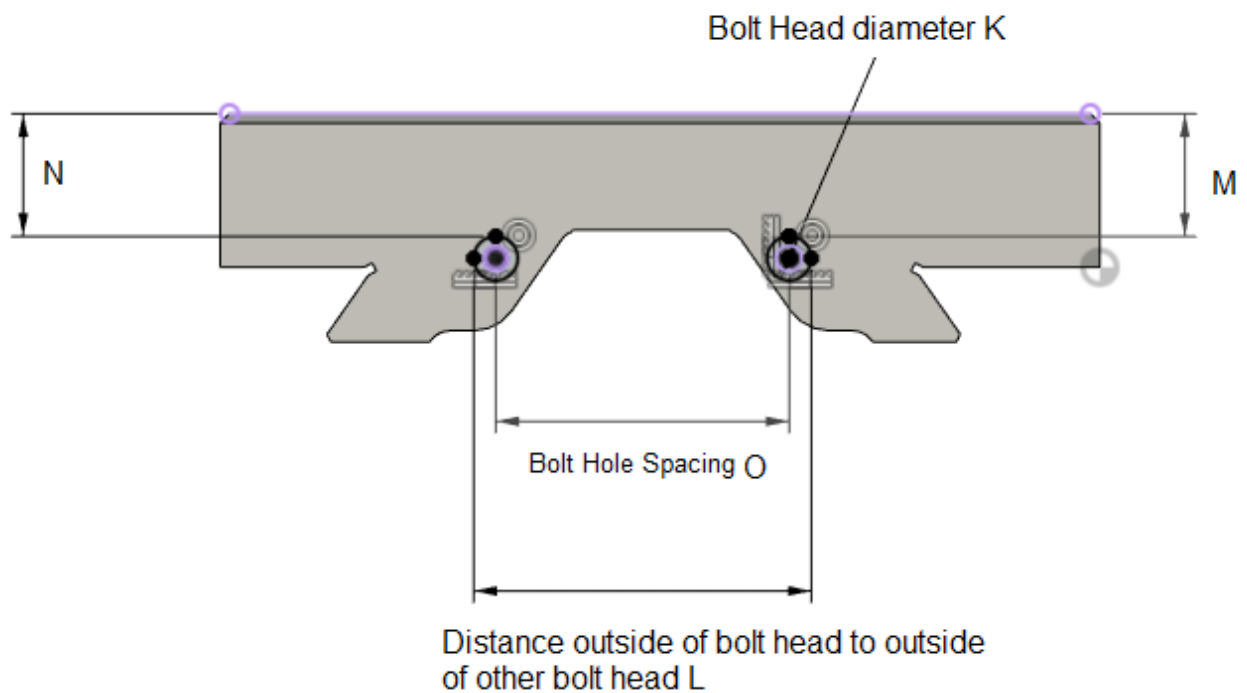
Measurement required X

We find the bearing retainer plates are hand drilled from the factory and quite often are out of alignment .



To counter this we need the following measurements

Measure the diameter of the bolt heads and note down this value K on the dimension page
Now measure the from the outside of one bolt head to the outside of the other bolt head and note down this value L on the dimension page



We also need the approx dimensions M and N from the table surface to top of bolt head
Do this for both ends of table and from this we can calculate the bolt centre P

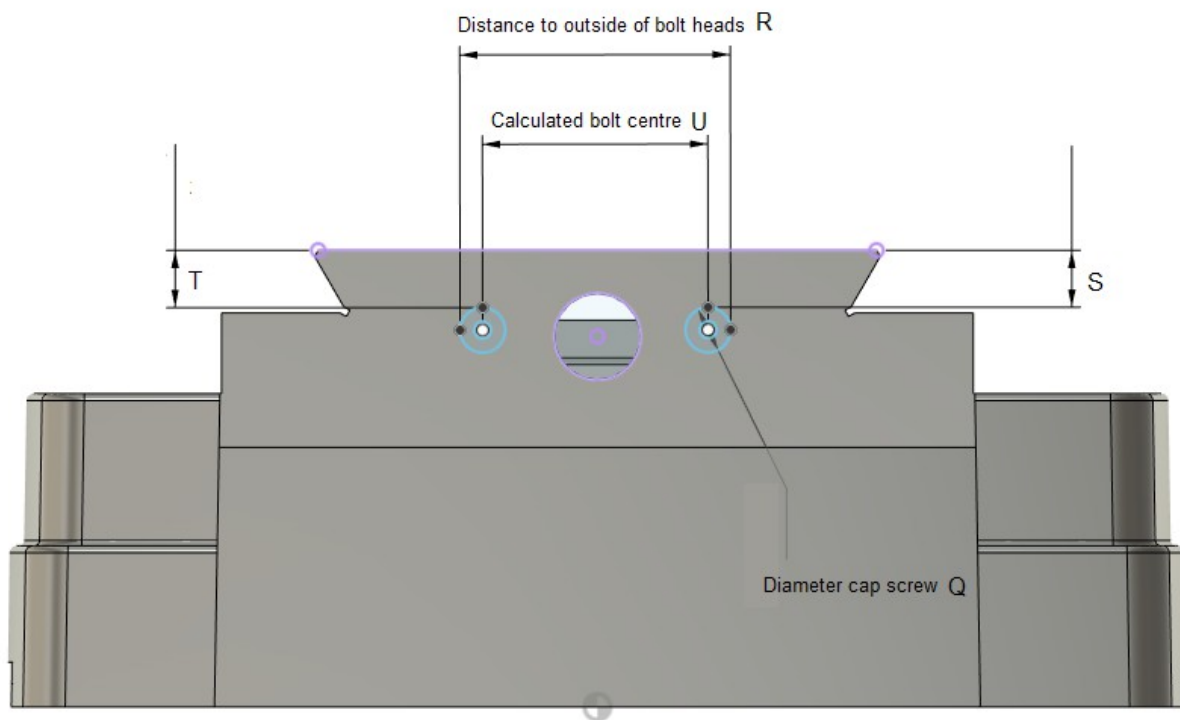
Measurement required Y

The same applies to the Y axis front plate, note that on all our plate sets there are extra holes for different model machines that can be used to drill and tap new bolt locations if the originals are too far out.

Measure the diameter of the bolt heads and note down this value Q on the dimension page
Now measure the from the outside of one bolt head to the outside of the other bolt head and note down this value R on the dimension page

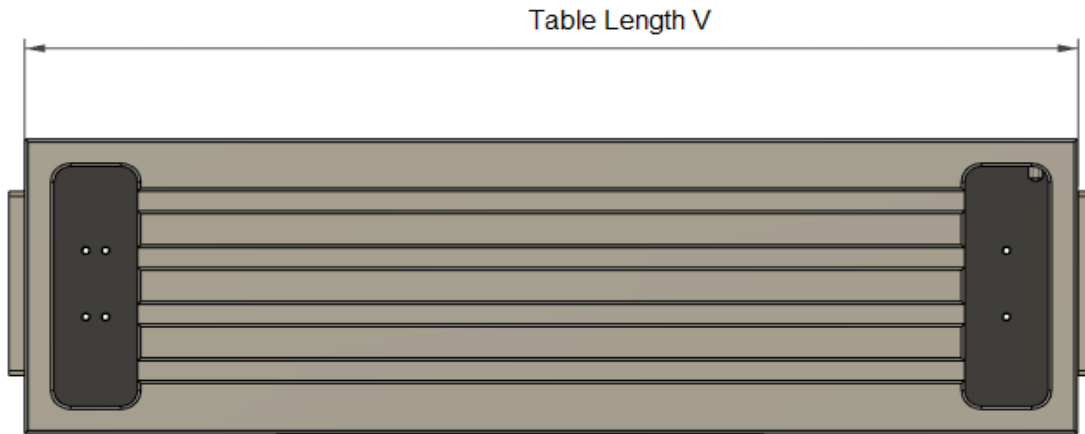
We also need the approx dimensions S and T from the table surface to top of bolt head

From this we can calculate the bolt centre U



Measurement required X Table

The last measurement required is the length of the cast table for proper ballscrew length , these machines are made with a variety of table lengths.



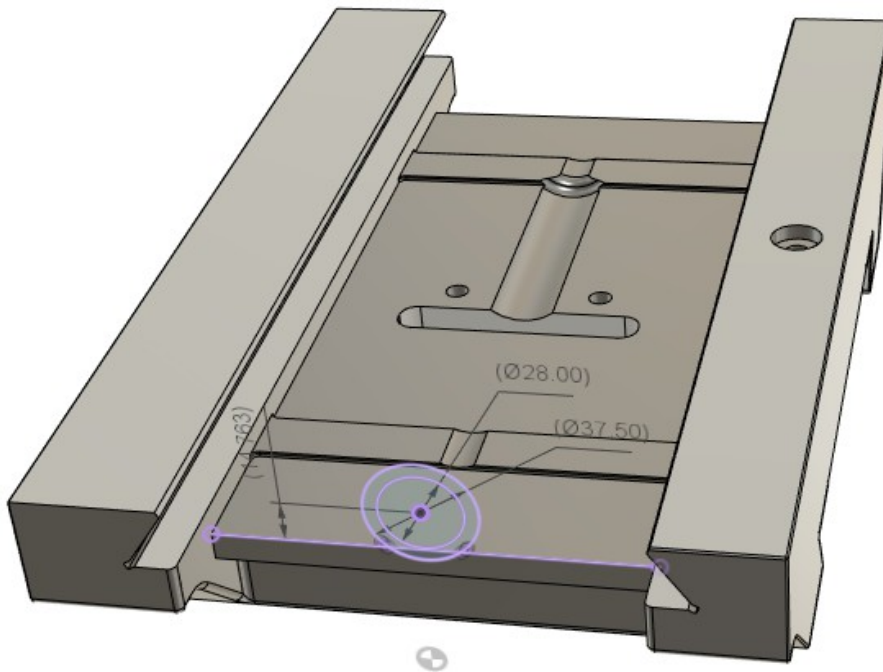
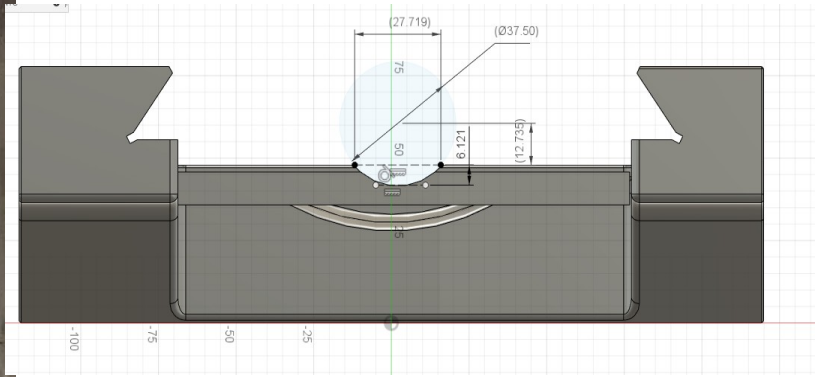
Measure the X Table and note down this value V on the dimension page

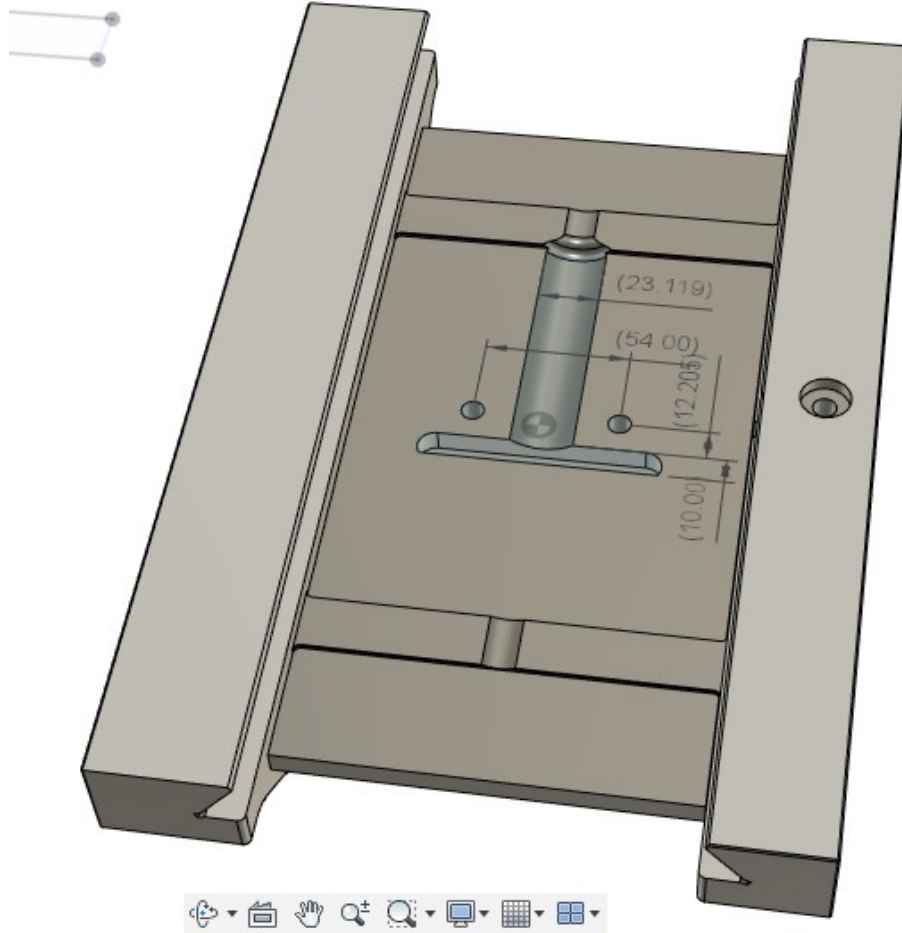
Email these measurement

Description	ID	Value
Z Casting type Please supply photo	A/B/C	
Z Ballnut type	Type 1 or 2	
Z Spigot dia	D1	fix
Z Spigot bore	D2	fix
Y Spigot dia	E1	fix
Y Spigot bore	E2	
X ballnut carrier bolt head dia	H	
X ballnut carrier outside bolt head distance	I	
Calculated X ballnut carrier bolt centre spacing	$J = I - H$	
X Table End 1		
X table bolt head dia	K1	
X table outside bolt head distance	L1	
Table to bolt head 1	M1	
Table to bolt head 2	N1	
Calculated X table bolt centre spacing	$P1 = L1 - K1$	
X Table End 2		
X table bolt head dia	K2	
X table outside bolt head distance	L2	
Table to bolt head 1	M2	
Table to bolt head 2	N2	
Calculated X table bolt centre spacing	$P2 = L2 - K2$	
Y Base bolt head dia	Q	
Y Base outside bolt head distance	R	
Y base to bolt head 1	S	
Y base to bolt head 2	T	
Y base calculated bolt centre spacing	$U = R - S$	
X Table length	V	

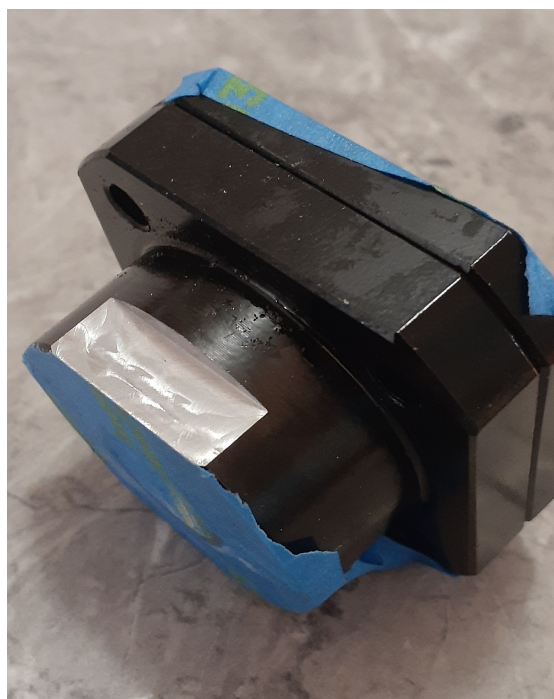
Modifications required.

The Y saddle needs to be modified to gain clearance for the ballscrew as per picture below. These are non critical and can be done with a dia grinder or contact us as we charge \$75 + freight to do this on the cnc for you.

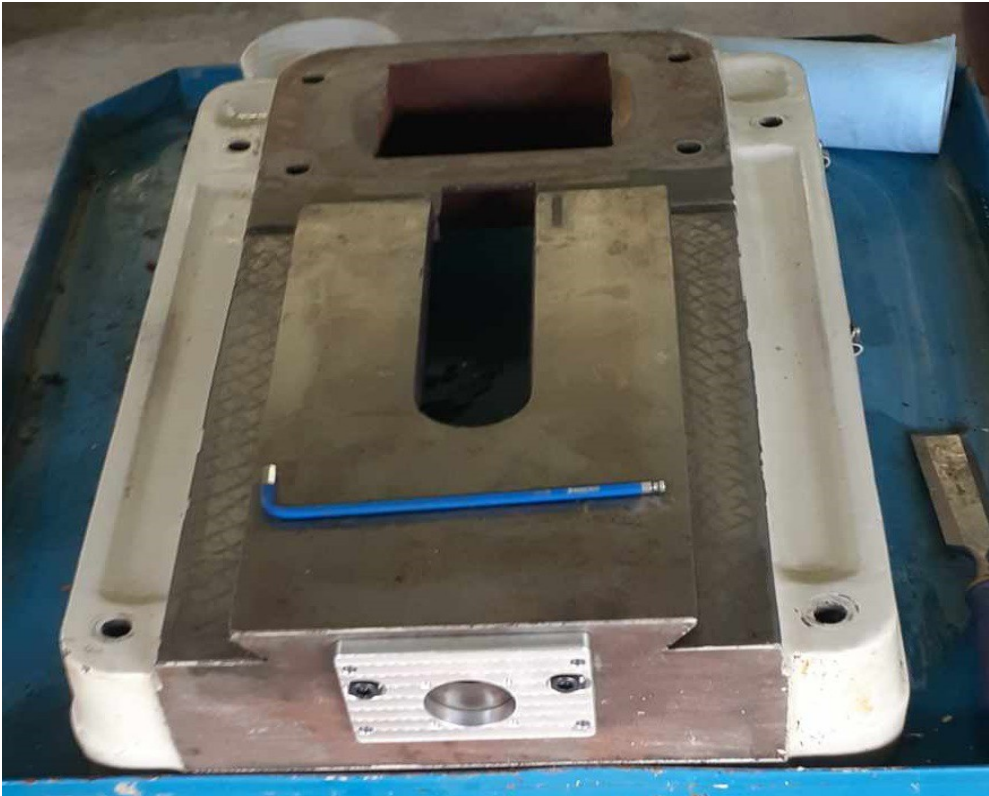




Depending upon your table casting the X thrust bearing assy may need to be cleared to fit.
Not always required



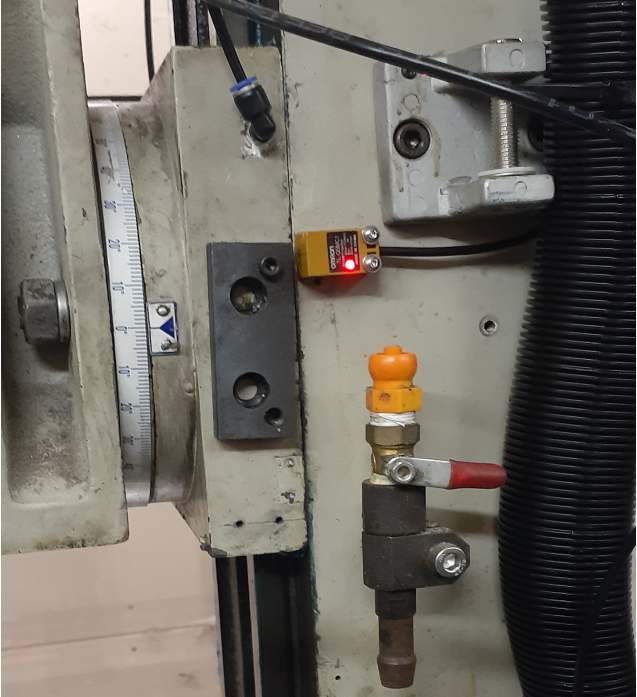
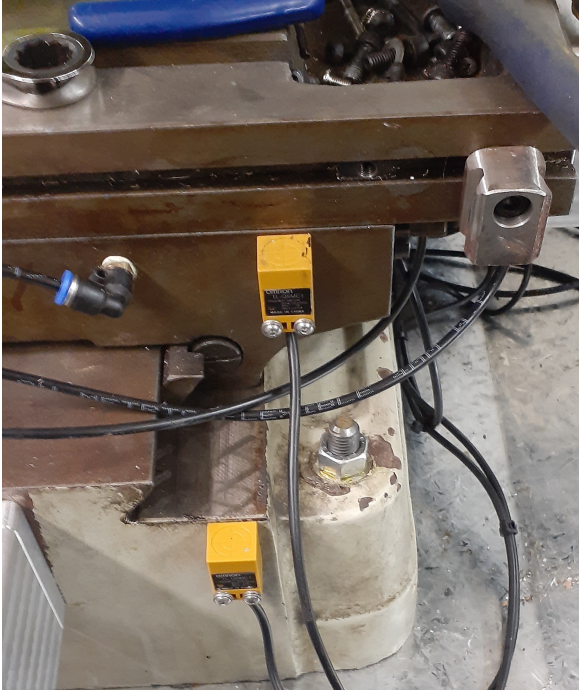
The Y base casting can be modified to give increased travel forward - normally 40mm is all that is needed.



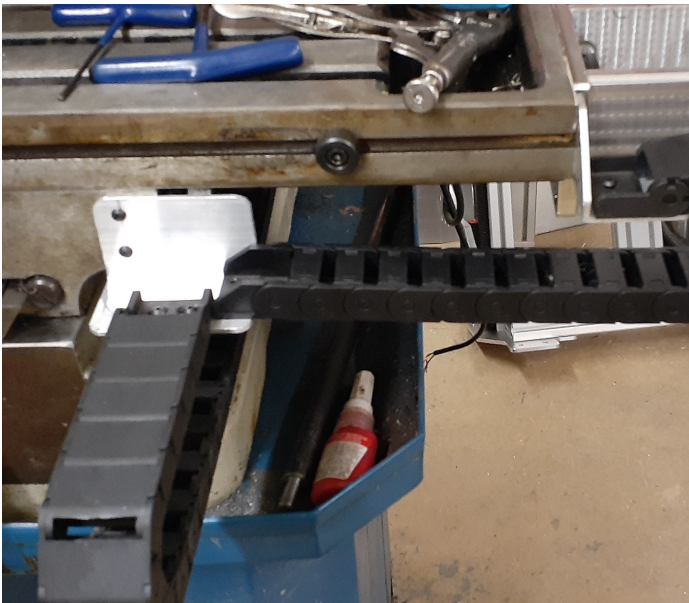
Also the base underside may need to be cleared .



Some ideas for Limit switches we have used , this will not work on all controllers as your soft limits must be able to go past the home position.



Cable chain



Completed without cable chains

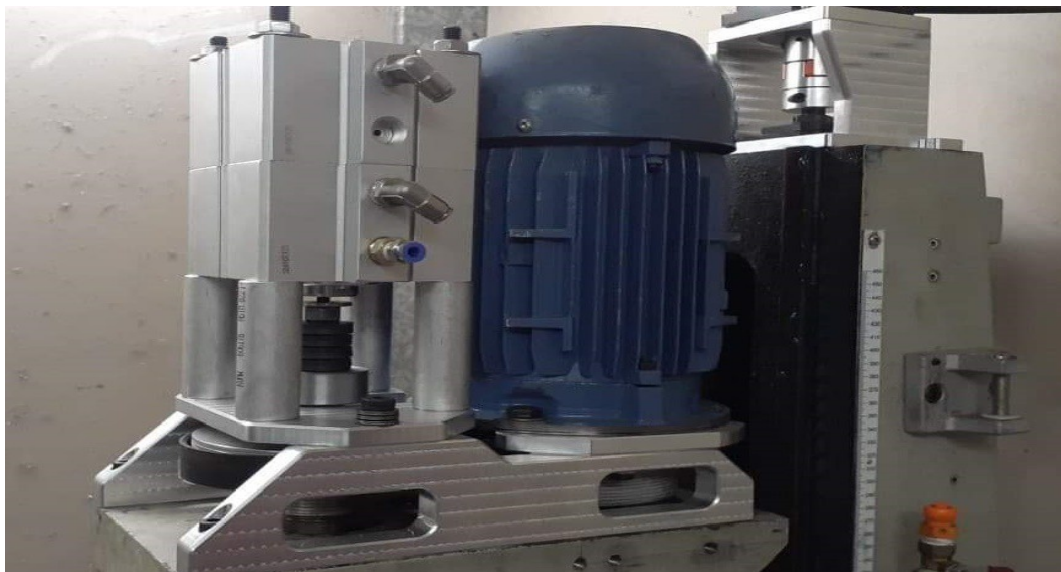


We have a full oiling kit available if you need one for this mill

Further custom upgrades will be available soon

Contact our engineering team on 0412770696 as these are not available on the website.

We also developed a belt drive conversion kit and TTS pneumatic toolchanger options for the MH28V machines and can custom make a kit for the HM series on request – parts needed to be sent to our engineering team and motor needs to be changed to a servo motor drive.



We also offer a 4th axis unit .

