Instructions

CrushGrind® Salt or Pepper Mill Kit

Mr Woodturner
PEN KITS & ACCESSORIES
www.mrwoodturner.co.za

Tools Required

22mm Forstner Drill Bit
25mm Forstner Drill Bit
38mm Forstner Drill Bit
45mm Forstner Drill Bit

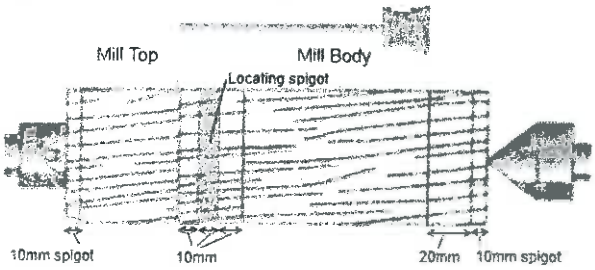
Selecting the blank

1. Select a 60mm square (or more) blank that is at least 30mm longer than the mechanism you have selected.
2. Blank length selection table:

Mechanism Length	Base Blank Min Length	Head Blank Min Length	Total Min Length
135mm	110mm	55mm	165mm
195mm	170mm	55mm	225mm
260mm	235mm	55mm	290mm

Preparing the blanks

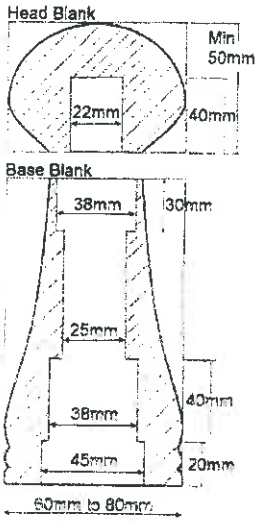
1. Mount the blank between centres and rough turn to about 60mm (or larger) in diameter.
2. Mark a 10mm spigot on both sides of the blank.
3. Mark a line 20mm from the spigot line on the side that will be the bottom of the mill.
4. Place the mechanism on top of the blank so that the bottom of the mechanism is flush with the 20mm line. Mark a top line on the blank in line with the top of the mechanisms shaft.
5. Mark another two lines 10mm on the inner side of the top line as shown in the diagram below.



6. Using a parting tool to cut the spigots on each end of the blank down to the size of your chuck (usually around 50mm diameter).
7. Cut the locating spigot down to 38mm diameter – it is important that you get this diameter as accurate as possible.
8. Cut a 10mm wide spigot to fit your chuck (usually 50mm diameter) on the body side of the locating spigot.
9. Once the spigots are cut, the remainder of the blank can be turned. Some turners prefer to turn the whole mill between centres and finish by drilling the centre holes (method 1), while others prefer to drill the holes first and finish turning the mill later (method 2) – this is a matter of personal preference. This instruction set assumes you will use method 2.
10. If you were using method 1, you would turn the shape of your mill before continuing.
11. Remove the blank from the lathe and using a bandsaw, part the body and top by carefully cutting the locating spigot as close to the spigot on the mill body as possible.

Drilling the blanks

1. Mount the Mill Body into your chuck using the spigots and bore a 25mm hole right through from both sides with the drilling bit in your tailstock chuck.
2. On the side with the 20mm line marking, bore a 45mm hole 20mm deep (ignoring the width of the spigot).
3. On the same side, bore a 38mm hole a further 40mm into the blank (total depth of the 38mm and 45mm holes together is 60mm).
4. Using a recess cutting tool, cut a recess 5mm from the top of the hole to later hold the securing clips on the mechanism (optional step).
5. On the top of the Mill Body, bore a 38mm diameter hole 30mm deep.
6. Using a parting tool, trim the spigot on the top of the Mill Body right off.
7. On the Mill Top, drill a 22mm diameter hole 40mm deep.
8. Using a recess cutting tool, cut a recess at the top of the hole to later hold the securing clips on the mechanism (optional step).



Turning the blanks

1. With the Mill Top still mounted in your chuck, fit the Mill Body onto the locating spigot and using a large live centre at the base of the Mill Body, clamp the mill into your lathe.
2. The whole mill can now be turned to your desired shape. Using this method will ensure that the Mill Top and Mill Body match up perfectly.
3. Using a parting tool, trim the spigot at the bottom of the mill body right off.
4. The whole mill (apart from the spigot that remains on the Mill Top) can now be sanded and waxed to finish.
5. Using either your lathe chuck or a jam chuck that you can make to fit the 22mm hole in the Mill Top, clamp the Mill Top into your lathe with support from the tailstock and a live centre running on the top spigot.
   Complete the turning of the Mill Top to your desired profile and sand and wax to finish.

Install the Mechanism

1. If you did not cut recesses into the Mill Top and Mill Body while drilling the blanks above, apply epoxy glue to the mechanism before inserting.
2. Remove the top from the mechanism and press the mechanism into the bottom of the Mill Body all the way.
3. Press the top of the mechanism into the Mill Top.
4. Press the top and body together to complete.