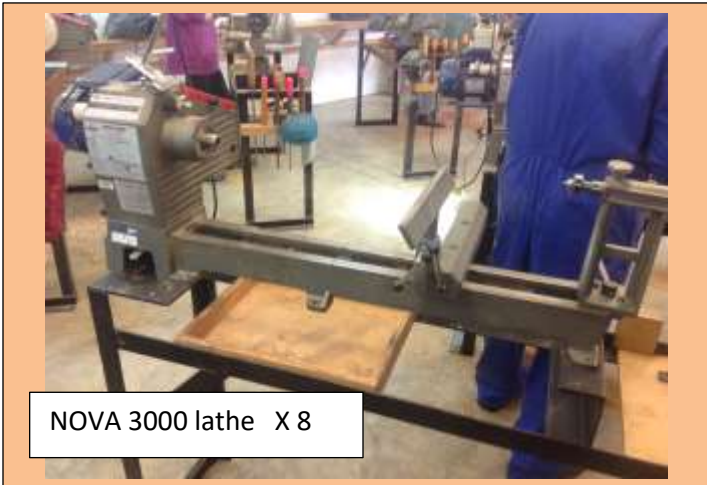




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NOVA 3000 lathe X 8



DVR variable speed lathe X 5

LATHE SPEEDS.

In our workshop we have two vintages of the NOVA lathe. 1. Eight machines of the Nova 3000 model, each mounted on a sturdy steel stand - belt and pulleys to change speeds 2. We also have five Nova DVR lathes similarly presented on robust stands - dial up a variable speed system - no belts or pulleys

One of the most common questions heard in the workshop is “WHAT SPEED DO I SET MY LATHE AT FOR THE JOB I AM ABOUT TO DO?”

The answer to that question is always based on the most important aspect of allSAFETY

EXCESSIVE SPEEDS ARE NEARLY ALWAYS THE CAUSE OF ACCIDENTS
SPEEDS SET TOO LOW MAKE EFFICIENT CUTTING DIFFICULT

OK: What needs to be considered?

- a) The **weight** of the wood block
- b) the **diameter** of the wood block
- c) the **density and balance** of the block.

CAUTION
 Always set at a slow speed and if the block turns well and in balance then try an increase in speed.

EXPERIENCE is the best teacher in this matter but the general rule should always be: the BIGGER THE DIAMETER THE SLOWER THE SPEED

FACEPLATE TURNING (A guide only)	
Dia 150mm (6")	Set lathe speed at 1500 rpm
Dia 220mm (9")	Set lathe speed at 1000 rpm
Dia 300mm (12")	Set lathe speed at 700 rpm
Dia 380mm (15")	Set lathe speed at 500 rpm
Dia 450mm (18")	Set lathe speed at 400 rpm

BETWEEN CENTRES TURNING (A guide only)	
2 x 2"	Set lathe speed at 2000 rpm
3 x 3"	Set lathe speed at 1500 rpm
4 x 4"	Set lathe speed at 1200 rpm
5 x 5"	Set lathe speed at 800 rpm
6 x 6"	Set lathe speed at 500 rpm

Hey club members! The workshop is open on Saturday morning for you to have more time to work on those turning projects

Yes, the workshop will be open this Saturday morning, 25th July
9.00am to 12 noon

Duty officer

Murray Price

Keep this date free so you can provide a helping hand at the next scheduled
WORKING BEE

Saturday August 1st

9.00am - 12 noon



JOHN Baker used four strips of square section rimu and a cunning gluing job to make the starting point for this creation.

The project is commonly known as an *inside out* turning.....or should that be an *outside in* turning.

Whatever name you settle on it's a very good outcome.

In making a holder for a wax candle, **CAELAN Harris** successfully worked in tandem with **JOHN** for the inside/outside in/out turning project

The next step for these two members is to substantially increase the side of the square sections to make a much larger turning challenge.

It will be much larger outcome but the process and principles will be the same.



Bowl Turning - PART THREE

Last week I shared ideas about managing an appropriate sized face plate and fixing this to the wood block.

OK now it's time to mount the block on the lathe.

After the vertical face has been dressed mark the centre of the bowl.

It's from this point that you will measure the spigot.



Next comes marking the spigot size. As this is a large block a 100mm diameter will be sufficient for the 90mm jaws we have in the workshop. If you have a set of 130mm jaws then those would be even better.



Marking the spigot.

Measure a 100mm diameter

Have you sharpened your gouges? OK Use a gouge to cut the beginnings of the spigot on the BOTTOM of the bowl. Yes, you will start with the bottom (outside) of the bowl.



A good idea is to plan the spigot size so that towards the end of the turning project you can convert the spigot into an attractive base for bowl.

The depth of the spigot will be governed by the depth of the jaws you intend to use to hold the block.

This base will lift the finished bowl 7-10 mm off the table giving it an appealing 3D appearance.

Next step: Shaping the bottom (outside) of the bowl

This shape is what gives your bowl its character. Make a chalk drawing on one of the mini drawing boards. Try several curve styles until you arrive at one you like.

Sketch your ideas. Make several drawings and make a selection.

“Failing to plan is planning to fail”



Plan ahead! The bowl bottom (inside) needs to conform to the bowl exterior

Plan to have a have **a continuous simple arcing curve**.as a feature on the **inside** of the bowl. So what will that mean for the shape of the **bottom (outside)** of the bowl?

Set your lathe at a safe speed. Remember as a general rule **THE BIGGER THE WOOD BLOCK THE SLOWER THE SPEED** as balance could be a problem

Begin wood removal according to your selected (outside) shape.

MORE NEXT WEEK Cheers **Clive**

Instruction Booklet for the whole-club turning challenge

All club members are invited to participate in a whole-club turning challenge in making a mortar and pestle as described in this instruction booklet. The selected top five entries will each receive a substantial prize of quality turning timber donated by Clive. More than one entry is permitted. Competition closes on Thursday 3rd September.



MORTARS AND PESTLES

From this



.....to this



Mortar and Pestle (no, it's not a law firm) background information

The **mortar** is a bowl, typically made of hard wood, ceramic or stone. The **pestle** is a heavy club-shaped object, the end of which is used for crushing and grinding. The substance to be ground is placed in the mortar and ground, crushed or mixed with the pestle. Sometimes referred to as an "Apothecary Grinder" by individuals unfamiliar with its use, the proper historical name is "mortar and pestle". The mortar and pestle is usually utilised when cooking and when crushing ingredients for a certain drug in [pharmacies](#).

Mortars are also used in cooking to prepare ingredients such as [guacamole](#), [gazpacho](#) and [pesto](#) (which derives its name from the pestle pounding), as well as grinding spices into powder. The [molcajete](#), a version used by pre-Hispanic [Mesoamerican](#) cultures including the [Aztec](#) and [Maya](#), stretching back several thousand years, is made of [basalt](#) and is used widely in Mexican cooking. Other [Native American](#) nations use mortars carved into the [bedrock](#) to grind [acorns](#) and other nuts. Many such depressions can be found in their territories.

What can you do with a mortar and pestle? You can grind, pound and smash to your heart's content, making pestos, pastes, sauces, dips, dressings and marinades. You can grind seeds into powder. (I assure you the results of lightly toasting cardamon, cumin or coriander seeds and then grinding them to a fine powder in a mortar will yield results unparalleled by the pre-ground versions.) The mortar is also the perfect place to smash garlic with sea salt, adding fresh cut herbs such as rosemary, thyme, sage, basil, mint. Crush the garlic first with the salt, then add the herbs and bruise them by giving them a few turns with the pestle to release their juices and flavor. You will be left with a powerful, aromatic paste you can smear on meats and poultry before roasting.

Earn some Brownie points by making the chef in your house a Mortar and Pestle. **OK It's time to get underway.**

Wood (for the Mortar)

Select your square-section block of heavy, close grained (dense) hardwood.

To make a **MORTAR** like the model I have provided, your block of wood should measure approximately 100 x 100 x 170mm. For the **PESTLE** you'll need a block of the same wood measuring 50 x 50 x 170mm

The wood you choose is important as this wood utensil comes into contact with food items.

Note: Pages 3 and 4 of the Rolling Pin project booklet contain information about suitable woods for the job.

Tools

Callipers, a ruler, sanding papers of various grits, food grade finishing oil, power sanding equipment, a chuck fitted with 50mm jaws, a 50mm forstner bit and a Jacobs chuck. A small 6mm bowl gouge would be useful for adding fine touches. [Ensure these are available prior to starting]

Turning experiences involve:

- spindle turning involving an EZ tool scraper (you'll be amazed!)
- Use of a roughing gouge
- adding a 12 x 50mm spigot. Could also be 27mm X 40mm spigot
- use of a cup chisel
- power sanding, drilling a hole with a Forstner bit

Step One: Selecting the wood

Dense, heavy wood is best. Why?

When crushing ingredients in your mortar, hard heavy wood is better.

Dense wood will sand better giving you a smooth finish and that means fewer pores to trap food bits. **The big piece is for the MORTAR and smaller one is for the PESTLE**

SAFETY Practice:

Check your wood for hairline cracks, knots etc. If you find any then discard that bit and find another piece.



Step Two: ALIGNING THE HEAD and TAILSTOCKS



The picture on the left shows a simple, but quite effective, method for aligning the head and tail stocks of your lathe. (You could also use the “aligner” M2 tapered tool.)

Loosen both stocks, slide the tailstock up the headstock and adjust the **HEADSTOCK** until the points of the live centres are in line. OK now carefully lock the **HEADSTOCK** in place.

As you will be turning a spigot at the **HEADSTOCK** end during this project, the aligning step is necessary. Do it!

IMPORTANT REMINDER HERE

Failure to do this basic spindle turning routine as described above will, more-often-than-not, result in uneven circular turnings.

Another pesky problem that can occur, is when the tailstock is backed off removing the support, the end of your turning has a minor, or serious, wobble.

Step three: If you have access to a drop saw then trim the ends of your blocks absolutely square. If you have no drop saw then use a band saw first to cut a square section then square off the ends.

For the Mortar in mind for this project make your starting piece that has approximate measurements of 100 x 100 x 170mm. (larger dimensions are OK)

The picture shows the use of a square set guide on a band saw to trim the ends square.



SAFETY: You must be an **approved user** of the band-saw.

Those of you working at either the **introductory level or stage two** projects will be able to use the band-saw under supervision only.

Ask one of the experienced turners to assist you.

Step four: Mount the square-section length onto the lathe as shown.



Mark the ends to locate dead-centre and punch a small hole accordingly.

At the headstock end seat the claw centre securely into the wood. The live centre fits into the tailstock end.

If the **ALIGNMENT** routine has been followed correctly then the work should spin easily and without any suspicious noises at about 1000-1200 rpm.

Remove the edges and create a spigot that will fit your chuck jaws at the headstock end.

Then fit to a chuck (see next picture)

Step five: Rounding and initial shaping



Use a roughing gouge to remove the wood from the square section until the block begins to take on the shape of a cylinder.

Then use a 10mm or 13mm bowl gouge to begin the shaping.

A scraper would be a useful tool for the final cut to the work.

(Ask Clive to demo the use of a scraper.)

The picture above shows that the tailstock has now been backed off the wood as the mortar is now ready for drilling out the wood. Use a suitable size Forstner bit set in a Jacob's chuck.

Regularly check that the chuck jaws are tight on the spigot.

Inserted

NOTES for Using a scraper tool



Use a newly sharpened scraper. When ready for use the scraper will have a burr present to assist the correct cutting.

The scraper is **gently** pushed against the spinning wood

Just THREE rules when using this tool.

1. Cut along the centre line
2. The tool needs to be held horizontal
3. **Light cuts** only (little pressure)

Step six: Drilling out the centre

Note the chalk mark on the mortar and the shaft of the Forstner bit

Stop when the chalk mark on the shaft reaches the mortar opening

This is a useful method to judge how deep the hole is drilled.

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Step seven: Using a cup chisel to shape the inside and bottom of the mortar.

Set the lathe speed at about 1000-1200 rpm and remove further wood by scraping inside the mortar.

Some woods behave better with different rpm speeds

Best cutting occurs when the cup end is presented to the wood at a slight angle from perpendicular.

NOTE: Our cup chisel tools have a black stripe on the handle. This stripe MUST be on top and held in position throughout the cutting.

Lots of trial and error will see you right.



Step eight: Sanding and adding a bit of style.

Use the range of grits starting with 80 then 180, 240, 320, 400, (600, 800) if you have these grits.

Sanding speed for this type of wood is best around 250 rpm

Use a small, sharp chisel and a piece of sharp edged formica to add some deco marks. (Clive to demo)



Step nine: The Pestle

Mount the square section block for the pestle between centres. Turn to a cylinder then plan the shape of the pestle. Make a 27mm X 40mm spigot at the headstock end then mount in a chuck.

(see chalk line for spigot)

I used a 35mm spigot jaws chuck to hold the "round"



Step ten: Shaping the spigot



NOTE: the shape of the crusher end should match the same shape as the bottom of the mortar

Handle end

The right hand side of the pestle (in picture) will be the handle when finished. The left hand end is the crusher shaft and end. This is 85mm long which is the depth of the hole drilled in the mortar.

Step eleven: Styling the pestle



I have added "grips" on the handle. (which is a technique covered in earlier projects)

Sand everything using the "range of grits" approach.

Apply EEE then a food grade oil. Walnut or citrus blend oils are very good for this job.

Part off the completed handle, then sand the small area where you parted off.

Final step: Buffing to a fine sheen



Hardwood can be buffed to a fine sheen but you need to wait until the oil is quite dry.

Right! Go to the grocery store and buy those nuts, spices and herbs. Use your new **MORTAR and PESTLE** to make a secret mix of twelve herbs and spices (which is one more than those Kentucky Fried Chicken people can claim for their finger lickin' taste)

Patent the herb mix recipe and get rich!

Mortar and Pestle (another Stage-Two project)

Project notes:

Use this page to record any notes you may wish to make about this project.



RICHARD JACKSON used a lump of very old totara wood for his intriguing holey bowl *(left)*

Then and a block of plum wood for the colourful lidded pot. *(right)*



This Week's Super Pic

STEPHEN O'CONNOR produced this very special lamp stand featuring an inlay "knot" design and a triangular raised platform for a base.

Long-hole boring can be quite a challenge but our Stephen managed it with aplomb.

"Accept no second-best" **MURRAY** has turned a small block of highly coloured oak wood into an eye-catching treasure.

Shape, proportion and design are notable features of his work.



MALCOLM Vaile has done it again. This hollow form with its ovalised shape is good to look at, pick it up and feel the silky smooth shape and super light-weight in your hands.



CONAN is flying through his introductory skills programme. Success came easily with this spindle turning job. (paper pots maker)

Now it's time to launch into face plate turning with a shallow bowl project.



ROSS used a slab of chestnut to make his square platter. The delicate curvature is a special feature of this excellent project.

Newbie turner **TRAVIS** is thoroughly enjoying his induction programme. Methinks some potential has been released and there's plenty more to come. Woo hoo!





(Sorry, I couldn't make this picture smaller than this.)

WAYNE O'Halloran made his large six-piece turning to store a heap of free-range eggs.

This was a very patient turning to get every linking part in proportion. No doubt the hens would approve of their eggs receiving such attention.

Great finish on it as well with no stria or scratches.

Maybe next week WAYNE will make a start on a new chook house!

Goodonya GARY for your first shot at making a natural-edge bowl and extending your learning curve.

The next one will have a continuous arcing curve across the inside bottom.





The DAVID COWLEY CORNER

DAVID has been busy in his workshop creating a range of clever projects.

(above) - a camphor wood bowl.

(right) Bobbins for plight switch pull cords

(below) a cherry wood pot

David's NEAGE approach makes it all worthwhile!



It took just a very short time for COLIN to master the rope- rim technique applied to a large chestnut wood bowl!

For Sale:

Chiefs jersey and stuff

3 cents.

Apply ex-fan member

a.s.a.p.