

USER GUIDE

Bowlsaver Max4

Max4 User Support Video available at www.woodcut-tools.com in the Support tab.

for turners
BY TURNERS

ABOUT WOODCUT TOOLS

Woodcut Tools was established from a passion for woodturning.

In the 1970's Woodcut Tool's founder Ken Port owned and operated a souvenir business in Northland, New Zealand. Ken often turned many of the wooden souvenirs he would later sell. Frustrated with the woodturning tools available to him Ken resourcefully designed and developed a portfolio of woodturning products. The tools were primarily designed for his own use, and for his network of fellow turners who assisted him with feedback to refine the design. This was Ken's approach for almost 20 years until he developed the confidence to make his woodturning products available for any turner from 1990. Ken wanted to make it as easy as possible for customers to enjoy their turning experience, by taking the tool, put to wood and see the shavings!

Today the company is still located in New Zealand and is currently owned by the Hewitt family. Ken remains actively involved in product design for Woodcut Tools.
We are driven by the desire to give customers the best quality products with no compromises. Our approach is to work close with the woodturning community, listening to customers including professional turners and taking the time to ensure the product is right. For tuners, by turners.

Woodcut Tools breaks away from the current trend of cheap, low-quality products by integrating together a mix of traditional methods and modern technology.
An emphasis on true craftmanship and continuous improvement.

PRODUCT BACKGROUND

In keeping with Woodcut Tools values our objective is to always offer the best possible product. With customer feedback on the Max3 the Woodcut Tools team decided to improve on the Max3 with an even better design.

In collaboration with Ken Port and an international team of turners, Woodcut Tools have designed, tested and developed, over many years, the latest bowlcoring product, the Max 4.

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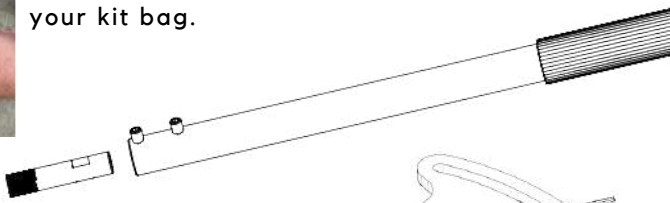
8. Kit bag items
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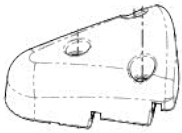
ASSEMBLY

1. Hand screw the Shaft spigot into the Handle Clamp, you will need to tighten with a wrench.

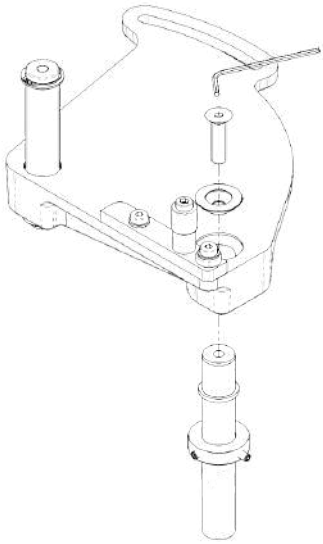


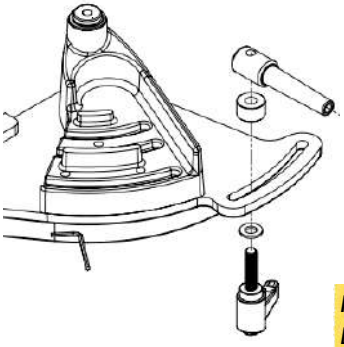
Then screw the Handle Clamp into the Handle, tightening screws with Hex keys in your kit bag.





2. Attach your Tool Post to the Bowlsaver Max4 Base Plate using the Tool Post Screw and Lock Washer, found in the kit bag.





3. Attach the Morse Taper to the Bowlsaver Max4 Base Plate.

Note: For optimum stability ensure your Tenon, Bowlsaver Pivot Point and Tailstock Support Rod are all aligned. See yellow line below.



LATHE SET UP

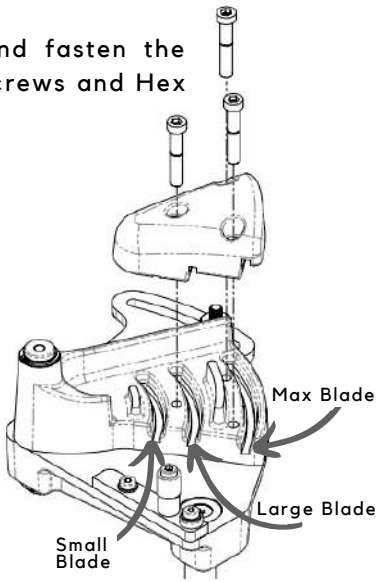
1.Mount the Max4 Tool onto the Tool Rest. Do not connect the Morse taper to the Tail Stock at this stage.

2. Place a Max4 Blade into the Blade Holder and fasten the Handle Clamp using the three Socket Head Cap Screws and Hex key all found in the kit bag.

The largest blade goes on the outer side of the Blade Holder and should be positioned between the two roller bearings. Ensure the Max blade is resting on the wear pad before assembling the Handle Clamp.

The large blade in the middle slot and smallest on the inner slot. Ensure the blade is resting on the wear pad before assembling the Handle Clamp.

Please note: Never core with more than one blade at a time.







3. Position the Tool Post so the Blade cutter is centered with the point of the drive spur, or slightly above as illustrated (this assumes that when the Blade is extended in the End Grain of the wood that the Blade is now at center). Tighten the Tool Rest locking handle. Slide the shaft collar down the support post and then tighten the grub screw.

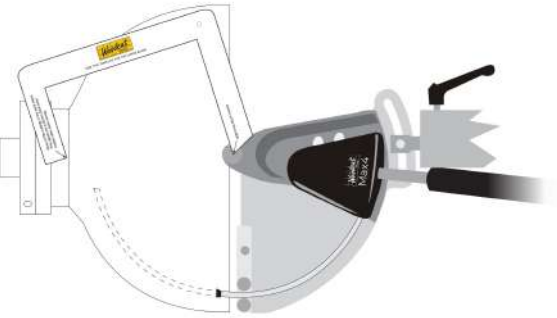
PREPARING THE WOOD BLANK

Essential to holding the wood on the lathe is making a Spigot, also referred to as a Tenon, or Chuck Bite. It is important that this Spigot is made to the correct size and shape.
Please refer to Page 9 for further information.

Remount the bowl blank in the Chuck.

Cut a Spigot on the face (top of the bowls) side so that you can remount the wood after each bowl is saved.

The bowl wall thickness will depend on how dry the wood is.







Bring the Bowlsaver Max4 up to the wood and measure where it will cut.

Included with your Bowlsaver Max4 are Templates designed to plan your nest of bowls. Alternatively, you may use wide calipers to check the distances and therefore ensure correct bowl thickness.
To make this planning stage even simpler Woodcut Tools has an optional Bowlsaver Max Light Guide.

PREPARING TO CUT

With the Bowlsaver Max4 in it's cutting position, tighten the Tool Rest locking handle onto the support post.

Leaving everything loose bring the tail stock up to the Morse Taper. Insert the Tailstock support rod and pull the Morse Taper in tightly securing the Morse Taper into the Tail Stock using the Flat Washer and Wing Nut found in your kit bag. Lock the Tail Stock into position. Lock the indexing lever under the Tail Stock taper.



The Max4 is held by a 3/8" UNC diameter threaded rod to secure during coring.

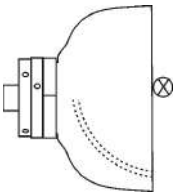
The Bowlsaver Max4 is designed to cut in an exact semi-circle which has a radius that you can measure from the central rotation post of the Max4.

Do a final check that all connections are tight. It is good practice to check this each time just prior to cutting. Woodcut Tools always recommends the use of a Woodturning helmet and ear protection when coring.

BEGIN CUTTING

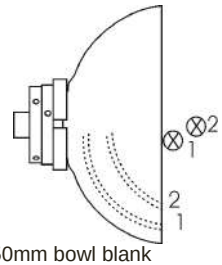
Set the initial lathe speed between 300 to 400rpm, slower with larger and dry blocks. Push the blade of the Bowlsaver Max4 gently into the wood. If the flow of shavings stops, then pull the blade back to enable the shavings to flow out. Increase the lathe speed as the cutting tip moves closer to the centre of the project. 'Feel your way' as you core adjusting lathe speed and releasing the wood shavings.
If you notice the wood shavings changing from shavings to dust the blade cutter has probably lost its sharpness and we therefore recommend sharpening the front of the cutter with a diamond hone. Please see the previous section 'Maintaining cutter sharpness'

PLANNING MORE BOWLS



350mm bowl blank
Medium blade

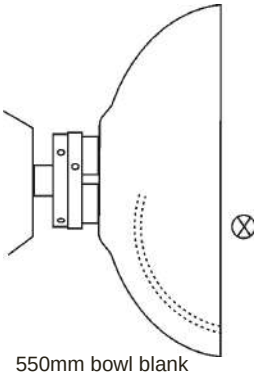
1. To save a bowl from a 350mm (14") bowl blank the Max4 is set just a little beyond the centre line of the lathe. The outside bowl has an initial wall thickness of 25mm (1") and will require some chisel work if the inside is to follow the outside curve.



450mm bowl blank
2 = Medium blade
1 = Large blade

2. To core two bowls from a 450mm (18") bowl blank, the Max4 is positioned towards the operator from the centre line for bowl 1 and almost on the centre line, but away from the work face, for bowl 2.

3. Whether you start with the large or small bowl will depend on your preference for remounting and finishing each bowl.
It is possible to core bowl 2 and then bowl 1 and rely on a vacuum chuck or other mounting system to finish bowl 1. Or, you can cut bowl 1, then remount that saved blank on the Face Plate and cut a Spigot as you did for the first, larger, block. Then remount the wood by the Spigot and use the Max4 to cut bowl 2.



550mm bowl blank
Large blade

4. To cut a bowl from a 550mm (22") bowl blank the Max4 is positioned towards the operator. Note how the cut curves towards the face of the block as it approaches the centre line. Both bowls will be relatively flat bottomed when finished.
Woodcut Tools recommends a minimum chuck size of 125mm (5") for a bowl blank in excess of 375mm (15").





PREPARING THE SPIGOT

Essential to holding the wood on the lathe is making a Spigot, also referred to as a Tenon, or Chuck Bite. It is important that this Spigot is made to the correct size and shape.

Woodcut Tools recommends a minimum 4" or 100mm Spigot is made. Large Dovetail jaws are recommended to hold the project on the lathe, rather than standard jaws and creating a recess. A recess can push the wood apart, rather than pull together. It's important that the entire Spigot is gripped by the Chuck Jaws.

A Four Jaw Chuck set of 150mm (6") to 200mm (8") is recommended if your wood blank is over 500mm (20") diameter,

The diameter of the Spigot should be about the same as the inside diameter of the Chuck Jaws. This means that the Chuck Jaws will be in contact with the wood around the circumference of the Spigot.

It is also important that there is contact between the Chuck Jaws and wood at the base of the Spigot, with the narrow edge of the Jaws pressing on the wood.

You will find a detailed video on creating a spigot at www.woodcut-tools.com in the Support Tab.

BOWL SHAPE

To change the shape of the base of the bowl simply slide the Tailstock along the track of your Max4 to achieve the shape you require.

To change the shape of the top of the wall of the bowl you are coring we recommend you core a thicker wall with your Max4 and then use your Bowl Gouge to achieve the shape you require.
Please be aware that adjusting the Bowlsaver pivot point from being aligned with the tenon and tail stock may reduce the stability of the product when coring.



CORING HARD/DENSE WOOD

Coring hard, dense wood will be more of a challenge than coring wet wood. Woodcut Tools recommends an approach to coring hard, dense wood to firstly ensure the front of the cutter is sharp with a diamond hone. You may need to sharpen the front of the cutter multiple times during a single bowl core. You will notice the cutter is becoming dull when the wood shavings turn to dust. Some production turners also create a small negative rake on the top edge of the front of the cutter, to soften the front edge.

In general Woodcut Tools recommends setting up the Max4 so the blade tip is centred with the point of the drive spur. Some production turners prefer to set the blade tip about 10mm above center.

For optimum stability ensure your Tenon, Bowlsaver Pivot Point and tailstock are all aligned. Refer to illustration on page 4.



When coring hard and dense wood there is a risk of binding and the lathe stalling. This can be prevented by cutting a wide channel on the inside of the bowl to create more clearance for the cutter. Create the wider channel by backing out of a cut to clear chips, then pull slightly on the cutter when going back to the cut and then retract and push on the cutter bar getting back to the cut. This provides an extra 1/64" clearance on each side.

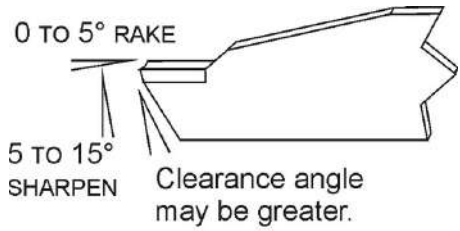
Start the lathe at about 300 rpm and feel your way increasing the lathe speed as you reach center. To make the process easier, some turners soak the wood to be cored in water for weeks, or months before bowl coring.

Although you can operate the Bowlsaver Max4 with either seasoned dry wood or wet/green wood, many turners will do their bowl saving with wet/green wood and therefore make an allowance for shrinkage of the wood during the drying process.

MAINTAINING CUTTER SHARPNESS

Check that the Stellite cutting tips have not been damaged during handling or assembly.

HOW TO SHARPEN THE CUTTER:
Sharpen the front face of the tip with the Woodcut Tools Diamond Hone or similar product, 5° to 15°. Only grind the top of the cutter if you wish to change the downwards rake. Do not sharpen the sides.



HOW OFTEN TO SHARPEN THE CUTTER:
The Woodcut Tools Bowlsaver Max4 cutter is made from Stellite which is also used in the Saw Milling industry because of it's unique ability to retain an edge for a long time.

When coring wet wood the cutter may last several cores before needing to be re sharpened. For hard, dense wood e.g. Burr Elm you may need to sharpen the front of the cutter multiple times during a single bowl core.



USER SUPPORT

Email support@woodcut-tools.com

Please subscribe to our Woodcut Tools YouTube channel, Facebook and Instagram pages, to stay up to date with our latest product videos.



@woodcuttools
#bowlsavermax4

GENERAL SAFETY GUIDELINES

Woodcut Tools recommends these guidelines to ensure your safety.

1. Please read this user guide before operating this product.. Ensure you are familiar with the product's application and limitations plus the specific hazards peculiar to it.
2. Wear safety glasses. A full face mask is recommended. . Safety glasses (must comply with ANSI STANDARD Z87.1 USA) Everyday eye glasses usually are only impact resistant; they are not safety glasses. Also use face or dust mask if cutting operation is dusty.
3. Wear appropriate clothing. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewellery, which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
4. Use ear protectors. Use earmuffs for extended period of operation. Use muffs rated to 103 DBA LEQ (8 hr).
5. Do not operate in a high risk environment.. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
6. Ensure the work area is clean. Cluttered areas and benches invite accidents. Build up of sawdust is a fire hazard.
7. Keep children and visitors away. All children, infirm and visitors should be kept a safe distance from work area.
8. Ensure the workshop is childproof with locks, master switches, or by removing starter keys.
9. Ground all tools. If the tool is equipped with a three-prong plug, it should be plugged into a three hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter lug must be attached to a known ground. Never remove the third prong.
10. Ensure the tool is disconnected from the power supply while the motor is being mounted, connected or reconnected.
11. Disconnect tools from wall socket before servicing and when changing accessories such as blades, bits, cutters and fuses.
12. Prevent accidental starting . Make sure switch is in the Off position before plugging in power cord.
13. Never leave machine running unattended. Do not leave tool unless it is turned off and has come to a complete stop.
14. Keep guards in place and in working order.
15. Use the correct tool. Do not use a tool or attachment to do a job for which it was not designed.
16. Use recommended accessories. The use of improper accessories may cause hazards.
17. Don't force the tool. It will do the job better and be safer at the rate for which it was designed.
18. Maintain tools in optimum condition. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
19. Avoid standing on the tool. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
20. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
21. Don't over reach. Keep proper footing and balance at all times.
22. Direction of feed. Feed work into a blade or cutter against the direction of rotation or the blade or cutter only.
23. Attention to work. Concentrate on your work. If you become tired or frustrated, leave it for awhile and rest.
24. Secure work. Use clamps or a vice to hold work when practical. It's safer than using your hand and frees both hands to operate tool.
25. Check for damaged parts. Before further use of the tool, any part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, mounting, and any other conditions that may affect its operation. Any damaged part should be properly repaired or replaced.
26. Drugs, alcohol and medication. Do not operate tool while under the influence of drugs, alcohol or any medication. 27. DUST WARNING. The dust generated by certain woods and wood products can be harmful to your health. Always operate machinery in well ventilated areas and provide for proper dust removal. Use wood dust collection systems whenever possible.

WARRANTY TERMS

Woodcut Tools are guaranteed against faulty workmanship and faulty materials for twelve months from date of purchase. Fair wear and tear excluded. We will replace or repair any tool returned to the supplier or factory free of charge. Freight to and from the factory will be at the expense of the purchaser.

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