

NOVA PRECISION MIDI CHUCK INSTRUCTION MANUAL



Thank you for purchasing Nova Precision Midi Chuck - the ideal chuck for Mini, Midi and smaller lathes with up to 12" diameter swing. We are confident that it will be a great aid towards fast workholding and will enhance your woodturning capability. The Precision Midi is designed for a range of wood holding modes while being quick and easy to use.

YOUR SAFETY

IMPORTANT PLEASE READ & UNDERSTAND THIS INFORMATION BEFORE USING YOUR PRECISION MIDI CHUCK

DANGER: THIS CHUCK IS CAPABLE OF CONTRIBUTING TO SERIOUS INJURY, AS WITH ANY OTHER POWER TOOL ACCESSORY, IF USED IMPROPERLY ON THE LATHE.

Please also read and understand the lathe owner's manual. If you do not have a manual, contact the supplier of your lathe to obtain one before using the lathe and Chuck.

User must be professionally trained to use this chuck. Vocational school courses are recommended. As with other chucking methods, an extremely cautious and sensible approach is necessary. Follow closely strict guidelines in this manual for different jaw types on wood blank diameters and length, plus turning speed.

BEFORE USING THE PRECISION MIDI CHUCK MAKE SURE THAT -

- ALWAYS WEAR EYE PROTECTION WHICH COMPLIES WITH CURRENT ANSI STANDARD Z87.1 (USA). WE RECOMMEND THAT A FULL FACE SHIELD TO BE USED AT ALL TIMES.

- Make sure chuck is properly secured on lathe spindle. Follow mounting instructions for your lathe for faceplates and other spindle fixtures.
- For safety, DO NOT ROTATE CHUCK UNDER POWER WITHOUT WOOD BEING GRIPPED.
- WARNING: EXCESSIVE SPEED IS A SERIOUS LATHE HAZARD. ALWAYS TURN AT THE SLOWEST SPEED POSSIBLE.**
- Speed will vary with wood blank size. The larger the blank, the slower the speed. Consult your lathe manual or lathe information plate for speed guidelines.
- DO NOT ATTEMPT TO USE THE CHUCK UNLESS THE LATHE SPEEDS ARE KNOWN, YOU MUST STRICTLY FOLLOW THE MAXIMUM SPEED LIMITS SET OUT IN THE OPERATING SECTION OF THIS MANUAL. DO NOT EXCEED THEM UNDER ANY CIRCUMSTANCES.
- EXAMINE WOOD CAREFULLY. ONLY MOUNT WOOD THAT IS SOUND, If any cracks, splits, or weakness is found in wood - DO NOT MOUNT ON CHUCK. DO NOT MOUNT ANY WOOD THAT IS LIKELY TO BREAK UP DURING TURNING (E.G. ROTTEN OR SPONGY WOOD). DO NOT USE POORLY JOINTED/LAMINATED WOOD.
- Make sure wood is clamped firmly. Follow mounting instructions for different gripping modes and jaw types. In the expansion mode do not use undue force or jaws may split the wood.
- Do not exceed maximum guidelines in this manual for wood blank diameters/length set out in this manual for different modes and jaw types. **DO NOT USE WITH ANY COPYTURNER OPERATIONS**

- Check wood is securely held in chuck, before operation. Check grip by vigorously wrenching wood blank back and forth. If any loosening occurs, re-examine holding area for adequate grip (Follow mounting guidelines) and any damage to holding area. Rotate manually to make sure of clearance before switching power on.
 - WARNING FOR SAFE OPERATION. IT IS RECOMMENDED THAT TURNING BE CARRIED OUT WITH JAW SLIDES NOT EXTENDING BEYOND THE CHUCK BODY. HOWEVER THE JAW SLIDES CAN EXTEND ABOUT 6.35MM (1/4") BEYOND THE BODY OF THE CHUCK TO GIVE A WIDER RANGE OF EXPANSION, IF REQUIRED. EXTRA CAUTION MUST BE EXERCISED WHEN TURNING WITH JAW SLIDES EXTENDING BEYOND THE BODY OF THE CHUCK.**
 - Irregular or out of balance stock needs to be turned at the slowest possible speed until it is in balance. For use on outboard/left-hand rotation - **MAKE SURE INSERT IS SECURELY LOCKED WITH GRUBSCREW BEFORE USE.** Use only hand held woodturning chisels to shape wood being held in chuck.
 - USE THE RIGHT CHISEL FOR THE JOB AND DO NOT FORCE TOOLS. Use safe and commonly approved chisel techniques. **Wherever possible stand to one side of the revolving wood.**
 - WEAR PROPER CLOTHING. Do not wear any loose clothing, neck ties, gloves, bracelets, rings or other jewellery that could get caught in moving parts. Wear protective hair covering to contain long hair.
 - DRUGS, ALCOHOL, MEDICATION. Do not operate chuck or lathe while under the influence of drugs, alcohol or any medication.
 - KEEP CHILDREN AND VISITORS AWAY. All children and visitors should be kept in safe distance from the work area.
- Make workshop childproof with padlocks, master switches, or by removing starter keys.**

FITTING CHUCK TO LATHE

Check if the chuck thread specification matches the lathe spindle thread you have.

This is important for accuracy. The chuck body must contact an accurate register on lathe, either a shoulder on spindle or bearing face etc to ensure chuck will run true. Any modification required (e.g. spacer) would be the responsibility of the customer. A good check is to see whether it screws home the same as a faceplate or similar spindle fitting.

DO NOT USE UNLESS CHUCK IS PROPERLY FITTED TO SPINDLE

CHUCK OPERATION

Adjustment: Two levers are provided for adjustment of the jaws - one fits into the chuck body, the other into the scroll ring, please refer to chuck diagram for lever positions. If your lathe has a spindle lock then you only need to rotate with the scroll ring lever. Remember to release spindle lock after adjustments. Using two levers, hold the chuck in place with the body lever and rotate the other lever in the scroll ring to



activate jaw movement. To achieve faster action you can rotate both levers:

- Chuck facing you. When the two levers are pulled together the jaws will contract (further inwards). This action will contract jaws around a spigot for clamping.
- Chuck facing you. Pushing the levers apart will expand the jaws (travel outwards). This action will expand jaws into a dovetail recess for clamping. When clamping make sure to give an extra squeeze on the levers to give a final 'nip up' to the jaws. Use tailstock to help support work in chuck while clamping.

Action Adjustment : Refer to parts diagram. This is an optional and unique feature of Nova chucks where a 6mm grub screw is adjusted to change the action of the chuck more to user requirements (usually to achieve a stiffer movement). As the grub screw is screwed against the fibre washer a tighter action results.

MOUNTING & DISMOUNTING OF JAWS

The Precision Midi chuck comes with no jaws attached. With the many jaws available, it is very easy to use your single chuck for a very wide range of applications. All jaws in the Teknatool range for the Precision Midi are secured and attached the same way.

Attaching Jaws - To mount the jaws to the Precision Midi chuck is another easy process. Firstly wipe clean all jaw slides making sure a clean contact. Repeat this with all four jaws you wish to attach. Jaw slides are numbered one to four and have a corresponding jaw - of the same number. Place a jaw on its correct jaw slide and position into the groove (location ring out from the jaw into the groove of the jaw slide). The first few times you may need to GENTLY tap the jaws into the locater slot with a block of wood or plastic mallet. Place M6X6 counter sunk screws in jaws and screw them to finger tight (a little grease smeared under the heads at this stage will make the later removal easy) When both screws are in nip up them and back them off half a turn. Repeat this on the remaining three jaws, now using the Allan key scroll all jaws towards middle until they all come together. Now with all jaws touching and exerting equal pressure on each tighten all screws up. This will ensure a perfect run out. Check if there are gaps between the jaws. If this happened, it will probably be due to a jaw being placed on a wrong jaw slide. (e.g. a #2 jaw on a #3 jaw slide)

Removing Jaws - using the 4mm Allan key supplied, unscrew all M6 counter sunk screws (there are eight of them). The jaws will come away once screws are released. However sometimes due to dust particle build up after heavy turning, the jaws may need a very light tap with a plastic hammer to dislodge them. It is important to keep them in their set and don't mix them up with other jaws of the same type.

DOVETAIL OPERATION

Expansion of the jaws into a recess. This function is for bowl and platter turning where the projection (depth) of the wood blank is not too great i.e. up to 100mm (4 inches). Characteristically these items have a parallel wood grain. **IT MUST NOT BE USED FOR ANY LONG WORK (OVER 100MM) AS THERE WOULD BE GREAT DANGER OF WOOD TEARING OUT AND DISLODGING FROM CHUCK.**

Instructions below apply to the standard 50mm jaws but the general technique is the same with other accessory jaws. However the maximum size of wood blank that can be mounted, the maximum turning speed and recess size varies with the different accessory jaws. Consult specific instructions included for each jaw set. This strong holding method, using the standard 50mm jaws bowls up to 310mm (12 inches) in diameter can be turned. **DO NOT EXCEED 600RPM WITH THIS OPERATION. OUT OF BALANCE STOCK MUST BE TURNED AT THE SLOWEST SPEED POSSIBLE.**

50mm jaws: Any recess can be turned between 50mm (2 inches) and 70mm (2 3/4 inches) diameter. For smaller lids and thin platters (not exceeding 150mm diameter) only a shallow recess of around 3mm (1/8 inch) is necessary. It will be matter of gaining experience as to what combinations and sizes will best suit.

USING THE WOODWORM SCREW

The woodworm screw supplied with the Precision Midi chuck is designed for screw chucking. It is a cylindrical screw which maintains its full holding power along the whole length, unlike normal tapered screws. The thin thread form is specially designed to cause minimum damage to wood fibers. They grip better than screws because there is a larger volume of undamaged wood retained within the screw. The woodworm screw is made complete with the boss section in one piece. The woodworm screw is to be used with the jaws remaining in place on the chuck. This makes it very convenient for remounting work directly onto the jaws after the screw is removed.

To convert to this operation, place the boss section into the centre of the chuck and close jaws into the slots. **BEFORE FINAL TIGHTENING MAKE SURE THAT THE FRONT OF THE BOSS SECTION OF THE SCREW IS SEATED BEHIND AGAINST THE 50MM JAWS.** This will prevent any tendency for the boss section to creep forward when the screw is being used.

The front face of the jaws has been machined to provide an accurate backing surface. This is quite an advantage, providing a much tighter fit and wider tolerance for irregularly faced stock. This feature is also quite an advantage when using the screw to mount a bowl for first stage bowl turning - forming the outside of the bowl straight onto the jaws (the screw is first removed) after the recess has been formed. The woodworm screws provide 19mm (3/4 inch) of thread beyond the jaws. Irregular, rough tree blanks (e.g. small sections of tree limbs) not exceeding the above sizes can be held quite firmly BUT caution must be exercised. Check for adequate contact.

DO NOT USE THE SCREW FOR VERY LARGE WOOD BLANKS. Its intended for small bowl and screw chucking work. The maximum capacity which should be mounted on the screw - 250mm (10 inches) diameter X 100mm (4 inches), **DO NOT EXCEED 600 RPM FOR THIS OPERATION,** use tailstock support.

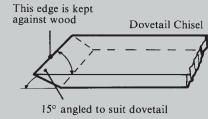
| ITEM NO. | QTY. | PART NO. | DESCRIPTION |
|----------|------|-----------|-----------------------|
| 1 | 1 | 48100 | Midi Chuck |
| 2 | 1 | 48116 | Scroll Ring |
| 3 | 1 | 23051 | PM Jaw slide 1 |
| 4 | 1 | 23052 | PM Jaw slide 2 |
| 5 | 1 | 23053 | PM Jaw slide 3 |
| 6 | 1 | 23054 | PM Jaw slide 4 |
| 7 | 1 | EC48 | Circlip External 48mm |
| 8 | 4 | 10029 | Jaw Set 50mm |
| 9 | 8 | CM5010181 | Screw C/Sunk |
| 10 | 2 | 79458391 | Operating Bar |
| 11 | 1 | G0606 | Grubscrew |
| 12 | 1 | NS1000 | Washer Fibre |
| 13 | 1 | 10006 | WoodWorm Screw |

FORMING RECESS

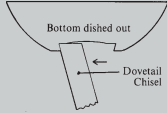
The jaw dovetail has been designed for use with a standard skew scraper. This chisel will make a recess to the angle required. **FOR SAFETY REASONS WE STRONGLY ADVISE DO NOT USE ANY OTHER TOOL.** A profile of this chisel is shown below. It is best to work with a tool, which is already ground, to the correct angle. All that is necessary then is to keep the leading edge of the chisel flat on the wood, moving forward and out to form the recess to the required diameter and depth.

Mount bowl blank on screw as described in previous section. It may be convenient to first mark out with a pencil, a circle on the bowl blank. To mark out the recess diameter with pencil, hold pencil point to desired radius, supported on the toolrest. Then revolve blank by hand thus creating a pencilled circle. However, as specified above, any recess diameter can be made between 50mm (2 inches) - 75mm (3 inches) (standard 50mm jaws) so exact sizing of the recess is unnecessary.

Before scraping out the recess, slightly hollow out the centre of the bowl blank with a bowl gouge or round nose scraper. The purpose is to relieve the centre so that when the recess is scraped out only half the chisel edge needs to be used. We recommend this to reduce tearing of the wood by scraping action; and to make the recess a little more finished to give a better effect to the overall bowl. Extra embellishments can also be made to the recess to enhance the bowl.



After the recess is finished and the outside of the bowl is turned to shape, wind bowl back off screw. Bowl blank is now ready to be reversed into the jaws. Expand the jaws into the recess. When the jaws are expanded out into the recess, screw the wood blank gently back and forth to make sure it is seated properly on the bottom face of the jaws.



WARNING: MAKE SURE THE JAWS ARE SEATED PROPERLY IN THE RECESS AND THAT THE BOWL IS NOT INCORRECTLY RIDING ON THE FLAT SHOULDER SECTION OF THE JAWS BEHIND THE DOVETAIL. THIS COULD LEAD TO THE BOWL DISLODGING FROM CHUCK. LOOSEN JAWS AND REMOUNT CORRECTLY.

Now give a few gentle taps with the end of a chisel handle or wooden mallet around centre of bowl. Use the operating bars to give an extra nip up. Refer to Chuck Operation. Refer again to safety before operation.

SPIGOT OPERATION

This is where the jaws contract around a wooden spigot for grip. This function is mainly for box, goblet and vase turning, that is, end grain items with a fair degree of overhang.

This situation is one of the most difficult to provide secure holding no matter what fixing method is used. **EXTREME CAUTION WITH THIS OPERATION MUST BE EXERCISED. DO NOT EXCEED 850 RPM FOR THIS OPERATION.** If used properly the SuperNova Chuck however, provides a very powerful and secure grip in this mode.

Instructions below apply to the standard 50mm jaws but the general spigot technique is the same for other jaw types. However, maximum turning speed and recess size varies with different jaw types. Consult accessory jaw manual or instruction sheets.

With the standard set of 50mm jaws a maximum size woodblank of 100mm (4 inches) diameter (NOT spigot size) by 150mm (6 inches) length can be turned. Square timber of same length and between 40mm (1.5 inches) to 50mm and grip of all four jaws into wood.

MAKE SURE YOU HAVE AN ADEQUATE GRIP BEFORE OPERATION by vigorously wrenching the limb mounted on chuck. If any loosening occurs **DO NOT PROCEED** with operation. Repeat tightening procedure and re-test grip.

SPIGOT SIZE:

Standard Jaws will grip a round spigot between 45mm (1 49/64 inches) to 65mm (2 5/16 inches) approx. Square timber between 40mm (1 37/64 inches) to 50mm square approx. Jaw slides only: With the 50mm add-on jaws removed, the jaw slides will grip either round or square timber down to 8mm (5/16 inch). Length limits same for spigot work. Small work not greater than this diameter can be turned at a speed NOT EXCEEDING 1800 RPM. Larger work held in the jaw slides should not exceed 850 RPM.

FORMING SPIGOT:

When selecting wood make sure it is sound without splits or weakness - especially around the area where the spigot is to be formed. **REMEMBER WITH FREE END TURNING, THIS IS THE ONLY AREA OF GRIPPING. IF ANY WEAKNESS IS FOUND, DO NOT PROCEED.** Mount wood between centres and turn the spigot area. Make the spigot as parallel as possible to maximise the efficiency of the clamping action. Only approximate sizing of the spigot is necessary, as the jaws will accommodate a wide range of spigot diameters within the spigot limits stated above. The 50mm standard jaw has a thin lip or shoulder at the front face. This is designed to bite into the timber as the jaws are tightened. **DO NOT CUT A RECESS FOR THE LIP TO FIT INTO, AS THIS WILL REDUCE GRIPPING POWER.**

WARRANTY

Serial Number:

You can register your warranty online by visiting www.teknatool.com

This 24 months warranty period starts from the date of the purchase. Teknatool International Ltd hereby agrees to make repairs or replace components without charge for any defects due to faulty material or workmanship, provided that -

- The warranty period has not elapsed. Proof of purchase date (sales slip, registration of warranty etc) would need to be forwarded to Teknatool International.
- If, in our opinion, the unit has not already been altered, repaired or modified in any way that would affect its operation; has not been subjected to misuse, negligence, accident or not used strictly in accordance with instructions.
- Where necessary, transportation is prepaid by the customer to the Factory Service Centre (or other authorised Teknatool Service Centre)

Warranty does not cover costs or damages arising directly or indirectly from the operation of this Teknatool product. No other guarantee, written or verbal is authorised by Teknatool International Ltd.

Our Teknatool Distributors can issue their own warranty to cover this product. Their terms may vary from what is stated above - please check with your dealer if you have any questions. Email our service contact: service@teknatool.com.

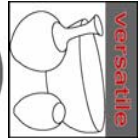
Our policy is one of continuous improvement. We therefore reserve the right to change specifications/designs without notice.



Ideal for Mini, Midi and all lathes up to 12" swing over bed

Fits Nova & SuperNova Accessories

PRECISION MIDDY CHUCK



Fast, strong grip

Ideal for your Woodturning

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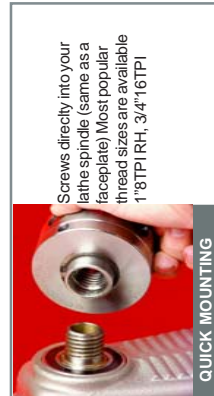
SPECIFICATIONS

Thread Sizes: 1"8 TPI, 3/4"16 TPI
 Warranty: 2 Year Comprehensive - see details
 Weight:
 Body Diameter:
 Standard Equipment: Chuck body, 50mm jaws, operating levers, fastenings, instruction manual.
 See back of this sheet for the instruction manual.

Learn More
Visit our website

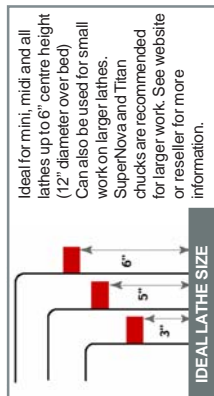
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Screws directly into your lathe spindle (same as a faceplate) Most popular thread sizes are available 1"8 TPI RH, 3/4"16 TPI

QUICK MOUNTING



Ideal for mini, midi and all lathes up to 6" centre height (12" diameter over bed) Can also be used for small work on larger lathes. SuperNova and Titan chucks are recommended for larger work. See website or reseller for more information.

IDEAL LATHE SIZE



Fully compatible with all Nova, SuperNova and SuperNova2 accessories. Widest accessory range of any chucking system on the market means you can tackle wide range of projects.

VERSATILE



Screw chucking function, using the Nova Woodworm Screw (included with chuck) For the first stage mounting of wooden bowl blanks.

WOODWORM SCREW

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