

COMPAC CHUCK INSTRUCTION MANUAL

Thank you for purchasing our Nova Compac Chuck. - the latest addition to our woodturning chuck range. We are confident it will be a great aid towards fast workholding and enhance your woodturning capability. The Compac is designed for a range of workholding modes while being quick and easy to use.

The Compac has also some special safety features: a travel stop to prevent the jaws dislodging from the chuck and the jaws are designed to track to centre under power with no work mounted. The chuck can swap from the expansion/dovetail mode to the contracting/spigot mode and back instantly with no extra adjustments or fixtures. In both modes any recess or spigot size can be selected between the min. and max. range of the jaws making the workholding area easy to turn. As a valued customer we would be pleased to hear from you and how you found using your Compac chuck. Please go to our website and register your warranty details or send it by mail to us. This manual is adequate to learn how to use the Compac Chuck safely. For more comprehensive information on aspects like maintenance, trouble shooting guides etc go to our website www.teknaatool.com

The chucks are sample tested from each batch and are made to run within:
 Face Runout Max. 0.1mm (0.0039 inch)
 Radial Runout Max. 0.13mm (0.005 inch)
 Wood is quite a 'plastic' material - there could be different densities in the same piece and all wood is liable to warp out of place while turning. This is part of the beauty and appeal of wood.

For these reasons it is difficult to achieve the close tolerances quoted above. However for most wood turning there is no need to work to such close accuracies. IMPORTANT: Clean protective film off chucking using a soft cloth. Use WD40 or similar lubricant oil spray to lubricate chuck before use and maintain protective oil coating.

Safety

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

Before using the Compac Chuck, read and understand this instruction manual. Read and understand also the lathe owner's manual before using chuck.

User must be trained to use chuck - vocational school courses highly recommended. As with other chucking methods, an extremely cautious and sensible approach is necessary. With the Compac Chuck it is not possible to give exact directions as to the amount of tightening pressure required for workholding. Follow closely strict guidelines in this manual for different jaw types on wood blank diameters and length, plus turning speed.

BEFORE USING YOUR SUPERNOVA CHUCK MAKE SURE THAT - ALWAYS WEAR EYE PROTECTION WHICH COMPLIES WITH CURRENT ANSI STANDARD Z87.1 (USA). WE RECOMMEND THAT A FULL FACE SHIELD BE USED AT ALL TIMES. 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. DO NOT ATTEMPT TO SLOW CHUCK BY PLACING HAND ON CHUCK BODY. 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 (EG ROTTEN OR SPONGY WOOD) DO NOT USE POORLY JOINTED OR 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 USE WITH ANY COPYTURNER OPERATIONS
 Check wood is securely held in chuck, before operation. Check grip by vigorously wrenching wood blank back and forth. Rotate manually to make sure of clearance before switching power on.

WARNING FOR SAFE OPERATION. DO NOT EXTEND JAW SLIDES BEYOND CHUCK BODY ONLY OPERATE CHUCK WITH JAW SLIDE STOP SCREW IN PLACE AND TEST TO MAKE SURE IT IS ADJUSTED OUT TO STOP JAW SLIDE.

This prevents jaw slides from dislodging from chuck. Irregular or out of balance stock needs to be turned at the slowest possible speed until it is in balance. 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.

DO NOT use Rags to apply oil or wax finishes - do use paper towels.

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 safe distance from the work area. Make workshop childproof with padlocks, master switches, or by removing starter keys.

Fitting Chuck To Lathe

Check that 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. If further modifications are necessary (eg. spacer) these are the responsibility of the user. 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 adjustment!

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:

(a) Chuck facing you. When the two levers are pulled together the jaws will contract (travel inwards). This action will contract jaws around a spigot for clamping.

(b) 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.

Stop Screw: Refer to diagram opposite (Part 7). This is factory installed. It is a safety feature and is there to prevent the jaw slides being wound out of the chuck. Do not remove except for maintenance and cleaning - re-install before operation.

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. You need to purchase as an extra the optional 49004 Compac Fastening & Action Adjustment Kit, to obtain the 6mm grub screw, fibre washer and 3mm Allen Key for the Action Adjustment Option.

Mounting Standard 45mm Jaws

The Compac Chuck comes standard with the 45mm (1.8") Jaws. The chuck is packed with the jaws loosely positioned on the jaw slides.

The four jaw segments need to be fixed to the jaw slides with the 8 x M6 x10 Countersunk jaw screws and the 4mm Allen Key provided. Before fixing jaws in place, make sure both the pin hole positions underneath the jaws and the jaw slide pins are clean and free of dirt or grease build up. On the bottom face of each jaw they are numbered 1-4. Place each jaw segment on the jaw slide pins, from 1-4 in clockwise rotation. The scroll action needs to be at the mid travel position so jaws are not butting up against each other when fitting them to chuck. Make sure they are firmly seated. Lightly grease or oil screws under the heads and then screw both screws on each jaw segment finger tight. Then give both a final nip up. This is to ensure both screws are tightened evenly. Repeat the procedure on the other three jaw segments. Same procedure for the 20mm accessory jaws but only 1 screw per segment is used. (The jaw segments still locate on the 8 jaw slide pins). The pins are made to very close tolerances. The jaws are a very close fit on the pins and need to be gently levered off with a screwdriver blade or similar tool.

Bowl Turning

The first stage of bowl turning is to mount the bowl blank to turn the outside of the bowl and prepare the mounting area for the Compac chuck jaws. This can be done in a number of ways - using your faceplate or a Nova Woodworm screw for the Compac Chuck (see the Compac Chuck section on our website for more information). A bowl could be mounted either by expanding the jaws into a recess or by leaving a small circular foot on the bottom of the bowl. For beginners using the expansion/recess method is strongly recommended - it provides a powerful grip and is easy to turn.

Expansion into a Recess: This function is ideal for bowl/platter turning where the depth is not too great - up to 75mm (3in.) IT MUST NOT BE USED FOR LONG WORK (OVER 75mm) AS THERE WOULD BE A GREAT DANGER OF WOOD TEARING OUT AND DISLODGING FROM CHUCK.

Instructions below apply to the 45mm jaws but the general technique is the same with other accessory jaws.

This is a strong holding method. 45mm jaws: Bowls up to 200mm (8in) in diameter & 75mm (3in) depth can be turned. 20mm jaws: Bowls up to maximum 100mm (4in) diameter and no more than 45mm (1 3/4in) in depth.

DO NOT EXCEED 600 RPM SPEED WITH THIS OPERATION. OUT OF BALANCE STOCK MUST BE TURNED AT THE SLOWEST SPEED. 45mm Jaws: Any recess can be turned between 45mm (1 3/4in) to 51mm (2in). Choose the diameter that suits your bowl design. However bear in mind that best workholding will be achieved around 45mm. For larger bowls (over 150mm-6in) or softer woods will require a deeper recess up to maximum of 75mm(5/16in). 20mm Jaws: Any recess between 19mm (3/4") to 26mm (1in). Best workholding around 20mm.

Continued overleaf

ITEM NO.	QTY	PART NO.	DESCRIPTION
1	1	48000	Chuck Body
2	1	48001	Scroll Ring
3	4	48002	Jaw Slides
4	8	48009	Guide Pin
5	8	48005	M6x1 Counter Sunk Screw
6	1	EC32	Circlip 32mm Enamel
7	1	LSM4N	4mm Stopper Screw
8	4	48004	45mm Jaws
9	2	79458391	Operating Bar
10	1	AK4	4mm Allen Key

Forming A Recess:

With the bowl mounted on faceplate or screw, shape the outside of the bowl. Mark out the recess diameter (within 45-51mm for 45mm jaws) with a pencil: hold pencil point to desired radius supported on the toolrest. With the power off rotate by hand - creating a pencilled circle. Before scraping out the recess slightly hollow out centre of the bowl blank with a bowl gouge or round nosed scraper. The purpose is relieve the centre so when the recess is scraped out only half the chisel edge needs to be used. Use a Left Hand Scraper chisel to scrap out recess.

After the recess is finished and the outside of the bowl completed, take bowl off the faceplate or the Woodworm screw. Bowl blank is now ready to be reversed onto the jaws. Position the jaws into the recess and expand the jaws into recess with levers. When the jaws are fully expanded into the recess, move the wood gently around, back and forth to make sure it is seated properly against front face of jaws.

Now give a few gentle raps with end of chisel handle or wooden mallet. Use levers to give an extra nip to the jaw expansion action.



Spigot Turning (Contracting Jaw Action)

This is where the jaws contract around a wooden spigot for grip. This function is mainly for box, goblet and vase turning - endgrain items with some overhang along lathe.

This situation is one of the most difficult to provide secure holding no matter what fixing method is used. If used properly however the Compac Chuck provides a secure grip for spigot turning. **USE EXTREME CAUTION WITH THIS OPERATION. DO NOT EXCEED 850 RPM FOR THIS OPERATION.**

Spigot Size: The standard 45mm jaws will grip a round spigot between 38mm(1 1/2in) to 43mm(1 11/16in) approximately. Square timber between 28mm(1 1/8in) to 32mm (1 1/4in) square.

Depth of spigot used should be the maximum possible: 11mm (4/10in) approximately for 45mm jaws. 18.75mm (3/4in) approximately for the 20mm jaws.

Maximum extension unsupported by tailstock: 100mm (4in). 20mm jaws: Round spigot between 8mm (3/10in) to 13.5mm (1/2in) diameter approximately. Square timber between 6.5mm(1/4in) to 14.5mm (9/16in) square. Maximum extension: 100mm (4in)

Forming Spigot: When selecting wood make sure it is sound without splits or weakness. **REMEMBER THIS IS FREE END TURNING. THIS IS THE ONLY AREA OF GRIP AND SUPPORT. IF ANY WEAKNESS IS FOUND DO NOT PROCEED. DO NOT MOUNT ANY IRREGULAR SHAPED WOOD** (eg. tree branch) as the jaws will not grip it evenly.

Mount wood between centres and form the spigot area. Make the spigot as straight and even as possible to maximise the efficiency of the clamping action. Only approximate sizing is necessary between the minimum and maximum spigot sizes for both jaws above. Use the maximum spigot length to ensure strongest workholding. The front of the 45mm jaws has a lip - this is designed to bite into the timber as the jaws are tightened. **DO NOT CUT A RECESS FOR THE LIPTO FIT AS THIS WILL REDUCE GRIPPING POWER.**

www.teknaatool.com

Nova Compac Chuck

Ideal for your Woodturning
Fast, strong grip

Check for other sizes available with your reseller. **Warranty: 2 Year**. Standard Equipment: Chuck Body, 45mm Jaws, Operating Levers, Fastenings, Instruction Manual. See back of this sheet for the instruction manual.

Optional Accessory for very small bowls, and unsupported spigot work. Quick and easy. Great for mini lathe owners.

20mm Jaw Set

Easy Work Holding

One or two handle operation for quick jaw open or close.

Quick Mount to your Lathe

Directly screws onto your lathe spindle the same as a faceplate. Most popular threads available 1 7/8"PI RH, 1 10/16"PI RH, 1 1/4"PI RH. Check with your reseller for other sizes.

Ideal Lathe Size

all lathes up to 6" centre height/12" diameter swing over bed. Can also be used for all small work on larger lathes. Nova & SuperNova Chucks are recommended for room work. See website or reseller.

Comprehensive manuals

Free Project Ideas

Frequently Asked Questions

Register Warranty

Woodworm Screw

Optional Accessory for Screw Chucking Function. For the first stage mounting of wooden bowl blanks

Adaptor Plate Jaw Set

Optional Accessory for adapting some of the Nova and SuperNova Accessory jaws to use on the Compac Chuck. The jaws that can be adapted are: 25mm Pin, Step, 35&48mm Spigot, 100mm Jaws.

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