

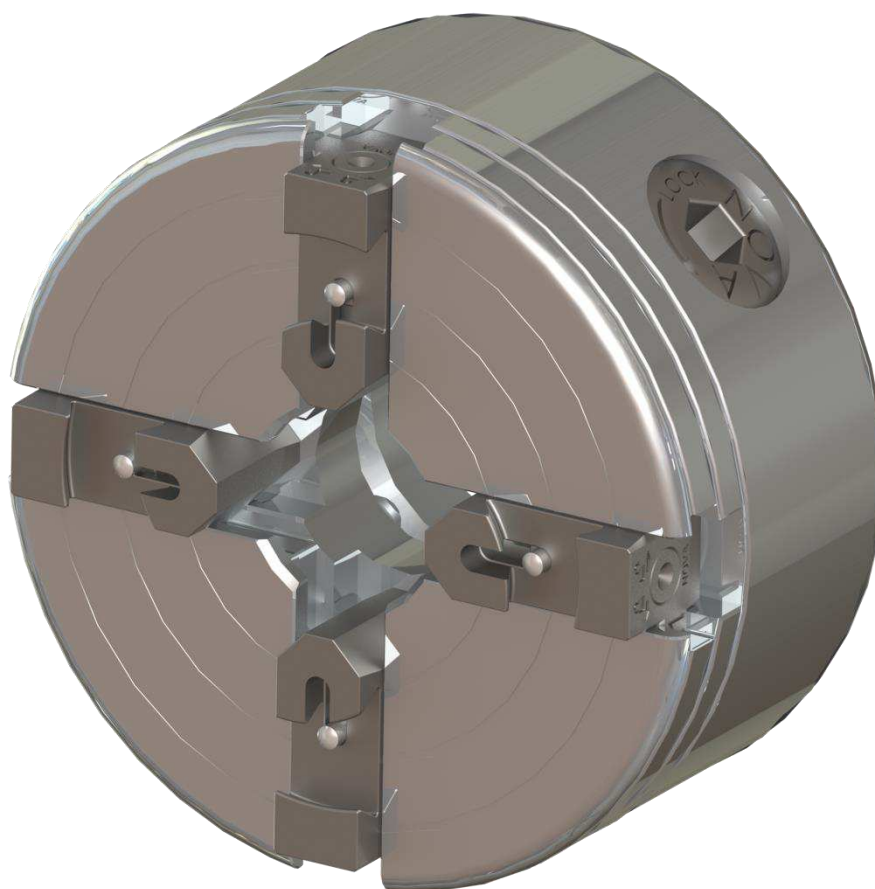
SUPERNOVA2

INFINITY™

Quick Change

Chuck

INSTRUCTION MANUAL



**READ THIS MANUAL CAREFULLY AND
BECOME THOROUGHLY FAMILIAR WITH
CHUCK OPERATIONS BEFORE USE**

nova™

Smart Tools, Powerful Solutions

Updated 22 April 2016

WELCOME

Thank you for purchasing our SuperNOVA2 Infinity Quick Change Chuck. We are confident it will help to both enhance and advance your woodturning. The SuperNOVA2 Infinity Quick Change Chuck is a very versatile unit, designed to offer a wide range of work holding modes. It has a powerful grip while being quick and easy to use.

It combines the best features of our original SuperNOVA2 Chucks and similar woodturning chucks (wide jaw movement, quick two way grip) with the advantages of the latest technology and innovation from NOVA..

BENEFITS OF THE INFINITY Chuck Features

- Fast, easy to change out collets (around 25 seconds)
- Highly advanced technology process used to manufacture jaw components for exceptional strength and accuracy – over 175% stronger than conventional machine steel
- Large range of unique jaw designs
- Hard wearing, heavy duty composite indexing backing plate
- Captured pinion with rotation arrow. Bar Hex key seals easier and faster, allowing easy opening and closing.
- Woodworm screw locks into the chuck body and provides a strong and durable screw chucking function.
- Faster action contracting and expansion action
- Ball nose allen key with easy grip plastic handle.
- Seal of authenticity – holographic NOVA sticker on backing plate.
- Centrifugal force locks – unique to our design

All NOVA Chucks have Jaws specifically designed for Woodturning:

All the NOVA jaws are specially designed to expand into recesses or contract around round/square wood spigots of varying sizes and applications. Some irregular pieces can also be gripped. NOVA chucks can swap from the expansion/dovetail mode to the spigot mode and back instantly, with no adjustments or extra fittings being necessary. Any spigot or recess size can be selected between the minimum and maximum range of the jaws. With the add-on accessory jaws removed, the jaw slides can be used to grip quite small spigots.

As a valued customer, we would be pleased to hear from you and how you found your NOVA Infinity Quick Change Chuck. Any comments on the chuck or accessory ideas would be very welcome so we can continue to offer what we believe is the best woodturning chucking system available.

ACCURACY: The SuperNOVA2 Infinity Quick Change Chuck are sample tested from each batch and are made to run within the following tolerance limits:

Face Runout Maximum: 0.1mm (0.0039 inch)

Radial Runout Maximum: 0.13mm (0.005 inch)

The testing is performed with the chuck mounted on a standard insert. To ensure accuracy when mounted on a lathe, refer to page 7. Please note that wood is a relatively soft material that may deform when mounted in the chuck, thus these tolerances may be difficult to achieve on the work piece.

Note that wood is quite a plastic material with different densities even in the same piece, and liable to warp out of place while turning. This is a part of the beauty and appeal of working with such a medium. However, under these circumstances pursuing accuracies as quoted above can be very difficult to achieve. For most woodturning situations (with some exceptions) there is little need to achieve such tolerances.

Contact Teknatool

New Zealand

Teknatool International Ltd

Phone: (+64) 9 477 5600

Fax: (+64) 9 477 5601

Email: service@teknatool.com

Website: www.teknatool.com

United States

Teknatool Service Center

Phone: 727-954-3433

Free Phone: 1-866-748-3025

Free Fax: 1-727-623-0902

Email: service@teknatool.com

Website: www.teknatool.com

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Warning! ONLY use the NOVA Chuck handle supplied to tighten the jaws. DO NOT use longer arm hex wrenches, ratchets, or other devices which may over tighten and cause excessive and unnecessary torque. It can be dangerous to over tighten, causing excessive stress on product and on the project itself. The NOVA chuck handle supplied is sufficient to tighten the Infinity Chuck Jaws for normal turning operations.

General Safety Rules



Warning! Failure to follow these rules may result in serious personal injury.

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

FOR YOUR OWN SAFETY, READ THE MANUAL BEFORE OPERATING THE TOOL. Learn the machine's application and limitations plus the specific hazards peculiar to it.

2. **ALWAYS USE A FULL FACE SHIELD-Strongly recommended** (must comply with ANSI STANDARD Z87.1 -USA) Everyday eye-glasses usually are only impact resistant and safety glasses only protect eyes. A full face shield will protect the eyes and face. Also use face or dust mask if cutting operation is dusty
3. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry 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 ear muffs for extended period of operation. Use muffs rated to 103 DBA LEQ (8 hour).
5. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
6. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents. Buildup of sawdust is a fire hazard.
7. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
8. **MAKE WORKSHOP CHILDPROOF** with locks, master switches, or by removing starter keys.
9. **GROUND ALL TOOLS.** This 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. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while the motor is being mounted, connected, or reconnected.
11. **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits cutters, etc.
12. **AVOID 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 RIGHT TOOL.** Do not use a tool or attachment to do a job for which it was not designed. **Wherever possible stand to one side of the revolving wood**
16. **USE RECOMMENDED ACCESSORIES.** The use of improper accessories may cause hazards.
17. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
18. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
19. **NEVER STAND ON 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 OVERREACH.** Keep proper footing and balance at all times.
22. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of 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 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, 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 injurious to your health. Always operate machinery in well ventilated areas and provide for proper dust removal. Use wood dust collection systems whenever possible.

Additional Safety Rules



Warning! Failure to follow these rules may result in serious personal injury.

DO NOT MODIFY OR USE LATHE FOR USES OTHER THAN FOR WHICH IT WAS DESIGNED.

1. **SEEK INSTRUCTION.** If you are not thoroughly familiar with the operation of wood lathes, obtain advice from your supervisor, instructor, or other qualified person. Instruction from a qualified person is strongly recommended.
2. **MAKE SURE WOOD** is securely clamped in the chuck before turning it on
3. **EXAMINE WORK PIECE** and glue joints before turning to make sure it has no defects that would cause it to break when turning.
4. **CHECK SET-UP** with power off. Examine the set-up carefully and rotate the work piece by hand to check clearance before turning on power.
5. **ADJUST TOOLREST** close to the work piece. Before turning, revolve the stock by hand to make sure it clears the rest. At intervals, stop the lathe and readjust the toolrest.
6. **DO NOT MAKE ADJUSTMENTS** when the lathe or work piece is turning. Make all adjustments with power off.
7. **TIGHTEN ALL CLAMP HANDLES** on the headstock, tailstock, and toolrest before operating lathe.
8. **USE LOWEST SPEED** when turning a new or unbalanced work piece.
9. **USE CORRECT SPEED** for turning the wood blank as wood speed will vary depending on diameter.
10. **KEEP TOOL ON TOOLREST.** Tools should remain on the toolrest whenever the tool is engaged in contact with the work piece.
11. **DO NOT ROTATE CHUCK** under power without wood being gripped and securely tightened in the chuck.
12. **USE CORRECT LATHE TOOLS.** Do not use spindle turning chisels for faceplate mounted work, and vice versa. Spindle turning tools used for faceplate turning may grab the work piece and pull the chisel from your control.
13. **DO NOT POUND WORK PIECE** into headstock drive (spur) center while attached to the lathe when turning between centers. Pound the drive center into the work piece with a soft mallet before installing it between centers in the lathe.
14. **DO NOT USE TAILSTOCK** to drive work piece into the drive (spur) center when turning between centers. Secure work between centers with light pressure from the tailstock quill action.
15. **FASTEN STOCK SECURELY BETWEEN CENTERS.** Make sure the tailstock is locked before turning on the power.
16. **NEVER LOOSEN TAILSTOCK** spindle or tailstock while work piece is turning.

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.

17. **MAKE SURE CHUCK IS SECURED** properly on lathe spindle. Follow mounting instructions for your lathe for faceplates and other spindle fixtures.
18. **DO NOT ROTATE CHUCK UNDER POWER WITHOUT WOOD BEING GRIPPED.**
19. **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.
20. **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.**
21. **DO NOT TURN IN REVERSE.** Do not use this chuck for reverse turning operations, light reverse operations i.e. sanding are allowed. Speed not above 2000 rpm.
22. **EXAMINE WOOD CAREFULLY.** ONLY MOUNT WOOD THAT IS SOUND, if any cracks, splits, or weakness is found in wood - DO NOT MOUNT ON CHUCK.
23. **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.**
24. **IRREGULAR OR OUT OF BALANCE STOCK** needs to be turned at the slowest possible speed until it is in balance.
25. **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.
26. **DO NOT EXCEED MAXIMUM** guidelines in this manual for wood blank diameters/length set out in this manual for different modes and jaw types.
27. **DO NOT USE WITH ANY COPYTURNER OPERATIONS**
28. **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 (Following mounting guidelines) and any damage to holding area. Rotate manually to make sure of clearance before switching power on.
29. **WARNING FOR SAFE OPERATION. DO NOT EXTEND JAW SLIDES BEYOND CHUCK BODY UNDER ANY CIRCUMSTANCES**

SUPERNOVA2 INFINITY Chuck Specifications

There are several models of the SuperNOVA2 Infinity Quick Change Chuck designed to meet various woodturning requirements.

Note that inserts, accessory jaws, etc., are fully interchangeable between the NOVA Infinity, G3 and SuperNova2 Chucks. However, an Retro Fit (SKU 8200) will need to be purchased to fit your older NOVA Jaw Accessories to your new SuperNOVA2 Infinity Chuck.

STANDARD MODEL (SKU# 8010) 1x Infinity Chuck Insert Model Type, 1x M6 Grubscrew, 2 x Fibre washers, 1 x Allen End Pinion handle, 1 x NOVA Infinity Chuck Manual 1 x Woodworm Screw

STANDARD MODEL PLUS #3 BOWL JAWS (SKU# 8012) 1x Infinity Chuck Insert Model Type, 1x M6 Grubscrew, 2 x Fibre washers, 1 x Allen End Pinion handle, 1 x NOVA Infinity Chuck Manual (sheet) 1 x Woodworm Screw 1 x INFINITY Bowl Jaws #3.

M33 DIRECT THREADED MODEL (SKU#8303)

Dedicated threaded chuck, M33 thread. This cannot accept the Standard NOVA Chuck Insert/Adaptors. Standard Model 1x M6 Grubscrew, 2 x Fibre washers, 1 x Allen End Pinion handle, 1 x Woodworm screw, 1 x Infinity Bowl Jaw Set #3, 1 x M4 Allen key, 1 x M3 Allen key, Nova Infinity Quick Change Chuck Manual.

M33 DIRECT THREADED MODEL (SKU#8313)

Dedicated threaded chuck, M33 thread. This cannot accept the Standard NOVA Chuck Insert/Adaptors. Standard Model 1x M6 Grubscrew, 2 x Fibre washers, 1 x Allen End Pinion handle, 1 x Woodworm screw, 1 x Infinity Bowl Jaw Set #3, 1 x M4 Allen key, 1 x M3 Allen key, NOVA Infinity Quick Change Chuck Manual

Mounting the SUPERNOVA2 INFINITY Chuck on a Lathe

CORRECT MOUNTING OF CHUCK TO LATHE SPINDLE IS VERY IMPORTANT TO ACHIEVE ACCURACY.

WE STRONGLY RECOMMEND THAT THE CHUCK IS NOT USED ON LATHE SPINDLES UNDER 1in (25mm) diameter.

MOUNTING CHUCK ON LATHE

There are two versions of the SuperNOVA2 Infinity Quick Change Chuck: an insert version for all threads up to 27mm (1 1/8") and threaded versions for dedicated threads up to 38mm (1 1/2").

CORRECT MOUNTING OF CHUCK TO INSERT (WITH INSERT VERSION) AND LATHE SPINDLE IS VERY IMPORTANT TO ACHIEVE ACCURACY.

INSERT VERSION: Check that the correct insert has been supplied to match your lathe spindle thread. The code of the insert is on a label on the plastic insert cover and stamped on one of the flats of the hexagon section of the insert.

A list of thread sizes that can be fitted with an insert plus the larger dedicated threads is provided below. If you find your lathe thread is not listed, check with your supplier (or www.teknatool.com) to see if there have been more recent additions to the thread range. Failing that, you may have a blank insert or blank chuck machined to your requirements at an engineering shop in your area.

WE STRONGLY RECOMMEND THAT THE CHUCK IS NOT USED ON LATHE SPINDLES UNDER 16mm (5/8").

Threads covered by the Insert System (Threads up to 28mm (1 1/8"))

Insert 2 (12NS) : M20 X 2 Tyme Cub
Insert 3 (13NS) : M20 x 1.5 Electra Beckum Multico Sumaro
Insert 5 (15NS) : 3/4" 16TPI UNF RH 1/8" spigot+t
Insert 6 (16NS) : 3/4" Plain Bore
Insert 7 (17NS) : 1 1/8" UN RH
Insert 8 (18NS) : 7/8" 12 UN Left-hand
Insert 9 (19NS) : 3/4" 16TPI UNF RH 6mm register
Insert A (1ANS) : 3/4" 14TPI BSP RH Teknatool (Pre 1986)
Insert B (1BNS) : 3/4" 14TPI BSP LH Teknatool (Pre 1986)
Insert C (1CNS) : 1" 10 TPI BSF PH Teknatool Woodfast Durden
Insert D (1DNS) : 1 8TPI UNC RH General Rockwell Delta Golding
Insert E (1ENS) : 1 1/4" 12TPI RH Myford MLS
Insert G (1GNS) : 3/4" 16TPI UNF RH Sears Coronet Minor/Minor
Insert H (1HNS) : 3/4" 10TPI BSW PH Rockwell Homecraft
Insert I (1HNS) : M24 x 3 RH B Line Arundel K600 K450
Insert J (1JNS) : 1 1/8" 12TPI RH Myford Mystro
Insert K (1KNS) : M18 x 2.5 ELU DB180
Insert L (1LNS) : 1 1/4" 8TPI UNS RH (for DVR lathes with this thread only)
Insert M (1MNS) : 1" 10 TPI BSF LH Teknatool Woodfast Durden
Insert N (1NNS) : Blank. Can be threaded up to 28mm (1 1/8")
Insert O (1ONS) : 1 1/4" BSW PH Morton
Insert Q (1QNS) : M30 x 3.5 RH Teknatool Nova 3000 / Cornet / TL 1500 Woodfast, Vicmarc
Insert S (1SNS) : 5/8" smooth bore Shopsmith
Insert T (1TNS) : 1" 8 TPI LH/RH Dual Threaded, Nova Mercury
Insert U (1UNNS) : 1 1/8" UNF RH Taiwanese
Insert V (1VNS) : 7/8" 14TPI NF RH
Insert W (1WNS) : M25x2 RH Tyme Avon
Insert Y (1YNS) : 1 1/4" 8TPI UNS Teknatool Nova 3000/Comet (USA), Woodfast USA
Insert X (1XNS) : 1" 8 TPI UNC RH (For the Nova Comet II only)

Direct threaded Chuck Body (cannot be changed via insert system)

8303: M33 x 3.5RH Thread

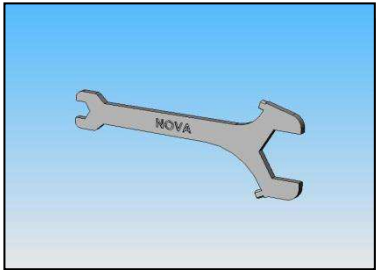
FITTING TO CHUCK:

Check that the internal spigot of chuck body plus insert threads are clean and that the spigot end of the insert is free from damage. Any dents or nicks must be carefully filed off so the insert can be fully screwed home in chuck body. Refer to FIGURE 2. The tolerances of the chuck body and insert are a tight fit to ensure accuracy. This means that the insert may be difficult at first to engage with the chuck body thread. One way is to grip the chuck body in a vice (pad against

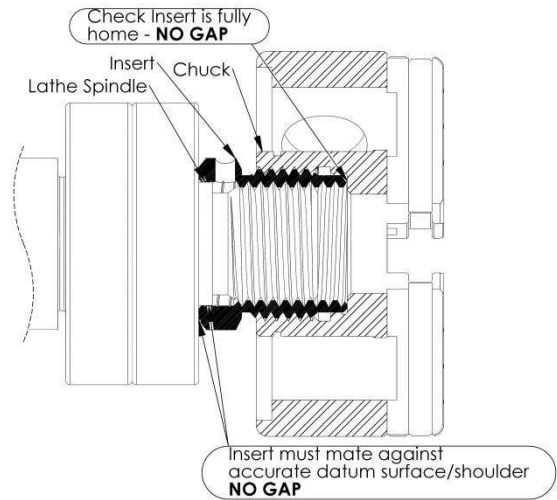
damage) and screw in insert using the optional accessory spanner or a 1 1/2" AF spanner. Care needs to be taken that the outer male insert thread is engaged properly at the start with the female body thread. Screw insert fully into body recess. This is important to ensure running. Refer to FIGURE 2.

CHUCK INSERT SPANNER:

An optional, accessory insert spanner can be purchased to help wind the inserts into the chuck to remove from the lathe spindle. (Code 23079). See back of manual for further information.



The Insert can now be locked to chuck body by means of the M6 x 6 grub screw provided. Make sure that the fibre washer is inserted first to act as a buffer between the grub screw and insert thread. **DO NOT SCREW IN GRUBSCREW BEFORE INSERT IS SCREWED HOME IN CHUCK.**



IMPORTANT: LH THREAD INSERTS MUST BE LOCKED TO CHUCK BODY OR CHUCK BODY COULD UNWIND FROM INSERT.

FITTING CHUCK TO LATHE

Correct fitting of chuck to lathe spindle is important to ensure accuracy. The chuck body must contact an accurate shoulder on the lathe spindle or bearings (as on NOVA DVR XP) to ensure chuck will run true.

There can be a wide variety of lathe spindle thread and spigot dimensions even within the same thread size. The internal thread size is kept to standard tolerances. The internal thread length and spigots of NOVA inserts are manufactured to cover as wide a range of variations as possible. This will mean that in most situations you should be able to get a satisfactory match.

CHECK THE FOLLOWING:

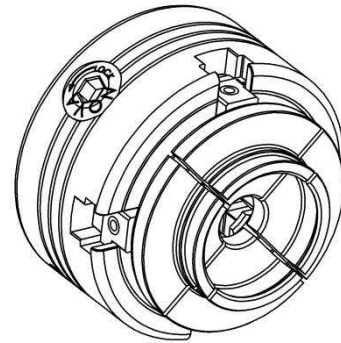
Although the insert may screw on part way it may not contact properly with spindle spigot - a spacer or some further modification of the insert may be necessary. This would be the responsibility of the chuck user. Make sure the chuck is screwed to lathe thread properly - a good check is to see whether it screws home on the spindle the same as another lathe fixture such as a faceplate.

POOR FIT OF CHUCK TO LATHE SPINDLE CREATES A SERIOUS HAZARD WHERE CHUCK COULD DISLodge FROM LATHE. DO NOT ATTEMPT TO USE CHUCK UNLESS THE CHUCK IS CORRECTLY FITTED TO LATHE SPINDLE.

Using the INFINITY Chuck

Mounting and Un-mounting Add-On Jaws

Depending on which version you have, either your SuperNOVA2 Infinity chuck comes with Bowl Jaws #3 as standard, or you are adding an Infinity Accessory Jaw of your choice. They may differ from look and size from what is depicted in these drawings, but the mounting and dismounting principle is the same. They need to be located and locked into the jaw slides of the chuck. The same procedure outlined below must be followed for all accessory jaws. **IT IS IMPORTANT TO LOCATE JAWS PROPERLY IN THE JAW SLIDES FOR THE CHUCK TO FUNCTION SAFETY AND ACCURATELY.**



Mounting Add-On Jaws

1. Using the supplied Chuck Key, turn the chuck pinion gear clockwise to open the jaws to their outer most position (as in Figure 1).

IMPORTANT: Never leave the Chuck key in the chuck when not in use!

2. Wipe clean the Jaw Slide and jaw dovetails if necessary making sure the surfaces are free of dirt and dust.

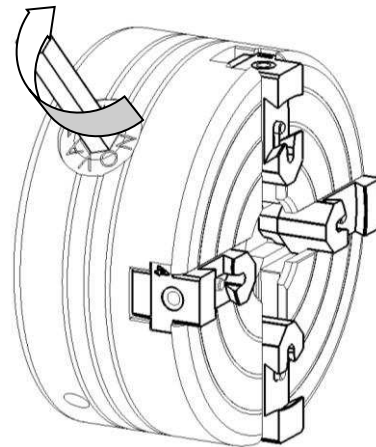


Figure 1

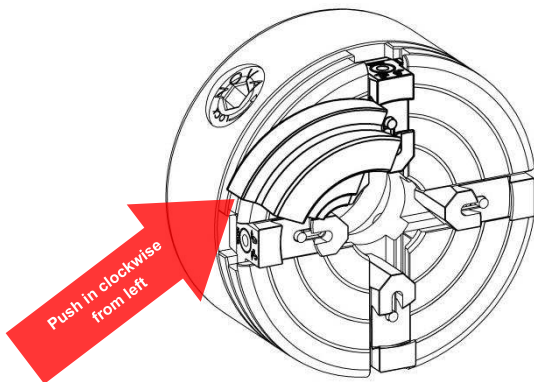


Figure 2

3. Position a jaw to the left of its respectively numbered jaw slide (i.e. Jaw #1 with Jaw Slide #1). Push the Jaw clockwise into a Jaw Side. A clicking sound should be heard to show that the Jaw has successfully mounted. If not, wiggle the jaw to ensure engagement. (figure 2)
4. Making sure to order the jaws clockwise #1 - #4, mount the remaining jaws.

5. Before use, check that each jaw is securely locked into its Jaw Slide by wiggling to ensure engagement. (Figure 3)

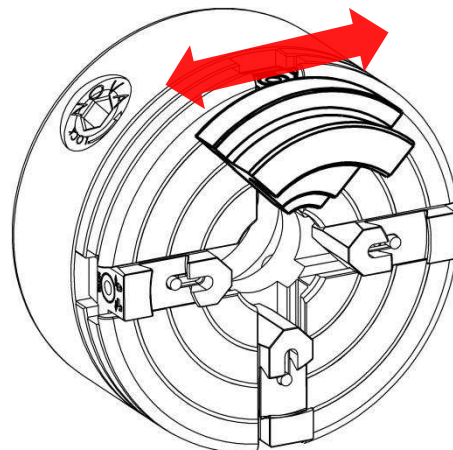
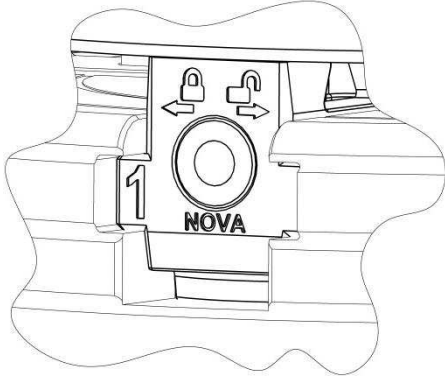


Figure 3

Un-mounting Add-on Jaws

With the jaws opened to their outermost position, push in the Lock Push Pin on the back of the Jaw Side using the pin in the end of the Chuck Key Handle to release the locking mechanism (Figure 4).



1. With the Lock Push Pin fully depressed in, slide the Jaw anti-clockwise in a circular motion Out of the Jaw Slide. Remove the Pin holding the lock push pin.

Repeat for all remaining Jaws.

NOTE: if the collet is not coming out of the Jaw Slide, check the Lock pin is fully depressed, if it is and the jaw still can't be removed, lightly tap the jaw anticlockwise out of the Jaw Slide.

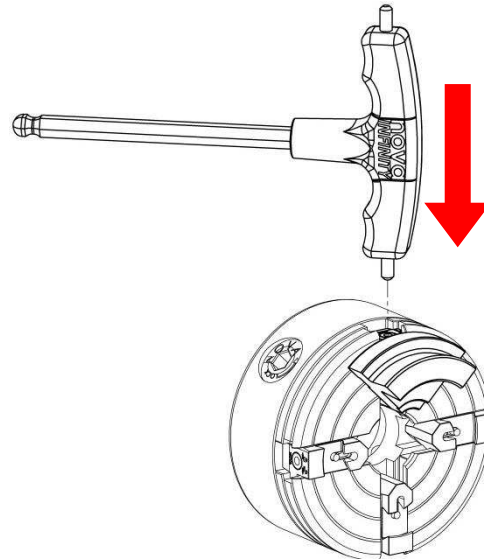


Figure 4

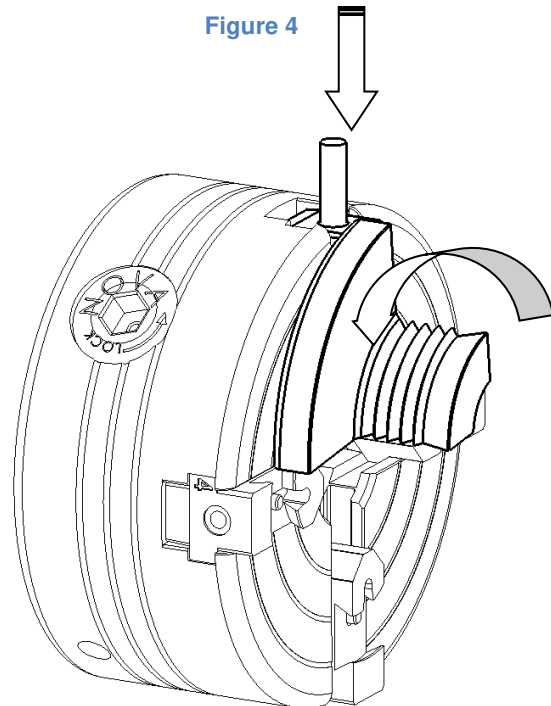


Figure 5

OPERATING MODES

SCREW CHUCK: This is a convenient mounting method. The Woodworm screw is purpose-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 fibres. They grip better than screws with thicker threads 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 designed to be used with the Accessory jaws remaining in place on the chuck. This facility is 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 making sure flat shanks are aligned to the jaw slides and close jaws around it. **BEFORE FINAL TIGHTENING MAKE SURE THAT THE FRONT OF THE BOSS SECTION OF THE SCREW IS SEATED BEHIND AND AGAINST THE ACCESSORY 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 better tolerance for irregular face 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.

SCREW DEPTH: The screw provides 15mm (0.59 inch) of thread beyond the Infinity Bowl Jaws #3 (8303). With all wood blocks over 150mm (6 inches) in diameter the full thread depth of 19mm should be used. 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.

CAPACITY: DO NOT USE THE SCREW FOR VERY LARGE WOOD BLANKS. Its use is 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.

PREPARATION: The 10.5mm thread requires a drilled hole about 8mm (5/16") in diameter. The screw has considerable holding power and it is sometimes difficult to unscrew, so wax or oil the thread before mounting the wood. **CARE:** The threads are fine and can be damaged by mishandling. DON'T hammer into wood! DO screw into a pre-drilled hole. Any nicks on the threads can be removed by carefully filing.

EXPANDING 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 150mm (6 inches). Characteristically these items have a parallel wood grain. **IT MUST NOT BE USED FOR ANY LONG WORK (OVER 150MM) AS THERE WOULD BE GREAT DANGER OF WOOD TEARING OUT AND DISLODGING FROM CHUCK.**

Instructions below apply to the Infinity Bowl Jaws #3 (8303), 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.

Bowl Jaw #3 (8303): Any recess can be turned between 66mm (2.6 inches) and 85mm (3.35 inches) diameter.

Choose the diameter which suits your bowl design – The advantage with the Infinity Jaw range is that it is a seamless series with overlaps to the next jaw up/down in size. In this case the Bowl Jaw #3 included with the Infinity SN2 Chuck (8012), overlaps with the smaller Bowl Jaw #2 (8302) and the larger Bowl Jaw #4 (8304) – (optional accessory Jaws) . This allows freedom to turn the best shape for your bowl matched with the appropriate size holding area for the jaws.

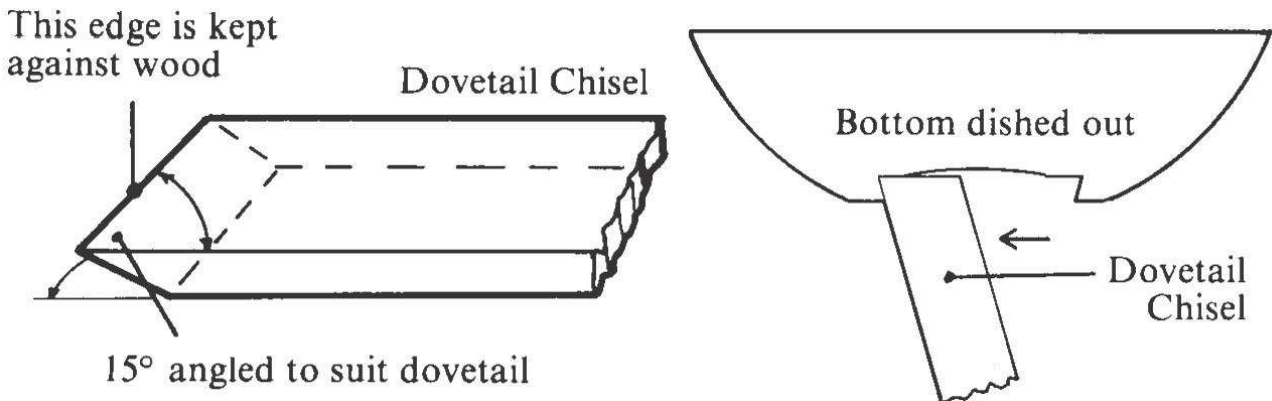
However, bear in mind that best work holding will be achieved around the optimum circle diameter of the jaws where the jaws are in maximum contact with the wood recess- around 67mm (2.64 inches) keep your recesses between 66mm and 76mm (2.6 – 3.00 inches) where ever possible. Extra care must be taken while turning with recesses above 76mm (3.00 inches). The depth of the dovetail recess can be varied according to the size and mass of the work piece. The larger bowl blanks or softer woods will require a deeper recess up to the maximum of 12.5mm (0.49 inches). **HOWEVER YOU MUST USE THE MAXIMUM RECESS DEPTH (ON ALL RECESSES OVER 76mm (3.00 inches) diameter OR ANY WORK WITH A DIAMETER OVER 150mm (6 inches).**

For smaller lids and thin platters (not exceeding 150mm diameter) only a shallow recess of around 5mm (0.20 inch) is necessary. It will be a matter of gaining experience as to what combinations and sizes will suit best.

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 AGAINST USING 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 tool rest. Then revolve blank by hand thus creating a pencilled circle. However, as specified above, any recess diameter can be made between 66mm (2.6") to 85mm (3.35") 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. Make sure a substantial wood shoulder is left around the recess to prevent break out of the jaws from the recess.

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 raps with the end of a chisel handle or wooden mallet around centre of bowl. Use pinion handle to give an extra nip up. Refer to chuck operation Page 4. Refer again to safety before operation.

SPIGOT (TENON) OPERATION

This is where the jaws contract around a wooden spigot (tenon) for grip. This function is mainly for footed bowls, 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 700 RPM FOR THIS OPERATION.** If used properly, the NOVA Infinity Quick Change Chuck provides a very powerful and secure grip in this mode.

Instructions below apply to the Infinity Bowl Jaws #3 (8303) but the general spigot technique is the same for other jaw types. However, maximum size of wood blank that can be mounted, maximum turning speed and recess size varies with different jaw types. Consult accessory jaw instruction sheet.

With the Infinity Bowl Jaws #3 (8303) a maximum size wood blank of 100mm (4 inches) diameter (NOT spigot size) by 150mm (6 inches) length can be turned. Any square timber or larger rounds should be mounted in either the Infinity Saw Tooth (8311- 8314) or Smooth Column (8321 – 8323) jaw series – they are specially designed to grip spigots (tenons).

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 retest grip.

SPIGOT (TENON) SIZE:

Infinity Bowl Jaws #3 will grip a footed bowl or round spigot between 46mm (1 49/64 inches) to 63mm (2.48 inches) approx.

Jaw slides only: With the Bowl Jaws #3 (8303) jaws removed, the jaw slides will grip round or square timber down to 6mm (0.236 inches). 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 (TENON)

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 GRIP. 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.**

FREE END TURNING

Turning where the work is not supported by the tailstock.

Check for adequate contact and grip of all four jaws into the wood when using this operation. **MAKE SURE YOU HAVE AN ADEQUATE GRIP BEFORE OPERATION** by vigorously wrenching the work piece mounted in the chuck. If any loosening occurs **DO NOT PROCEED** with this operation. Repeat tightening procedure and retest grip.

Maintaining the SuperNOVA2 INFINITY Chuck

General Maintenance

CLEANING CHUCK:

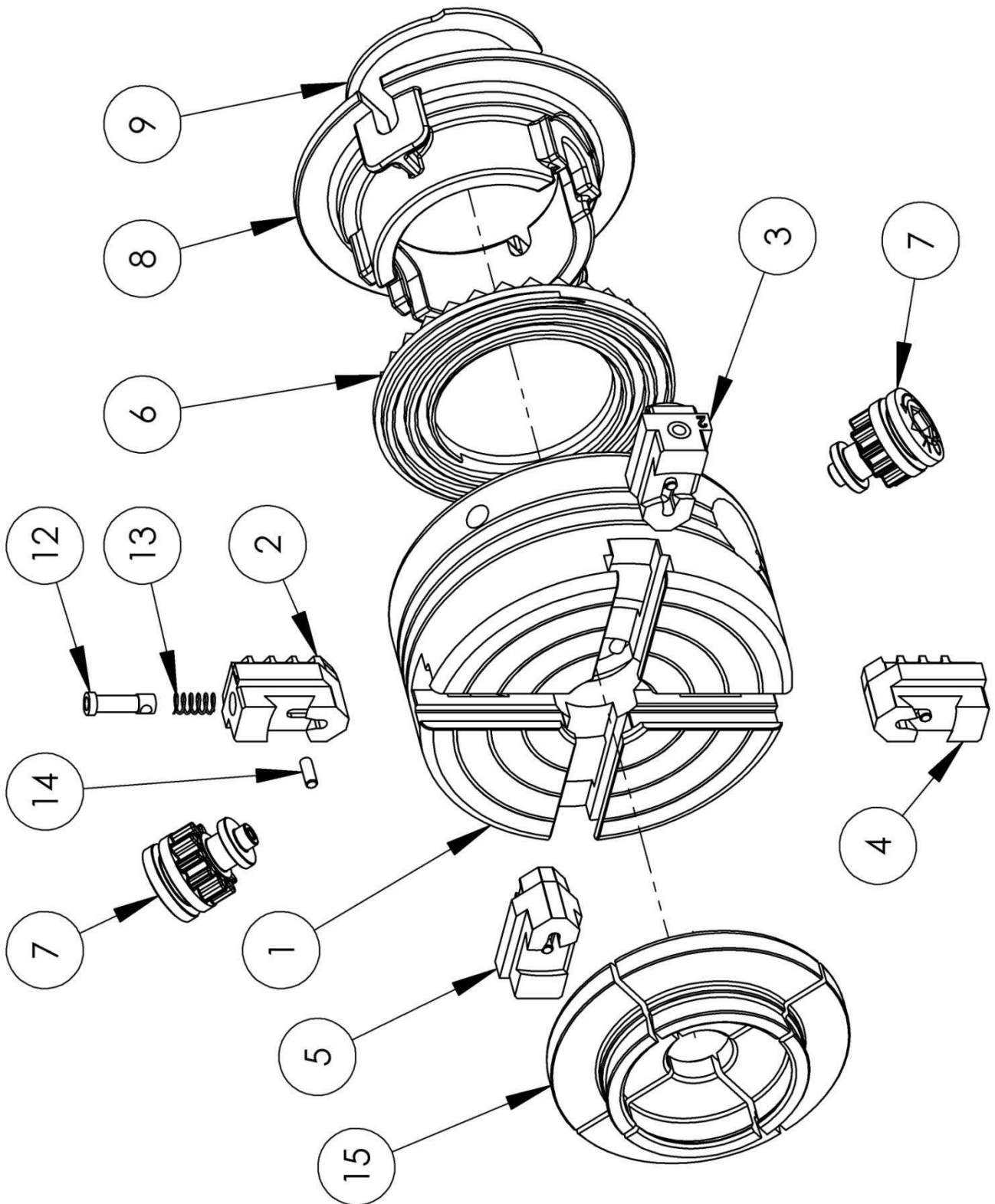
The SuperNOVA2 Infinity Quick Change Chuck is perfectly enclosed from behind which makes the gearing mechanism maintenance free over a long period of time. However the chuck needs to be inspected periodically for build up of wood dust in the jaw slide area on the front side. Wood dust build up can make the jaws difficult to move. To clean out the wood dust build up, the following method can be used. Remove Jaw Slides. (First removing stop screw as explained in previous section) then using a piece of wood (matchstick size) insert in the bottom of scroll and rotate scroll ring. This will scrape out the accumulated wood dust.

To disassemble chuck: Over a long period of usage there could be some accumulation of very fine dust in the gearing area behind which may require dismantling of chuck for a full clean .Following are steps(Refer to exploded chuck diagram, Page 5) Using expanding pliers remove the circlip/snap ring securing the backing plate. This should give enough access to clean the gears without further dismantling of the chuck. If you want to dismantle further, follow these instructions. Remove the two M6 grub screws holding the dowel pins. Next hold the chuck with the jaw slide surface facing up. Wiggle the pinions with the help of 8mm Hexagon Wrench till the two dowel pins have fallen down. Next remove the pinions. Remove the second circlip/snap ring securing the scroll ring. The scroll ring can be removed now. After you have cleaned the chuck assemble the chuck back in the same order. Re-insert the jaw slides. Remember, after you have re-assembled the gears, apply any general grease all around the gear area!!

Troubleshooting Guide

Problem	Possible Cause and Solution
1. Insert jams when partially threaded into body	Check insert thread and chuck body threads are free from damage. Check insert has engaged with chuck body thread correctly. See 'Fitting to Chuck' Page 7. Make sure the grub screw has not been SCREWED IN.
2. Chuck body appears not to be true	Check insert is properly home in chuck body. Check that the insert is correctly screwed onto lathe spindle. Insert must back against accurate face/register or bearing on lathe spindle.
3. Add on jaws do not run true	Check jaws are mounted correctly on jaw slides. For method see Page 9. For accuracy parameters see Page 2. When the Infinity jaws (8303) are expanded beyond a 66mm (2.6") circle they will appear to be running out but in fact are maintaining concentricity. Always evaluate run out from turned wood clamped in jaws
4. Jaw Slides closed to centre and No. 1 slide stays in centre when jaws are expanded again	Jaw Slide(s) have over travelled from scroll. It will be necessary to tap back No 1 jaw slide until it has re-engaged. See 'insertion of jaw slide' in this manual.
5. Chuck very stiff to operate or jammed	Wood dust and shavings can clog the chuck in use. The chuck should be cleaned. Follow cleaning instructions in this manual.
6. Jaw Slides when Wound to centre do not meet	Slides have not engaged sequentially in clockwise order with scroll - 1-2-3-4. Jaw Slides could have been inserted out of order. Check insertion procedure Page 8.
7. When chuck is being removed from spindle the body unwinds from insert	Either lock insert in body using grub screw and fibre washer provided or use spanner on the insert to wind chuck off lathe.
8. Chuck jams on lathe spindle	This is a common problem with fixtures on a lathe. Use piece of wood & knock against base of pinion gear in anticlockwise direction to jar loose from spindle. To help prevent it try a plastic or fibre washer between insert/chuck and spigot shoulder of a spindle. Use of washer could affect accuracy.
9. Woodworm screw creeps forward or is not seated properly in chuck	Make sure woodworm screw boss is placed correctly between jaw slides and behind jaws. See Page 9
10. Wooden spigot shifts during turning	Check that the spigot area is made correctly for jaws to grip. Check that the spigot is not oversize. See spigot operation instruction Page 11. Use careful chisel techniques that do not exert too much pressure. Irregular rough wood blanks need to be checked to see whether there is enough jaw contact.
11. Wood blank does not seat properly in internal dovetail mounting	Check the angle of the dovetail recess made is the same angle as the jaws. Make sure the bottom of the recess is flat and square to face. See dovetail operation Page 10. Check that the bowl is not incorrectly riding on the flat shoulder of jaws behind the dovetail.

SUPERNOVA2 INFINITY Quick Change Chuck Exploded View (SKU 8012)



ITEM KEY CHART

Reference #	Product
1	SKU 8417 Chuck Body Assembly Infinity M38
2	SKU 8401 Quick Change Jaw Slide #1
3	SKU 8402 Quick Change Jaw Slide #2
4	SKU 8403 Quick Change Jaw Slide #3
5	SKU 8404 Quick Change Jaw Slide #4
6	SKU 23082 Scroll Ring
7	SKU 23081 Pinion Gear
8	SKU 8406 Infinity Backing Plate
9	SKU EC48 48mm Circlip
12	SKU 8407 Lock Push Pin
13	SKU 8408 Lock Return Pin
14	SKU 8409 Lock Dowel Pin
15	SKU 8603 Bowl Jaw #3

Teknatool Warranty

Teknatool Two Year Limited Warranty

This Teknatool product is backed by a TWO YEAR warranty from the date of purchase. Teknatool International Ltd will repair or replace, at its expense and option, this Teknatool product which in normal use has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to an authorized Teknatool service center with proof of purchase of the product within TWO YEARS and provides Teknatool with reasonable opportunity to verify the alleged defect by inspection.

Teknatool will not be responsible for any asserted defect which has resulted from normal wear, misuse, abuse, or repair or alteration made by anyone other than an authorized service facility or representative. Under no circumstances will Teknatool International Ltd. be liable for incidental, special, indirect, and consequential damages or expenses, including loss of profits or loss of operations. This warranty is Teknatool International Ltd. sole warranty. There are no other warranties, whether written or verbal, whether expressed or implied by law, trade, custom, or otherwise, whether of merchantability, fitness for purpose, or otherwise, except for remedies available to customers under the Consumer Guarantees Act or other legislation.

OVERSEAS CUSTOMERS: Our Teknatool Distributors and agents will issue their own warranty to cover this product. Terms may vary from those stated above; please check with your dealer.

ⓘ Note: Did you know you can register your warranty with Teknatool online? Visit our website on www.teknatool.com to register your warranty faster today!

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Smart Tools, Powerful Solutions

SUPERNOVA2 Infinity Quick Change Chuck Manual

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