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Smart Tools, Powerful Solutions

OPERATION MANUAL

Neptune DVR 15” Lathe

USA & Canada SKU: 55700
New Zealand & Australia SKU: 55701
UK SKU: 55702
Europe SKU: 55703

Neptune Max DVR 15” Lathe

USA& Canada SKU: 55710
New Zealand & Australia SKU: 55711
UK SKU: 55712
Europe SKU: 55713

Revision 25 October 2023

Teknatool INTERNATIONAL

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ACS ENERGY SAVING TECHNOLOGY

WELCOME:

Thank you for choosing the NOVA Neptune 15” DVR Lathe Series and welcome to the NOVA product family. Your choice shows that you want the best for your woodturning and you recognize the superb DVR drive technology powered by STRIATECH and the host of other unique features the NOVA DVR Lathe has to offer.

We strive to achieve the best value for your money – providing quality, innovative features, a wide range of accessories – plus comprehensive, ongoing support (latest manuals downloadable from our website, newsletters, projects, etc.). We are only a phone call or email away with technical advice or assistance on the operation of your lathe or your woodturning queries.

Please feel free to contact us about any aspect of our products or service – we regard our customers as our best development and improvement team – we would love to hear from you!

Once again, welcome to the “NOVA Family.” We trust that you enjoy our products and hope they enhance the pleasure you experience from the wonderful craft of woodturning!

Best Regards,

Brian Latimer

Marketing Director Teknatool International Ltd

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Customer Solutions

For all worldwide Inquiries, Repairs or Services (issues must be in writing)
Contact us at: https://www.teknatool.com/support/

Or you can contact the retailer where you purchased your NOVA Neptune DVR 15” DVR Lathe, for contact details please see our website www.teknatool.com

Table of Contents

1.General Safety Rules

⚠ WARNING ⚠

Failure to follow these rules may result in serious personal injury or death.

❖***IMPORTANT:*** *Before switching the lathe on, ALWAYS check the machine for the correct setting and speed*

1. **BEFORE OPERATING THE TOOL READ THE MANUAL!** Learn the machine's application and limitations, plus the specific hazards particular to it.
2. **ALWAYS USE SAFETY GLASSES** (must be ANSI approved) Everyday eyeglasses 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 sanding 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. Nonslip 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 hour).
5. **DO NOT USE IN DANGEROUS ENVIRONMENT.** Do not use power tools in damp or wet locations or expose them to rain. Keep work area well lighted. The NOVA DVR is intended for indoor use only. Failure to do so may void the warranty.
6. **KEEP WORK AREA CLEAN.** Cluttered areas/benches invite accidents. Build-up of sawdust is a fire hazard.
7. **KEEP CHILDREN AND VISITORS AWAY.** The NOVA DVR is **not recommended** for children and ailing persons. Such personnel and onlookers 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.** 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 plug must be attached to a known ground. Never remove the third prong and add surge protection.
10. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SOURCE** whilst in service/maintenance mode.
11. **DISCONNECT TOOLS FROM WALL SOCKET** before servicing and when changing accessories such as bits, cutters, fuses, 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 machine unless it is turned off and has come to a complete stop.
14. **KEEP GUARDS IN PLACE** and in working order.
15. **USE CORRECT TOOLS.** Do not use a tool or attachment to do a job for which it was not designed.
16. **USE RECOMMENDED NOVA ACCESSORIES.** The use of improper accessories may cause hazards.
17. **DO NOT FORCE THE 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. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
22. **DIRECTION OF FEED.** Mind the direction of spindle/chuck/work to ensure a safe environment.
23. **PAY ATTENTION TO WORK.** Concentrate on your work. If you become tired or frustrated, leave it for a while and rest.
24. **SECURE WORK.** Use clamps or a vice to hold work when practical. Severe injury or death can occur if an object comes free as it can become a dangerous projectile.
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 machine 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 means for proper dust removal. Use wood dust collection systems whenever possible.
28. **DO NOT MODIFY OR USE THE LATHE FOR USES OTHER THAN FOR WHICH IT WAS DESIGNED.**
29. **CALIFORNIA PROPOSITION 65 – SEE PAGE 45**

2.NOVA Neptune/Neptune Max DVR 15” DVR Lathe Features & Specification

Feature Name	Description
DIGITAL VARIABLE RELUCTANCE (DVR) ELECTRONIC DRIVE	The DVR motor uses smart motor technology to provide an incredibly smooth and powerful direct drive. The controller constantly monitors the spindle position and maintains optimal spindle speed. Additional power is added as it senses extra load from the tool.
POWER TO TURN AND BURN	220~240V / 10A 1.1KW (1.5HP) 110-120V / 14A 1.1KW (1.5HP)
Slidable 360° SWIVEL HEADSTOCK	Slidable headstock Lock at any position, plus detent locating positions at 0°, 22.5°, 45° and 90°. High accuracy and easy swivel
SOLID BED STRUCTURE	CAD designed webbing to absorb vibration throughout the bed length. Exceptional structural strength.
4 FAVOURITE SPEED FUNCTION	Program your favourite speeds for faster and more efficient project set ups.
FLEXIBLE CAPACITY TO MATCH YOUR PROJECT	- 15" / 381mm Capacity Over Bed - 20" / 508mm Capacity Outboard (with optional outrigger accessory) - 18”/ 457 mm Between Centres (Neptune Model) - 28”/ 711 mm Between Centres (Neptune Max Model)
SAFETY SENSING FEATURE	It senses faults in the setup and advises of safety issues - such as chisel dig in and spindle lock. It then intelligently shuts down power to the spindle.
ENERGY EFFICIENT	Intelligent (computer controlled) motor only draws as much power as it needs for the application.
INCREDIBLE VARIABLE SPEED RANGE	50 RPM – 4,000 RPM. * 50 RPM is set as a Drying mode **ONLY, NOT recommended** for turning work.
WARRANTY	* 10 Year Warranty on DVR motor (Bearings, sensor excluded) * 5 Year Warranty on Motor Electronics and mechanical parts ** Restrictions apply*

Neptune Lathe Specifications

	Metric	Imperial
Swing Over Bed	381 mm	15”
Distance Between Centres	457 mm	18”
Overall Size	840mm (L) x 425mm (w) x 380mm(H)	33” (L) x 16.7” (w) x 15” (H)
Package Size	900mm (L) x 485mm (w) x 440mm (H)	35.4” (L) x 19.1” (w) x 17.3” (H)
Net Weight	57 Kg ± 2 Kg	125lb ± 4.4 lb
Gross Weight	65 Kg ± 2 Kg	143 lb ± 4.4 lb
Headstock		
Spindle Thread	M33 x 3.5 RH ASR*	1”1/4 x 8 TPI
Headstock Spindle Taper	Morse Taper #2 (MT2)	
Headstock Swivel	360° With detent positions at: -45°, -22.5°, 0°, 22.5°, 45°, 90°, 180°	
Headstock Slidable	Sliding Headstock	
Spindle Index lock	24 divisions (15 degrees apart)	
Tailstock		
Quill Taper	Morse Taper #2 (MT2)	
Quill Travel	100mm	3.9”
Hole Through Tailstock	10mm	2/5”
Tool Rest		
Length	229mm	9”
Shaft Diameter	25.4mm	1”
Motor Specifications		
Motor Type	DVR Direct Drive Smart Motor	
Motor Speed Range	50 RPM ~ 40,00 RPM	
Input Frequency	50Hz	60 Hz
Motor Power Output	1.1KW (1.5HP)	1.1KW (1.5HP)
Input Voltage	220~240V	110~120V
Input Current	10A (max)	14A (max)

* M33 x 3.5 RH thread ASR spindle only available in European models, The ASR locking ring is excluded from the standard Neptune lathe package. All other market models will have the 1.25inch x 8 TPI spindle.

Colour Specifications

Jet Black	**Dark Grey**	**Light Grey**	**Signal White**	**Luminous Red**
RAL 9005	RAL 7021	RAL 7035	RAL 9003	RAL 3024
R:14 G:14 B:16	R:47 G:50 B:52	R:197 G:199 B:196	R:236 G:236 B:231	R:237 G:28 B:36

Neptune Max Lathe Specifications

	Metric	Imperial
Swing Over Bed	381 mm	15”
Distance Between Centres	711 mm	28”
Overall Size	1292mm (L) x 490mm (w) x 1198mm(H)	50.9” (L) x 19.3” (w) x 47.2” (H)
Package Size	Package 1: 930mm (L) x 420mm (w) x 450mm(H) Package 2: 935mm (L) x 310mm (w) x 250mm(H)	Package 1: 36.6” (L) x 16.5” (w) x 17.7” (H) Package 2: 36.8” (L) x 12.2” (w) x 9.8” (H)
Net Weight	90 kg ± 2 kg Package 1: 64 kg ± 2 kg Package 2: 26 kg ± 2 kg	198.4 lb ± 4.4 lb Package 1: 141 lb ± 4.4 lb Package 2: 57.3 lb ± 4.4 lb
Gross Weight	96 kg ± 2 kg Package 1: 67.5 kg ± 2 kg Package 2: 28.5 kg ± 2 kg	211.6 lb ± 4.4 lb Package 1: 148.8 lb ± 4.4 lb Package 2: 62.8 lb ± 4.4 lb
Headstock		
Spindle Thread	M33 x 3.5 RH ASR*	1”1/4 x 8 TPI
Headstock Spindle Taper	Morse Taper #2 (MT2)	
Headstock Swivel	360° With detent positions at: -45°, -22.5°, 0°, 22.5°, 45°, 90°, 180°	
Headstock Slidable	Sliding Headstock	
Spindle Index lock	24 divisions (15 degrees apart)	
Tailstock		
Quill Taper	Morse Taper #2 (MT2)	
Quill Travel	100mm	3.9”
Hole Through Tailstock	10mm	2/5”
Tool Rest		
Length	229mm	9”
Shaft Diameter	25.4mm	1”
Motor Specifications		
Motor Type	DVR Direct Drive Smart Motor	
Motor Speed Range	50 RPM ~ 40,00 RPM	
Input Frequency	50Hz	60 Hz
Motor Power Output	1.1KW (1.5HP)	1.1KW (1.5HP)
Input Voltage	220~240V	110~120V
Input Current	10A (max)	14A (max)

* M33 x 3.5 RH thread ASR spindle only available in European models, The ASR locking ring is excluded from the standard Neptune lathe package. All other market models will have the 1.25inch x 8 TPI spindle.

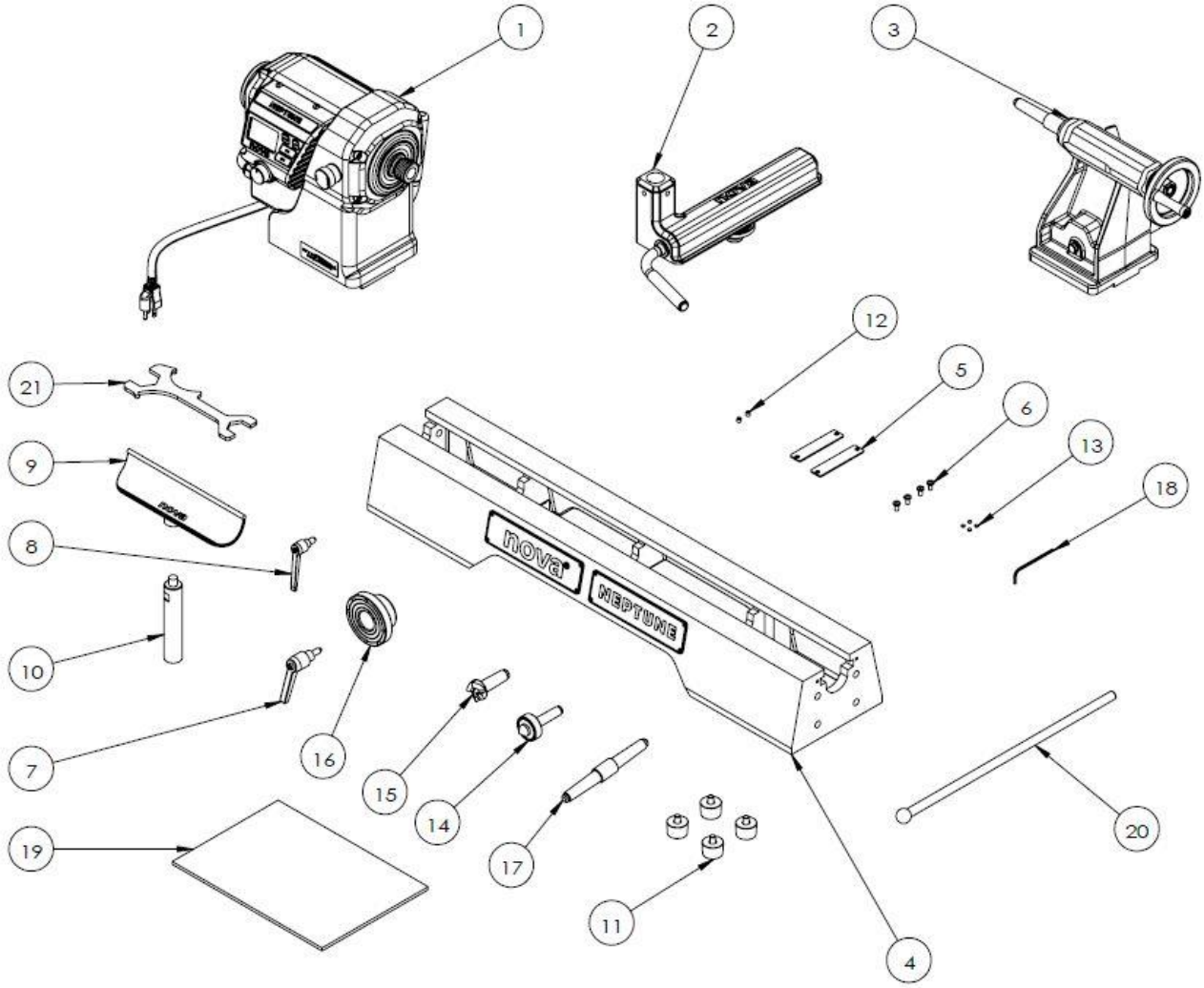
For Europe, Australasia, and South Africa

Directives this equipment complies with:

Low voltage directive (LVD) 73/23/EEC + 93/68/EEC+2006/95/EC
Machinery directive (MD) 89/392/EEC + 91/368 EEC + 93/68/EEC+2006/42/EC
Electromagnetic compatibility directive (EMCD) 89/336/EEC + 92/31/EEC + 93/68/EEC+2004/108/EC
Harmonized Standards applied in order to verify compliance with Directives: EN 61029-1:2009
Low Voltage Directive and Machinery Directive
EN 55014-1:2007
EN 55014-2:2009
EN 61000-3-2:Ed3 2006
EN 61000-3-3:1995 A1 + A2

3.Shipping Contents

Neptune Lathe

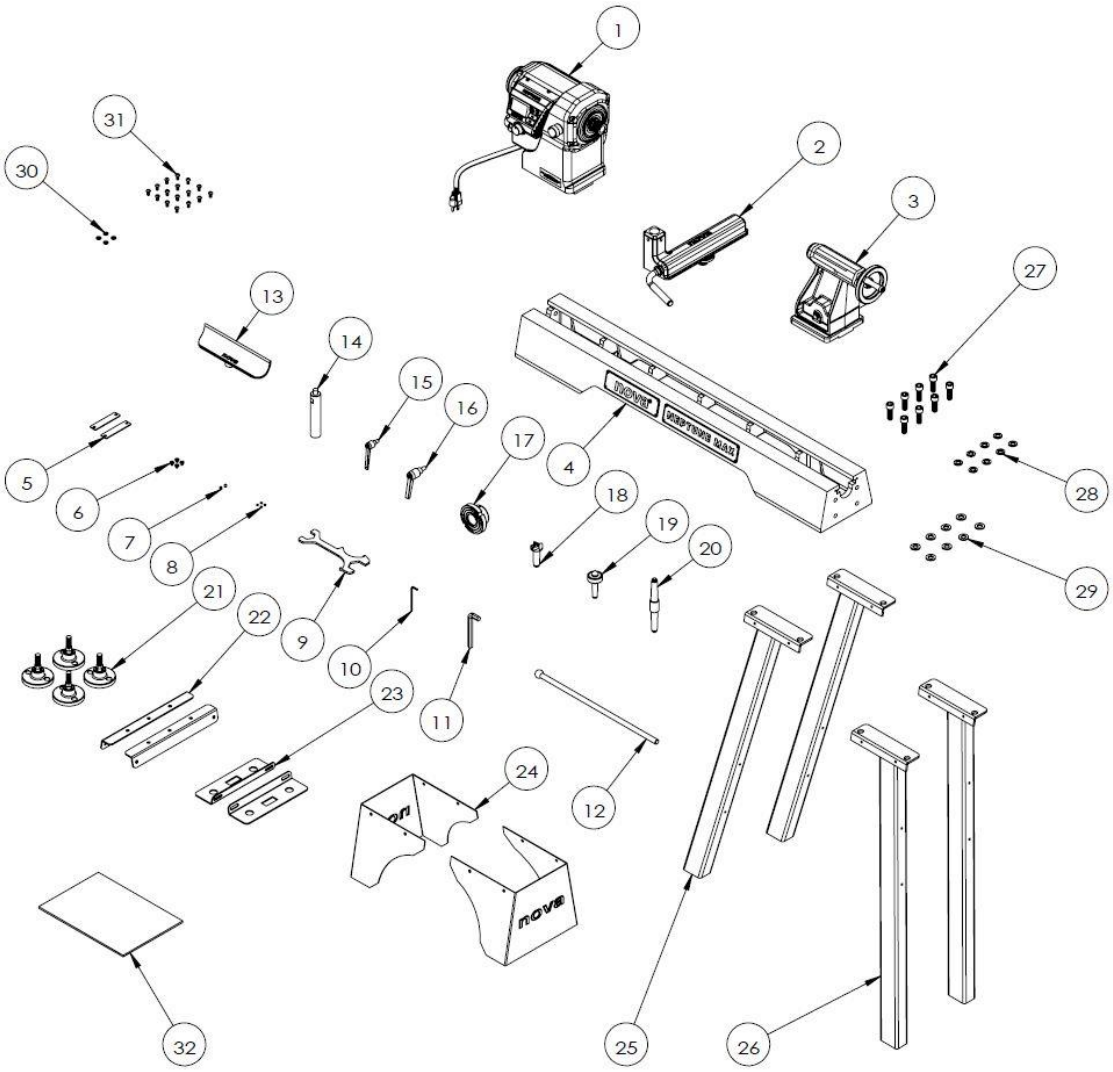


ITEM NUMBERS	DESCRIPTION
1	Headstock Assembly (+HMI)
2	Toolslide Assembly
3	Tailstock Assembly
4	Main Bed
5	Bed End Stopper Plate
6	Stopper Plate Screws M5 x 6mm
7	Locking Handle – M10 x 20mm
8	Locking Handle – M8 x 20mm
9	Nova 9" Modular Tool Rest Bar
10	Tool Rest Post 1" Shank
11	Feet Assembly

ITEM NUMBERS	DESCRIPTION
12	Set Screw M6 x 6mm
13	Soft Washer
14	2MT Live Centre
15	2MT Spur Centre
16	80mm Face Plate 1 ¼" 8tpi
17	Double Ended Morse Taper – Acruline Alignment Tool
18	3mm Allen Key
19	Neptune Manual
20	Knock Out Bar
21	Universal Spanner

***Note:** EU M33 model with ASR Euro lock but the ASR locking ring needs to be purchased separately.

Neptune Max



ITEM NUMBERS	DESCRIPTION
1	Headstock Assembly (+HMI)
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8	Soft Washer
9	Universal Spanner
10	3mm Allen Key
11	10mm Allen Key
12	Knock Out Bar
13	Nova 9" Modular Tool Rest Bar
14	Tool Rest Post 1" Shank
15	Locking Handle – M8 x 20mm
16	Locking Handle – M10 x 20mm

ITEM NUMBERS	DESCRIPTION
17	80mm Face Plate 1 ¼" 8tpi
18	2MT Spur Centre
19	2MT Live Centre
20	Double Ended Morse Taper – Acruline Alignment Tool
21	Foot Assembly
22	Stand Cross Plate
23	Stand Tool Tray
24	Stand Cover
25	Stand Legs Set A
26	Stand Legs Set B
27	M12x35mm Cap Screw
28	Spring Washer M12
29	Flat Washer M12
30	Flat Washer M6
31	M6x12mm Button Head Cap Screw
32	Neptune Manual

***Note:** EU M33 model with ASR Euro lock but the ASR locking ring needs to be purchased separately.

4.Setup and Assembling the Lathe

Workshop Environment

Your workshop should be set up appropriately for you to effectively use the lathe. The workshop should be setup with the following factors taken into consideration:

1. Lathe Location

Locate the NOVA 15” lathe close to a power source in an area with good amount of lighting. Leave enough clearance when the lathe headstock is swiveled around. Other machines in the workshop should not interfere with the movement/operation of the lathe.

2.Lighting

The workshop should have adequate lighting. There should be enough lighting around the lathe not to cast shadows upon the workpiece. A portable spotlight might be helpful.

3.Electrical

The NOVA 15” lathe requires an appropriate power outlet nearby to power the motor. The outlet wiring must meet the local electrical safety standards. If in any doubt, seek advice from an electrician. The length of an extension cable should be reduced as must as possible.

4. Ventilation

Workshop must have an adequate level of ventilation. The level of required ventilation depends on the size of the workshop and the amount of work that is done within the workshop. The use of dust collectors and filters will minimize your health risk.

4.1 Unpacking and Preparing the Lathe

1. Remove all smaller items from the main carton. Do not discard carton or packing material until the lathe is assembled and running satisfactorily.

2. Inspect contents for shipping damage; if any is found, report it to your distributor.

3. Compare the contents of shipping carton with the contents list in this manual. Report shortages, if any, to your distributor. Note: Check lathe first – some parts may have been pre-installed.

4. Exposed metal areas of the Lathe, such as bed ways and spindles, have been factory coated with a protectant. This should be removed with a soft cloth and a cleaner degreaser. Clean the bed areas under headstock, tailstock and tool support base. Do not use an abrasive pad, and do not allow solvents to contact painted or plastic areas.

5. Ensure all protective films, specifically on the HMI panel, have been removed before use.

WARNING! Seek help when moving the NOVA 15" DVR lathe and its heavier components to help avoid risk of injury. Use straps in good condition. Straps/lifting mechanisms must be properly rated for lathe weight. Read and understand the contents of this manual and recommended procedures before attempting to assemble or operate the Lathe or its parts.

DO NOT CONNECT POWER ON LATHE UNTIL FULLY ASSEMBLED.

4.2 Lathe Installation

Once the Neptune lathe has been unpacked, determine which mode of turning is best suited for the type of turning you are planning to do.

Once a mode has been determined, please remove the end plates at each end of the bed, and slide the headstock, toolslide and tailstock off the bed and place on a clean flat surface. This will allow you to configure the bed appropriately.

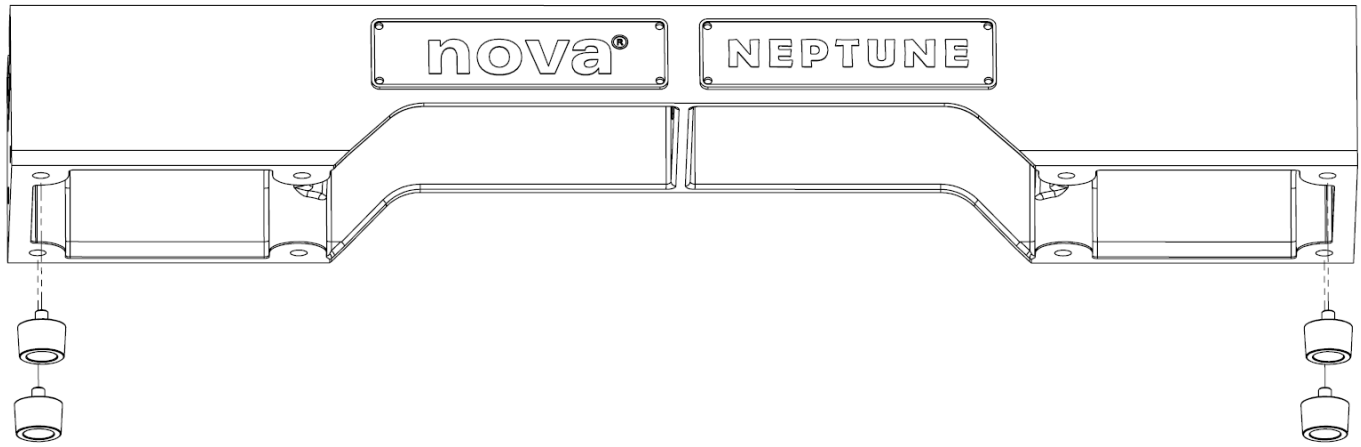
4.2.1 Determine Mode of Turning (Neptune Model)

Mode 1: Free Standing on Rubber Feet

This mode is for in line spindle turning and small bowl work well balanced 6-8" 150-200 mm.
Do not use swivel head and for larger turning work with the rubber feet it is designed for easy portability. For larger work and swivel head the machine must be bolted to the bench.

Assembly:

Flip the bed upside down onto a clean flat surface (ideally onto cardboard to protect the top surface of the bed). Screw the feet into the bottom of the bed. Flip bed back onto its feet. Move onto Section 4.2.2.



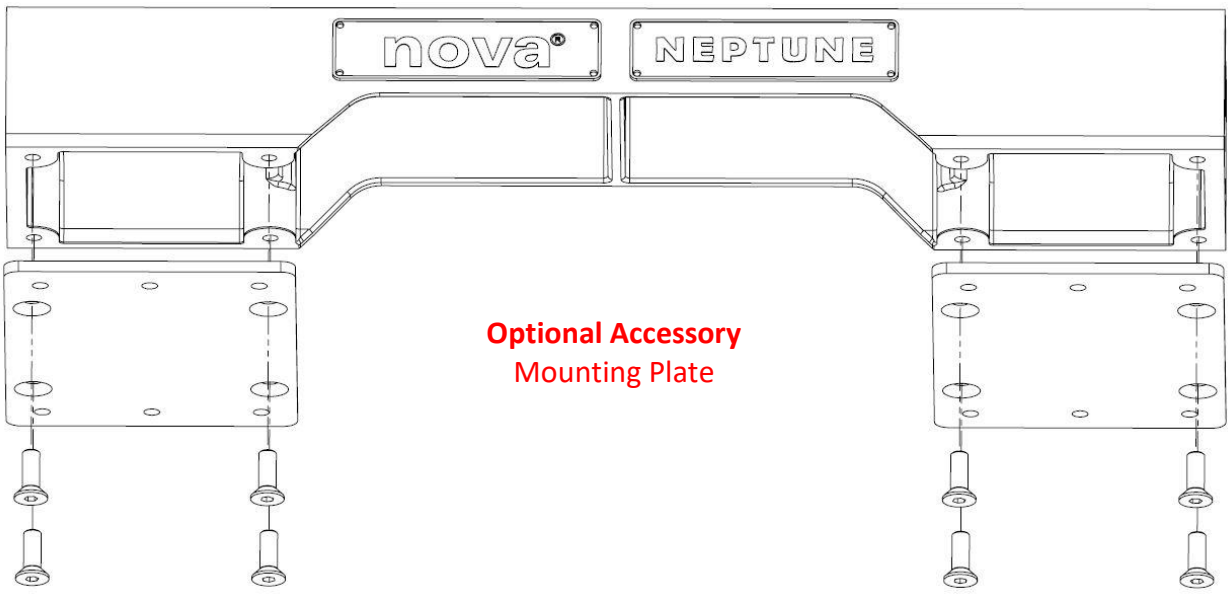
Mode 2: Free Standing on Bench with Optional Mounting plates SKU 5529168

This mode is for larger turning work and swivel of the head.

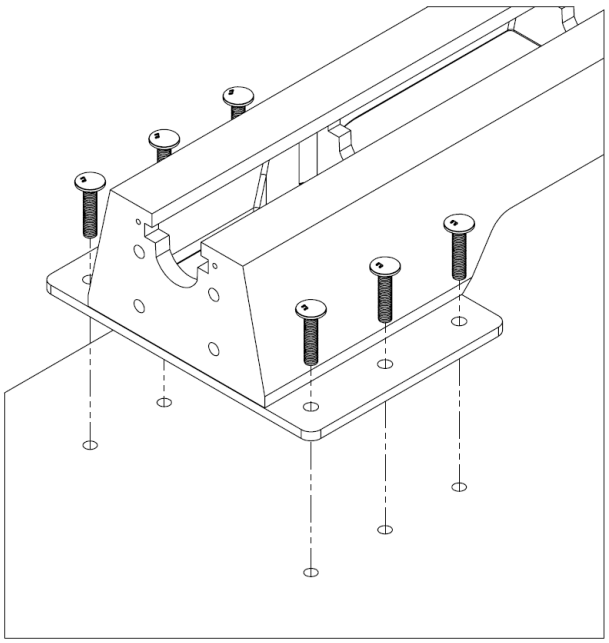
The type of turning and size of work pieces up to 12” with good balance and Headstock can be swiveled. It is recommended for any turning work to secure plates to bench with screws or bolts. Through the holes provided in the plate.

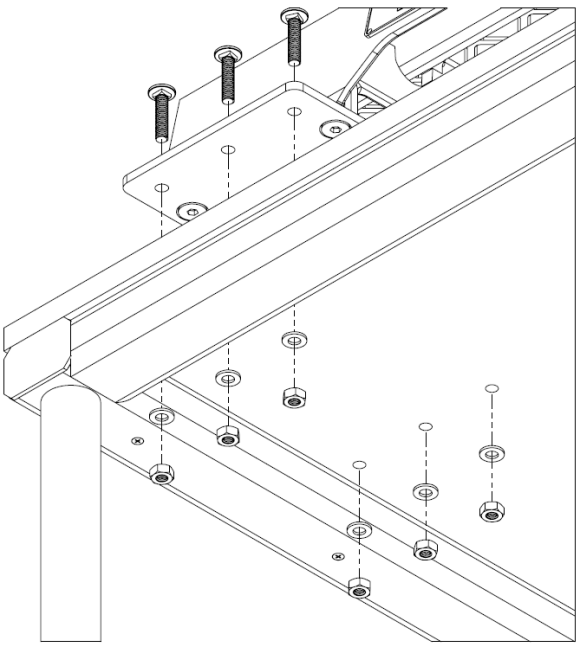
Assembly:

Flip the bed upside down onto a clean flat surface (ideally onto cardboard to protect the top surface of the bed). Screw the mount into to the bed using four countersunk M12 bolts. Flip bed onto the mounted surface. Screw the mount into the bench using M10 coach bolts. Move onto Section 4.2.2.



Optional Accessory
Mounting Plate



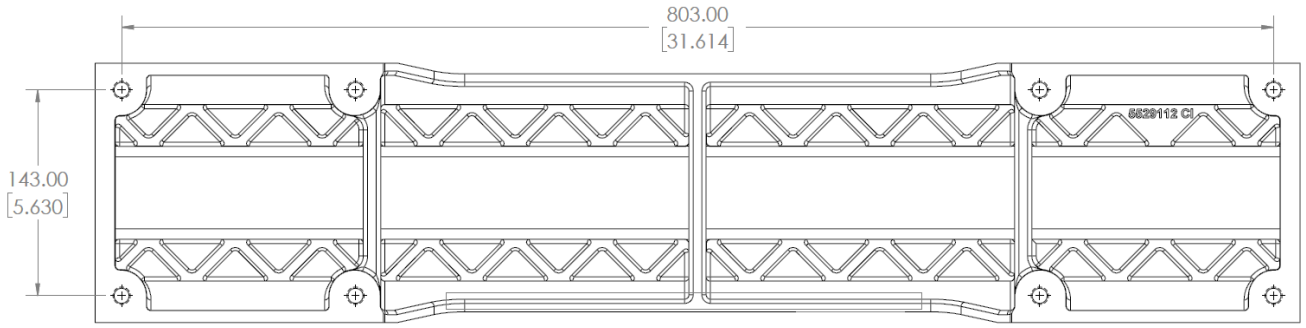


Mode 3: Bolt Directly to Bench

This mode is for all turning work and outboard turning.
The type of turning and size of work piece that is best suited for this mode is up to the limits of the turning in swivel head or outboard turning mode. Take care to avoid unbalanced work pieces and balance accordingly. Turn at the slowest speed to avoid out of balance forces and bring the speed up as the work piece is in balance.

Assembly:

If you wish to bolt the bed directly to your work bench, follow the bed profile shown below. Bolt the bed in place using four M12 bolts from below the bench. Move onto Section 4.2.2.

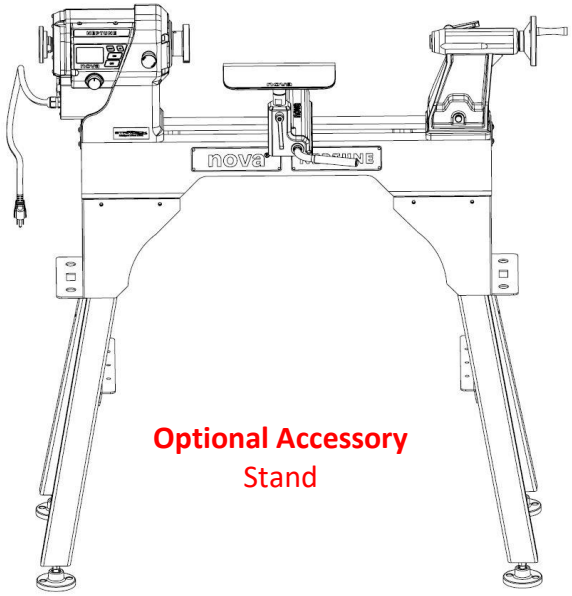


Mode 4: Floor Stand as a Floor Model Lathe

Turning and size of work piece is up to the limits of the turning envelope in swivel head or outboard turning mode. Take care to avoid unbalanced work pieces and balance accordingly. Turn at the slowest speed to avoid out of balance forces and bring the speed up as the work piece is in balance.

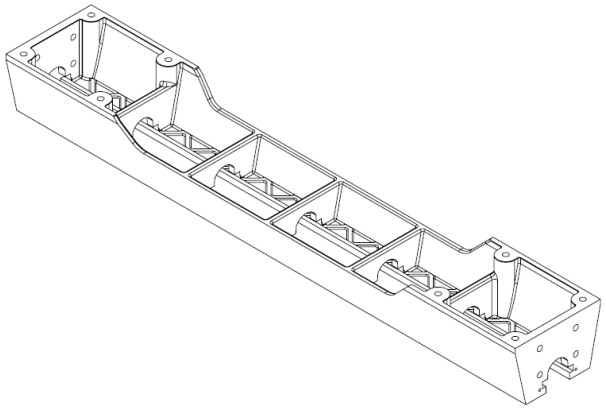
Assembly:

The bed is compatible with the Neptune Stand Accessory. The Neptune Stand accessory is sold as a separate assembly, please refer to the assembly instructions that are included with the stand or to the instructions in the Neptune Max Stand setup section of this manual (Section 4.2.2). Move onto Section 4.2.3.

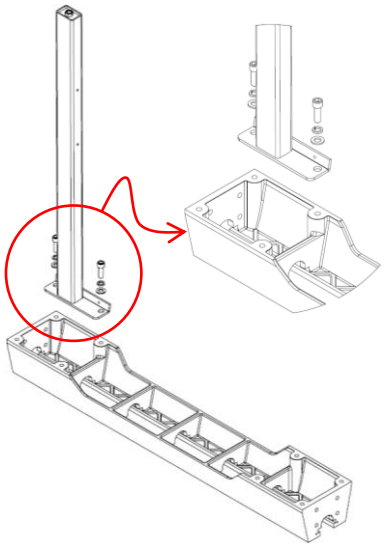


4.2.2 Assembly Bed to Stand (Neptune Max Model)

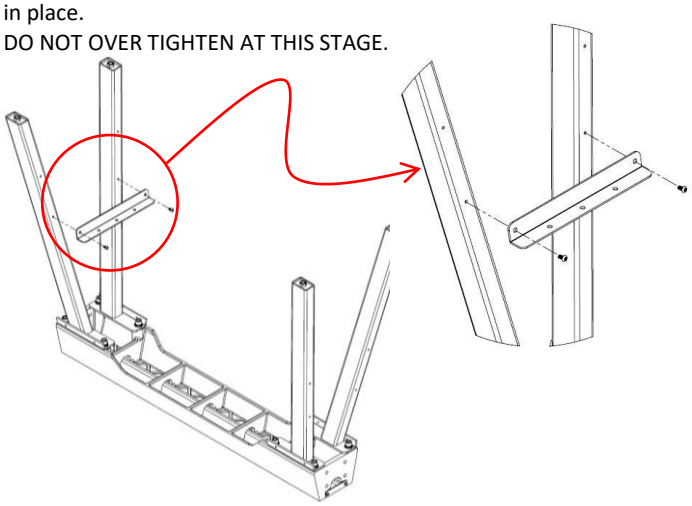
Step 1:
Lay the bed face down on a flat clean surface. It is recommended that a piece of cardboard is placed between the bed and the floor to protect the surface of the bed.



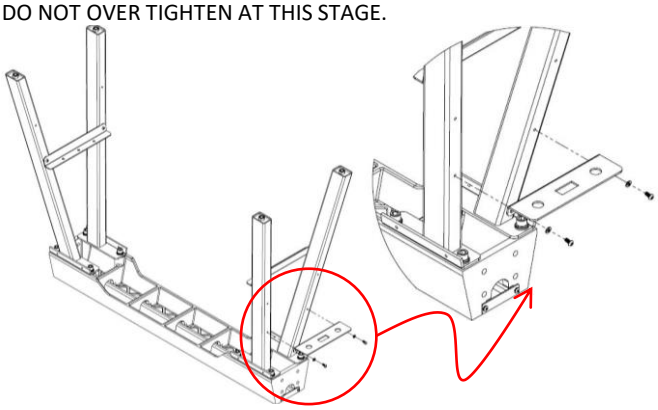
Step 2:
There are two sets of legs, Set A & Set B. Align each set as indicated below with the mounting holes on the bed. Fasten in place.
DO NOT FULLY TIGHTEN AT THIS STAGE.



Step 3:
Align the cross plate with the holes on the inside of the legs. Fasten in place.
DO NOT OVER TIGHTEN AT THIS STAGE.

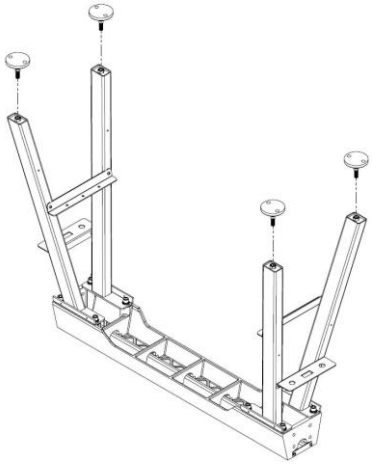


Step 4:
Align the tool tray with the holes on the outside of the legs. Fasten in place.
DO NOT OVER TIGHTEN AT THIS STAGE.



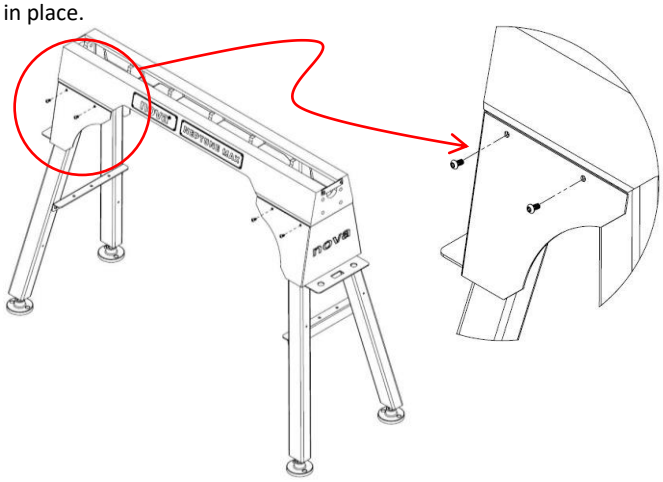
Step 5:
Fully tighten the M12 cap screws assembled in Step 2, followed by the M6 cap screws and the M6 button head cap screws assembled in Step 3 and Step 4 respectively.

Step 6:
Attach the feet to the base of the legs.



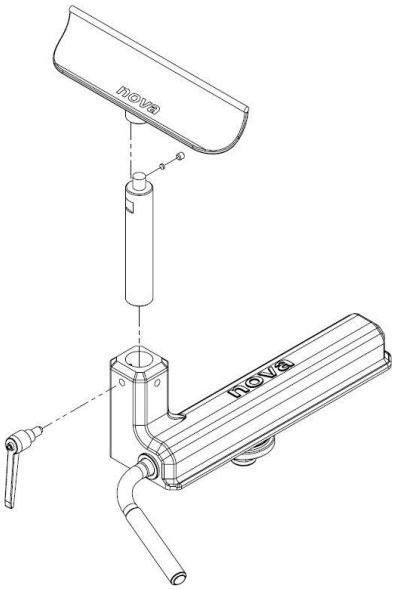
Step 7:
Flip the stand over onto its feet so that it is right side up.
WARNING: Due to the weight of the stand, it is recommended that a second person helps lift the stand.

Step 8:
Align the cover plate with the holes on the side of the stand. Fasten in place.

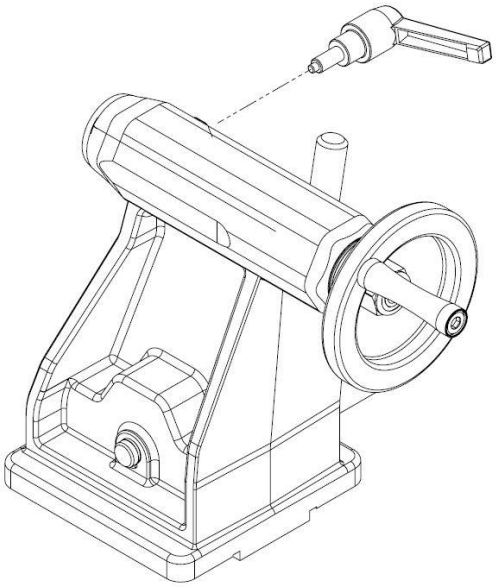


Step 9:
To balance the stand, adjust the feet accordingly by screwing/unscrewing the feet from the base of the stand. Secure in place by fastening the nut tightly against the base of the leg.

4.2.3 Assemble the Toolrest and Tailstock



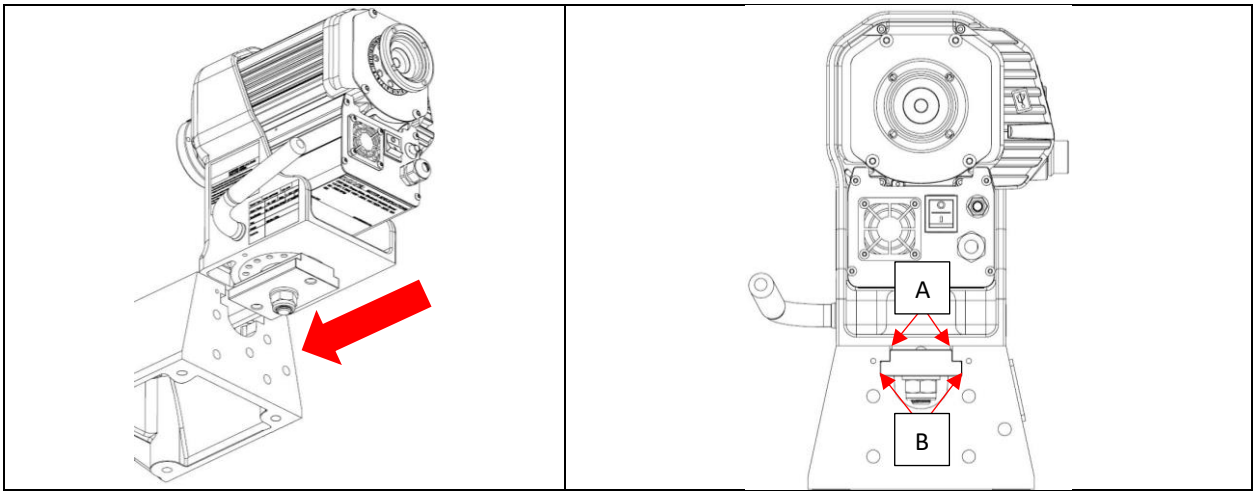
Assemble the Toolrest

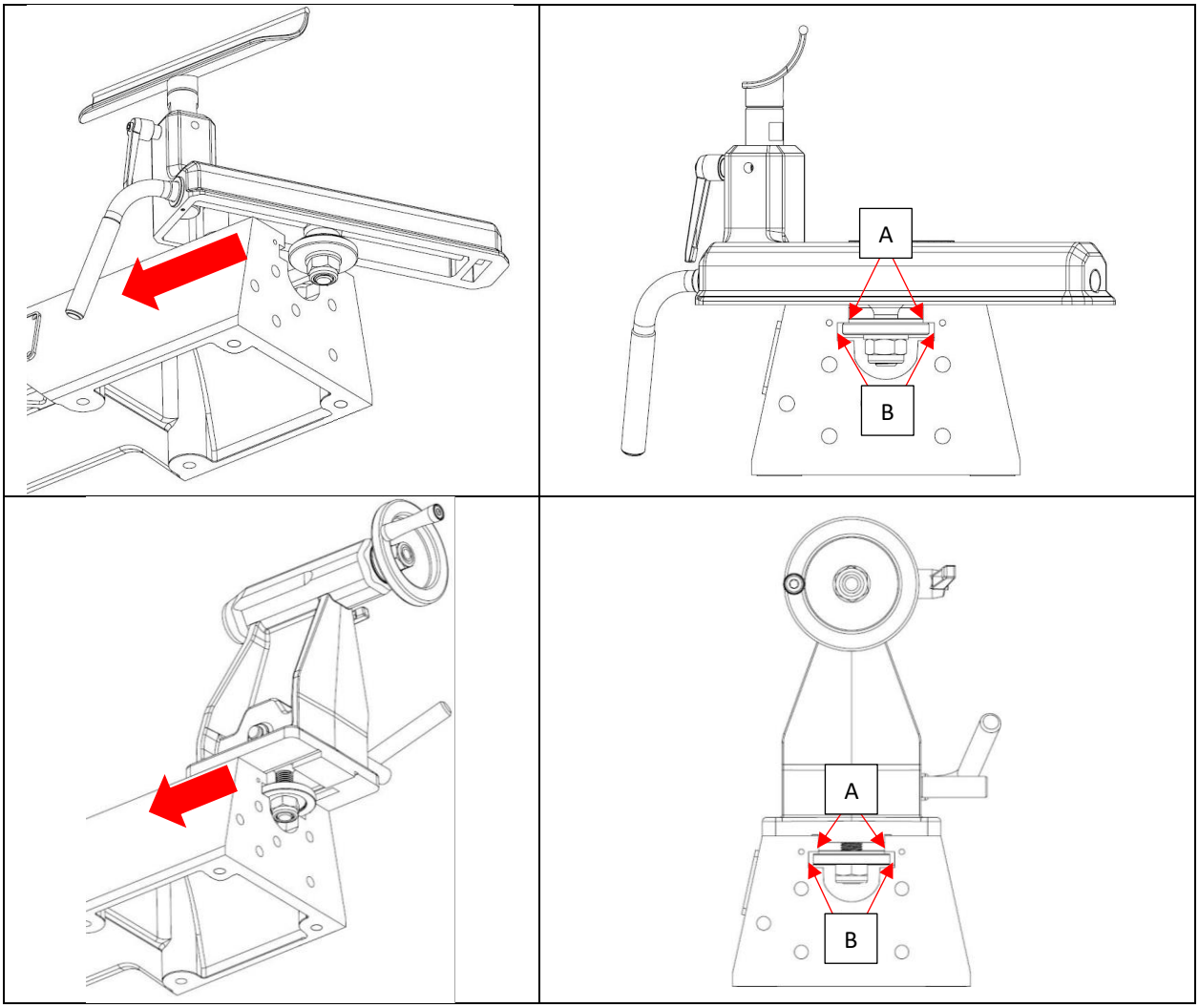


Assemble the Tailstock

4.2.4 Mounting the Headstock, Toolrest and Tailstock onto the Bed

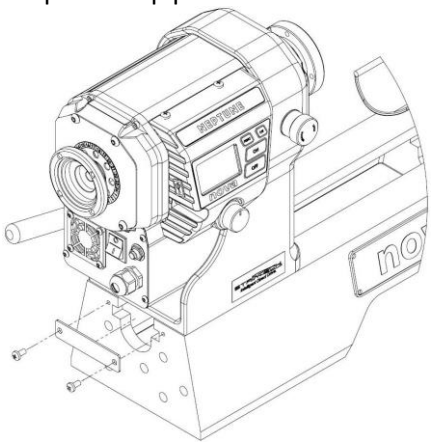
1. Slide headstock, Toolrest, and tailstock onto bed, ensuring lock plate (A) is correctly lined up with bed way (B), as shown below:



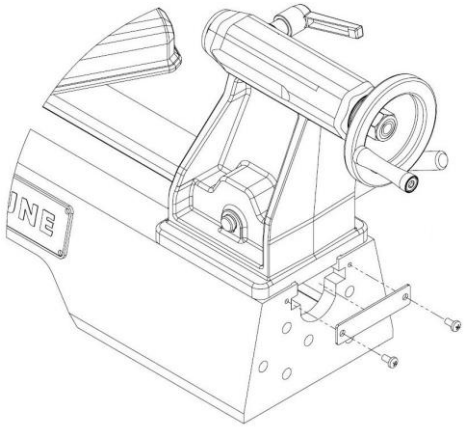


Note: ***Turn the lock handle to adjust the position of the lock plate if they cannot slide onto the lathe bed section.***

2. Replace stop plates on both ends of bed.



Screw end plate into bed to secure headstock onto bed

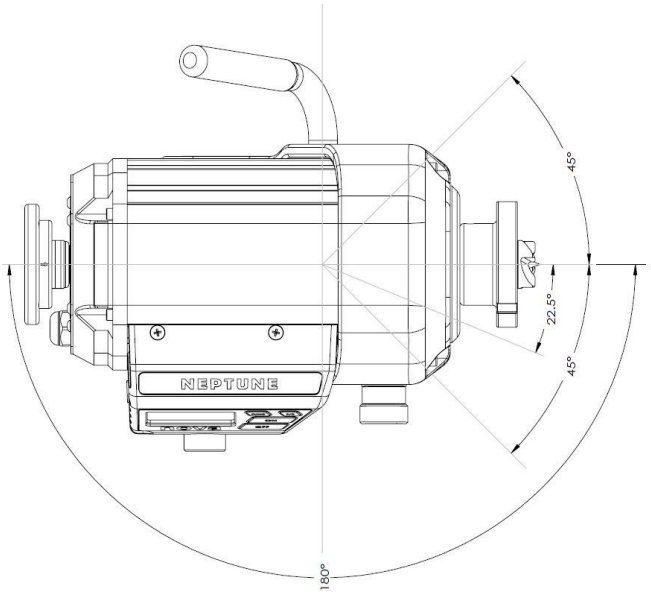


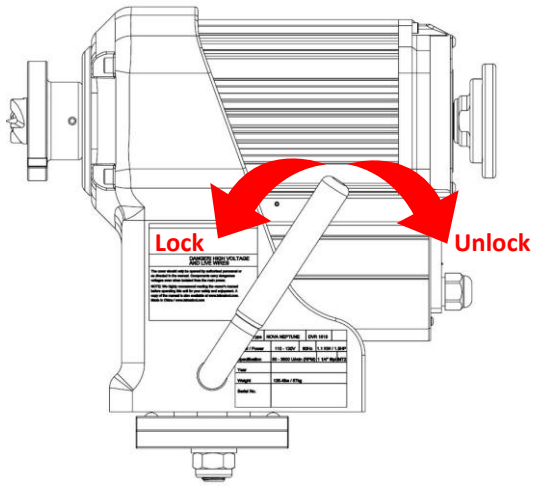
Screw end plate into bed to secure tailstock onto bed

4.3 Positioning the Headstock on the Bed

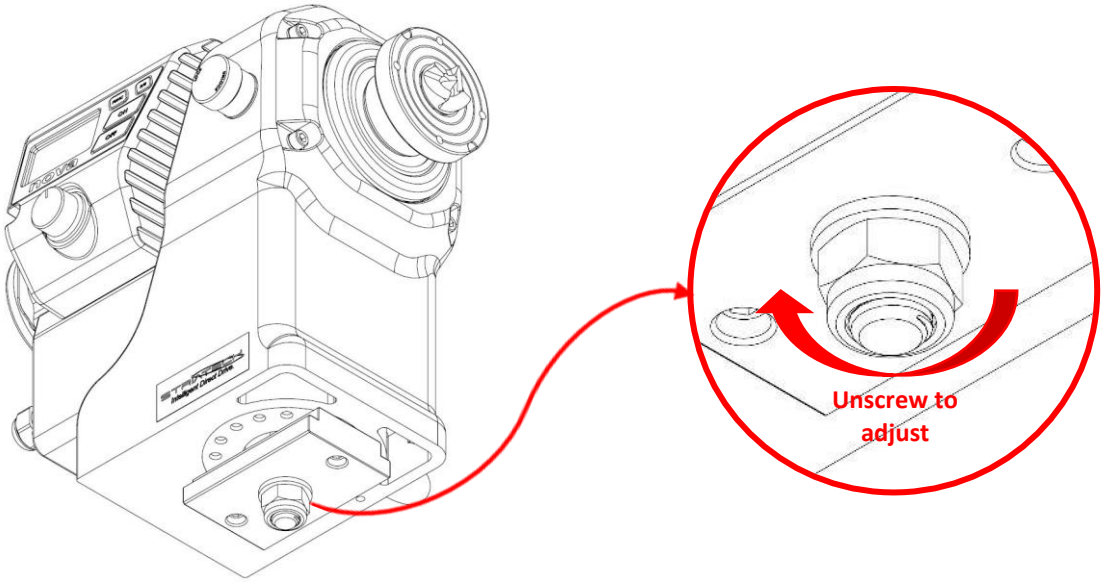
The headstock uses a cam lock assembly for securing in place along the bed. To move the headstock:

1. To unlock the headstock, push the locking handle backwards or lock the headstock by pushing the handle forwards.
2. When the headstock is unlocked, slide and swivel the headstock along the bed to the desired position.





3. Re-Lock the headstock firmly, ensure the headstock is secured before running the lathe.
4. The locking force, orientation of the locking handle can be changed by adjusting the nut at the bottom of the lock plate as illustrated.

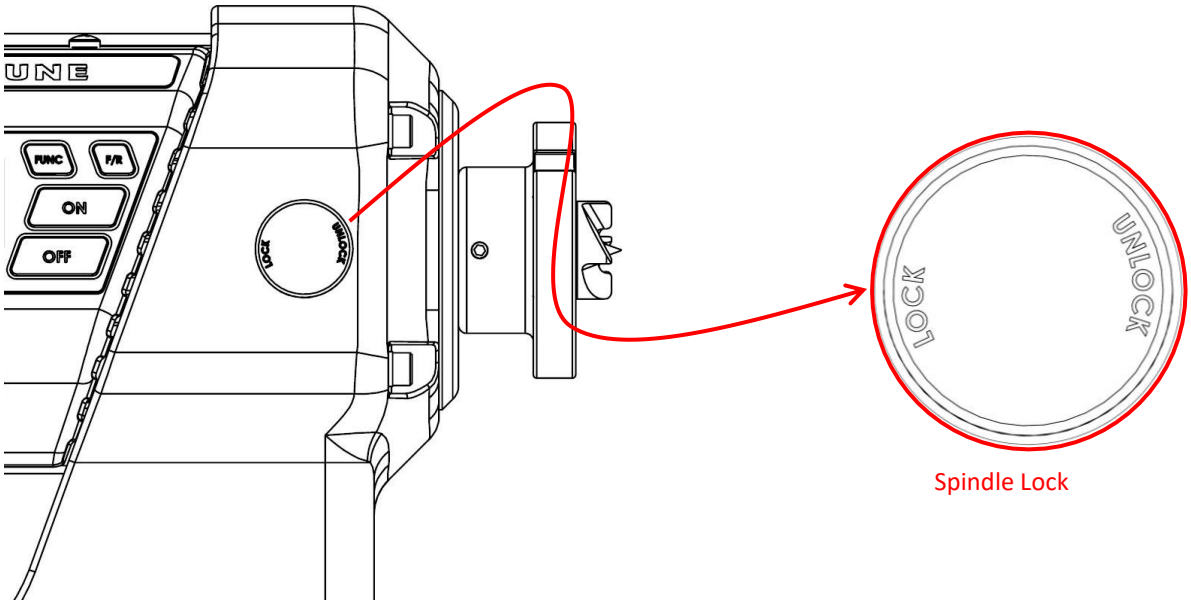


WARNING! PINCH HAZARD – Remove hand from locking shaft when swivelling the headstock.

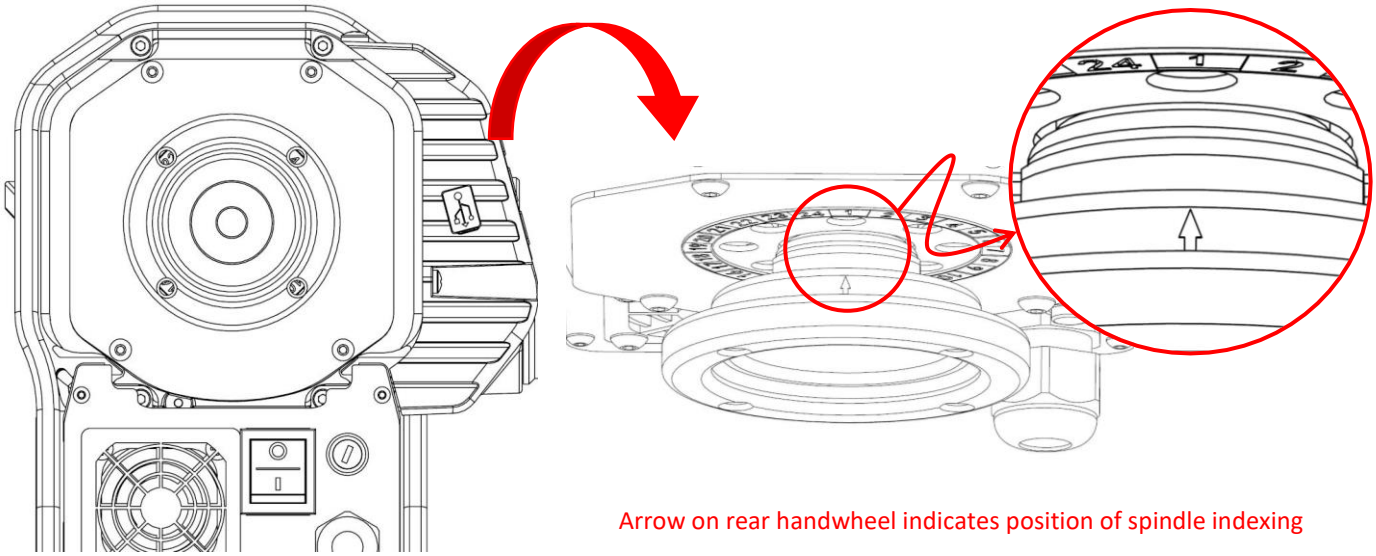
4.4 Spindle Index/Lock

The spindle index pin locks the headstock spindle. It is selectable in 15-degree increments (24 divisions). An indicator decal is on the rear headstock.

1. Stop the lathe.
2. To lock the spindle, lift up and turn the Locking Knob into the **LOCK** position until the internal pin engaged into the index fly wheel. **Caution: Ensure the pin engaged into a slot by turning the spindle with the hands.** to unlock, turn it into the **UNLOCK** position.



Spindle Lock



Arrow on rear handwheel indicates position of spindle indexing

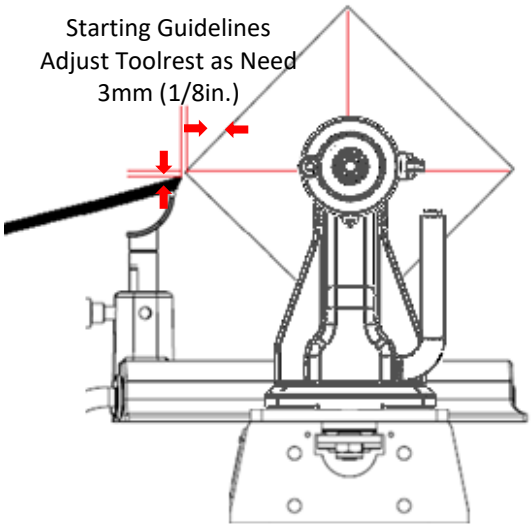
WARNING! Make sure the index pin is disengaged before operating the lathe.

4.5 Toolrest

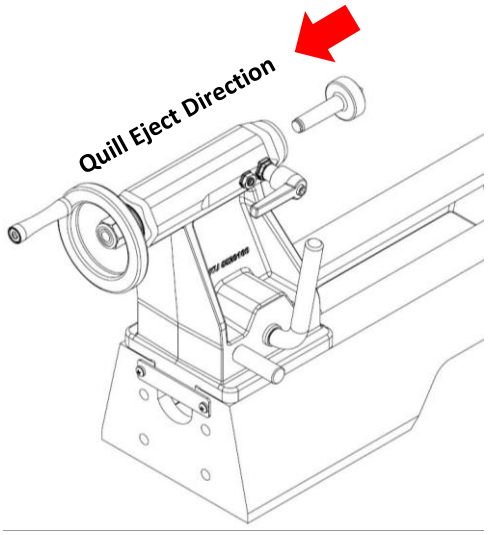
Loosen the Toolslide clamp Handle counterclockwise, move the tool slide to the desired position, and tighten the clamp handle clockwise.

Adjust the Toolrest close to the work piece. Exact positioning may be varied to suit the turner. Revolve the stock by hand to make sure it clears the rest before starting the lathe. At intervals, stop the lathe and readjust the Toolrest.

WARNING! Lathe tools and chisels should remain on the Toolrest whenever the tool is in contact with the work piece. Remove the Toolrest when sanding or polishing so fingers do not get pinched.



4.6 Tailstock



To move the Tailstock along the bed, release the Cam Lock Lever, slide the Tailstock to the desired position and tighten the Lever to lock into place as illustrated.

To move the Tailstock quill in or out, loosen the Quill Lock and turn the Handwheel. Lock the quill in place with the Quill Lock.

The Tailstock Quill accepts centers and accessories with no. 2 Morse taper (#2 MT). To install a taper, insert the accessory firmly by hand. Do not pound the taper into the hole.

To remove a taper, either wind the quill into the tailstock until the taper is ejected or insert the operating bar through the Tailstock Quill hole. While holding the taper so it does not fall, and then tap it out.

The Tailstock Quill is hollow, allowing you to bore holes through turnings if a hollow center is used.

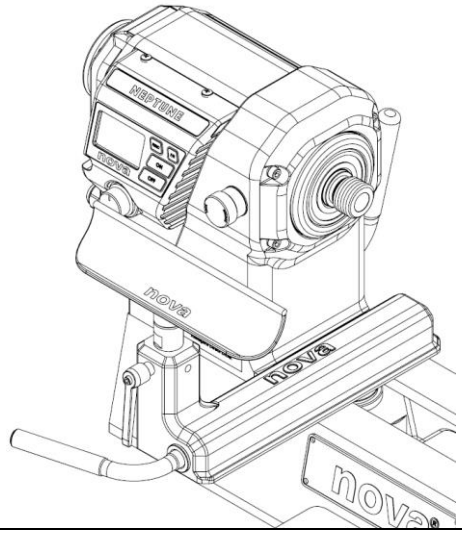
WARNING! Never loosen the Tailstock Quill or Tailstock while the work piece is turning.

4.7 Lathe Alignment

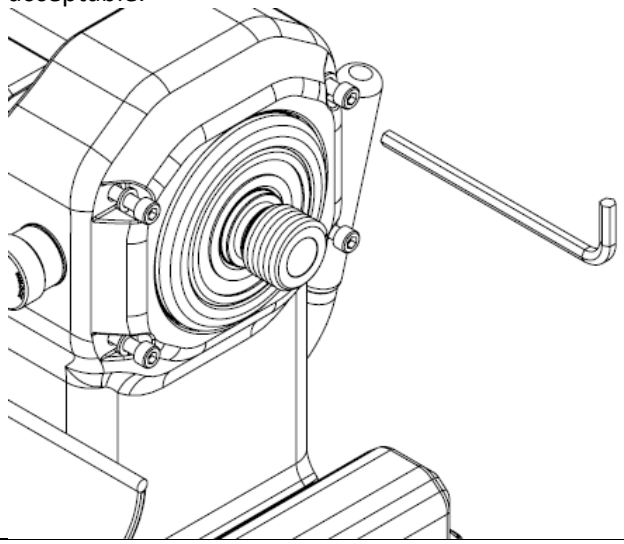
Generally, new lathes are strictly inspected in factory and does not need to be aligned again. Over time, as the lathe is used, you may need to re-align your lathe. To realign machine, please follow the method below.

1. Double Ended 2 Morse Taper method:

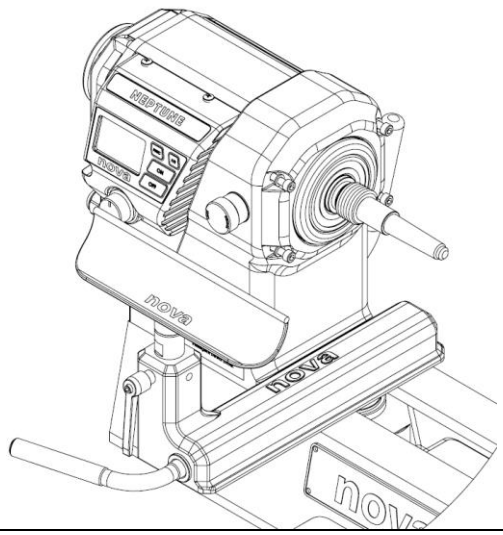
a. Lock the Headstock at 0° by using the locking handle on the bed. Slide toolrest up against the headstock.



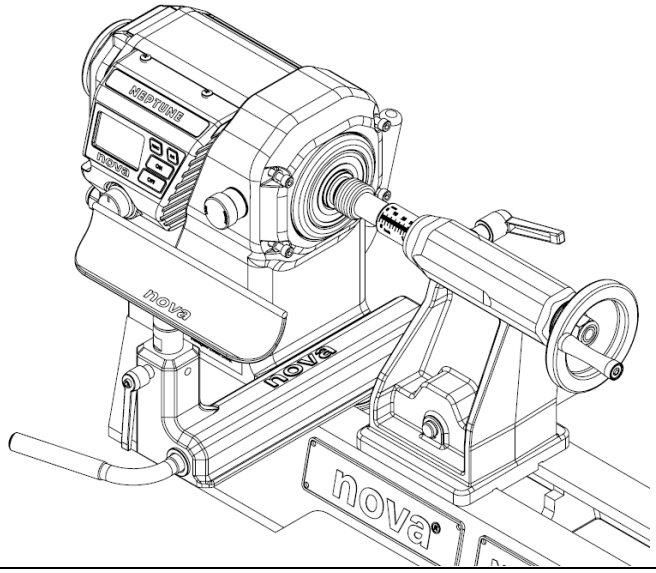
b. Loosen the motor mounting screws on the headstock, approximately 5-8 turns should be acceptable.



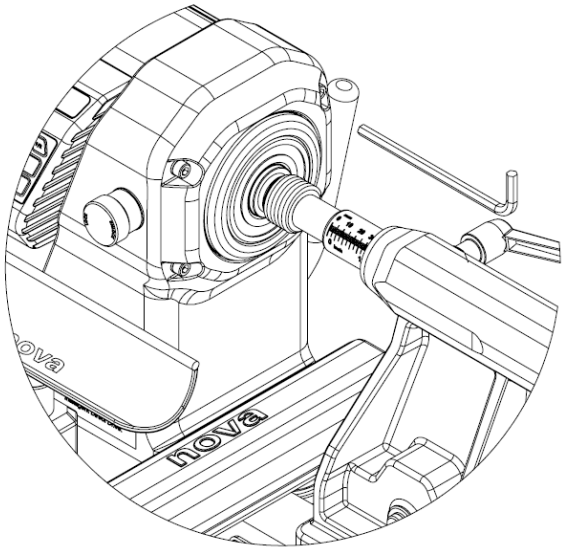
c. Firmly install a double ended 2MT alignment tool into headstock spindle.



d. Slide tailstock to the headstock side of the bed, to firmly align the double ended morse taper with the motor spindle. Lock the tailstock into place. Wind the tailstock handwheel until the motor flange sits securely against the inner ring of the headstock.



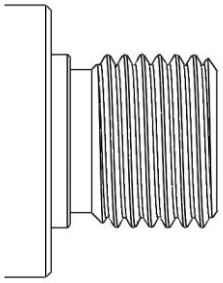
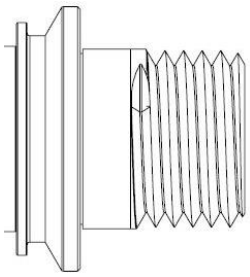
e. Tighten the motor mounting screws against the headstock, tightening the screws in a diagonally opposite sequence.



f. Remove the double ended morse taper from the headstock and tailstock (use a knockout bar if required).

4.8 Mounting a Faceplate or a Chuck

The thread size of headstock Spindle is 1.25" RH (Standard Version), or M33 RH (Euro Version), depending on your model.

	
Standard Version Spindle	**Euro Version Spindle**

4.8.1 Mounting on the Standard Version Spindle

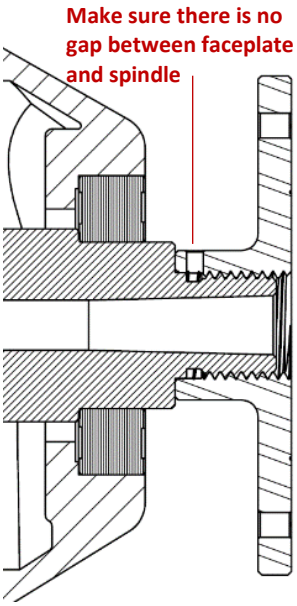
Use the Spindle Index Pin to lock the headstock spindle before commencing.

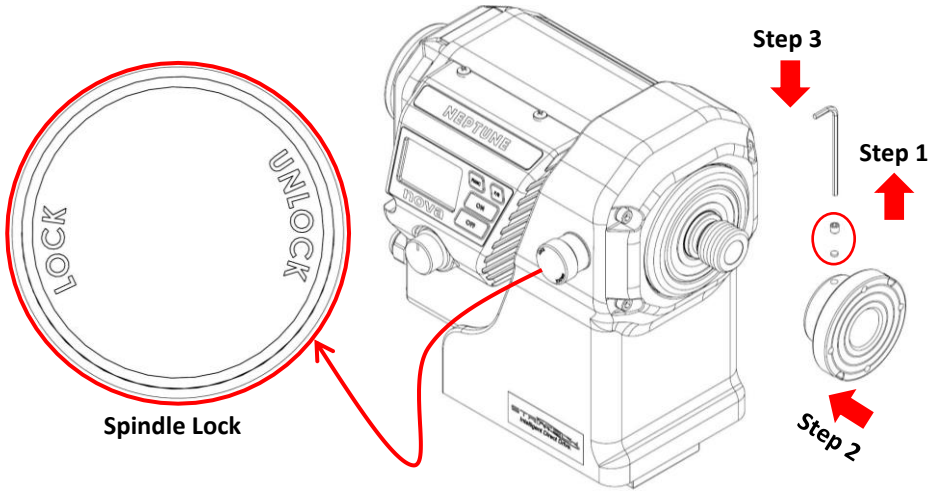
Step 1:
Use the Allen key to remove the safety screw and soft washer from the faceplate or chuck before installation.

Step 2:
Thread the faceplate or chuck onto the spindle thread all the way. Ensure the surface of the faceplate is sitting flat against the spindle surface.

Step 3:
Tighten the safety screw and soft washer on the faceplate or chuck to lock the faceplate in place.

Unlock the spindle before turning the machine on.

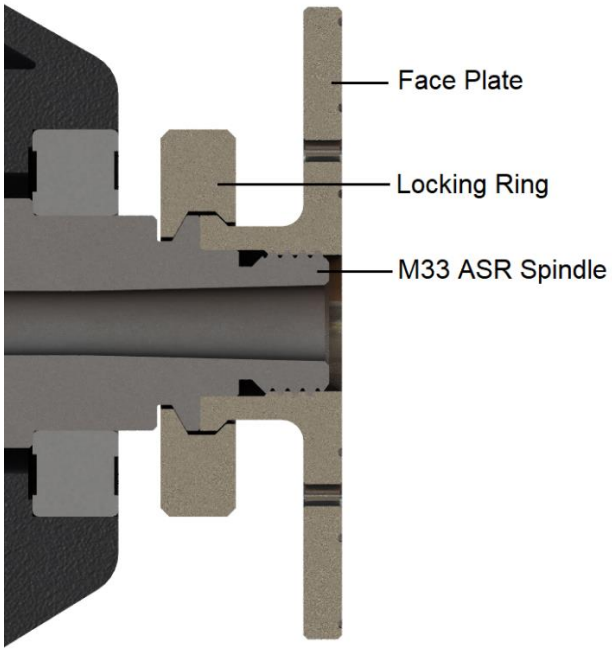




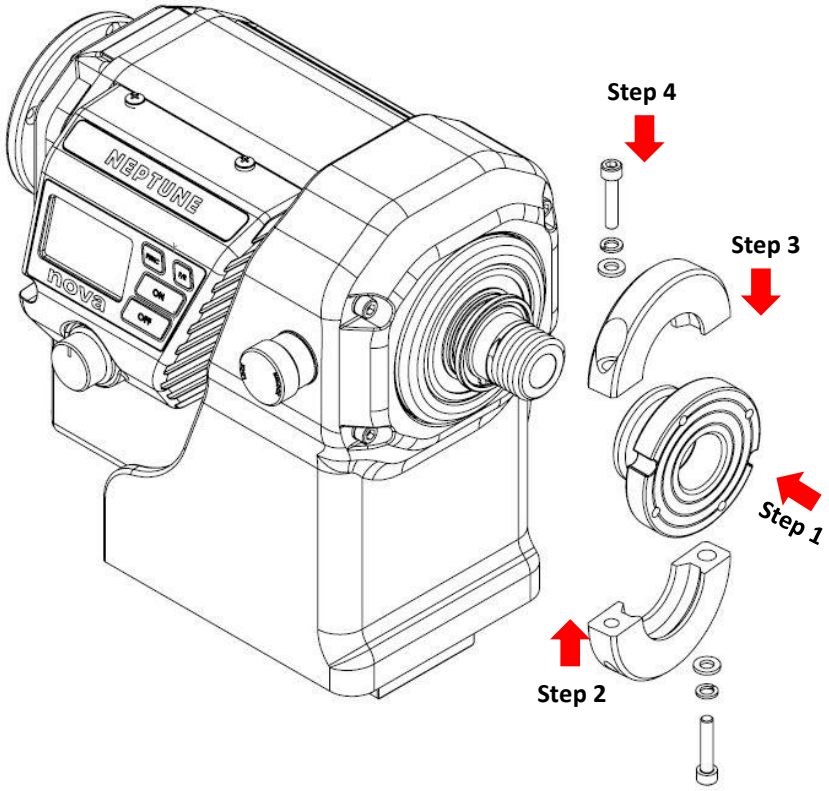
WARNING! The faceplate or chuck body must contact the shoulder on the spindle bearing. When installing or removing the Faceplate or Chuck from the spindle, the side-locking grub screws **MUST** be completely removed. This avoids any potential damage to the spindle that the safety screws may cause if it were not completely removed, when winding the Faceplate or Chuck on or off the spindle.

4.8.2 Mounting on the European Version Spindle

The diagram below illustrates a cross sectional view of an M33 ASR Eurolock version spindle with an M33 ASR Eurolock chuck mounted.



Locking Ring Installation Procedure



Use the Spindle Index Pin to lock the headstock spindle before commencing.

Step 1:
Thread the M33 ASR faceplate or chuck onto the spindle thread all the way in. Check that the spindle and the faceplate/chuck are touching at the clamping ridge.

Step 2:
Put the lower part of the locking ring under the clamped rings.

Step 3:
Put the upper part of the locking ring above the clamped rings.

Step 4:
Use an Allen key to tighten up two bolts on the locking ring.

Unlock the spindle Index Pin before turning the machine on.

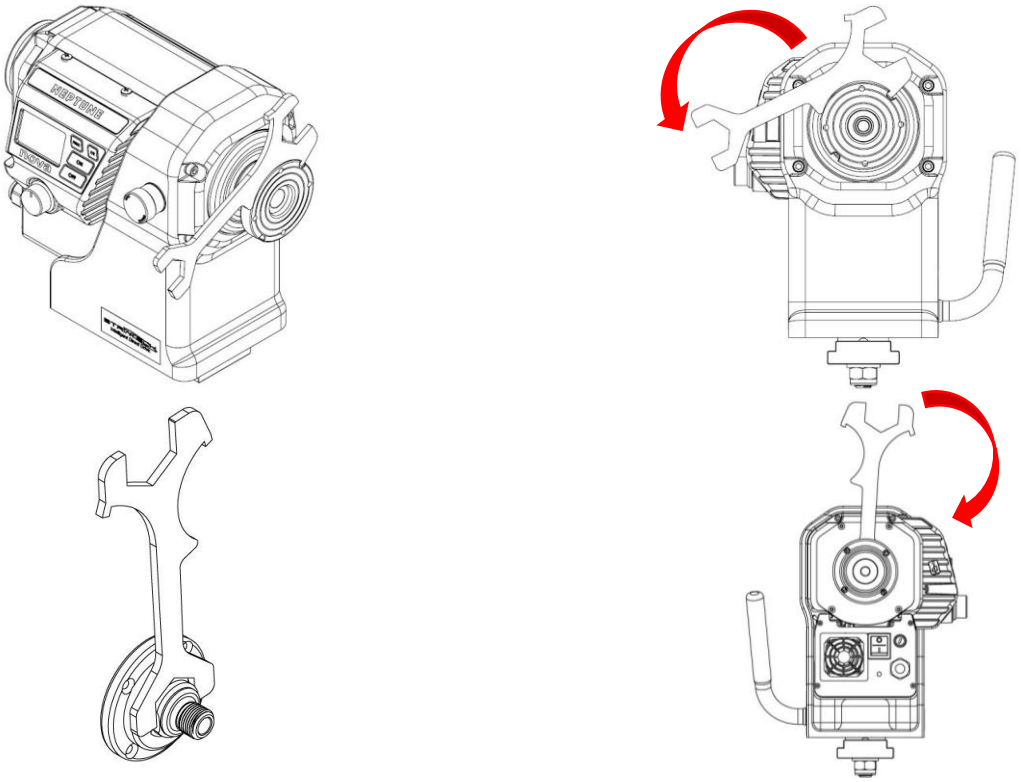
IMPORTANT NOTE: The Index Pin is designed for indexing purposes only, not for leveraging against when removing faceplates, inserts and chucks. For this we recommend holding the spindle using a spanner to clamp the lathe hand brake mounting surface.

4.9 Removal of Faceplate and Handwheel

Once used, the faceplate may have been overtightened onto the spindle. In this case, the spanner is required to remove the faceplate. Please ensure that the set screw/ASR ring has been removed before attempting to unscrew the faceplate.

Align the spanner as shown with the slots on the faceplate. Once aligned apply pressure in the direction shown to loosen the faceplate.

Similarly, with the handwheel on the rear of the motor, to remove, the spanner will also be required. Align the spanner with the flats of the handwheel and apply pressure in the direction shown.



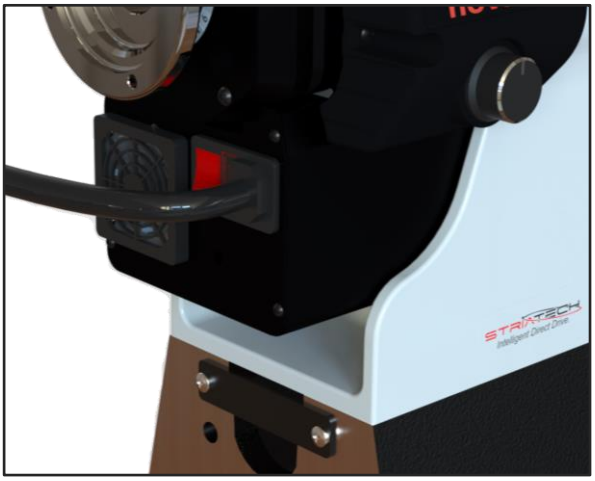
5. Connecting to Power

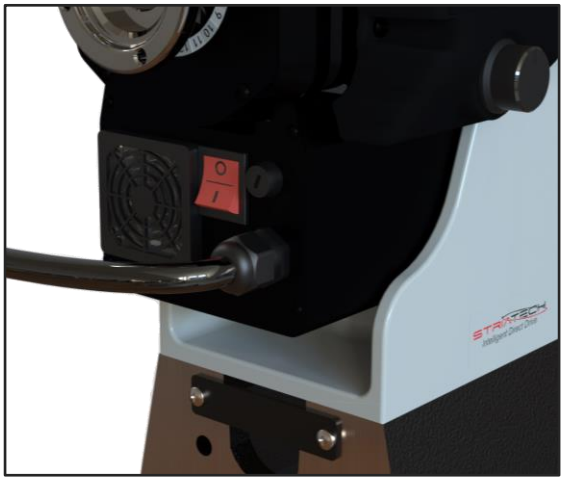
Warning!

Improper power connection may result in a risk of electrical hazard.

Before plugging the NOVA lathe into the power source, check that the:

1. The main power switch is turned off.
2. Power source is switched off.





Note: This image on the left-hand side is the European version of the NOVA wood lathe. Other versions will have a hard-wired power cable (shown on the image on the right-hand side).

The power cord that is installed on the NOVA lathe will have a three-prong plug which includes a ground prong. The plug must be connected to a matching outlet that his properly installed and grounded in accordance with local electrical codes.

For 110V Outlet Only:

A temporary adapter can be used to plug into a two-pole outlet if a three-prong outlet is unavailable in your environment. The ground tab on the adapter must be connected to the screw on the outlet for proper grounding. This adaptor should only be used until a qualified electrician can install a properly grounded outlet.

- **Note:** *If an extension cable is required, make sure to check the following:*
  1. Extension cable gauge is appropriate for the length and voltage.
  2. Is the cable properly insulated?

If in any doubt, please contact your local electrician to inspect the cord according to the local electrical standards before use.

IMPORTANT:

- A surge protection device is recommended when using the lathe.
- A surge protection device must be rated to at least 15A should be used in countries where 110V are used as a standard. In countries where 240V is used, a surge protector must be rated to 10A.

5.1 Ground Fault Interrupters (GFI)

For a GFI to be compatible with the DVR motor, it is recommended have a **leak current threshold rating of 30mA (0.03A)**

Note: *Normal household GFI will typically be rated at 5mA (0.005A) which may trigger during the operation of the DVR motor. However, frequent tripping of the GFI will not cause any harm to the DVR motor or its control electronics as it has a built-in protective circuit to prevent damage from frequent switching.*

5.2 Input Voltage Selection

The NOVA lathe is capable of handling both 110V and 220V without any changes to its internal circuits.

The lathe will automatically recognize the input voltage to the lathe and adjust the output power. Simply change the input power plug to a suitable plug for the desired input voltage to change the lathe's input voltage.

<table>
<tr><th colspan="2">Electrical outlet plugs Country Standard</th></tr>
<tr><td>USA, Canada & Japan 110V 15A
  </td><td>USA 220V (NEMA 6-15P)
  </td></tr>
<tr><td>Australia/New Zealand & China 220V 10A
  </td><td>Europe except UK and Ireland 220V 10A
  </td></tr>
<tr><td>South Africa 220V 10A
  </td><td>UK and Ireland 220V 10A
  </td></tr>
</table>

6. Lathe Operation on HMI Panel - Human Machine Interface Panel

6.1 HMI introduction

The Neptune HMI panel consists of four keys, one speed knob for the lathe operation, the 2.4" LCD shows the status of the lathe in real time, these keys and icons on the panel are illustrated as follows.

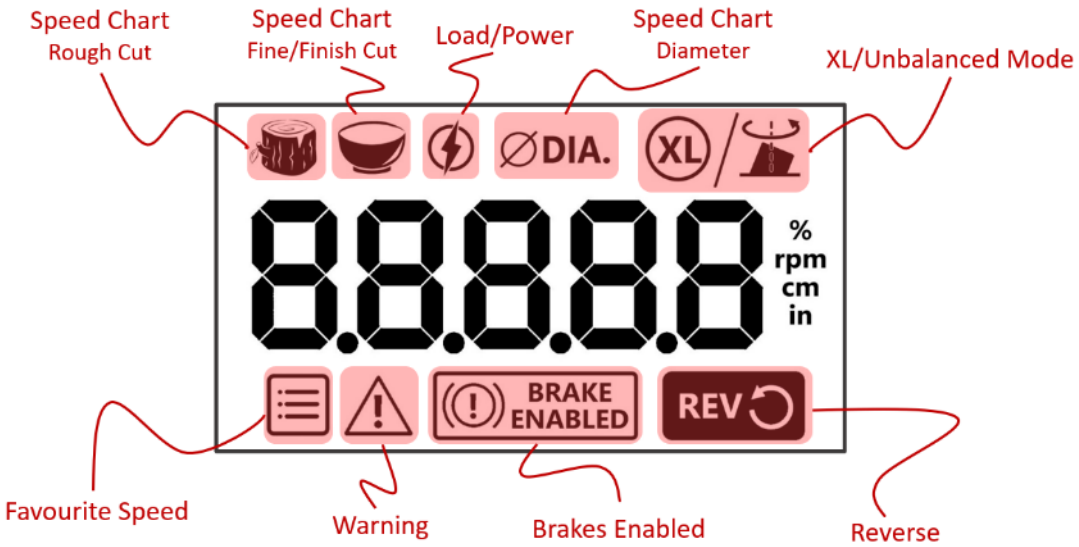
[FUNC]: Access or Exit to the lathe functions.

[F/R]: Toggle Motor Forward /Reverse direction.

[ON]: Start the lathe or "ENTER" action in **FUNC**.

[OFF]: Stop the lathe or "CANCEL" action in **FUNC**.

[Speed Knob]: Speed adjustment and "CONFIRM" action in **FUNC** operation.

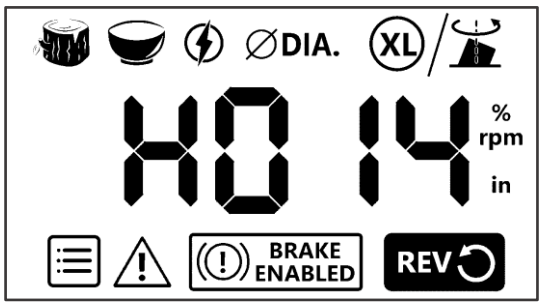


- **Favourite Speed**- 4 favourite speeds, pre-set and reprogrammable in **FUNC.**
- **Warning**- Warnings indicator
- **BRAKE ENABLED –** Enabled the brake with OFF function.
- **REV**- Reversed direction selected.
- **Speed Chart** - Rough or Fine/Finish cut, pre-set and reprogrammable in **FUNC.**
- **Load/Power- "**Running" indicator and actual load in **FUNC.**
- **ΦDIA-** the Diameter unit indicator of Speed Chart in **FUNC**.
- **XL/Unbalanced -** XL/Unbalanced mode in **FUNC.**

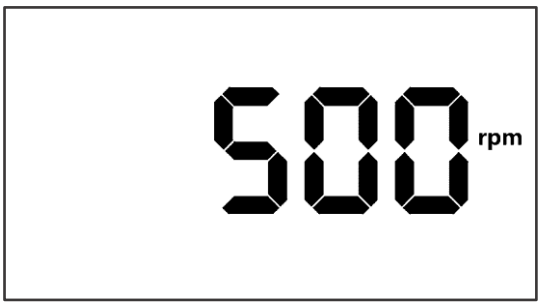
6.2 General HMI Operations

6.2.1 Start-Up

Turn on the switch, the HMI will run the self-test in 3 seconds. During the test, the LCD will show all icons and software version No. before it goes to the Home page. At the home page, the machine is ready to run now, the default speed is 500 RPM.



Software Version No.



Home Page

6.2.2 Run the Lathe

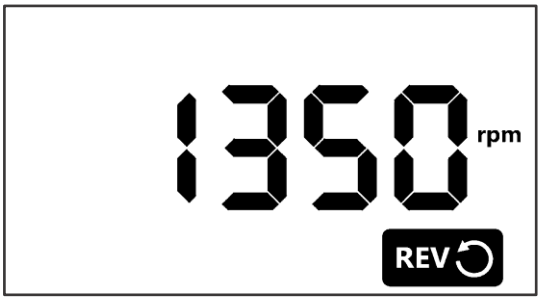
Press **[ON]** when the LCD is on the Home page, the motor will accelerate to reach the set speed.

6.2.3 Stop the Lathe

Press **[OFF]** at any time, the motor will be stopped with/without brake, the LCD will display the Home page. Please refer to **FUNC** section regarding the brake option.

6.2.4 Forward/Reverse

Press **[F/R]** when the LCD is on the Home page - the **REV** icon will be toggled between forward and reverse*.
***For your safety, the FWD/REV selection is active only when the lathe stops spinning.**



Speed Screen with Reverse Mode Engaged

6.2.5 Speed knob

The speed knob has two functions: Speed control, Select & Confirm in **FUNC**.

- Fine speed Control — +/-5 RPM by **Turning** it in clockwise or counter-clockwise while the LCD is on the Home Page or the Motor Running.
- Coarse speed Control — +/-50 RPM by **PUSH DOWN+ Turning** it in clockwise or counter-clockwise while the LCD is on the Home Page or the Motor Running.
- Select & Confirm in **FUNC**— general operation, "**Turn** it to select, **PUSH DOWN** to Confirm or Save", More detail refers to **FUNC** section below.

6.3 FUNC- Advanced Functions and features

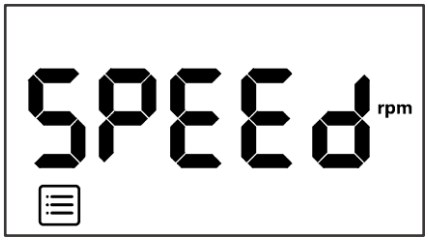
The **FUNC** menu provides 5 pre-set, programmable functions for multiple turning applications:

- Favourite speed
- Brake Enabled
- Speed chart for Rough cut
- Speed chart for Fine/Finish cut
- XL/Unbalanced Mode

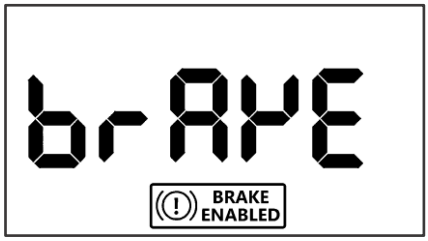
6.3.1 General operation to Enter and Exit FUNC Menu

When the LCD is on the Home page, Press **[FUNC]** once to enter the function page, turn the speed knob clockwise or counter clock wise, the LCD will show all 5 functions in a sequence:

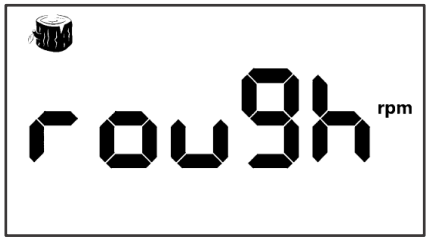
Favourite speed->Brake Enabled->Rough cut->Fine cut-> XL/Unbalanced



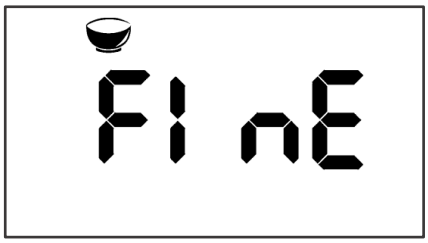
Favourite Speed Function Page



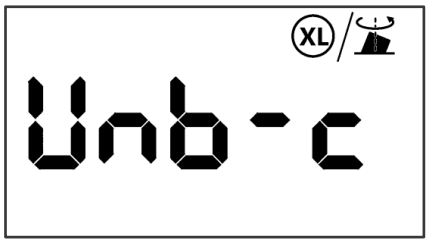
Brake Enable Function Page



Rough Cut Function Page



Fine Cut Function Page



XL/Unbalanced Function Page

When the LCD is on the function page, Press **[FUNC]** once again or Press **[OFF]** to exit back to the Home page*.

*** Press [FUNC] on the function pages, it acts as "BACK" to previous page, Press [OFF] means exit to Home page directly.**

6.3.2 General operation to Enter desired functions

Turn the speed knob to desired function, press **[On]** to confirm the selection. The LCD will show desired function page. See **Favourite Speed** example below.

When the LCD is on desired function page, Press **[FUNC]** once again to back to previous Function page or Press **[OFF]**to exit to the Home page.

6.3.3 Favourite speed

The HMI is built in four favourite speeds for a quick start-up. To use, change and save the settings, follow the instructions as follows. While the motor is running or stop:

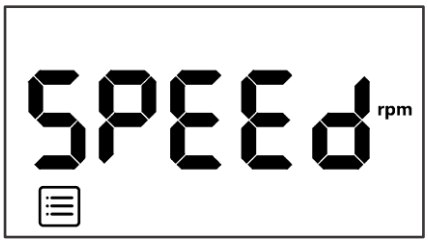
Step1 :Press **[FUNC]** once on the Home page, and then press **[ON]** again to enter the **Favourite Speed** page, turn the speed knob to select **the four default speeds in sequence: 250RPM,500RPM,750RPM,1000RPM**, press **[ON]** to run the lathe or press **[FUNC]** or **[OFF]** to exit.

Step2: If **[ON]** pressed, the LCD will show or run default RPM immediately on the home page.

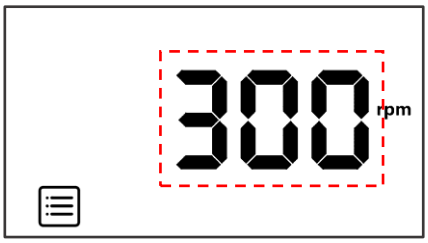
*Simplified instructions to change &save the default speed as:

[FUNC]-> [ON]->[Speed knob to Select speed #]->[Press Down& Hold to edit]->[Speed knob to Change speed]->[Press Down& Hold to confirm], which describes as follows:

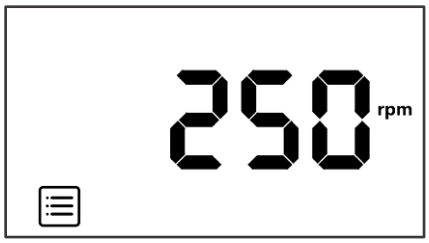
press **[FUNC]** once on the Home page, then press **[ON]** to enter the **Favourite Speed** page, turn the speed knob to select one of default speeds, press **[Down & Hold]** the speed knob until the **Favourite Page** becomes flashing, turn the speed knob to adjust the speed as desired and then press **[Down & Hold]** the speed knob until the **Favourite Page** stops flashing. T**he new speed is saved into speed slot**, Press **[ON]** again, the LCD will show or run new speed immediately on the home page.



Favourite Speed Function Page



(Flashing)
Programming Mode



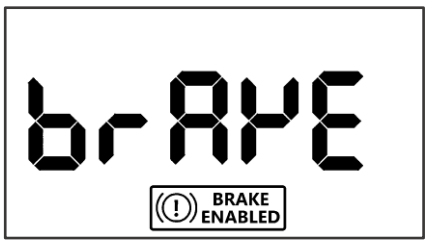
Default Pre-set Speed

6.3.4 Brake Enabled

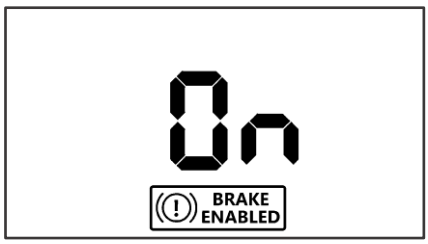
The brake is optional feature to combined with OFF operation, with the brake ON, the motor speed will be deaccelerated quicker than normal (the default setting is OFF).

Step1: Press **[FUNC]** once on the Home page, turn the speed knob to **Brake Enabled** icon, press **[ON]** to enter the **Brake Enabled** page or press **[FUNC]** or **[OFF]** to exit.

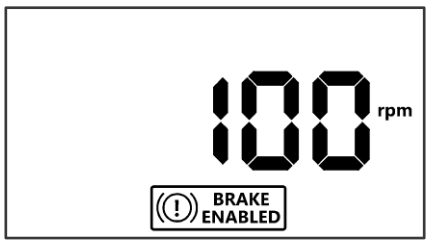
Step2: On the **Brake Enabled** page, turn the speed to change **OFF** to **ON**, press **[ON]** to confirm, the LCD will show **Brake Enabled** Icon on the Home page.



Brake Enabled Function Page



Brake Enabled ON

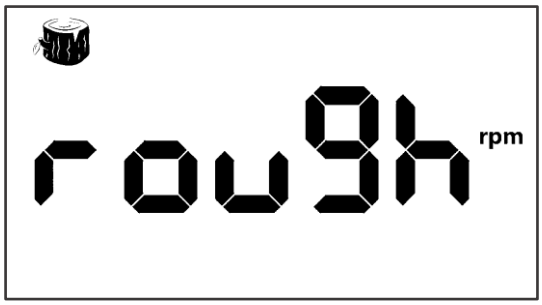


Speed Screen with Brake Enabled

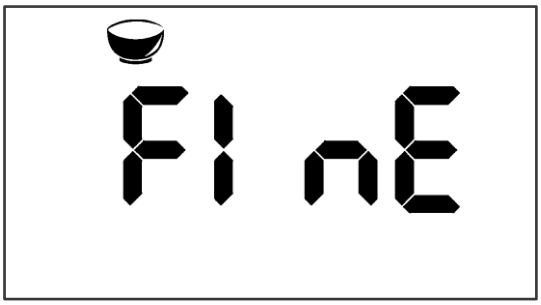
6.3.5 Speed chart for Rough /Fine cut

The speed chart is a recommend, editable speed guide/reference according to the diameters of the wood and type of turning. It's accessible whenever the motor is running or stop:

Step1: Press **[FUNC]** once on the Home page, turn the speed knob to **Rough cut** or **Fine cut** icon, and then press **[ON]** to enter the **Rough cut/Fine cut** page or press **[FUNC]** or **[OFF]** to exit.

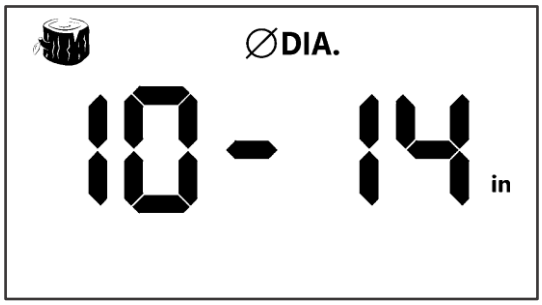


Rough Cut Function Page

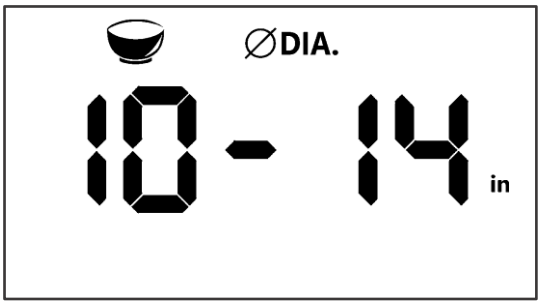


Fine Cut Function Page

Step2: At the **Rough cut/Fine cut** page, turn the speed knob to Diameter options#1-3, small, medium and large size. press **[ON]** to confirm or press **[FUNC]** or **[OFF]** to exit.



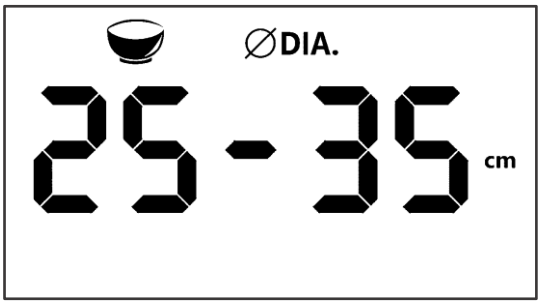
Rough Cut (Imperial) - Diameter Selection Page



Fine Cut (Imperial) - Diameter Selection Page

* **Press [Down & Hold] the speed knob for 2S to change Imperial or Metric,**

Rough Cut (Metric) - Diameter Selection Page



Fine Cut (Metric) - Diameter Selection Page

Step3: Once the wood size confirmed, the LCD will show recommend RPM immediately on the LCD screen *.

***The default speed chart for Rough Cut and Fine Cut as the table below.**

Diameter of the Woods	Rough Cut	Fine/Finished Cut
01-06”/ 0 - 15cm	750 RPM	1450 RPM
06-10”/ 15 - 25cm	450 RPM	1000 RPM
10-14”/ 25 - 35cm	250 RPM	350 RPM

To change default speed, press **[Down & Hold]** the speed knob until the **Rough or Fine Page** becomes flashing, turn the speed knob to adjust the speed as desired and then press **[Down & Hold]** the speed knob until the **Rough or Fine Page** stops flashing. T**he new speed is saved now.**

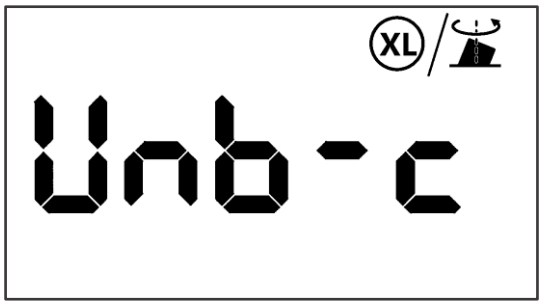
Press **[ON]** again, the LCD will show or run new speed immediately on the home page.

6.3.6 XL/Unbalanced Mode

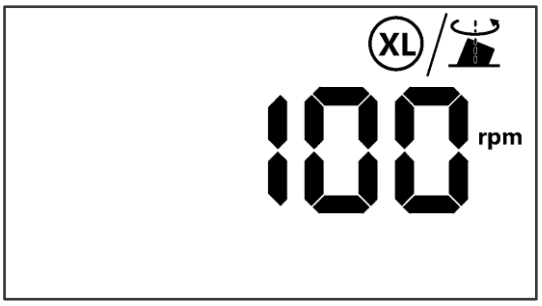
The HMI offers smart speed profiles for **XL/Unbalanced** turning operation, such as slow starting up, steady and smooth speed acceleration for unbalance wood piece, the mode is **ONLY** accessible when the motor is stopped, the default setting is OFF.

Step1: Press **[FUNC]** once on the Home page, turn the speed knob to **XL/Unbalanced** icon, and then press **[ON]** to enter the **XL/Unbalanced** page as below or press **[FUNC]** or **[OFF]** to exit.

Step2: Turn the speed knob to change **OFF** to **ON**, press **[ON]** to confirm, the LCD will show **XL/Unbalanced** Icon on the Home page. When the mode is on, it will apply the speed profiles immediately for the turning.



XL/Unbalanced Function Page



Speed Screen with XL/Unbalanced Mode Engaged

6.4 Miscellaneous

6.4.1 Load monitoring Real time

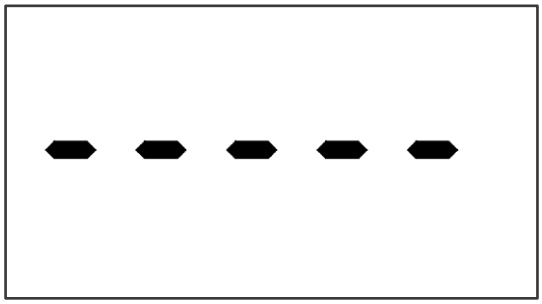
The HMI can show a load factor as reference for turning operation.
While the motor is running, press **[Down & Hold]** the speed knob for 2S, the LCD will show the approximate capacity of the motor being used by turning operation, press **[Down & Hold]** the speed knob for 2S again, the LCD will come back the Home page.

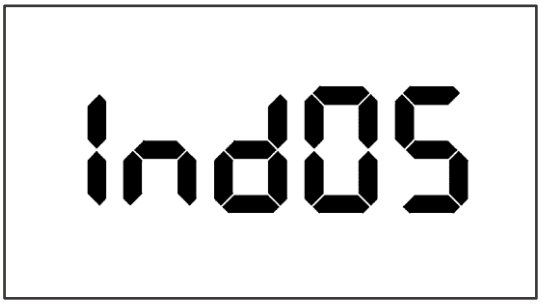
Load Factor Page

6.4.2 Electronic Indexing

The HMI provides 24 electronic indexing positions.
***STOP the motor, Unlock the spindle lock first, make the spindle free before the operation!**
On the Home page, press **[FUNC]+[ON]** for 2 seconds, the motor will be initialized and self-aligned with the motor low noise for 3 seconds, the LCD will show the dash line and then show Indexing No.1 .

Turn the spindle clockwise or counterclockwise slowly, the 24 indexing numbers will be shown on the screen in sequence. When the number changed to the desired position, turn the spindle lock to "**Lock**" position.


Initialization

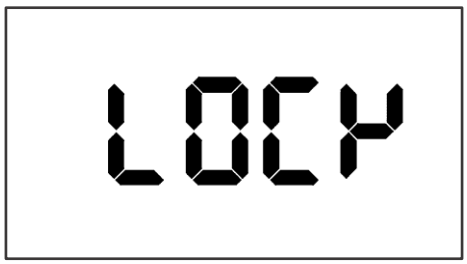


Indexing

Press **[FUNC] or [OFF]** to exit the function.

6.4.3 HMI Safety Lock

User can lock the HMI panel to prevent unpredictable operation from others. e.g Children or accident etc.
When the motor stops and on the Home page, press **[Down & Hold]** the speed knob for 2 seconds. The HMI will be locked, HMI operations is disabled. press **[Down & Hold]** the speed knob for 2 seconds again. The HMI will be unlocked, HMI operations is enabled, see the LCD information below.



Screen is locked

6.4.4 Warning messages

The warning message table is not editable information, *Try to report the fault with Error code.

Error code	Error description	Error code	Error description
E-0	Unexpected Fault	E-6	Low Voltage
E-1	SRM not Rotate	E-7	PFC_Fault
E-2	RPS_State_Error_0	E-8	Overheat
E-3	RPS_State_Error_1	E-9	EEPROM_Data_Fault
E-4	Hardware Fault	E-10	EEPROM_Work_Fault
E-5	Unexpected Trap		

6.4.5 Factory Reset

Stop the motor first, press **[Down & Hold]** speed knob **+[ON]** for 3second. The HMI is reset to the factory settings, the machine will reboot again.

6.4.6 USB mode for HMI firmware upgrade

Stop the motor first, press **[Down & Hold]** speed knob **+[FUNC]** for 3second. The HMI enters the USB mode for firmware upgrade.

Download HMI USB/DFU update software and firmware from the website: www. teknatool.com, follow the instructions to upgrade HMI firmware.

7. Maintenance

• WARNING 

Improper power connection may result in a risk of electrical hazard

Regular maintenance is essential when considering the long-term use of the lathe.

Maintenance After Each Use

1. Clean the work area and lathe.
2. Vacuum shavings and dust from the headstock, table and base.

Monthly Maintenance

1. Wax coat the exposed cast iron parts with a good quality paste wax. Buff off thoroughly.
2. Check tightness of nuts and bolts.
3. Clean all tapers to ensure a secure fit.

6-months Maintenance

1. Lubricate the tailstock quill and its inside threads with a light coat of light weight oil.
2. Check for any rust on the underneath the toolrest, tailstock and on the lathe bed. If there is rust on the surface, remove it by using a rust removal agent with an abrasive sponge.
   - **Note:** *Some rust removal agents may leave a stain on the metal surface. Please check on an area where stains are not easily visible before applying onto the actual metal surface.*

Cleaning the Toolslide

If the toolslide becomes hard to move and adjust, cleaning and lubrication are required.

1. To allow the toolslide move more freely along the bed, make sure the bed rails are clean. Apply some paste wax to the rails.
2. If the tool slide is difficult to adjust, remove the tool slide from the lathe bed. Clean the tool slide camshaft (round eccentric rod) with a petroleum-based solvent. Lubricate the rod with lightweight oil or a silicone spray.
3. Slide the base back onto the lathe bed.

Cleaning the Tailstock

If the tailstock quill becomes hard to adjust or the Handwheel is hard to turn, cleaning and lubrication are required.

1. Remove the M16 nylon lock nut from rear of the tailstock handwheel. Once removed, the handwheel and the key that holds it in position, may be removed.
2. Remove the quill by unscrewing the tailstock quill lock handle off from the tailstock body and extending the quill out all the way. Remove handwheel from the tailstock body.
3. Wipe clean all parts including the inside of the tailstock slot.
4. Lubricate the quill, quill lead screw and tailstock slot with lightweight oil, apply small amount of oil to the quill threads.
5. Reassemble the tailstock.

8. Troubleshooting

8.1 Mechanical Issues

SYMPTOM	PLACE TO CHECK	HOW TO RESOLVE
Excessive Vibration	▪ Work attached to the lathe ▪ Lathe Mounting ▪ (Either on bench or stand)	1. Remove any work pieces/tools attached to the headstock, inspect if there is any foreign materials or damages to the threads. 2. Attach the tools one at a time to check which part is causing the vibration. 3. Extra weights can be added to reduce the amount of vibration that occurs from large, unbalanced work pieces.
Faceplate or chuck running out of true	▪ Back of face plate ▪ Threads ▪ Inner threads on faceplate ▪ Spindle thread on headstock	1. Inspect if there is any damage on the threads. 2. Mount the faceplate or chuck onto the machine and check if it is seating securely on the bearing.
Turning tools not sliding smoothly across Tool rest	Tool rest surface	Lightly use sandpaper or a grinder to smooth out the top surface of the tool rest.
Spur drive centre/live centre not holding in spindle or quill taper when turning	Morse Taper surface	1. Inspect both male and female Morse Taper surfaces to check for any foreign materials or defects on the surface. 2. Clean the surface and remount the tools.
Tailstock and Headstock centres not aligning	▪ Lathe bed connection ▪ Headstock detent position ▪ Tailstock adjustment plate	1. Inspect all connections of the bed sections to make sure all the top surfaces are flush with one another. 2. Check to ensure the headstock is properly locked in the zero-degree detent position. 3. Loosen the tailstock adjustment plate located on the bottom of the tailstock and align the headstock and tailstock. Tighten the tailstock adjustment plate to finish.
Tailstock Handwheel hard to turn or will not turn	▪ Quill lock ▪ Inside the tailstock quill housing	1. Check if quill lock on the tailstock is not engaged. 2. Fully extend the tailstock quill out to extract the quill from its housing. Inspect both quill and housing surface and threads for any defects and foreign materials. Apply lubricant to quill surface and thread and reassemble.
Tailstock binds while sliding along the bed	▪ Lathe bed ▪ Tailstock adjustment plate	1. Check for defects or foreign materials on the bed. 2. Loosen the tailstock lock.
Tailstock jumps at bed section joints.	▪ Lathe bed ▪ Tailstock bottom surface	1. Inspect uneven surfaces on the lathe bed and make sure the bed connection areas are flush. 2. Check for any defects and foreign materials on the bottom of the tailstock casting. 3. Use sandpaper to lightly sand down the defects on the lathe bed or the tailstock casting.

9. Teknatool Warranty

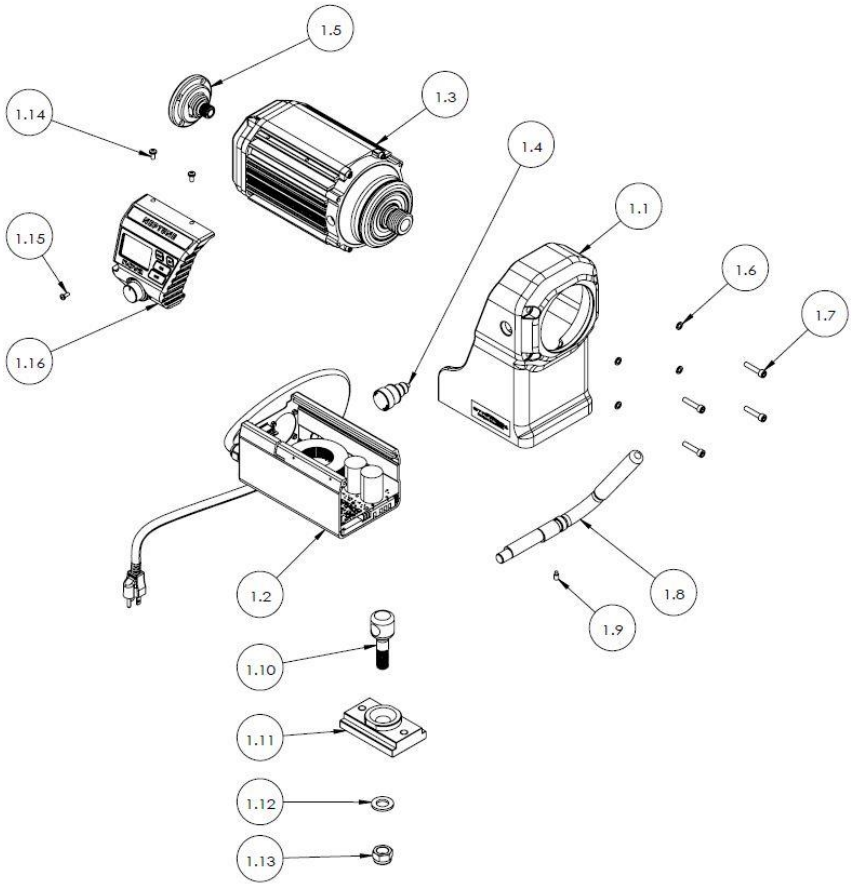
NOVA Limited Warranty

4499 126th St North | Clearwater Florida 33762
teknatool.com | 727.954.3433

Our policy is one of continuous improvement. We therefore reserve the right to change specification/design without notice. This warranty is *Teknatool International Ltd* and *Teknatool USA Inc.* sole warranty 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. For full warranty details and instructions on how to file a claim, please go to teknatool.com

10. NOVA DVR Lathe Breakdown

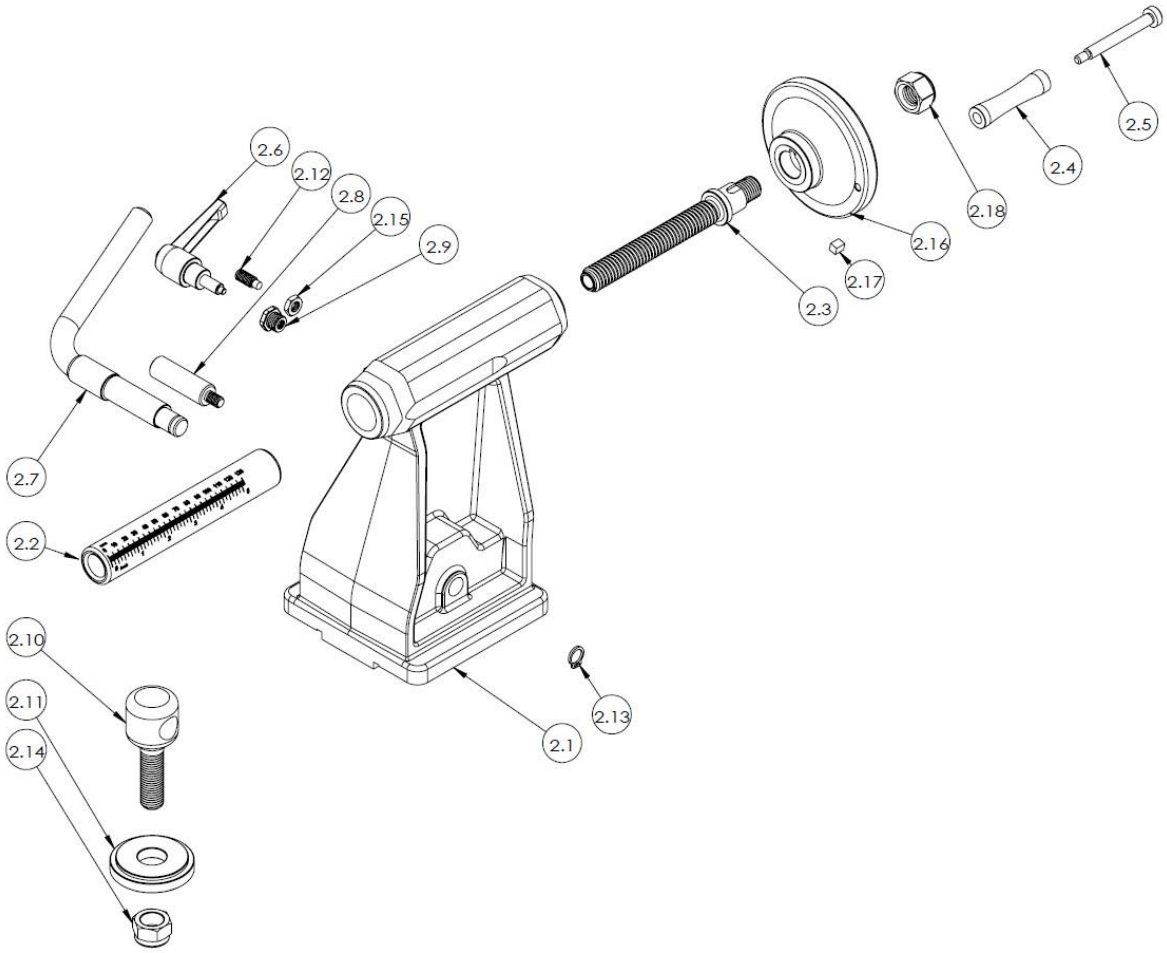
NOVA DVR Headstock Breakdown



ITEM NO.	DESCRIPTION	SKU	QTY.
1	**Headstock Assembly**	**5529013**	**1**
1.1	Headstock Casting	5529127	1
1.2	Controller Assembly (US & CAN) / (AU & NZ & UK & EU)	5529015 / 5529174	1
1.3	Motor Assembly (EU) / (AU & NZ & US & CAN & UK)	5529172 / 5529016	1
1.4	Spindle Lock Screw	5529121	1
1.5	Headstock Handwheel	5529128	1
1.6	Spring Washer M6	SW06	4
1.7	Mounting Screw M6x30mm	C06030	4
1.8	Headstock Camshaft Handle	5529115	1

ITEM NO.	DESCRIPTION	SKU	QTY.
1.9	Camshaft Set Screw M6x12mm - Dog Point	G0612DE	1
1.10	Headstock Locking Boss	5529117	1
1.11	Headstock Lock Plate	5529116	1
1.12	Flat Washer M16	FW16	1
1.13	Self-Locking Nut 304 Ø16	LN16	1
1.14	HMI Top Mounting Screws M5x10mm	MPB05010	2
1.15	HMI Bottom Mounting Screws M4x10mm	MPB0410	1
1.16	HMI Assembly	5529018	1

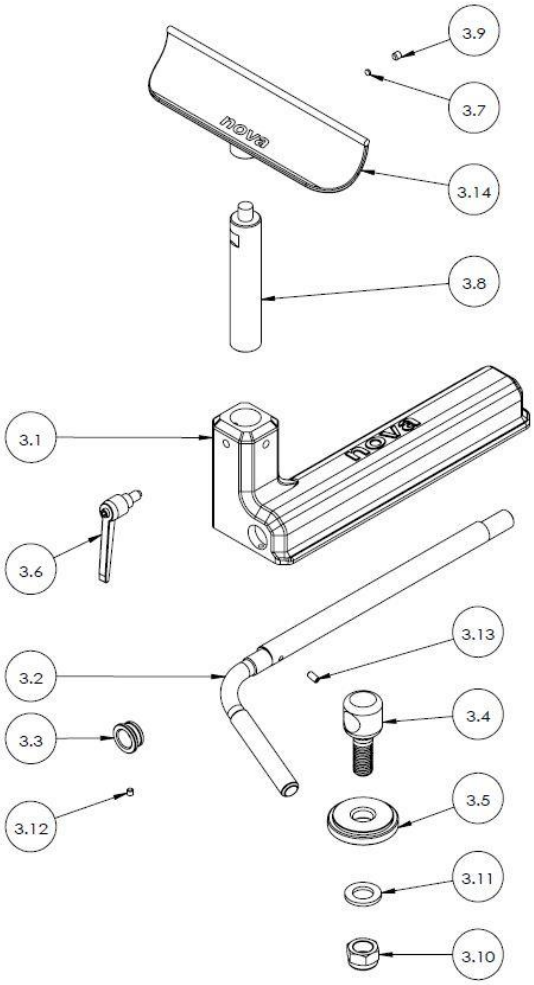
NOVA DVR Tailstock Breakdown



ITEM NO.	DESCRIPTION	SKU	QTY.
2	**Tailstock Assembly**	**5529019**	**1**
2.1	Tailstock Casting	5529160	1
2.2	Tailstock Quill	5529163	1
2.3	Tailstock Quill Lead Screw	5529162	1
2.4	Tailstock Handwheel Handle	5699028	1
2.5	Tailstock Handwheel Handle Stud Bolt	5699046	1
2.6	Quill Locking Handle	5569040	1
2.7	Tailstock Lock Camshaft	5529161	1
2.8	Handle Stopper	5569024	1
2.9	Quill Locking Nut	5529181	1

ITEM NO.	DESCRIPTION	SKU	QTY.
2.10	Tailstock Locking Boss	5569025	1
2.11	Tailstock Lock Plate	5569043	1
2.12	Quill Alignment Screw	SZ0820	1
2.13	External Circlip 12mm	EC12	1
2.14	Self -Locking Nut 304 Ø16	LN16	1
2.15	Alignment Screw Nut	5569043	1
2.16	Tailstock Handwheel 100mm	5529111	1
2.17	Tailstock Handwheel Key 6mm	5529165	1
2.18	Nylon Lock Nut M16	NHZ16	1

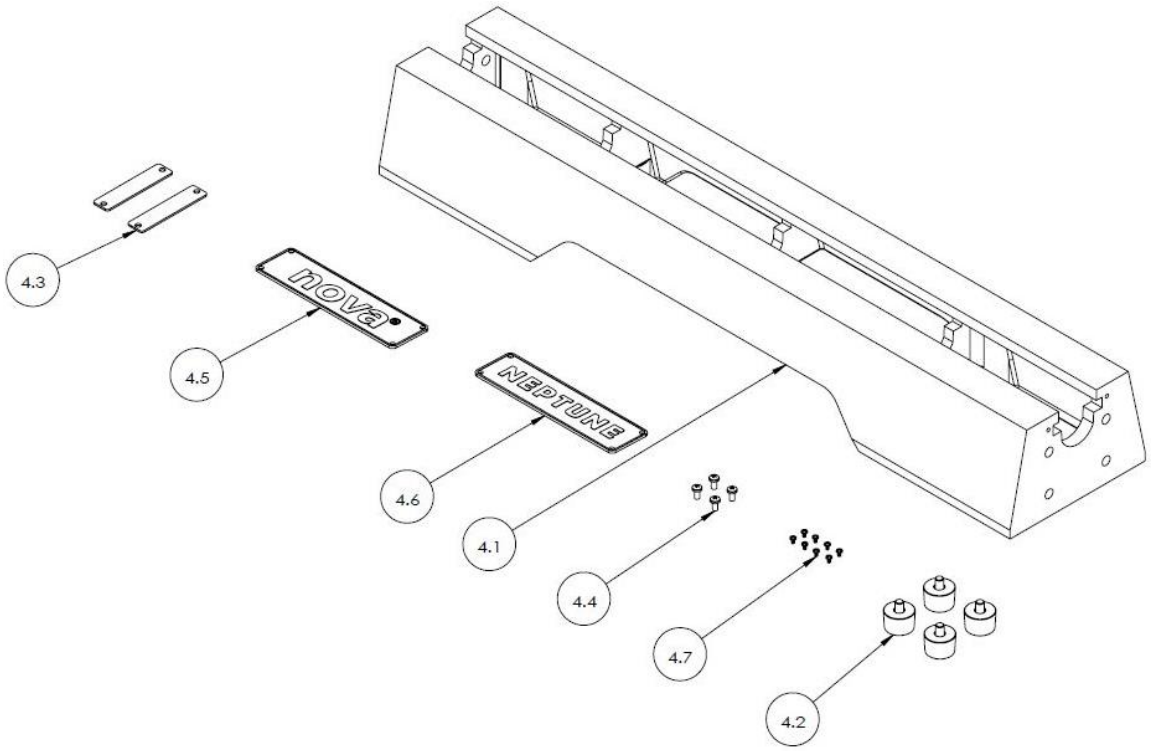
NOVA DVR Toolrest Breakdown



ITEM NO.	DESCRIPTION	SKU	QTY.
3	**Toolslide Assembly**	**5529011**	
3.1	Toolslide Casting	5529102	1
3.2	Toolslide Lock Camshaft	5529103	1
3.3	Camshaft Ring	5529104	1
3.4	Banjo Locking Boss	5529120	1
3.5	Toolslide Locking Plate	5529106	1
3.6	Toolrest Locking Handle	5529180	1
3.7	Soft Washer	NS1000	1

ITEM NO.	DESCRIPTION	SKU	QTY.
3.8	Toolrest Post 1 Inch	5529153	1
3.9	Mounting Screw M6x6mm	SZ0606	1
3.10	Self -Locking Nut 304 Ø16	LN16	1
3.11	Flat Washer M16	FW16	1
3.12	Mounting Screw M5x5mm - Cone End	G0505CE	1
3.13	Mounting Screw M5x10mm	G0510	1
3.14	9 Inch Toolrest	5529167	1

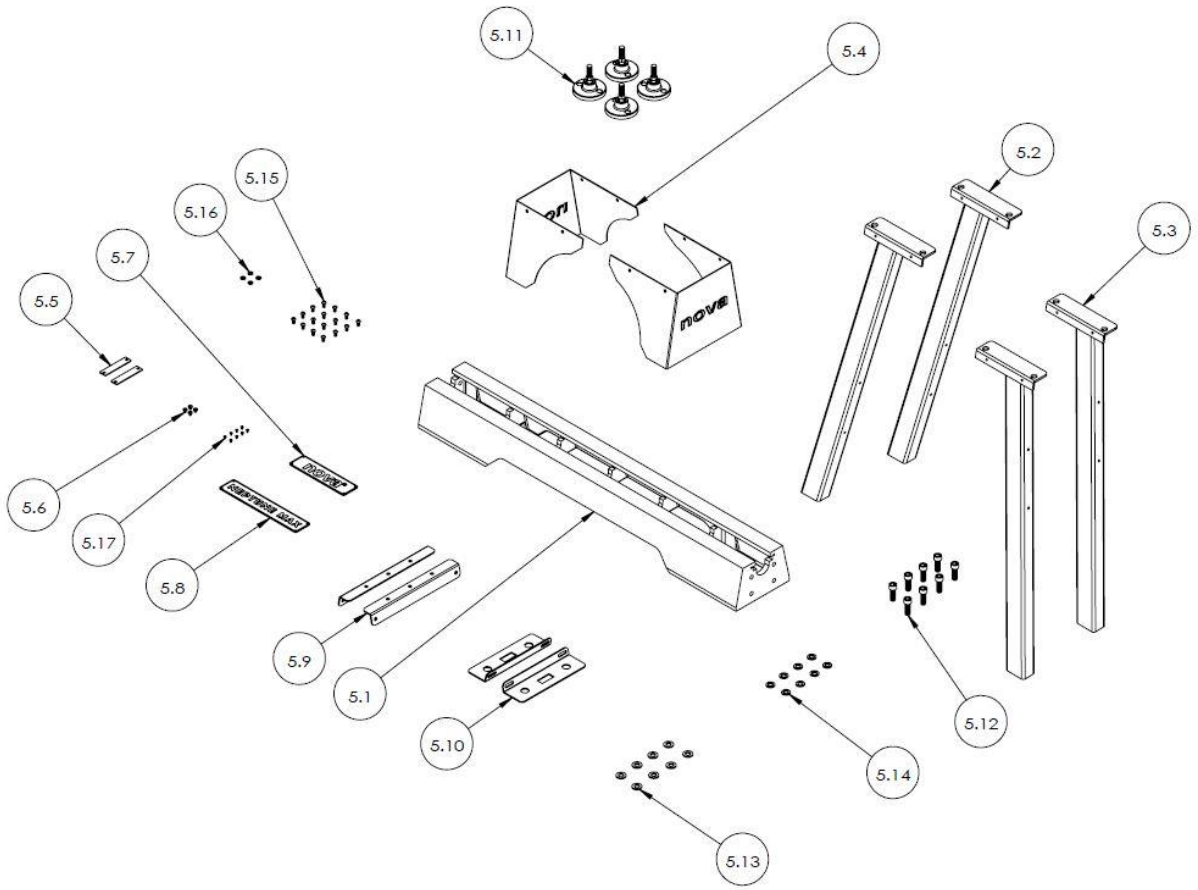
Neptune Bed Breakdown



ITEM NO.	DESCRIPTION	SKU	QTY.
4	**Main Bed Assembly**		**1**
4.1	Main Bed	5529123	1
4.2	Feet Assembly	5529145	4
4.3	End Stopper Plate	5569059	2

ITEM NO.	DESCRIPTION	SKU	QTY.
4.4	Stopper Plate Screws M5x6mm	MPB0506	4
4.5	“NOVA” Name Plate	5529182	1
4.6	“NEPTUNE” Name Plate	5529166	1
4.7	Name Plate Mounting Screws	MPB0305	8

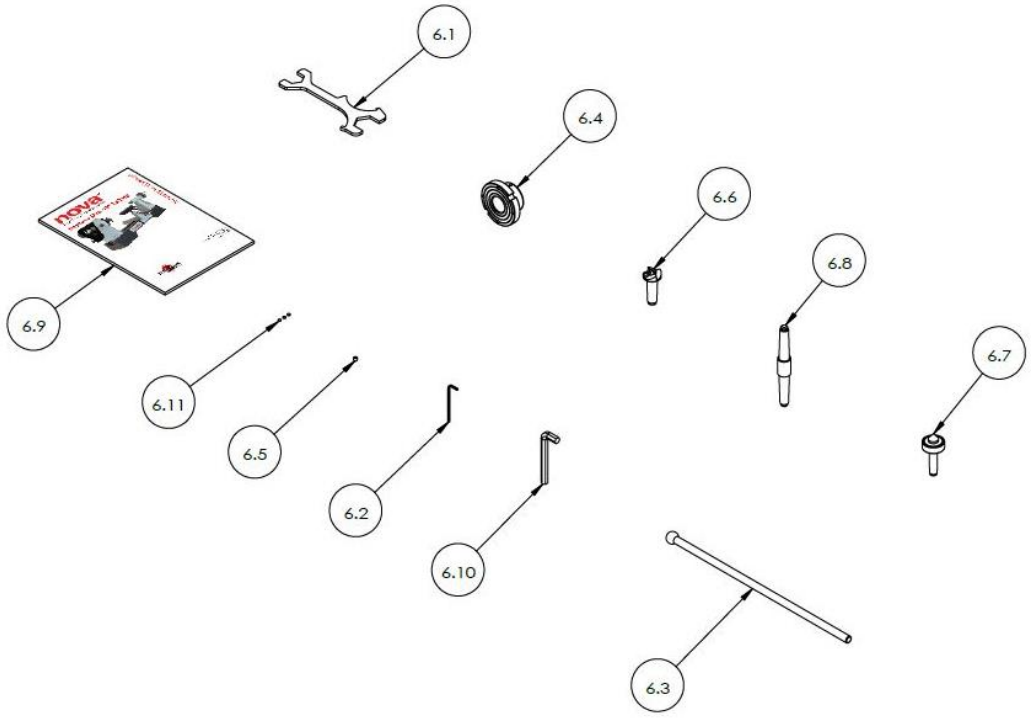
Neptune Max Bed & Stand Breakdown



ITEM NO.	DESCRIPTION	SKU	QTY.
5	**Neptune Max Bed & Stand Assembly**		**1**
5.1	Main Bed	5519091	1
5.2	Stand Legs Set A	5519015	2
5.3	Stand Legs Set B	5519020	2
5.4	Stand Cover	5519018	2
5.5	End Stopper Plate	5569059	2
5.6	Stopper Plate Screws M5x6mm	MPB0506	4
5.7	“NOVA” Name Plate	5529182	1
5.8	“NEPTUNE MAX” Name Plate	5519019	1

ITEM NO.	DESCRIPTION	SKU	QTY.
5.9	Stand Cross Plate	5519016	2
5.10	Stand Tool Tray	5519017	2
5.11	Foot Assembly	24161	4
5.12	Mounting Screws M12x35mm	C12035	8
5.13	Flat Washer M12	FW12	8
5.14	Spring Washer M12	SW12	8
5.15	Button Head Cap Screw M6x12mm	BHC06012	16
5.16	Flat Washer M6	FW06	4
5.17	Name Plate Mounting Screws M3x6mm	MPB0305	8

Accessories Breakdown



ITEM NO.	DESCRIPTION	SKU	QTY.
6	**Accessories Pack**		**1**
6.1	Universal Spanner	5568099	1
6.2	3mm Allen Key	AK3	1
6.3	Knock Out Bar	5529179	1
6.4	80mm Face Plate 1 ¼ 8tpi (EU) / (AU & NZ & US & CAN & UK)	5529171 / SFP80L	1
6.5	Set Screw M6x6mm	SZ0606	1

ITEM NO.	DESCRIPTION	SKU	QTY.
6.6	2MT Spur Centre	2MTSPUR	1
6.7	2MT Live Centre	2MTLC	1
6.8	Double Ended Morse Taper – Acruline Alignment Tool	2MTNA	1
6.9	Neptune Manual	-	1
6.10	10mm Allen Key (Neptune Max Model ONLY)	AK10	1
6.11	Soft Washer	NS1000	3

11. Optional Accessories

Emergency Stop
(SKU: 5529173)

Mounting Plate
(SKU: 5529168)

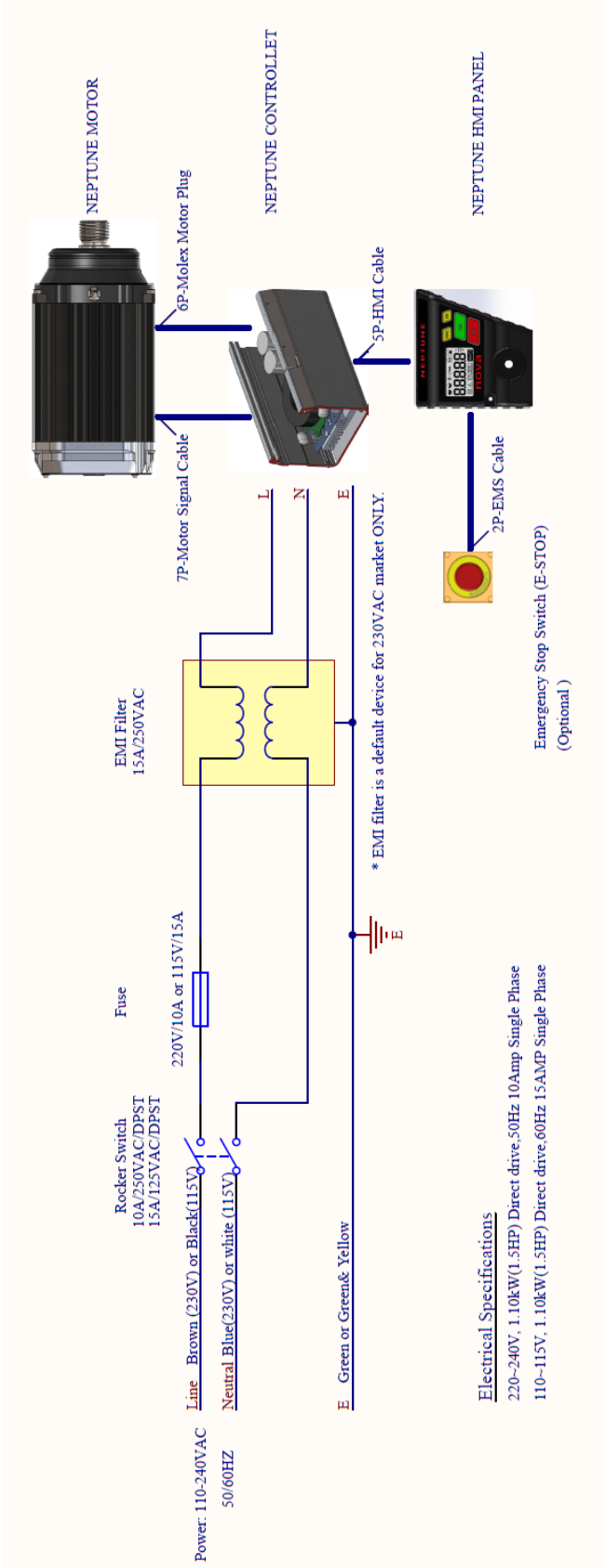
Bed Extension
(SKU: 5529125)

Outrigger
(SKU: 5519001)

Neptune Stand
(SKU: 5529169)

Neptune Max Stand
(SKU: 5529170)

12.NOVA DVR Wiring Diagram



CALIFORNIA RESIDENTS PROPOSITION 65

Attention California Residents

California's Proposition 65 entitles California consumers to special warnings for products that contain chemicals known to the state of California to cause cancer and birth defects or other reproductive harm if those products expose consumers to such chemicals above certain threshold levels. We care about our customers' safety and hope that the information below helps with your buying decisions. The general Proposition 65 notice is as follows:

- **WARNING:** Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Your risk from exposure to these chemicals varies, depending on how often you do this type of work. To reduce your exposure, work in a well-ventilated area and with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

- **WARNING:** This product can expose you to chemicals (Rust Prevention Oil) which are known to the State of California to cause cancer. Do not touch your eyes or face after unpacking until you have washed your hands. It is advised to wear disposable gloves while unpacking and while cleaning the product down for first use. Always unpack and clean in a well-ventilated area. Always wash your hands after unpacking the product for first use. Dispose of packaging bags thoughtfully. Read the Safety Data Sheet for this Rust Protectant Oil here: MSDS for rust protection

For more information go to www.P65Warnings.ca.gov

NOVA DVR 14.5" DVR Lathe Manual

Due to NOVA's continuous product improvement and development policy, specifications, features and images contained in this manual may change without notice. Teknatool is not responsible for omissions or errors herein, or for incidental damages in connection with the furnishing of this information.