



Affordable. Reliable. Home Improvement.

WOOD LATHE

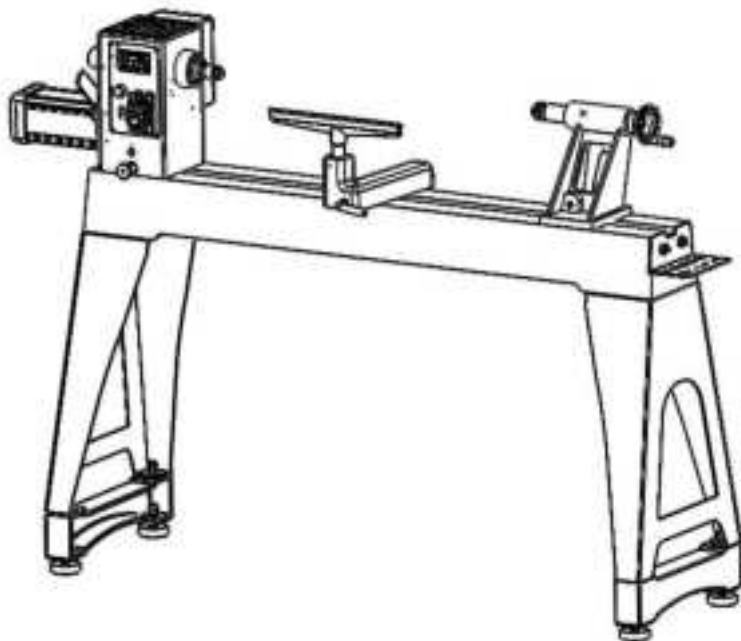
MODEL:WL1840

VEVOR

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This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

	Warning-To reduce the risk of injury, user must read instructions manual carefully.
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)This device may not cause harmful interference, and (2)this device must accept any interference received, including interference that may cause undesired operation.
	This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

MATTERS NEEDING ATTENTION

The information contained in this handbook is intended as a guide to the operation of these machines and does not form part of any contract. The data it contains has been obtained from the machine manufacturer and from other sources. We strive to ensure the accuracy of this information and try to verify each item and each data, but we cannot guarantee the full accuracy of the information, which means that the equipment supply may differ in detail from the description of the instructions. Furthermore, development of the machine may mean that the equipment supplied may differ in detail from the descriptions herein. The responsibility therefore lies with the user to satisfy himself that the equipment or process described is suitable for the purpose intended.

SAFETY INSTRUCTIONS FOR MACHINERY

WARNING: Read all safety warnings, instructions, illustrations and specifications provided with this machine. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

1. Owner's manual. Read and understand this owner's manual before using machine.
2. Trained operators only. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, dis- connect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make your workshop kid proof!
3. Dangerous environments. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.
4. Mental alertness required. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.
5. Electrical equipment injury risks. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.
6. Disconnect power first. Always disconnect machine from power supply before making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.
7. Eye protection. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are not approved safety glasses.
8. Wearing proper apparel. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.
9. Hazardous dust. Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. Always wear a niosh-approved respirator to reduce your risk.
10. Hearing protection. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

11. Remove adjusting tools. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!
12. Use correct tool for the job. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!
13. Awkward positions. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.
14. Children & bystanders. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.
15. Forcing machinery. Do not force machine. It will do the job safer and better at the rate for which it was designed.
16. Never stand on machine. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.
17. Stable machine. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.
18. Use recommended accessories. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.
19. Unattended operation. To reduce the risk of accidental injury, turn machine off and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.
20. Maintain with care. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.
21. Damaged parts. Regularly inspect machine for damaged, loose, or misadjusted parts—or any condition that could affect safe operation. Immediately repair/replace before operating machine. For your own safety, do not operate machine with damaged parts!

22. Maintain power cords. When disconnecting cord-connected machines from power, grab and pull the plug—not the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.
23. Experiencing difficulties. If at any time you experience difficulties performing the intended operation, stop using the machine!

Remaining risk factors

	W A R N I N G
	It is important to ensure that each machine has remaining risks. In the execution of all work (even the simplest) greatest attention is required. A safe working depends on you!

Even if the machine is used as required it is still impossible to eliminate certain residual risk factors totally. The following hazards may arise in connection with the machine's construction and design:

1. Keeping guards in place. Make sure all guards are in place and that the lathe sits on a flat, stable surface.
2. Eye/face protection. Airborne wood dust and debris can be hazardous to the eyes/face and may cause allergies or long-term respiratory health problems. Always wear eye protection or a face shield when operating the lathe.
3. Respiratory protection. Always wear a respirator when using this machine. Wood dust may cause allergies or long-term respiratory health problems.
4. Mounting workpiece. Before starting, be certain the workpiece has been properly embedded on the headstock and tailstock centers and that there is adequate clearance for the full rotation.
5. Adjusting tool rest. Adjust tool rest to provide proper support for the turning tool you will be using. Test tool rest clearance by rotating workpiece by hand before turning lathe *on*.
6. Turning speed. Select the correct turning speed for your work, and allow the lathe to gain full speed before using.
7. Using sharp chisels. Keep lathe chisels properly sharpened and held firmly in position when turning.

8. Operating damaged lathe. Never operate the lathe with damaged or worn parts.
9. Workpiece condition. Always inspect the condition of your workpiece. do not turn pieces with knots, splits, and other potentially dangerous conditions. Make sure joints of glued-up pieces have high quality bonds and won't fly apart during operation.
10. Adjustments/maintenance. Make sure your wood lathe is turned off, disconnected from its power source, and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.
11. Stopping lathe. Do not stop the lathe by using your hand against the workpiece. Allow the lathe to stop on its own.
12. Avoiding entanglement. Keep long hair and loose clothing articles such as sleeves, belts, and jewelry items away from the lathe spindle.
13. Faceplate turning. When faceplate turning, make sure the faceplate is securely attached to the workpiece and it is properly attached to the spindle. When faceplate turning, use lathe chisels on the downward spinning side of the workpiece only.
14. SANDING/POLISHING. Remove the tool rest when performing sanding or polishing operations on the rotating spindle.
15. Material Removal Rate. Attempting to remove too much material at once may cause workpiece to fly out of the lathe.
 - Kickback is a sudden reaction. This causes the ejection of the tool to the direction of the operator.
 - These risk factors can be minimized through obeying all security and operation instructions, proper machine maintenance, proficient and appropriate operation by persons with technical knowledge and experience.
 - No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.
 - The machine shall not be operated outdoors or in wet or damp areas.
 - The machine shall not be operated in areas exposed to increased fire or explosion hazard.

- The operation of the machine outside the stated technical limits described in this manual is forbidden.
- Operation of the machine function without emergency stop button or impeller box with open doors is prohibited.
- The use of the machine not according with the required dimensions is forbidden.
- The use of the machine not being suitable for the use of the machine and not being certified is forbidden.
- Any manipulation of the machine and parts is forbidden.
- The use of the machine for any purposes other than described in this user-manual is forbidden.
- The unattended operation on the machine during the working process is forbidden!
- It is not allowed to leave the immediate work area during the work is being performed.

MACHINE DESCRIPTION

1. The Wood Lathe is designed to turn wood stock so the operator can remove material with a chisel.
2. The variable speed control allows for spindle speed adjustment from 0–3200 RPM and the digital readout provides a precise reading of the current spindle speed.
3. The headstock can be positioned anywhere along the bed for increased flexibility in workpiece setup.
4. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.
5. This manual is not intended to be an exhaustive guide to lathe operational methods, use of after-market accessories, choice of stock, and such. Additional knowledge may be obtained from experienced users or trade articles. Whatever accepted methods are used, always make personal safety a priority.
6. Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

TECHNICAL PARAMETER

Model	WL1840	
Voltage	220 V / 50 Hz	220 V / 60 Hz
Motor Power	2HP/1500W	
Motor Speed	0-3200 RPM	
Spindle Speed	0-3200RPM $\pm 10\%$	
Max. Turning Diameter	18"(457 mm)	
Spindle Taper	MT2	
Spindle Thread	1"-8	
Distance Between Center	40"(1020 mm)	
Tailstock Spindle Travel	100 mm	
Taper in Tailstock Spindle	MT2	

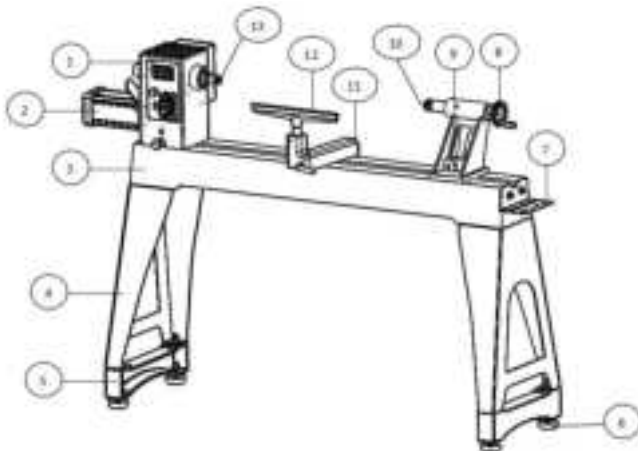
The general information given in this specification is not binding.

SETUP AND ASSEMBLY

The Lathe must be disconnected from power during assembly.

5.1 Delivery contents

Please check the product contents immediately after receipt for any eventual transport damage or missing parts. Claims from transport damage or missing parts must be placed immediately after initial machine receipt and unpacking before putting the machine into operation. Please understand that later claims cannot be accepted anymore.



NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
1	Head stock	1	8	Hand wheel	1
2	Motor	1	9	Tail stock	1
3	Machine Bed	1	10	Living center (Accessory)	1
4	Leg (Accessories)	2	11	Tool holder	1
5	Auxiliary ground foot (Accessories)	2	12	Tool rest (Accessory)	1
6	Adjust the ground foot(Accessories)	4	13	Headstock spur center	1
7	Tool holder (Accessory)	1			

Standard accessories



NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
1	Screw M10×25	2	8	Face plate	1
2	Screw M10×25	8	9	Tool rest	1
3	Flat washer 10	8	10	Tool holder	1
4	Spring washer 10	8	11	Rod injection	1
5	Headstock spur center	1	12	Wrench	1
6	Living center	1	13	Allen Wrench S3、S8	2
7	Running centre	1	14	Leg assemblies	2

5.2 Tools required for assembly

Hex keys, 6mm, 8mm

Open end wrench, 14mm

5.3 Unpacking and cleanup

1. Remove the woodworking lathe from the box
2. Check all the accessories of the machine tool according to the packing list.
3. Choose a location for the lathe that is dry, has good lighting and has enough room to be able to service the lathe on all four sides.
4. To avoid twisting the bed, the lathe's location must be absolutely flat and level. Bolt the lathe to the stand (if used).
5. Clean all rust protected surfaces using a mild commercial solvent, kerosene or diesel fuel. Do not use paint thinner, gasoline or lacquer thinner. These will damage painted surfaces. Cover all cleaned surfaces with a light film of 20W machine oil.

5.4 Preparatory activities

1. Workplace requirements

- The workplace has to fulfill the requirements.
- The ground has to be even, in level and hard. It must be suitable at least to weight it with double weight per square meter than the machines net weight.
- The chosen workplace must have access to a suitable electric supply net that complies with the machines requirements.

2. Transport

- The machine can be transported in package with a forklift.
- The machine is very heavy. The machine shall be lifted from crate with a suitable lifting device only that is certified to be able to carry the machines load.
- Note that lifting equipment used (crane, forklift, sling, etc.) must be in perfect condition.
- To maneuver the machine in the packaging can also a pallet jack or a forklift be used.

3. Preparation of the surface

- Uncoated metal machine parts have been insulated with a greasy layer to inhibit corrosion.

- This layer has to be removed. You can use standard solvents that do not damage the machine surface.

5.5 Assembly

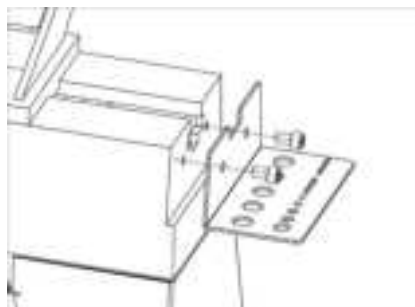
Installing leg set: Lathe is heavy – use caution during leg installment procedures. Use straps in good condition. Straps/lifting mechanisms must be properly rated for lathe weight.

- Attach the legs with eight Screw M10×25(2), spring washers 10 (4) and flat washers 10 (3) to the lathe beg.



Tool shelf:

- Attach the tool shelf with two Hexagon socket button head screws M10×25 to the lathe beg.



POWER SUPPLY

The connection of the machine to the electric power supply and the following checks have to be carried out by a respectively trained electrician only.

- The electronic connection of the machine is designated for operation with a grounded power socket!
- The mains supply must be secured with 16A:
- If the connector plug doesn't fit or if it is defective, only qualified electricians may modify or renew it!
- The grounding wire should be held in green-yellow.
- A damaged cable has to be exchanged immediately!
- Check, whether the feeding voltage and the Hz comply to the required values of the machine. A deviation of feeding voltage of $\pm 5\%$ is allowed.
- After connecting, check the right running direction!

- Make sure that a possible extension cord is in good condition and suitable for the transmission of power. An undersized cord reduces the transmission of power and heats up.

6.1 Grounding instructions

- This tool must be grounded. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the tool – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.
- The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal. Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.
- Repair or replace damaged or worn cord immediately.

6.2 Extension cords

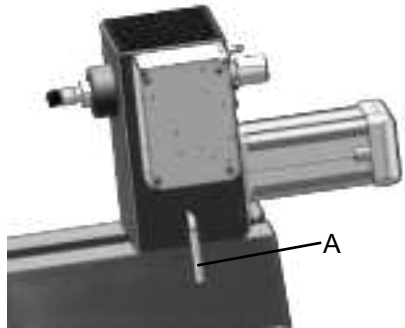
The use of extension cords is discouraged; try to position equipment within reach of the power source. If an extension cord becomes necessary, be sure it is heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

ADJUSTMENTS

Headstock movement

Loosen locking handle on headstock (A) .
Headstock will slide freely along length of bed.

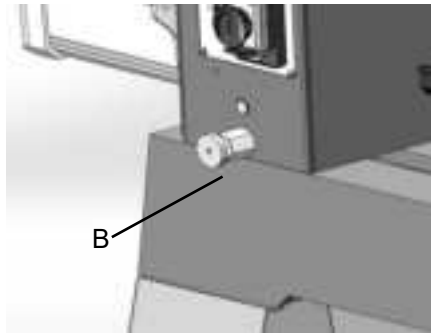
Always lock headstock in position before operating lathe.



To swivel the headstock

- Loosen the headstock lock handle (B)
- Pull the swivel pin out and rotate the headstock to the desired position
- To lock the headstock in place, release the swivel pin and make sure that it engages the headstock.
- Re-tighten the headstock lock handle.

Note: The swivel pin can lock the headstock at 45°, 90°, 135°, 180°, 270°, and 360°.

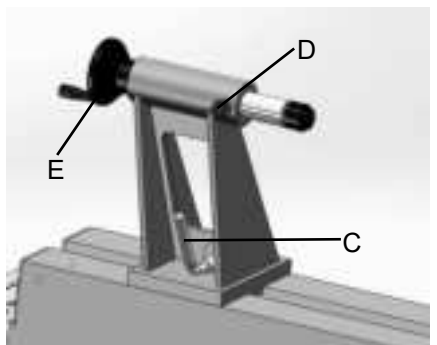


Tailstock movement

To slide tailstock, push locking handle (C) down toward bed. Push handle up to lock tailstock in position.

To move quill, loosen handle (D) and rotate handwheel (E).

Make sure tailstock is locked to bed (C) and quill is tightened (D) before turning a spindle on the lathe

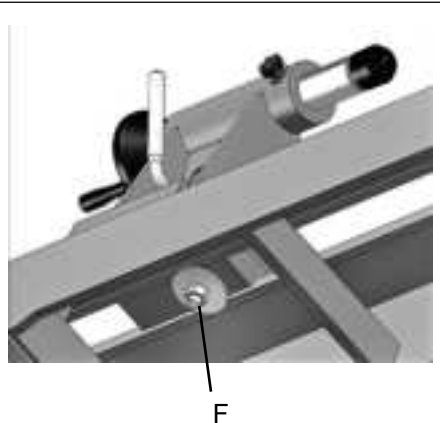


Cam tightness

The clamping mechanisms of headstock, tailstock and tool rest base are pre-set by the manufacturer, and should not require adjustment.

If one of them does not tighten properly against the bed when the locking handle is tightened, adjust it as follows.

Tighten lock nut (F) to increase cam pressure, or loosen the nut to relieve cam pressure.

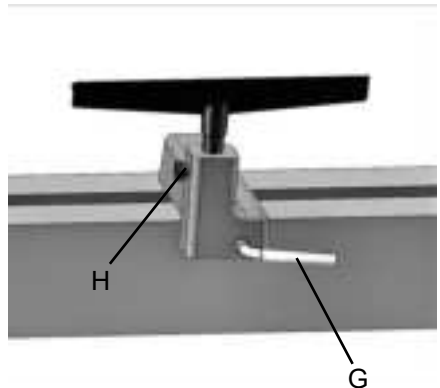


7.5 Tool rest

The tool rest is provided with your lathe. It is designed to allow adjustment for height, position on the bed, and angle to the work.

Loosen locking handle on tool rest base (G) to slide base forward or back, and to angle it to the bed. Tighten locking handle firmly before operating lathe.

Loosen handle (H) to raise or lower tool rest and angle it to the work. Tighten handle before operating lathe.

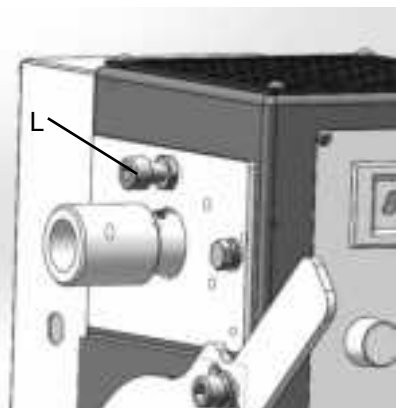


Spindle indexing

Indexing is used to create evenly spaced features in a workpiece, while keeping the lathe spindle locked;

The lathe provides 36 indexing positions at 10-degree increments.

1. Loosen the nut of the index pin (L). Rotate index pin (L) to the end.
2. Rotate spindle using handwheel until index pin (L) aligns with desired hole.
3. Screw index pin into hole until it engages spindle.



4. Perform desired procedure.
5. Unscrew index pin until spindle is released.
Rotate spindle to next desired hole, and repeat.
6. Unscrew index pin. Tighten the nut of the index pin (L).

Spur center: Installing/removing

The spur center (K) is installed into the headstock spindle. The center should first be mounted to your workpiece, and then installed into the spindle.

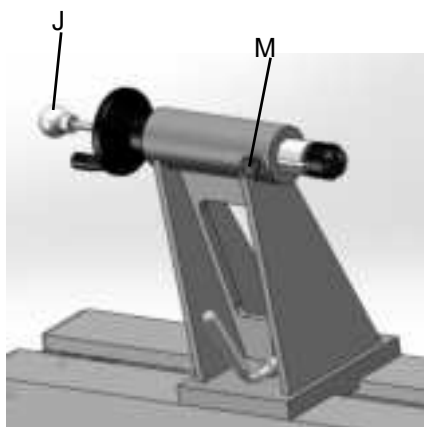
1. Disconnect lathe from power source.
2. Clean tapered end of center, and inside of headstock spindle, then push center into headstock spindle.
3. To remove a center, first remove workpiece from lathe. Insert knockout rod (J) through hole in handwheel and tap the end of spur center.



Live center: Installing/removing

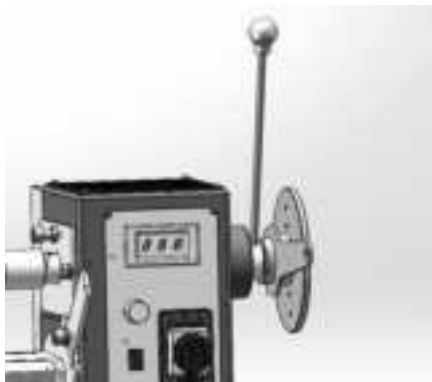
Live centers are installed into the tailstock quill.

1. Disconnect lathe from power source.
2. Clean tapered end of center and inside of tailstock quill, then push center into quill.
3. Always tighten quill locking handle (M), once the live center has been properly positioned in workpiece. Make sure keyway in quill is aligned with locking handle.
4. To remove a live center, first remove workpiece from lathe. Insert knockout rod (J) through hole in handwheel and tap the end of live center.



Face plate: Installing/removing

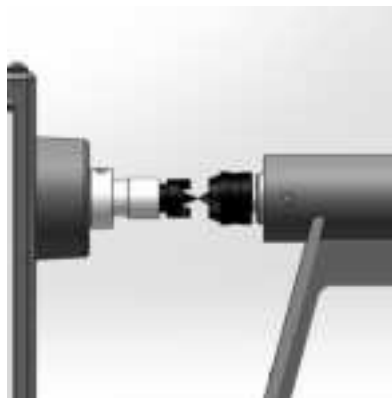
1. Disconnect lathe from power source.
2. Mount face plate to your workpiece.
3. Install knockout rod onto the hole of the headstock spindle.
4. Install face plate onto threads of headstock spindle and rotate clockwise as far as it will go.
5. Tighten both set screws in face plate. Face plate is now ready for turning.
6. To remove face plate, engage knockout rod. Loosen both set screws in face plate, and turn face plate counterclockwise with face plate wrench to loosen.



Checking center alignment

When headstock is returned from outboard position, the alignment between centers should be checked.

1. Lock headstock in normal spindle turning position.
2. Slide tailstock toward headstock until enters almost touch . Lock tailstock in position.
3. View the center points from top and side to make sure they align.
4. If centers do not align, unlock headstock and pivot it slightly. There should be enough “play” in headstock to adjust for this alignment. Lock headstock when finished.

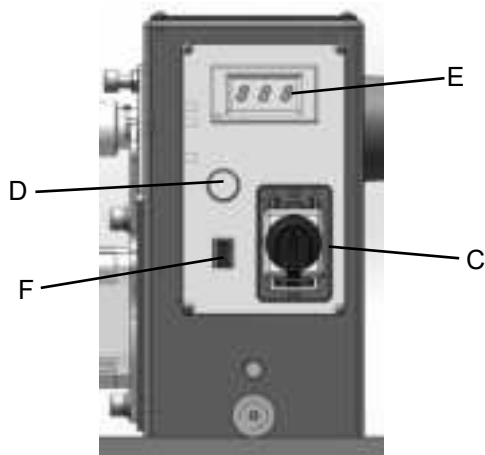


OPERATING CONTROLS

Speed control knob (D): Clockwise to increase, counterclockwise to decrease. Speed is displayed as RPM (revolutions per minute) on digital readout (E).

Forward/Reverse (F): Control the steering of the spindle.

On/off switch (C): Press green start button to start . Press red stop button to stop.



OPERATION

The information which follows is general in nature and not intended to be a complete course in woodturning. Nothing can replace the knowledge gained by talking with experienced woodturners or consulting books or trade magazines. Above all, simple trial and error will aid in developing proficiency in the craft.

9.1 Inspection

Device to be operated in a perfect state only. Inspect the device visually every time it is to be used. Check in particular the safety equipment, electrical controls, electric cables and screwed connection for damage and if tightened properly. Replace any damaged parts before operating the device.

- Level your machine; use the leveling feet to help reduce vibration.
- Check bearings; adjust only if endplay exists.
- Check belt; it should be snug but not overly tight.
- Bed ways; keep clean, use steel wool to remove any rust spots, and apply paste wax to prevent buildup of rust and finishes.
- Tool rest; use a mill file to remove nicks and dings.
- Spindle tapers; should be clean and free of dust and chips for proper seating of tapers.
- Tailstock; clean and lubricate quill and locking device.
- Lighting; proper lighting is essential to eliminate shadows and reduce eye strain

9.2 Turning Tools

If possible, select only good-quality, high-speed steel turning tools. High-speed steel tools hold an edge and last longer than ordinary carbon steel. As one becomes proficient in turning, a variety of specialty tools for specific applications can be acquired. The following tools provide the basics for most woodturning projects.

Gouges—Mainly used for rough cutting, detail cutting, and cove profiles. The rough gouge is a hollow, double-ground tool with a round nose, and the detail gouge is a hollow, double-ground tool with either a round or pointed nose.	
Skew Chisel—A very versatile tool that can be used for planing, squaring, V-cutting, beading, and parting off. The skew chisel is flat, double-ground with one side higher than the other (usually at an angle of 20°–40°).	
Scrapers—Typically used where access for other tools is limited, such as hollowing operations. This is a flat, double-ground tool that comes in a variety of profiles (round nose, spear point, square nose, etc.) to match many different contours.	
Parting Tools—Used for sizing and cutting off work. This is a flat tool with a sharp pointed nose that may be single- or double ground.	
Specialty Tools—These are the unique, special function tools to aid in hollowing, bowl making, cutting profiles, etc.	

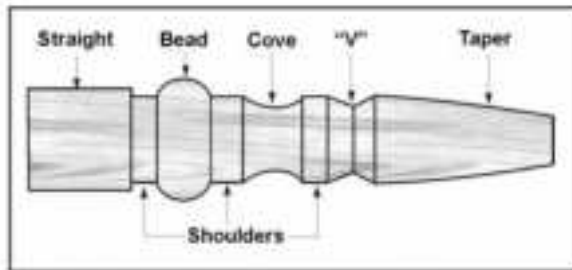
- For safety and best performance, keep tools sharp. If a tool stops cutting or requires excessive pressure to make a cut, it needs to be sharpened. A number of brand name sharpening jigs and fixtures are available; however, a woodturner

should learn to sharpen tools freehand.

- For best results, use a slow speed grinder (1800 rpm) fitted with a 60-grit aluminum oxide wheel (for shaping) and a 100-grit alum. oxide wheel (for final sharpening and touchup). The grinder should be located near your lathe and at a comfortable height. A diamond dresser will keep the wheels true and eliminate glazing.
- Never allow the tool to rest in one place on the wheel, keep it moving and use a light touch.
- Carbon steel tools can overheat easily and should be cooled frequently. If the edge turns blue, it has lost its temper and should be ground past the blue area. High-speed steel tools are not as likely to overheat, but can be damaged if allowed to get red hot. High-speed steel tools should not be quenched for cooling. Honing with a diamond lap or slipstone will save trips to the grinder and keep the edge fresh quenched for cooling. Honing with a diamond lap or slipstone will save trips to the grinder and keep the edge fresh.

9.3 Spindle Turning

Spindle turning takes place between the centers of the lathe. It requires a spur or drive center in the headstock and a live or dead center in the tailstock. A cup center rather than a cone center in the tailstock will often reduce the risk of splitting the stock.



9.4 Stock Selection

Stock for spindles should be straight grained and free of checks, cracks, knots and other defects. It should be cut 1/8" to 1/4" larger than the finished diameter and may require additional length so the ends can be removed later. Larger stock should have the corners removed to produce an octagon making the piece easier to rough down to a cylinder.

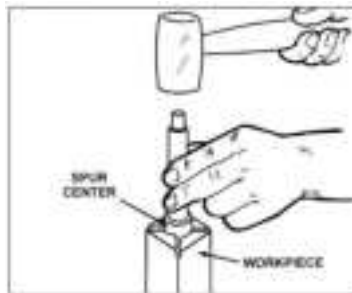
1. With a combination square, or plastic center finder for round stock, locate and mark center on each end of the workpiece. Accuracy is not critical on full rounds

but extremely important on stock where square sections are to remain. Put a dimple in the stock with an awl or nail, or use a spring-loaded automatic center punch.

2. Extremely hard woods may require kerfs cut into the ends of the stock using a band saw, so the wood will accept the spur center and the live center

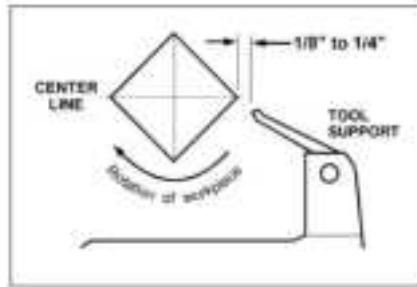


3. Drive the spur center about 1/4" into the workpiece, using a wood mallet or dead blow hammer. Be careful that you do not split the workpiece.



4. Make sure headstock is locked to lathe bed.
5. Clean tapered end of spur center and inside of headstock spindle.
6. Insert tapered end of spur center (with the attached workpiece) into headstock spindle.
7. Support the workpiece while bringing the tailstock into position about 1-inch away from end of workpiece. Lock tailstock to bed.
8. Advance tailstock quill with the handwheel in order to seat the live center into the workpiece. Use enough pressure to secure the workpiece between the centers so that it won't fly off, but do not use excessive pressure.
9. Tighten quill locking handle.

10. Move tool rest into position. It should be parallel to workpiece, just below the centerline and approximately 1/8" to 1/4" from the corners of the workpiece to be turned. Tighten tool rest base to Lathe bed.

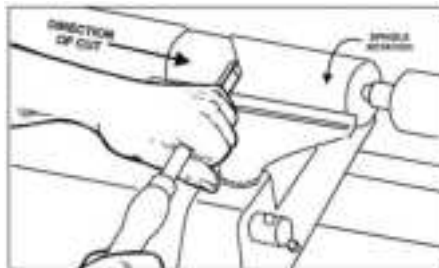


11. Rotate workpiece by hand to check for proper clearance.
12. Start lathe at lowest speed and bring it up to the appropriate RPM for the size of workpiece used. Consult digital readout on the headstock.

9.5 Cutting Techniques

9.5.1 Roughing Out

1. Begin with a large roughing gouge. Place the tool on the tool rest with the heel of the tool on the surface to be cut.
2. Slowly and gently raise tool handle until cutting edge comes into contact with the workpiece.
3. Beginning about 2" from the tailstock end of the workpiece, roll the flute (hollowed-out portion) of the tool in the direction of the cut. Make long sweeping cuts in a continuous motion to rough the piece down to a cylinder.



4. Keep as much of the bevel of the tool as possible in contact with the workpiece to ensure control and avoid catches. NOTE: Always cut down-hill, or from large diameter to small diameter. Always work toward the end of a work-piece, never start cutting at the end.

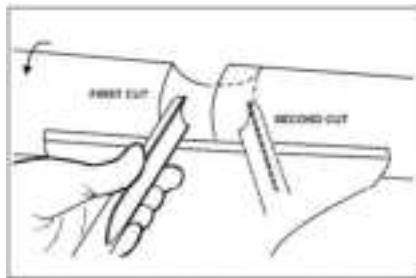
5. Once the workpiece is roughed down to a cylinder, smooth it with a large skew. Keep the skew handle perpendicular to the spindle and use only the center third of the cutting edge for a long smoothing cut (touching one of the points of the skew to the spinning workpiece may cause a catch and ruin the workpiece).
6. Add details to the workpiece with skew, parting tool, scraper or spindle gouge.

9.5.2 Beads

1. Make a parting cut for what is to be a bead to the desired depth. Place the parting tool on the tool support and move tool forward to make the full bevel of the tool come into contact with the workpiece. Gently raise handle to make cut to the appropriate depth.
2. Repeat for other side of the bead.
3. Using a small skew or spindle gouge, start in the center between the two cuts and cut down each side to form the bead. Roll the tool in direction of cut.

9.5.3 Coves

1. Use a spindle gouge. With the flute of the tool at 90 degrees to the workpiece, touch the point of the tool to the workpiece and roll in towards the bottom of the cove. Stop at the bottom; attempting to go up the opposite side may cause the tool to catch.

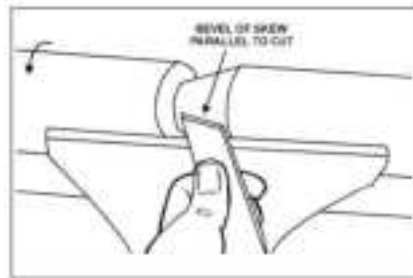


2. Move the tool over the desired width of the cove.
3. With the flute facing the opposite direction, repeat step 1 for other side of cove. Stop at bottom of cut.

9.5.4 "V" Cuts

1. Use the long point of the skew. (NOTE: Do not press the long point of the skew directly into the workpiece to create the "V"; this will result in a burned or burnished "V" with fibers being rolled up at both sides.)
2. Lightly mark the center of the "V" with the tip of the skew.
3. Move the point of the skew to the right half of the desired width of your cut.

4. With the bevel parallel to the right side of the cut, raise the handle and push the tool in to the desired depth.



5. Repeat from the left side. The two cuts should meet at the bottom and leave a clean "V" cut.
6. Additional cuts may be taken to add to either the depth or width of the cut.

9.5.5 Parting Off

1. Use parting tool.
2. Adjust lathe speed to lower RPM for parting through a workpiece.
3. Place tool on tool support and raise the handle until it starts to cut and continue to cut toward center of workpiece.
4. Loosely hold on to the piece in one hand as it separates from the waste wood.

9.5.6 Sanding and Finishing

1. Leaving clean cuts will reduce the amount of sanding required. Move the tool support out of the way, adjust the lathe to a **low speed**, and begin with fine sandpaper (120 grit or finer). Coarser sandpaper will leave deep scratches that are difficult to remove, and dull crisp details on the spindle. Progress through each grit without skipping grits (for example, do not jump from 120 grit to 220 grit). Fold the sandpaper into a pad; do not wrap sandpaper around your fingers or the workpiece. To apply a finish, the workpiece can be left on the lathe.
2. Turn off lathe and use a brush or paper towel to apply the finish. Remove excess finish before restarting lathe. Allow to dry and sand again with 320 or 400 grit sandpaper. Apply second coat of finish and buff.

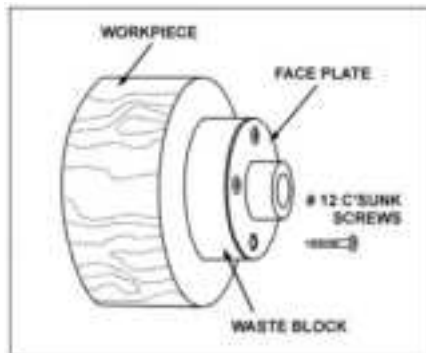
9.6 Face Plate and Bowl Turning

Face plate turning is normally done on the inboard side of the headstock over the bed. Larger workpieces must be turned on the outboard side. Rotate headstock to desired position; or remove tailstock and tool support base, and slide headstock to opposite end of bed.

9.6.1 Mounting Stock

Use of a face plate is the most common method for holding a block of wood for turning bowls and plates:

1. Select stock at least 1/8" to 1/4" larger than each dimension on the finished workpiece.
2. Always select the largest diameter face plate that can be used for the workpiece to be turned.
3. True one surface of the workpiece for mounting against the face plate.
4. Using the face plate as a template, mark the location of the mounting holes on the workpiece, and drill pilot holes of the appropriate size. Face plates are drilled for No. 12 screws. (Phillips and square drive screws will hold up better than slotted screws. Steel metal screws are case hardened with deeper and sharper threads than wood screws.) If the mounting screws on the face plate interfere with the workpiece, a glue or waste block can be used:
5. Make a block the same diameter as the face plate. Both waste block and workpiece should have flat surfaces for gluing.



6. Glue the block to the workpiece. Avoid using brown paper or newspaper between the waste block and workpiece. It may work fine if you are using scrapers, but a slight catch with a bowl gouge can separate the two.

NOTE: When using a waste block, be careful with the adhesive you select. Dry workpieces can be bonded with ordinary white or yellow glue but must be clamped to ensure a good bond. Green workpieces require cyanoacrylate type glue.

9.6.2 Faceplate or Chuck

- While faceplates are the simplest, most reliable method of holding a block of wood for turning, chucks can also be used.

- As there are dozens of chucks to choose from, the woodturner should first consider all the different types of turning that will be done, and read reports or discuss with other turners who own chucks before making a decision.
- A chuck is not a requirement, but is handy when working on more than one piece at a time. Rather than removing screws, you simply open the chuck and change workpieces.
- The most popular ones are four jaw scroll chucks with a variety of jaws to accommodate different size tenons. Most also come with a screw chuck as well.

9.6.3 Wood Selection

Firewood is the cheapest, most widely available stock to use while learning to turn bowls. Simply waste wood for a while practicing turning techniques. Develop skill with each tool before attempting to make a finished piece. It is best to start with dry wood, without worrying about drying or distortion. Once turning becomes comfortable, try green wood which cuts very easily. As the turner gains experience, he or she will find extraordinary grain and figure in the form of burls, crotches and bark inclusions.

9.6.4 Checks and Cracks

- Green wood will check and crack. For best results, leave logs in as long a length as you can handle. As the material starts to dry, surface cracks will develop on the ends of the log. Cut off two to three inches and you should find good, sound wood. Also cut the log in half along the pith to avoid having it in the finished piece. Most checks radiate from the pith.
- As you turn bowls from green wood, make sure you maintain a consistent wall thickness throughout the piece. Leaving a piece thick in some areas and thin in others will cause the wood to dry unevenly and promote checks and cracks.

9.6.5 Distortion

Distortion is a problem associated with turning green wood. It will vary from one type of wood to the next. Typically, fruitwoods tend to distort more than others. It also varies with the time of year the tree was cut and how the logs are stored.

9.6.6 Tools for Bowl Turning

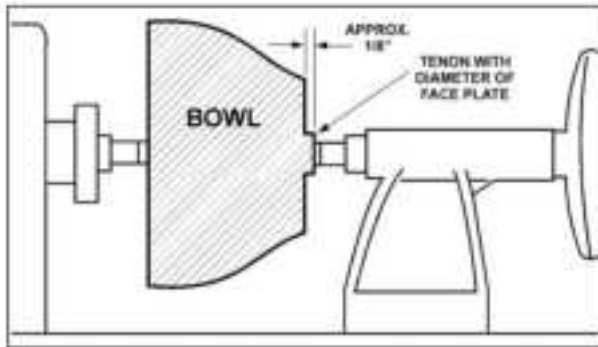
- The deep fluted bowl gouge is the most essential and versatile tool for most bowl and plate turning. The bowl gouge is heavier and easier to control than other types of gouges. It also allows removal of wood much faster and with less vibration than other gouges. Most average sized bowl work can be accomplished with a 3/8" or 1/2" bowl gouge.

- A 1/4" bowl gouge is best suited for smaller bowls and light finishing cuts. Larger 3/4" and 1" bowl gouges are only used for extremely large pieces.
- Large domed scrapers can also be used to help clean up the interior surfaces of bowls. A light touch with the scraper slightly tilted will eliminate some of the ridges occasionally left by an inexperienced bowl gouge.

9.7 Bowl Turning Techniques

9.7.1 To Shape Outside of Bowl

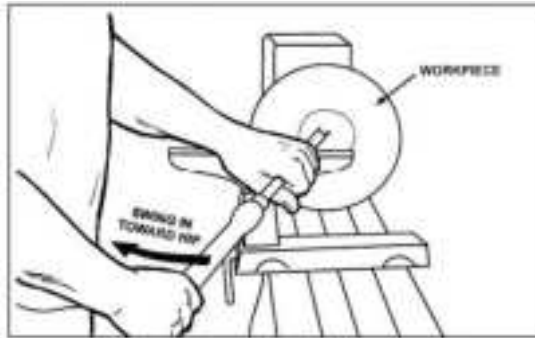
1. Odd shaped burls, crotches and other irregular shaped blanks require special preparation before mounting in a chuck or onto a faceplate. Remove the bark, if there is any, from what appears to be the center of the top of the workpiece.
2. Drive spur center into the top of the workpiece with a mallet or dead blow hammer.
3. Slip the spur center into the headstock taper and bring the tailstock with a live or ball bearing center into position. Lock the tailstock to the bed and advance the tailstock spindle in order to seat the cup center into the workpiece. Tighten the ram locking handle.
4. Turn workpiece by hand to ensure proper clearance.
5. Start lathe at lowest speed and bring it up to the maximum safe speed for the size of work to be turned. If the machine starts to vibrate, lower the speed until vibration stops.
6. Rough out the outside of the bowl with the 1/2" deep fluted bowl gouge, holding the handle of the tool firmly against your hip. For best control, use your whole body to move the gouge through the workpiece.
7. As the bowl takes shape, work on the bottom (tailstock end) to accommodate attaching a face plate.
8. Turn a short tenon (about 1/8" long) the size of the hole in the faceplate. This will allow centering the workpiece when the faceplate is attached. (NOTE: If you plan to use a chuck, turn a tenon of the appropriate length and diameter to fit your chuck.)



9. Stop the lathe, remove workpiece and attach face plate or chuck. **The surfaces of faceplate and workpiece should mount flush to each other.**
10. Finish turning the outside of bowl with 1/2" or 3/8" bowl gouge. Leave additional material at base of bowl for support while turning interior. This will be removed later.

9.7.2 To Shape Interior of Bowl

1. Stop lathe and move tailstock away. (You may want to remove the center from the tailstock to avoid bumping it with your elbow.)
2. Adjust tool support in front of the bowl just below centerline, at a right angle to the lathe ways.
3. Rotate workpiece by hand to check clearance.
4. Face off top of bowl by making a light shearing cut across the top of workpiece, from rim to center.
5. Place 1/2" bowl gouge on tool support at center of the workpiece with the flute facing top of bowl. The tool handle should be level and pointed toward the four o'clock position.
6. Use the left hand to control cutting edge of gouge, while right hand swings tool handle toward your body. The flute should start out facing top of workpiece, and rotate upward as it moves deeper into the bowl to maintain a clean even curve. As the tool goes deeper into the bowl, progressively work out toward the rim. It may be necessary to turn the tool support into the piece as you get deeper into the bowl.



7. Develop wall thickness at the rim and maintain it as you work deeper into the bowl (Once the piece is thin toward the bottom, you cannot make it thinner at the rim). When the interior is finished, move the tool support to exterior to re-define bottom of bowl. (General rule of thumb: the base should be approximately 1/3 the overall diameter of the bowl).
8. Work the tight area around faceplate or chuck with 1/4" bowl gouge.
9. Begin the separation with a parting tool, but do not cut all the way through yet.

9.7.3 Sanding and Finishing

1. Remove the tool support and adjust lathe speed to approximately 500 RPM. Higher speeds can build friction while sanding and cause heat check in some woods.
2. Begin with fine sandpaper (120 grit) and progress through each grit, using only light pressure. Coarser sandpaper tends to leave deep scratches that are hard to eliminate. Use power-sanding techniques to avoid concentric sanding marks around your finished piece. Avoid rounding over the rim and foot with sandpaper; try to keep details crisp. Finish sanding with 220 grit.
3. Remove sanding dust with tack rags or compressed air and, with lathe turned off, apply first coat of finish. Let stand for several minutes, wipe off excess. Allow to dry before sanding again with 320 or 400 grit sandpaper.
4. Turn lathe back on and continue the separation cut almost all the way through the base. Stop at about 3" and use a small fine tooth saw to separate the bowl from the waste.
5. Apply second finish coat and allow to dry before buffing.

MAINTENANCE

Before doing maintenance on the lathe, disconnect it from the electrical supply by pulling out the plug or switching off the main switch. Failure to comply may cause serious injury.

10.1 General procedures

- Maintenance on the 1840 lathe should be performed at periodic intervals to ensure that the machine is in proper working order, that all fasteners are tight, and all necessary adjustments have been made. Inspection and maintenance should be performed at least twice a year, but more frequently if the lathe receives constant use.
- Clean and oil the lathe bed so that headstock, tailstock and tool rest base will slide easily. Clean any rust spots that may develop on the bed with a commercial rust remover.
- Use compressed air to blow out the interior of the headstock, in order to keep sawdust and chips from accumulating on belts and sheaves. Also blow off debris that accumulates in the motor fan and around inverter.
- Frequently clean out the morse tapers on both headstock and tailstock. Commercially available taper cleaners may be acquired from tool stores.
- Bearings are permanently lubricated and sealed, and do not require further lubrication.

10.2 Pulley and belt alignment

- The motor and spindle pulleys are aligned with each other by the manufacturer, but if any service is performed that affects their alignment it is very important that they be realigned. Engage spindle lock, loosen two set screws on spindle pulley with 3mm hex key, and slide spindle pulley into proper position. Retighten set screws, and disengage spindle lock.
- When pulleys and belt are properly aligned, there should be no unusual pulsing sounds or noise coming from the belt.

10.3 Belt replacement

To change out a belt , carefully proceed as follows. If you are uncertain about attempting a belt change-out, contact technical service or take the headstock to an authorized service center.

1. Disconnect lathe from power source.
2. Loosen pivot lock handle and lift up tension handle to raise motor.
3. Tighten pivot lock handle to secure motor in raised position.
4. Loosen two set screws on handwheel.
5. Unscrew handwheel from spindle.
6. Slip belt off pulleys. Install new belt to pulleys.
7. Reinstall handwheel and tighten set screws.
8. Loosen pivot lock handle and lower motor using tension handle . Re-tighten pivot lock handle.

TROUBLESHOOTING LATHE

Symptom	Possible Cause	Correction
Motor fails to develop full power	Power line overloaded.	Correct overload condition.
	Undersized wires in supply system, or extension cord is too long	Increase supply wire size
	Low voltage	Request voltage check from power company and correct low voltage condition
	Worn motor	Replace motor
Motor or spindle stalls or will not start.	Excessive cut.	Reduce depth of cut
	Worn or broken belt.	Replace belt.
	Improper cooling of motor	Blow out sawdust from motor housing fan
	Worn spindle bearings	Replace bearings
	Worn motor	Replace motor
Excessive vibration or noises	Workpiece warped, out of round, has major flaw, was improperly prepared for turning	Correct problem by planing or sawing workpiece, or discard entirely and use new workpiece
	Spindle rotation too fast	Reduce speed
	Worn spindle bearings	Replace spindle bearings
	Drive belt misaligned or worn	Align belt. Replace if worn
	Motor mount bolts are loose.	Tighten bolts
	Lathe on uneven surface	Adjust leveling feet.

Tools tend to grab or dig in.	Dull tools	Keep tools sharp
	Tool rest set too low	Reposition tool rest height
	Tool rest set too far from workpiece	Reposition tool rest closer to workpiece.
	Improper tool being used.	Use correct tool for operation.
Headstock moves when applying pressure with Tailstock	Locking handle not tight	Tighten handle
	Excessive pressure being applied by tailstock.	Slide headstock to left end, lock firmly, then apply pressure to workpiece with tailstock. Apply only sufficient force with tailstock to hold workpiece securely in place
Tailstock moves when applying pressure.	Cam lock nut needs adjusting	Tighten cam lock nut
	Excessive pressure being applied by tailstock. (Note: The screw action of the tailstock is capable of applying excessive pressure to workpiece and headstock. Apply only sufficient force by tailstock to hold workpiece securely in place. Excessive pressure can cause damage to machine.)	Slide tailstock to right side of lathe against the stop. Move headstock into position and apply pressure to workpiece with tailstock
	Lathe bed and tailstock mating surfaces are greasy or oily	Remove tailstock and clean surfaces with a cleaner/degreaser. Re-apply light coat of oil to lathe bed surface.
Digital readout does not work	Digital sensor out of position.	Open belt access and position sensor so that it reads the bolts

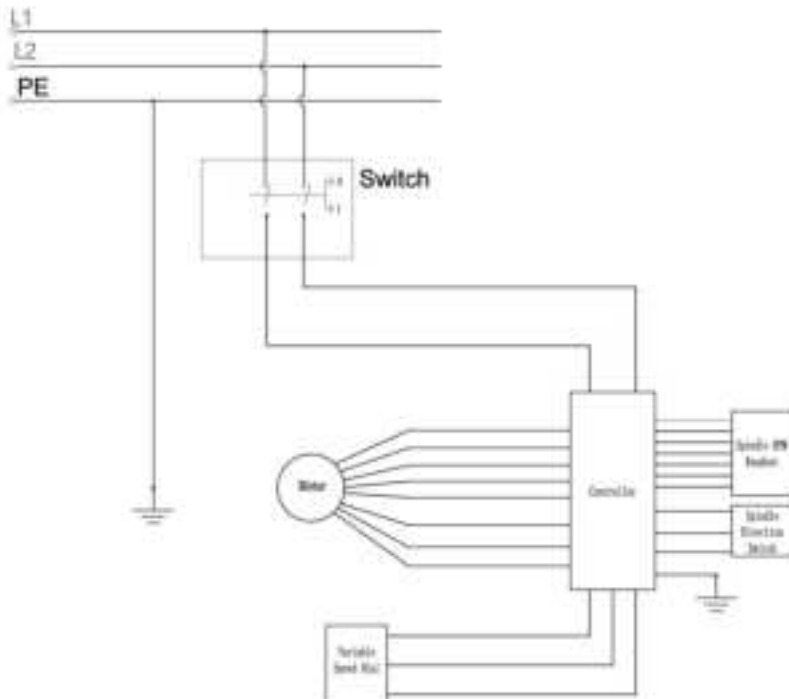
Warning: Some corrections may require a qualified electrician.

RECOMMENDED LATHE SPEEDS (per diameter of workpiece)

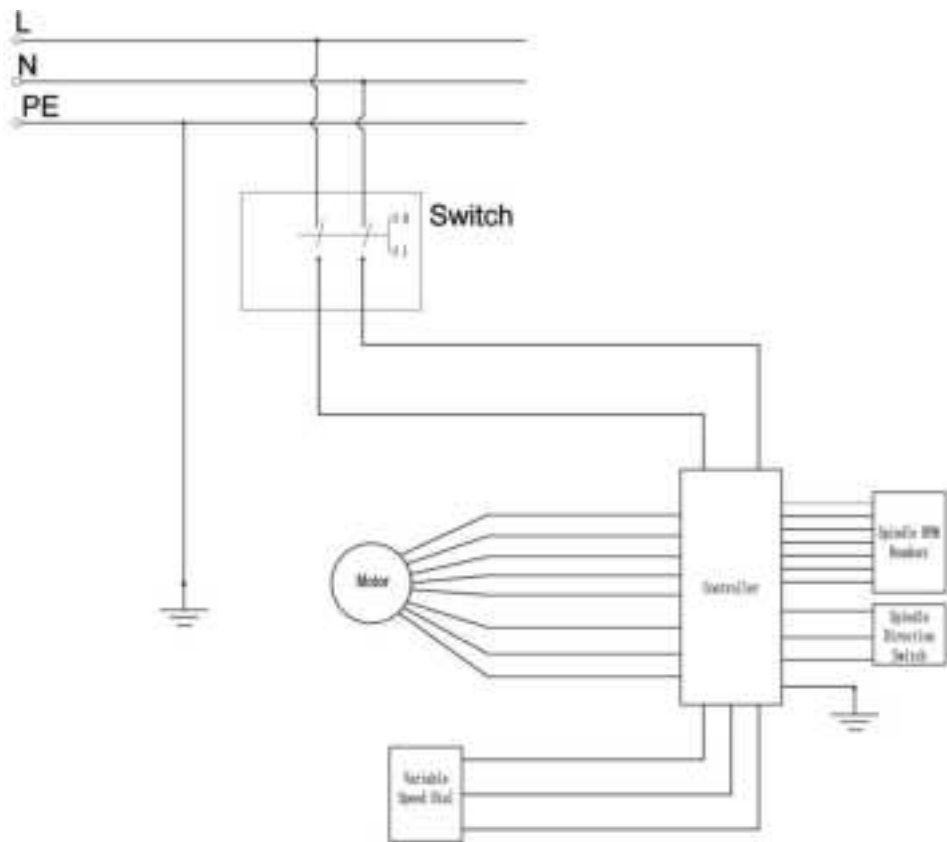
Diameter of Work	Roughing RPM	General Cutting RPM	Finishing RPM
Under 2"	1520	3000	3000
2" to 4"	760	1600	2290
4" to 6"	510	1080	1500
6" to 8"	380	810	1125
8" to 10"	300	650	900
10" to 12"	255	540	750
12" to 14"	220	460	640
14" to 16"	190	400	560
16" to 20"	175	325	450
20" to 24"	175	260	375

SCHALTPLAN/WIRING DIAGRAM

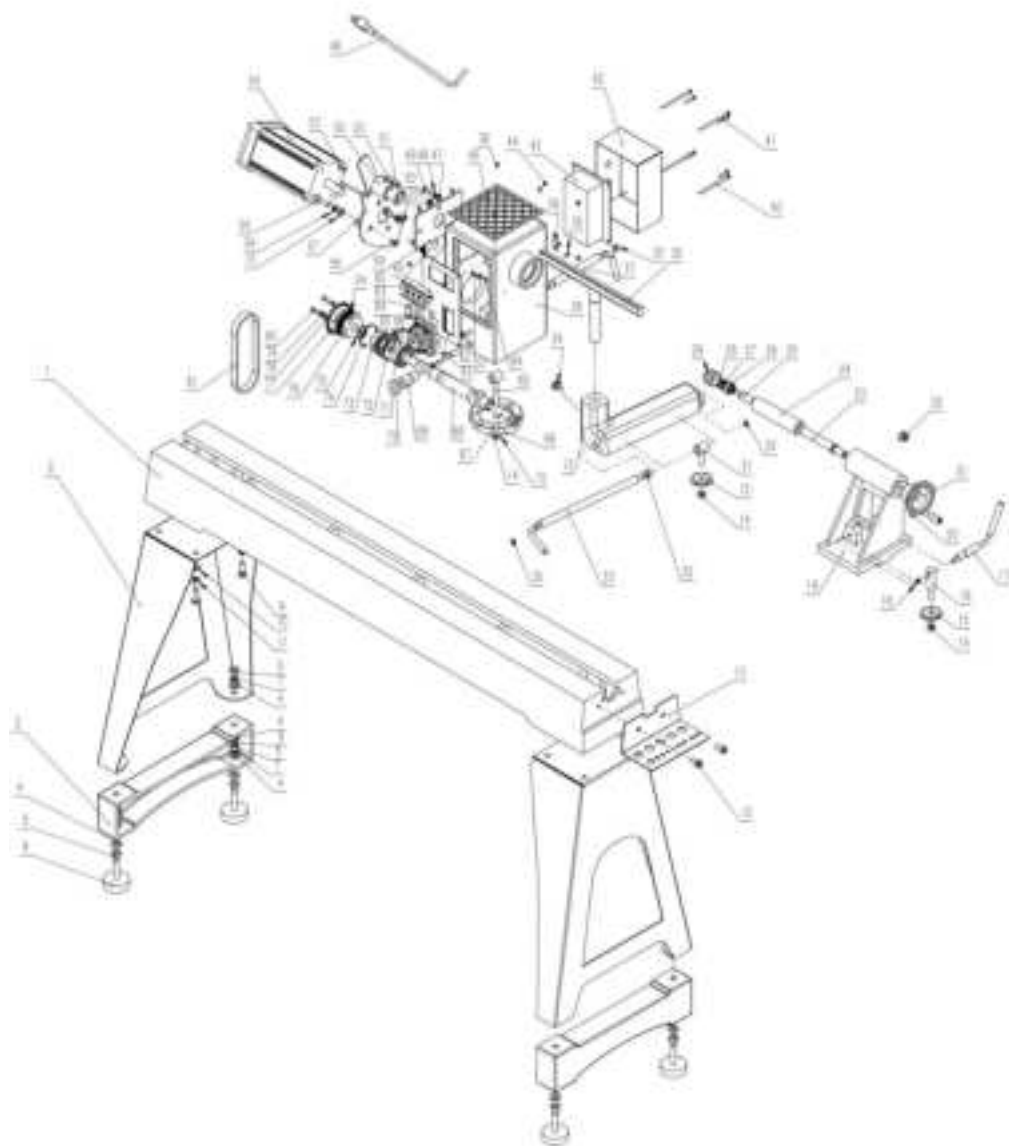
Voltage: 220 V / 60 Hz



Voltage: 220 V / 60 Hz



EXPLOSIONSZEICHNUNG / EXPLOSION DRAWING



PARTS LIST

NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
1	Bed	1	2	Leg	2
3	Auxiliary ground foot	2	4	Flat washer 12	12
5	Nut M12	16	6	Adjust the ground foot	4
7	Spring washer 12	4	8	Screw M12×40	4
9	Screw M10×25	8	10	Flat washer 10	10
11	Spring washer 10	10	12	Screw M10×25	2
13	Tool holder	1	14	Nut M10	3
15	Lock plate	3	16	Bolt	1
17	Eccentric axis	1	18	Ring retaining 10	1
19	Tailstock	1	20	Screw M6×6	4
21	Handwheel	1	22	Lock lever	1
23	Tailstock quill	1	24	Tail axis	1
25	Taper rod	1	26	Bearing ball 6000	1
27	Thrust bearing 51100	1	28	Flat washer 12	1
29	Cup center	1	30	Ring retaining 12	4
31	Bolt	1	32	Cover	1
33	Lock handle for knife base	1	34	Lock lever	1
35	Tool rest	1	36	Headstock	1
37	Lock handle for headstock	1	38	Screw M4×10	7
39	Cover plate	1	40	Screw M5×90	4
41	Screw M5×25	4	42	Controller box	1
43	Controller	1	44	Nut M5	4
45	Cushion	1	46	Power cord	1
47	Flat washer 8	2	48	Spring washer 8	2
49	Screw M8×16	2	50	Nut M10×1	1
51	Index pin	1	52	Handwheel	1
53	Flat key 6×40	1	54	Motor	1
55	Screw M10×25	2	56	Spring washer 10	2
57	Motor plate	1	58	Screw M6×16	4
59	Back plate	1	60	Motor pulley	1
61	Switch panel	1	62	Positioning pin shaft	1
63	Spring	1	64	Bundle	1
65	Bolt	1	66	Turntable	1
67	Headstock spur center	1	68	Headstock spindle	1
69	Shaft sleeve	1	70	Positioning pin	1
71	Bearing ball 6006	1	72	Ring retaining 55	1
73	Bearing ball 6205	1	74	Ring retaining 52	1
75	Ring retaining 25	1	76	Drive pulley	1
77	Dividing plate	1	78	Flat washer 6	4
79	Spring washer 6	4	80	Screw M6×16	4
81	Drive belt	1	82	Spindle RPM Readout	1
83	Variable Speed Dial	1	84	Switch	1
85	Spindle Direction Switch	1	86	Screw M4×12	2

Manufacturer: Shanghaimuxinmuyeyouxiangongsi

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