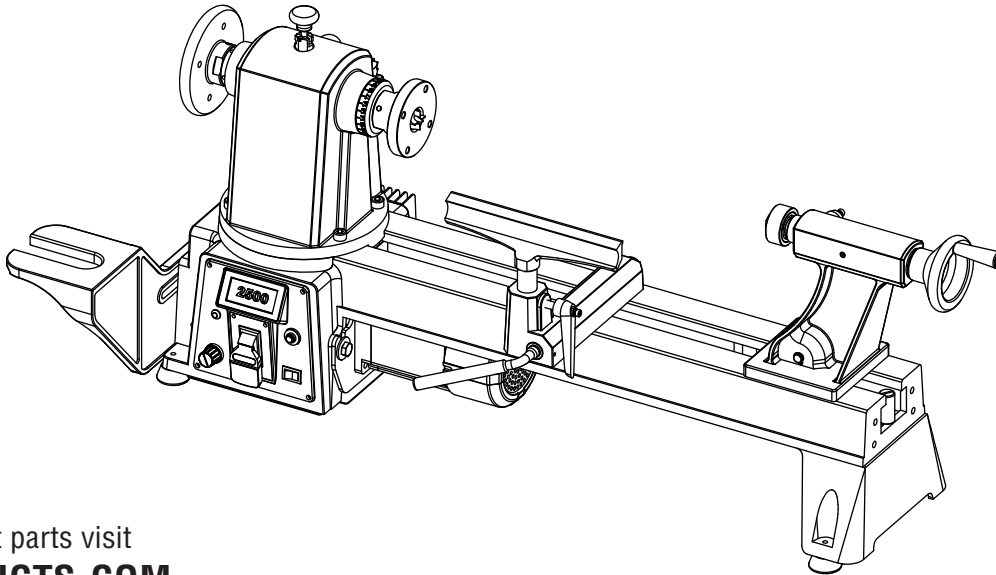




MODEL 34027

12 X 16" VARIABLE SPEED WOOD LATHE



For replacement parts visit
WENPRODUCTS.COM



IMPORTANT:

Your new tool has been engineered and manufactured to WEN's highest standards for dependability, ease of operation, and operator safety. When properly cared for, this product will supply you years of rugged, trouble-free performance. Pay close attention to the rules for safe operation, warnings, and cautions. If you use your tool properly and for its intended purpose, you will enjoy years of safe, reliable service.



NEED HELP? CONTACT US!

Have product questions? Need technical support?
Please feel free to contact us at:



800-232-1195 (M-F 8am-5pm CST)



techsupport@wenproducts.com



WENPRODUCTS.COM

NOTICE: Please refer to wenproducts.com for the most up-to-date instruction manual.

TABLE OF CONTENTS


| | |
|---|----|
| Specifications..... | 2 |
| Introduction | 3 |
| General Safety Rules | 4 |
| Specific Safety Rules for the Wood Lathe..... | 6 |
| Electrical Information | 8 |
| Know Your Wood Lathe..... | 9 |
| Assembly & Adjustments | 10 |
| Operation | 15 |
| Maintenance..... | 21 |
| Troubleshooting Guide | 22 |
| Exploded View & Parts List | 23 |
| Warranty Statement..... | 26 |

SPECIFICATIONS

| | |
|--------------------------|----------------------------|
| Model Number | 34027 |
| Motor | 120 V, 60 Hz, 4.5A, S6 40% |
| Swing Over Bed | 12 in. |
| Distance Between Centers | 16 in. |
| Spindle Thread | 1"-8 |
| Speeds | 500 to 2500 RPM |
| Spindle Taper | MT2 |
| Tailstock Taper | MT2 |
| Tool Rest Length | 7-7/8 in. |
| Dimensions | 32 x 9 x 17 in. |
| Weight | 72.1 lbs. |

INTRODUCTION

Thanks for purchasing the WEN Wood Lathe. We know you are excited to put your tool to work, but first, please take a moment to read through the manual. Safe operation of this tool requires that you read and understand this operator's manual and all the labels affixed to the tool. This manual provides information regarding potential safety concerns, as well as helpful assembly and operating instructions for your tool.


 **SAFETY ALERT SYMBOL:** Indicates danger, warning, or caution. The safety symbols and the explanations with them deserve your careful attention and understanding. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury. However, please note that these instructions and warnings are not substitutes for proper accident prevention measures.

NOTE: The following safety information is not meant to cover all possible conditions and situations that may occur. WEN reserves the right to change this product and specifications at any time without prior notice.

Keep this manual available to all users during the entire life of the tool and review it frequently to maximize safety for both yourself and others.

GENERAL SAFETY RULES

**Safety is a combination of common sense, staying alert and knowing how your item works.
SAVE THESE SAFETY INSTRUCTIONS.**

 **WARNING:** Read and understand all warnings, cautions and operating instructions before using this tool. Failure to follow all instructions listed below may result in personal injury and tool damage.

WORK AREA SAFETY

1. Keep work area clean and well lit. Cluttered or dark areas invite accidents.
2. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
3. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
4. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

ELECTRICAL SAFETY

1. Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
2. Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
3. Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
4. If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of a GFCI reduces the risk of electric shock.

PERSONAL SAFETY

1. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
2. Use personal protective equipment. Always wear eye protection. Protective equipment such as a dust mask, non-skid safety shoes and hearing protection used for appropriate conditions will reduce the risk of personal injury.
3. Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

GENERAL SAFETY RULES

4. Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
5. Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
6. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
7. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.


POWER TOOL USE AND CARE

1. Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
2. Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
3. Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
4. Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
5. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
6. Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

SERVICE

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

SPECIFIC RULES FOR THE WOOD LATHE

 **WARNING:** Do not let comfort or familiarity with the product replace strict adherence to product safety rules. Failure to follow the safety instructions may result in serious personal injury.

1. **TOOL PURPOSE.** This lathe is designed for turning wood or wood-like products only. Turning other materials could result in fire, injury, or damage to the workpiece. Using the machine for any other purpose for which it is not designed may result in serious injuries, machine damage and voiding of the warranty.

2. **MACHINE MOUNTING.** For operation safety, the lathe must be securely mounted onto a flat and stable surface or stand.

3. **PERSONAL SAFETY.**

- Always wear ANSI Z87.1-approved glasses with side shields, hearing protection and a dust mask.
- DO NOT wear loose clothing or jewelry, as they might get drawn in by the tool. Tie back long hair.
- DO NOT wear gloves while operating this machine.

4. **ELECTRIC CORDS.** Keep cords away from heat, oil, sharp edges, and moving parts of the tool. Have an electrician replace or repair damaged or worn cords immediately.

5. **TOOL & ACCESSORIES INSPECTION.** Before operation, check the tool and accessories for any damage or missing parts. Do not use the tool if any part is missing or damaged. Make sure all adjustments are correct and all connections are tight. Keep all guards in place.

6. **LATHE ACCESSORIES.**

- Do not use tools, chisels, or any accessories that are damaged, or worn.
- Make sure all tools, chisels, and accessories are sharp enough for the task at hand before using them.
- Always use the right tool at the correct speed and feed rate.
- Always turn off and unplug the unit before doing any cleaning or maintenance. Use a brush or compressed air to remove chips or debris. Never use your hands to remove excess material and debris.

7. **WORKPIECE REQUIREMENTS.** Check the workpiece carefully for splits, knots, nails, or other obstructions. These types of blemishes may cause a safety risk during turning.

8. **ADJUST** the tool rest to the proper height and position for the task at hand. Rotate the workpiece by hand to check clearance with the tool rest before turning the machine on.

9. **SELECT THE APPROPRIATE SPEED** for the task at hand. Start at a low speed and allow the lathe to ramp up to the operating speed before engaging any chisels, tools or other carving accessories.

10. **NEVER APPLY COOLANTS OR WATER** to a spinning workpiece. Never stop a rotating workpiece with your hand.

11. If gluing a workpiece, always use a high quality glue that meets the needs of the particular workpiece.

SPECIFIC RULES FOR THE WOOD LATHE

12. PREVENTING ACCIDENTAL STARTING. Make sure the power switch is in the OFF position prior to plugging in the machine. Always make sure the power switch is in the OFF position and the machine is unplugged when doing any cleaning, assembly, setup operations, or when not in use.

13. Do not operate this tool until it is completely assembled and installed according to the instructions.

14. Remove scrap pieces and other objects from the table and work area before turning ON the lathe.

15. Rough cut the workpiece to the finished shape before attaching a workpiece to the faceplate. When turning between centers, make sure the headstock and tailstock are tight and snug against the workpiece.

12. DO NOT TOUCH MOVING PIECES. Keep hands away from the centers, tailstock, and headstock during operation.

13. Never perform layout, assembly or set-up work on the table while the lathe is operating.

14. After turning off the lathe, wait until the centers, tailstock, and headstock come to a complete stop before touching the workpiece.

15. Always turn off and unplug the machine before cleaning, making adjustments or changing attachments. Accidental start-ups may occur if the tool is plugged in during an accessory change or adjustment.

16. CLEANING. Never use solvents to clean plastic parts. Solvents could dissolve or otherwise damage the material. Use only a soft damp cloth to clean plastic parts.

17. REPLACEMENTS. Should any component of your sander be missing/damaged or fail in any way, shut off the switch and remove the plug from power supply outlet. Replace the missing, damaged, or failed parts using only identical replacement parts before resuming operation.

CALIFORNIA PROPOSITION 65 WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals, including lead, known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement, and other masonry products.
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area with approved safety equipment such as dust masks specially designed to filter out microscopic particles.

These safety instructions can't possibly warn of every scenario that may arise with this tool, so always make sure to stay alert and use common sense during operation.

ELECTRICAL INFORMATION

GROUNDING INSTRUCTIONS

IN THE EVENT OF A MALFUNCTION OR BREAKDOWN, grounding provides the path of least resistance for an electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching outlet that is properly installed and grounded in accordance with ALL local codes and ordinances.

DO NOT MODIFY THE PLUG PROVIDED. If it will not fit the outlet, have the proper outlet installed by a licensed electrician.

IMPROPER CONNECTION of the equipment grounding conductor can result in electric shock. The conductor with the green insulation (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.

CHECK with a licensed electrician or service personnel if you do not completely understand the grounding instructions or whether the tool is properly grounded.

USE ONLY THREE-WIRE EXTENSION CORDS that have three-pronged plugs and outlets that accept the tool's plug. Repair or replace a damaged or worn cord immediately.

CAUTION: In all cases, make certain the outlet in question is properly grounded. If you are not sure, have a licensed electrician check the outlet.

GUIDELINES AND RECOMMENDATIONS FOR EXTENSION CORDS

When using an extension cord, be sure to use one 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. The table below shows the correct size to be used according to cord length and ampere rating. When in doubt, use a heavier cord. The smaller the gauge number, the heavier the cord.

| AMPERAGE | REQUIRED GAUGE FOR EXTENSION CORDS | | | |
|----------|------------------------------------|----------|----------|----------|
| | 25 ft. | 50 ft. | 100 ft. | 150 ft. |
| 4.5A | 18 gauge | 16 gauge | 16 gauge | 14 gauge |

- 1. EXAMINE EXTENSION CORD BEFORE USE.** Make sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.
- 2. DO NOT ABUSE EXTENSION CORD.** Do not pull on cord to disconnect from receptacle; always disconnect by pulling on plug. Disconnect the extension cord from the receptacle before disconnecting the product from the extension cord. Protect your extension cords from sharp objects, excessive heat and damp/wet areas.
- 3. USE A SEPARATE ELECTRICAL CIRCUIT FOR YOUR TOOL.** This circuit must not be less than a 12-gauge wire and should be protected with a 15A time-delayed fuse. Before connecting the motor to the power line, make sure the switch is in the OFF position and the electric current is rated the same as the current stamped on the motor nameplate. Running at a lower voltage will damage the motor.

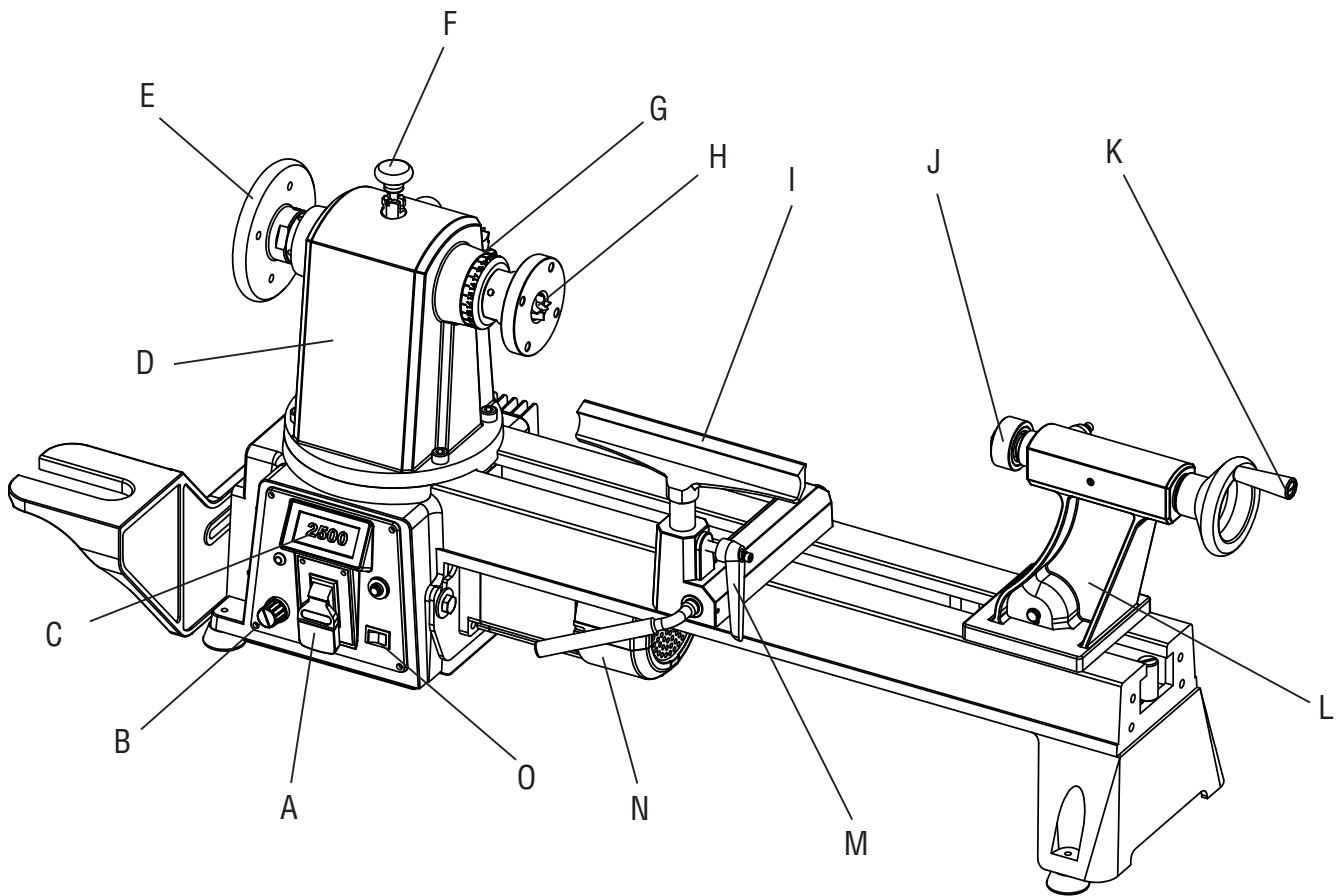
KNOW YOUR WOOD LATHE

UNPACKING

With the help of a friend or trustworthy foe, carefully remove the lathe from the packaging. Make sure to take out all contents and accessories. Do not discard the packaging until the lathe is completely assembled.

TOOL PURPOSE

Lathes rotate workpieces on an axis so you can create various symmetrical profiles in wood by chiseling, sanding, and using other tools. Refer to the diagram below to become familiarized with the parts and controls of your wood lathe.



- A. Power Switch
- B. Variable Speed Knob
- C. Digital Readout
- D. Headstock
- E. Back Face Plate
- F. Spindle Lock
- G. Index Marks
- H. Center Spur

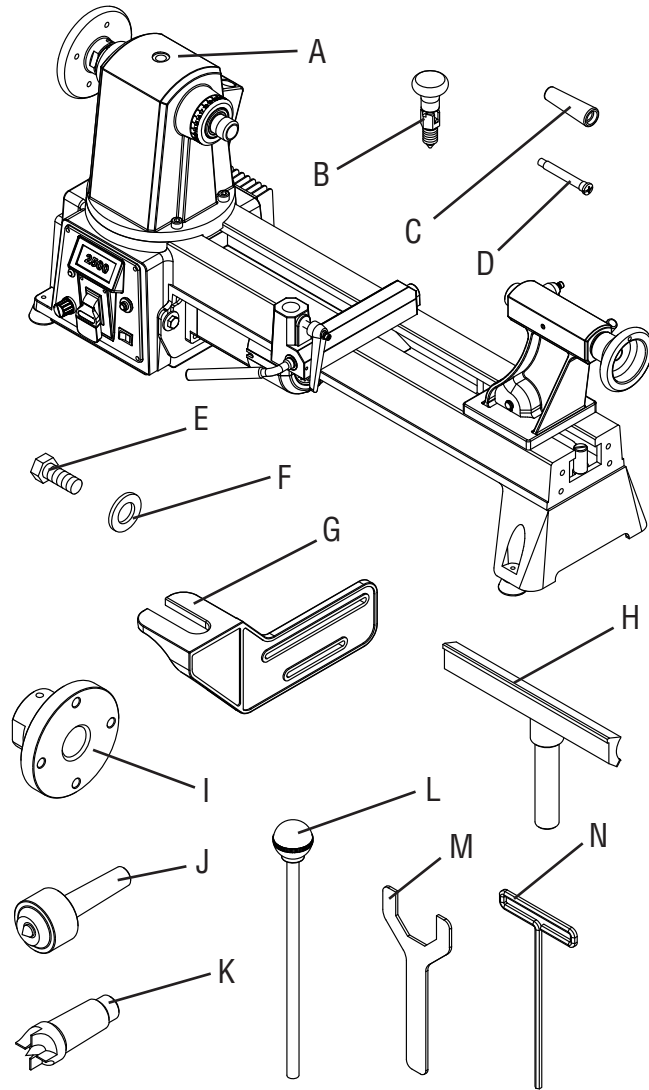
- I. Tool Rest
- J. Live Center
- K. Tailstock Handwheel
- L. Tailstock
- M. Tool Rest Locking Handle
- N. Motor
- O. Directional Rotation Switch

ASSEMBLY & ADJUSTMENTS

Before using the wood lathe, you must assemble the unit using the instructions in this section. Check your packing list against the diagram below. If any part is damaged or missing, please contact our customer service at (800) 232-1195, M-F 8-5 CST or email us at techsupport@wenproducts.com.

PACKING LIST

- A. Lathe
- B. Spindle Lock
- C. Tailstock Handle
- D. Handle Screw with Rubber Ring
- E. Hex Head Bolt
- F. Flat Washer
- G. Back Tool Rest Support
- H. Tool Rest
- I. Face Plate
- J. Live Center
- K. Spur Center
- L. Knockout Rod
- M. Wrench
- N. Hex Wrench



The tools listed below are not included but are required for either assembly or adjustment.

- 17 mm Socket
- Flathead Screwdriver
- Wrench

⚠ WARNING: Do not plug in or turn on the tool until it is fully assembled according to the instructions. Failure to follow the safety instructions may result in serious personal injury.

ASSEMBLY & ADJUSTMENTS

INSTALLING SPINDLE LOCK

Remove the spindle lock (Fig. 1 - 1) from the carton and install it onto the headstock with a wrench.

! WARNING: Disengage spindle lock before turning the machine on. The lock should be in its highest available position to prevent it from interfering with the rotation of the spindle (Fig. 5).

INSTALLING HANDLE

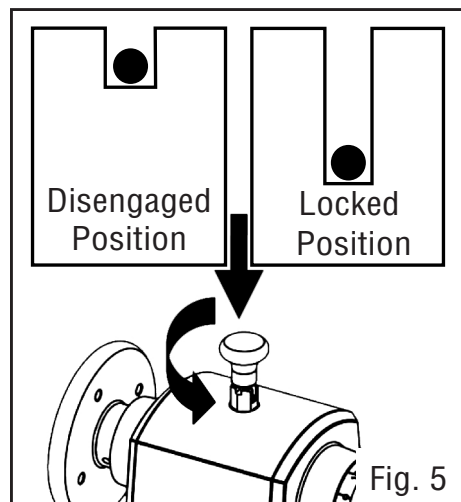
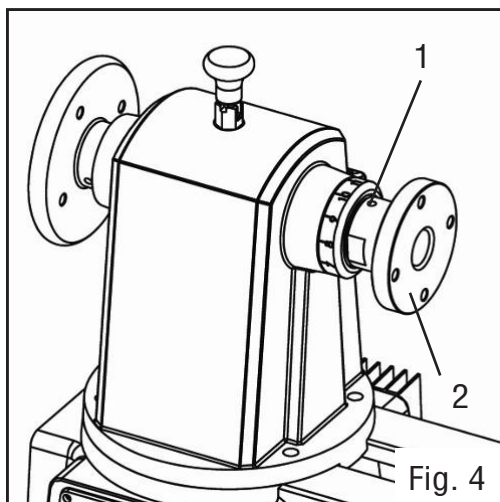
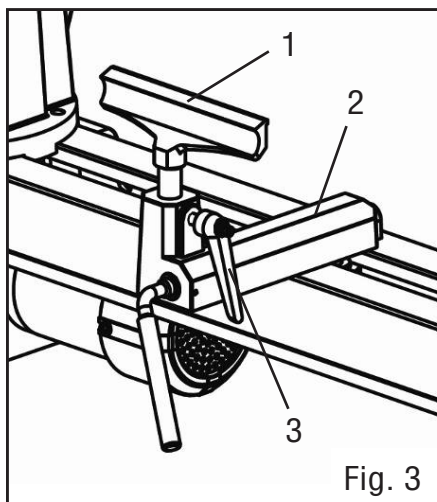
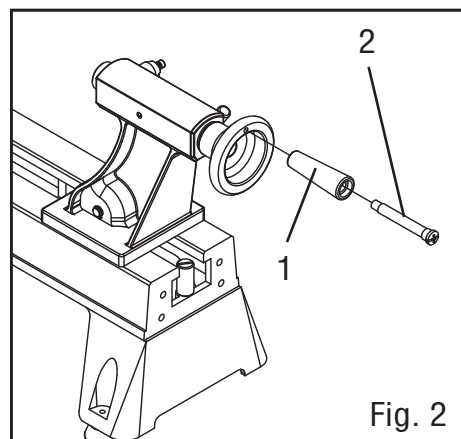
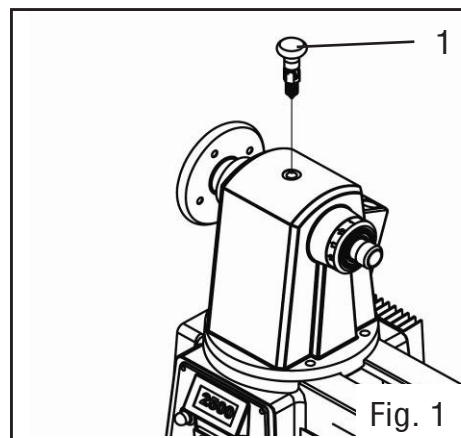
Attach the handle screw (Fig. 2 - 2) through the handle (Fig. 2 - 1) hole onto the handwheel. Secure it using a screwdriver.

INSTALLING TOOL REST

Loosen the locking handle (Fig. 3 - 3) and insert the tool rest (Fig. 3 - 1) into the tool rest base (Fig. 3 - 2). Adjust the height up or down to the desired position and then tighten the locking handle. The handle is spring-loaded and can be re-positioned as necessary by pulling outwards, repositioning the lever, and allowing it to spring back inwards.

INSTALLING THE FACE PLATE

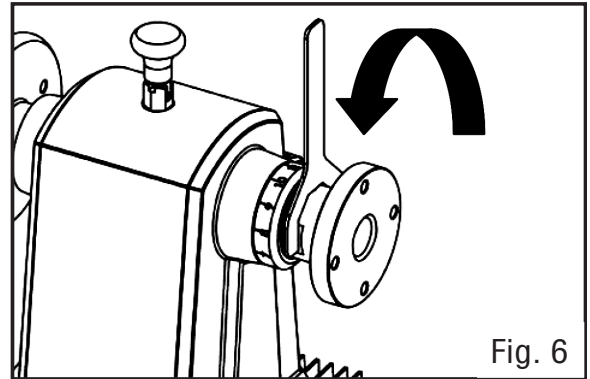
1. Make sure the two set screws (Fig. 4 - 1) in the face plate (Fig. 4 - 2) have been backed out so they do not enter the central bore. Adjust them, if necessary, with the included hex wrench.
2. Engage the spindle lock (Fig. 5).
3. Mount the face plate by screwing it clockwise as far as it will go onto the spindle threads. Tighten using the included wrench.
4. Tighten the set screws using the included hex wrench.



ASSEMBLY & ADJUSTMENTS

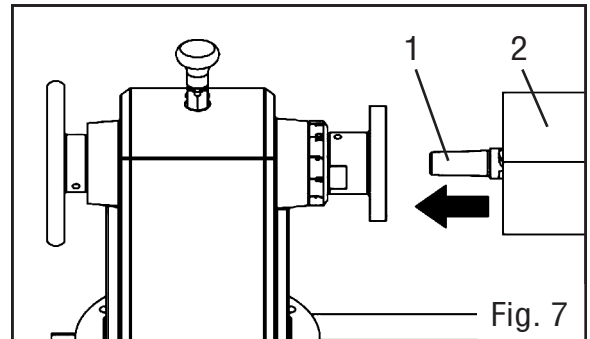
REMOVING THE FACE PLATE

1. Make sure the two set screws (Fig. 4 - 1 on p. 11) in the face plate (Fig. 4 - 2 on p. 11) have been backed out so they do not enter the central bore. Adjust them, if necessary, with the included hex wrench.
2. Engage the spindle lock (Fig. 5 on p. 11).
3. Use the provided wrench to unscrew the face plate (Fig. 6).



INSTALLING THE SPUR CENTER

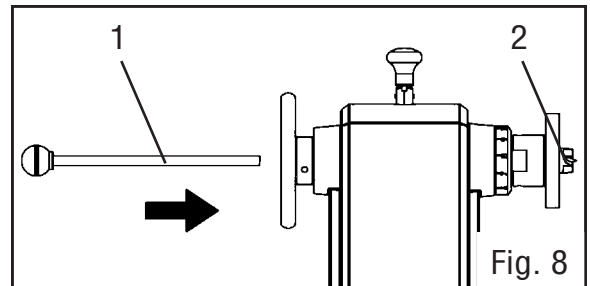
1. Make sure the surfaces of both the spur center and the spindle are clean. If they are not, the center will not seat properly in the spindle.
2. Drive the spur center (Fig. 7 - 1) into the workpiece (Fig. 7 - 2) using a rubber mallet or a piece of scrap wood.
3. Push the spur center into the spindle.



NOTE: It is not necessary to remove the face plate in order to install the spur center.

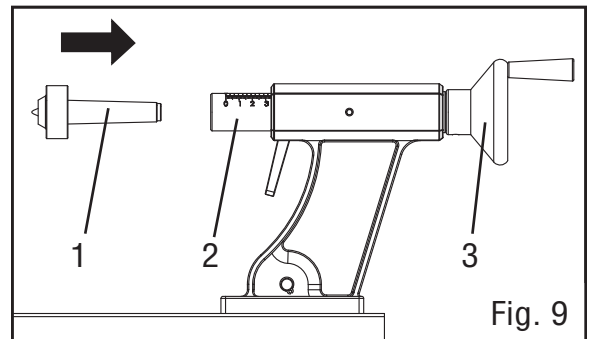
REMOVING THE SPUR CENTER

1. Hold spur center to prevent it from falling. Use a rag to protect your hand from the sharp edges.
2. Insert the knockout rod (Fig. 8 - 1) through the spindle hole to tap out the spur center (Fig. 8 - 2).



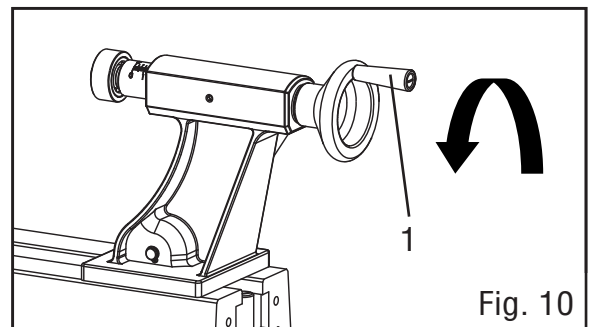
INSTALLING THE LIVE CENTER

1. Rotate the tailstock handwheel (Fig. 9 - 3) clockwise a few times to advance the quill (Fig. 9 - 2) forward.
2. Make sure the surfaces of both the spur center and the spindle are clean. If they are not, the center will not seat properly in the spindle.
3. Push the live center (Fig. 9 - 1) into the quill.



REMOVING THE LIVE CENTER

1. Hold the live center to prevent it from falling. Use a rag to protect your hand from the sharp edges.
2. Rotate the handwheel (Fig. 10 - 1) counterclockwise to retract the quill until the live center is released.



ASSEMBLY & ADJUSTMENTS

INSTALLING TOOL REST

When a workpiece is larger than the swing capacity on the bed, it can be turned by using the back face plate (Fig. 11 - 1) and tool rest (Fig. 11 - 6). To mount the tool rest to the back of the lathe:

1. Fit the back tool rest support (Fig. 11 - 3) to the rear of the lathe using three hex bolts and three flat washers (Fig. 11 - 2).

2. Remove the clamp (Fig. 11 - 4) and hex nut (Fig. 11 - 5) of tool rest base from the underside of the lathe.

3. Move the tool rest base onto the back support. Replace the clamp (Fig. 11 - 4) and hex nut (Fig. 11 - 5) onto the thread. Alternatively, you can remove the stop at the end of the bed and slide the tailstock and tool rest off.

4. Adjust the hex nut until the tool rest base can be locked onto the back support.

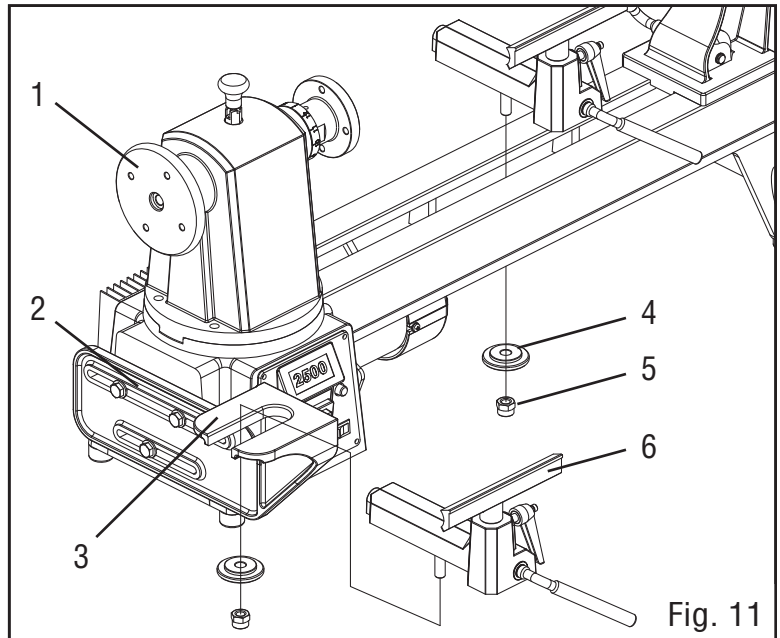


Fig. 11

INSTALLING BED EXTENSION (SOLD SEPARATELY)

The WEN 34027EX Wood Lathe Bed Extension is an optional accessory that can be purchased separately to extend the maximum length of the lathe's capacity from 15.75 inches to 39.4 inches.

1. Fit the bed extension (Fig. 12 - 3) to the bed using four socket head screws and four flat washers.

2. Remove the end stop screw (Fig. 12 - 2) from the bed and assemble it onto the bed extension.

3. Make sure the tail stock (Fig. 12 - 1) slides freely across the connection point.

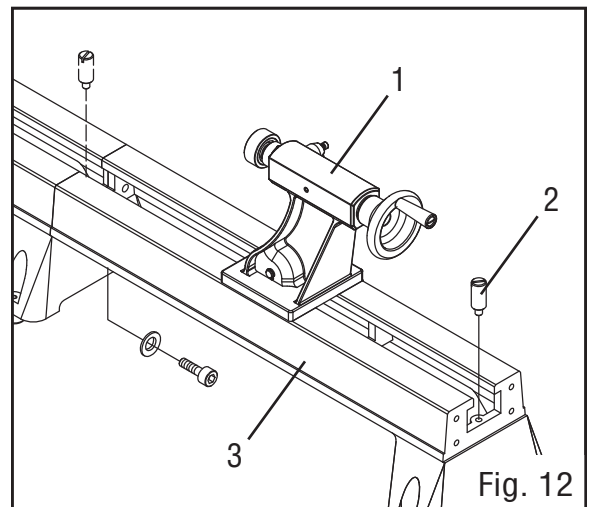


Fig. 12

TOOL RACK

There is a tool rack (Fig. 13 - 1) on the back of the head. The wrench, knockout rod and spur center can be placed into this as needed.

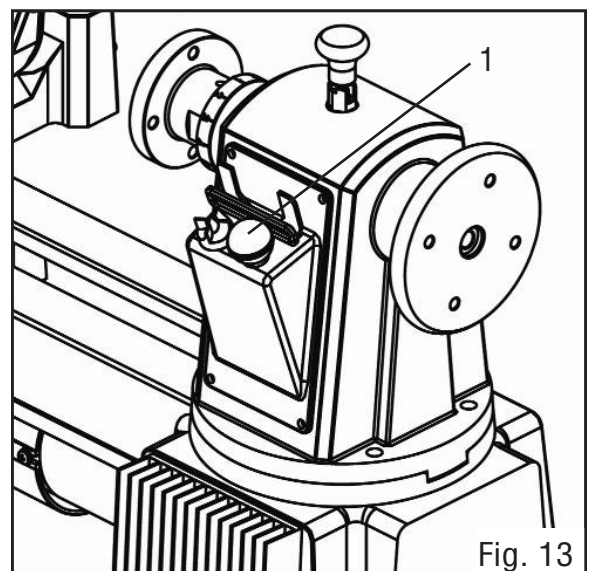


Fig. 13

ASSEMBLY & ADJUSTMENTS

TOOL REST ADJUSTMENTS

Users can adjust the height, position and angle of the tool rest assembly. Loosen the locking lever (Fig. 14 - 1) on the tool rest base to slide the base forward and back or to adjust the angle of it. Tighten the locking lever firmly before operating the lathe. Loosen the small locking handle (Fig. 14 - 2) to raise and lower the tool rest or to adjust its angle. Tighten the handle before operating the lathe.

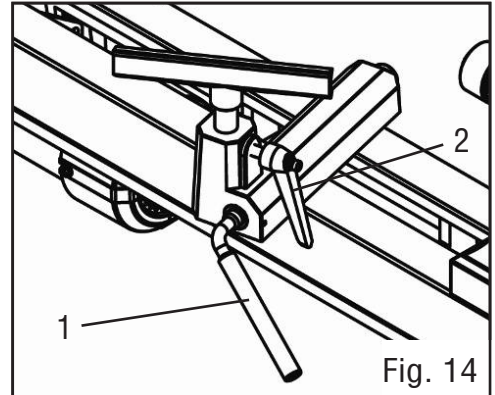


Fig. 14

TAIL STOCK ADJUSTMENTS

Loosen the tailstock locking lever (Fig. 15 - 3) and slide the tailstock into the desired position. Retighten the locking lever. The quill locking handle (Fig. 15 - 2) locks and unlocks the quill. Use the handwheel (Fig. 15 - 1) to advance and retract the quill.

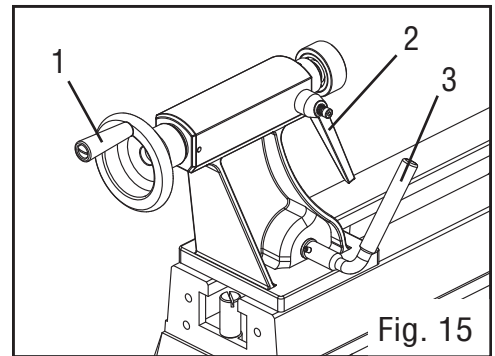


Fig. 15

INDEXING/SPINDLE LOCK (FIG. 16)

Indexing is used to create evenly spaced features in a workpiece while keeping the lathe and spindle locked. For example, when cutting flutes on a spindle blank with a handheld router, you may want evenly spaced features and designs placed around the circumference of the workpiece. The 24 index positions are marked around the spindle flange (every 15 degrees) to help rotate the workpiece evenly for accurately spaced features.

Place the spindle lock in the locked position to help maintain a certain index point. Make sure to disengage the spindle lock before starting the lathe again.

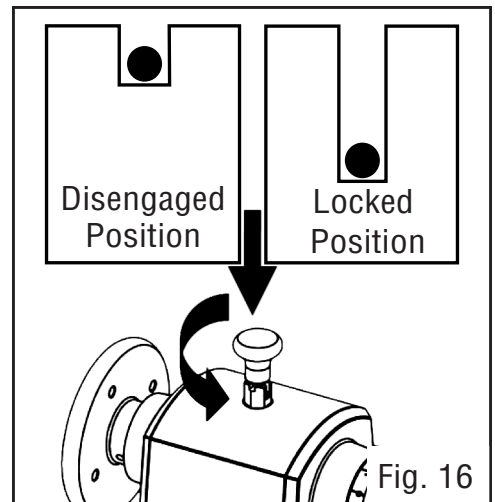


Fig. 16

BASE DIMENSIONS (FIG. 17)

Refer to the below chart for dimensions on the mounting holes of your lathe's base. For maximum accuracy, we advise measuring in millimeters instead of inches. Threaded holes on the lathe's base are M8-1.25. Mounting hardware not included.

MOUNTING THE LATHE TO A BENCHTOP

For effective and safe operation, the lathe should be mounted to a bench table, removing the feet and using the four threaded holes in its base to bolt it to the surface. (Fig. 17)

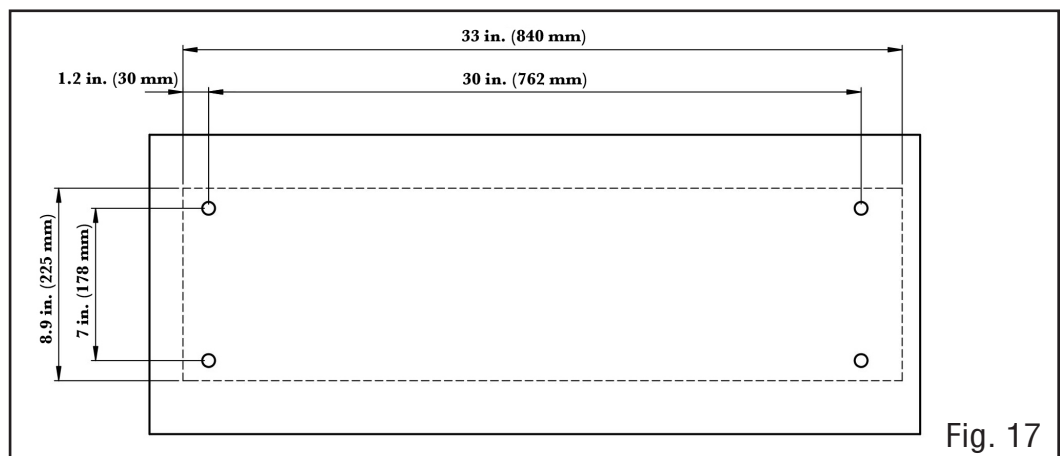


Fig. 17

OPERATION

OPERATING CONTROLS (FIG. 18)

1. Digital speed display - shows the current speed (RPM) of the spindle.
2. Protection Indicator - if the machine turns off and the protection indicator light begins to blink, it means that the motor was protected from overload. The workpiece may be too big or heavy for the current speed of the lathe. To reset it:
 - Turn off the main switch.
 - Wait two seconds and then turn it back on.
 - Work carefully and reduce the depth of the cut.
 - Start the machine on the lowest speed and increase it slowly.
3. Speed Dial - rotate the dial to set the lathe to the desired speed.
4. Main Switch - turn the lathe off and on. Remove the safety key to prevent the machine from operating.
5. Directional Switch - change the rotational direction of the spindle.
6. Circuit Breaker - if the circuit breaker is triggered, turn off the machine and then press this reset button. If the machine does not turn back on, repairs should be carried out by a qualified service technician.

⚠ WARNING: Always disengage the spindle lock before starting the lathe. Do not start the lathe at maximum speed. Start at the lowest speed and gradually increase to the desired RPM.

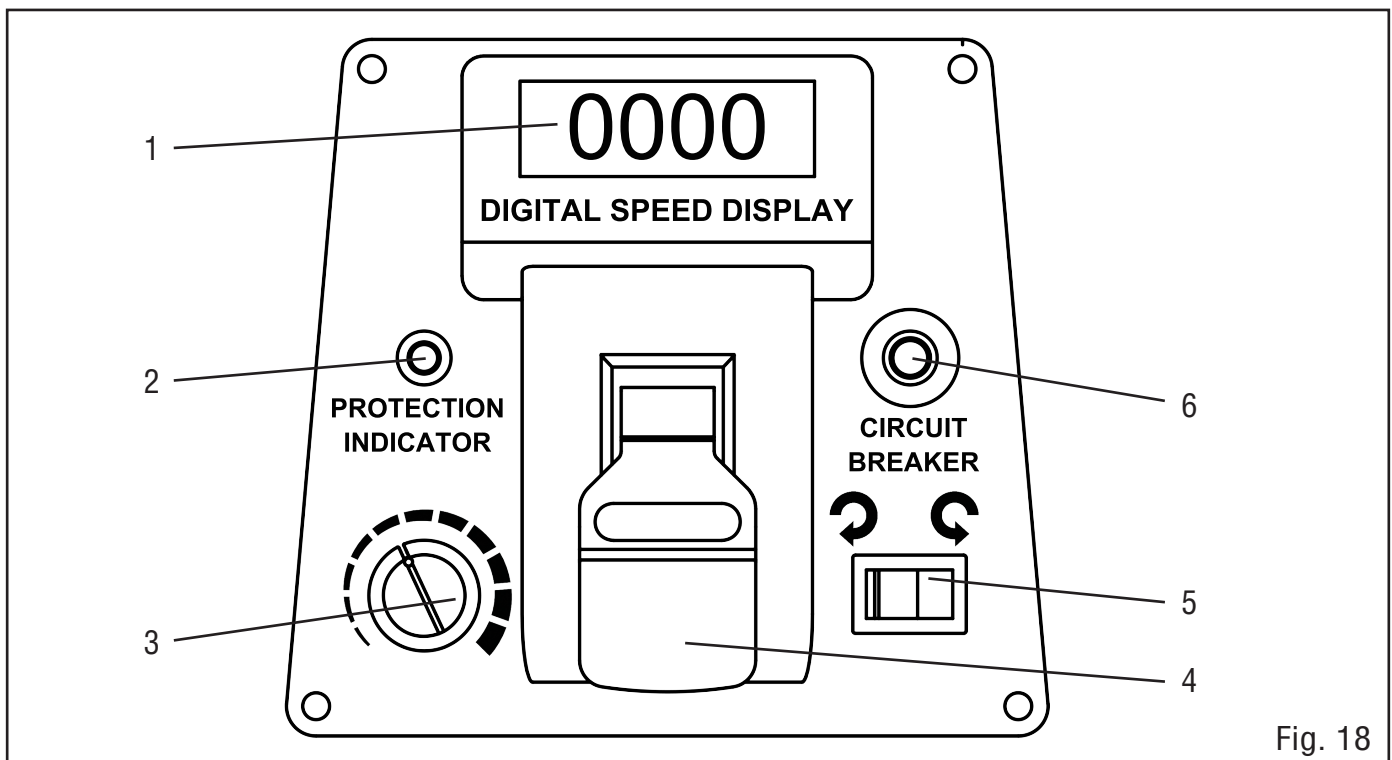


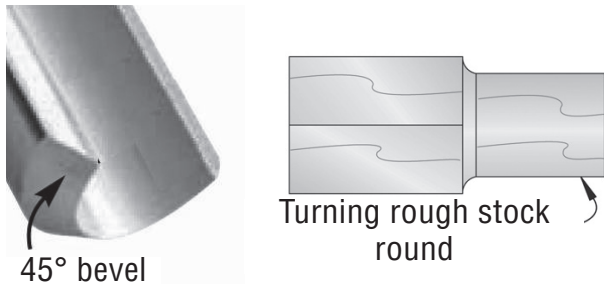
Fig. 18

OPERATION

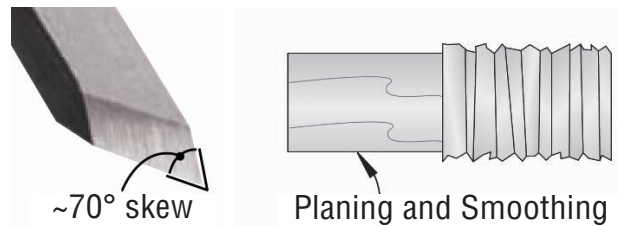
TURNING TOOLS

If possible, select only 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 wood-turning projects.

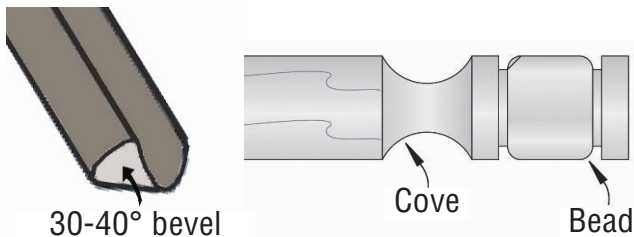
1. Large roughing gouge - use this tool to shape square or out-of-round spindle-turning stock into a cylinder. This can also be used for creating shallow coves.



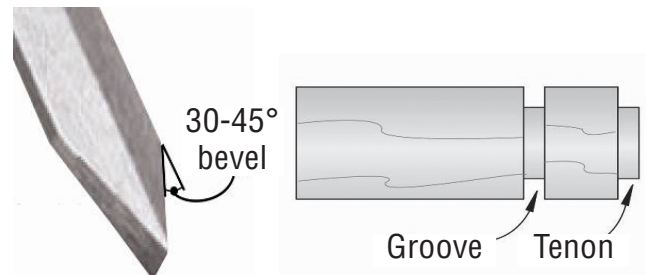
2. Skew chisel - the skew evens out high and low spots to shape the cylinders. Vary the angle at which the tip meets the workpiece to change the aggressiveness of the cut. This can also be used for cutting beads and V-grooves.



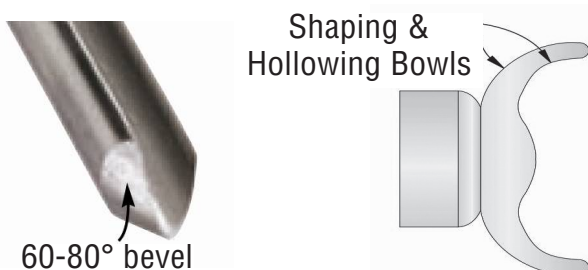
3. Spindle gouge - the spindle gouge cuts coves, beads and free-form contours. It can also be used for producing shallow hollows on faceplate turnings.



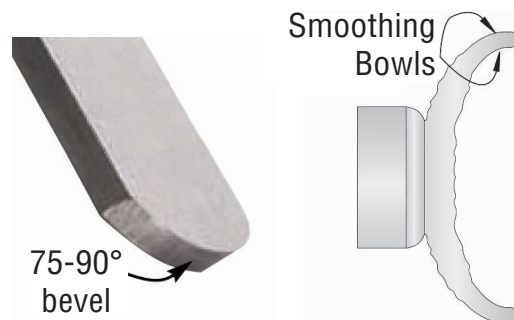
4. Parting tool - use the parting tool to form grooves and tenons and to remove stock. It can also be used for rolling small beads.



5. Bowl gouge - the bowl gouge cuts external and internal profiles on faceplate-mounted stock, such as bowls and platters. It can also be used for creating ultra smooth cuts on bowls and spindles by using it as a shearing scraper.



6. Round nose scraper - use this scraper for non-aggressive shaping of spindles and bowls and to smooth out surfaces without removing too much stock.



OPERATION

SPINDLE TURNING

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

Stock for spindles should be straight grained and free of cracks, knots, nails and other defects. With a combination square, locate and mark the center on each end of the workpiece. Accuracy is not critical on full rounds but is 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).

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 (Fig. 19).

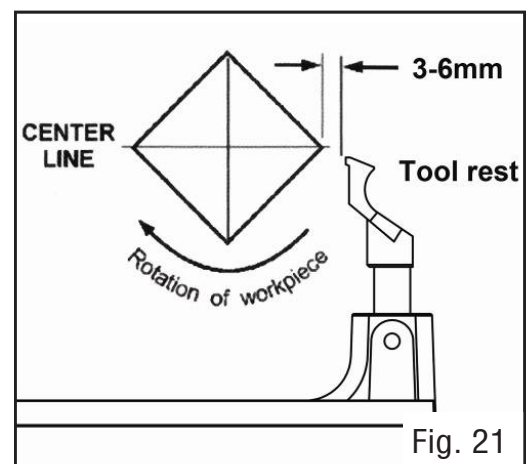
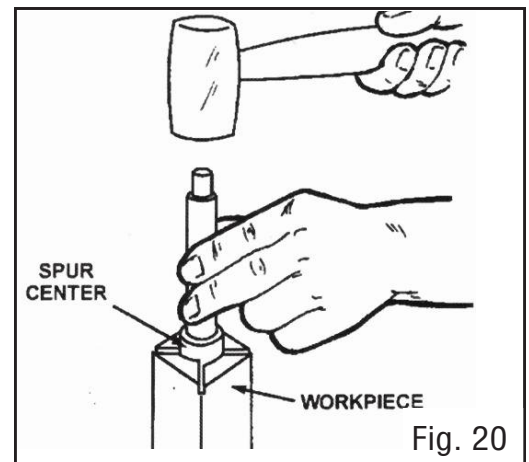
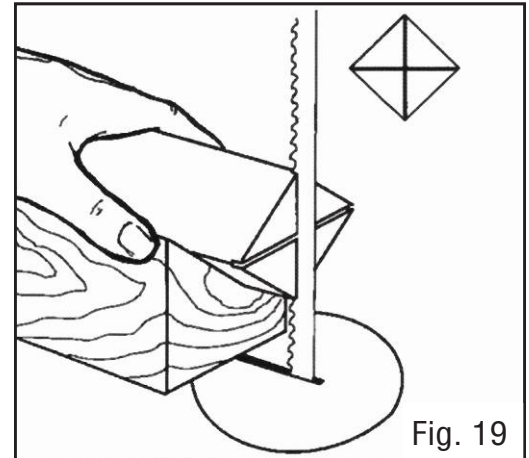
Drive the spur center about .1 inches (3 mm) into the workpiece. Use a wood mallet or dead blow hammer. Be careful that you do not split the workpiece. Never use a steel face hammer and never drive the workpiece onto the spur center while it is mounted on the spindle of the lathe (Fig. 20).

Clean the tapered end of the spur center and the inside of the headstock spindle. Insert the tapered end of the spur center (with the attached workpiece) into the headstock spindle. Support the workpiece while bringing the tailstock into position. Lock the tailstock to the bed.

Advance the tailstock quill with the hand wheel 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. Excessive pressure runs the risk of overheating the center bearings and damaging both the workpiece and the lathe.

Tighten the quill locking handle. Move the tool rest into position. It should be parallel to the workpiece, just below the centerline and approximately .1 to .2 inches (3 mm to 6 mm) from the corners of the workpiece to be turned. Tighten the tool rest base to the bed of the lathe (Fig. 21).

Before turning on the lathe, rotate the workpiece by hand to check for proper clearance. If clearance is okay and the workpiece is properly centered, start the lathe at the lowest speed. Slowly bring it up to the appropriate speed given the size of the workpiece.



OPERATION

CUTTING TECHNIQUES

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. Slowly and gently raise the tool handle until the cutting edge comes into contact with the workpiece. Beginning about 2 inches from the tailstock end of the workpiece, roll the flute of the tool (the hollowed-out portion) in the direction of the cut. Make long sweeping cuts in a continuous motion to turn the piece to a cylinder (Fig. 22).

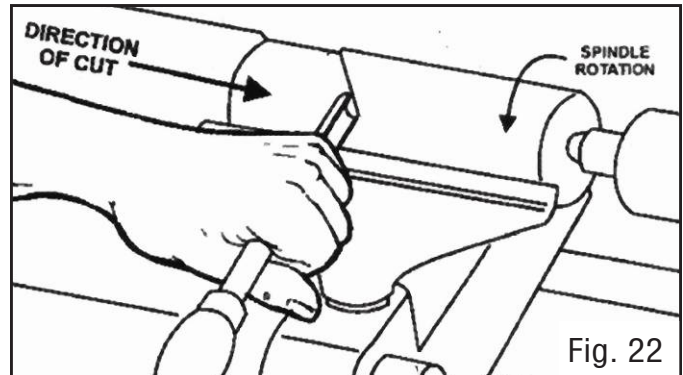


Fig. 22

Keep as much of the bevel of the tool in contact with the workpiece as possible to ensure control and avoid catches.

NOTE: Always cut downhill, or from the large diameter to the small diameter. Always work towards the end of the workpiece; never start at the cutting end.

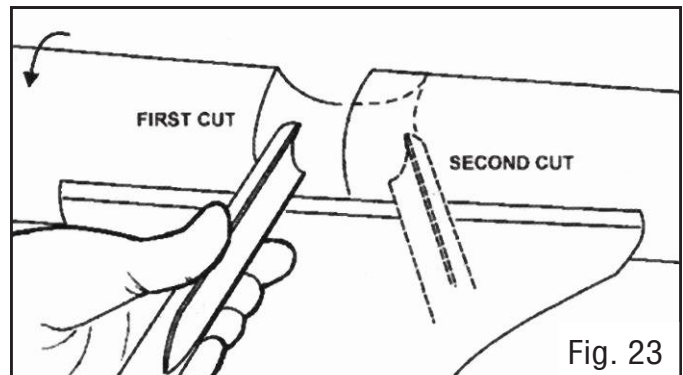


Fig. 23

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). Add details to the workpiece with skews, parting tools, scrapers or spindle gouges.

BEADS - Make a parting cut for what is to be a bead to the desired depth. Place the parting tool on the tool rest and move the tool forward to make the full bevel of the tool come into contact with the workpiece. Gently raise the handle to make cuts of the appropriate depth. Repeat for the other side of the bead. 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 the direction of the cut.

COVES (Fig. 23) - Use a spindle gouge to create a cove. 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, as attempting to go up the opposite side may cause the tool to catch. Move the tool over the desired width of the cove. With the flute facing the opposite direction, repeat the step for the other side of the cove. Stop at the bottom of the cut.

V-GROOVES (Fig. 24) - Use the point of the skew to create a V-groove in the workpiece. Lightly mark the center of the V with the top of the skew. Move the point of the skew to the right half of the desired width of your cut. With the bevel parallel to the right side of the cut, raise the handle and push the tool in to the desired depth. Repeat from the left side. The two cuts should meet at the bottom and leave a clean V-groove. Additional cuts may be taken to add to either the depth or the width of the cut.

PARTING OFF - Adjust the lathe to a slower speed for parting through a workpiece. Place a parting tool on the tool rest and raise the handle until it starts to cut. Continue cutting towards the center of the workpiece. Loosely hold on to the piece in one hand as it separates from the waste wood.

OPERATION

SANDING - Leaving clean cuts will reduce the amount of sanding required. Move the tool rest out of the way, adjusting the lathe to a low speed. Begin with fine sandpaper (120 grit or finer), as coarser sandpaper will leave deep scratches and dull the features of the workpiece. Progress through each grit without skipping grits (as in, don't jump from 120 grit to 220 grit). Fold the sandpaper into a pad; do not wrap sandpaper around your fingers or the workpiece.

FINISHING - To apply a finish, the workpiece can be left on the lathe. Turn off the lathe and use a brush or paper towel to apply the finish. Remove excess finish before restarting the lathe. Only start it at a very low speed with awareness that fresh coats have a tendency to splash and fling if not given adequate drying time. Allow it to dry and sand again with 320 to 400 grit sandpaper. Apply a second coat of finish and buff.

MOUNTING ON THE FACE PLATE

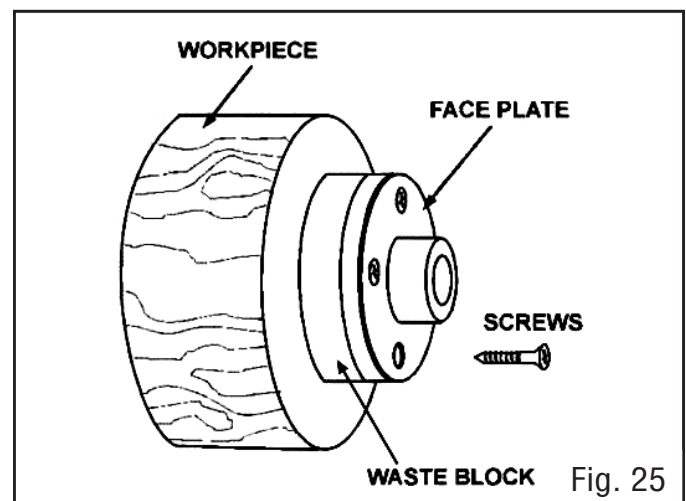
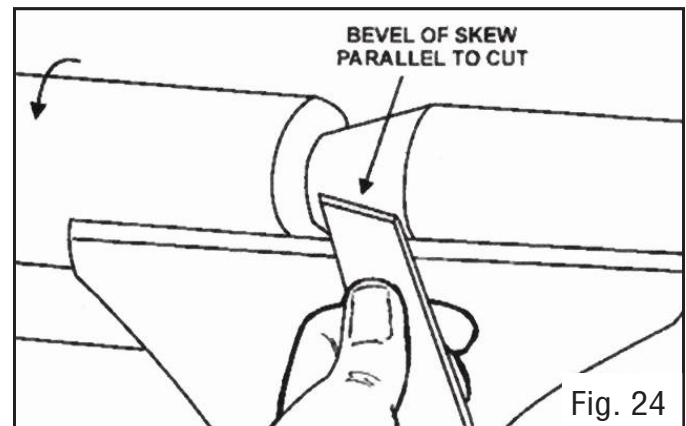
Use of the face plate is the most common for holding a block of wood for turning bowls and plates. This is an alternative option for workpieces with diameters that are greater than the 12-inch throat of the lathe.

To mount the stock to the face plate, select a stock that is at least .2 inches (5 mm) larger than each dimension of the finished workpiece. Always select the largest diameter face plate that can be used for the workpiece at hand.

True one of the surfaces of the workpiece for mounting against the faceplate. 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.

If the mounting screws on the face plate interfere with the workpiece, a glue or waste block can be used (Fig. 25). Make sure the block is of the same diameter as the face plate. Both the waste block and the workpiece should have flat surfaces for gluing. 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.

While face plates are the simplest, most reliable method of holding a larger block of wood for turning, chucks can also be used. 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 (dovetails) with a variety of jaws to accommodate different size tenons. Most also come with a screw chuck as well.

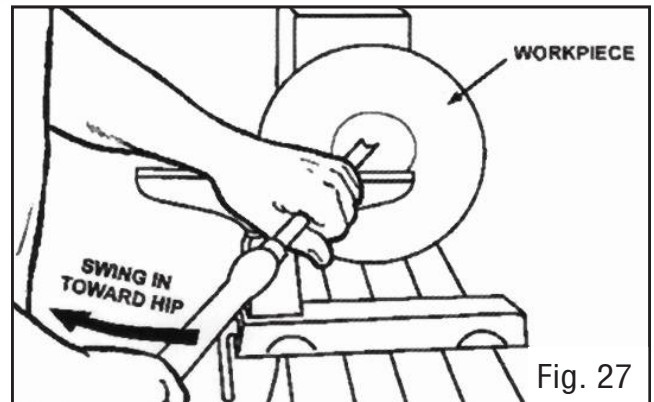
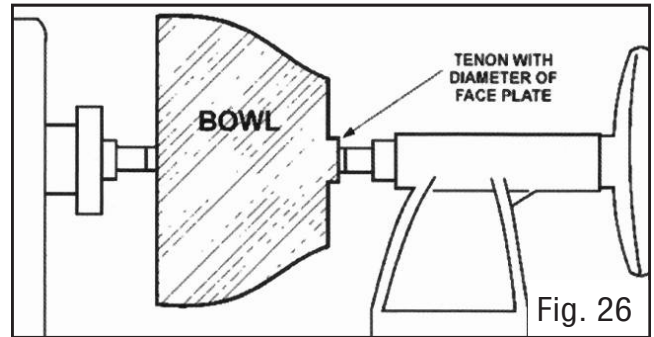


OPERATION

TO SHAPE THE OUTSIDE OF THE BOWL (FIG. 26)

Odd shaped burls, crotches and other irregular shaped blanks require special preparation before mounting in a chuck or onto a face plate. Remove the bark, if there is any from what appears to be the center of the top of the workpiece. Drive the spur center into the top of the workpiece with a mallet or a dead blow hammer. Slip the spur center into the headstock taper and bring the tailstock with a live center into position. Lock the tailstock to the bed and advance the quill in order to seat the cut center into the workpiece. Tighten the quill locking handle.

Turn the workpiece by hand to ensure proper clearance. Start the lathe at the lowest speed and bring it up to the proper speed for the size of the work being turned. If the machine starts to vibrate, lower the speed until the vibration stops. Rough out the outside of the bowl with the bowl gouge, holding the handle of the tool firmly against your hip.



As the bowl takes shape, work on the bottom (tailstock end) to accommodate attaching a face plate. Turn a short tenon to the size of the hole in the face plate. This will allow centering the workpiece when the face plate is attached.

NOTE: If you plan to use a chuck, turn a tenon of the appropriate length and diameter to fit your chuck.

Stop the lathe and remove the workpiece. Attach the face plate or chuck. Finish turning the outside of the bowl with a bowl gouge. Leave additional material at the base of the bowl for support while turning the interior. This will be removed later.

TO SHAPE THE INSIDE OF THE BOWL (FIG. 27)

Stop the lathe and move the tailstock away. Adjust the tool rest in front of the bowl just below the centerline at a right angle to the lathe's turning axis. Rotate the workpiece by hand to check for clearance.

Start by lightly shearing across the top of the workpiece from rim to center. Place a bowl gouge on the tool rest at the center of the workpiece with the flute facing the top of the bowl. The tool handle should be level and pointed toward the four o'clock position.


Use the left hand to control the cutting edge of the gouge, while the right hand swings the tool handle around towards your body. The flute should start out facing the top of the workpiece, rotating it upwards as it moves deeper into the bowl to maintain a clean and even curve. As the tool goes deeper into the bowl, progressively work outwards towards the rim of the bowl. It may be necessary to turn the tool rest into the piece as you get deeper into the bowl. **NOTE:** Try to make one light continuous movement from the rim to the bottom of the bowl to ensure a clean, sweeping curve through the


OPERATION

piece. Should there be a few small ridges left, a light cut with a large domed scraper can even out the surface.

Develop the preferred 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 rest back to the exterior to re-define the bottom of the bowl. Work the tight area around the face plate or the chuck with a bowl gouge. Begin the separation with a parting tool, but do not cut all the way through.

MAINTENANCE

 **WARNING:** To avoid accidents, turn OFF and unplug the tool from the electrical outlet before cleaning, adjusting, or performing any maintenance or lubrication work.

 **WARNING:** Any attempt to repair or replace electrical parts on this tool may be hazardous. Servicing of the tool must be performed by a qualified technician. When servicing, use only identical WEN replacement parts. Use of other parts may be hazardous or induce product failure.

ROUTINE INSPECTION

Before each use, inspect the general condition of the tool. If any of the following conditions exist, do not use until parts are replaced or the lathe is properly repaired.

Check for:

- Loose hardware or improper mounting,
- Misalignment or binding of moving parts,
- Damaged cord/electrical wiring,
- Cracks, cuts, and general wear on the drive belt,
- Cracked or broken parts, and
- Any other condition that may affect its safe operation

CLEANING & STORAGE

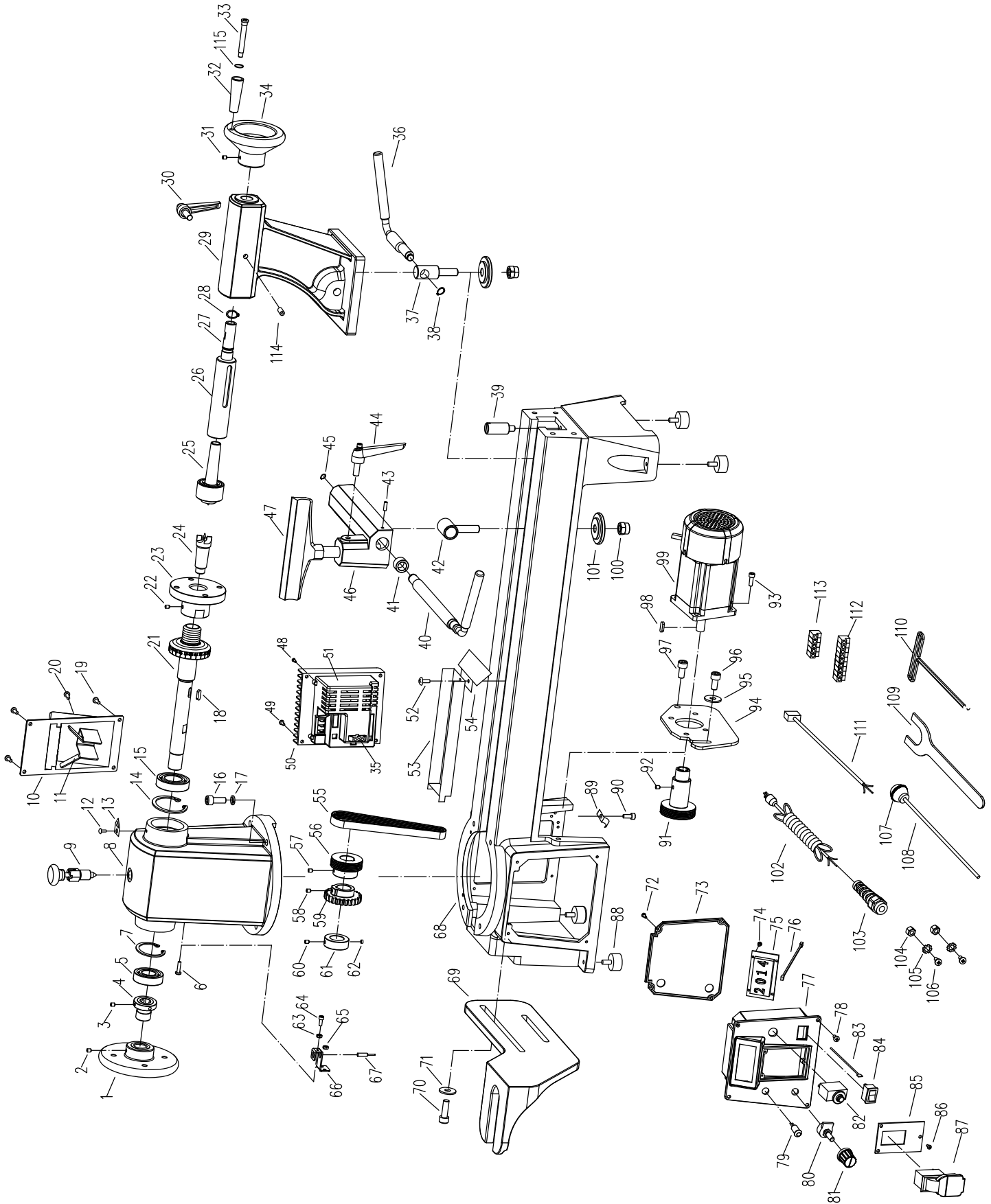
1. After every operation, use a vacuum to remove dust and chips from the tool surfaces, motor housing and work area. Keep the ventilation openings free from dust and debris to prevent the motor from overheating.
2. Wipe the tool surfaces clean with a soft cloth or brush. Make sure water does not get into the tool.
3. The lathe is made from steel and cast iron. All non-painted surfaces will rust if not protected. Using a soft cloth, wipe off the anti-rust coating that came on the lathe and apply a light coat of good-quality paste wax.

TROUBLESHOOTING GUIDE

⚠ WARNING: Stop using the tool immediately if any of the following problems occur. Repairs and replacements should only be performed by an authorized technician. For any questions, please contact our customer service at (800) 232-1195, M-F 8-5 CST or email us at techsupport@wenproducts.com.

| PROBLEM | CAUSE | SOLUTION |
|--|---|---|
| Motor or spindle stalls and will not start | Excessive cut | Reduce the depth of the cut |
| | Worn, damaged, or improperly adjusted belt | Adjust or replace the belt. |
| | Worn spindle bearing | Replace the bearing. |
| | Motor is protected from overload | Reset the circuit. |
| Excessive vibration. | Workpiece is warped, out of round, has major flaw, or was improperly prepared for turning | Correct the problem by planing or sawing workpiece, or discard it entirely and restart. |
| | Worn spindle bearing | Replace the spindle bearings |
| | Worn drive belt | Replace the drive belt |
| | Lathe is on an uneven surface | Place the lathe on a flat surface. |
| Tools tend to grab or dig in. | Dull tools | Keep tools sharp |
| | Tool rest set too low | Reposition the tool rest height. |
| | Tool rest set too far from work piece | Reposition the tool rest closer to the workpiece |
| | Improper tool being used | Use correct tool for operation |
| Tailstock moves when applying pressure | Cam lock nut needs adjusting | Tighten cam lock nut. |
| | Lathe bed and tailstock mating surfaces are greasy or oily | Remove the tailstock and clean the surfaces with a cleaner. Apply a light coat of oil to the lathe bed surface. |

EXPLODED VIEW & PARTS LIST



EXPLODED VIEW & PARTS LIST

| No. | Part No. | Description | Qty. |
|-----|------------|-------------------|------|
| 1 | 34027-001 | Back Face Plate | 1 |
| 2 | 3427-002 | Set Screw | 2 |
| 3 | 3427-003 | Set Screw | 4 |
| 4 | 3427-004 | Screw Bushing | 1 |
| 5 | 3427-005 | Bearing | 1 |
| 6 | 3427-006 | Socket Head Screw | 2 |
| 7 | 3427-007 | Retaining Ring | 1 |
| 8 | 3427-008 | Headstock | 1 |
| 9 | 3427-009 | Spindle Lock | 1 |
| 10 | 3427-010 | Back Cover | 1 |
| 11 | 3427-011 | Guard Plate | 1 |
| 12 | 3427-012 | Rivet | 1 |
| 13 | 3427-013 | Pointer | 1 |
| 14 | 3427-014 | Retaining Ring | 1 |
| 15 | 3427-015 | Bearing | 1 |
| 16 | 3427-016 | Socket Head Screw | 4 |
| 17 | 3427-017 | Lock Washer | 4 |
| 18 | 3427-018 | Key | 1 |
| 19 | 3427-019 | Pan Head Screw | 4 |
| 20 | 3427-020 | Pan Head Screw | 2 |
| 21 | 3427-021 | Spindle | 1 |
| 22 | 3427-022 | Set Screw | 2 |
| 23 | 3427-023 | Face Plate | 1 |
| 24 | 3427-024 | Spur Center | 1 |
| 25 | 3427-025 | Live Center | 1 |
| 26 | 3427-026-1 | Quill | 1 |
| 27 | 3427-027 | Screw Stem | 1 |
| 28 | 3427-028 | Retaining Ring | 1 |
| 29 | 3427-029-1 | Tail Stock | 1 |

| No. | Part No. | Description | Qty. |
|-----|------------|-------------------------|------|
| 30 | 3427-030-1 | Handle | 1 |
| 31 | 3427-031 | Set Screw | 2 |
| 32 | 3427-032-1 | Tailstock Handle | 1 |
| 33 | 3427-033-1 | Handle Screw | 1 |
| 34 | 3427-034 | Hand Wheel | 1 |
| 35 | 34027-035 | PCB Connector with Wire | 1 |
| 36 | 3427-036-1 | Tailstock Locking Lever | 1 |
| 37 | 3427-037 | Drawbar | 1 |
| 38 | 3427-038 | Retaining Ring | 1 |
| 39 | 3427-039 | End Stop Rod | 1 |
| 40 | 3427-040 | Locking Lever | 1 |
| 41 | 3427-041 | Bushing | 1 |
| 42 | 3427-042 | Drawbar | 1 |
| 43 | 3427-043 | Set Screw | 1 |
| 44 | 3427-044 | Locking Handle | 1 |
| 45 | 3427-045 | Retaining Ring | 1 |
| 46 | 3427-046 | Tool Rest Base | 1 |
| 47 | 3427-047 | Tool Rest | 1 |
| 48 | 3427-048 | Thread Forming Screw | 4 |
| 49 | 3427-049 | Pan Head Screw | 4 |
| 50 | 3427-050-1 | Motor Driver | 1 |
| 51 | 34027-051 | Box | 1 |
| 52 | 3427-052 | Pan Head Screw | 1 |
| 53 | 3427-053 | Dust Cover | 1 |
| 54 | 3427-054 | Dust Plate | 1 |
| 55 | 3427-055 | Belt | 1 |
| 56 | 3427-056 | Spindle pulley | 1 |
| 57 | 3427-057 | Set Screw | 1 |

EXPLODED VIEW & PARTS LIST

| No. | Part No. | Description | Qty. |
|-----|------------|-----------------------|------|
| 58 | 3427-058 | Set Screw | 1 |
| 59 | 3427-059 | Indexing Disc | 1 |
| 60 | 3427-060 | 59 | 1 |
| 61 | 3427-061 | Speed Detection Plate | 1 |
| 62 | 3427-062 | Magnet | 1 |
| 63 | 3427-063 | Hex Nut | 1 |
| 64 | 3427-064 | Socket Head Screw | 1 |
| 65 | 3427-065 | Hex Nut | 2 |
| 66 | 3427-066 | Sensor Mount | 1 |
| 67 | 3427-067 | Sensor | 1 |
| 68 | 3427-068-1 | Bed | 1 |
| 69 | 3427-069 | Back Support | 1 |
| 70 | 3427-070 | Hex Head Bolt | 3 |
| 71 | 3427-071 | Washer | 3 |
| 72 | 3427-072 | Self Tapping Screw | 4 |
| 73 | 3427-073 | Switch Backing Plate | 1 |
| 74 | 3427-074 | Self Tapping Screw | 4 |
| 75 | 3427-075 | Digital Speed Display | 1 |
| 76 | 3427-076 | Display Wire | 1 |
| 77 | 3427-077 | Switch Box | 1 |
| 78 | 3427-078 | Pan Head Screw | 4 |
| 79 | 3427-079 | Protection Indicator | 1 |
| 80 | 3427-080 | Potentiometer | 1 |
| 81 | 3427-081 | Speed Dial | 1 |
| 82 | 3427-082-1 | Circuit Breaker | 1 |
| 83 | 3427-083 | Switch Wiring | 2 |
| 84 | 3427-084 | Directionality Switch | 1 |
| 85 | 3427-085 | Switch Plate | 1 |
| 86 | 3427-086 | Self Tapping Screw | 3 |

| No. | Part No. | Description | Qty. |
|-----|------------|----------------------|------|
| 87 | 3427-087 | Power Switch | 1 |
| 88 | 3427-088-1 | Foot | 4 |
| 89 | 3427-089 | Cord Clamp | 2 |
| 90 | 3427-090 | Pan Head Screw | 2 |
| 91 | 3427-091 | Motor Pulley | 1 |
| 92 | 3427-092 | Set Screw | 1 |
| 93 | 3427-093 | Socket Head Screw | 4 |
| 94 | 3427-094 | Motor Mounting Plate | 1 |
| 95 | 3427-095 | Flat Washer | 1 |
| 96 | 3427-096 | Hex Head Bolt | 1 |
| 97 | 3427-097 | Hex Head Bolt | 1 |
| 98 | 3427-098 | Key | 1 |
| 99 | 3427-099 | Motor | 1 |
| 100 | 3427-100 | Hex Nut | 2 |
| 101 | 3427-101 | Clamp | 2 |
| 102 | 3427-102 | Power Cord | 1 |
| 103 | 3427-103 | Cord Bushing | 1 |
| 104 | 3427-104 | Nut | 2 |
| 105 | 3427-105 | Serrated Washer | 2 |
| 106 | 3427-106 | Pan Head Screw | 2 |
| 107 | 3427-107 | Knob | 1 |
| 108 | 3427-108 | Knockout Rod | 1 |
| 109 | 3427-109 | Wrench | 1 |
| 110 | 3427-110 | Hex Wrench | 1 |
| 111 | 3427-111 | Inner Wire | 1 |
| 112 | 3427-112 | 9 Poles Connector | 1 |
| 113 | 3427-113 | 5 Poles Connector | 1 |
| 114 | 3427-114 | Set Screw | 1 |
| 115 | 3427-115 | Rubber Ring | 1 |

WARRANTY STATEMENT

WEN Products is committed to building tools that are dependable for years. Our warranties are consistent with this commitment and our dedication to quality.

LIMITED WARRANTY OF WEN CONSUMER POWER TOOLS PRODUCTS FOR HOME USE

GREAT LAKES TECHNOLOGIES, LLC (“Seller”) warrants to the original purchaser only, that all WEN consumer power tools will be free from defects in material or workmanship for a period of two (2) years from date of purchase. Ninety days for all WEN products if the tool is used for professional or commercial use.

SELLER’S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY under this Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than Seller or Authorized Service Center. To make a claim under this Limited Warranty, you must make sure to keep a copy of your proof of purchase that clearly defines the Date of Purchase (month and year) and the Place of Purchase. Place of purchase must be a direct vendor of Great Lakes Technologies, LLC. Third party vendors such as garage sales, pawn shops, resale shops, or any other secondhand merchant void the warranty included with this product. Contact techsupport@wenproducts.com or 1-800-232-1195 to make arrangements for repairs and transportation.

When returning a product for warranty service, the shipping charges must be prepaid by the purchaser. The product must be shipped in its original container (or an equivalent), properly packed to withstand the hazards of shipment. The product must be fully insured with a copy of the warranty card and/or the proof of purchase enclosed. There must also be a description of the problem in order to help our repairs department diagnose and fix the issue. Repairs will be made and the product will be returned and shipped back to the purchaser at no charge.

THIS LIMITED WARRANTY DOES NOT APPLY TO ACCESSORY ITEMS THAT WEAR OUT FROM REGULAR USAGE OVER TIME INCLUDING BELTS, BRUSHES, BLADES, ETC. ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURATION TO TWO (2) YEARS FROM DATE OF PURCHASE. SOME STATES IN THE U.S., SOME CANADIAN PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LIABILITY FOR LOSS OF PROFITS) ARISING FROM THE SALE OR USE OF THIS PRODUCT. SOME STATES IN THE U.S. AND SOME CANADIAN PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE IN THE U.S., PROVINCE TO PROVINCE IN CANADA AND FROM COUNTRY TO COUNTRY.

THIS LIMITED WARRANTY APPLIES ONLY TO PORTABLE ELECTRIC TOOLS, BENCH POWER TOOLS, OUTDOOR POWER EQUIPMENT AND PNEUMATIC TOOLS SOLD WITHIN THE UNITED STATES OF AMERICA, CANADA AND THE COMMONWEALTH OF PUERTO RICO. FOR WARRANTY COVERAGE WITHIN OTHER COUNTRIES, CONTACT THE WEN CUSTOMER SUPPORT LINE.

THANKS FOR REMEMBERING 