

**CENTRAL MACHINERY**®

# 10" X 18" MINI WOOD LATHE

**Model 65345**

## SET UP AND OPERATING INSTRUCTIONS



Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.  
Failure to do so can result in serious injury.  
SAVE THIS MANUAL.**

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**For technical questions or replacement parts, please call 1-800-444-3353.**

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## SAVE THIS MANUAL

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Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

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## IMPORTANT SAFETY INFORMATION

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In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### **DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### **WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

**CAUTION**, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### **NOTICE**

**NOTICE** is used to address practices not related to personal injury.

### **CAUTION**

**CAUTION**, without the safety alert symbol, is used to address practices not related to personal injury.

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## General Power Tool Safety Warnings



**WARNING** Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference. The term "power tool" in the warnings refers to your mains-operated (corded) power tool.

1. **Work area safety**
  - a. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
  - b. **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.
  - c. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.
2. **Electrical safety**
  - a. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools.**

*Unmodified plugs and matching outlets will reduce risk of electric shock.*

- b. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** *There is an increased risk of electric shock if your body is grounded.*
  - c. Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
  - d. Do not abuse the cord. Never use the cord to unplug the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
  - e. 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.**
- 3. Personal safety**
    - a. 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.*
    - b. Use safety equipment. Always wear ANSI-approved eye protection.** *Safety equipment such as NIOSH-approved dust mask/respirator, full face shield, heavy-duty work gloves, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.*
    - c. 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.*
    - d. Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
    - e. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** *Loose clothes, jewelry or long hair can be caught in moving parts.*
  - 4. Power tool use and care**
    - a. 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.*
    - b. 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.*
    - c. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
    - d. 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.*
    - e. 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.**

- f. Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g. Use the power tool and its accessories 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.*

## **5. Service**

- a. 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.*

### **Lathe Safety Warnings**

1. Maintain labels and nameplates on the Lathe. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. Do not run the Lathe without its covers and guards in place.
3. Tighten all locks before operating.
4. Do not mount a split workpiece.
5. Use the lowest speed when starting a new workpiece.
6. Always stop the Lathe at its slowest speed. If the Lathe is run so fast that it vibrates, there is a risk that the workpiece will be thrown or the cutting tool jerked from your hands.
7. Always rotate the workpiece by hand before turning on the Lathe. If the workpiece strikes the tool rest, it could split and be thrown out of the Lathe.
8. Do not allow cutting tools to bite into the workpiece. The wood could be split or thrown from the Lathe.
9. Always position the tool rest above the centerline of the Lathe when shaping a piece of stock.
10. Before attaching a workpiece to the faceplate, always rough it out to make it as round as possible. This minimizes the vibrations while the piece is being turned. Always fasten the workpiece securely to the faceplate. Failure to do so could result in the workpiece being thrown away from the Lathe.
11. Remove all loose knots in the workpiece before mounting between the centers or on the faceplate.
12. Position your hands so they will not slip onto the workpiece when the Lathe is running.
13. Use a brush or compressed air to remove wood shavings; never your hands. The wood shavings will be sharp.
14. The cutting tool must always be tight within the tool post or chuck and adjusted to limit projection from the post. This will reduce the possibility of the tool breaking or bending.

15. Avoid unintentional starting. Prepare to begin work before turning on the tool.
16. Do not reach across the Lathe while it is running.
17. Industrial applications must follow OSHA guidelines.
18. Do not use the Lathe if it is off-balance, or the workpiece is not properly centered.
19. Only feed workpiece into a cutting tool against the direction of rotation. The workpiece must always be rotating toward you.
20. Do not leave the tool unattended when it is plugged into an electrical outlet. Turn off the tool, and unplug it from its electrical outlet before leaving.
21. This product is not a toy. Keep it out of reach of children.
22. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should:
  - Avoid operating alone.
  - Do not use with power switch locked on.
  - Properly maintain and inspect to avoid electrical shock.
  - Any power cord must be properly grounded. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.
23. Some dust created by power sanding, sawing, grinding, drilling, and

other construction activities, contains chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement or 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, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)

24. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



**SAVE THESE INSTRUCTIONS.**



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## GROUNDING

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### **⚠️ WARNING** TO PREVENT ELECTRIC SHOCK



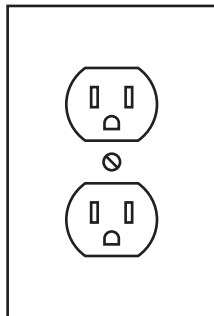
#### AND DEATH FROM INCORRECT GROUNDING WIRE CONNECTION:

Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

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### Grounded Tools: Tools with Three Prong Plugs

This product uses a 3-prong plug.



#### 3-Prong Plug and Outlet

1. Tools marked with “Grounding Required” have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk

of electric shock. (See **3-Prong Plug and Outlet.**)

2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool’s grounding system and must never be attached to an electrically “live” terminal. (See **3-Prong Plug and Outlet.**)
3. The tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the preceding illustration. (See **3-Prong Plug and Outlet.**)

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## EXTENSION CORDS

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1. **Grounded** tools require a three wire extension cord. **Double Insulated** tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. (See **Table A.**) The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. (See **Table A.**)
3. When using more than one extension cord to make up the total length, make sure each cord contains at






least the minimum wire size required.  
(See Table A.)

4. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. (See Table A.)
5. If you are using an extension cord outdoors, make sure it is marked with the suffix "W-A" ("W" in Canada) to indicate it is acceptable for outdoor use.
6. Make sure the extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
7. Protect the extension cords from sharp objects, excessive heat, and damp or wet areas.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (110 VOLT)					
NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH				
	25'	50'	75'	100'	150'
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	18	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-

**TABLE A** \* Based on limiting the line voltage drop to five volts at 150% of the rated amperes.

## SYMBOLOLOGY

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
	Volts Alternating Current
	Amperes
$n_0$ xxxx/min.	No Load Revolutions per Minute (RPM)

## SPECIFICATIONS

Electrical Requirements	110 V~ / 60 Hz Power Cord: 18 AWG X 3C Power Plug: 3-Prong, Grounded 7.5 A
Maximum Stock Length/Diameter	18" Long, 10" Diameter
Lathe Type	Wood Cutting
Motor	1/2 HP
Motor Speed	1700 RPM
Spindle Speeds (RPM)	750, 1100, 1600, 2200, 3200
Spindle Run Out	0.0025"
Tail Stock Quill Travel	2"
Tail Stock Quill Taper	MT-2
Tool Rest Length	7"
Tool Rest Capacity	2"
Faceplate Size	3"
Drive Method	Belt & Pulley
Belt Type	3-Groove, 0.275" x 2'1" Circumference
Accessories	Safety Goggles (Qty. 1) 3mm, 6mm, 8mm Hex Wrench (1 ea.) Faceplate & Spindle Nut (1 ea.) Live Center & Spur Center (1 ea.) Tool Rest (Qty. 1)



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## UNPACKING

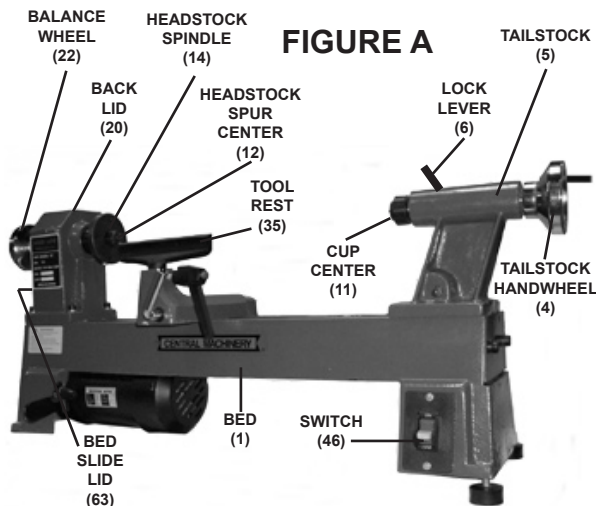
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When unpacking, check to make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

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## PRODUCT FEATURES

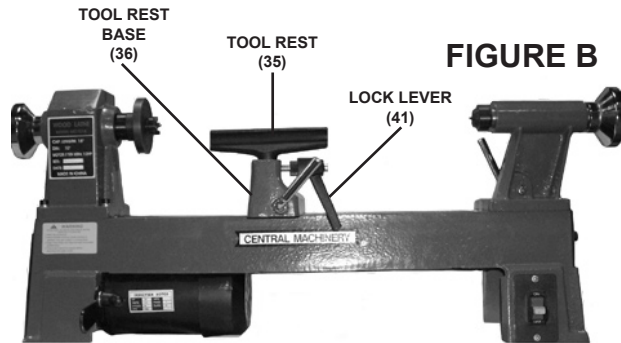
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**⚠ WARNING** TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:  
Turn the Power Switch (46) of the Lathe to its “OFF” position and unplug the tool from its electrical outlet before assembling or making any adjustments.

**Note:** For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

1. The Lathe comes fully assembled with the exception of the Tool Rest (35). To install the Tool Rest, loosen the Lock Lever (41). Insert the Tool Rest into the Tool Rest Base (36). Then retighten the Lock Lever to secure the Tool Rest in place. (See Figure B.)



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## ASSEMBLY INSTRUCTIONS

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Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

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## WORK AREA SET UP

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1. Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent injury and distraction.

2. The Lathe will need to be located on a surface capable of bearing the combined weight of the Lathe and intended workpieces. The surface must be able to withstand the vibration generated by the Lathe during operation.
3. The Lathe must be completely level, left-to-right **and** front-to-back, or the Lathe will not rotate properly and may become damaged.
4. The unpainted surfaces are coated with a waxy oil to protect them from corrosion during shipment. Remove the coating with a solvent cleaner or citrus-based degreaser. Avoid chlorine-based solvents since they will damage the paint.
5. Route the power cord along a safe route to reach the work area without creating a tripping hazard or exposing the power cord to possible damage.

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## DEFINITION OF TERMS

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**Bed:** Main supporting casting running the length of the lathe

**Between Centers:** A dimension representing the maximum length of a workpiece that can be turned between centers. Also a method of holding a workpiece by mounting it between the centers of the Headstock and the Tailstock spindles.

**Center:** A precision ground tapered cylinder with a pointed tip and a Morse Taper shaft. Used in the tailstock to support the end of long workpieces. May also be used in the

Headstock spindle to support work between centers at both ends.

**Centerline:** An imaginary line extending from the center of the Spindle through the center of the Tailstock ram, representing the central axis of the lathe around which the work rotates.

**Chuck:** A clamping device for holding work in the lathe or for holding drills in the Tailstock.

**Tool Rest Base:** Movable platform where the Tool Rest is mounted; it can be set at an angle to the workpiece (also known as compound slide and compound rest).

**Faceplate:** A metal plate with a flat face-mounted spindle to hold irregularly shaped work.

**Facing:** A lathe operation in which wood is removed from the end of a workpiece to create a smooth surface.

**Headstock:** The main casting mounted on the left end of the Bed where the Spindle is mounted. Houses the Spindle Gears.

**Morse Taper (MT):** A taper of specific dimensions used to mate matching male and female parts together tightly. The Tailstock has a MT-2 Morse Taper.

**Spindle:** Main rotating shaft on which the Chuck is mounted. It passes through the Headstock.

**Spindle Through-hole:** A dimension indicating the minimum diameter of the hole that passes through the Spindle. A workpiece with a diameter

smaller than this can pass through the Spindle to work on longer pieces.

**Swing:** A dimension representing the largest diameter workpiece that a lathe can rotate. The 10" x 18" Lathe means the maximum size workpiece that can rotate without hitting the Bed is 10" in diameter.

**Tailstock:** Assembly that slides along the ways and can be locked in place. Used to hold long workpieces in place or to mount a drill chuck.

**Tailstock Handwheel:** Moves the Tailstock in and out.

**Tool Rest:** A device mounted on the compound that holds the cutting tool.

**Turning:** A lathe operation that removes wood from the outside diameter of the workpiece.

**Ways:** Surface along the top of the Bed on which the Tailstock rides. The ways are aligned with the centerline of the lathe.

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## ADJUSTMENTS

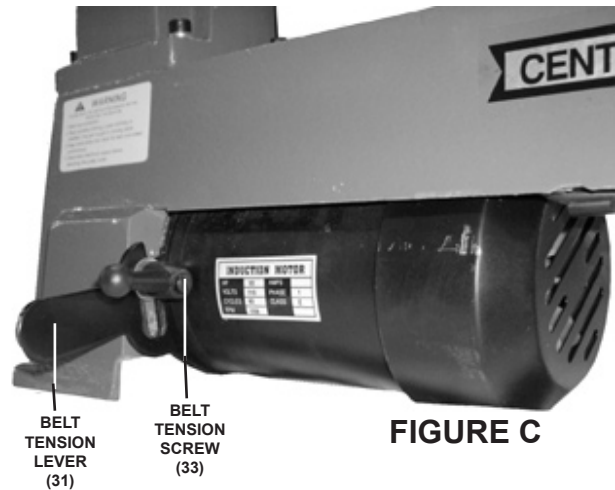
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### To Adjust The Spindle Speed (RPM):

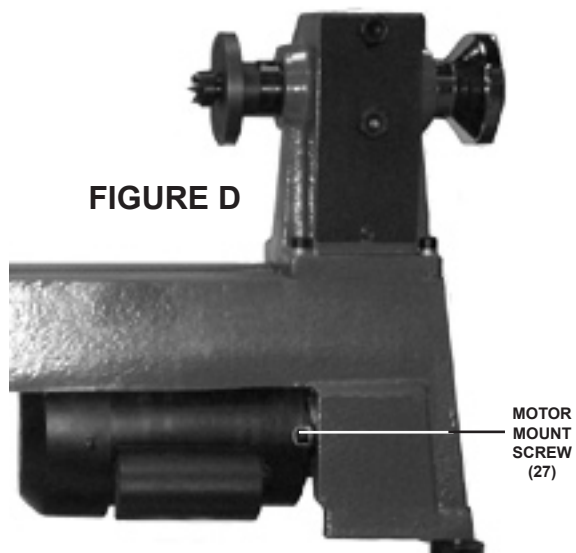
To prevent serious injury, make sure the Lathe's Power Switch (46) is in its "OFF" position and the machine is unplugged

**⚠WARNING** from its electrical outlet.

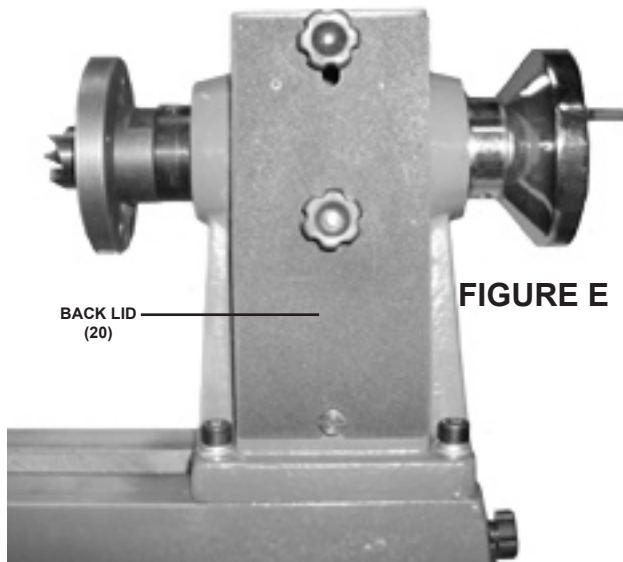
1. Loosen the Belt Tension Screw (33). Then move the Belt Tension Lever (31) to release tension from the Drive Belt (26). (See Figure C.)



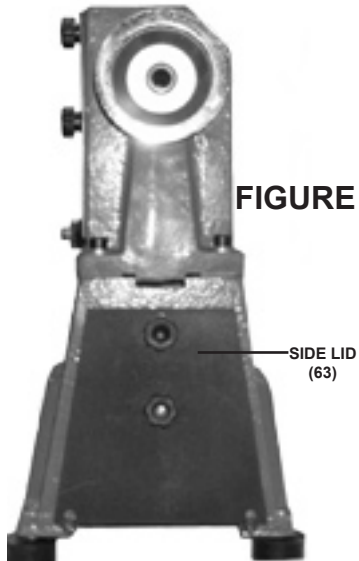
2. Loosen the Motor Mount Screw (27). (See Figure D.)



3. Open the Back Lid (20) and Side Lid (63). (See Figures E and F, next page.)



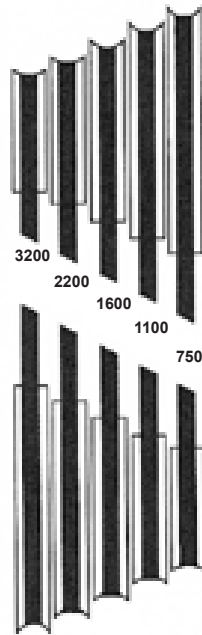
**FIGURE E**



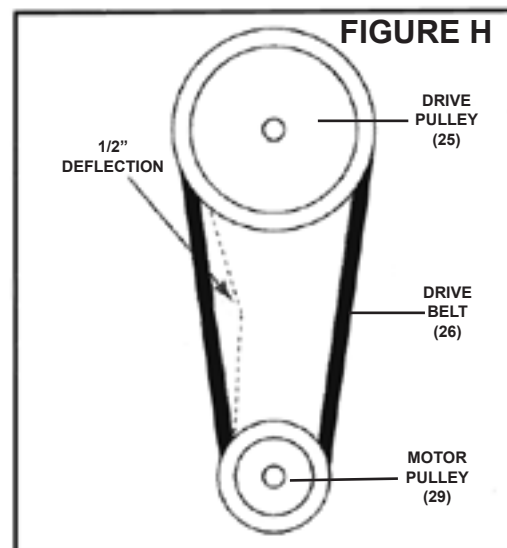
**FIGURE F**

4. Locate the desired speed on the Speed Chart on the rear of the Lathe Bed, and move the Drive Belt (26) to the proper grooves on the Drive Pulley (25) and Motor Pulley (29). **(See Figure G.)**

**FIGURE G**



5. Move the Belt Tension Lever (31) down, adjusting tension so that 1/2" of Drive Belt (26) deflection is measured as shown in the following illustration. Then retighten the Belt Tension Screw (33). **(See Figure H.)**



6. Retighten the Motor Mount Screw (27). **(See Figure D.)**

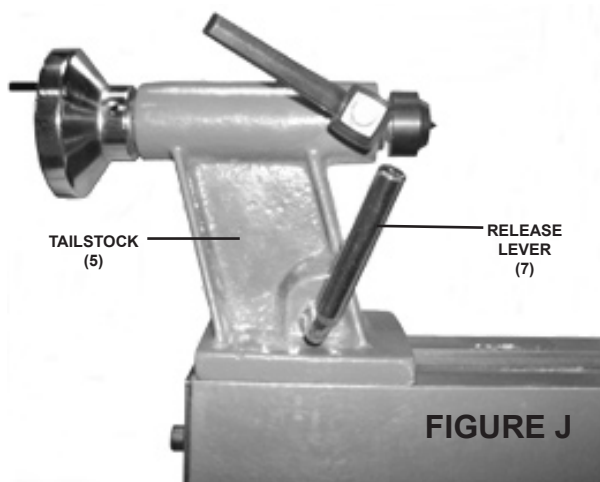
- Replace the Back Lid (20) and Side Lid (63). (See Figures E and F.)

FIGURE I Recommended Turning Speeds	
Work Diameter In Inches	Speeds (RPM)
0~2"	2200~3200
2"~3"	1600~2200
3"~4"	1100~1600
4"~5"	750~1100
6"+	750

**Note:** The above speeds can vary with different types of wood and the skill of the operator.  
**Sanding:** Use the fastest speed possible without burning the wood.  
**Polishing and Finishing:** Typically, polishing and finishing can be done at faster speeds than turning.

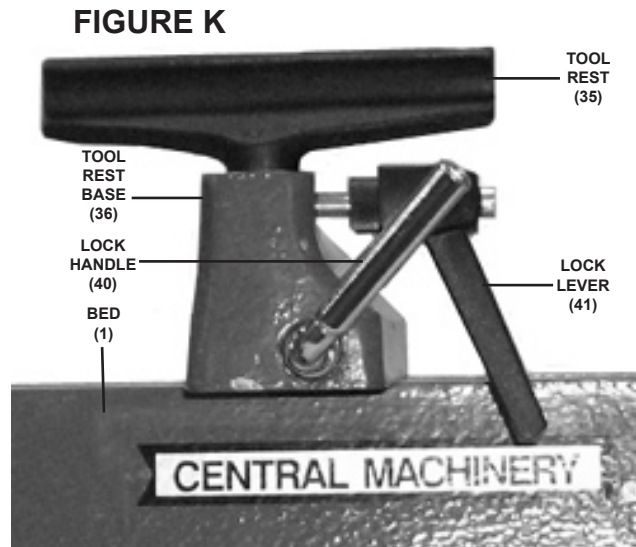
### To Adjust The Tailstock:

- Loosen the Release Lever (7) and move the Tailstock (5) to the desired position. Then retighten the Release Lever. **NOTE:** If the Release Lever will not release or lock the Tailstock (either too tight or too loose), tighten or loosen the Hex Nut (44) located on the underside of the Tailstock in small increments as needed to achieve the proper clamping pressure. (See Figure J and Assy. Diagram.)



### To Adjust The Tool Rest:

- Loosen the Lock Handle (40) and slide the Tool Rest Base (36) along the Bed (1) to the desired position. Then retighten the Lock Handle. (See Figure K.)
- Loosen the Lock Lever (41) and adjust the Tool Rest (35) vertically or swivel it as needed. Then retighten the Lock Lever. (See Figure K.)

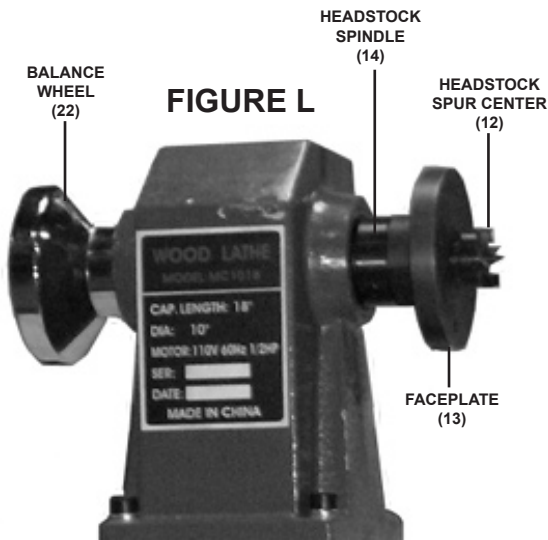


### To Install And Remove The Spur Center:

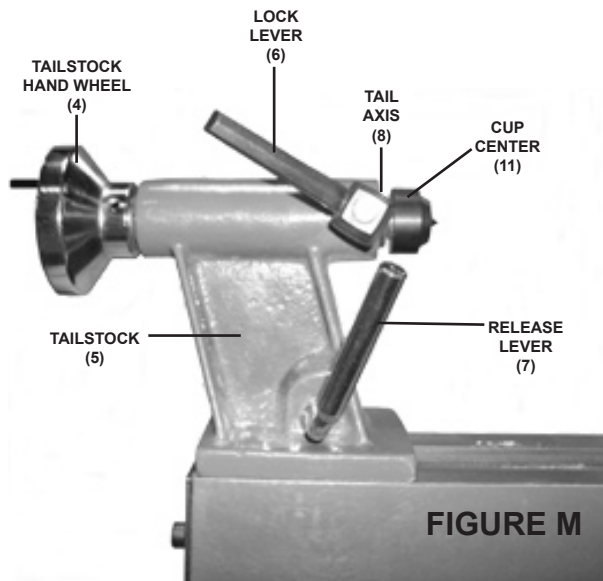
- To install,** insert the tapered end of the Headstock Spur Center (12) into the Headstock Spindle (14). Make sure the Headstock Spur Center is securely installed by giving it a quick pull. A properly installed Headstock Spur Center will not pull out by hand. (See Figure L, next page.)
- To remove,** hold the Balance Wheel (22) securely while turning the Faceplate (13) counterclockwise until the Headstock Spur Center (12) is forced out of the Headstock Spindle (14). (See Figure L, next page.)



3. **NOTE:** If the Lathe is used with the Faceplate (13) removed, a knockout tool (not included) is required for removing the Headstock Spur Center (12). (See Figure L.)



**⚠ WARNING** The Lock Lever (6) must always be locked down while the Lathe is in use. The workpiece can be thrown from the Lathe if this step is not followed. The Tail Axis (8) should not protrude from the Tailstock (5) more than 2" or the Tail Axis will not be supported enough. Failure to follow these warnings may result in personal injury. (See Figure M.)



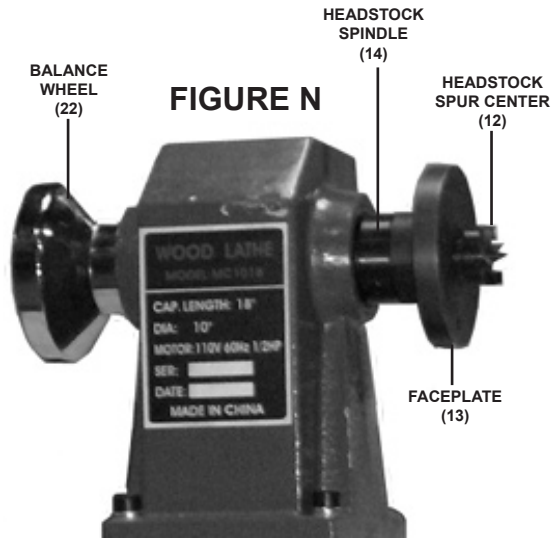
#### To Install And Remove The Cup Center:

1. **To install**, loosen the Lock Lever (6) approximately half a turn counterclockwise. (See Figure M.)
2. Rotate the Tailstock Handwheel (4) clockwise until the Tail Axis (8) protrudes out of the Tailstock (5) about 3/4". (See Figure M.)
3. Insert the Cup Center (11) and push firmly. Then retighten the Lock Lever (6). (See Figure M.)
4. **To remove**, loosen the Lock Lever (6) approximately half a turn counterclockwise. (See Figure M.)
5. Rotate the Tailstock Handwheel (4) counterclockwise until the Tail Axis (8) bottoms out, causing the Cup Center (11) to be forced out of the Tail Axis. (See Figure M.)

#### To Install And Remove The Faceplate:

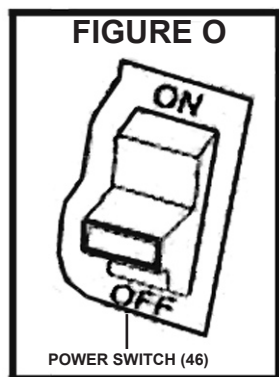
1. **To install**, thread the Faceplate (13) onto the Headstock Spindle (14) until it is secure against the shoulder on the Headstock Spindle. (See Figure N, next page.)
2. **To remove**, hold the Balance Wheel (22) securely while turning the Faceplate (13) counterclockwise until it is removed. If the Headstock Spur Center (12) is installed, it will be removed during this process. (See Figure N, next page.)





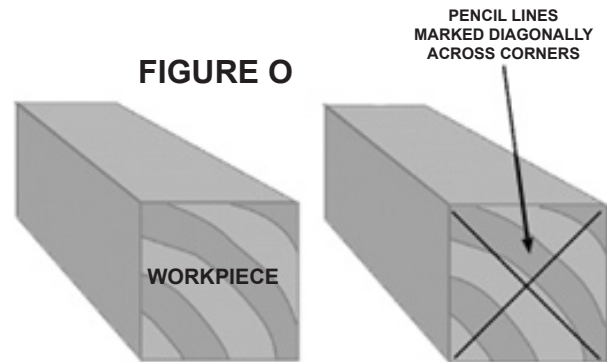
### The Power Switch Safety Switch:

1. The Lathe features a yellow Safety Switch on the Power Switch (46) to prevent unauthorized use. To turn the Lathe on, plug the Power Cord (45) into the nearest 120 volt, grounded, electrical outlet.
2. Insert the Safety Switch into the Power Switch (46). Move the Power Switch to the “ON” position. To turn the Lathe off, move the Power Switch to the “OFF” position. To lock the Power Switch in the “OFF” position, remove the Safety Switch and store it in a safe location. (See Figure O.)

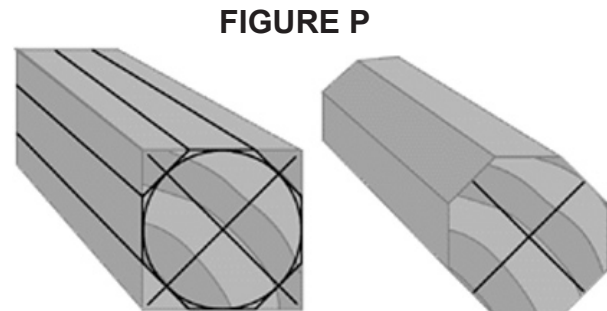


## OPERATING INSTRUCTIONS

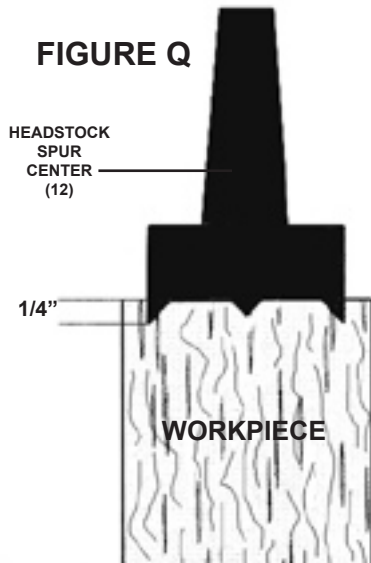
1. With the Power Switch (46) in its “OFF” position and the Lathe unplugged from its electrical outlet, make all necessary adjustments to the machine as previously discussed.
2. **To set up a spindle turning operation**, mark both ends of the workpiece by drawing diagonal lines from corner to corner. The intersection point of these two lines will indicate the center of the workpiece. (See Figure O.)
3. Use a wood mallet and punch to tap the point of the center of the workpiece so that it leaves a center mark. (See Figure O.)
4. Use a 1/8” drill bit to drill a 3/16” deep hole at the center mark on the workpiece. (See Figure O.)



5. Cut the corners off the workpiece if it is over 2” x 2” to make turning safer and easier. (See Figure P.)

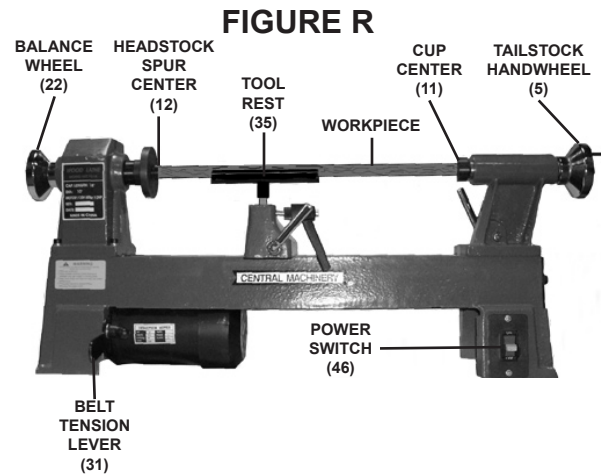


- Use a wood mallet to drive the Headstock Spur Center (12) into the center of the workpiece at least 1/4" deep. (See Figure Q.)

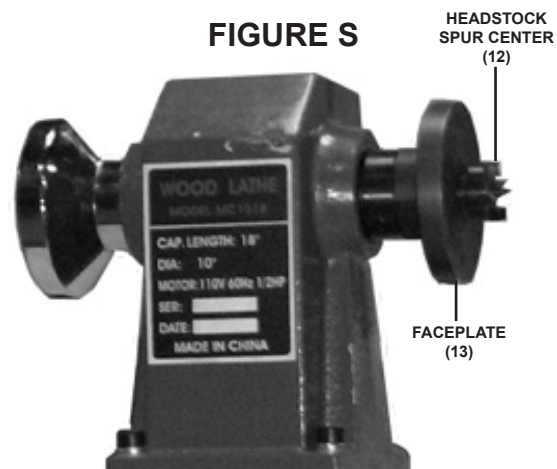


- With the workpiece still attached, insert the Headstock Spur Center (12) into the Headstock Spindle (14). (See Figure R.)
- With the Cup Center (11) installed in the Tailstock (5), slide the Tailstock toward the workpiece until the Cup Center touches the workpiece center point. Then lock the Tailstock in position. (See Figure R.)
- Use the Tailstock Handwheel (4) to push the Cup Center (11) into the workpiece at least 1/4". (See Figure R.)
- Position the Tool Rest (35) approximately 1/4" away from the workpiece and approximately 1/8" above the center line. (See Figure R.)
- Make sure to test the set up by hand turning the workpiece to ensure there is enough clearance all the way around before starting.

**WARNING** Do not press the workpiece too firmly with the Tailstock (5) or the bearings will bind and overheat. Also, do not leave the workpiece too loose or the workpiece will spin off the Lathe. (See Figure R.)

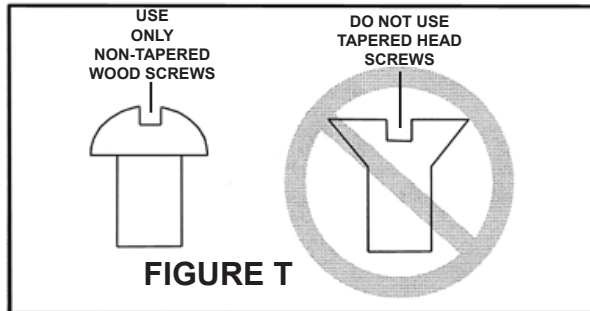


- To set up a faceplate turning operation, remove the Headstock Spur Center (12) from the Faceplate (13). (See Figure S.)

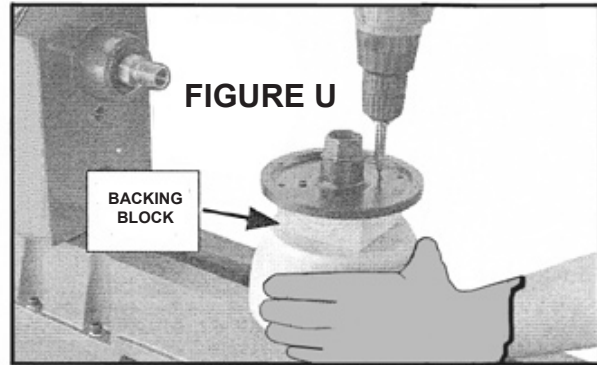


- Find the center of the workpiece in the same way as when spindle turning.
- Cut off the corners of the workpiece.

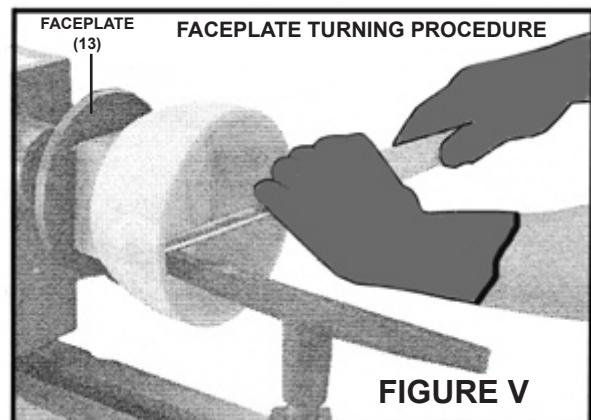
- Center the Faceplate (13) on the workpiece and attach it through the Faceplate mounting holes with **non-tapered** head wood screws. (See Figure T.)



- NOTE: Faceplate turning is typically done with open-faced workpieces like bowls. If screws cannot be placed in the workpiece, then a *backing block* can be glued to the workpiece and attached to the Faceplate (13) with screws. (See Figure U.)
- To mount the workpiece to a backing block, make the backing block from a piece of scrap wood that is flat on both sides. (See Figure U.)
- Mark the center of the backing block. (See Figure U.)
- Drill a 14" diameter hole through the center of the backing block. (See Figure U.)
- Glue the center of the backing block to the center of the workpiece. Clamp the backing block to the workpiece, and wait for the glue to dry according to the glue manufacturer's recommendation. (See Figure U.)



- Thread the Faceplate (13) onto the Headstock Spindle (14) and tighten securely. (See Figure V.)



- After turning, the workpiece can be sanded and finished before removing it from the Lathe. IMPORTANT: Whenever sanding or finishing, remove the Tool Rest (35) to increase safety and gain adequate working room.

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## MAINTENANCE AND SERVICING

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**Procedures not specifically explained in this manual must be performed only by a qualified technician.**

## **⚠️ WARNING**

**TO PREVENT  
SERIOUS INJURY**

**FROM ACCIDENTAL  
OPERATION:**

**Turn the Power Switch (46) of the Lathe to its “OFF” position and unplug the machine from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.**

**TO PREVENT SERIOUS  
INJURY FROM MACHINE  
FAILURE:**

**Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.**

1. BEFORE EACH USE, inspect the general condition of the Lathe. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation.
2. AFTER USE, clean external surfaces of the tool with clean cloth.
3. DAILY, lubricate all external moving parts with ISO 68 or SAE 20W oil.
4. Lubricate the Tailstock oiling point every five uses, or once per week if used frequently.
5. **⚠️ WARNING! If the Power Cord (45) of this Lathe is damaged, it must be replaced only by a qualified service technician.**

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## **PLEASE READ THE FOLLOWING CAREFULLY**

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THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

## TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
Quality of cut is poor.	<ol style="list-style-type: none"> <li>1. Cutting tool is above workpiece center line.</li> <li>2. Lathe speed too slow.</li> <li>3. Cutting tool is dull.</li> <li>4. Cutting too aggressively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lower cutting tool to center line of workpiece.</li> <li>2. Increase lathe speed.</li> <li>3. Sharpen or replace cutting tool.</li> <li>4. Use a lighter touch.</li> </ol>
Excessive vibration when turning thin workpieces.	<ol style="list-style-type: none"> <li>1. Cutting tool is positioned below workpiece center line.</li> <li>2. Cutting too aggressively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Raise cutting tool to center line of workpiece.</li> <li>2. Use a lighter touch.</li> </ol>
Excessive vibration when turning larger workpieces or bowls.	<ol style="list-style-type: none"> <li>1. Headstock and/or tailstock improperly located at ends of workpiece.</li> <li>2. Workpiece is unbalanced.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for proper workpiece centers.</li> <li>2. Cut off stock until workpiece is balanced.</li> </ol>
Lathe will not turn on.	<ol style="list-style-type: none"> <li>1. Speed control lever not in its lowest speed setting.</li> <li>2. Electrical outlet not working or is of wrong voltage.</li> <li>3. Blown fuse or tripped circuit breaker.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure speed control lever is turned to its lowest speed setting.</li> <li>2. Make sure lathe is plugged into a working, 120 volt, grounded, electrical outlet.</li> <li>3. Replace fuse or reset circuit breaker.</li> </ol>
Lathe will not turn off.	<ol style="list-style-type: none"> <li>1. Damaged or faulty power switch and/or internal wiring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Unplug the lathe from its electrical outlet immediately. Do not operate lathe until it is repaired by a qualified service technician.</li> </ol>



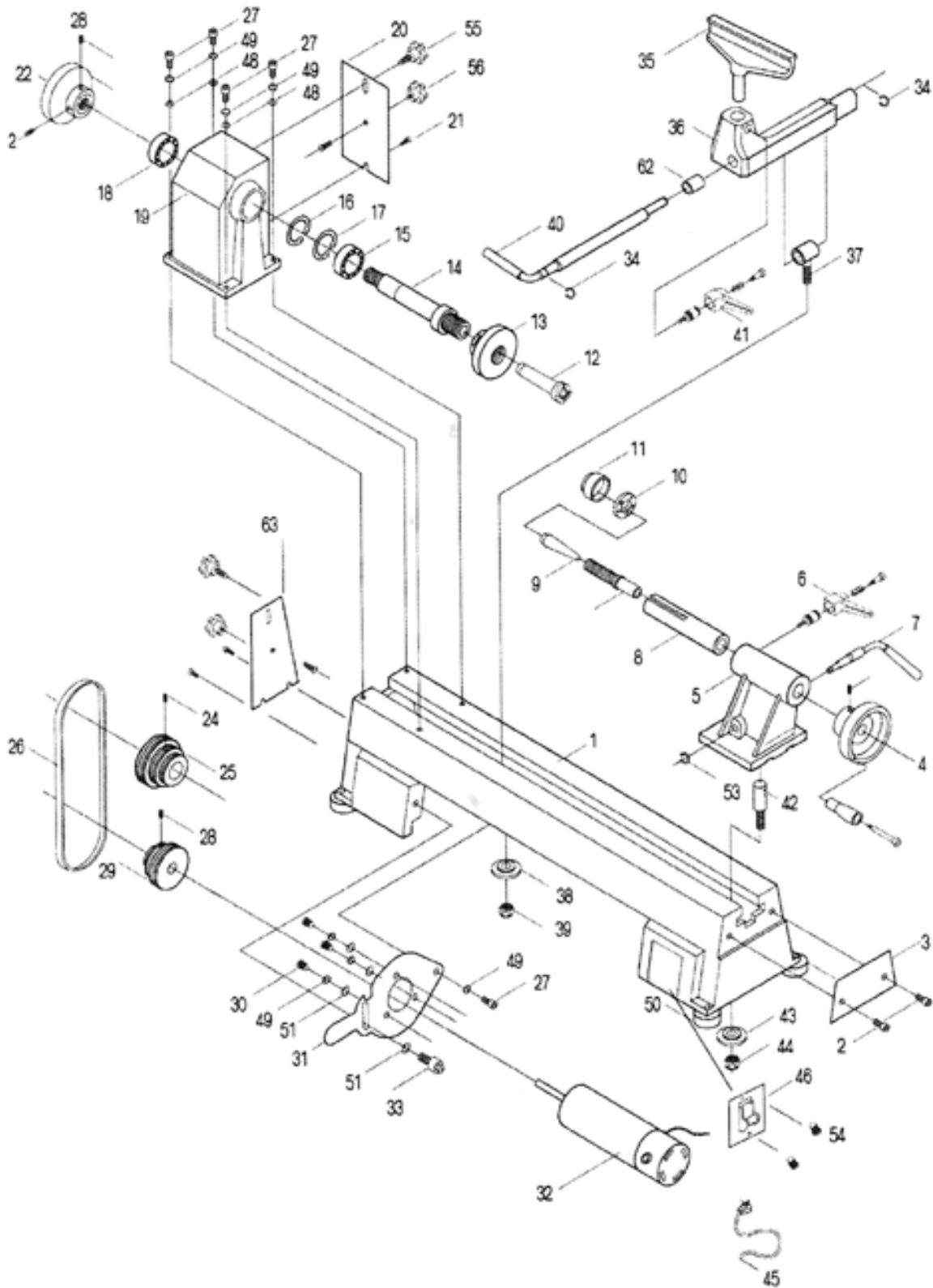
Follow all safety precautions whenever diagnosing or servicing the Lathe.

## PARTS LIST

Part #	Description	Qty.	Part #	Description	Qty.
1	Bed	1	30	Flat Head Screw	2
2	Semi-Circle Head Screw	2	31	Belt Tension Lever	1
3	Retaining Plate	1	32	Motor	1
4	Tailstock Handwheel	1	33	Belt Tension Screw	1
5	Tailstock	1	34	Retaining Ring (#12)	2
6	Lock Lever	1	35	Tool Rest	1
7	Release Lever	1	36	Tool Rest Base	1
8	Tail Axis	1	37	Bolt	1
9	Taper Rod	1	38	Plate	1
10	Ball Bearing	1	39	Hex Nut	1
11	Cup Center	1	40	Lock Handle (Tool Rest Base)	1
12	Headstock Spur Center	1	41	Lock Lever	1
13	Faceplate	1	42	Bolt	1
14	Headstock Spindle	1	43	Lock Plate	1
15	Ball Bearing	2	44	Hex Nut	1
16	Retaining Ring	1	45	Power Cord	1
17	Retaining Ring	1	46	Power Switch	1
18	Ball Bearing (202)	1	48	Washer (#8)	4
19	Headstock	1	49	Spring Washer (#8)	4
20	Back Lid	1	50	Rubber Washer	4
21	Semi-Circle Head Screw	4	51	Large Washer (#8)	2
22	Balance Wheel	1	53	Retaining Ring (#10)	1
24	Hex Socket Set Screw	1	54	Semi-Circle Head Screw	2
25	Drive Pulley	1	55	Back Lid Knob (Screw)	1
26	Drive Belt	1	56	Back Lid Knob (Nut)	1
27	Motor Mount Screw	4	62	Tool Rest Bushing	1
28	Hex Socket Head Screw	4	63	Side Lid for Bed	1
29	Motor Pulley	1			



# ASSEMBLY DIAGRAM



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## LIMITED 90 DAY WARRANTY

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Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

**3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353**

**Record Product's Serial Number Here:**

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**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

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