

Grizzly
Industrial, Inc. ®

**HEAVY-DUTY WOOD LATHE
MODEL G1495
INSTRUCTION MANUAL**



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SECTION 1: SAFETY

WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.



Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the equipment.

WARNING

Safety Instructions For Power Tools

- KEEP GUARDS IN PLACE** and in working order.
- REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.
- KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.
- KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
- MAKE WORK SHOP CHILD PROOF** with padlocks, master switches, or by removing starter keys.
- DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
- USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.

WARNING

Safety Instructions For Power Tools

9. **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. Conductor size should be in accordance with the chart below. The amperage rating should be listed on the motor or tool nameplate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.

Minimum Gauge for Extension Cords

AMP RATING	LENGTH		
	25ft	50ft	100ft
0-6	18	16	16
7-10	18	16	14
11-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No

10. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
11. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
12. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and frees both hands to operate tool.
13. **DON'T OVERREACH.** Keep proper footing and balance at all times.
14. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **DISCONNECT TOOLS** before servicing and changing accessories, such as blades, bits, cutters, and the like.
16. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
17. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury.
18. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
19. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

WARNING

Additional Safety Instructions For The Lathe

1. **MAKE SURE ALL GUARDS** are in place and that the Lathe sits on a flat, stable surface.
2. **ALWAYS WEAR EYE PROTECTION** or a face shield when operating the Lathe. Use a respirator to avoid inhaling dust. All safety equipment should be ANSI approved.
3. **BEFORE STARTING THE MACHINE** be certain the workpiece has been properly imbedded on the headstock and tailstock centers and that there is adequate clearance for the full rotation.
4. **ADJUST TOOL REST** to provide proper support for the turning tool you will be using. Test tool rest clearance by rotating workpiece by hand before turning lathe on.
5. **REMOVE INDEXING PIN** before turning lathe on.
6. **SELECT THE TURNING SPEED** which is appropriate for the type of work. Allow the lathe to gain its full speed before beginning turning.
7. **ALWAYS OBSERVE THE CONDITION** of the materials you are turning. Pay particular attention to knots, splits and other potentially dangerous conditions.
8. **NEVER OPERATE THE LATHE WITH DAMAGED OR WORN PARTS.** Maintain your lathe in proper working condition. Perform routine inspections and maintenance promptly when called for. Put away adjustment tools after use.
9. **MAKE SURE YOUR WOOD LATHE IS TURNED OFF**, disconnected from its power source and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.
10. **DO NOT LEAVE LATHE RUNNING UNATTENDED** for any reason.
11. **DO NOT STOP LATHE USING YOUR HAND** against the workpiece.
12. **KEEP LOOSE CLOTHING ARTICLES** such as sleeves, belts or jewelry items away from the lathe spindle.
13. **WHEN FACE PLATE TURNING**, use lathe chisels on the downward spinning side of the workpiece only.
14. **REMOVE THE TOOL REST** when performing sanding or polishing operations on the rotating spindle.
15. **KEEP LATHE TOOLS PROPERLY SHARPENED** and hold firmly in the proper position when turning.

WARNING

Like all power tools, there is danger associated with the Model G1495 Heavy-Duty Lathe. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored serious personal injury may occur.

SECTION 2: CIRCUIT REQUIREMENTS

110/220V Operation

Your G1495 machine comes pre-wired for 110V operation. It includes a three-prong plug which should be plugged into a grounded circuit as shown in **Figure 1**. Under normal use, the motor draws approximately 12 amps @ 110V. We recommend the lathe be plugged into a circuit protected by a 15 amp circuit breaker.

This motor can be operated at 220V, however there is no power advantage from operating at a higher voltage. To revise the lathe to operate on 220V it is necessary to do two things:

1. The motor must be rewired according to the wiring diagram provided at the back of this manual.
2. The plug at the end of the power cord needs to be cut off and replaced with a type similar to those pictured in **Figure 2**.

Under normal use, the motor draws approximately 6 amps @ 220V. We recommend the lathe be plugged into a circuit protected by a 15 amp circuit breaker.

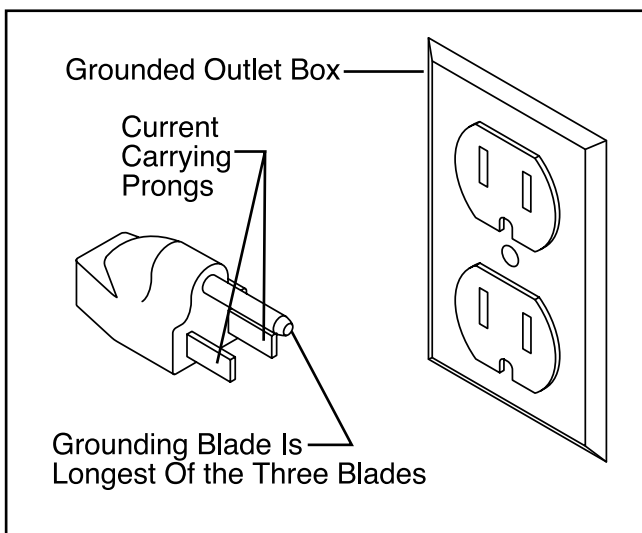


Figure 1. Typical 110V plug and outlet.

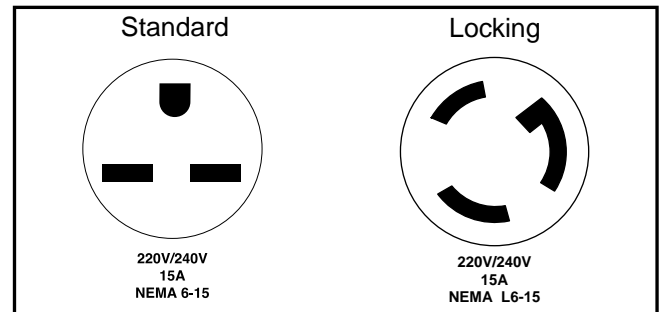


Figure 2. Two typical 220V outlet configurations.

Grounding

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor which must be properly connected to 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.

Improper connections of the electrical-grounding conductor can result in risk of electric shock. The conductor with green or green and yellow striped insulation is the electrical-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.

⚠️ WARNING

This equipment must be grounded. Verify that any existing electrical outlet and circuit you intend to plug into is actually grounded. If it is not, it will be necessary to run a separate 12 A.W.G. copper grounding wire from the outlet to a known ground. Under no circumstances should the grounding pin from any three-pronged plug be removed. **Serious injury may occur.**



Extension Cords

We do not recommend the use of extension cords on 220V equipment. It is much better to arrange the placement of your equipment and the installed wiring to eliminate the need for extension cords. If the lathe is being operated at 110V an extension cord is acceptable, however make sure the cord is rated Hard Service (grade S) or better. Refer to the chart in Section 1: Safety Instructions to determine the minimum gauge for the extension cord. The extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords when they become worn or damaged.



CAUTION

We have covered some basic electrical requirements for the safe operation of your Lathe. These requirements are not necessarily comprehensive. You must be sure that your particular electrical configuration complies with local and state codes. Ensure compliance by checking with your local municipality or a licensed electrician.

Notes

SECTION 3: GENERAL INFORMATION

Commentary

We are proud to offer the Grizzly Model G1495 Heavy-Duty Wood Lathe. The Model G1495 is part of a growing Grizzly family of fine woodworking machinery. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

The Model G1495 is a cabinet-type, heavy-duty lathe designed for the serious wood turner. It provides a 40" distance between centers and a 14" swing over the bed, dimensions well suited for most turning requirements. The motor is a $\frac{3}{4}$ HP dual voltage motor which provides seven turning speeds from 500 to 3070 RPM. This machine includes a spur center, a live center, a large clear plastic protective shield, and outboard mounted accessories including sanding disc, tilting table, pneumatic drum sander, contour flap sander and an adjustable tool rest for faceplate turning.

A number of optional accessories for the Model G1495 are available through the Grizzly catalog. These include lathe chisels, chucks, faceplates, sanding abrasives replacements and a copy attachment for making multiple copies of a spindle.

We are also pleased to provide this manual with the Model G1495. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. It represents our effort to produce the best documentation possible. If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
c/o Technical Documentation
P.O. Box 2069
Bellingham, WA 98227-2069

Most importantly, we stand behind our machines. If you have any service questions or parts requests, please call or write us at the location listed below.

Grizzly Industrial, Inc.
2406 Reach Road
Williamsport, PA 17701
Phone: (570) 326-3806
Fax: (800) 438-5901
E-Mail: techsupport@grizzly.com
Web Site: <http://www.grizzly.com>

The specifications, drawings, and photographs illustrated in this manual represent the Model G1495 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. Whenever possible, though, we send manual updates to all owners of a particular tool or machine. Should you receive one, we urge you to insert the new information with the old and keep it for reference.

CAUTION

To operate this, or any power tool, safely and efficiently, it is essential to become as familiar with its characteristics as possible. The time you invest before you begin to use your Model G1495 will be time well spent. DO NOT operate this machine until you are completely familiar with the contents of this manual. Make sure you read and understand all of the safety procedures. If you do not understand something, DO NOT operate the machine.



Unpacking

This machine is shipped from the manufacturer in two carefully packed cartons. If you discover the machine is damaged after you've signed for delivery, and the truck and driver are gone, you will need to file a freight claim with the carrier. Save the containers and all packing materials for possible inspection by the carrier or its agent. Without the packing materials, filing a freight claim can be difficult. *If you need assistance determining whether you need to file a freight claim, or with the procedure to file one, please contact our Customer Service.*

⚠️ WARNING

The G1495 is a heavy machine (265 lbs. shipping weight). **DO NOT** over-exert yourself while unpacking or moving your machine – get assistance. In the event that your Lathe must be moved up or down a flight of stairs, be sure that the stairs are capable of supporting the combined weight of people and the machine. Serious personal injury may occur.



Figure 3. Parts Inventory.



Piece Inventory

Parts should be as follows (**See Figure 3**):

- Stand Assembly w/ Motor Installed
- Lathe Assembly
- V-Belt
- Right Hand Stand
- Support Shelves (2)
- Floor Brackets (3)
- Shield
- Shield Support Tube
- Shield Sliding Support
- Shield Hardware Bag
 - Mounting Bars 2
 - Hex Bolts $\frac{5}{16}$ " - 18 x $4\frac{1}{2}$ " 2
 - Flat Washers $\frac{5}{16}$ " 4
- Tailstock Handle
- Sanding Attachments
 - Flap Sander 1
 - Pneumatic Drum 1
 - Aluminum Sanding Disc 1
 - Garnet Sanding Disc 1
- Arbor for Mounting Sanding Acc
- Tilting Work Table
- Work Table Support Spindle
- Outboard Tool Rest Bracket w/ 3 Bolts
- Outboard Tool Rest Support
- Outboard Tool Rest Post w/ Nut
- Faceplate
- Miter Gauge
- Tool Rest Holder
- Tool Rest
- Knockout Bar
- Allen® Wrench 6mm
- Hardware Bag
 - Hex Bolts $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " 18
 - Flat Washers $\frac{5}{16}$ " 36
 - Cap Screws $\frac{5}{16}$ " - 18 x $2\frac{1}{2}$ " 6
 - Hex Nuts $\frac{5}{16}$ " - 18 24

In the event that any generally used fasteners are missing, we can replace them, or, for the sake of expediency, replacements can be obtained at your local hardware store.

NOTICE

A full parts list and illustrations can be found at the back of this manual. Use this information to identify parts or to clarify assembly steps.

Clean Up

The unpainted surfaces are coated with a waxy oil to protect it from corrosion during shipment. Remove this protective coating with a solvent cleaner or citrus-based degreaser. Avoid chlorine-based solvents as they may damage painted surfaces should they come in contact. Always follow the usage instructions on the product you choose for clean up.

CAUTION

Many of the solvents commonly used to clean machinery can be highly flammable, and toxic when inhaled or ingested. Always work in well-ventilated areas far from potential ignition sources when dealing with solvents. Use care when disposing of waste rags and towels to be sure they do not create fire or environmental hazards. Keep children and animals safely away when cleaning and assembling this machine.

WARNING

Do not use gasoline or other petroleum-based solvents to remove this protective coating. These products generally have low flash points which makes them extremely flammable. A risk of explosion and burning exists if these products are used. Serious personal injury may occur.



Site Considerations

FLOOR LOAD

Your G1495 Wood Lathe represents a fairly large weight load in a small footprint. Most commercial or home shop floors should be sufficient to carry the weight of the machine. If you question the strength of your flooring, check with a qualified architect or building engineer to determine if reinforcement is required.

WORKING CLEARANCES

Working clearances can be thought of as the distances between machines and obstacles that allow safe operation of every machine without limitation. Consider existing and anticipated machine needs, size of material to be processed through each machine, and space for auxiliary stands and/or work tables. Also consider the relative position of each machine to one another for efficient material handling. Be sure to allow yourself sufficient room to safely run your machines in any foreseeable operation.

LIGHTING AND OUTLETS

Lighting should be bright enough to eliminate shadow and prevent eye strain. Electrical circuits should be dedicated or large enough to handle combined motor amp loads. Outlets should be located near each machine so power or extension cords are not obstructing high-traffic areas. Be sure to observe local electrical codes for proper installation of new lighting, outlets, or circuits.

CAUTION

Make your shop "child safe". Ensure that your workplace is inaccessible to youngsters by closing and locking all entrances when you are away. Never allow visitors in your shop when assembling, adjusting or operating equipment.



SECTION 4: ASSEMBLY

Pre-assembly

Assembly of the G1495 is straightforward. We have organized the assembly process into steps. Please follow them in sequence.

Tools Required: Only a few common tools are needed to assemble this machine. Specifically, two 12mm open end wrenches, a 6mm Allen® wrench (supplied), a Phillips® screwdriver and a plumb bob.

WARNING

All die-cut metal parts have a sharp edge (called “flashing”) on them after they are formed. This is generally removed at the factory. Sometimes a bit of flashing might escape inspection, and the sharp edge may cause cuts or lacerations when handled. Please examine the edges of all die-cut metal parts and file or sand the edge to remove the flashing before handling.



Stand

The stand components are most easily assembled on their sides, then stood up and joined together:

1. Attach the two base brackets to the base of the cabinet using four (4) $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " bolts and nuts. Use two (2) washers for each bolt, one under the head of the bolt, one next to the nut. These brackets are used when the lathe is going to be bolted to the floor or other type of support structure. **See Figure 4.**

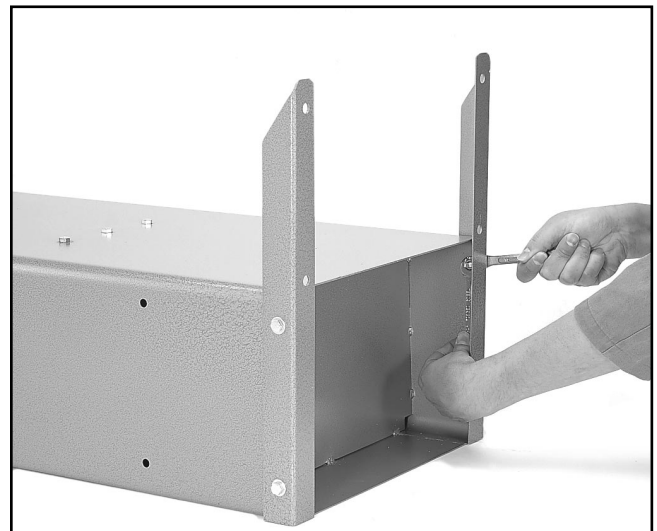


Figure 4. Attaching base brackets to stand.
(Stand is lying down on its front)

2. Attach the third base bracket to the right hand stand using two (2) $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " bolts, washers and nuts.

3. Lay the right hand stand on its side so the two shelves can be more easily assembled to it. **See Figure 5.** The two shelves differ by the location of the bolt holes located along the front and rear flanges. Fasten with four (4) $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " bolts, washers and nuts for each shelf. Do not tighten securely at this point.



Figure 5. Attaching shelves to right hand stand.

4. Carefully position the right hand stand and assembled shelves alongside the cabinet. **See Figure 6.** Use four (4) $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " bolts, washers and nuts to secure the upper and lower shelves to the stand.



Figure 6. Attach shelves to stand cabinet.

5. With an assistant, set the lathe bed assembly on the stand, with the headstock so it is on the cabinet stand. Secure the lathe bed to the stands using six (6) $\frac{5}{16}$ " - 18 x 2 $\frac{1}{2}$ " Allen® head bolts, washers and nuts supplied.
6. Remove the head cover from the headstock by taking out three (3) Phillips® head screws. Turn the variable speed control lever to the highest speed position, if it is not already there.
7. Loosen the upper hex nuts on the motor adjustment bolts to allow the motor to pivot upward freely. **See Figure 7.** Place the V-belt over the lower pulley and lift up on the motor while slipping the V-belt over the upper pulley in the headstock.



Figure 7. Loosening motor mount bolts.

8. To align the pulleys, set the speed control lever mid-way between high and low so the upper and lower pulleys are spread approximately the same amount. Ensure that the lathe is sitting level. Use a plumb bob to check the side of the pulleys in relation to each other. **See Figure 8.**

If the pulleys are not in alignment, loosen the motor mounting bolts and move the motor on its mounting plate. The lathe assembly can also be moved slightly to achieve alignment, by loosening the bolts installed in Step 5.

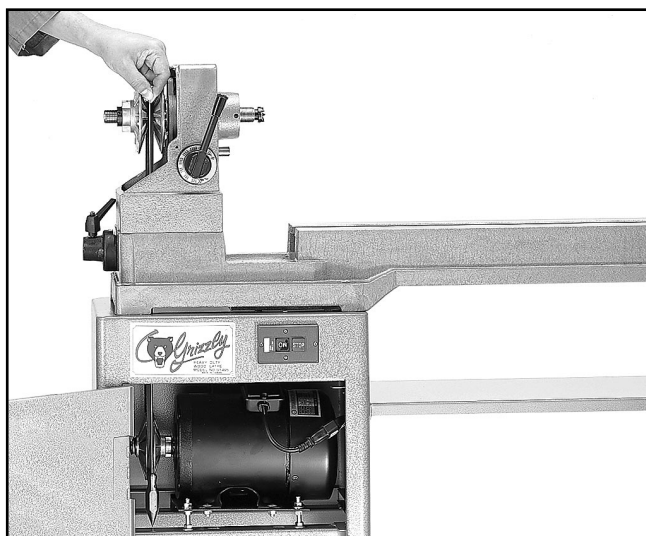


Figure 8. Using plumb bob for pulley alignment.

9. Tighten the motor adjusting nuts so there is constant pressure on the V-belt from the lower motor pulley. Ensure that the motor is level and the pulleys are parallel with each other. Once the V-belt is in position, change speeds only with the motor running and the headstock cover in place. If speed changes are necessary for adjustment or testing, unplug the machine and rotate the pulleys by hand while moving the speed lever. Never move the speed lever without rotating the spindle as the belt can become jammed or the movable pulley can be damaged.
10. At this point tighten all the bolts on the stand. Put the headstock cover plate back into place and secure.



Tool Rest

The tool rest is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is thrown, a locking plate lifts up and secures the tool rest to the bed. **See Figure 9.** To install the tool rest assembly:

1. Remove the large hex nut and lock plate from the bottom of the tool rest assembly.
2. Set the tool rest assembly on the lathe bed with the clamp stud between the bed slot.
3. Set the tool rest lock handle so it is pointing down. Re-install the lock plate and thread the hex nut back onto the stud until it bottoms out.
4. Lift the lock handle approximately 90° and tighten the hex nut 1/2 to 2/3 of a turn more.
5. Turn the tool rest lock handle until it locks the tool rest down onto the bed. You may need to adjust the Hex Nut in small increments to fine tune how the tool rest assembly locks down onto the bed.

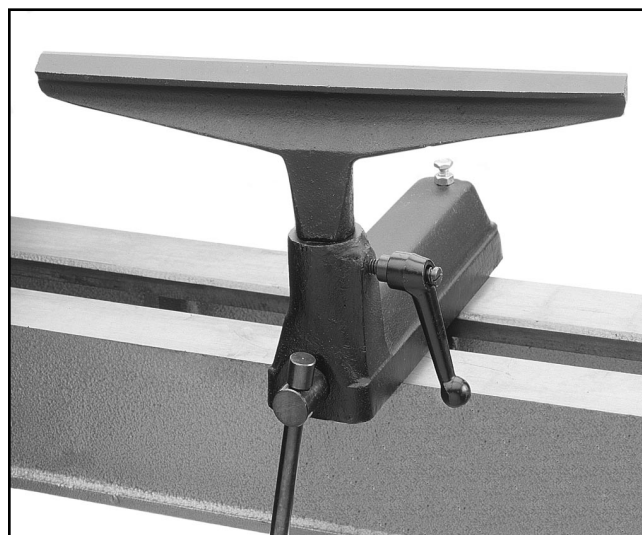


Figure 9. Mounting the tool rest.



Tailstock

Thread the handle onto the tailstock handwheel and tighten down the jamnut. **Figure 10.**

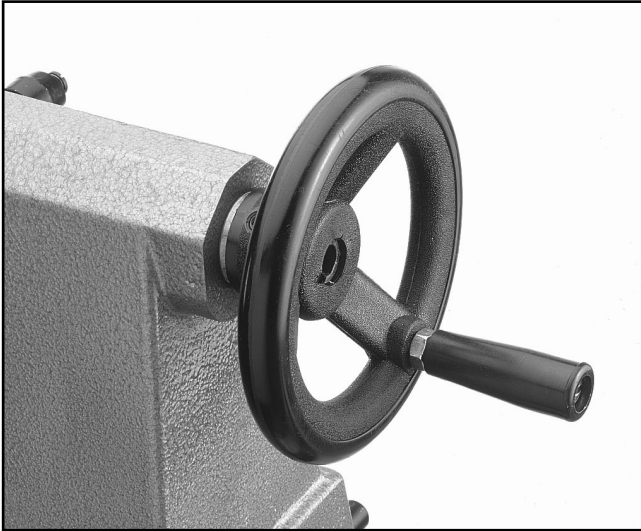


Figure 10. Tailstock handwheel assembly.



Guard Assembly

The clear plastic guard protects the operator from flying debris as the lathe is turning. To assemble the guard to the machine:

1. Mount one end of the sliding bar to the back of the lathe bed using the spacer tube, the long bolt and washer provided. **See Figure 11.** Ensure that the spacer tube bevel is against the lathe bed, positioned so the bar will be level and parallel to the bed.
2. Before attaching the other end, slide the tubular bracket onto the bar so the pivot hinge faces forward. **See Figure 12.** Ensure that the spacer tube bevel is against the lathe bed, positioned so the bar will be level and parallel to the bed.
3. Secure the other end of the bar to the back of the lathe bed as described in Step 1.

G1495 Heavy-Duty Wood Lathe

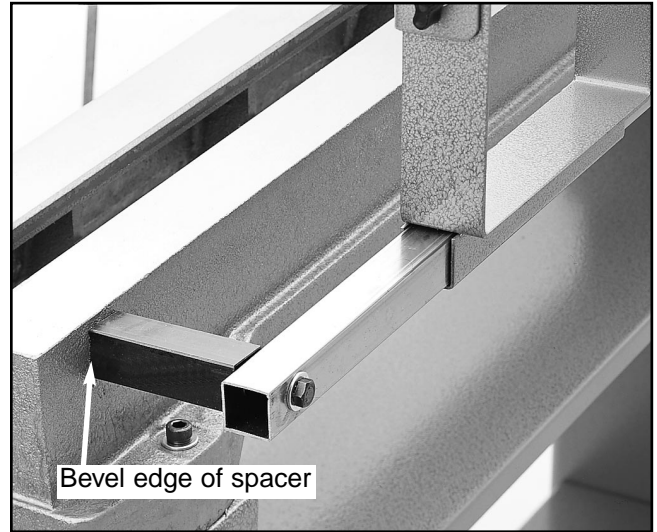


Figure 11. Bar mounted with spacer tube.

4. Fasten the clear plastic guard to the sliding bracket using the four (4) Phillips® head screws already attached to the mounting plate. Make sure the plastic guard is sandwiched between the two metal plates. For ease of assembly, the locking knobs can be removed which will allow the mounting plate to be removed from the assembly. Reinstall after attaching the clear plastic panel.

To use, slide the guard assembly over the specific area of the stock you are turning, loosen the lock knobs and pull the front edge of the guard down as low as possible while still allowing access to the workpiece. Tighten the knobs.



Figure 12. Guard assembly in place.



G1495 Heavy-Duty Wood Lathe

SECTION 5: ACCESSORIES

Introduction

The G1495 Lathe can be used for a wide variety of woodturning applications. There are a number of accessories which are used for specific procedures. In this section the installation and basic operation of these accessory items is described. In Section 6: Operations you will find more specific information about the actual turning procedures and methods.



Sanding Attachments

The outboard side of the headstock spindle accommodates a number of accessories. There are two different sanding attachments: 1) an 8" sanding disc and table with miter gauge, and 2) a pneumatic drum and flap sander.

Sanding Disc and Table

1. Mount the sanding disc onto the outboard spindle by threading it onto the $\frac{7}{8}$ " - 16 left hand threads. The disc does not need to be highly torqued to the spindle, the reverse threading will cause it to self-tighten.
2. Mount the abrasive disc to the flat surface of the aluminum disc by peeling the adhesive backing off and carefully centering the abrasive disc on the wheel.
3. Attach the sanding table in front of the sanding disc. First install the end of the shaft with the flat face into the bore underneath the table. Two setscrews tighten against the flat land on the shaft. Loosely tighten the setscrews for now.

4. Now install the other end of the shaft into the fitting which is just below the outboard spindle. The table is held in position with the spring-loaded lever. Pull up on the spring loaded shank to disengage the lever from the adjustment screw and rotate the lever for clearance. When the lever is in the desired position, allow the spring to pull it back onto the adjustment screw.
5. Position the sanding table so that the table is approximately $\frac{1}{16}$ " away from the sanding disc. **See Figure 13.** Always use the side of the sanding disc where the downward rotation will hold the piece down to the table.

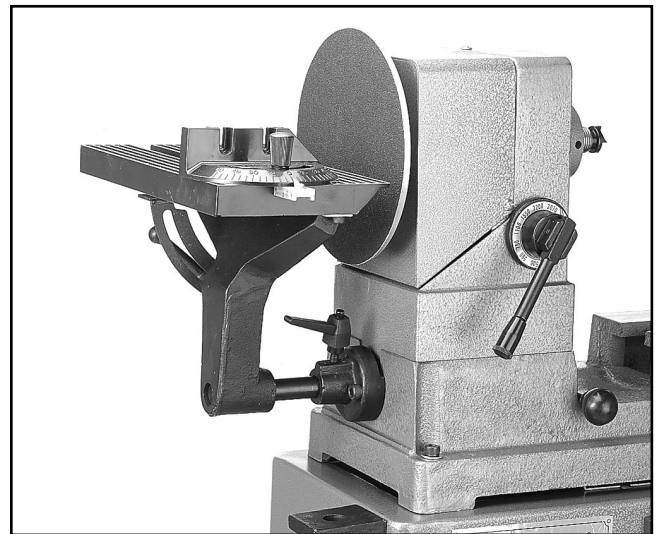


Figure 13. Sanding disc and table.

Pneumatic Drum and Flap Sander

The drum and the flap wheel attachment mount onto the mandrel provided. **See Figure 14** for proper installation.

1. First slide the flap wheel over the end of the mandrel and position it against the machined land.
2. The drum sander screws onto the threaded end of the mandrel. Remember both the mandrel and the spindle are left-hand threads. The drum sander should be inflated to approximately 10 PSI using a bicycle pump or other low pressure inflation device. **Do not over-inflate.**

NOTICE

Do not use a compressor to inflate the pneumatic sanding drum, it is too easy to over-inflate. Use a hand-operated pump only, and check the inflation pressure with a suitable gauge.

3. These attachments must both be mounted on the spindle at the same time, regardless of whether both will be used. The flap sander attachment helps to provide rigidity to the mandrel and drum sander when they are installed together.

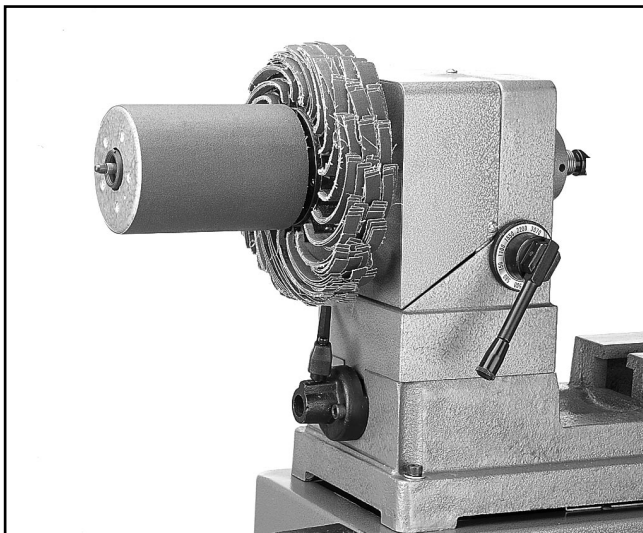


Figure 14. Pneumatic drum and flap sander.



G1495 Heavy-Duty Wood Lathe

Spur Center

The G1495 is supplied with a #2 Morse taper four tine spur center for use when turning. The spur center is used in conjunction with the tailstock live center. Install the spur center by inserting into the hole in the inboard spindle. **Figure 15.** See Section 5: Operations, Spindle Turning section for complete detail on how to properly seat the spur center.



Figure 15. Spur center in headstock spindle.

To remove, insert the knockout bar provided into the outboard spindle and tap with the palm of your hand while carefully holding onto the spur center with your other hand. **Figure 16.**

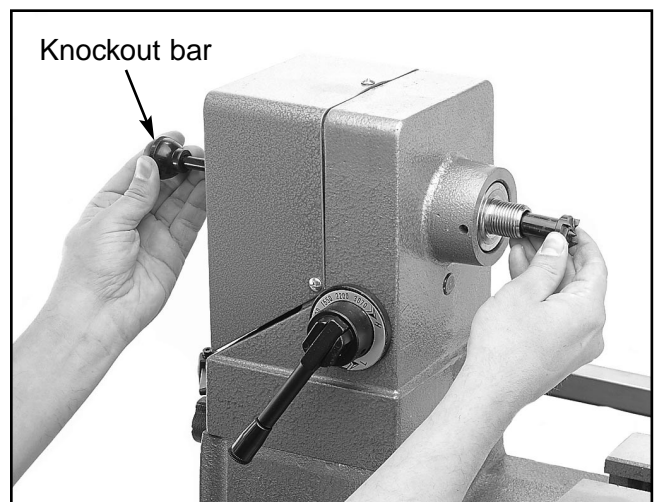


Figure 16. Using knockout bar to remove center.



G1495 Heavy-Duty Wood Lathe

Tailstock

The tailstock is equipped with a cam-action clamping system to secure it to the lathe bed. When the lever is thrown, a locking plate lifts up and secures the tool rest to the bed. To position the tailstock along the bed:

1. Loosen the quick release lever and move the tailstock to the desired position. **Figure 17.**
2. Re-engage the quick release lever.
3. If the quick release lever will not lock the tailstock down onto the bed (either too loose or too tight), loosen or tighten the hex nut (located on the underside of the tailstock) in small increments as needed to achieve the proper clamping pressure.

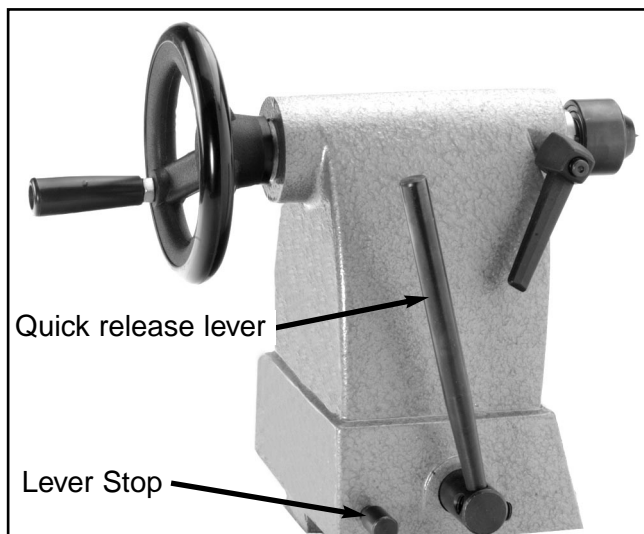


Figure 17. Tailstock assembly.



Tailstock Live Center

The tail spindle is a Morse Taper #2, the same as the headstock. The live center is preinstalled from the factory. To remove, turn the handwheel counter-clockwise until the tailstock barrel bottoms out in the tailstock housing. This causes the center to be forced out of the barrel. Be sure to catch the center with your other hand as it drops out to avoid damaging the center. **See Figure 18.**

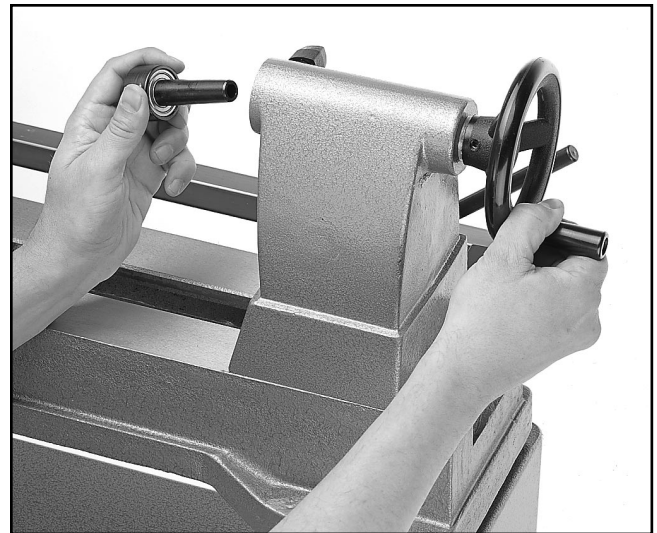


Figure 18. Tailstock spindle taper.

Reinstall by turning the handwheel clockwise until the tailstock barrel sticks out of the tailstock housing about $\frac{1}{2}$ ". Make certain the surface of the taper and the inside of the tailstock bore are clean and free of dirt. Insert the live center into the tailstock barrel with a light amount of force to seat the taper in the bore. When the workpiece is secured on the centers, the force will seat the taper more completely.

When installing the workpiece between the centers, first move the tailstock to get a rough positioning. Lock the tailstock in position with the quick-release lever. Then using the handwheel, crank the center firmly into the workpiece until it is firmly seated. Lock it into position with the locking lever **See Figure 19.**

A drill chuck (not supplied) can also be installed in the tailstock arbor as long as it is a Morse Taper #2 mounting. A chuck is useful if you wish to do boring where the workpiece is held in the chuck and a drill bit is placed in the tailstock. In this application the tailstock handwheel would be used to advance the piece into the stationary drill bit.

⚠ WARNING

(1) The tailstock barrel lock handle must always be locked down while the lathe is in use. The workpiece can be thrown from the lathe if this step is not observed. (2) The tailstock barrel should not protrude from the tailstock housing more than 2". Serious personal injury may occur.

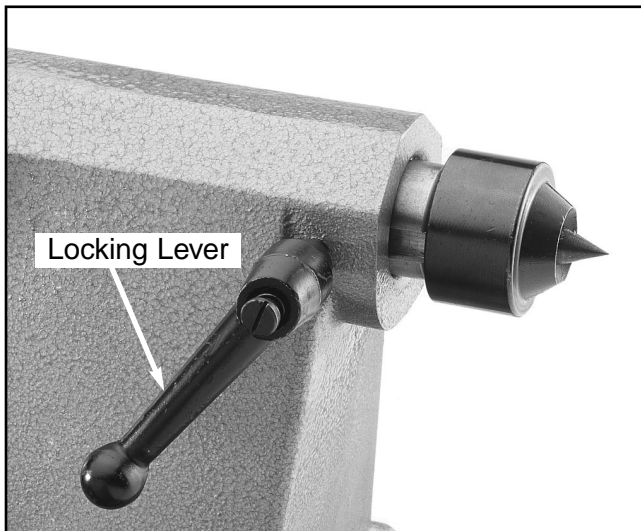


Figure 19. Locking lever on tailstock spindle.



Face Plate

The G1495 is supplied with a 6" face plate. The faceplate is used for bowl and plate turning. Install the face plate by threading the face plate onto the inboard spindle. Use the knockout bar to hold the spindle from rotating while tightening or removing the face plate. **Figure 20.** Mount your workpiece to the face plate using the mounting holes which are bored through the face plate.

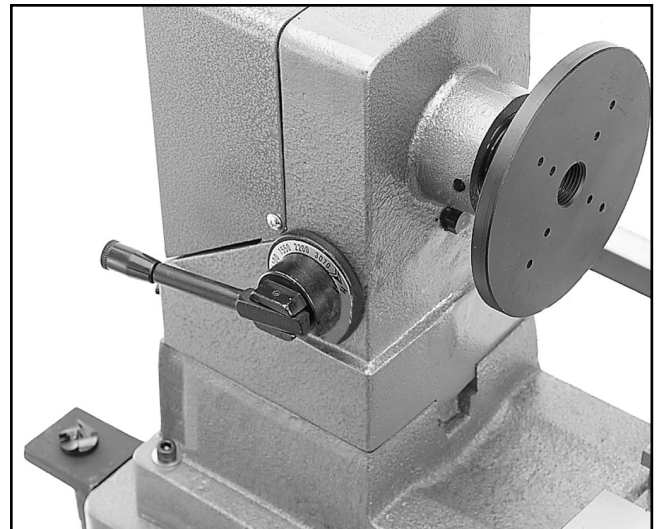


Figure 20. Face plate installed on spindle.



Outboard Tool Rest

The outboard side of the headstock can be used for faceplate turning when the diameter of the stock exceeds what can be handled on the inboard side. The range of diameters suitable for outboard turning is from 14" to a maximum of 19". Outboard turning will require an accessory faceplate which is available from Grizzly. Outboard turning should always be done with the tool rest installed:

1. Fasten the L-shaped bracket to the cabinet stand with the two (2) $\frac{5}{16}$ " - 18 x 1" bolts provided and tighten with a 12mm wrench.
2. Attach the tool rest support to the bracket with the $\frac{3}{4}$ " - 10 x 2 $\frac{1}{2}$ " bolt and nut as shown in **Figure 21** This is hand-tightened only to allow movement.
3. Insert the threaded end of the tool rest post into the cast boss and secure with the $\frac{3}{4}$ " hex nut. This also is only hand-tightened.
4. The tool rest can now be placed into the end of the support post and secured with the setscrew.

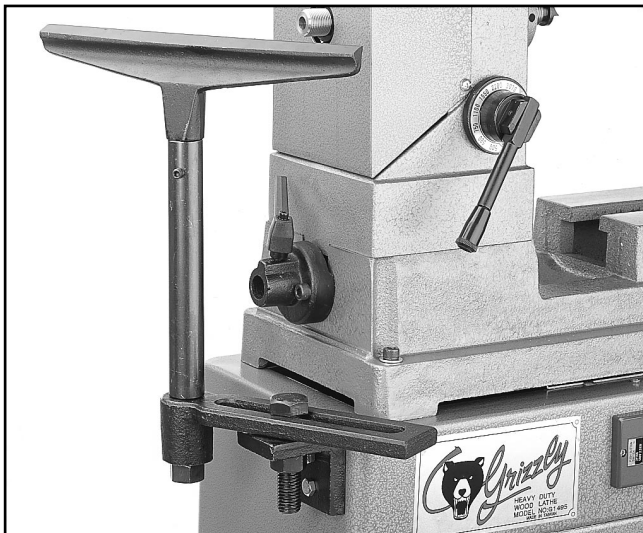


Figure 21. Outboard tool rest.



Accessory Removal

To remove accessories such as faceplates, sanding discs or the drum/flap sander from the headstock spindle, insert the knockout bar into the hole in the headstock near the inboard spindle. Turn the spindle by hand until the bar engages one of the indexing holes, which will lock the spindle in position. While holding the knockout bar, rotate the accessory counterclockwise if mounted inboard, or counterclockwise if mounted on the outboard side. **See Figure 22.**

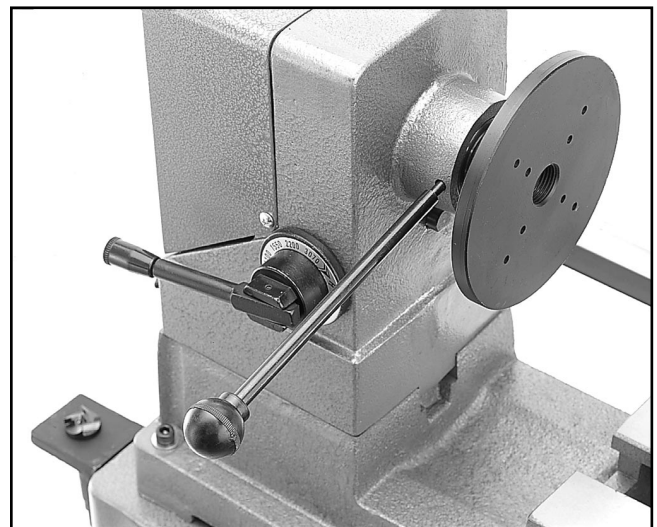


Figure 22. Knockout bar for removal.



SECTION 6: OPERATIONS

Introduction

This section describes some of the basic information required to use your G1495 Heavy Duty Wood Lathe. It concentrates on methods of mounting the workpiece to the machine for the various operations. We do not go into great detail about specific turning procedures here because there are a wide variety of tools and methods to achieve the needs of a particular project.

We recommend you consult one of the many fine reference books on woodturning and lathe operation for more detail as you build your skills with the lathe. Many communities also have woodworking associations or adult education programs which are an excellent way to learn turning techniques firsthand.

WARNING

Like all power tools, there is danger associated with the Model G1495 Heavy-Duty Wood Lathe. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.



Test Run

Once the assembly is complete and all fasteners and accessories have been tightened securely, you are ready to test the machine. Do not attempt to mount any workpiece on the spindle for this initial test run. Connect the machine to the main power supply. Press the START button. Make sure that your finger is poised on the STOP button, just in case there's a problem. The Wood Lathe should run smoothly, with little or no vibration or rubbing noises. Strange or unnatural noises should be investigated and corrected before operating the machine further. Vibrations or rattling noises will most commonly come from a tool rest or tailstock which has not been locked down into position.

If the lathe runs smoothly, try mounting a piece of turning stock (See Spindle Turning heading for instructions on how to mount). If a problem persists, stop the machine and review all the assembly steps and adjustments. Call for assistance, if needed.

CAUTION

DO NOT attempt to investigate or adjust the machine while it is running. Wait until the machine is turned off, unplugged and all working parts have come to a rest before you do anything! Serious personal injury may occur.



Turning Tools

Turning chisels are available in a variety of styles and sizes which are specialized for different turning applications. For general purposes, we will describe the five basic types of chisels to get you started. There are a wide variety of other chisel configurations and tools for specialized applications. We recommend you consult a good text on lathe turning to learn more.

The five general types of turning chisels are shown in **Figure 23**:

A. Gouge Chisel - a gouge can be recognized primarily by its curved or arced shape. The size of the arc and the type of grind across its cutting edge will determine the job it is best suited for. A roughing gouge is generally ground straight across the end and is used to get the initial round shape on the stock. A spindle gouge will be a bit lighter and will have the end ground semi-circular. They are used to achieve the convex or concave surfaces on the turning. They are available in different sizes measured as the distance across the blade, and will be noted as a shallow or deep flute.

B. Parting Tool - has a sharp point with bezels cut on the narrow edges of the blade. The cutting edge occurs on the blade portion where it is the thickest. The parting tool is

used to make a plunge cut by setting it on the tool rest and pushing it into the stock at a right angle. It can also be used to make deep grooves or to cut a finish piece off of the master blank. The size of a parting tool is measured as the thickness of the blade at its thickest point.

C. Spear Point - has a point formed by grinding two bezels ground onto the same surface of the blade at a 110° or less angle. It can be used to form V shapes and for finishing corners. Available in a number of different sizes and angles, size is generally called out in the overall thickness of the blade and the angle.

D. Skew Chisel - has a point formed by grinding two bezels on each side of the wide blade, and the cutting edge is angled across the end of the blade. The skew is one of the most versatile turning tools, used for scraping, paring, smoothing and finishing cuts. Skews are measured across the blade width.

E. Round Nose - has a rounded cutting edge ground across the end of the blade. This chisel is used to form concave surfaces, grooves or cove shapes. Measurement is across the overall width of the blade, but the radius of the end is also generally called out.

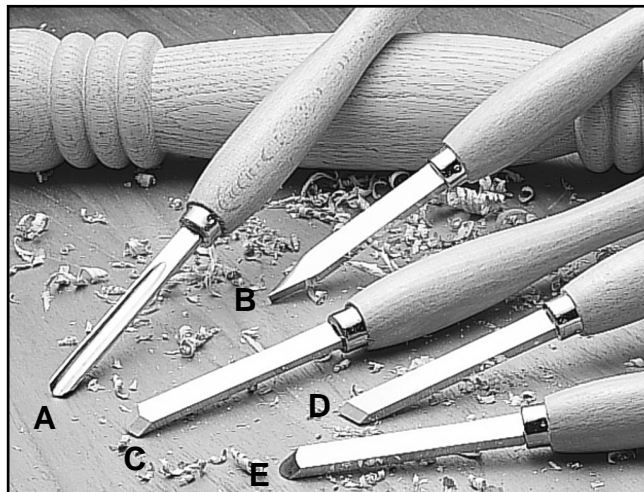


Figure 23. Five basic chisel types.

Speed Selector

The variable speed selector has seven position settings - 500, 580, 750, 1100, 1550, 2200 and 3070 RPM. The speed selector is linked to the splined headstock pulley. As the speed selector is shifted, the headstock pulley expands or contracts, changing the effective diameter of the pulley. Since the motor is also splined and spring-loaded, it will inversely change diameter due to the V-belt. As an example, when the lever is shifted to high speed, the upper pulley will spread apart and decrease diameter. This makes the belt now move on a smaller headstock pulley, and the motor pulley will simultaneously contract (increase in size) due to spring compression.

To change speeds:

1. Turn the lathe on.
2. Pull the speed selector lever straight back away from the machine so the detent spring compresses. **Figure 24.**
3. Slowly shift the lever to the desired speed.
4. Make sure the lever is set in the detent for the desired speed, by listening for it to click into position.

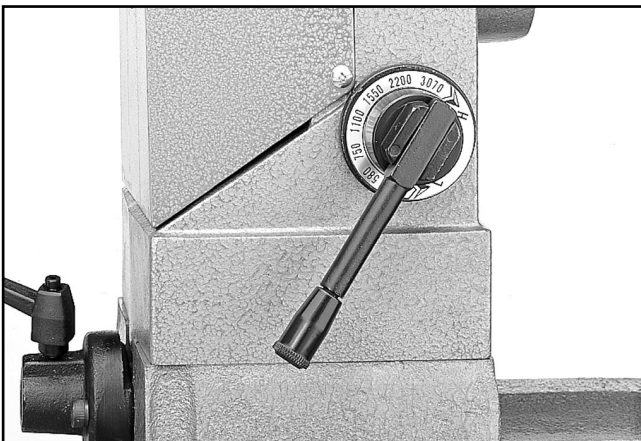


Figure 24. Speed selector in slowest speed



Turning Speeds

Selecting the appropriate turning speed depends upon a number of factors. Most important is the diameter of the workpiece - the larger the diameter, the slower the speed. The type of wood is also important, harder woods require slower speeds. The sharpness of the cutting tool is also important. The sharper the tool, the slower the speed that can be used. Selecting the proper speed is a matter of trial and error at first. Start out with a slow speed at first, and if the cut is not clean and smooth, try the next highest speed.

When roughing out stock, always start at the slowest speed. Once the work is roughed out, 1100 RPM is generally a good speed for turning spindles with a 2" or less diameter. Because peripheral speed increases as diameter increases, we recommend using a lower speed when turning larger diameter stock. When turning on the faceplate, a 580 or 750 RPM is recommended. Outboard turning should generally be done at the slowest speed setting.

Operating at lower speeds is suitable for most applications. Lower speeds will also prolong chisel sharpness, especially when using a scraping cut. Under no circumstances should you operate this lathe at a speed which is too fast for your particular application.

NOTICE

Remember to choose the correct speed for your particular turning project. As a general rule, the larger the workpiece diameter, the slower the speed. Always start on slow speed.

NOTICE

To change speeds, the lathe must be on. Attempting to change speeds without the spindle turning can result in damage to the belt drive mechanism.



Spindle Turning

Spindle turning is the most common type of work done with a wood lathe. It involves turning a workpiece between two centers and removing stock to achieve a specific contour. To mount a workpiece between centers:

1. Locate the center point on both ends of the workpiece. This can be done by carefully drawing diagonal lines from corner to corner. The point of intersection is the center of the work. Or if the workpiece is somewhat irregular, there are center finding devices available which will aid in this step.
2. Hold the workpiece vertically and support it on a solid surface. Line up the spur center with the center of the workpiece. Drive the spur center into the stock about $\frac{1}{4}$ " using a dead blow hammer. **See Figure 25.** Be careful not to split the workpiece. Wood with splits along the grain may fly off the lathe during operation. For dense wood, drill a hole for the center and score lines with a saw blade for the spurs.
3. With the spur center firmly attached to the workpiece, insert the spur center into the headstock spindle.
4. While supporting the free end of the workpiece in your hand, loosen the tailstock locking lever and slide the tailstock assembly close to the end of the workpiece and lock into place.
5. Line up the point of the live center with the workpiece center. Turn the hand wheel to press the center into the workpiece. Do not press too tightly or the bearings will bind and may overheat. Too loose, however, and the workpiece will not be properly seated and may spin off when the lathe is started. Lock the spindle nose in place with the locking lever. Make certain no more than 2" of the spindle is extended.
6. Adjust the tool rest as close to the workpiece as possible without actually coming in contact with the workpiece. Test by hand turning the workpiece before turning lathe on. Ensure that the lathe chisel is fully supported by the tool rest. Support the lathe chisel on the tool rest with one hand, while controlling the chisel with the other hand. **See Figure 26.**
7. Cycle the lathe on and off rapidly to ensure the workpiece is firmly seated.



Figure 25. Seating the spur center.

! DANGER

Make certain the centers at both ends are firmly seated. Failure to do so can allow the workpiece to spin off of the lathe. Serious personal injury may occur.

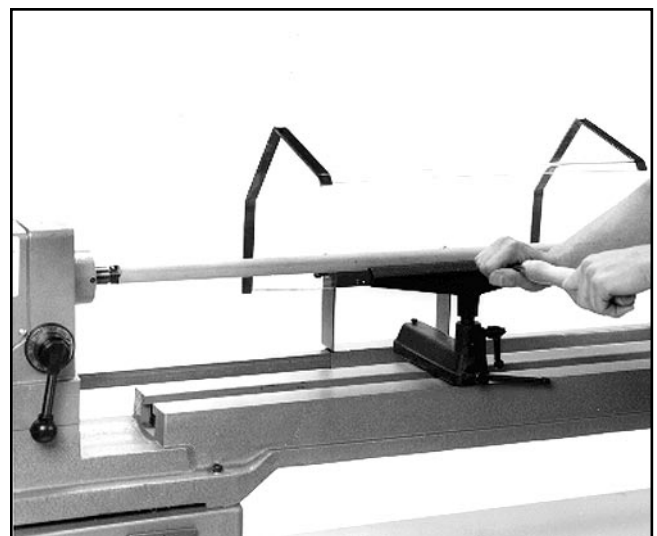


Figure 26. Typical spindle turning setup.



Faceplate Turning

Faceplate turning is usually done on stock diameters greater than 4" and less than 8" in length. The maximum recommended stock diameter for inboard turning is 14" if less than 2" thick. Reduce the stock diameter if turning thicker stock.

Outboard turning can be done if the diameter is greater than 14", however we recommend a maximum diameter of 19" and a maximum thickness of 2" due to the forces generated and the size of the motor on the G1495. Outboard turning is accomplished the same as described below, except the adjustment of the tool rest is slightly different.

Remember that centrifugal force increases along with the diameter and mass of the workpiece. The greater the centrifugal force, the greater the potential for the workpiece to become dislodged from the lathe mounting.

To mount stock for faceplate turning:

1. Remove the spur center using the knockout bar. See Accessories Section, Spur Center for more detail.
2. Attach stock to the faceplate. The faceplate supplied is 6" in diameter, however the hole spacing provided will allow mounting of stock down to 4". If the stock is greater than 6" and up to 14" (for inboard turning), the stock can still be mounted to this faceplate. Stock can be attached using wood screws, or if those will interfere with the finished project, a backing block can be glued to the back face of the stock to be used for attachment. Ensure that the two mating surfaces are flat and centered with each other. For easy removal later, glue a piece of heavy paper (e.g. a grocery bag) between the stock and the backing block. Make sure there is a strong bond before starting the turning operation. After the turning is complete, the two pieces can be separated with a parting tool or a hammer and chisel to break the glue joint.

3. Mount the faceplate and the attached workpiece to the headstock spindle. Install the faceplate by threading it onto the spindle.
4. Move the tailstock to the far end of the bed to assure it won't interfere with the faceplate turning operations. Remove the live center from the tailstock to avoid injury.
5. Move the tool rest into position in front of the mounted workpiece. The position shown in **Figure 27** would be for shaping the face. The tool rest should be approximately ½" from the workpiece. When turning the outer edge the tool rest should be moved so it is in close proximity to the edge of the piece.

When faceplate turning, always remove material using the scraping method. When making a scraping cut the tool is held in a level position with the tool edge contacting the surface of the work even with, or slightly above, the horizontal centerline. The tool rest should be slightly below the centerline.

The gouge chisel should be used on faceplate turning only when you have achieved a certain proficiency with turning. Using the gouge can be troublesome because there is a tendency of the grain to grab the chisel, resulting in loss of control. When shaping narrow, inside surfaces, care must be taken so that the chisel does not inadvertently catch on the surface.

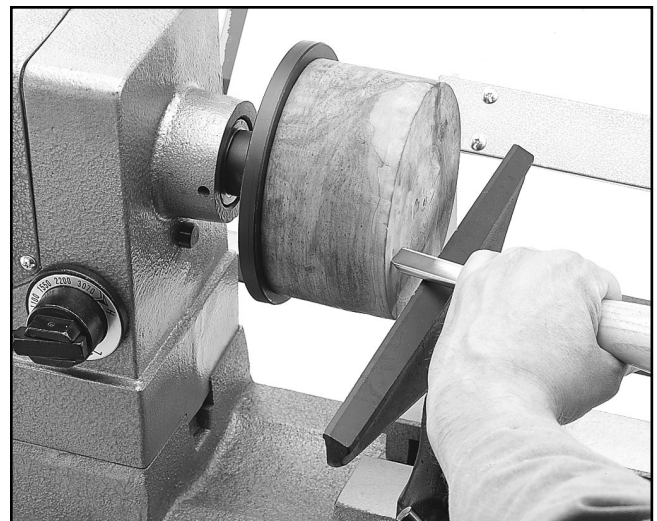


Figure 27. Typical faceplate turning setup.



Indexing

Indexing can be used for cutting evenly spaced grooves or flutes along the length of a spindle. The headstock spindle indexes every 30° by inserting the knockout bar into the hole in the headstock. This locks the spindle in that position, the lathe should not be turned on when the indexing feature is being used.

Once the spindle is locked, the groove can be cut using several methods. The grooves can be marked out by using the edge of the tool rest as a straight edge. Extra length tool rests are available as an optional accessory should the length of the fluting be longer than the standard tool rest. The groove can then be cut by hand using a wood carving chisel. Or a hand plane can be outfitted with special cutters to achieve reeding or fluting style cuts.

There are also accessory devices available which can be used to guide a router along the length of the spindle.

WARNING

Never start the lathe with the knockout bar inserted in the indexing hole. Serious personal injury may occur.



Sanding

Turnings can be sanded while they are still in the lathe, however the tool rest should always be removed when performing sanding steps. This will avoid any possibility of your hand getting caught between the rest and the workpiece.

Sanding is useful to remove any surface defects which may still be present from the turning operations. Quite frequently there are ridges, bumps or other uneven spots which can effectively be removed by sanding. Sanding is also necessary to prepare the project for final finish application.

When sanding it is best to proceed through a progression of abrasive grits (typical grit sizes are 60, 80, 100, 120, 150, 180, 220, 240, 280, 320, 360, 400, 500 and 600). If your turning is fairly rough start at 60 and work up. If it is smoother, you may be able to start at the 80-120 range. Most woodturners discover that as their skill with the chisels improves, so does the resulting surface finish. Whether you need to go as high as 600 depends upon what type of finish you will be applying. For a painted surface it is generally acceptable to stop at 120 or 150. If it is to be stained and varnished you generally need to go to at least 280-320. And if it will not get any surface coating at all, you will find the best results from going to the highest grits.

During the sanding process be sure not to over sand certain features. Spindles will often have sharp corners or beading as part of the design. It is very easy to remove these features in just a few seconds of sanding. Sandpaper strips are often very useful in sanding spindles while turning, these can be worked into the fine details of the project.

The sanding process can also generate a lot of heat so be sure to protect your hands, or be less aggressive in the amount of material you are removing.



SECTION 7: MAINTENANCE

General

Regular periodic maintenance on your Model G1495 Wood Lathe will ensure its optimum performance. Make a habit of inspecting your lathe each time you use it. Check for the following conditions and repair or replace when necessary.

1. Loose mounting bolts.
2. Worn switch.
3. Worn or damaged cords and plugs.
4. Damaged V-belt.
5. Any other condition that could hamper the safe operation of this machine.



Lathe Bed

The bed, ways and other non-painted surfaces on the Model G1495 should be protected against rusting and pitting. Wiping the saw clean after every use ensures that moisture from wood dust isn't allowed to trap moisture against bare metal surfaces.

Some woodworkers recommend using automotive paste wax on exposed steel and cast iron surfaces. The wax provides a layer of protection, as well as reducing friction. Avoid waxes that contain silicone or other synthetic ingredients. These materials can find their way into lumber that's being worked, and can make staining and finishing difficult. If you use paste wax, make sure that it's 100% Carnauba wax.



Lubrication

Since all bearings are shielded and permanently lubricated, lubrication is not required for the life of the bearings.

The threads on the locking handles and levers may require a small amount of lubrication over time.

The sliding pulley sheaves on the headstock and the motor should receive a shot of light oil periodically to assure smooth speed changes.



V-Belt

Inspect regularly for tension and wear. Replace when necessary with a size A-52 belt. Check pulleys to ensure that they are properly aligned. See stand assembly section for proper tension and pulley alignment procedures.



CAUTION

DO NOT attempt to perform any maintenance procedure while the machine is running. Wait until the machine is turned off, unplugged and all moving parts have come to a stop before proceeding! Serious personal injury may occur.

SECTION 8: CLOSURE

The following pages contain general machine data, parts diagrams/lists, troubleshooting guide and Warranty/Return information for your Model G1495 Heavy-Duty Wood lathe.

If you need parts or help in assembling your machine, or if you need operational information, we encourage you to call our Service Department. Our trained service technicians will be glad to help you.

If you have comments dealing specifically with this manual, please write to our Bellingham, Washington location using the address in Section 3: General Information. The specifications, drawings, and photographs illustrated in this manual represent the Model G1495 as supplied when the manual was prepared. However, due to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. Whenever possible, though, we send manual updates to all owners of a particular tool or machine. Should you receive one, add the new information to this manual and keep it for reference.

We have included some important safety measures that are essential to this machine's operation. While most safety measures are generally universal, Grizzly reminds you that each workshop is different and safety rules should be considered *as they apply to your specific situation*.

WARNING

Operating this equipment has the potential for flying debris to cause eye injury. Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses only have impact resistant lenses, they are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).

We recommend you keep a copy of our current catalog for complete information regarding Grizzly's warranty and return policy. If you need additional technical information relating to this machine, or if you need general assistance or replacement parts, please contact the Service Department listed in Section 3: General Information.

Additional information sources are necessary to realize the full potential of this machine. Trade journals, woodworking magazines, and your local library are good places to start.

WARNING

The Model G1495 was specifically designed for woodturning operations. **DO NOT MODIFY AND/OR USE THIS MACHINE FOR ANY OTHER PURPOSE. Modifications or improper use of this tool will void the warranty.** If you are confused about any aspect of this machine, **DO NOT** use it until you have answered all your questions. **Serious personal injury may occur.**

WARNING

Like all power tools, there is danger associated with the Model G1495 Wood Lathe. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.



WARRANTY AND RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

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 products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number", which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

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