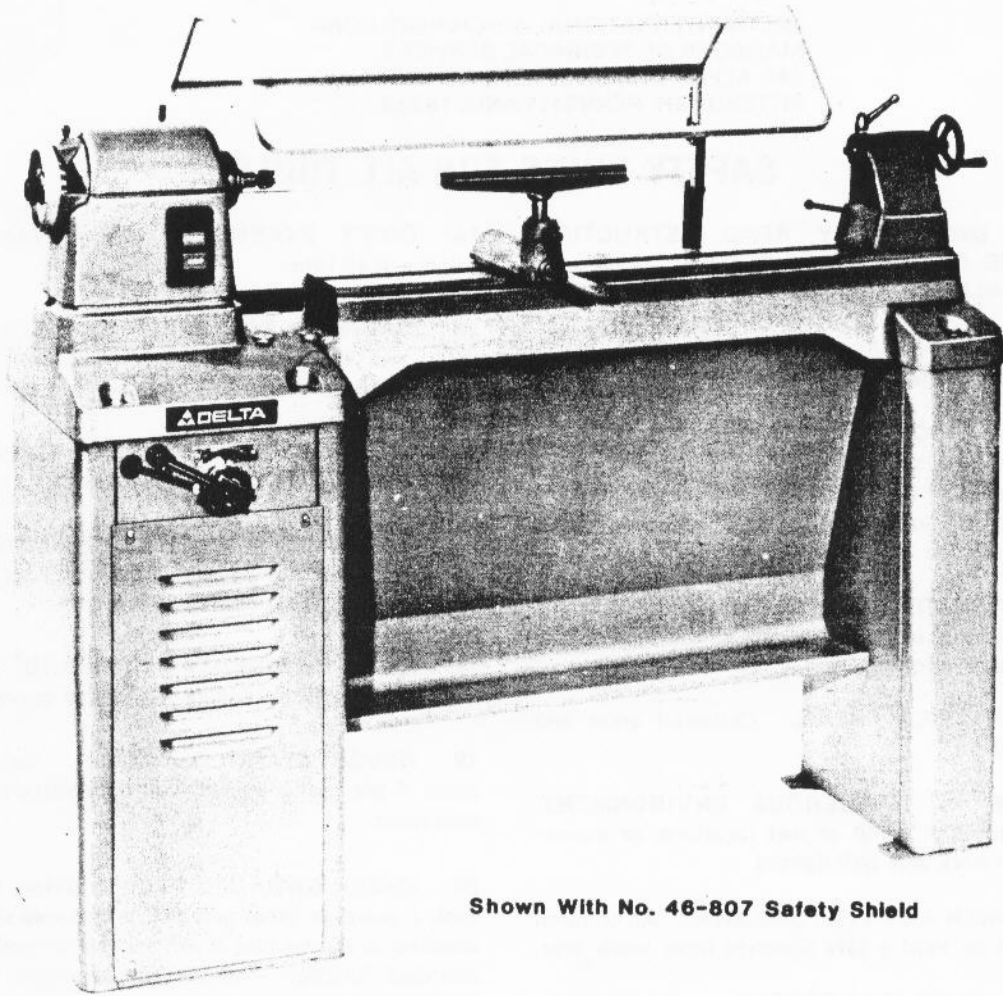


Heavy Duty 12" Variable Speed Wood Lathe



Shown With No. 46-807 Safety Shield

Dated 12-15-85

Part No. 434-03-651-0003

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 **DELTA**

**WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN
SERIOUS PERSONAL INJURY.**

IMPORTANT

As with all machinery there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. Delta Machinery strongly recommends that this machine NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the machine until you have written Delta Machinery and we have advised you.

DELTA INTERNATIONAL MACHINERY CORP.
MANAGER OF TECHNICAL SERVICES
246 ALPHA DRIVE
PITTSBURGH, PENNSYLVANIA 15238

SAFETY RULES FOR ALL TOOLS

1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE TOOL.** Learn the tool's application and limitations as well as the specific hazards peculiar to it.
2. **KEEP GUARDS IN PLACE** and in working order.
3. **GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter lug must be attached to a known ground. Never remove the third prong.
4. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on".
5. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
6. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
7. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
8. **MAKE WORKSHOP CHILDPROOF** - with padlocks, master switches, or by removing starter keys.
9. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
10. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
11. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip foot wear is recommended. Wear protective hair covering to contain long hair.
12. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operations is dusty. Everyday eyeglasses only have impact resistant lenses; they are NOT safety glasses.
13. **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.
14. **DON'T OVERREACH.** Keep proper footing and balance at all times.
15. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
16. **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.
17. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.
18. **AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.
19. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
20. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function - check for alignment of moving parts, binding of moving parts, 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.
21. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
22. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
23. **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drugs, alcohol or any medication.
24. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while motor is being mounted connected or reconnected.

ADDITIONAL SAFETY RULES FOR WOOD LATHES

1. **MAKE SURE** the tool rest height is adjusted properly.
 2. **KEEP** tool rest as close to the work as possible.
 3. **REMOVE** the tool rest before sanding or polishing.
 4. **EXAMINE** set-up carefully before turning on the power.
 5. **ROTATE** workpiece by hand to check clearance before engaging power.
 6. **WHEN TURNING** between centers **MAKE SURE** the tailstock center is snug against the workpiece and locked. Tailstock center should be lubricated if it is not a ball bearing center.
 7. **MAKE SURE** screw fasteners do not interfere with the turning tool at the finished dimension of the workpiece when faceplate turning.
 8. **EXAMINE** workpiece for flaws and test glue joints before placing workpiece in lathe.
 9. **WHEN** roughing off, **DO NOT** jam tool into workpiece or take too big a cut.
 10. **CHECK AND SELECT** proper speed before turning lathe on.
 11. **NEVER** drive wood into drive center when it is in headstock. Set drive center into wood with a soft mallet prior to installing it in the lathe.
 12. **NEVER** loosen tailstock spindle while work is turning.
 13. **NEVER** adjust tool rest while work is turning.
 14. **WHEN** faceplate turning, be sure material is securely fastened to the faceplate.
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INTRODUCTION

The Delta 12" Heavy Duty Variable Speed Wood Lathe is designed for use in schools, home workshops, cabinet shops, pattern shops, and many other types of industries.

The lathe is designed for many uses, and with the various attachments and accessories, many different jobs can be accomplished.

Like any fine woodworking machine, your lathe must be installed properly and kept in adjustment.

Although it was test run and adjusted at the factory, it should be thoroughly checked and readjusted if necessary.

PLEASE READ THIS ENTIRE MANUAL BEFORE INSTALLING OR OPERATING THE LATHE, so that you become thoroughly familiar with the adjustments and understand the functions of your lathe.

CLEANING THE LATHE

The bed ways and all other machined and unpainted surfaces of the lathe are protected with a coating of rust preventive. Remove this coating with a soft cloth moistened with kerosene (do not use acetone, gasoline, or lacquer thinner for this purpose.)

SELECTING FLOOR SPACE

Vibrations transmitted through inadequately constructed floors by adjacent machinery or other sources can impair the accuracy of your lathe. Therefore, it is of the utmost importance that the lathe be mounted to a solid level foundation. Refer to Fig. 2 for floor plan dimensions for your lathe.

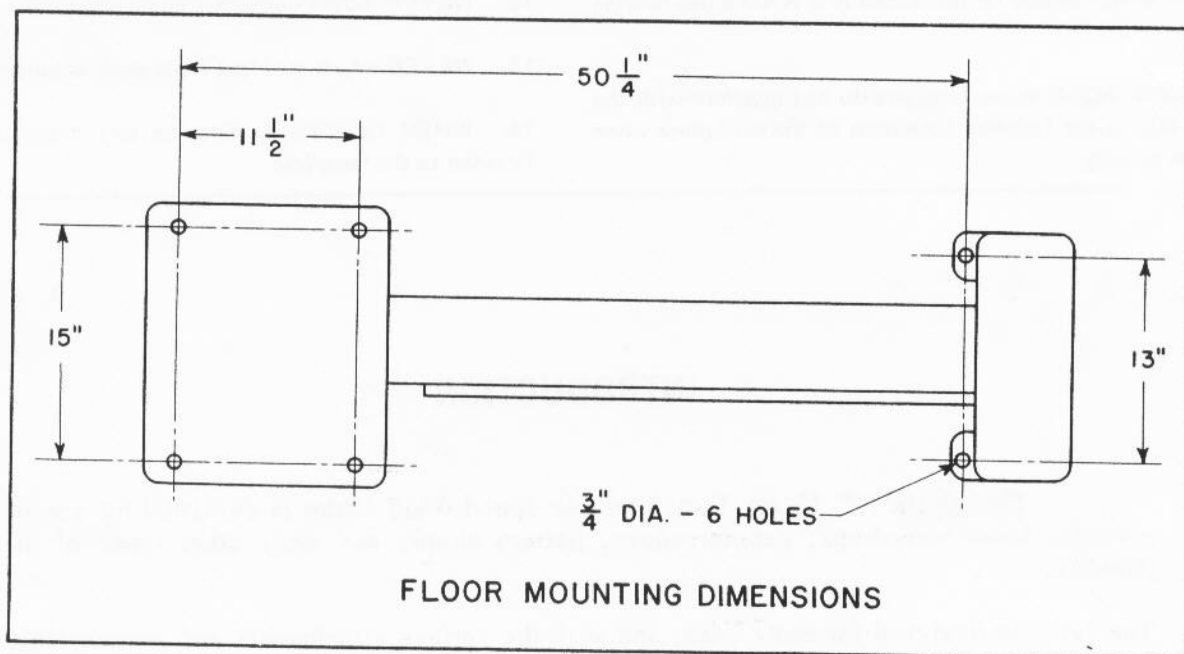


Fig. 2.

LEVELING THE LATHE

1. Place a level squarely across the lathe bed at the headstock end of the bed.
2. Adjust metal shims under the headstock end of the cabinet until the bubble in the level is centered.
3. Without turning the level end for end, move it to the tailstock end of the bed.
4. Adjust metal shims under the tailstock end of the cabinet until the bubble comes to rest at the same position as when the level was at the headstock end of the bed.
5. Place the level lengthwise on the center of the bed and shim until the bubble is centered.
6. Repeat the above steps until all readings are the same.
7. Fasten the lathe cabinet to the floor.

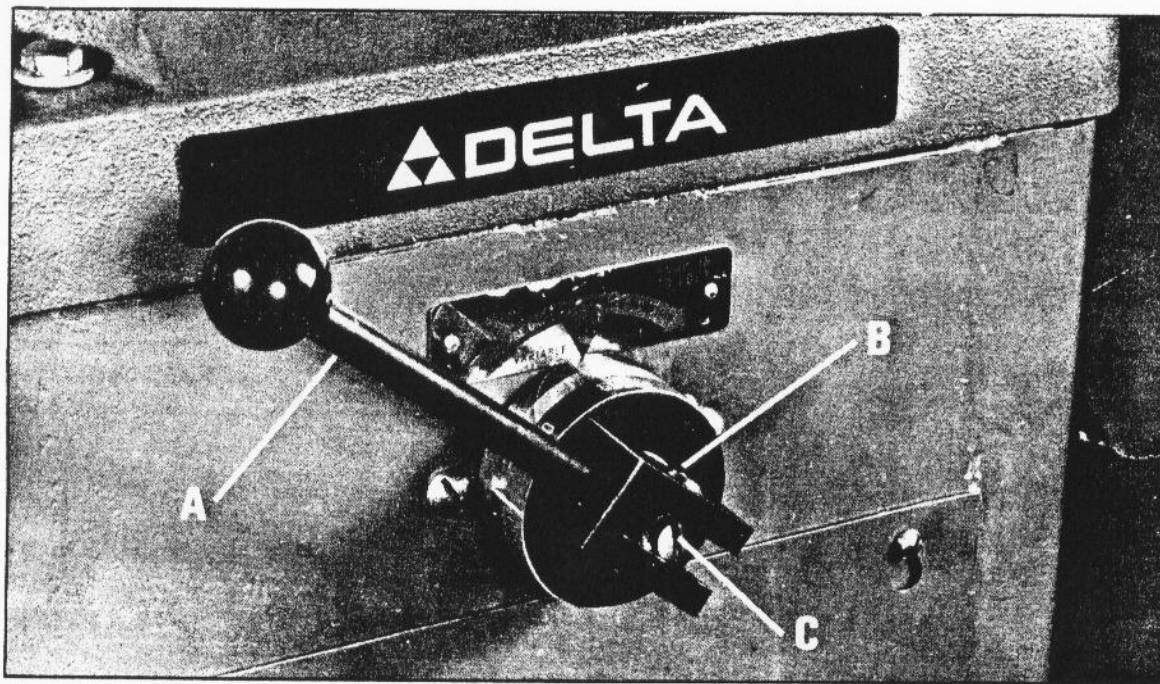


Fig. 3.

VARIABLE SPEED CONTROL

The variable speed control lever (A) Fig. 3, pivots and must be pulled out when changing speeds. When the desired speed is obtained, the lever is pushed in and automatically locks in position.

If after a long period of time, slight wear may occur on some of the parts causing the variable speed control lever not to lock sufficiently, an adjustment can be made as follows:

1. Pull the control lever out.
2. Loosen set screw (B), Fig. 3, using an allen wrench.
3. Turn the slotted screw (C) Fig. 3, slightly to the right.
4. Push the lever in and check to see if it locks sufficiently.
5. If further adjustment is necessary, adjust the slotted screw (C) Fig. 3.

SPEED LIMIT CONTROL

Two square head screws are provided on the variable speed pulley bracket. These screws are set at the factory to allow the lathe to be operated through its full range.

For inexperienced student operators, it is sometimes desirable to adjust the lathe to other than factory-set maximum speed. This is done by adjusting the square head screw (A) Fig. 4.

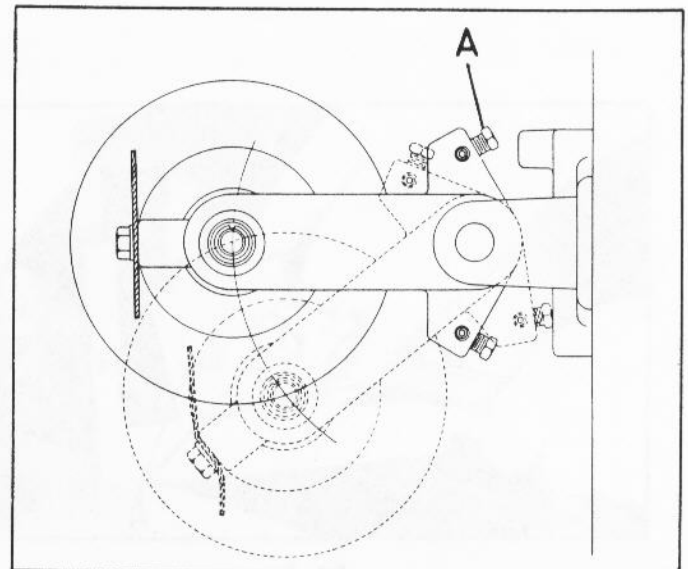


Fig. 4.

TOOL REST BASE

The tool rest base is equipped with a cam type clamping device which is actuated by turning the hand lever (A) Fig. 5, downward.

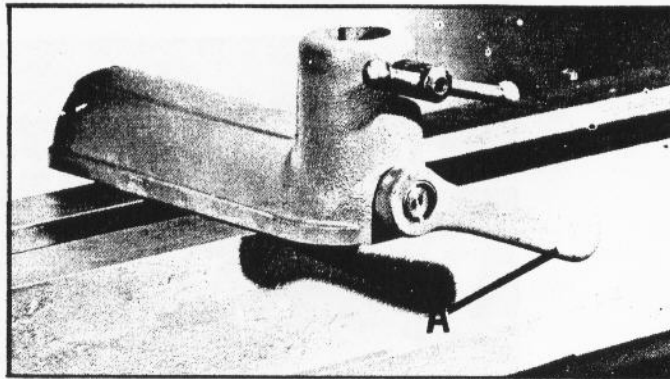


Fig. 5.

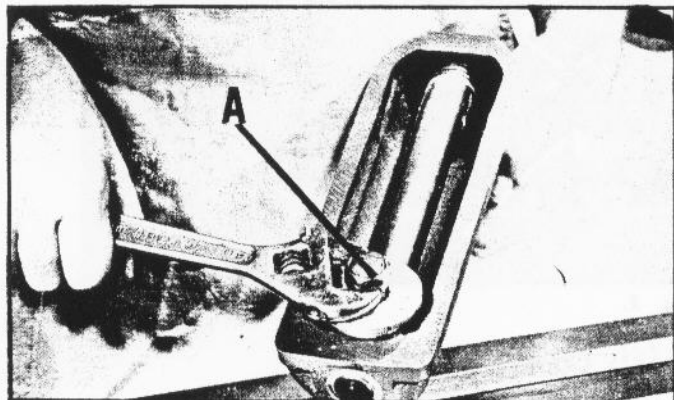


Fig. 6.

The clamping device has been set at the factory, however, should it become necessary to reset, adjust the two hexagon nuts (A) Fig. 6, accordingly.

TAILSTOCK

The ram (A) Fig. 7, is locked by turning the ram locking lever (B) to the right. It has been set at the factory to lock in a convenient position. If repositioning becomes necessary, remove screw (C), lift off lever (B) and reposition.

The tailstock is equipped with a cam type clamping lever (D) Fig. 7. It is actuated by moving the lever (D) in either direction.

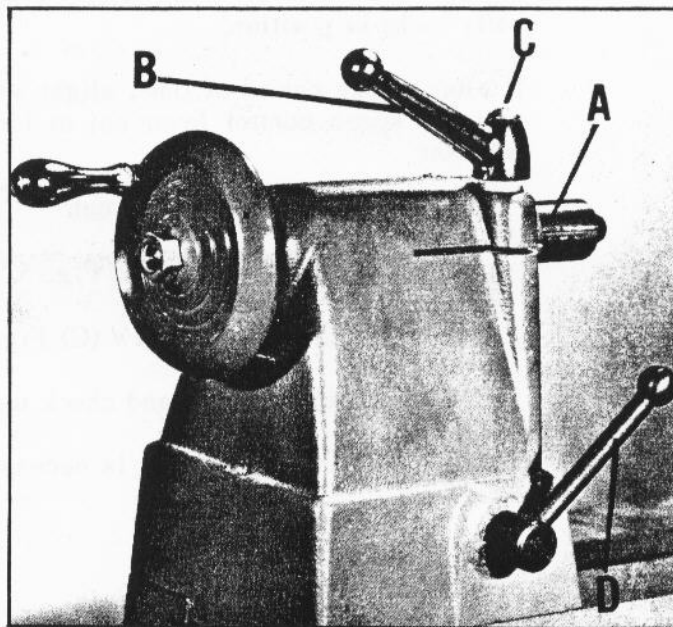


Fig. 7.

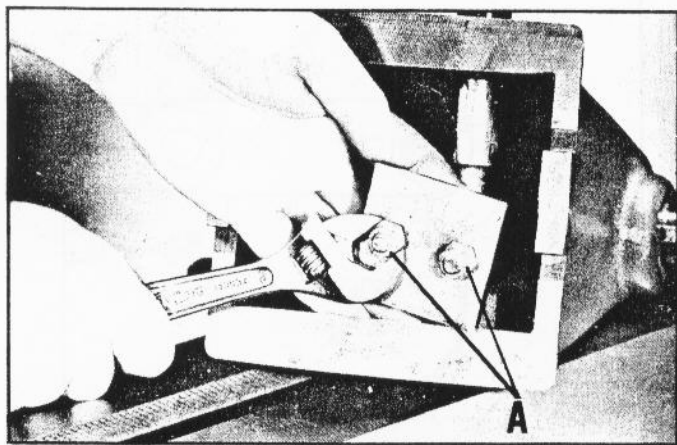


Fig. 8.

Should it become necessary to reset the clamping lever, adjust the two hexagon nuts (A) Fig. 8.

INDEXING

The spindle pulley has a row of 48 equally spaced slots provided in the pulley rim. This feature makes it possible to make evenly spaced divisions on turnings which could be fluted, grooved, or holes drilled at these points.

The index pin is controlled through a knob (A) Fig. 9, on top of the headstock. Moving the knob back and forth will engage or disengage the index pin in the slots in the pulley rim.

CAUTION: NEVER TRY TO MOVE THE INDEX PIN WHILE SPINDLE IS ROTATING.

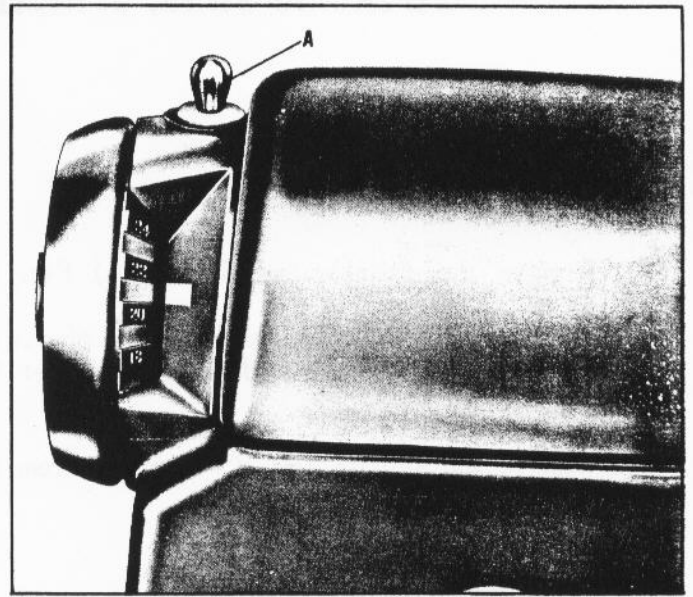


Fig. 9.

OPERATING AND SAFETY RECOMMENDATIONS

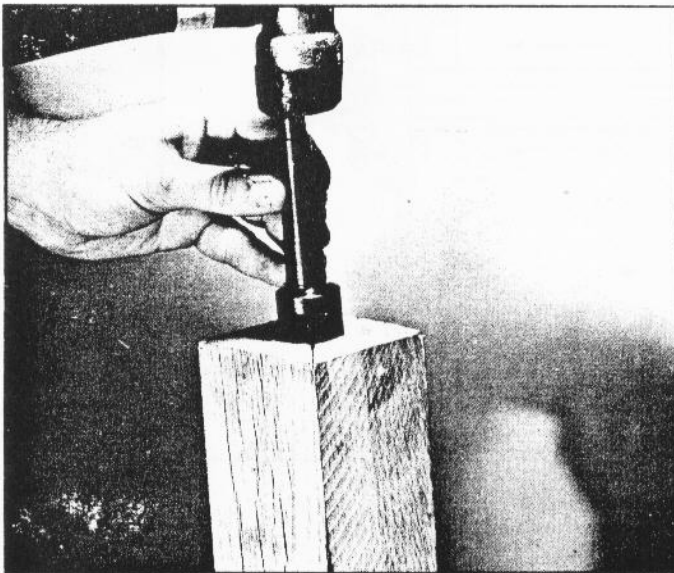


Fig. 10.

Never drive the piece to be turned into the centers while they are in place in the lathe. The centers should be driven into the work piece with a soft hammer or a block of wood as shown in Fig. 10. Never pound the centers with a steel hammer. On hard woods, diagonal saw cuts should be made to receive the spurs of the drive center.

Never make adjustments while the machine is running.

Do not wear necktie, loose shirt sleeves, or any other loose clothing while working on the lathe.

Safety glasses should always be worn to protect the eyes.

REPLACING BELTS, SPINDLE PULLEY, SPINDLE, AND BEARINGS

1. Remove the variable speed belt (A) Fig. 11.
2. Turn the variable speed control lever clockwise to raise the variable speed pulley bracket (B) Fig. 11.
3. Remove the spindle belt (C) Fig. 11, from the variable speed pulley.

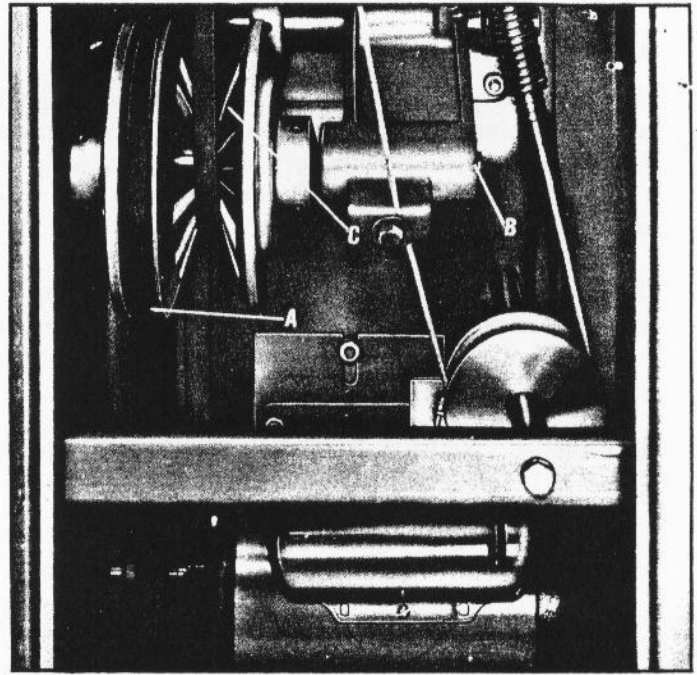


Fig. 11.

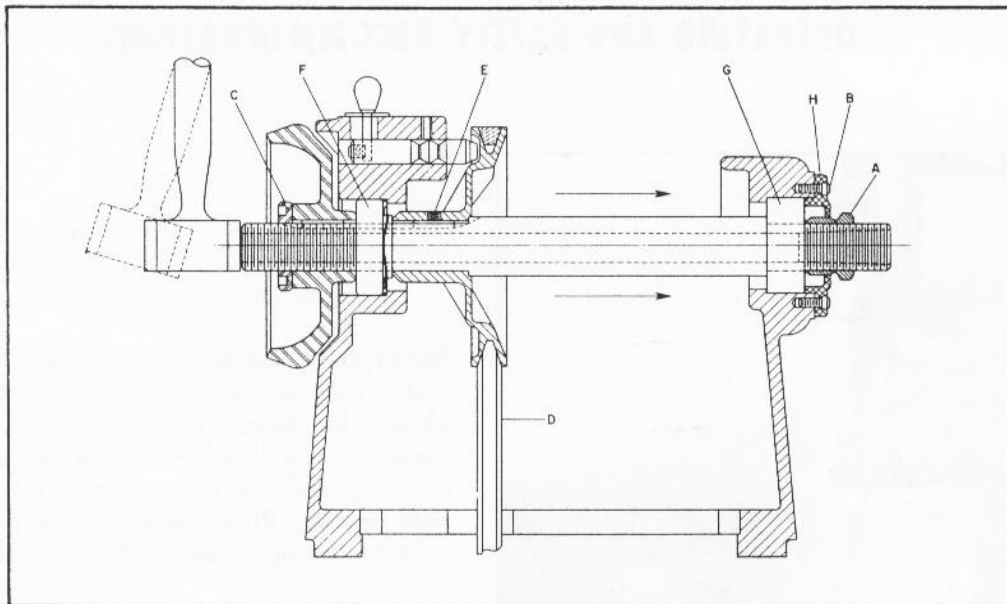


Fig. 12.

4. Unscrew and remove spindle nut (A) Fig. 12.
5. Remove four screws (B) Fig. 12, and inboard bearing retainer (H).
6. Remove spindle nut (C) Fig. 12.
7. Using a soft hammer or a block of wood gently tap the spindle to the right, as shown in Fig. 12.
8. Move the spindle far enough to the right to remove and replace the spindle belt (D) Fig. 12.
9. Loosen set screw (E) Fig. 12. The spindle pulley can then be replaced.
10. If bearings (F and G) Fig. 12, need replaced, completely remove the spindle from the headstock.
11. When reassembling, make sure the set screw in the spindle pulley is tightened against the key in the spindle.

The following is an explanation of just a few of the many operations that can be performed on your wood lathe, by taking advantage of the various accessories.

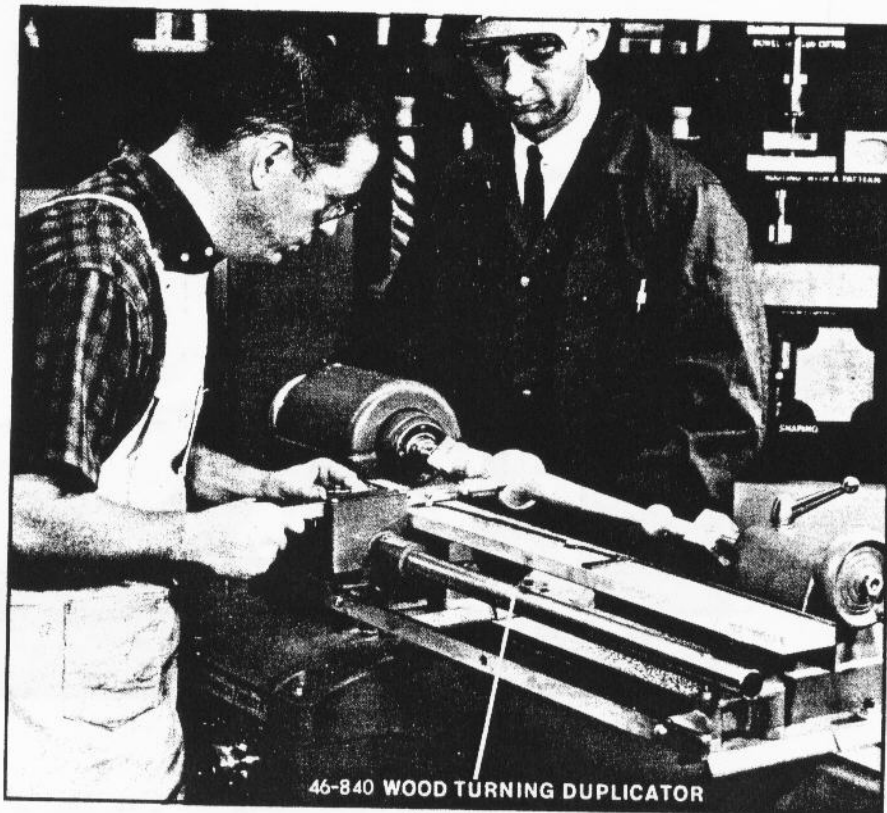


Fig. 13.

DUPLICATING

Fig. 13 illustrates the Cat. No. 46-840 Wood Turning Duplicator assembled to the 12" Wood Lathe. This Duplicator makes wood-turning unusually accurate, completely safe, and enables you to duplicate the most intricate turnings such as, gavels, lamps, posts, table legs, and chair legs. Almost anything that previously could be turned freehand can be duplicated faster, easier, and safer.



Fig. 14.

LARGE FACEPLATE WORK

Stock up to 16 1/2" in diameter by 3 1/2" thick can be turned over the large bed gap. When turning large work, as illustrated in Fig. 14, the Cat. No. 937 face plate should be used. It contains double threads, both right hand and left hand, and can be used on either end of the spindle. Fig. 14 also shows the Cat. No. 695 right angle tool support being used.

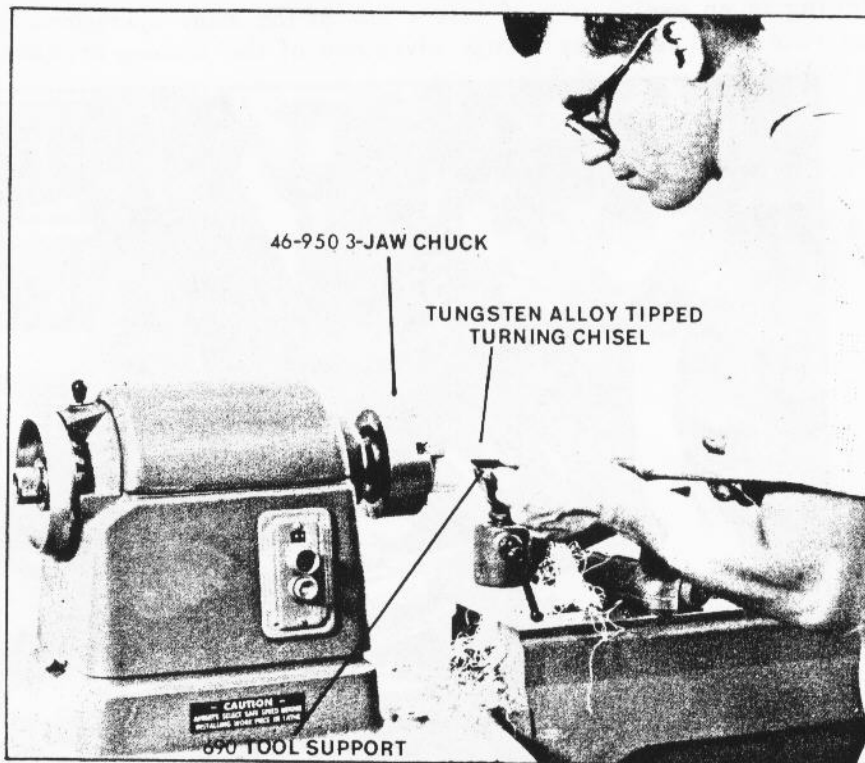


Fig. 15.

TURNING PLASTIC

Fig. 15 shows the operator turning plastic while using the Cat. No. 46-950 4" 3-jaw universal type chuck, Cat. 46-690 4" wide tool support, and a tungsten alloy tipped turning chisel.

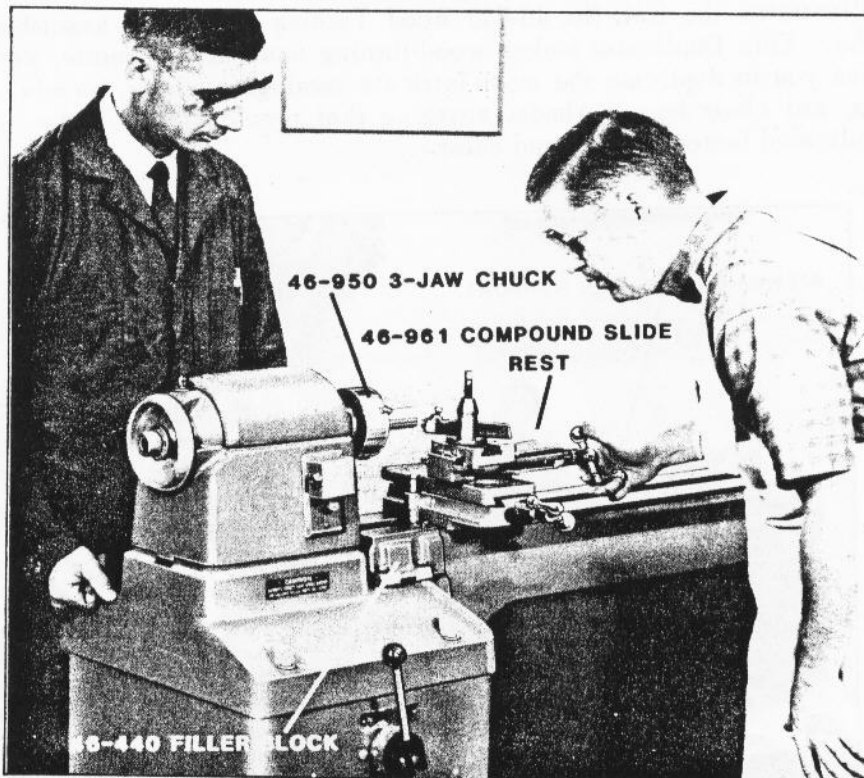


Fig. 16.

METAL TURNING

Fig. 16 illustrates metal turning on the 12" Wood Lathe, while using the Cat. No. 46-961 Compound Slide Rest, the Cat. No. 46-950 4" 3-jaw universal type chuck, and the Cat. 46-440 Filler Block. The Compound Slide Rest is accurately built with dovetail ways and a graduated compound base that rotates 360°. The feed screws are covered to protect them from dirt and chips, and are fitted with accurately graduated micrometer sleeves.

PARTS DISTRIBUTION CENTERS FOR DELTA INTERNATIONAL MACHINERY

Even quality built equipment such as the Delta machine you have purchased, may require occasional replacement parts to maintain it in good working condition over the years. To order replacement parts write or call one of the following Delta Parts Distribution Centers:



Always include the following information:

1. Model No. and Serial No. and all specifications shown on the Model No./Serial No. plate
2. Part number or numbers as shown in the Replacement Parts list supplied with your Delta machine.





**Delta Machinery
One Year Limited Warranty**

Delta Machinery will repair or replace, at its expense and at its option, any Delta machine, machine part, or machine accessory which in normal use has proven to be defective in workmanship or material, provided that the customer notifies his supplying distributor of the alleged defect within one year from the date of delivery to him, of the product and provides Delta Machinery with reasonable opportunity to verify the defect by inspection. Delta Machinery may require that electric motors be returned prepaid to the supplying distributor or authorized service center for inspection and repair or replacement. Delta Machinery will not be responsible for any asserted defect which has resulted from misuse, abuse or repair or alteration made or specifically authorized by anyone other than an authorized Delta service facility or representative. Under no circumstances will Delta Machinery be liable for incidental or consequential damages resulting from defective products. This warranty is Delta Machinery's sole warranty and sets forth the customer's exclusive remedy, with respect to defective products; all other warranties, express or implied, whether of merchantability, fitness for purpose, or otherwise, are expressly disclaimed by Delta.

Part No. 400-06-652-5002