

ASSEMBLY, OPERATING INSTRUCTIONS AND PARTS LIST FOR CRAFTSMAN DRILL PRESS

MODEL NUMBERS 113.24580 AND 113.24590

The Model Number will be found on a plate attached to your Drill Press. Always mention the Model Number in all correspondence regarding the CRAFTSMAN DRILL PRESS or when ordering repair parts.

Carefully read the instructions provided, observe the simple safety precautions and you will have many hours of satisfactory use from your new Craftsman tool.

HOW TO ORDER REPAIR PARTS

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail from the catalog order house which serves the territory in which you live, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN PARTS LIST:

1. The PART NUMBER
2. The PART NAME
3. The MODEL NUMBER 113.24580 or 113.24590
4. The NAME of item — DRILL PRESS

COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN DRILL PRESS



SEARS, ROEBUCK AND CO. and SIMPSONS-SEARS LIMITED in Canada back up your investment with quick, expert mechanical service and genuine CRAFTSMAN replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

SEARS, ROEBUCK AND CO.-U. S. A.
IN CANADA, SIMPSONS - SEARS LIMITED

SAFETY RULES FOR POWER TOOLS

1. KNOW YOUR POWER TOOL

Read owner's manual carefully. Learn its applications and limitations as well as the specific potential hazards peculiar to this tool.

2. GROUND ALL TOOLS — UNLESS DOUBLE-INSULATED

If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If adapter is used to accommodate two-prong receptacle, the adapter wire must be attached to a *known ground*. Never remove third prong.

3. KEEP GUARDS IN PLACE

and in working order.

4. KEEP WORK AREA CLEAN

Cluttered areas and benches invite accidents.

5. AVOID DANGEROUS ENVIRONMENT

Don't use power tool in damp or wet locations, and keep work area well lit.

6. KEEP CHILDREN AWAY

All visitors should be kept safe distance from work area.

7. STORE IDLE TOOLS

When not in use, tools should be stored in dry, high or locked-up place — out of reach of children.

8. DON'T FORCE TOOL

It will do the job better and safer at the rate for which it was designed.

9. USE RIGHT TOOL

Don't force small tool or attachment to do the job of a heavy duty tool.

10. WEAR PROPER APPAREL

No loose clothing or jewelry to get caught in moving parts. Rubber gloves and footwear are recommended when working outdoors.

11. USE SAFETY GLASSES

with most tools. Also face or dust mask if cutting operation is dusty.

12. DON'T ABUSE CORD

Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.

13. SECURE WORK

Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.

14. DON'T OVERREACH

Keep proper footing and balance at all times.

15. MAINTAIN TOOLS WITH CARE

Keep tools sharp at all times, and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. DISCONNECT TOOLS

When not in use, before servicing; when changing accessories such as blades, bits, cutters, etc.

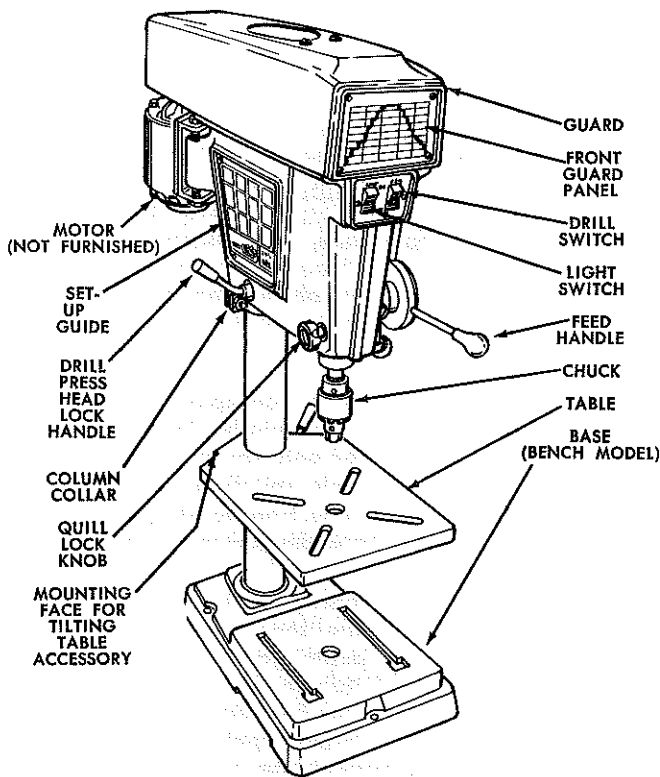
17. REMOVE ADJUSTING KEYS AND WRENCHES

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

18. AVOID ACCIDENTAL STARTING

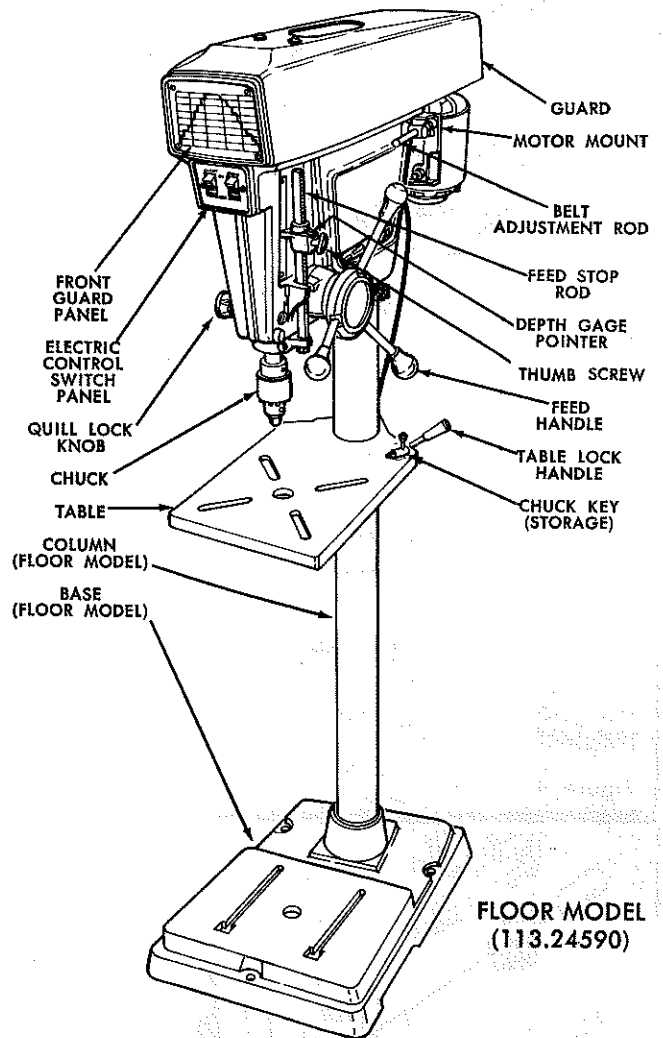
Don't carry plugged-in tool with finger on switch.

ASSEMBLY AND OPERATING INSTRUCTIONS FOR CRAFTSMAN DRILL PRESS MODEL NUMBERS 113.24580 AND 113.24590



BENCH MODEL
(113.24580)

Figure 1



FLOOR MODEL
(113.24590)

Figure 2

UNPACKING AND CHECKING CONTENTS

This Craftsman Drill Press is available as a bench model (No. 113.24580), and a floor model (No. 113.24590) as shown in figure 1 and 2. The floor model (No. 113.24590) is the same as the bench model (No. 113.24580) except for the longer column and larger base. In order to facilitate packaging, certain items are not attached at the factory and must be assembled by the purchaser. These loose parts are packed in the carton with the drill press; therefore, before discarding any packaging materials, examine them carefully to make sure all "loose" parts (listed below) have been removed. The following parts are not assembled to the drill press:

QUANTITY	ITEM
1	Belt, V
3	Rod
3	Knob
1	Pulley, Motor (w/Set Screw)
1	Chuck, Drill
1	Mount, Motor
1	Bag of Miscellaneous Small Parts Consisting of the Following:
1	Hex-L Wrench (5/32 inch)
1	Key, Drill Chuck
1	Pointer, Depth Gage

QUANTITY ITEM

1	Shoe, Depth Gage
1	Nut, Stop
1	Screw, Thumb
2	Screw, Set (Cone Pt. 5/16-18 x 1-1/4)
2	Nut, Hex (5/16-18 x 1/2 x 3/16)
4	Bolt (5/16-18 x 7/8)
4	Washer (11/32 x 11/16 x 1/16)
4	Nut, Hex (5/16-18 x 1/2 x 3/16)
1	Lens
2	Screw, Mach. (Pan Hd. 10-32 x 9/16)

MOTOR REQUIREMENTS

The drill press is designed to perform its best work when driven with an 115-volt, 1/2 horsepower, 1725 RPM, ball bearing motor (rotation clockwise pulley end).

ASSEMBLY

CAUTION

Make sure unit is not plugged in during assembly.

1. Hold the drill press head securely, loosen the drill press head lock handle (figure 1) and slide the head upward on column to a convenient working position. Tighten the drill press head lock handle.
2. Remove all packaging material.

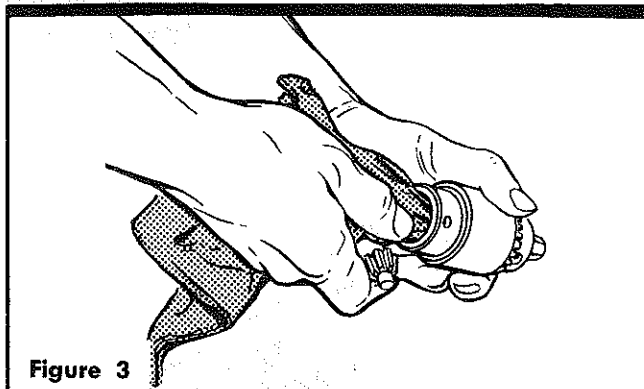


Figure 3

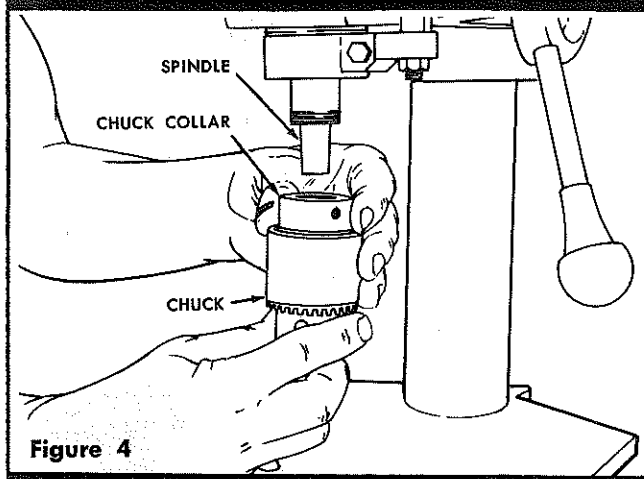


Figure 4

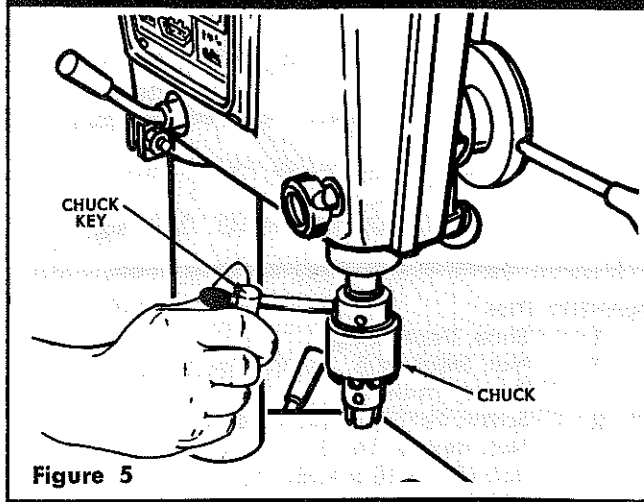


Figure 5

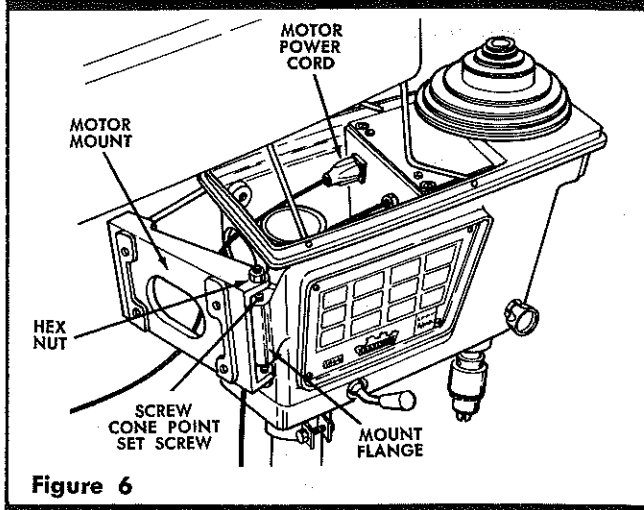


Figure 6

3. Hold the table securely, loosen the table lock handle (figure 2) and raise the table to a position approximately eight inches below the drill press head. Tighten the table lock handle.
4. Assemble feed handles (screw 3 knobs and rods together). Screw the three feed handles (figure 2) into the tapped holes in the hub assembly. Hand tighten feed handle rods.
5. Clean the spindle taper and tapered socket in chuck body with a clean cloth (See figure 3). Make sure no foreign particles are left on these tapered surfaces which would prevent proper seating of the parts.
6. Apply a light film of oil on spindle taper and place chuck on end of spindle (See figure 4). Screw the chuck collar onto the threaded portion on end of spindle. Hold spindle pulley with one hand to prevent spindle from rotating and tighten chuck collar with drill chuck key. (See figure 5).
7. Screw thumb screw partly into depth gage pointer. Place depth gage shoe inside depth gage pointer. Slide the depth gage pointer onto the feed stop rod and tighten thumb screw. Screw the feed stop nut on the feed stop rod (See figure 8). Make sure depth gage pointer is positioned on feed stop rod with pointer on top.
8. Install a 60-watt incandescent bulb in the socket inside of head. Mount lens with (2) pan hd. mach. screws #10-32 x 9/16 long.

MOTOR INSTALLATION

1. To install motor, screw cone point set screws part way into holes on the motor mount assembly.
2. Align cone point set screws with holes on the mount flange at rear of drill press head (see figure 6). Using hex wrench, tighten cone point set screws one at a time until motor mount is centered on mount flange.
3. Screw hex nut to the top cone point set screw and tighten. Do not loosen hex nut.
4. Loosen bottom cone point set screw and remove motor mount from drill press head.
5. Fasten the motor to the motor mount assembly with the hardware supplied.
6. Install motor and motor mount assembly to the drill press head by inserting the top cone point set screw on motor mount into the top hole on the mount flange and tighten the lower cone point set screw until all vertical movement of motor mount assembly is removed. Install and tighten hex nut on lower cone point screw.
7. Mount motor pulley on motor shaft so that small diameter is at the bottom. (See figure 7), Align the motor pulley vertically with the spindle pulley and tighten the pulley set screw. If motor shaft has a "flat", position the pulley so that pulley set screw tightens against the "flat."
8. Loosen screw on belt adjusting clamp (see figure 7). Place the V-Belt around the pulley grooves which will give the desired speed (see figure 7) and take up belt slack by pivoting the motor

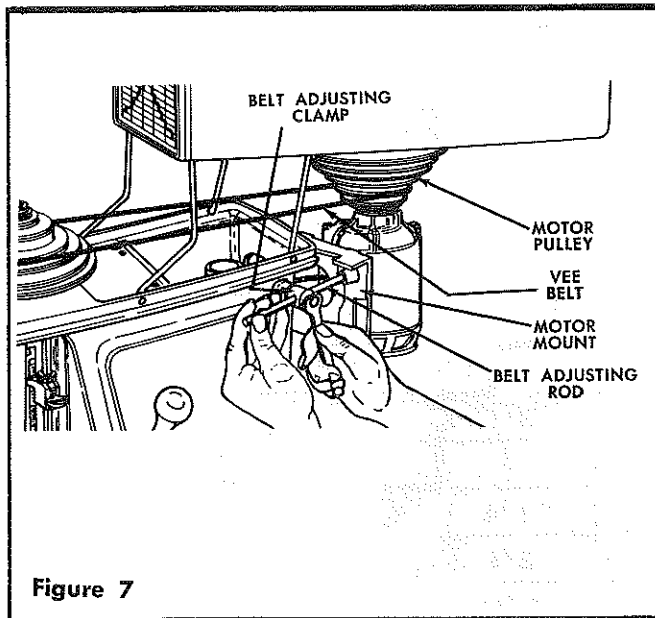


Figure 7

9. Adjust V-Belt tension. Refer to "BELT TENSION" under "ADJUSTMENTS."
10. Connect the motor power cord to the outlet on the electric support assembly. (See figure 6).

DRILL PRESS INSTALLATION

Three 13/32-inch diameter holes have been provided in the base of the bench model unit, through which bolts or screws may be inserted to secure the drill press to a well constructed bench or tool stand. Similar holes are provided in the base of the floor-model unit for securing it to the floor, if required. Connect the drill press power cord to a 115-volt receptacle only.

OPERATION

SET-UP GUIDE

Two operating instruction panels are located on the drill press. One is located on the front guard panel directly in front of the operator when facing the drill press; the other one is located on the left hand trim (see figure 1). The front guard operating instruction panel contains information regarding suggested speeds for performing various operations. The trim operating instruction panel contains a "Set-Up Guide" which consists of a color-code system. The color dots on the panel match the color dots on various controls. It indicates the controls required for a particular set-up operation.

CONTROLS

1. **Chuck.** The key-type chuck has a maximum capacity of a 1/2-inch diameter. It is equipped with a lock collar to retain it on the spindle, which eliminates the necessity of having collet chucks for tools that develop side thrust while in operation, such as routers, molding cutters, etc.
2. **Feed Stop Rod.** Carries the feed stop nut and depth gage pointer (see figure 8).

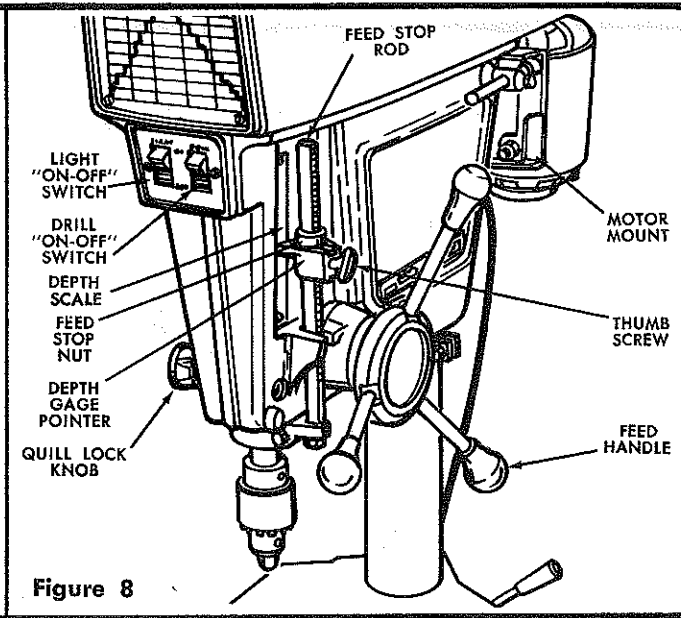


Figure 8

3. **Feed Handle.** The feed handle is used to raise and lower the quill a total distance of four inches. (See figure 8).
4. **Quill Lock Knob.** The quill lock knob (when tightened) holds the quill at any depth of cut for such operations as shaping, routing, surface grinding, etc. (See figure 8). Always release the quill lock before attempting to raise or lower the quill.
5. **Table Lock Handle and Drill Press Head Lock Handle.** The table lock handle and drill press head lock handle control the barrel locks which grip the column.

CAUTION: When releasing either of these handles do so with care. Support the item being repositioned, so that it will not drop too rapidly causing damage to the parts.

6. **Column Collar.** This is a two-piece collar for clamping to the column. It should be located under the drill press head to keep it from sliding down accidentally when the drill press head lock handle is loosened. (See figure 1.)
7. **Feed Stop.** The feed stop assembly provides a means of pre-setting hole depths before drilling or for drilling several holes to the same depth. (See figure 8). The depth gage pointer thumb screw (when tightened) holds the depth gage pointer in place. The feed stop nut prevents the depth gage pointer from moving when it reaches the maximum travel.

ADJUSTING FEED STOP ASSEMBLY

- a. Position feed stop assembly near top of feed stop rod.
- b. With drill installed in chuck, loosen quill lock knob and lower quill by rotating feed handle until tip of drill contacts top surface of work piece. Tighten quill lock knob. (See figure 8.)
- c. Loosen thumb screw, position depth gage pointer opposite desired depth reading on scale. Tighten thumb screw.
- d. Lock position of depth gage pointer by tightening feed stop nut against pointer.
- e. Loosen quill lock knob.

RECOMMENDED SPEED FOR DRILL SIZE AND MATERIALS				
WOOD	ALUM.	SPEED (RPM)	STEEL	BRASS
		8550		
1/8	1/8	6400	1/16	1/8
1/4	1/4	4250	1/8	1/4
1/2	3/8	2300	3/16	3/8
3/4	7/16	1325	1/4	7/16
1	1/2	720	3/8	1/2
1 1/4		480	7/16	
1 1/2		380	1/2	

FOR EXAMPLE: TO DRILL A 1/2" HOLE IN WOOD, THE BELT IS PLACED IN THE FOURTH GROOVE FROM THE TOP OF THE PULLEYS. THE SPEED WILL THEN BE 2300 RPM.

Figure 9

8. **Motor Mount.** The motor mount is designed with a hinge arrangement in order to make changing of spindle speeds easy and rapid. In addition, a quick-type belt adjusting rod has been provided, which will, in effect provide a solid motor mount and maintain proper belt tension when the drill press is operating (See figure 8).

9. **Switches.** The light and the motor are controlled by separate switches located on the front of the drill press head (See figure 8).

NOTE: If the motor is equipped with an "ON-OFF" switch it can be left "ON" and the drill press operated by the DRILL "ON-OFF" switch on the drill press.

SPINDLE SPEEDS

Eight spindle speeds are available by moving the V-Belt from one pulley groove to another (see figure 9). To change spindle speed, perform steps 8 and 9 under "MOTOR INSTALLATION." These eight spindle speeds have been found adequate for all normal operations using common materials.

CAUTION: If a variable speed motor, or other similar device is used, make certain that at no time the motor speed is allowed to exceed 1725 RPM.

To determine spindle speed, multiply motor speed by the diameter of the motor pulley and divide by the diameter of spindle pulley.

OPERATING HINTS

1. **Removing the Chuck.** When removal of the chuck is required, make sure the power cord is discon-

nected. Prevent rotation of spindle by squeezing the belt around spindle pulley, and loosen chuck locking collar with the end of the chuck key. Continued rotation of the collar will force the chuck off the tapered spindle. Do not attempt to drive or wedge the chuck off, as this could damage the spindle, spindle bearings, or both.

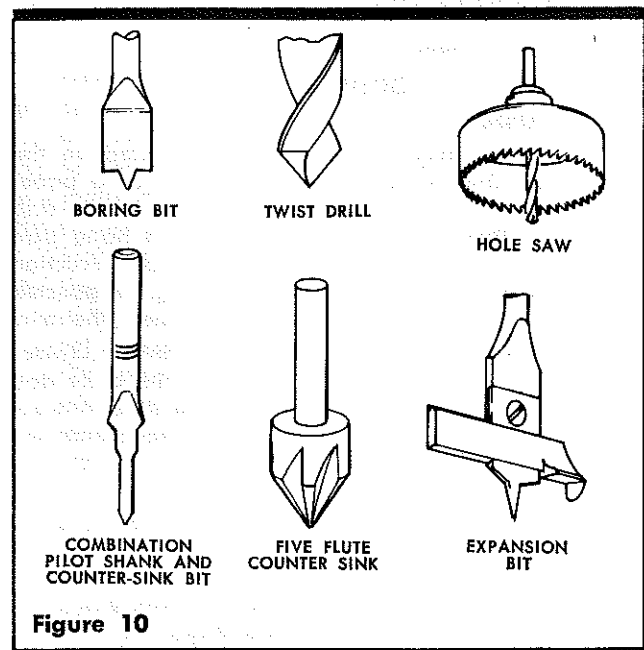


Figure 10

2. **Types of Drill Bits.** (See figure 10.)

A variety of bits are available for use with the drill press. For metal drilling, the standard type drill will satisfy the requirements of the average home shop. If extensive commercial operations

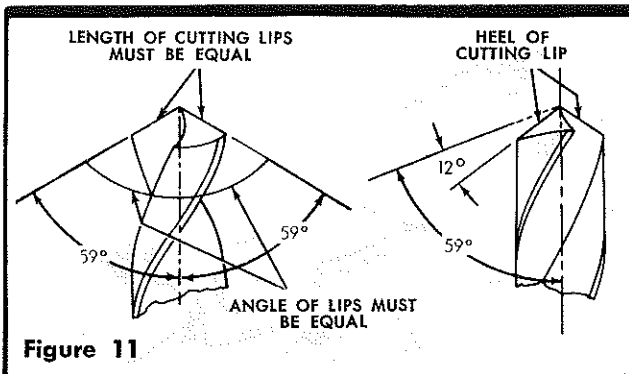


Figure 11

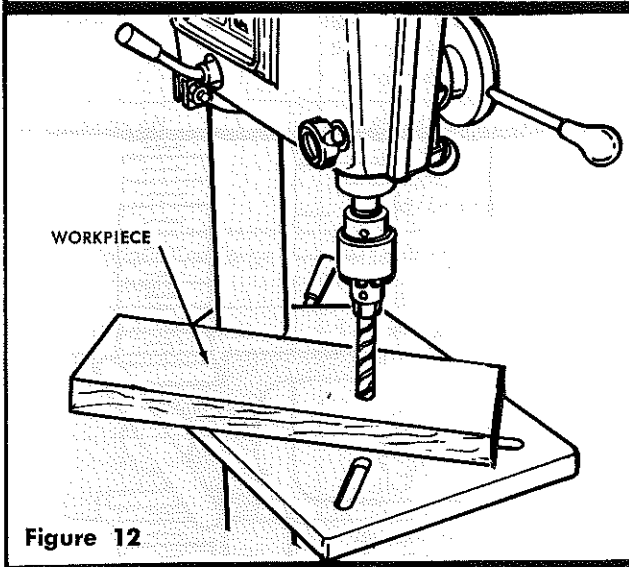


Figure 12

are to be performed, high-speed drills will prove to be a better tool as higher operating speeds are possible, plus longer life of cutting edges. The flat boring bit makes an excellent all purpose wood bit. For larger holes, a hole saw is available for either metal or wood. This bit has a center drill for piloting, and teeth around the outer rim similar to a saw blade. Also, for larger holes in wood an expansion bit may be used. When the expansion bit or any hand wood bit is used in the drill press, the screw point must have threads removed to prevent too rapid entry into the wood. These threads may be filed off with an ordinary file. Countersinking in wood may best be accomplished by using the multi-fluted type countersink. It will produce the cleanest cut and will not gum up under continuous operation. The combination pilot, shank, and countersink drills are becoming popular for wood screw applications.

3. **Drill Sharpening.** (See figure 11.) When grinding twist drills, extreme care should be exercised, in order to maintain the efficiency of the drill. The dead center of the point must be maintained, that is, both cutting lips must be the same length. Also, the angle of cutting lips in relation to the center-line of the drill must be equal. The angle should be approximately 59 degrees (118 degrees included) for metal, and 30 degrees (60 degrees included) for wood. The cutting lip should be relieved gradually behind the cutting edge so that the clearance at the heel is approximately 12 degrees.

4. **Protecting Workpiece on Drill Breakthrough.** When drilling through wood, a piece of scrap material under the workpiece will eliminate splintering and mutilation of the work piece as the drill point breaks through.
5. **Another method to prevent splintering** is to reverse the workpiece when the point of drill breaks through and finish the hole from the opposite side.
6. **Preventing Movement of Workpiece When Drilling.** To prevent work from being torn from operator's hands, position wood or metal items against the left side of the column. (See figure 12.) If a workpiece is too short to reach the column, clamp it to the table or use a drill vise. Reduce rate of feed when drill starts to break through metal workpiece to prevent "grabbing" by the drill.

CAUTION: When removing (raising) drill from wood or metal workpiece make sure that workpiece does not raise off table. A sure method of preventing this is to clamp the work to the table before drilling.

7. **Marking Depth of Hole.** When drilling to definite depth, such as blind holes, the feed stop may be set to desired depth by lowering the drill to a mark on the edge of the workpiece corresponding to the depth of hole desired.

Note: A complete operating manual, which illustrates and describes more than 100 useful and interesting operations, is included with this drill press.

ADJUSTMENTS

SPINDLE PLAY

If axial play (vertical movement) exists in the spindle, it can be removed by the following procedure:

1. Clamp the quill with the quill lock knob; loosen the 1/4-20 feed stop collar clamping nut (1, figure 13), reposition feed stop collar (3) upward as far as it will go, then tighten the feed stop collar clamping nut (1).
2. Make sure the feed stop rod (5) is positioned properly in the guide slot of the drill press head. When the feed stop collar is removed in order to install the mortising attachment (Catalog No. 9-2460), use the washer (4, figure 13) in the mortising attachment clamping collar and eliminate spindle play as described in preceding paragraphs.

PULLEY SET-SCREWS

Tighten motor pulley set-screws after a few hours of drill press operation.

TABLE AND DRILL PRESS HEAD LOCK HANDLES

(See figures 1 and 2.)

To change the locked position of table lock handle or drill press head lock handle, unscrew the handle from barrel lock and rotate barrel lock 180°. Re-insert the lock and tighten lock handle (See figure 13.)

CAUTION: Head or table assembly should be securely supported when changing locked position of handles.

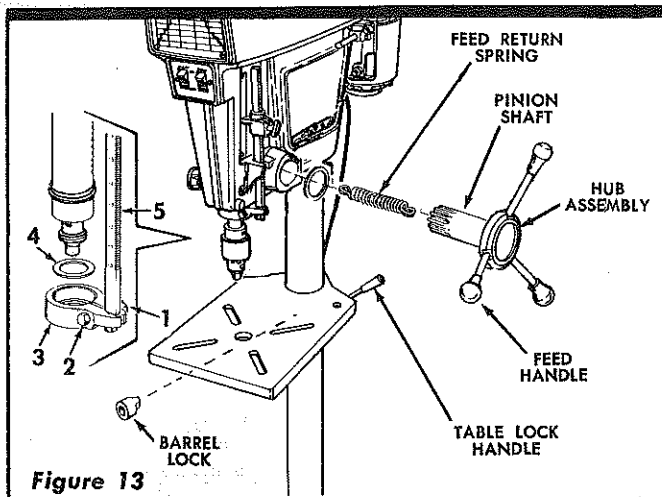


Figure 13

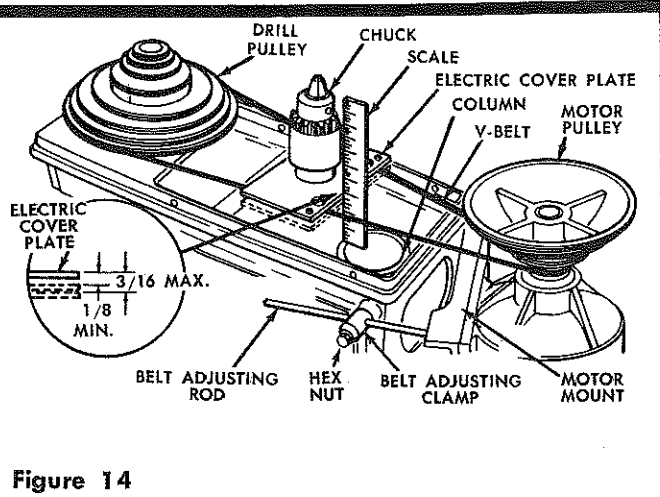


Figure 14

AUTOMATIC FEED RETURN

If the automatic feed return fails to return the quill to the top of the stroke, or if the return action becomes sluggish, the feed return may be adjusted as follows: (See figure 13.)

1. Lock the quill at the top of its stroke with quill lock knob.
2. Grasp hub assembly, pull straight out until the feed assembly is free to turn. Then turn handles counterclockwise approximately one-half turn and re-engage the pinion shaft.
3. Release quill lock knob and check tension. If return tension is still not sufficient, repeat the above adjustment until the desired return action is obtained.

BELT TENSION

Loosen screw on belt adjusting clamp (See figure 14). Position motor mount until V-belt is taut. Hold motor mount at this position, slide belt adjusting rod against mount and tighten screw on belt adjusting clamp.

CAUTION: This belt is an improvement over the traditional V-belt but it requires much greater tension. To get the best performance the following steps must be used for correct tensioning:

1. Remove chuck, guard and electrical cover plate. **NOTE:** Set the belt for the slowest speed.
2. Place cover plate across belt as shown on back.
3. Measure the distance between the top of the column tube and edge of the cover plate as shown on back.
4. Put the chuck on the cover plate and re-measure the distance between top of the column tube and edge of the cover plate.
5. Adjust Tension rod until the difference between the two measurements is approximately 1/8 to 3/16. The belt will then have the correct tension.

NOTE: Excessive belt tension will produce bearing noise and rapid bearing wear.

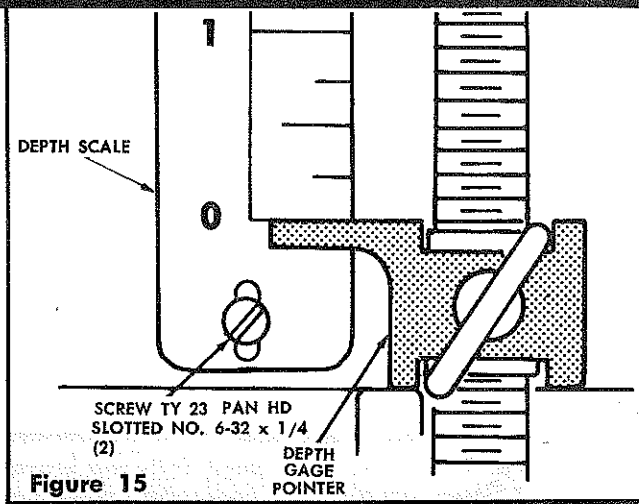


Figure 15

DEPTH SCALE

With quill in upper most position, the top surface of depth gage pointer should be in line with the zero graduation on the depth scale. (See figure 15) If the top surface of depth gage pointer is not aligned with the zero graduation, loosen depth scale mounting screws and re-position scale.

LUBRICATION

1. Spindle and pulley bearings have been packed with lubricant at the factory and require no further attention for the life of the bearings.
2. To maintain smoothness of operation and prevent rust, apply a small amount of light cup grease to the quill occasionally while in a down position. Also grease splined portion of spindle.
3. Wipe the column and table occasionally with an oil-soaked cloth, or spray with a silicon base rust inhibitor to prevent rust and maintain smooth sliding action.

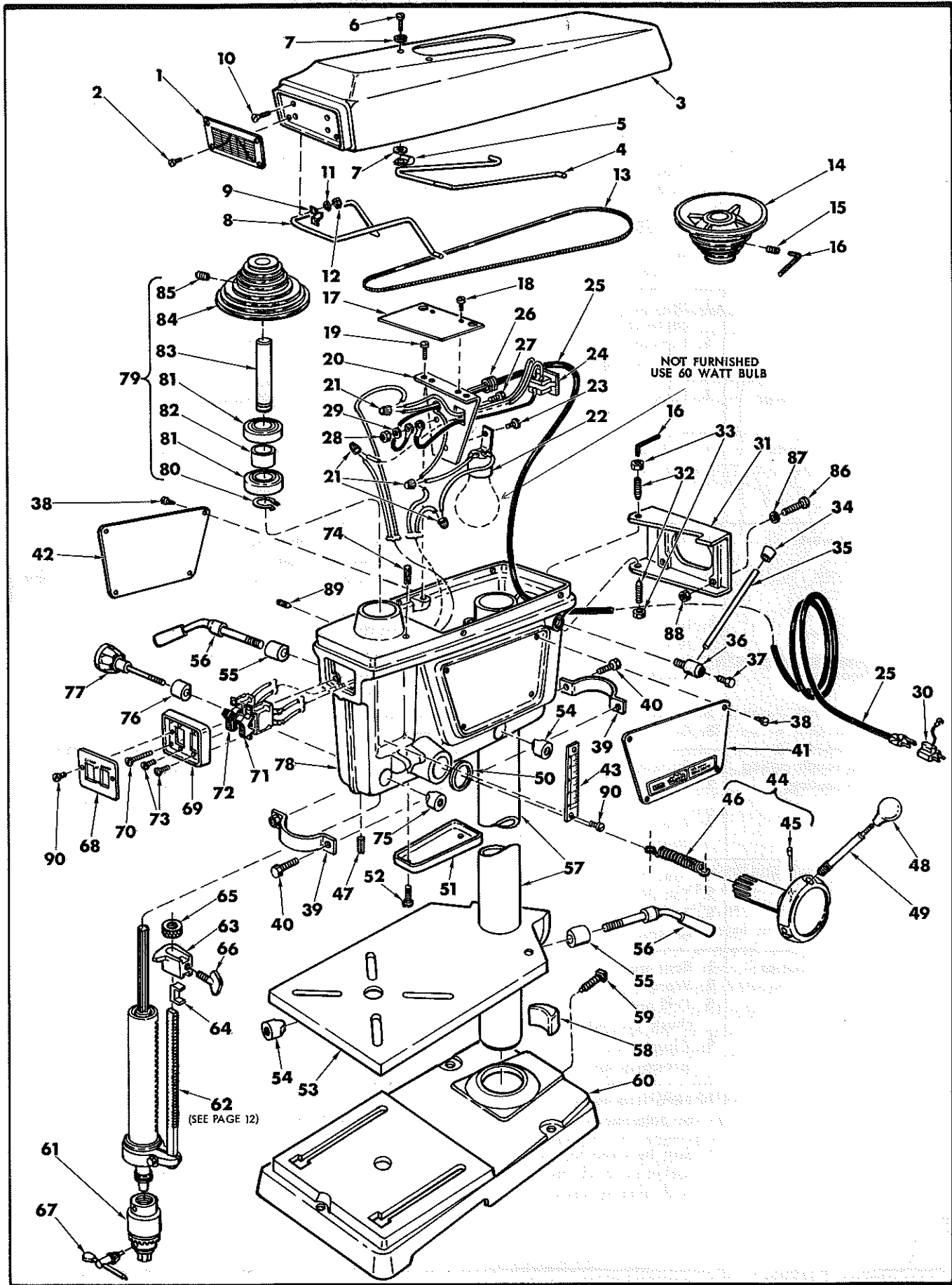
BENCH POWER TOOL GUARANTEE

We guarantee all Craftsman Drill Presses to be free from defects in material and workmanship. When properly used, cared for and maintained, we will replace or repair at our option and install without cost to you, for a period of one (1) year from date of sale, any part which proves, upon our examination, to be defective under normal use. This guarantee doesn't apply to Drill Presses used in rental service.

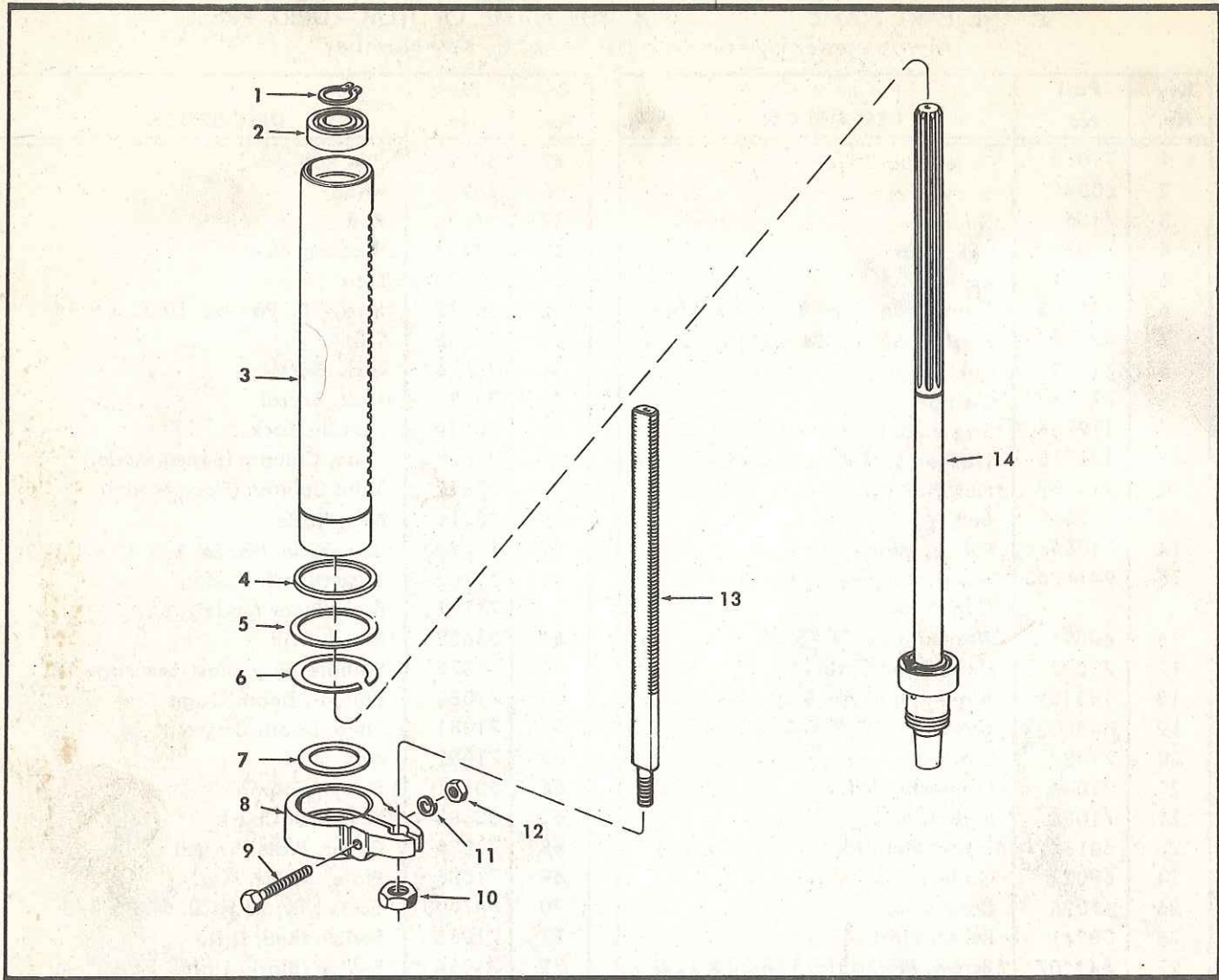
TROUBLE SHOOTING CHART

COMPLAINT	PROBABLE CAUSE	REMEDY
Noisy operation	1. Improper belt tension.	1. Adjust belt tension (see instructions Page 8).
Drill or cutting tool used heats up or work burns.	1. Excessive speed. 2. Chips not clearing. 3. Drill or cutting tool is dull. 4. Too slow a feed. 5. Rotation of drill incorrect.	1. Change to slower speed. 2. Retract drill frequently to clean chips from hole. 3. Sharpen drill or other tool. 4. Feed fast enough to keep tool cutting chips. 5. Reverse motor rotation (correct motor rotation-clockwise when viewing from top of drill press).
Drill leads off.	1. Hard grain in wood may cause drill to veer. 2. Cutting lip lengths and/or angles not equal.	1. Grind drill point to 60° included angle. 2. Grind to proper length and angle.
Wood splinters on large break through.	1. Lack of support.	1. Use scrap block under work piece.
Work torn from hands.	1. Failure to follow proper procedure.	1. Clamp work to table or use drill vise for metal items. 2. Support wood or metal against left side of column whenever possible.
Drill binds in work.	1. Work piece pinching drill. 2. Excessive feed pressure. 3. Improper belt tension	1. Support work piece directly under, or as close to cutting area as possible; maintain proper alignment. 2. Feed with uniform pressure and avoid jamming drill into work piece. 3. Adjust belt tension (see instructions Page 8).
Drill overheats when mortising.	1. Improper set-up. 2. Improper drill speed. 3. Dull chisel and/or bit.	1. Provide proper amount of chip clearance — must be at least 1/16-inch between chisel and back side of end of bit. 2. Position belt to attain proper operating speed. 3. Sharpen.
Chatter and rough cutting action when routing.	1. Spindle speed too slow. 2. Vibration. 3. A cut which has excessive depth.	1. Higher spindle speeds produce smoother cuts. 2. Work must be held firmly throughout pass; use the column as back-up (figure 12) or hold-downs when possible. 3. Full depth of cut should be produced by making successive passes.
Drill overheats when drilling iron or steel.	1. Failure to use cutting oil. 2. Too slow a feed. 3. Too slow or too fast a spindle speed.	1. Use cutting oil. 2. Feed fast enough to keep tool cutting chips. 3. Small diameter drills — increase spindle speed; large diameter drills — decrease spindle speed.
Excessive drill runout or wobble.	1. Bent drill. 2. Worn spindle bearings. 3. Drill not installed in chuck properly. 4. Chuck not installed properly on spindle.	1. Discard drill. 2. Replace bearings. 3. Loosen, re-position, and tighten drill. 4. Reinstall chuck (refer to Chuck Installation under "Assembly").
Axial play in spindle (vertical movement)	1. Feed stop collar out of adjustment.	1. Readjust feed stop collar (Refer to "SPINDLE PLAY," under "ADJUSTMENTS.")
Cannot remove the chuck.	1. Rust between tapered socket in chuck body and spindle taper.	1. Apply a generous quantity of penetrating oil at top of chuck collar, on threads of spindle chuck collar and allow oil to soak in. Repeat application of penetrating oil and soaking until chuck can be backed off with chuck key. (Refer to figures 4 and 5.) After removal, polish tapered contact surfaces with crocus cloth and oil.

PARTS LIST FOR CRAFTSMAN DRILL PRESS
MODEL Nos. 113.24580 (Bench Model) and 113.24590 (Floor Model)



PARTS LIST FOR CRAFTSMAN DRILL PRESS
MODEL Nos. 113.24580 (Bench Model) and 113.24590 (Floor Model)



Key No.	Part No.	DESCRIPTION
—	71075	Spindle Assy, Stop
1	30783	Ring, Retaining
2	3509	Bearing, Ball
3	71076	Tube, Quill
4	27813	Gasket, Quill
5	71051	Washer
6	27812	Ring, Retaining
7	60176	Washer, Quill
8	38422	Collar, Feed Stop

Key No.	Part No.	Description
9	9415802	*Screw, 1/4-20 x 1-1/2, Hex. Hd.
10	118645	*Nut Hex. Jam, 3/8-16 x 9/16 x 7/32
11	115109	*Washer, Lock, 1/4 x .109 x .062
12	115120	*Nut, Hex. 1/4-20 x 7/16 x 7/32
13	71078	Rod, Depth Stop
14	71077	Spindle Assembly

*Standard Hardware Item — May be Purchased Locally.