INSTRUCTIONS AND PARTS LIST
15-inch Floor Model DRILL PRESSES
CATALOG Nos. 1060, 1065, 1070, 1075, 1080, 1085, 1090, 1095, 1420, 1425, 1430 and 1435

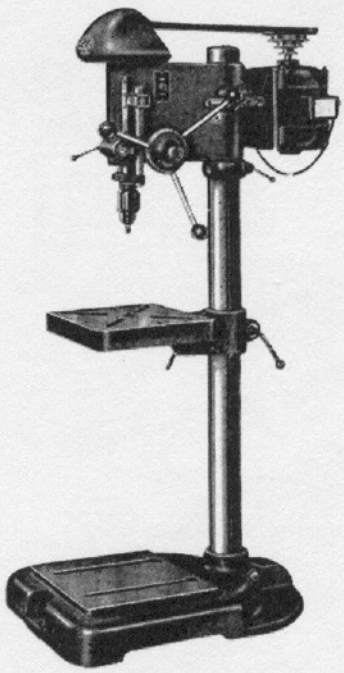


Fig. 1. No. 1060 Floor Model Drill Press

MOUNTING MOTOR

A 1/3 or 1/2 HP, 1725 RPM ball bearing motor is recommended to operate the Drill Press.

Mount the motor on the motor support bracket and slide pulley on motor shaft so that small step is next to motor; tighten pulley set screw.

Place the belt around small step of spindle pulley and large step of motor pulley. Shift motor until belt is straight. Adjust motor support bracket until belt is tight.

CAUTION: Maintain proper belt tension at all times—belt should be just tight enough to prevent slipping.

The motor should rotate clockwise viewed from the pulley end—wire according to instructions shown on motor.

Bolt the drill press securely to a solid bench, placing shims between drill press base and bench top where necessary—uneven mounting could eventually throw the table out of alignment.

IMPORTANT: Before operating, lubricate drill press thoroughly. See chart under LUBRICATION, page 4.

ADJUSTMENT AND CONTROLS

1. TO POSITION DRILL HEAD AND TABLE—loosen the clamp handles located next to column. To tilt table, loosen nut beneath table and pull out handle—tighten when table is in desired position. Table tilts 90 degrees right or left.
2. THE QUILL is locked in position by tightening the small clamp handle at lower front of head.
3. DRILL DEPTH STOP (Pat. No. 2490307)—used to stop drill at the desired depth. To set, press the stop lever, placing stop pointer in approximate position for depth of cut. Then turn vernier screw, at the same time applying a light pressure on stop lever, until it's at exact depth reading.
4. QUILL RETURN ADJUSTMENT—to increase quill return tension, turn spring cap, located on left side of head, counter-clockwise. Turn cap until desired tension is obtained. To release the tension, pull out the ratchet pawl knob.

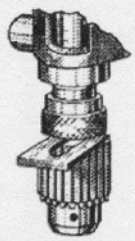


Fig. 2. Removing chuck from spindle.

5. TO REMOVE CHUCK FROM SPINDLE—insert the steel wedge between chuck and knurled collar, see Figure 2. Strike wedge a sharp blow with a hammer, catching chuck as it falls from the spindle.

CAUTION—always clean spindle taper and chuck taper bore before replacing chuck. Chips or dirt score the spindle and cause chuck to slip and run out of true.

6. SPINDLE ADJUSTMENT—to eliminate end play,
   (a) remove adjustable drill depth stop from depth stop stud.
   (b) remove quill return housing by loosening the set screws on bottom of drill press head.
   (c) loosen set screw on right end of pinion shaft, drive out pin in feed handle hub and remove handle from shaft.
   (d) loosen set screw in collar next to head and slide pinion shaft through left side of head, then remove spindle-quill unit.
   (e) loosen set screw in spindle collar—it's located directly above quill. Push spindle upward and press collar against upper quill bearing. Lock collar in this position. *CAUTION — do not make this adjustment too tight.*
   (f) place spindle-quill unit in head and reassemble parts.

OPERATIONS

SPEEDS —

Using a 1725 RPM motor, the following speeds are obtained—

Nos. 1060, 1065, 1070, 1075, 1420 and 1425 High Speed Drills

(a) with the spindle and motor pulleys in direct line—580, 1300, 2440, and 5200 RPM.
(b) with the motor pulley raised one step above spindle pulley—760, 1800, and 4000 RPM.
(c) with the motor pulley lowered one step below spindle pulley—1000, 1800, and 3300 RPM.

Nos. 1080, 1085, 1090, 1095, 1430 and 1435 Slow Speed Drills

(a) with the spindle and motor pulleys in direct line—400, 680, 1370, 2570 and 4400 RPM.
(b) with motor pulley raised one step—460, 865, 1900, 3700 RPM.

DRILLING —

The proper speed for drilling depends upon—

(1) The material to be drilled.
(2) The size of the hole.
(3) The kind of drill.

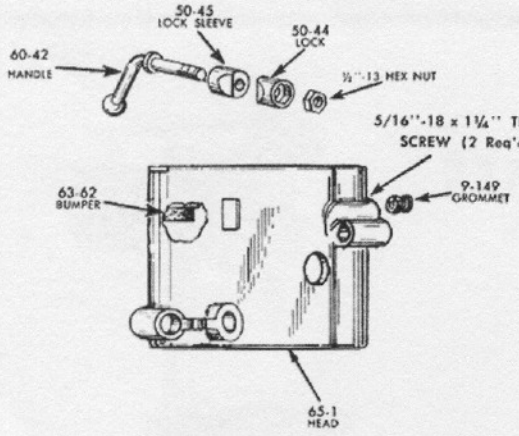
Generally the harder the material and the larger the drill, the slower the speeds and the feed.

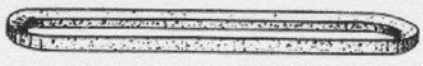
Make sure the drill runs true when starting—it may be necessary to countersink the work. Small drills should be fed into the work carefully since they are designed to be run at very high speeds. Avoid too high a speed, especially with the larger drills—excessive speeds wear off the drill corners, draws the temper, and may burn or break the drill tip.

Do not attempt to make large holes in a small piece or in thin material

(Continued on Page 4)

REPAIR PARTS FOR ATLAS 15" FLOOR MODEL DRILL PRESSES

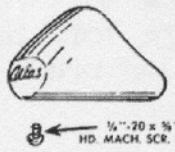




BELT

510-21 FOR MODELS 1060, 1065, 1070 AND 1075 ONLY

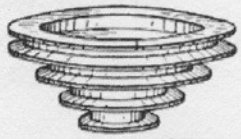
60M-34 FOR MODELS 1080, 1085, 1090 AND 1095 ONLY



GUARD

65-7 FOR MODELS 1060, 1065, 1070 AND 1075 ONLY

65-7L FOR MODELS 1080, 1085, 1090 AND 1095 ONLY

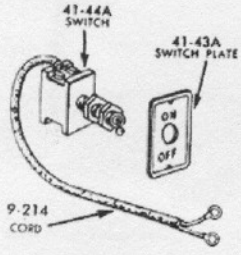


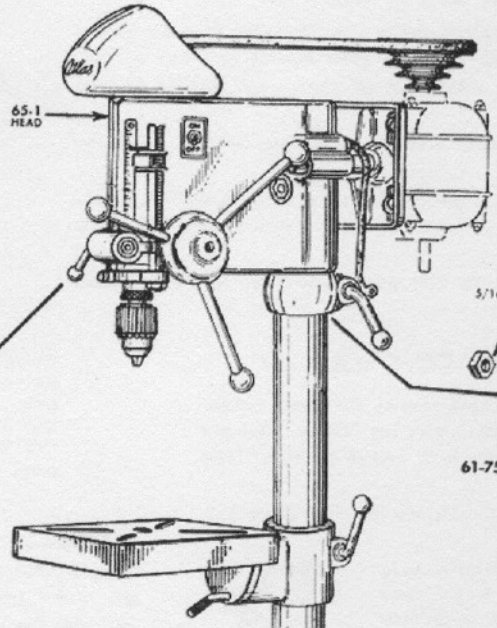
MOTOR PULLEY

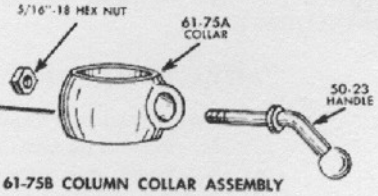
53-30 (⅜" HOLE) FOR MODELS 1060, 1065, 1070 AND 1075 ONLY

65-91 (⅝" HOLE) FOR MODELS 1080, 1085, 1090 AND 1095 ONLY

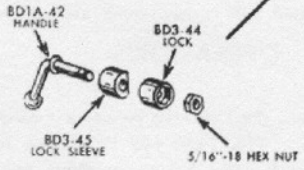
Dealer can supply bushing for ½" dia. motor shaft.

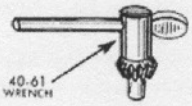


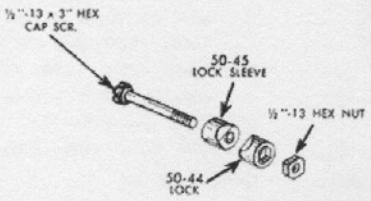




61-75B COLUMN COLLAR ASSEMBLY







ORDERING INFORMATION

IMPORTANT—The following information must be furnished on all repair part orders —

1—Quantity Required

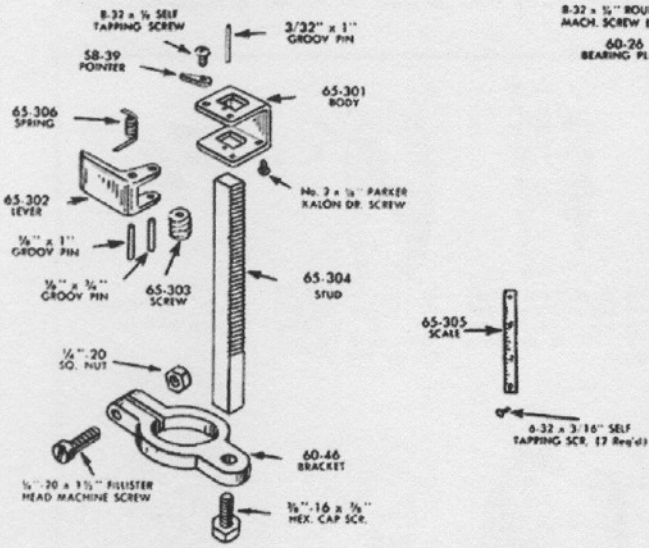
2—PART NUMBER and NAME of Part

3—Model and Serial Number of Drill Press

Parts shown without part numbers are standard parts and should be purchased locally.

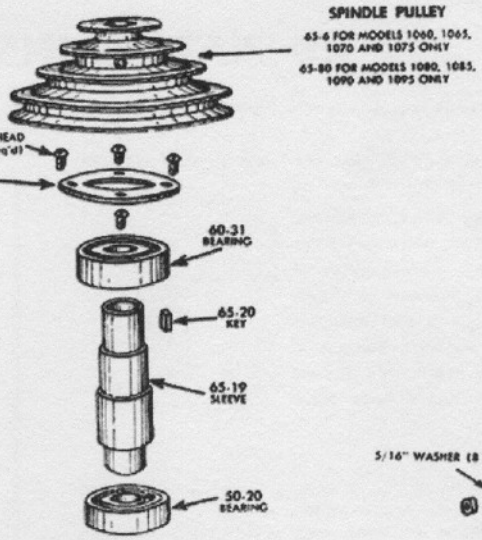
Be sure to give Model and Serial Number on this plate. Plate located on drill press head.

ATLAS PRESS CO. KALAMAZOO 13D, MICH., U. S. A.



NO. 1275 VERNIER DRILL STOP ASSEMBLY

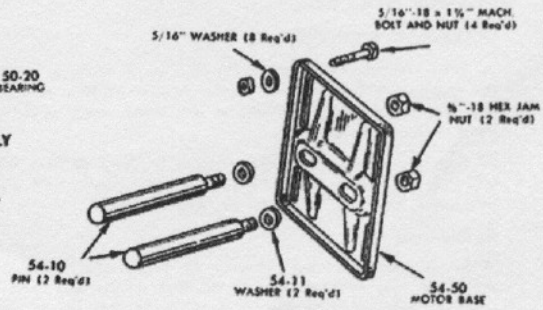
LESS 60-46 BRACKET



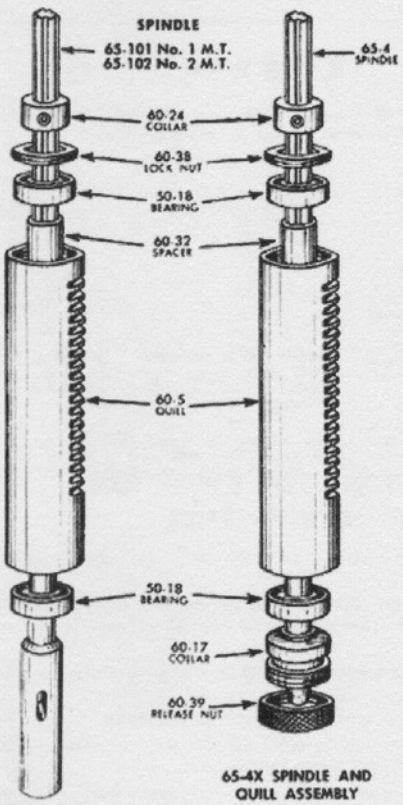
SPINDLE PULLEY ASSEMBLY

65-6X FOR MODELS 1060, 1065, 1070 AND 1075 ONLY

65-80X FOR MODELS 1080, 1085, 1090 AND 1095 ONLY



54-50X MOTOR BASE ASSEMBLY

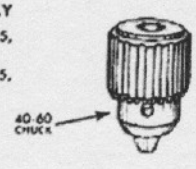


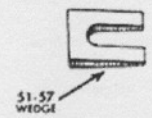
65-4X SPINDLE AND QUILL ASSEMBLY

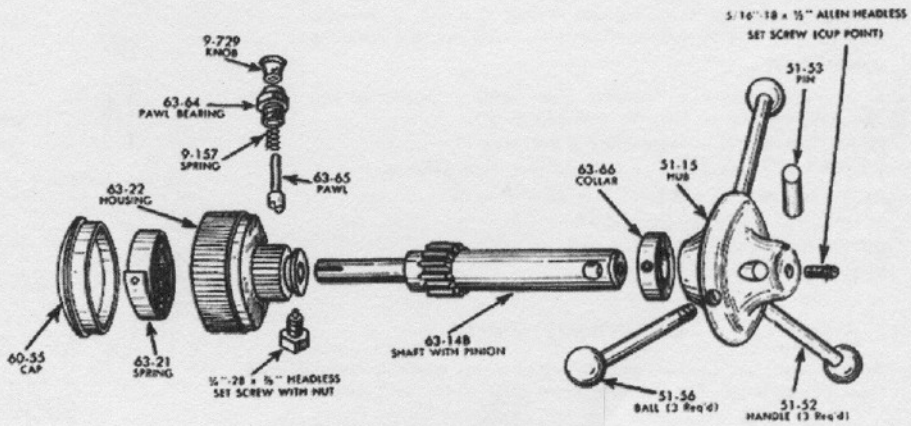
SPINDLE AND QUILL ASSEMBLY

65-101X FOR MODELS 1070, 1075, 1090 and 1095

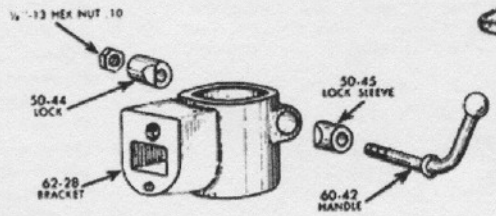
65-102X FOR MODELS 1420, 1425, 1430 and 1435

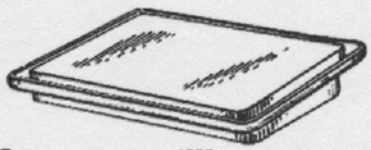






63-14BX SPINDLE FEED ASSEMBLY

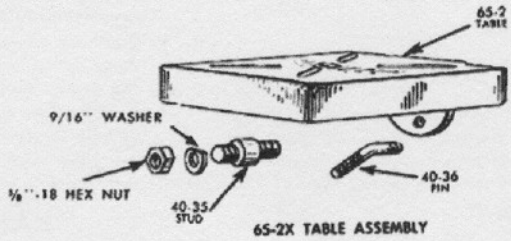




1235

PRODUCTION OIL TABLE

FOR MODELS 1065, 1075 1085, AND 1095 ONLY



65-2X TABLE ASSEMBLY

OPERATING INSTRUCTIONS

without first clamping the work securely to the table or a drill press vise.

For maximum accuracy when drilling, raise the table so quill will not extend too far beyond drill press head.

IMPORTANT: When drilling brass, aluminum, lead, and other soft materials which cause the drill to "hog-in" reduce the entering angle of the cutting lip by grinding the drill as shown in Fig. 3. This reduced angle is also desirable where drilling very hard materials because it lessens the strain on the drill. This change makes drilling easier and results in a more accurately drilled hole.

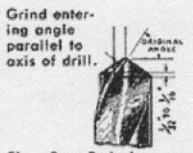


Fig. 3. Reducing entering angle of the lips for cutting soft material.

HOLDING DEVICES —

In order to obtain satisfactory results in drilling, reaming, or tapping the success of the work depends largely on how it's held. Holding the work by hand usually results in damaged work, broken drills, and may even injure the operator.

To properly mount the work, various holding devices may be used, they are the drill press vise, V-blocks, clamps, bolts and stops. On production work drill jigs are used to hold the work.

REAMING —

When a hole must be accurate to within .002 inch or less, it is first drilled a few thousandths of an inch undersize, then hand-reamed or machine reamed with the drill press to the finish diameter. For best results, follow the same rules in reaming as for drilling—use slow speeds, feed in evenly, and be sure there are no burrs on the reamer teeth.

A reaming allowance between .010 and 1/64 inches is usually sufficient for machine-reaming holes with diameters of 1 inch or less—1/64 inch is recommended for holes between 1 and 2 inches in diameter. From .003 to .005 inch is usually allowed for hand reaming operations.

LUBRICANT —

A cutting compound is essential when drilling practically any metal. The following compounds will give best results:

HARD TOUGH STEELS—turpentine or kerosene.

SOFTER STEELS—lard oil or soluble oil and water solution.

ALUMINUM AND OTHER SOFT ALLOYS—kerosene.

BRASS—drill dry or use paraffin oil.

DIE CASTINGS—drill dry or use kerosene.

CAST IRON—drill dry.

GRINDING DRILLS

After a drill has become dull, its effectiveness depends entirely upon how it's reground. For clean, accurate drilling, the drill must be properly sharpened.

A twist drill may be divided into three principal parts—the "point," the "body," and the "shank." The cone-shaped surface at the end of the drill is called the "point." See Figures 4 and 7 for parts of a twist drill.

In order to penetrate the work the surface "S," or "heel," back of the cutting lip must be ground away. Figure 5 shows a drill ground with no lip clearance—the cutting lip and heel "S" are in the same plane. This drill will cut very poorly, if at all. Figure 6 shows how the heel "S," the surface directly behind the cutting lip, must be ground away.

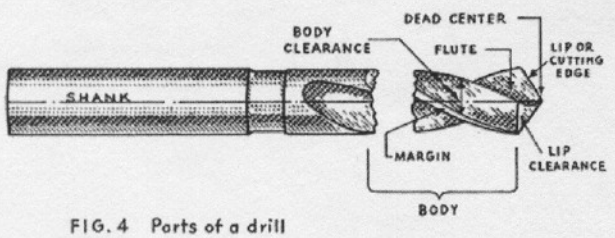


FIG. 4 Parts of a drill

The lip clearance angle must be between 12 and 15 degrees at the circumference of the drill, see Figure 8. This angle should be gradually increased as the center of the drill is approached—until the line across the dead center of the drill is at an angle with the cutting edge of 120 to 135 degrees—as in Figure 9. The angle and length of both lips must be equal—for most purposes 59 degrees is recommended (See Figure 10).

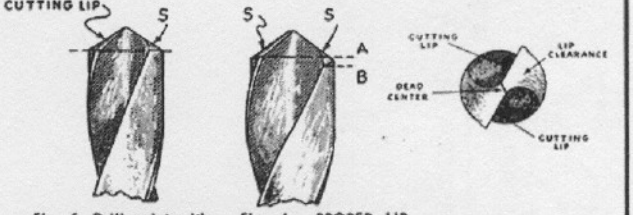


Fig. 5. Drill point without any clearance. Both the cutting lip and heel "S" are in the same plane.

Fig. 6. PROPER LIP CLEARANCE. The heel line "B" is much lower than the cutting lip line "A".

Fig. 7. THE POINT showing parts of a drill.

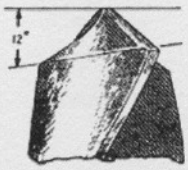


Fig. 9. Angle of cutting edge with dead center line.

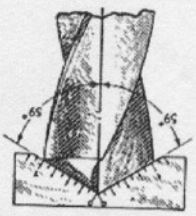
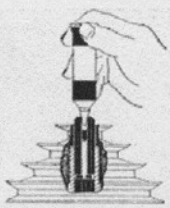


Fig. 10. Lips must be equal in length and have the same angle to the axis.

Fig. 8. Angle at circumference gradually increased toward back of lips.

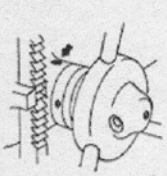
LUBRICATION

The ball bearings in this drill press are sealed and lubricated for life—they do not require lubrication.

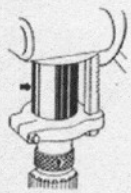


1—SPINDLE DRIVE

—Has been lubricated at the factory and does not require immediate attention. The drive sleeve and spindle splines should be greased once a week if drill press is used constantly every day—if used only occasionally, grease once a month. Use No. 130-AA Lubriplate grease (available from your Atlas dealer or local hardware store).
To lubricate, insert tube in hole in top of spindle, then squeeze out a small amount of grease—until grease appears at top of sleeve.



2—FEED SHAFT BEARING—Oil hole every two months with S.A.E. No. 20 machine oil.



3—QUILL SURFACE—Oil every two months with S.A.E. No. 20 machine oil.

Keep column, table and base covered with a light film of oil when drill press is not in use.

SUGGESTIONS FOR OPERATION AND MAINTENANCE

- Maintain proper belt tension—keep the belt just tight enough to prevent its slipping.
- Before placing chuck on spindle, clean spindle and chuck taper thoroughly. Chips or dirt score the spindle and cause chuck to slip and run out of true.
- The drill chuck is a precision tool—do not drop or strike it with a hammer.
- Do not use drills larger than the capacity of the chuck.
- When drilling, position hole in table beneath drill, or place a piece of wood beneath work to prevent drilling holes in table.
- Clamp work to drill press table or hold it in a vise. Drills are apt to snag in work not held properly and could bend or score spindle, crack the drill, and even injure the operator.
- Quill return spring should have a light tension—excessive tension prevents sensitive drilling and causes pinion gear breakage.
- Don't use scored or marred drill shanks—they won't cut a true hole.
- Keep set screws in motor and spindle pulleys tight to prevent scoring motor shaft and spindle.
- A light ball bearing grease applied to spindle spline maintains spindle lubrication and eliminates noise.
- Keep the column, table, and base covered with a film of oil when drill press is not in use—it will prevent rusting.