

32" Radial Drill Press with stand (Model 11-090)



*Shown with accessory
11-091 wooden table

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PART NO. 1344209

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SAFETY RULES

Woodworking can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. 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. Safety equipment such as guards, push sticks, hold-downs, featherboards, goggles, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. Always use common sense and exercise caution in the workshop. If a procedure feels dangerous, don't try it. Figure out an alternative procedure that feels safer. REMEMBER: Your personal safety is your responsibility.

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 that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted Delta to determine if it can or should be performed on the product.

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

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. **ALWAYS WEAR EYE PROTECTION.**
4. **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.
5. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on."
6. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
7. **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.
8. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
9. **MAKE WORKSHOP CHILDPROOF** - with padlocks, master switches, or by removing starter keys.
10. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
11. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
12. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
13. **ALWAYS USE SAFETY GLASSES.** Wear safety glasses (must comply with ANSI Z87.1). Everyday eyeglasses only have impact resistant lenses; they are not safety glasses. Also use face or dust mask if cutting operation is dusty.
14. **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.
15. **DON'T OVERREACH.** Keep proper footing and balance at all times.
16. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
17. **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.
18. **USE RECOMMENDED ACCESSORIES.** The use of improper accessories may cause hazards or risk of injury to persons.
19. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.
20. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
21. **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.
22. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
23. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
24. **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drugs, alcohol or any medication.
25. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while motor is being mounted, connected or reconnected.
26. **WARNING:** The dust generated by certain woods and wood products can be injurious to your health. Always operate machinery in well ventilated areas and provide for proper dust removal. Use wood dust collection systems whenever possible.

ADDITIONAL SAFETY RULES FOR DRILL PRESSES

1. **WARNING:** Do not operate your drill press until it is completely assembled and installed according to the instructions.
2. **IF YOU ARE NOT** thoroughly familiar with the operation of drill presses, obtain advice from your supervisor, instructor or other qualified person.
3. **THIS DRILL PRESS MUST** be secured to a supporting surface. Refer to section "FASTENING DRILL PRESS TO SUPPORTING SURFACE."
4. **NEVER** turn the drill press "ON" before clearing the table of all objects (tools, scrap pieces, etc.).
5. **ALWAYS** keep hands and fingers away from the drill bit.
6. **DO NOT** attempt to drill material that does not have a flat surface, unless a suitable support is used.
7. **NEVER** start the drill press with the drill bit pressed against the workpiece.
8. **MAKE CERTAIN** all lock handles are tightened before starting the machine.
9. **NEVER** perform layout, assembly or set-up work on the table while the drill is operating.
10. **BE SURE** drill bit or cutting tool is securely locked in the chuck.
11. **ONLY** use chuck key provided with your drill press. It is equipped with a self-ejecting pin which eliminates the hazard of the key being left in the chuck.
12. **ADJUST** the table or depth stop to avoid drilling into the table.
13. **ALWAYS** stop the drill before removing scrap pieces from the table.
14. **SHUT OFF** the power, remove the drill bit or cutting tool, and clean the table before leaving the machine.
15. **CAUTION:** When practical, use clamps or vise to secure workpiece to keep workpiece from rotating with the drill bit or cutting tool.
16. **WARNING: For Your Own Safety** - Don't wear gloves when operating a drill press.
17. **SHOULD** any part of your drill press be missing, damaged or fail in any way, or any electrical component fail to perform properly, shut off switch and remove plug from power supply outlet. Replace missing, damaged or failed parts before resuming operation.
18. **ADDITIONAL INFORMATION** regarding the safe and proper operation of this product is available from the National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201, in the Accident Prevention Manual for Industrial Operations and also in the Safety Data Sheets provided by the NSC. Please also refer to the American National Standards Institute ANSI 01.1 Safety Requirements for Woodworking Machinery and the U.S. Department of Labor OSHA 1910.213 Regulations.

SAVE THESE INSTRUCTIONS.

UNPACKING AND CLEANING

Carefully unpack the drill press, stand, and all loose items from the carton. Remove the protective coating from the machined surfaces of the drill press. This coating may be removed with a soft cloth moistened with kerosene. Do not use acetone, gasoline, or lacquer thinner for this purpose.

ASSEMBLING DRILL PRESS

CAUTION: MAKE CERTAIN THE MOTOR IS DISCONNECTED FROM THE POWER SOURCE DURING DRILL PRESS ASSEMBLY.

1. Assemble the column and flange assembly (A) Fig. 2, to base (B) using the four screws, three of which are shown at (C).

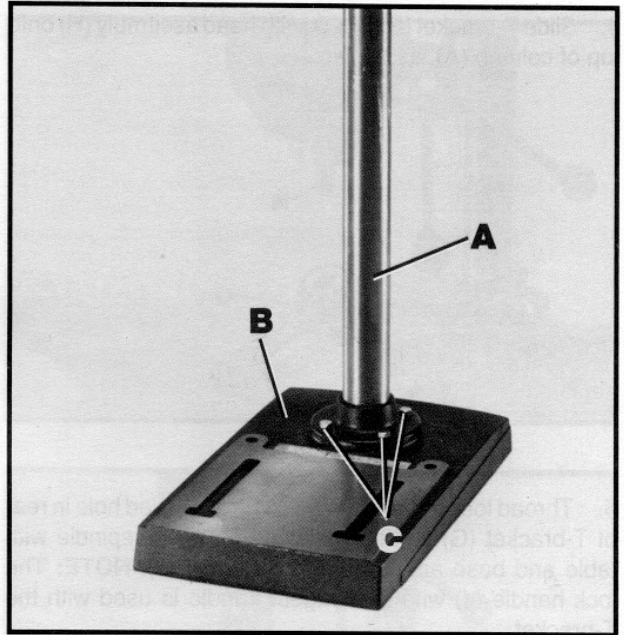


Fig. 2

2. Slide table (D) Fig. 3, on column (A), as shown.

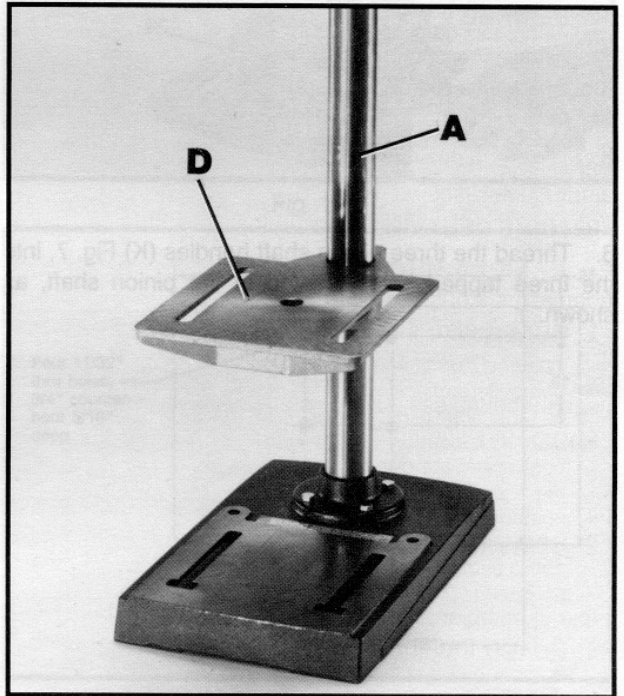


Fig. 3

3. Thread table lock handle (E) Fig. 4, into threaded hole in table bracket (F), as shown. Align table with base and tighten lock handle (E). **NOTE:** The lock handle (E) with the shortest handle is used with the table.

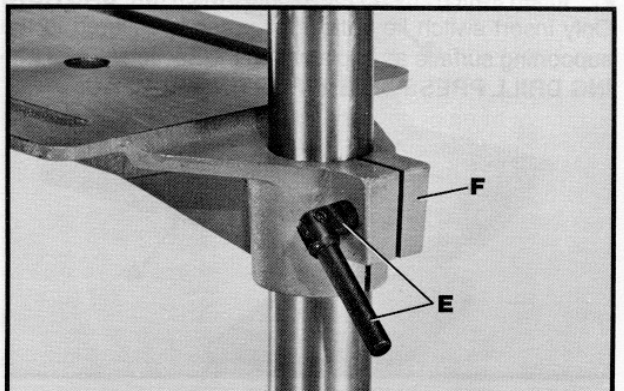


Fig. 4

4. Slide T-bracket (G) Fig. 5, with head assembly (H) onto top of column (A), as shown.

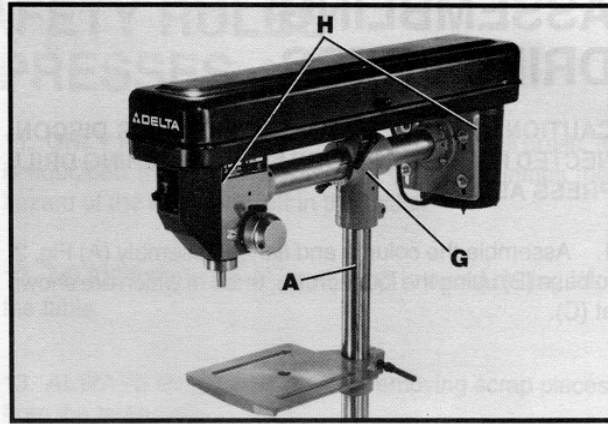


Fig. 5

5. Thread lock handle (J) Fig. 6, into threaded hole in rear of T-bracket (G) as shown. Align drill press spindle with table and base and tighten lock handle (J). **NOTE:** The lock handle (J) with the longest handle is used with the T-bracket.

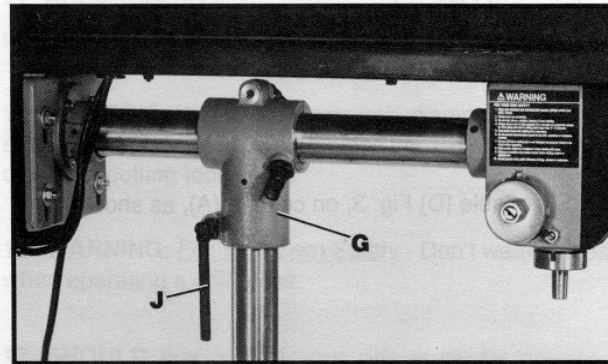


Fig. 6

6. Thread the three pinion shaft handles (K) Fig. 7, into the three tapped holes located in the pinion shaft, as shown.

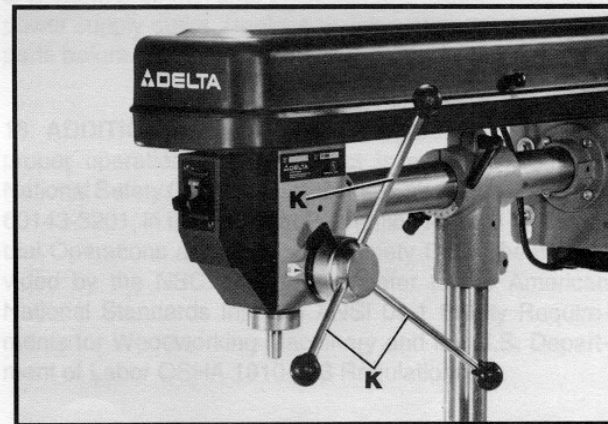


Fig. 7

7. Insert switch key (L) Fig. 8, into switch (M). **CAUTION:** Only insert switch key after drill press is secured to the supporting surface as explained in the section "FASTENING DRILL PRESS TO SUPPORTING SURFACE."

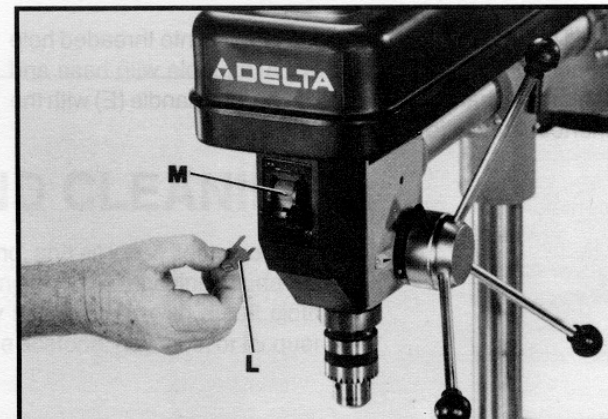


Fig. 8

8. **IMPORTANT:** Make certain the bottom of spindle (N) Fig. 9, and tapered hole in chuck (O) are clean and free of any grease, lacquer or rust preventive coatings. **NOTE:** Household oven cleaner can effectively remove any substance from the spindle and chuck; however, carefully follow the manufacturer's safety rules concerning its use.

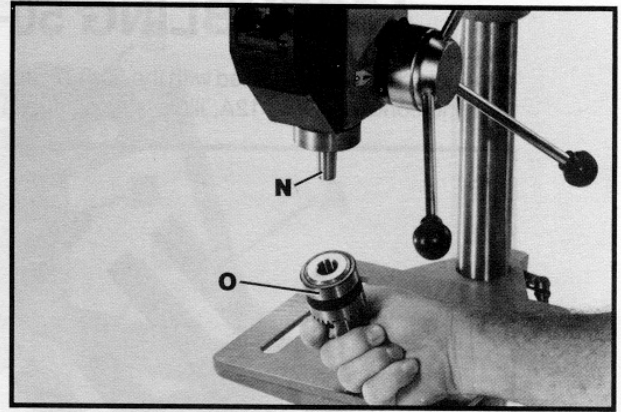


Fig. 9

9. **IMPORTANT:** OPEN THE CHUCK JAWS AS WIDE AS POSSIBLE MAKING SURE THE CHUCK JAWS ARE UP INSIDE CHUCK.

10. Carefully drive chuck (O) Fig. 10, onto the spindle with a block of wood and hammer, or a mallet (P), as shown. This will seat the chuck properly on the spindle. **IMPORTANT:** To avoid damage to the chuck **NEVER** drive the chuck onto the spindle with a metal hammer.

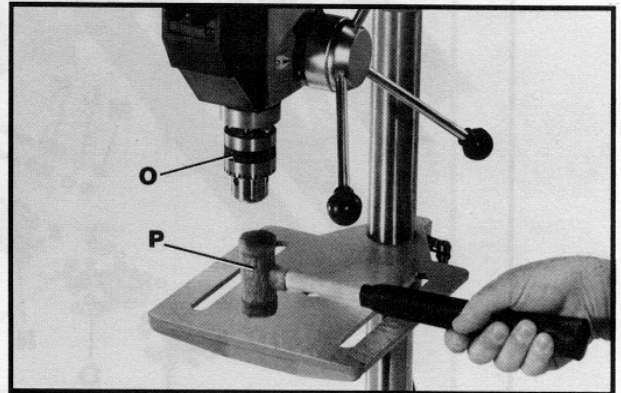


Fig. 10

CONSTRUCTING AUXILIARY TABLE

If you purchased your drill press without the Accessory 11-091 Table, an auxiliary table can be constructed out of 3/4" stock by following the dimensions shown in Fig. 11.

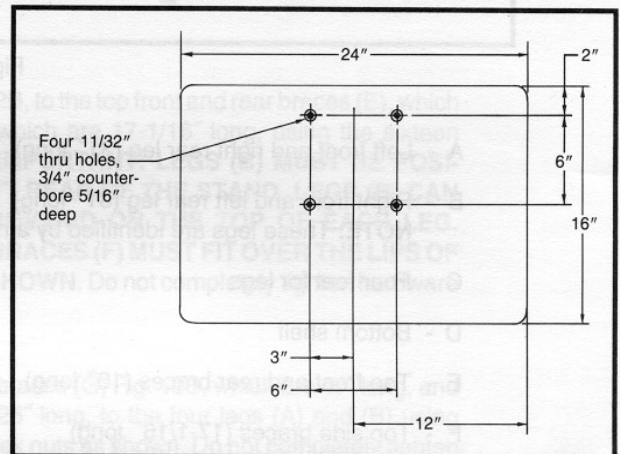


Fig. 11

ASSEMBLING AUXILIARY TABLE TO DRILL PRESS TABLE

Assemble the auxiliary table or the Accessory 11-091 Table (A) Fig. 12, to the drill press table using the four 1-1/8" long screws (B), eight flat washers and four wing nuts supplied with the drill press

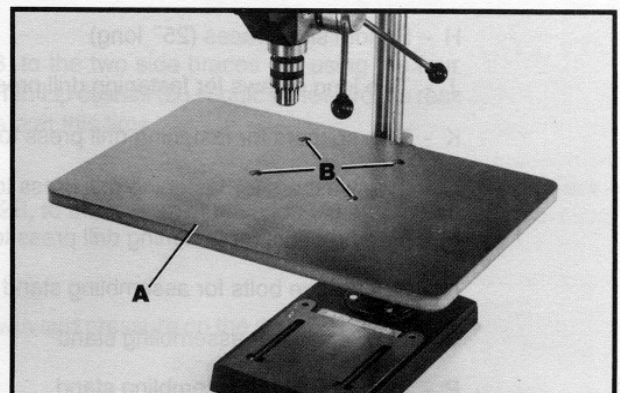


Fig. 12

ASSEMBLING 50-327 STEEL STAND

If your machine was supplied with the 50-327 Steel Stand, carefully unpack the stand and all loose items from the container. Fig. 12A, illustrates all the items supplied with the stand.

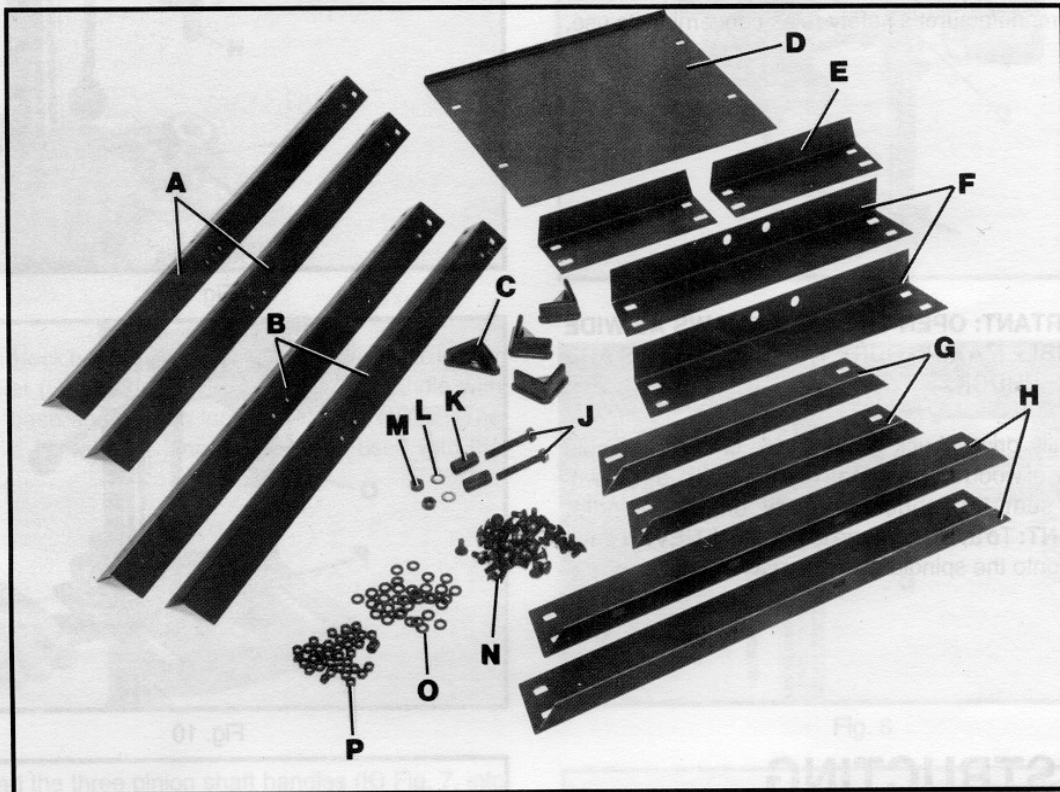


Fig. 12A

- A - Left front and right rear leg (31" long)
- B - Right front and left rear leg (31" long)
NOTE: These legs are identified by a notch provided on the upper portion of each leg.
- C - Four feet for legs
- D - Bottom shelf
- E - Top front and rear braces (10" long)
- F - Top side braces (17-1/16" long)
- G - Bottom front and rear braces (17" long)
- H - Bottom side braces (25" long)
- J - Two long screws for fastening drill press to stand
- K - Two spacers for fastening drill press to stand
- L - Two washers for fastening drill press to stand
- M - Two hex nuts for fastening drill press to stand
- N - 36 carriage bolts for assembling stand
- O - 36 washers for assembling stand
- P - 36 hex nuts for assembling stand

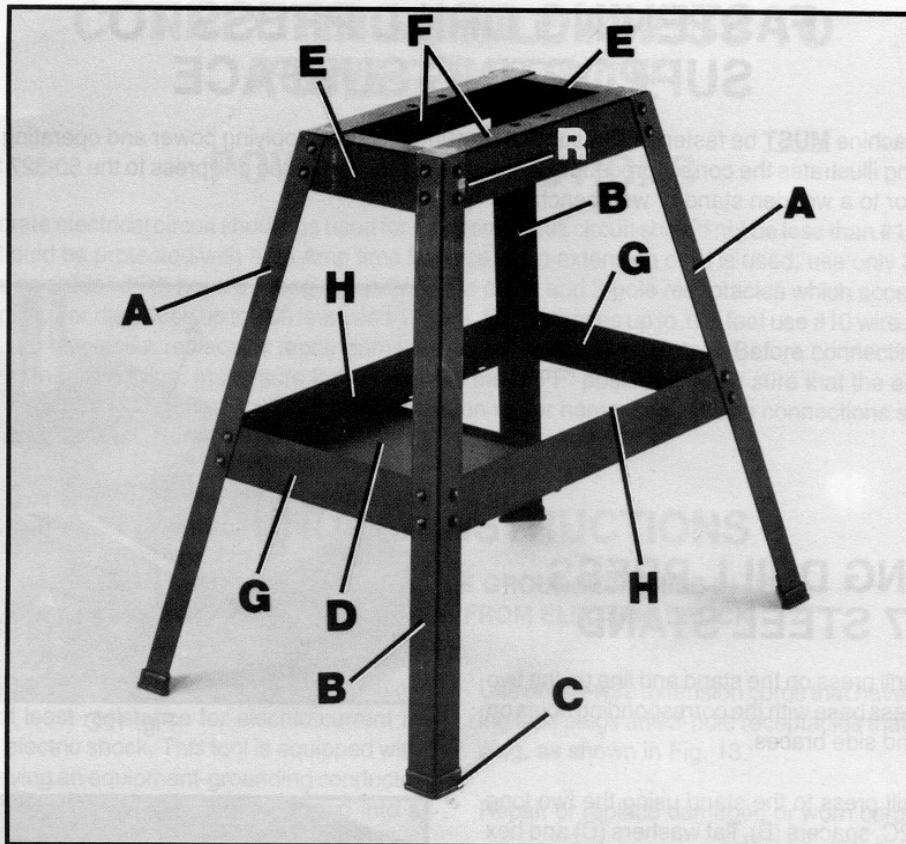


Fig. 12B

1. Assemble the four legs (A) and (B) Fig. 12B, to the top front and rear braces (E), which are 10" long, and the top side braces (F) which are 17-1/16" long, using the sixteen carriage bolts, flat washers and hex nuts. **IMPORTANT: LEGS (B) MUST BE POSITIONED AT THE RIGHT FRONT AND LEFT REAR OF THE STAND. LEGS (B) CAN BE IDENTIFIED BY THE NOTCH (R) PROVIDED ON THE TOP OF EACH LEG. ALSO, THE TOP LIPS OF THE TWO SIDE BRACES (F) MUST FIT OVER THE LIPS OF THE FRONT AND REAR BRACES (E) AS SHOWN.** Do not completely tighten hardware at this time.

2. Assemble the two bottom front and rear braces (G) Fig. 12B, which are 17" long, and the two bottom side braces (H), which are 25" long, to the four legs (A) and (B) using the sixteen carriage bolts, flat washers and hex nuts as shown. Do not completely tighten hardware at this time.

3. Assemble the bottom shelf (D) Fig. 12B, to the two side braces (H) using the four carriage bolts, flat washers and hex nuts. **NOTE:** Lip of shelf (D) should be toward the rear as shown. Do not completely tighten hardware at this time.

4. Assemble the four rubber feet (C) Fig. 12B, to the bottom of each leg (A) and (B) as shown.

5. Place stand on a level floor and exert downward pressure on the stand. Then tighten all mounting hardware.

FASTENING DRILL PRESS TO SUPPORTING SURFACE

This machine **MUST** be fastened to a supporting surface before applying power and operating. The following illustrates the correct procedure to follow when fastening the drill press to the 50-327 Steel Stand or to a wooden stand or workbench.

FASTENING DRILL PRESS TO 50-327 STEEL STAND

1. Position the drill press on the stand and line up the two holes in the drill press base with the corresponding holes on the top of the stand side braces.
2. Fasten the drill press to the stand using the two long screws (A) Fig. 12C, spacers (B), flat washers (C) and hex nuts (D). **NOTE:** The spacers (B) are to be positioned between the bottom of the drill press base and the top of the side braces, as shown in Fig. 12D.

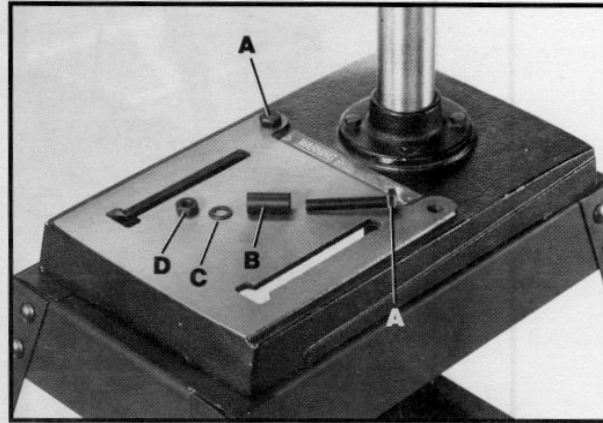


Fig. 12C

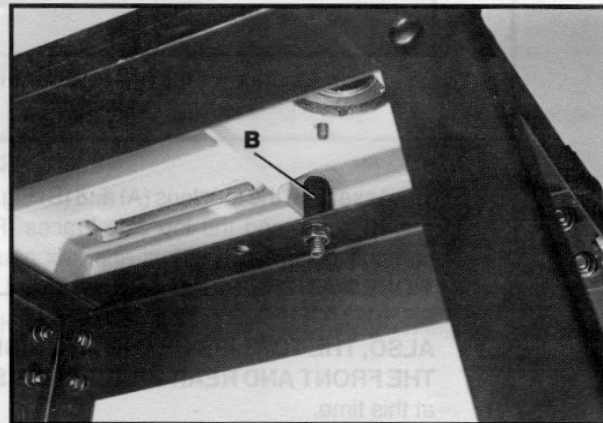


Fig. 12D

FASTENING DRILL PRESS TO WOODEN STAND OR WORKBENCH

1. Fasten the drill press to a wooden stand or workbench using the two 5" long screws (A) Fig. 12E, flat washers (B), lockwashers (C) and nuts (D) supplied. The two holes (E) in the drill press base are used to secure the drill press to the wooden stand or bench. **NOTE:** A 3/8" drill bit (F) is supplied to facilitate drilling the holes in the wooden stand or workbench.

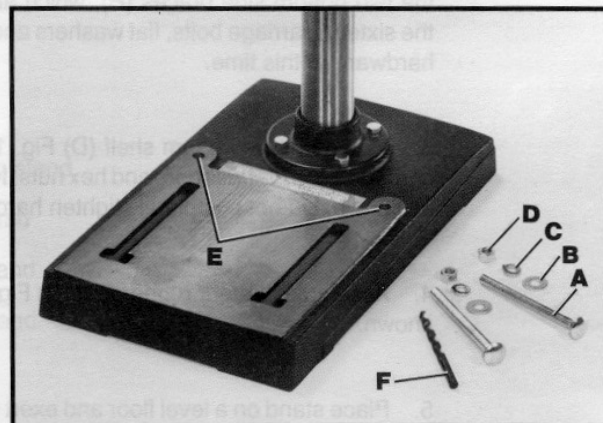


Fig. 12E

CONNECTING DRILL PRESS TO POWER SOURCE

POWER CONNECTIONS

A separate electrical circuit should be used for your tools. This circuit should not be less than #12 wire and should be protected with a 15 Amp time lag fuse. If an extension cord is used, use only 3-wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the tool's plug. For distances up to 100 feet use #12 wire. For distances up to 150 feet use #10 wire. Have a certified electrician replace or repair damaged or worn cord immediately. Before connecting the motor to the power line, make sure the switch is in the "OFF" position and be sure that the electric current is of the same characteristics as stamped on motor nameplate. All line connections should make good contact. Running on low voltage will injure the motor.

GROUNDING INSTRUCTIONS

CAUTION: THIS TOOL MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

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 and 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.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-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.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding type plugs and 3-hole receptacles that accept the tool's plug, as shown in Fig. 13.

Repair or replace damaged or worn cord immediately.

This tool is intended for use on a circuit that has an outlet and a plug that looks like the one shown in Fig. 13. A temporary adapter, which looks like the adapter illustrated in Fig. 14, may be used to connect this plug to a 2-pole receptacle, as shown in Fig. 14, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. **THIS ADAPTER IS NOT APPLICABLE IN CANADA.** The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground, such as a properly grounded outlet box, as shown in Fig. 14.

CAUTION: IN ALL CASES, MAKE CERTAIN THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE HAVE A CERTIFIED ELECTRICIAN CHECK THE RECEPTACLE.

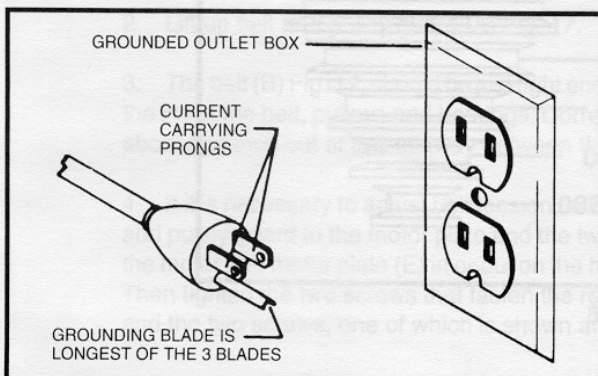


Fig. 13

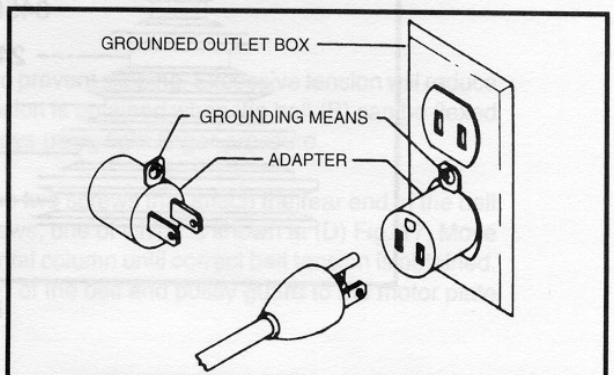


Fig. 14

EXTENSION CORDS

Make sure your extension cord is in good condition and is a 3-wire extension cord which has a 3-prong grounding type plug and a 3-pole receptacle which will accept the tool's plug. When using an extension cord, be sure to use one heavy enough to carry the current of the drill press. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Fig. 15, shows the correct size to use depending on cord length. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

TOTAL LENGTH OF CORD IN FEET	GAGE OF EXTENSION CORD TO USE
0 - 25	18 AWG
26 - 50	16 AWG
51 - 100	14 AWG
101 - 150	12 AWG

Fig. 15

SPINDLE SPEEDS

Five spindle speeds of 580, 940, 1560, 2480 and 3450 RPM are available with your drill press. The highest speed is obtained when the belt is on the largest step of the motor pulley and the smallest step of the spindle pulley, as shown in Fig. 16. Fig. 16 illustrates which steps of the pulleys the belt must be placed to obtain the five speeds available.

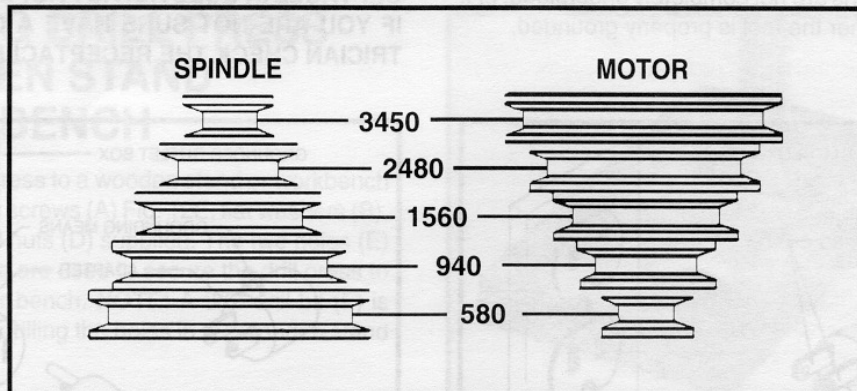


Fig. 16

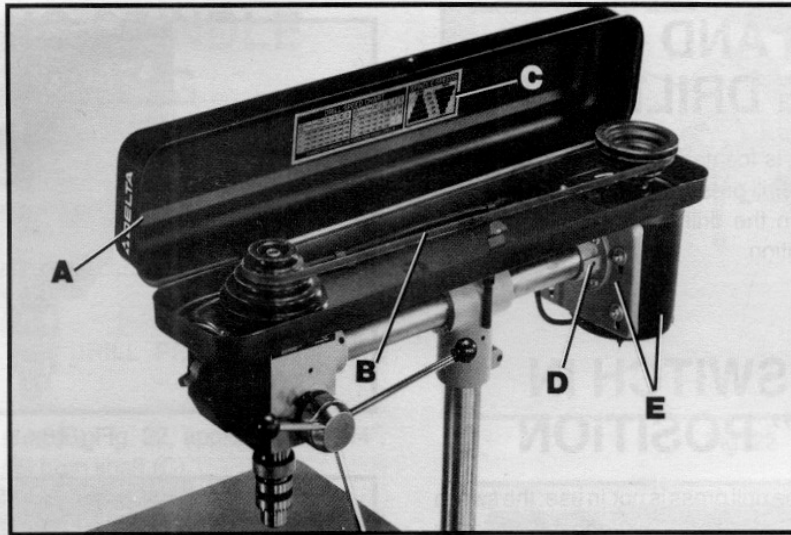


Fig. 17

CHANGING SPEEDS

1. **DISCONNECT THE DRILL PRESS FROM THE POWER SOURCE.**
2. Lift up belt and pulley guard (A) Fig. 17.
3. Position the belt (B) Fig. 17, on the desired steps of the motor and spindle pulleys. **NOTE:** When positioning the belt always move to the smallest step of the motor or spindle pulley first.
4. A belt positioning and drill speed chart (C) Fig. 17, is provided on the inside top cover of the drill press for your convenience.

ADJUSTING BELT TENSION

The belt tension has been set at the factory and no further adjustment should be necessary. However, rough handling during shipment or repair or replacement of certain components might disturb this setting. To check and adjust belt tension, proceed as follows:

1. **MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**
2. Lift up belt and pulley guard (A) Fig. 17.
3. The belt (B) Fig. 17, should be just tight enough to prevent slipping. Excessive tension will reduce the life of the belt, pulleys and bearings. Correct tension is obtained when the belt (B) can be flexed about one inch out of line midway between the pulleys using light finger pressure.
4. If it is necessary to adjust belt tension, loosen the two screws that attach the rear end of the belt and pulley guard to the motor plate and the two screws, one of which is shown at (D) Fig. 17. Move the motor and motor plate (E) in or out on the horizontal column until correct belt tension is obtained. Then tighten the two screws that fasten the rear end of the belt and pulley guard to the motor plate and the two screws, one of which is shown at (D).

STARTING AND STOPPING DRILL PRESS

The switch (A) Fig. 18, is located on the front of the drill press head. To turn the drill press "ON" move the switch to the up position. To turn the drill press "OFF" move the switch to the down position.

LOCKING SWITCH IN THE "OFF" POSITION

We suggest that when the drill press is not in use, the switch be locked in the "OFF" position. This can be done by grasping the switch toggle (B) and pulling it out of the switch, as shown in Fig. 19. With the switch toggle (B) Fig. 19, removed, the switch will not operate. However, should the switch toggle be removed while the drill press is operating, the switch can be turned "OFF" once, but cannot be restarted without inserting the switch toggle (B) Fig. 19.

TABLE ADJUSTMENTS

1. The table can be raised or lowered on the drill press column by loosening the table clamp handle (A) Fig. 20. After the table is at the desired height, tighten handle (A) Fig. 20.
2. The table can be rotated 360 degrees on the column by loosening clamp handle (A) Fig. 20, rotate table to desired position and tighten clamp handle (A).

DEPTH STOP ADJUSTMENTS

Where a number of holes are to be drilled to exactly the same depth, a depth stop is provided in the pinion shaft housing and is used as follows:

1. Loosen lock screw (A) Fig. 21, and rotate housing (B) until the pointer (C) lines up with the desired depth indicated on the scale (D). Then tighten lock screw (A).
2. All holes will then be drilled to the exact depth as indicated on scale (D) Fig. 21. **NOTE:** Scale (D) is calibrated in both inches and metric.
3. On operations where it is necessary to lock the spindle in the down position, such as for sanding or routing, lower the spindle to the desired depth. Loosen lock screw (A) Fig. 21, and rotate housing (B) clockwise as far as possible and tighten lock screw (A). The spindle will then be locked in the down position

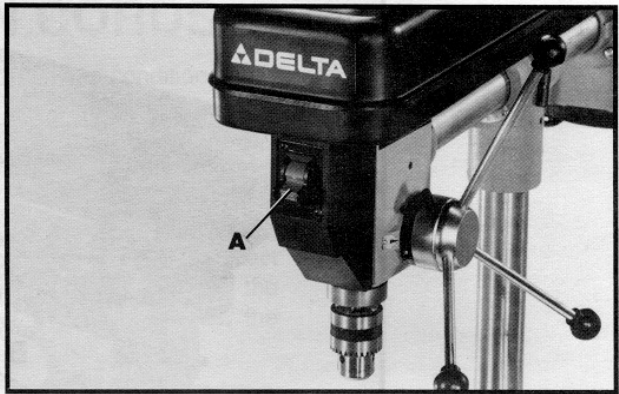


Fig. 18

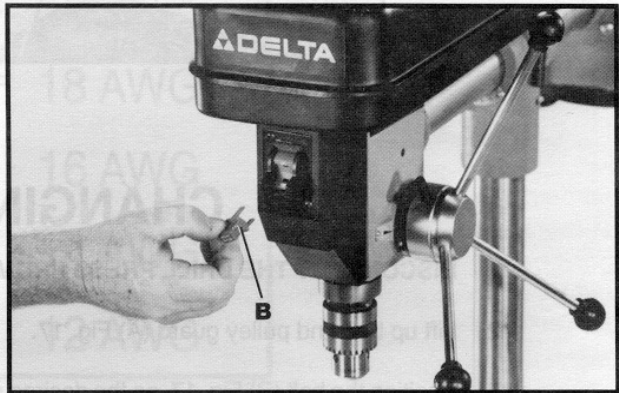


Fig. 19

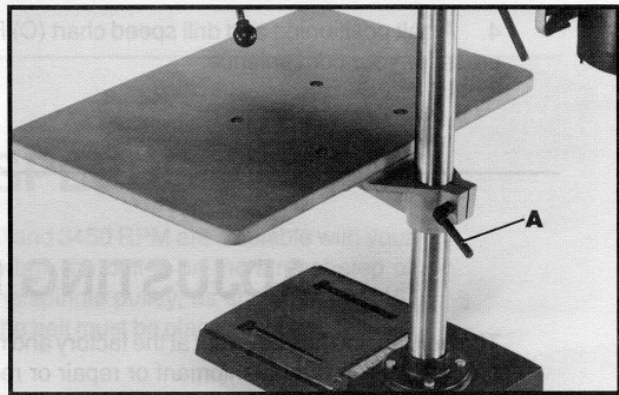


Fig. 20

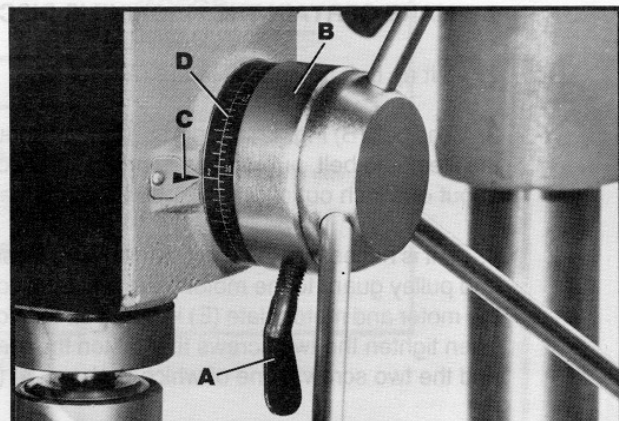


Fig. 21

ADJUSTING SPINDLE RETURN SPRING

For the purpose of automatically returning the spindle upward after a hole has been drilled, a spindle return spring is provided in the spring housing (A) Fig. 22. This spring has been properly adjusted at the factory and should not be disturbed unless absolutely necessary. To adjust the return spring, proceed as follows:

1. **DISCONNECT THE DRILL PRESS FROM THE POWER SOURCE.**
2. Loosen the two nuts (B) Fig. 22, approximately 1/4". Do not remove nuts (B) from shaft (C).
3. While firmly holding spring housing (A) Fig. 22, pull out housing and rotate it until the boss (D) in head casting is engaged with the next notch on the housing. Turn the housing counter-clockwise to increase and clockwise to decrease spring tension. Then tighten the two nuts (B) to hold the housing in place. **IMPORTANT:** Nuts (B) should not contact spring housing (A) when tight.

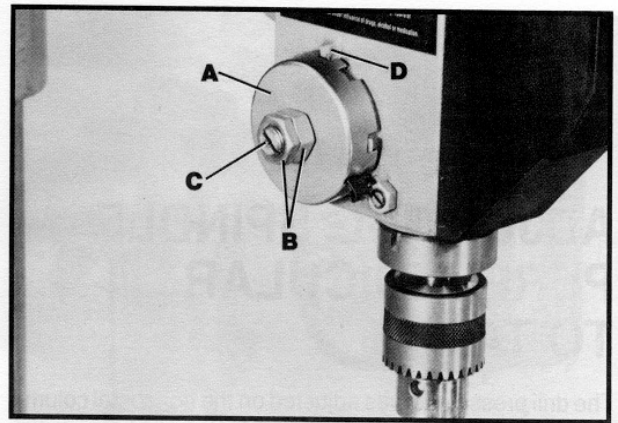


Fig. 22

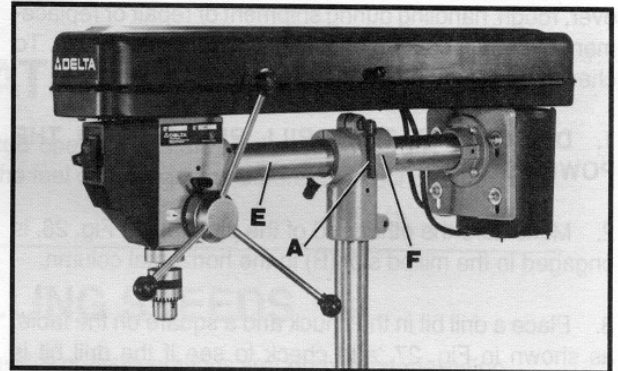


Fig. 23

TILTING THE HEAD

The head can be tilted 45 degrees to the left and 90 degrees to the right by loosening the horizontal column clamp (A) Fig. 23, and pulling out and turning plunger (B) Fig. 24. Tilt the head to the desired angle and lock the horizontal column clamp (A) Fig. 23. When returning the head perpendicular to the table, make sure the end of the plunger (B) Fig. 24, is engaged with the milled slot (C) in the horizontal column and lock the horizontal column clamp (A) Fig. 23. **NOTE:** The degree of tilt of the head can be read by lining up the top edge of the milled slot (C) Fig. 24, with the corresponding line on the scale (D).

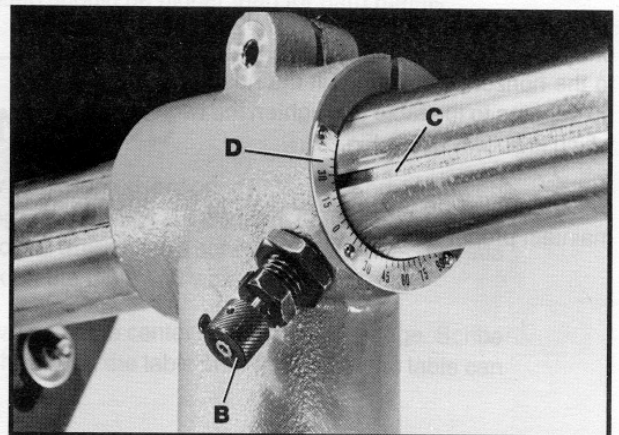


Fig. 24

MOVING HORIZONTAL COLUMN IN OR OUT

The horizontal column (E) Fig. 23, can be moved in or out in the T-bracket (F) by loosening horizontal column clamp (A), move the horizontal column (E) to the desired position and tighten the horizontal column clamp (A).

ROTATING THE HEAD

The head can be rotated 360 degrees around the vertical column by loosening the vertical column clamp (A) Fig. 25, and rotating the T-bracket (B) to the desired position. Then tighten the column clamp (A).

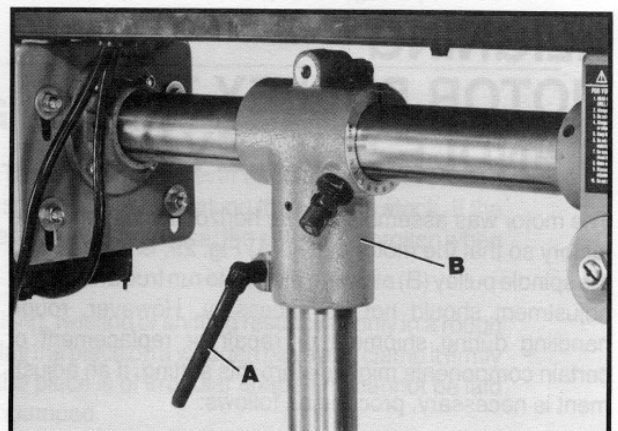


Fig. 25

ADJUSTING SPINDLE PERPENDICULAR TO TABLE

The drill press head was adjusted on the horizontal column at the factory so that the spindle will be perpendicular to the table and no further adjustment will be necessary. However, rough handling during shipment or repair or replacement of certain components might disturb this setting. To check and adjust, proceed as follows:

1. **DISCONNECT THE DRILL PRESS FROM THE POWER SOURCE.**
2. Make sure the other end of the plunger (A) Fig. 26, is engaged in the milled slot (B) in the horizontal column.
3. Place a drill bit in the chuck and a square on the table, as shown in Fig. 27, and check to see if the drill bit is 90 degrees to the table.
4. If an adjustment is necessary, loosen the two screws, one of which is shown at (C) Fig. 28, that attach the head to the horizontal column. Tilt the head until the drill bit is 90 degrees to the table and tighten the two screws, one of which is shown at (C) Fig. 28.
5. Care must be taken when making this adjustment to maintain proper belt tension.

ALIGNING MOTOR PULLEY TO SPINDLE PULLEY

The motor was assembled to the horizontal column at the factory so that the motor pulley (A) Fig. 29, is aligned with the spindle pulley (B) allowing the belt to run true and further adjustment should not be necessary. However, rough handling during shipment or repair or replacement of certain components might disturb this setting. If an adjustment is necessary, proceed as follows:

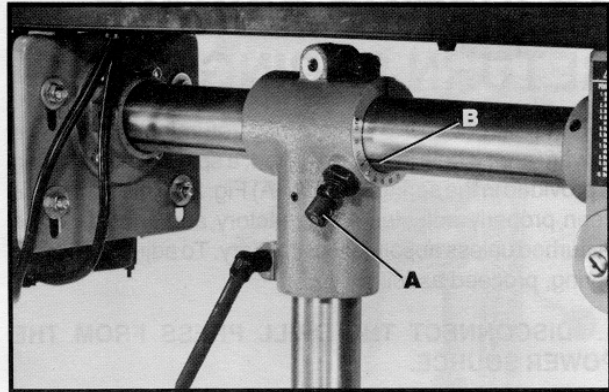


Fig. 26

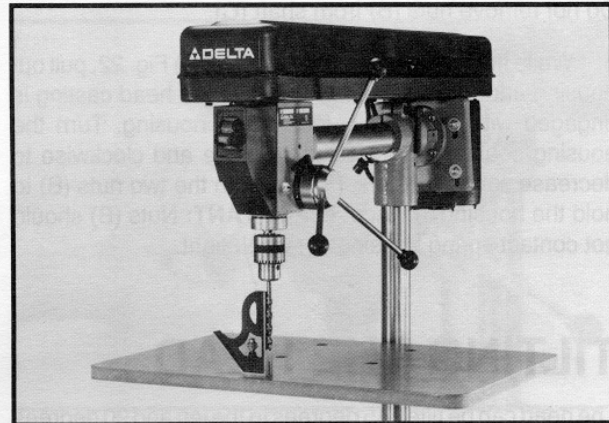


Fig. 27

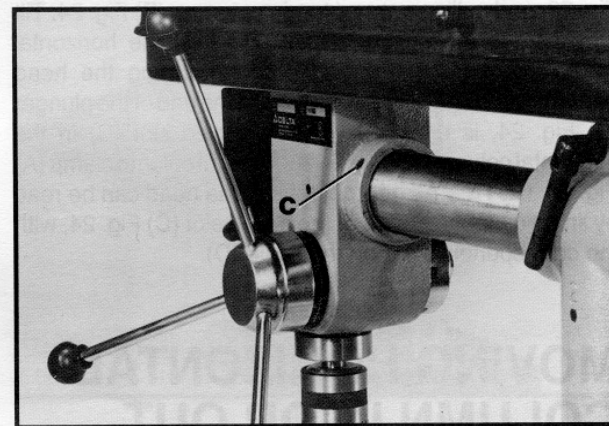


Fig. 28

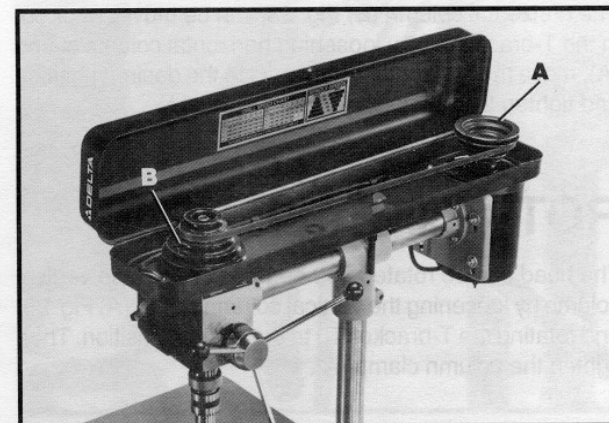


Fig. 29

1. **DISCONNECT THE MACHINE FROM THE POWER SOURCE.**

2. Loosen the two screws, one of which is shown at (C) Fig. 30, that fasten the motor plate assembly to the horizontal column and rotate the motor until the motor pulley is aligned with the spindle pulley. Then tighten the two screws, one of which is shown at (C).

3. Care must be taken when making this adjustment to maintain proper belt tension.

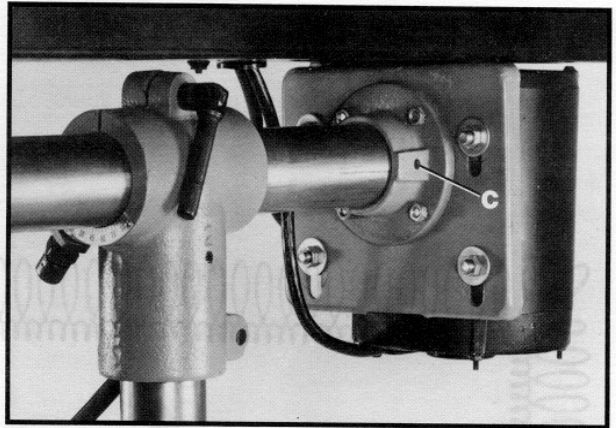


Fig. 30

OPERATION

The following directions will give the inexperienced operator a start on the common drill press operations. Use scrap material for practice to get the feel of the machine before attempting regular work.

CORRECT DRILLING SPEEDS

Factors which determine the best speed to use in any drill press operations are: kind of material being worked, size of hole, type of drill or other cutter, and quality of cut desired. The smaller the drill, the greater the required RPM. In soft materials, the speed should be higher than for hard metals.

BORING IN WOOD

Twist drills, although intended for metal drilling, may also be used for boring holes in wood. However, machine spur bits are generally preferred for working in wood; they cut a square bottom hole and are designed for removal of wood chips. Do not use hand bits which have a screw tip; at drill press speeds they turn into the wood so rapidly as to lift the work off the table and whirl it.

For through boring, line up the table so that the bit will enter the center hole to avoid damage. Scribe a vertical line on the front of the column and a matchmark on the table bracket, so that the table can be clamped in the center position at any height.

Feed slowly when the bit is about to cut through the wood to prevent splintering the bottom face. Use a scrap piece of wood for a base block under the work; this helps to reduce splintering and protects the point of the bit.

DRILLING METAL

Use clamps to hold the work when drilling in metal. The work should never be held in the bare hand; the lips of the drill may seize the work at any time, especially when breaking through the stock. If the piece is whirled out of the operator's hand, he may be injured. In any case, the drill will be broken when the work strikes the column.

The work must be clamped firmly while drilling; any tilting, twisting or shifting results not only in a rough hole, but also increases drill breakage. For flat work, lay the piece on a wooden base and clamp it firmly down against the table to prevent it from turning. If the piece is of irregular shape and cannot be laid flat on the table, it should be securely blocked and clamped.



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