

Français au verso

INSTRUCTION MANUAL

12" Bench Drill Press

(Model 11-990C)



PART NO. 1234956 (011)
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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.

Technical Service Manager

Delta Machinery

4825 Highway 45 North

Jackson, TN 38305

(IN CANADA: 505 SOUTHGATE DRIVE, GUELPH, ONTARIO N1H 6M7)



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. **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 footwear is recommended. Wear protective hair covering to contain long hair.

12. **ALWAYS USE SAFETY GLASSES.** Wear safety glasses. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses. Also use face or dust mask if cutting operation is dusty. These safety glasses must conform to ANSI Z87.1 requirements. Note: Approved glasses have Z87 printed or stamped on them.

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.** The use of accessories and attachments not recommended by Delta may cause hazards or risk of injury to persons.

18. **REDUCE THE RISK OF UNINTENTIONAL 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 re-connected.

25. **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.

26.  **WARNING: SOME DUST CREATED BY POWER SANDING, SAWING, GRINDING, DRILLING, AND OTHER CONSTRUCTION ACTIVITIES** contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

SAVE THESE INSTRUCTIONS

ADDITIONAL SAFETY RULES FOR DRILL PRESSES

1. **DO NOT** operate your tool 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. **YOUR TOOL MUST** be securely fastened to a stand or workbench. If there is any tendency for the stand or workbench to move during operation, the stand or workbench **MUST** be fastened to the floor.
4. **NEVER** turn the tool “**ON**” before clearing the table of all objects (tools, scrap pieces, etc.).
5. **NEVER** start the tool with the drill bit or cutting tool in contact with the workpiece.
6. **USE ONLY** drill bits, cutters, sanding drums and other accessories with 1/2" shank or less.
7. **ALWAYS** keep hands and fingers away from the drill bit or cutting tool.
8. **DO NOT ATTEMPT** to drill material that does not have a flat surface, unless a suitable support is used.
9. **AVOID** awkward hand positions where a sudden slip could cause a hand to move into the drill bit or cutting tool.
10. **TO PREVENT ROTATION OF THE WORKPIECE, ALWAYS** clamp work securely to table if it is too short to contact the column (see “**OPERATION**” section of this manual) or when using hole saw or cutting tools larger than 1/2" in diameter.
11. **USE** recommended speed for drill, accessory or workpiece material.
12. **MAKE CERTAIN** all lock handles are tightened before starting the machine.
13. **NEVER** perform layout, assembly or set-up work on the table while the drill is operating.
14. **BE SURE** drill bit or cutting tool is not damaged and is properly locked in the chuck before operating.
15. **MAKE SURE** chuck key is removed from chuck before starting drill press. **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.
16. **ADJUST** the table or depth stop to avoid drilling into the table.
17. **ALWAYS** allow the drill press to stop before removing scrap pieces from the table.
18. **WHEN** drilling large workpieces, **MAKE SURE** the material is supported at table height.
19. **SHUT OFF** the power, remove the drill bit or cutting tool, and clean the table and work area before leaving the machine.
20. **DON'T** wear gloves, necktie, or loose clothing when operating the drill press.
21. **WHEN THE TOOL IS NOT IN USE** the switch should be locked in the “**OFF**” position to prevent unauthorized use of the tool.
22. **SHOULD** any part of your tool be missing, damaged or fail in anyway, 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.
23. **ADDITIONAL INFORMATION** regarding the safe and proper operation of this product is available from the National Safety Council, 1121 Spring Lake Drive, Itasca, Illinois 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 1910.212 and 1910.213 Regulations.

UNPACKING AND CLEANING

Your drill press is shipped complete in one container. Carefully unpack the drill press and all loose items from the container. Figure 2 illustrates the drill press and all loose items supplied with the machine. After assembly remove the protective coating from the table surface. This coating may be removed with a soft cloth moistened with kerosene (do not use acetone, gasoline or lacquer thinner for this purpose). After cleaning, it is good practice to cover the table surface with a good quality paste wax. Buff out the wax thoroughly to prevent it from rubbing into your workpiece.

⚠ WARNING: FOR YOUR OWN SAFETY, DO NOT CONNECT THE TOOL TO THE POWER SOURCE UNTIL THE MACHINE IS COMPLETELY ASSEMBLED AND YOU HAVE READ AND UNDERSTOOD THE ENTIRE INSTRUCTION MANUAL.

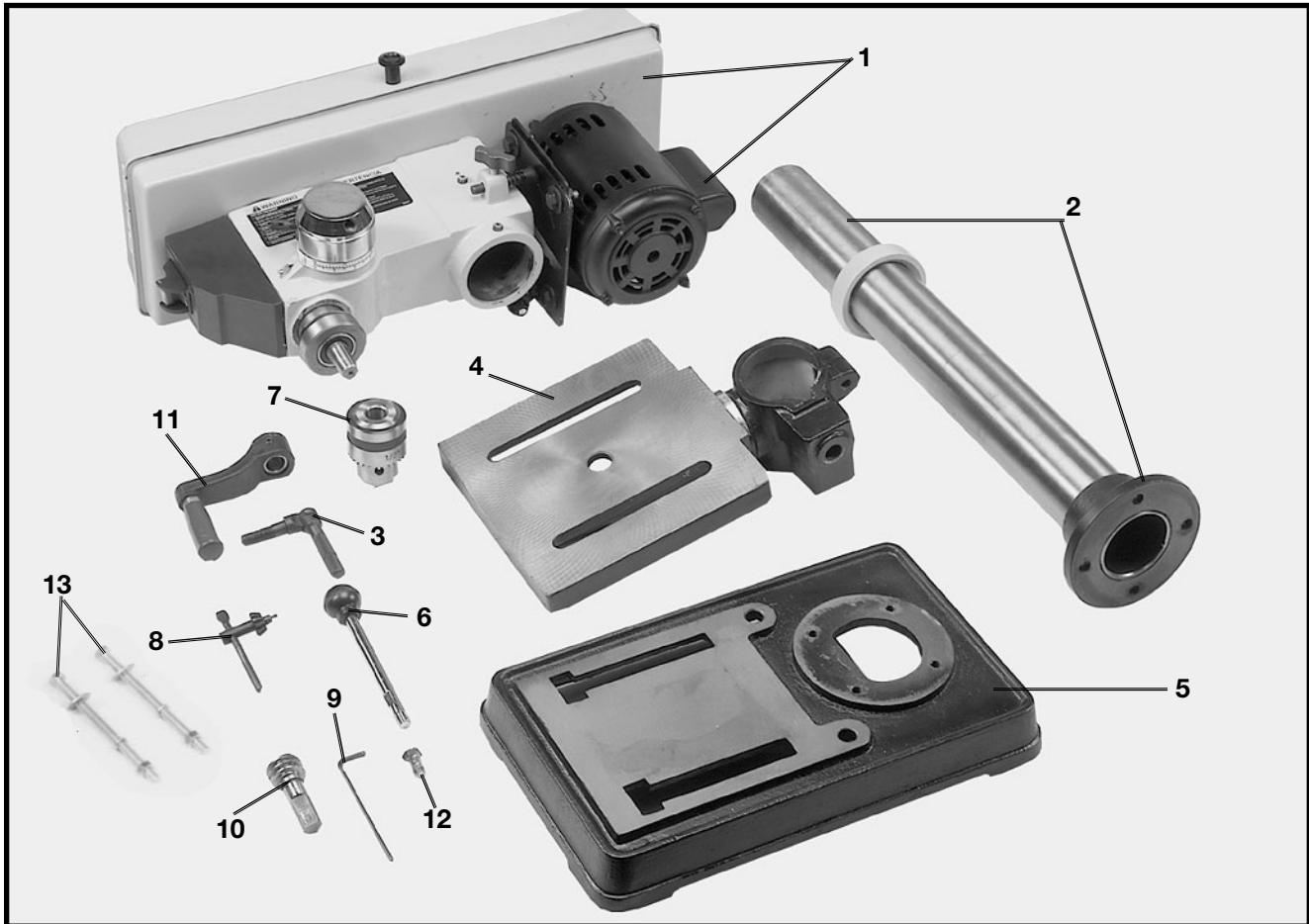


Fig. 2

- 1 - Drill Press Head and Motor
- 2 - Column, Base Flange and Table Raising Mechanism
- 3 - Clamp Handle
- 4 - Table
- 5 - Base
- 6 - Pinon Shaft Handles (3)
- 7 - Chuck
- 8 - Chuck Key
- 9 - Wrenches (2)
- 10 - Worm Gear for Table Raising and Lowering Mechanism
- 11 - Table Raising and Lowering Handle
- 12 - 25mm (1") long Hex Head Cap Screws (4)
- 13 - 125mm (5") long Carriage Screws (2), Flat Washers (2), Lock Washers (2), Hex Nuts (2)

ASSEMBLY

1. Assemble the column (A) Fig. 3, to the base (B) using the four screws (C), three of which are shown. Loosen set screw (D) and remove ring (E) and raising rack (F).

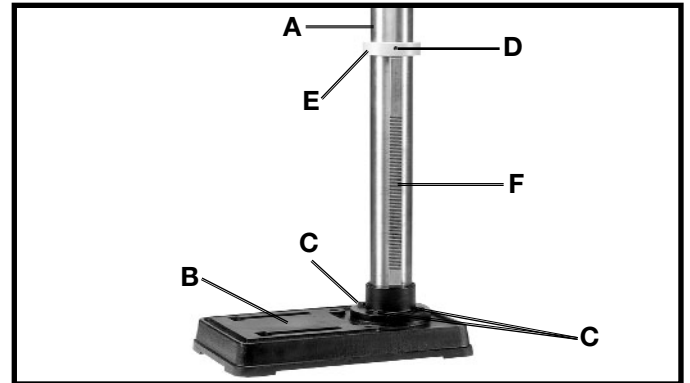


Fig. 3

2. Make certain worm gear (G) Figs. 4 and 5, is in place in table bracket (H) as shown.

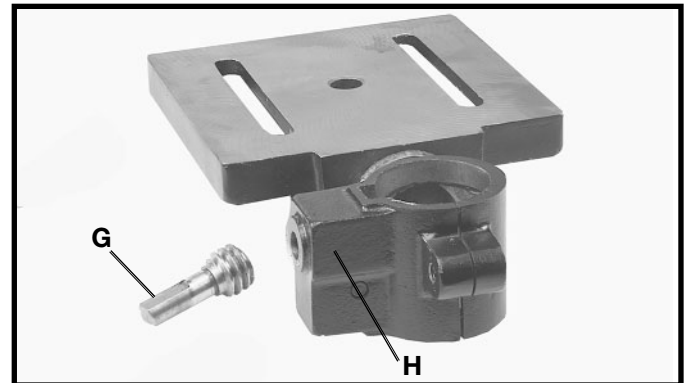


Fig. 4

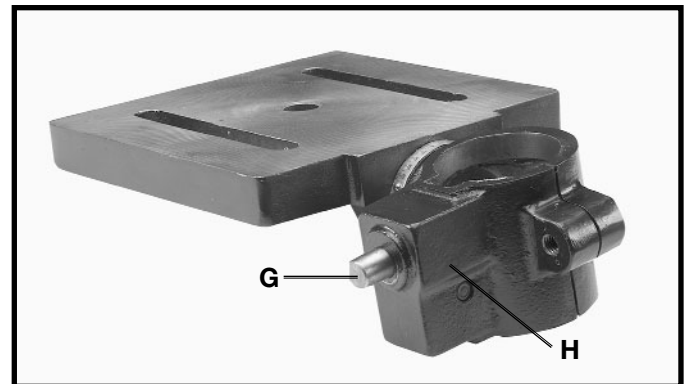


Fig. 5

3. Insert raising rack (F) Fig. 6, which was removed in **STEP 1**, into groove in table bracket making sure teeth of worm gear (G) located inside table bracket are engaged with teeth of raising rack (F).

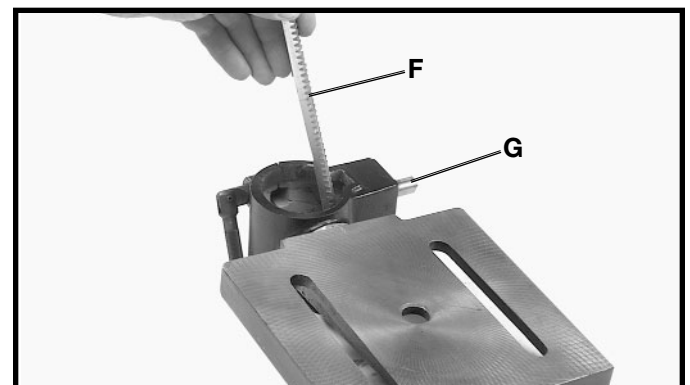


Fig. 6

4. Slide raising rack (F) Fig. 7, table and table bracket onto drill press column, as shown. Make sure bottom of raising rack (F) Fig. 8, is engaged with flange (J) on drill press base.

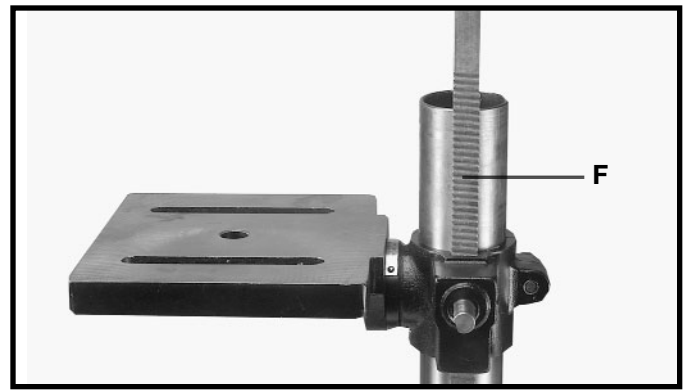


Fig. 7

5. Re-assemble ring (E) Fig. 9, which was removed in **STEP 1. IMPORTANT:** Bottom of ring (E) **MUST NOT** be pushed all the way down onto top of raising rack (F). **MAKE SURE** top of raising rack (F) is under bottom of ring (E) and that there is enough clearance to allow rack (F) to rotate around the column. **THEN TIGHTEN SET SCREW (D).**

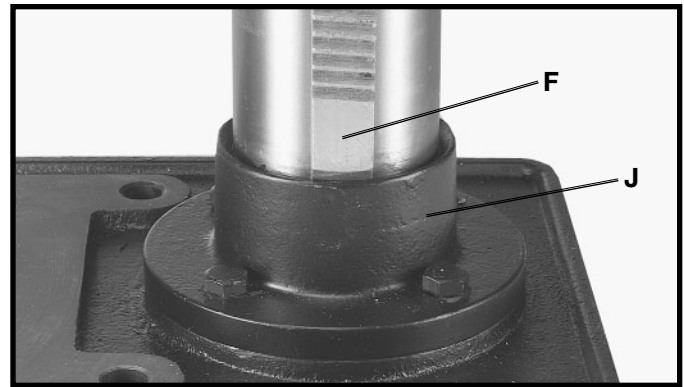


Fig. 8

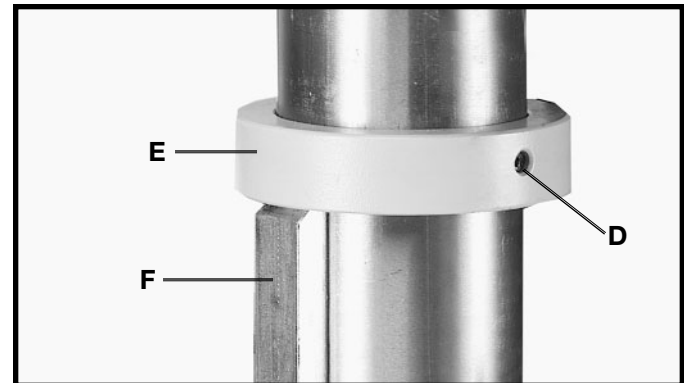


Fig. 9

6. Assemble table raising and lowering handle (K) Fig. 10, to worm gear shaft (G) and tighten screw (L) against flat on shaft.

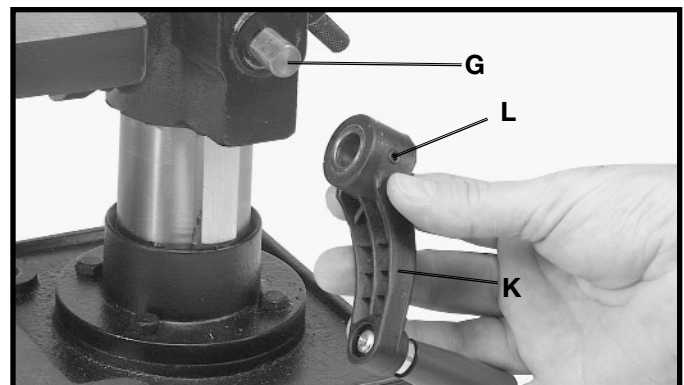


Fig. 10

7. Figure 11, illustrates the table raising and lowering handle (K) assembled to worm gear shaft (G).

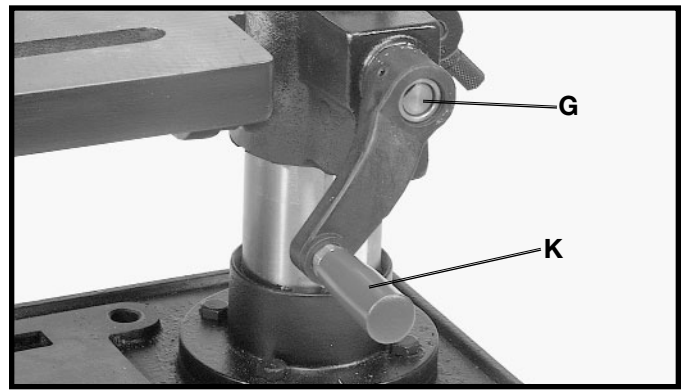


Fig. 11

8. Thread clamp handle (M) Fig. 12, into hole in rear of table bracket, as shown.

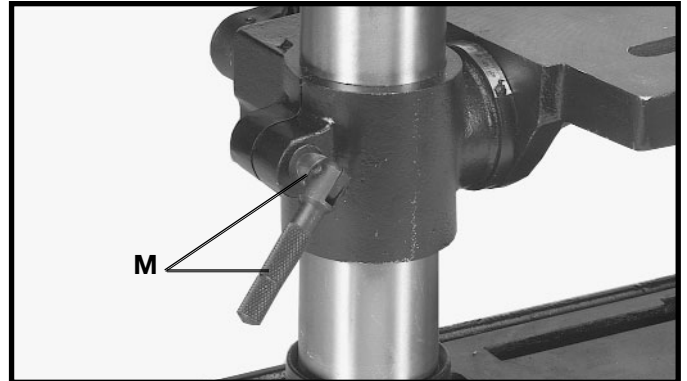


Fig. 12

9. Place the drill press head (N) Fig. 13, onto the column as far as it will go. Align head to table and base and tighten the two head locking screws (O) with wrench supplied.



Fig. 13

10. Thread the three pinion shaft handles (P) Fig. 14, into the three tapped holes located in the pinion shaft, as shown.

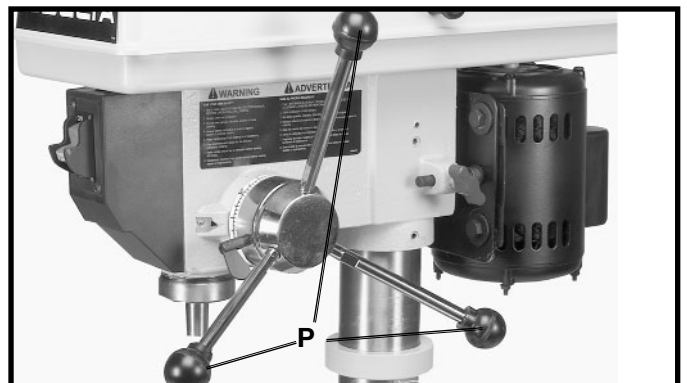


Fig. 14

11. **IMPORTANT:** Make certain the spindle taper (Q) Fig. 15, and tapered hole in chuck (R) 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.

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

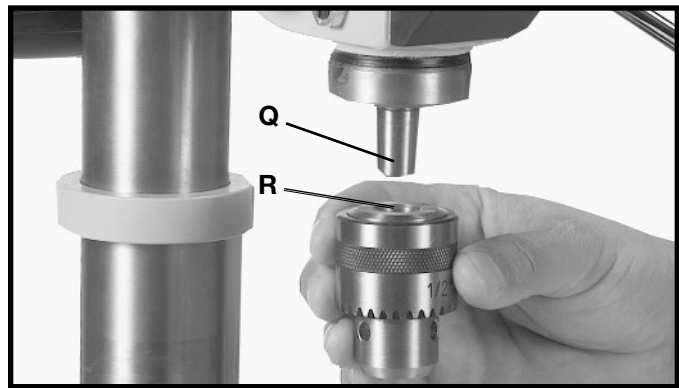


Fig. 15

13. Carefully drive chuck (S) Fig. 16, onto the spindle with a block of wood and hammer, or a rubber mallet (T) 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.

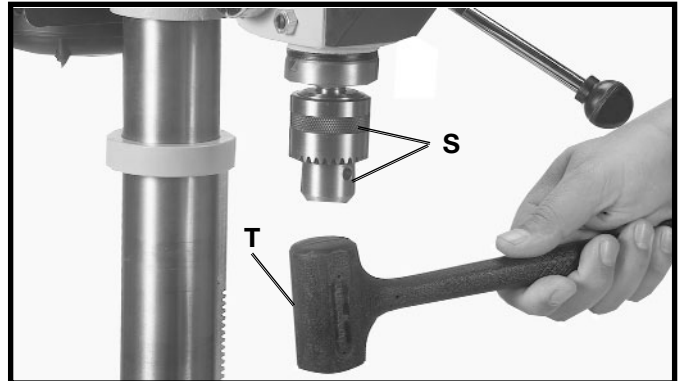


Fig. 16

FASTENING DRILL PRESS TO SUPPORTING SURFACE

If during operation there is any tendency for the drill press to tip over, slide or walk on the supporting surface, the drill press base must be secured to the supporting surface with fasteners through the two holes (A) Fig. 17, located in the drill press base.

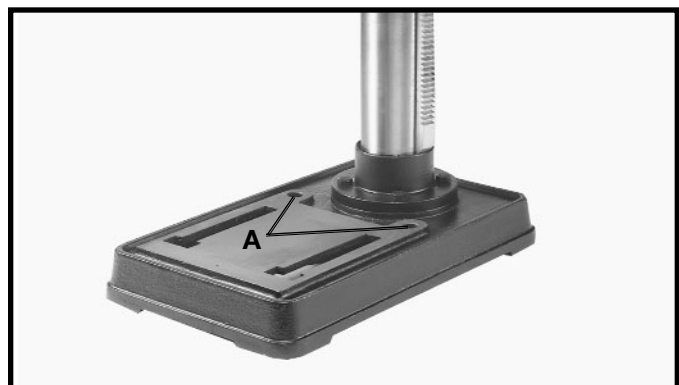


Fig. 17

CONNECTING TOOL 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 20 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. 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 indicated on the tool. All line connections should make good contact. Running on low voltage will damage the motor.

MOTOR SPECIFICATIONS

Your tool is wired for 120 volt, 60 HZ alternating current. Before connecting the tool to the power source, make sure the switch is in the "OFF" position. The motor provides a no-load speed of 1720 RPM.

GROUNDING INSTRUCTIONS



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

1. All grounded, cord-connected tools:

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-pole receptacles that accept the tool's plug, as shown in Fig. 18.

Repair or replace damaged or worn cord immediately.

2. Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating less than 150 volts:

This tool is intended for use on a normal 120-volt circuit and has a grounded plug that looks like the plug illustrated in Fig. 18.

If a properly grounded outlet is not available, a temporary adapter, shown in Fig. 19, may be used for connecting the 3-prong grounding type plug to a 2-pole receptacle. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green colored rigid ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place with a metal screw.

NOTE: In Canada, the use of a temporary adapter is not permitted by the Canadian Electric Code.



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

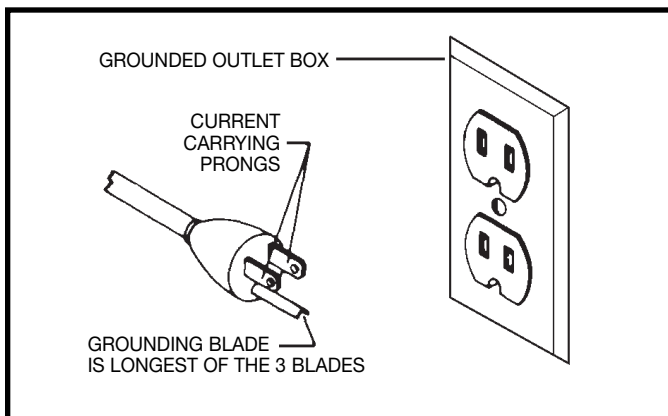


Fig. 18

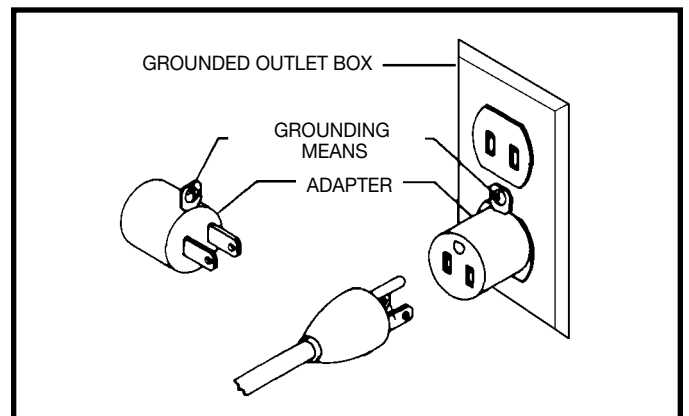


Fig. 19

EXTENSION CORDS

Use proper 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 machine. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. Fig. 20, shows the correct gauge to use depending on the cord length. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

MINIMUM GAUGE EXTENSION CORD			
RECOMMENDED SIZES FOR USE WITH STATIONARY ELECTRIC TOOLS			
Ampere Rating	Volts	Total Length of Cord in Feet	Gauge of Extension Cord
0-6	120	up to 25	18 AWG
0-6	120	25-50	16 AWG
0-6	120	50-100	16 AWG
0-6	120	100-150	14 AWG
6-10	120	up to 25	18 AWG
6-10	120	25-50	16 AWG
6-10	120	50-100	14 AWG
6-10	120	100-150	12 AWG
10-12	120	up to 25	16 AWG
10-12	120	25-50	16 AWG
10-12	120	50-100	14 AWG
10-12	120	100-150	12 AWG
12-16	120	up to 25	14 AWG
12-16	120	25-50	12 AWG
12-16	120	GREATER THAN 50 FEET NOT RECOMMENDED	

Fig. 20

STARTING AND STOPPING DRILL PRESS

The switch (A) Fig. 21, 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.

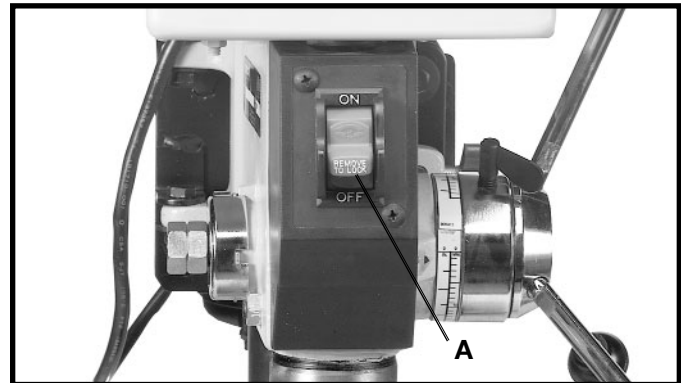


Fig. 21

LOCKING SWITCH IN THE "OFF" POSITION

When the tool is not in use, the switch should be locked in the "OFF" position to prevent unauthorized use. This can be done by grasping the switch toggle (B) and pulling it out of the switch, as shown in Fig. 22. With the switch toggle (B) 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).

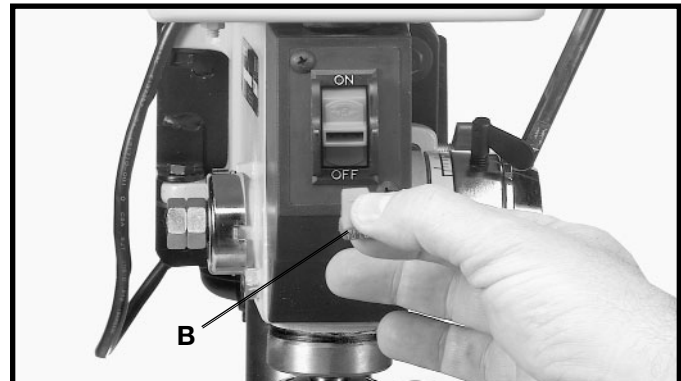


Fig. 22

TABLE ADJUSTMENTS

1. The table can be raised or lowered on the drill press column by loosening the table clamp handle (A) Fig. 23, and turning the table raising and lowering handle (B) Fig. 24. After the table is at the desired height, tighten table clamp handle (A) Fig. 23. **NOTE:** Final positioning of the drill press table should always be from the bottom to the up position.

2. The table can be rotated 360 degrees on the column by loosening clamp handle (A) Fig. 23, rotate table to desired position and tighten clamp handle (A).

3. The table can be tilted right or left by pulling out and removing table alignment pin (C) Fig. 25, and loosening table locking bolt (D). **NOTE:** If pin (C) is difficult to remove, turn nut (E) clockwise to pull pin out of casting. Tilt table to the desired angle and tighten bolt (D).

4. When returning table to the level position, loosen pin (C) Fig. 26, and loosen locking bolt (D). Position the table to the 0 degree mark on the tilt scale and then replace pin (C) and tighten locking bolt (D) Fig. 25.

5. A tilt scale (E) Fig. 27, is provided on the table bracket casting to indicate the degree of tilt. A witness line (F) is also provided on the table to line up with scale (E).

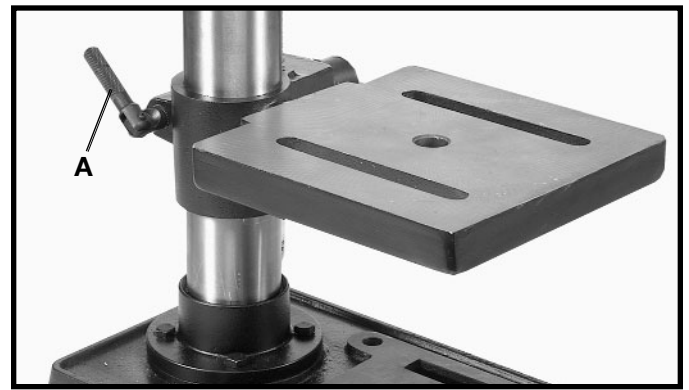


Fig. 23

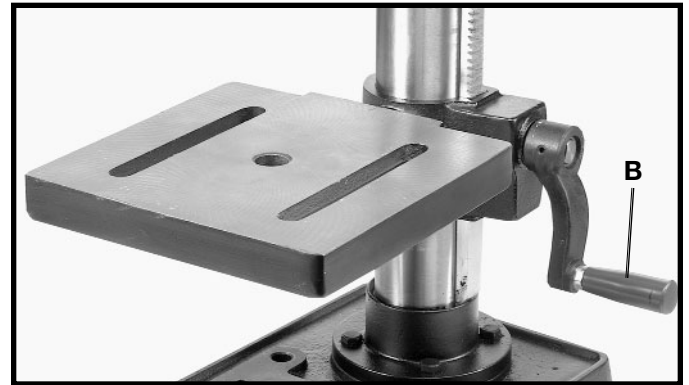


Fig. 24

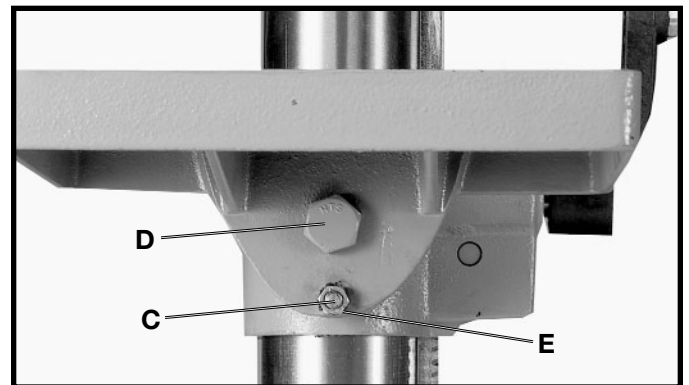


Fig. 25

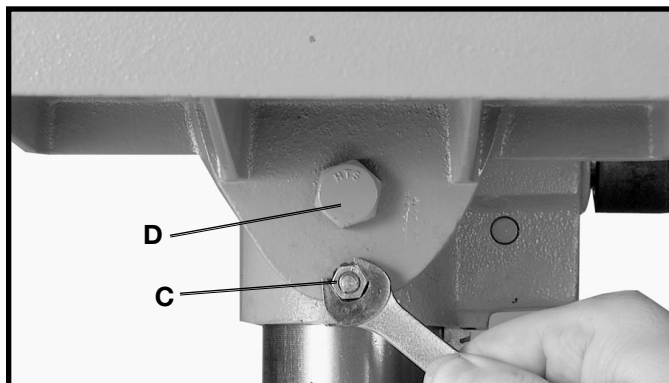


Fig. 26

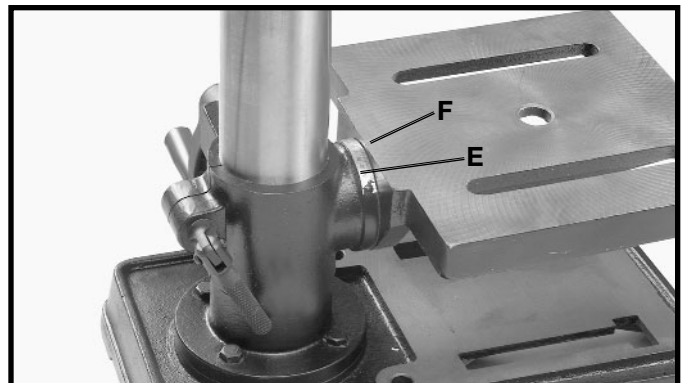


Fig. 27

SPINDLE SPEEDS

Five spindle speeds of 620, 1100, 1720, 2340 and 3100 RPM are available. 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. 28. Fig. 28, illustrates which steps the pulleys the belt must be placed to obtain the five speeds available.

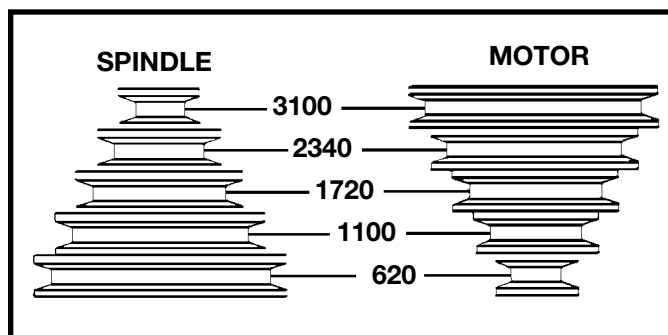


Fig. 28

CHANGING SPEEDS AND ADJUSTING BELT TENSION

1. Disconnect the tool from the power source.
2. Lift up the belt and pulley guard (A) Fig. 29.
3. Release belt tension by loosening tension lock knob (B) Fig. 29, and pivoting the motor toward the front of the drill press, as shown.
4. While holding the motor toward the front of the drill press head, position the belt (C) on the desired steps of the motor and spindle pulleys, as shown in Fig. 29. A belt positioning chart (D) is provided on the inside top cover of the drill press for your convenience.
5. After the belt is positioned on the desired steps of the motor and spindle pulleys, pivot motor away from the drill press head until the belt is properly tensioned and tighten tension lock knob (B) Fig. 30. The belt 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 (C) can be flexed about one inch out of the line midway between the pulleys using light finger pressure.

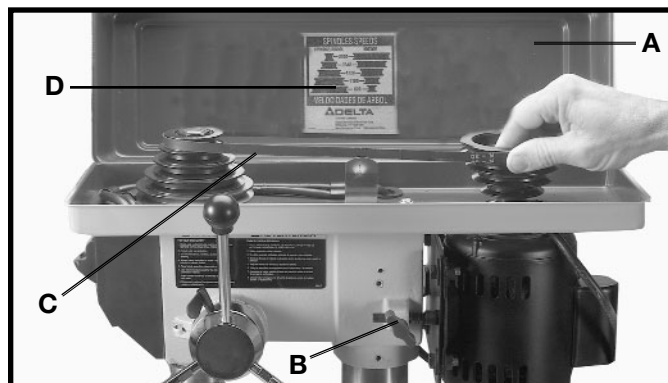


Fig. 29

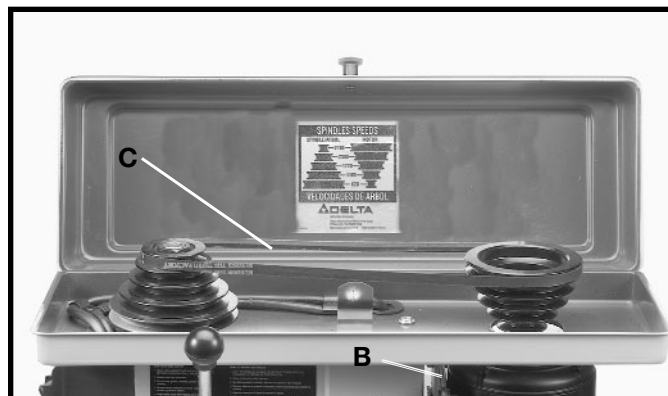


Fig. 30

DRILLING HOLES TO DEPTH

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. 31, and rotate housing (B) until the pointer (C) lines up with the desired depth indicated on scale (D). Then tighten lock screw (A).
2. All holes will then be drilled to the exact depth as indicated on scale (D) Fig. 31. **NOTE:** Scale (D) is calibrated in both inches and millimeters.

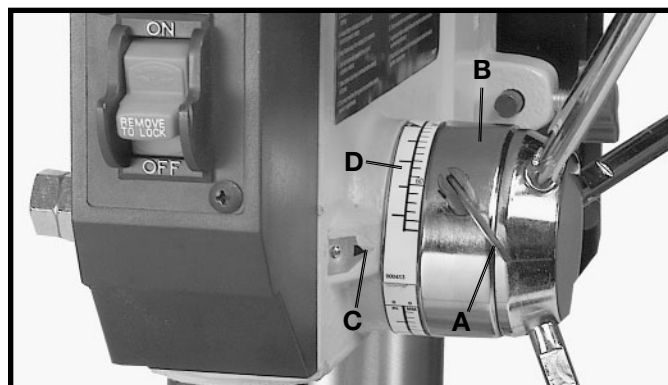


Fig. 31

ADJUSTING SPINDLE RETURN SPRING

The spindle is automatically returned to its upper most position upon release of the handle. It is recommended that the handle be allowed to slowly return to the top position after all holes have been bored in the material. 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 tool from the power source.**
2. Loosen the two nuts (B) Fig. 32, approximately 1/4". Do not remove nuts (B) from shaft (C).
3. While firmly holding spring housing (A) Fig. 33, pull out housing and rotate it until the boss (D) is engaged with the next notch on the housing. Turn the housing counterclockwise to increase and clockwise to decrease spring tension. Then tighten the two nuts (B) to hold the housing in place. **IMPORTANT:** Inside nut (B) should not contact spring housing (A) when tight.

OPERATION

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

⚠ WARNING: The use of accessories and attachments not recommended by Delta may result in risk of injury.

IMPORTANT: When the workpiece is long enough it should always be positioned on the table with one end against the column, as shown in Fig. 34. This prevents the workpiece from rotating with the drill bit or cutting tool, causing damage to the workpiece or personal injury to the operator. If it is not possible to support the workpiece against the column, the workpiece should always be fastened to the table using clamps or a vise.

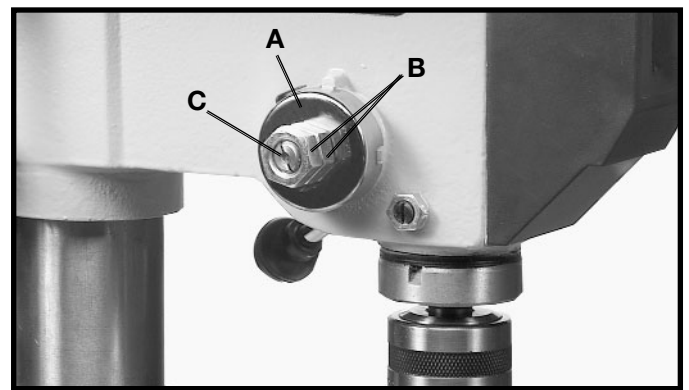


Fig. 32

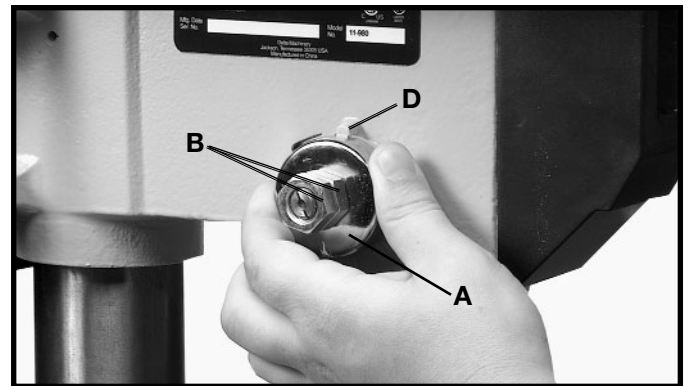


Fig. 33

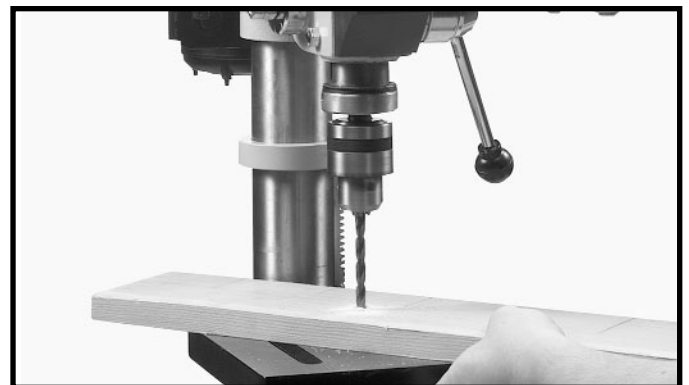


Fig. 34

INSTALLING AND REMOVING DRILL BITS

1. Insert smooth end of drill bit (A) Fig. 35, as far as it will go into the chuck (B), and then back the bit out 1/16", or up to the flutes for small bits.
2. Make certain that the drill bit (A) Fig. 35, is centered in the chuck (B) before tightening the chuck with the key (C).
3. Turn the chuck key (C) Fig. 35, clockwise to tighten and counterclockwise to loosen the chuck jaws.
4. Tighten all three chuck jaws to secure the drill bit sufficiently so that it does not slip while drilling.
5. **MAKE SURE** chuck key (C) Fig. 35, is removed from chuck before starting drill press. Your chuck key (C) is equipped with a self-ejecting pin (D) which eliminates the hazard of the key being left in the chuck.

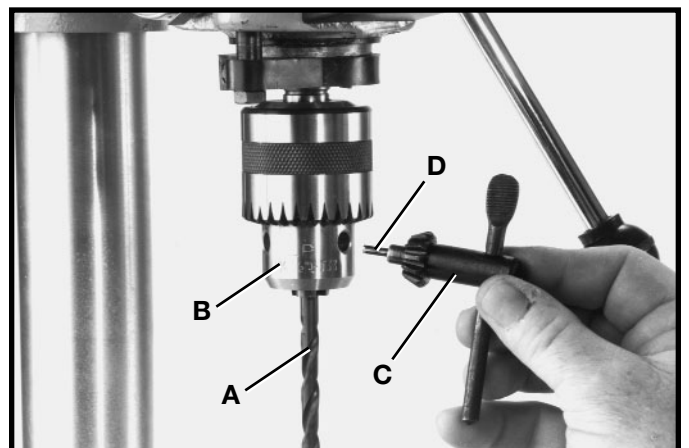


Fig. 35

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 flat 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. 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.

ACCESSORIES

A complete line of accessories is available from your Delta Supplier, Porter-Cable • Delta Factory Service Centers, and Delta Authorized Service Stations. Please visit our Web Site www.deltamachinery.com for a catalog or for the name of your nearest supplier.



WARNING: Since accessories, other than those offered by Delta, have not been tested with this product, use of such accessories could be hazardous. For safest operation, only Delta recommended accessories should be used with this product.

NOTES



PARTS, SERVICE OR WARRANTY ASSISTANCE

All Delta Machines and accessories are manufactured to high quality standards and are serviced by a network of Porter-Cable • Delta Factory Service Centers and Delta Authorized Service Stations. To obtain additional information regarding your Delta quality product or to obtain parts, service, warranty assistance, or the location of the nearest service outlet, please call 1-800-223-7278 (In Canada call 1-800-463-3582).



Delta Building Trades and Home Shop Machinery Two Year Limited Warranty

Delta 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 returns the product prepaid to a Delta factory service center or authorized service station with proof of purchase of the product within two years and provides Delta with reasonable opportunity to verify the alleged defect by inspection. Delta may require that electric motors be returned prepaid to a motor manufacturer's authorized station for inspection and repair or replacement. Delta will not be responsible for any asserted defect which has resulted from normal wear, 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 be liable for incidental or consequential damages resulting from defective products. This warranty is Delta'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.

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