

20" Drill Press (Model 70-200)



PART NO. A10355 - 04-06-05
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visit our website at: www.deltamachinery.com.

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ESPAÑOL: PÁGINA 21

TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS2
SAFETY GUIDELINES3
GENERAL SAFETY RULES .....	.4
ADDITIONAL SPECIFIC SAFETY RULES .....	.5
FUNCTIONAL DESCRIPTION .....	.8
CARTON CONTENTS .....	.9
ASSEMBLY .....	.10
OPERATION .....	.17
TROUBLESHOOTING .....	.19
MAINTENANCE .....	.20
SERVICE .....	.20
ACCESSORIES .....	.20
WARRANTY .....	.20
ESPAÑOL .....	.21
SERVICE CENTER LOCATIONS .....	.back cover

IMPORTANT SAFETY INSTRUCTIONS

▲ WARNING Read and understand all warnings and operating instructions before using any tool or equipment. When using tools or equipment, basic safety precautions should always be followed to reduce the risk of personal injury. Improper operation, maintenance or modification of tools or equipment could result in serious injury and property damage. There are certain applications for which tools and equipment are designed. Delta Machinery strongly recommends that this product NOT be modified and/or used for any application other than for which it was designed.

If you have any questions relative to its application DO NOT use the product until you have written Delta Machinery and we have advised you.

Online contact form at www.deltamachinery.com

Postal Mail: Technical Service Manager
Delta Machinery
4825 Highway 45 North
Jackson, TN 38305

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

Information regarding the safe and proper operation of this tool is available from the following sources:

Power Tool Institute
1300 Sumner Avenue, Cleveland, OH 44115-2851
www.powertoolinstitute.org

National Safety Council
1121 Spring Lake Drive, Itasca, IL 60143-3201

American National Standards Institute, 25 West 43rd Street, 4 floor, New York, NY 10036 www.ansi.org
ANSI 01.1 Safety Requirements for Woodworking Machines, and

the U.S. Department of Labor regulations www.osha.gov

SAVE THESE INSTRUCTIONS!

SAFETY GUIDELINES - DEFINITIONS

It is important for you to read and understand this manual. The information it contains relates to protecting YOUR SAFETY and PREVENTING PROBLEMS. The symbols below are used to help you recognize this information.



- ▲ DANGER** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
- ▲ WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- ▲ CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
- CAUTION** Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

CALIFORNIA PROPOSITION 65

▲ 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, always wear **NIOSH/OSHA** approved, properly fitting face mask or respirator when using such tools.

GENERAL SAFETY RULES



▲ WARNING READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT. Failure to follow all instructions listed below, may result in electric shock, fire, and/or serious personal injury or property damage.

IMPORTANT SAFETY INSTRUCTIONS

- 1. FOR YOUR OWN SAFETY, READ THE INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learning the machine's application, limitations, and specific hazards will greatly minimize the possibility of accidents and injury.
- 2. WEAR EYE AND HEARING PROTECTION. ALWAYS USE SAFETY GLASSES.** Everyday eyeglasses are NOT safety glasses. USE CERTIFIED SAFETY EQUIPMENT. Eye protection equipment should comply with ANSI Z87.1 standards. Hearing equipment should comply with ANSI S3.19 standards.
- 3. WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
- 4. DO NOT USE THE MACHINE IN A DANGEROUS ENVIRONMENT.** The use of power tools in damp or wet locations or in rain can cause shock or electrocution. Keep your work area well-lit to prevent tripping or placing arms, hands, and fingers in danger.
- 5. MAINTAIN ALL TOOLS AND MACHINES IN PEAK CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories. Poorly maintained tools and machines can further damage the tool or machine and/or cause injury.
- 6. CHECK FOR DAMAGED PARTS.** Before using the machine, check for any damaged parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, and any other conditions that may affect its operation. A guard or any other part that is damaged **should be properly repaired or replaced.** Damaged parts can cause further damage to the machine and/or injury.
- 7. KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- 8. KEEP CHILDREN AND VISITORS AWAY.** Your shop is a potentially dangerous environment. Children and visitors can be injured.
- 9. REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure that the switch is in the "OFF" position before plugging in the power cord. In the event of a power failure, move the switch to the "OFF" position. An accidental start-up can cause injury.
- 10. USE THE GUARDS.** Check to see that all guards are in place, secured, and working correctly to reduce the risk of injury.
- 11. REMOVE ADJUSTING KEYS AND WRENCHES BEFORE STARTING THE MACHINE.** Tools, scrap pieces, and other debris can be thrown at high speed, causing injury.
- 12. USE THE RIGHT MACHINE.** Don't force a machine or an attachment to do a job for which it was not designed. Damage to the machine and/or injury may result.
- 13. USE RECOMMENDED ACCESSORIES.** The use of accessories and attachments not recommended by Delta may cause damage to the machine or injury to the user.
- 14. USE THE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. See the Extension Cord Chart for the correct size depending on the cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
- 15. SECURE THE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. Loss of control of a workpiece can cause injury.
- 16. FEED THE WORKPIECE AGAINST THE DIRECTION OF THE ROTATION OF THE BLADE, CUTTER, OR ABRASIVE SURFACE.** Feeding it from the other direction will cause the workpiece to be thrown out at high speed.
- 17. DON'T FORCE THE WORKPIECE ON THE MACHINE.** Damage to the machine and/or injury may result.
- 18. DON'T OVERREACH.** Loss of balance can make you fall into a working machine, causing injury.
- 19. NEVER STAND ON THE MACHINE.** Injury could occur if the tool tips, or if you accidentally contact the cutting tool.
- 20. NEVER LEAVE THE MACHINE RUNNING UNATTENDED. TURN THE POWER OFF.** Don't leave the machine until it comes to a complete stop. A child or visitor could be injured.
- 21. TURN THE MACHINE "OFF", AND DISCONNECT THE MACHINE FROM THE POWER SOURCE** before installing or removing accessories, before adjusting or changing set-ups, or when making repairs. An accidental start-up can cause injury.
- 22. MAKE YOUR WORKSHOP CHILDPROOF WITH PADLOCKS, MASTER SWITCHES, OR BY REMOVING STARTER KEYS.** The accidental start-up of a machine by a child or visitor could cause injury.
- 23. STAY ALERT, WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE. DO NOT USE THE MACHINE WHEN YOU ARE TIRED OR UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR MEDICATION.** A moment of inattention while operating power tools may result in injury.
- 24. ▲ WARNING USE OF THIS TOOL CAN GENERATE AND DISBURSE DUST OR OTHER AIRBORNE PARTICLES, INCLUDING WOOD DUST, CRYSTALLINE SILICA DUST AND ASBESTOS DUST.** Direct particles away from face and body. Always operate tool in well ventilated area and provide for proper dust removal. Use dust collection system wherever possible. Exposure to the dust may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. Allowing dust to get into your mouth or eyes, or lay on your skin may promote absorption of harmful material. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

ADDITIONAL SPECIFIC SAFETY RULES

▲ WARNING

FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS INJURY.

1. **DO NOT OPERATE THIS MACHINE** until it is completely assembled and installed according to the instructions. A machine incorrectly assembled can cause serious injury.
2. **OBTAIN ADVICE** from your supervisor, instructor, or another qualified person if you are not thoroughly familiar with the operation of this machine. Knowledge is safety.
3. **FOLLOW ALL WIRING CODES** and recommended electrical connections to prevent shock or electrocution.
4. **SECURE THE MACHINE TO A SUPPORTING SURFACE.** Vibration can cause the machine to slide, walk, or tip over.
5. **NEVER START THE MACHINE BEFORE CLEARING THE TABLE OF ALL OBJECTS** (tools, scrap pieces, etc.). Debris can be thrown at high speed.
6. **NEVER START THE MACHINE** with the drill bit, cutting tool, or sanding drum against the workpiece. Loss of control of the workpiece can cause serious injury.
7. **PROPERLY LOCK THE DRILL BIT, CUTTING TOOL, OR SANDING DRUM IN THE CHUCK** before operating this machine.
8. **REMOVE THE CHUCK KEY BEFORE STARTING THE MACHINE.** The chuck key can be thrown out at a high speed.
9. **TIGHTEN ALL LOCK HANDLES** before starting the machine. Loss of control of the workpiece can cause serious injury.
10. **USE ONLY DRILL BITS, CUTTING TOOLS, SANDING DRUMS, OR OTHER ACCESSORIES** with shank size recommended in your instruction manual. The wrong size accessory can cause damage to the machine and/or serious injury.
11. **USE ONLY DRILL BITS, CUTTING TOOLS, OR SANDING DRUMS** that are not damaged. Damaged items can cause malfunctions that lead to injuries.
12. **USE RECOMMENDED SPEEDS** for all operations. Other speeds may cause the machine to malfunction causing damage to the machine and/or serious injury.
13. **AVOID AWKWARD OPERATIONS AND HAND POSITIONS.** A sudden slip could cause a hand to move into the bit.
14. **KEEP ARMS, HANDS, AND FINGERS** away from the bit. Serious injury to the hand can occur.
15. **HOLD THE WORKPIECE FIRMLY AGAINST THE TABLE.** Do not attempt to drill a workpiece that does not have a flat surface against the table, or that is not secured by a vise. Prevent the workpiece from rotating by clamping it to the table or by securing it against the drill press column. Loss of control of the workpiece can cause serious injury.
16. **TURN THE MACHINE “OFF” AND WAIT FOR THE DRILL BIT, CUTTING TOOL, OR SANDING DRUM TO STOP TURNING** prior to cleaning the work area, removing debris, removing or securing work-piece, or changing the angle of the table. A moving drill bit, cutting tool, or sanding drum can cause serious injury.
17. **PROPERLY SUPPORT LONG OR WIDE** workpieces. Loss of control of the workpiece can cause severe injury.
18. **NEVER PERFORM LAYOUT, ASSEMBLY OR SET-UP WORK** on the table/work area when the machine is running. Serious injury can result.
19. **TURN THE MACHINE “OFF”**, disconnect the machine from the power source, and clean the table/work area before leaving the machine. **LOCK THE SWITCH IN THE “OFF” POSITION** to prevent unauthorized use. Someone else might accidentally start the machine and cause serious injury to themselves.
20. **ADDITIONAL INFORMATION** regarding the safe and proper operation of power tools (i.e. a safety video) is available from the Power Tool Institute, 1300 Sumner Avenue, Cleveland, OH 44115-2851 (www.powertoolinstitute.com). Information is also available from the National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201. Please refer to the American National Standards Institute ANSI O1.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor OSHA 1910.213 Regulations.

SAVE THESE INSTRUCTIONS.

Refer to them often
and use them to instruct others.

POWER CONNECTIONS

A separate electrical circuit should be used for your machines. 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 matching receptacle which will accept the machine's plug. Before connecting the machine to the power line, make sure the switch (s) is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the machine. All line connections should make good contact. Running on low voltage will damage the machine.

⚠ DANGER DO NOT EXPOSE THE MACHINE TO RAIN OR OPERATE THE MACHINE IN DAMP LOCATIONS.

MOTOR SPECIFICATIONS

Your machine is wired for 120/240 volt, 60 HZ alternating current. Before connecting the machine to the power source, make sure the switch is in the "OFF" position.

GROUNDING INSTRUCTIONS

⚠ DANGER THIS MACHINE MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

1. All grounded, cord-connected machines:

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 machine 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 machine is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding type plugs and matching 3-conductor receptacles that accept the machine's plug, as shown in Fig. A.

Repair or replace damaged or worn cord immediately.

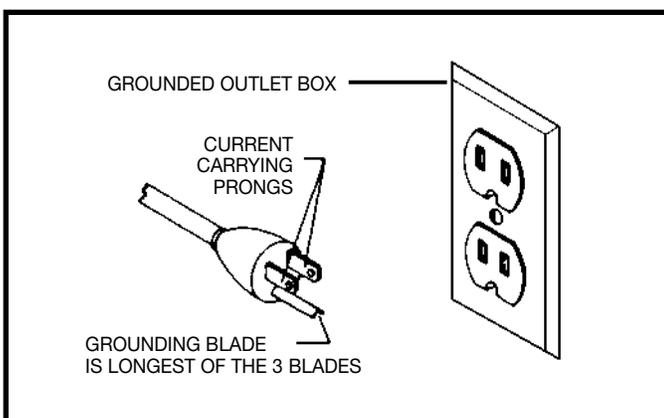


Fig. A

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

If the machine is intended for use on a circuit that has an outlet that looks like the one illustrated in Fig. A, the machine will have a grounding plug that looks like the plug illustrated in Fig. A. A temporary adapter, which looks like the adapter illustrated in Fig. B, may be used to connect this plug to a matching 2-conductor receptacle as shown in Fig. B 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. 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. 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.

⚠ DANGER IN ALL CASES, MAKE CERTAIN THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE HAVE A QUALIFIED ELECTRICIAN CHECK THE RECEPTACLE.

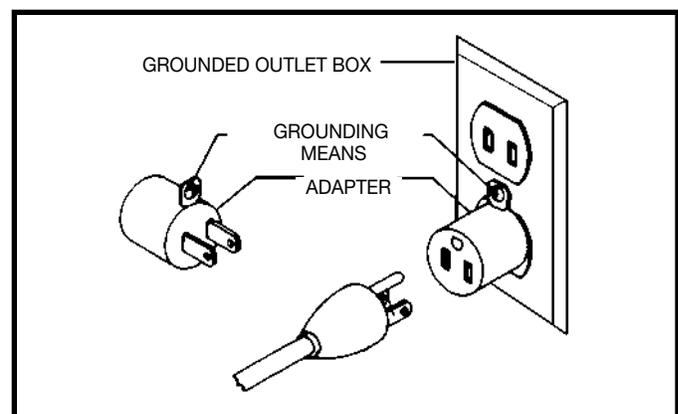


Fig. B

3. 240 VOLT SINGLE PHASE OPERATION

The motor supplied with your saw is a dual voltage, 120/240 volt motor. It is set at the factory at 120 volts. If it is desired to operate your machine at 240 volts, single phase, it is necessary to reconnect the motor leads in the motor junction box by following instructions given on the motor nameplate or inside the junction box.

⚠ WARNING MAKE SURE MOTOR IS DISCONNECTED FROM POWER SOURCE BEFORE RECONNECTING MOTOR LEADS.

It is also necessary to replace the 120 volt plug, supplied with the motor, with a UL/CSA listed plug suitable for 240 volts and the rated current of your machine as illustrated in Fig. C. Contact your local Authorized Delta Service Center or qualified electrician for proper procedures to install the plug. The machine must comply with all local and national electrical codes after the 240 volt plug is installed.

The machine with a 240 volt plug should only be connected to an outlet having the same configuration as the plug illustrated in Fig. C. No adapter is available or should be used with the 240 Volt plug.

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

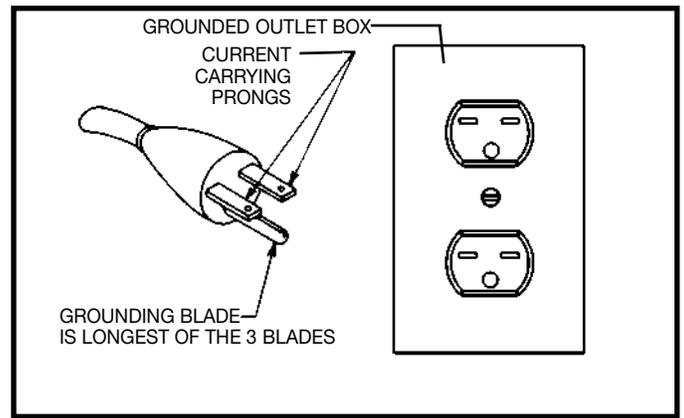


Fig. C

4. Permanently connected machines:

If the machine is intended to be permanently connected, all wiring must be done by a qualified electrician and conform to the National Electric Code and all local codes and ordinances.

* **THREE PHASE OPERATION:** Three phase machines are not supplied with a power cord and must be permanently connected to a building's electrical system. Extension cords can't be used with a three phase machine.

* **LVC MAGNETIC MOTOR CONTROL:** If you purchased a machine that has a Low Voltage Magnetic Motor Control System, refer to its instruction manual for installation guidance.

EXTENSION CORDS

⚠ WARNING 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 matching receptacle which will accept the machine'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. D-1 or D-2, 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 MACHINES			
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. D-1

MINIMUM GAUGE EXTENSION CORD			
RECOMMENDED SIZES FOR USE WITH STATIONARY ELECTRIC MACHINES			
Ampere Rating	Volts	Total Length of Cord in Feet	Gauge of Extension Cord
0-6	240	up to 50	18 AWG
0-6	240	50-100	16 AWG
0-6	240	100-200	16 AWG
0-6	240	200-300	14 AWG
6-10	240	up to 50	18 AWG
6-10	240	50-100	16 AWG
6-10	240	100-200	14 AWG
6-10	240	200-300	12 AWG
10-12	240	up to 50	16 AWG
10-12	240	50-100	16 AWG
10-12	240	100-200	14 AWG
10-12	240	200-300	12 AWG
12-16	240	up to 50	14 AWG
12-16	240	50-100	12 AWG
12-16	240	GREATER THAN 100 FEET NOT RECOMMENDED	

Fig. D-2

FUNCTIONAL DESCRIPTION

FOREWORD

The Delta Model 70-200 Drill Press provides production capacity drilling and includes; 1 hp single phase 115/230 volt induction motor, pulleys, belts, 0 - 5/8" capacity chuck, 45 degree tilt table L/R, rack and pinion table raising mechanism and #3 Morse Taper spindle adaptor. A quick release motor mount makes changing the nine spindle speeds (150, 260, 300, 440, 490, 540, 1150, and 2200 rpm) fast and easy.

NOTICE: THE PHOTO ON THE MANUAL COVER ILLUSTRATES THE CURRENT PRODUCTION MODEL. ALL OTHER ILLUSTRATIONS CONTAINED IN THE MANUAL ARE REPRESENTATIVE ONLY AND MAY NOT DEPICT THE ACTUAL COLOR, LABELING OR ACCESSORIES AND ARE INTENDED TO ILLUSTRATE TECHNIQUE ONLY.

CARTON CONTENTS

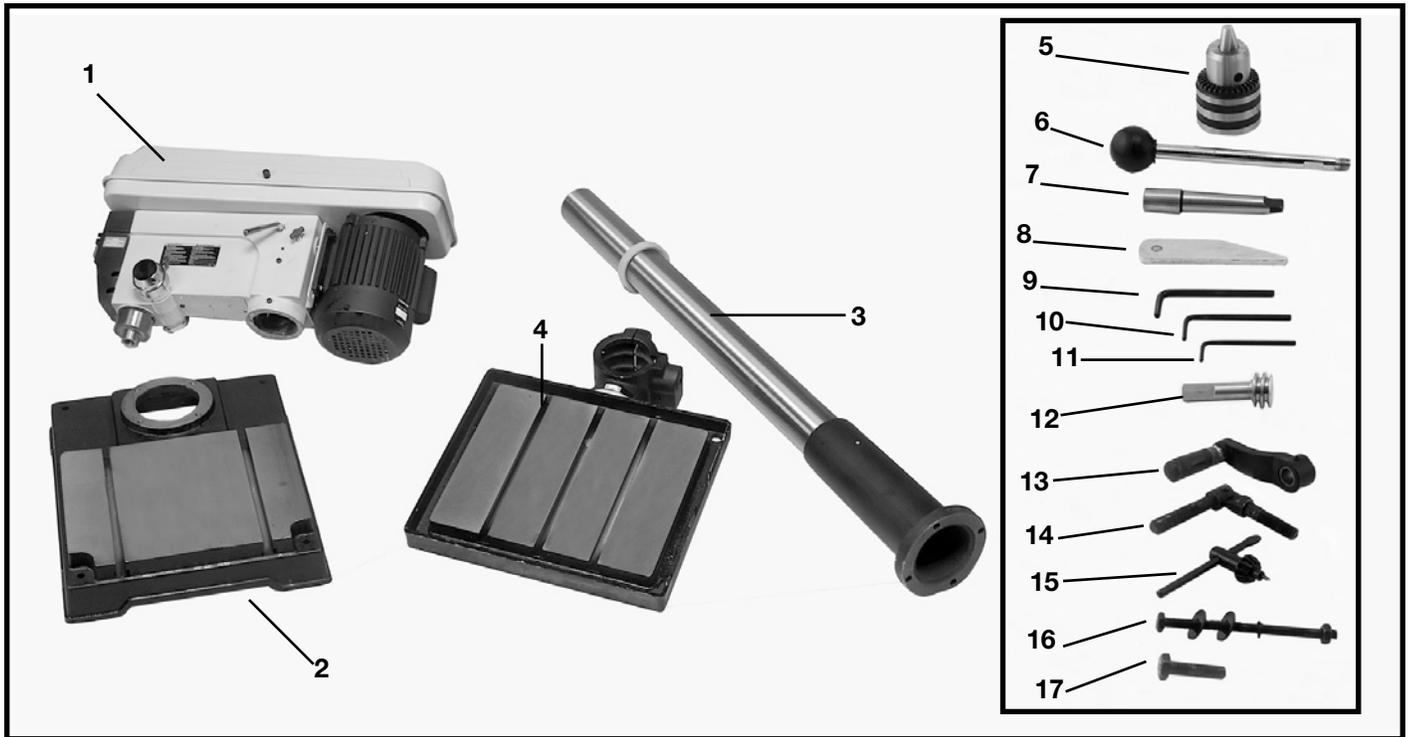


Fig. 2

1. Drill Press Head
2. Table and Table Bracket
3. Column
4. Base
5. Chuck
6. Handle (3)
7. Spindle Adapter
8. Spindle Adapter Remover
9. 5mm Hex Wrench
10. 4mm Hex Wrench
11. 3mm Hex Wrench
12. Worm Gear
13. Table Raising and Lowering Handle
14. Table Lock Lever
15. Chuck Key
16. M8x1.25x125mm carriage head screws (4), flat washers (8), lockwashers (4), and hex nuts (4) (for fastening drill press to a supporting surface)
17. M12x1.5x40mm Hex Head Screws (4)

UNPACKING AND CLEANING

Carefully unpack the machine and all loose items from the shipping container(s). Remove the protective coating from all unpainted surfaces. 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, cover the unpainted surfaces with a good quality household floor paste wax.

ASSEMBLY

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

ASSEMBLY TOOLS REQUIRED

* 3mm, 4mm and 5mm hex wrenches (supplied) * 13mm, 17mm and 29mm socket wrenches (not supplied)

* Soft tip hammer (not supplied)

ASSEMBLY TIME ESTIMATE 1-2 hours.

MOUNTING THE MACHINE

1. If your drill press is to be used in one permanent location, the drill press base must be secured to the supporting surface with fasteners through the four mounting holes, (A) Fig. 16, in the drill press base.

⚠ WARNING IF YOU DO NOT FASTEN YOUR DRILL PRESS IN A PERMANENT MANNER, THE DRILL PRESS MUST BE FASTENED TO A PLYWOOD MOUNTING BOARD TO PREVENT THE DRILL PRESS FROM TIPPING OVER DURING NORMAL USE.

⚠ WARNING USE A GOOD GRADE OF PLYWOOD WITH A MINIMUM 3/4" THICKNESS. DO NOT MAKE THE MOUNTING BOARD FROM PARTICLE BOARD SINCE PARTICLE BOARD CAN BREAK EASILY.

2. Use a plywood board base with the minimum dimensions shown in Fig. 17 for mounting the drill press to a supporting surface.

3. Place the drill base, as shown in Fig. 18, centered on the supporting surface.

⚠ WARNING WHEN THE DRILL PRESS IS MOUNTED TO THE SUPPORTING BOARD, THE BOARD MUST EXTEND A MINIMUM OF 3" BEYOND EACH EDGE OF THE DRILL PRESS BASE, AS SHOWN IN FIG. 18.

4. Drill four 3/8" diameter holes (B) Fig. 17, corresponding to the mounting holes (A) Fig. 16, of the drill press base in a 26" x 32" minimum size plywood board.

⚠ WARNING PLACE A PIECE OF SCRAP WOOD UNDERNEATH THE SUPPORTING SURFACE WHEN DRILLING THE THROUGH HOLES SO THAT THE DRILL BIT WILL NOT DAMAGE THE MATERIAL BENEATH THE SUPPORTING SURFACE.

5. Fasten the drill press base to the mounting board using the carriage bolts, nuts, and washers (C) Fig.17, furnished with your drill press. For stability, the holes for the carriage bolt heads and flat washers must be countersunk so the bolt heads are flush with the bottom surface of the mounting board.

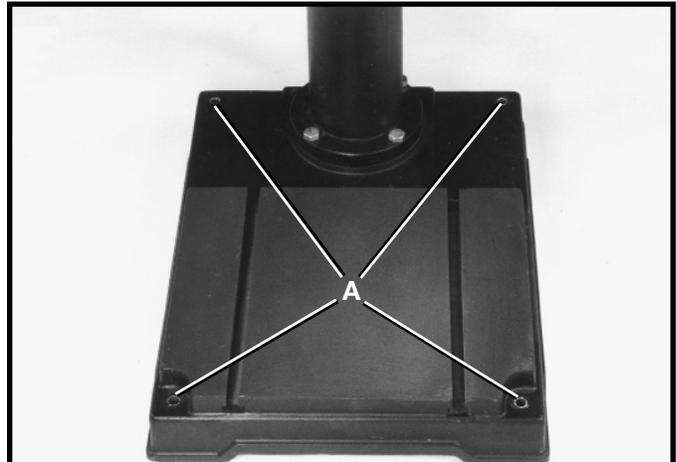


Fig. 16

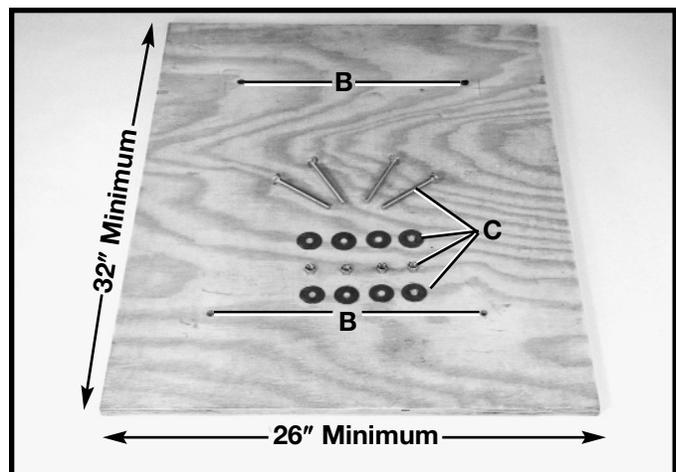


Fig. 17

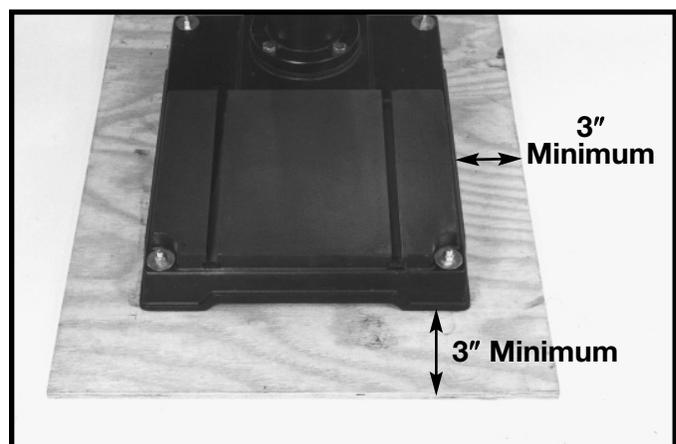


Fig. 18

⚠ WARNING THE PLYWOOD BASE MUST BE SECURED TO THE FLOOR OR SUPPORTING SURFACE IF THERE IS ANY TENDENCY OF THE DRILL PRESS TO VIBRATE, SLIDE OR WALK DURING NORMAL OPERATION.

ASSEMBLING THE DRILL PRESS

1. Assemble column (A) Fig. 2, to base (B) using four M 12 x 45mm long hex head screws (three of which are shown at [C]). Loosen set screw in collar (D) and remove collar (D) and raising rack (E).

2. Remove bolt (F) Fig. 3, and remove table (G) from table bracket (H).

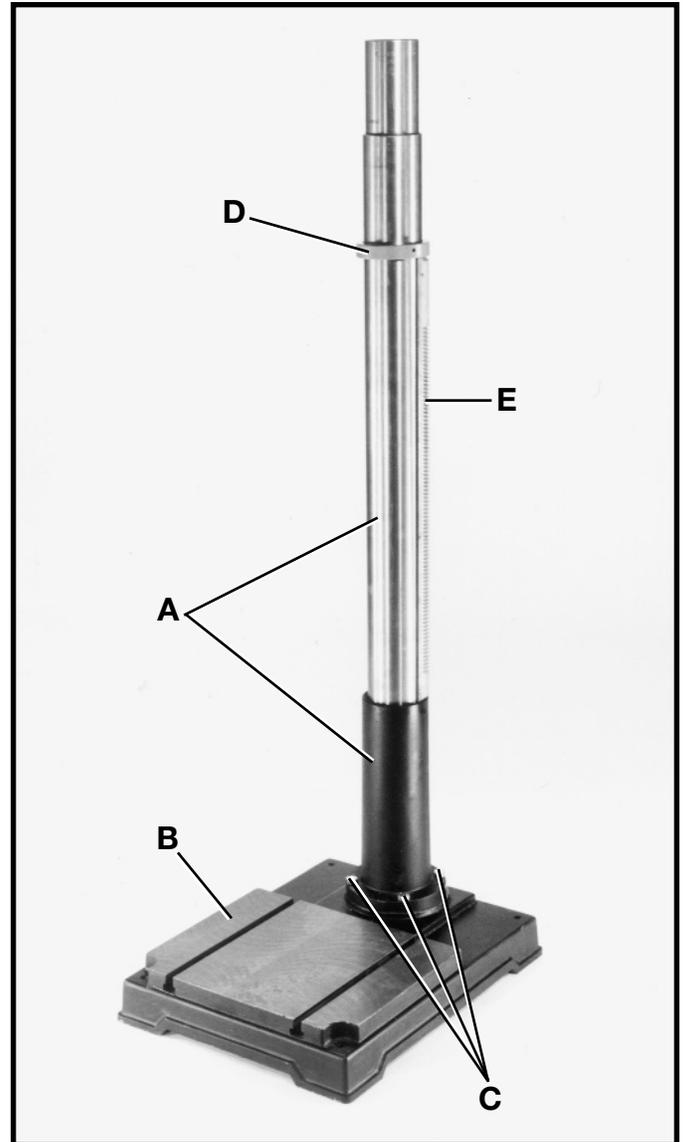


Fig. 2

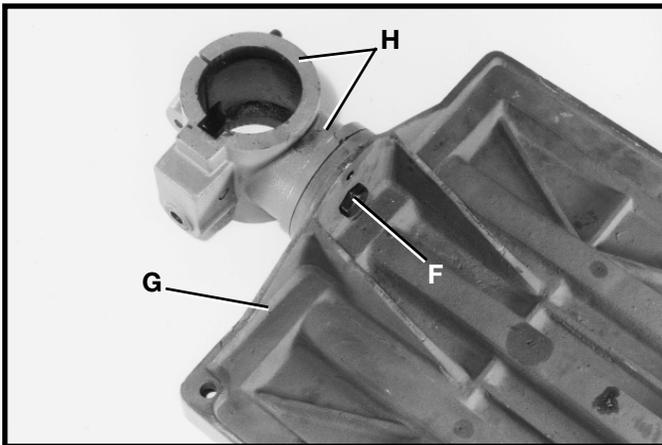


Fig. 3

3. Assemble worm gear (J) Fig. 4, to the inside of hole (K) in table bracket (H).

4. Thread table lock lever (M) Fig. 4, into hole in table bracket, as shown.

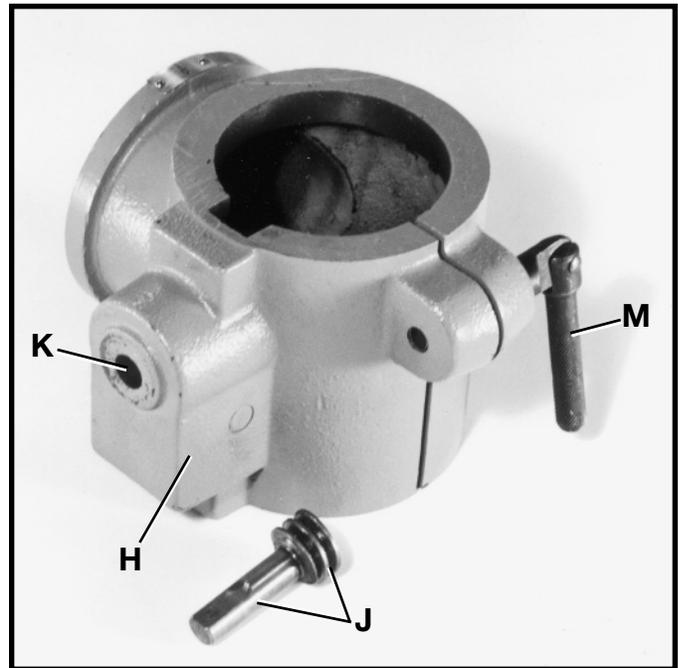


Fig. 4

5. Place raising rack (E) Fig. 5, in position inside table bracket (H) making sure gear on inside of table bracket is engaged with teeth of raising rack.

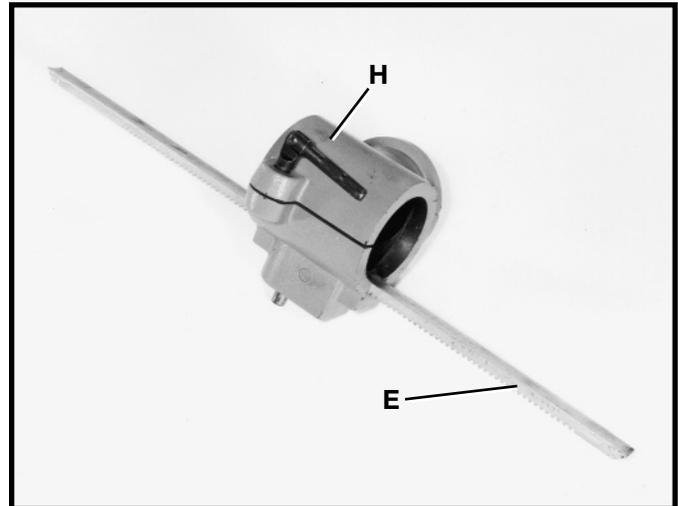


Fig. 5

6. Slide table bracket (H) Fig. 6, with raising rack (E) onto column (A), as shown.

7. Engage bottom of rack (E) Fig. 6, with flange (L) on column. Tighten table lock lever to lock table bracket (H) to column.

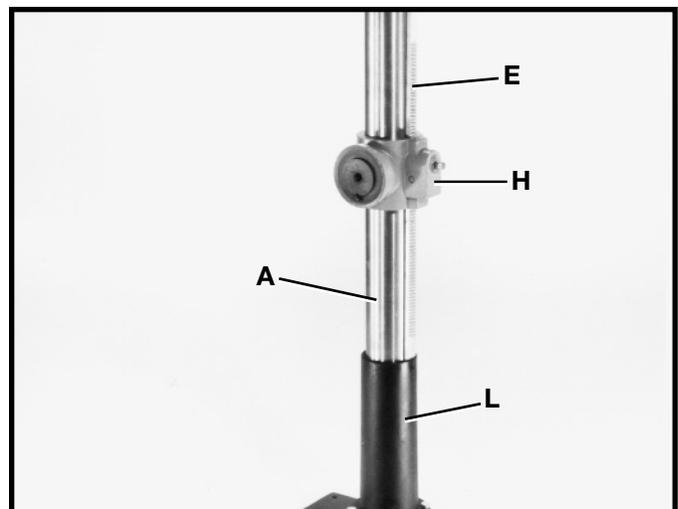


Fig. 6

8. Reassemble collar (D) Fig. 7, which was removed in **STEP 1**, to column. **IMPORTANT:** Bottom of collar (D) **MUST NOT** be pushed all the way down onto top of raising rack (E). **MAKE SURE** top of raising rack (E) is under bottom of collar (D) and that there is enough clearance to allow rack (E) to rotate around the column. Then tighten set screw (Q) being careful not to overtighten.

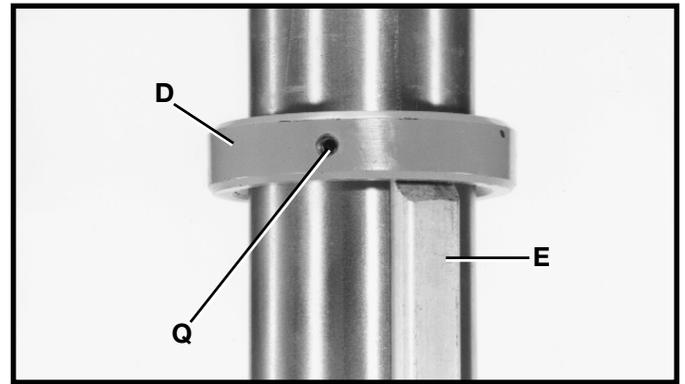


Fig. 7

9. Assemble table (G) Fig. 8, to table bracket (H) using bolt (F). Line up hole (S) in table with hole in table bracket and insert pin (P) Fig. 9.

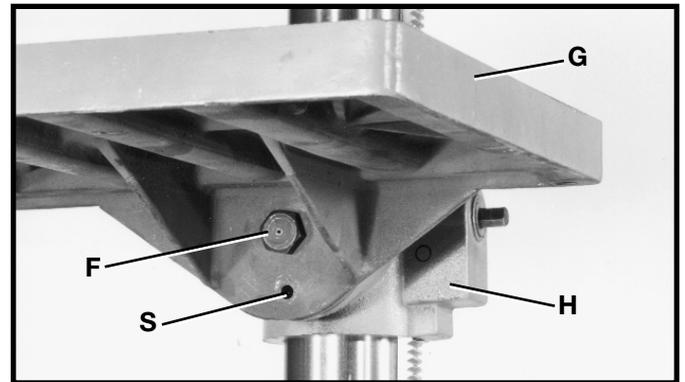


Fig. 8

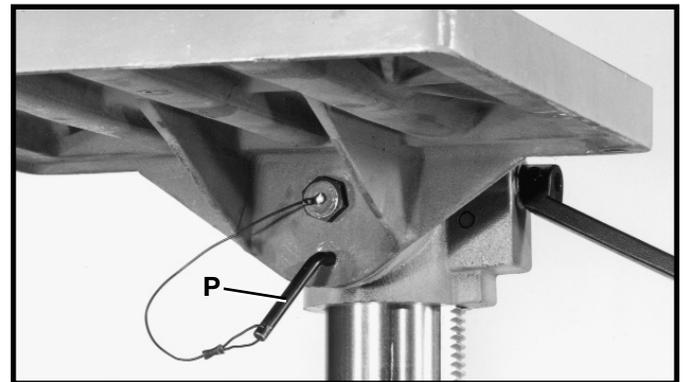


Fig. 9

10. Assemble table raising and lowering handle (N) Fig. 10, to shaft on table bracket. Line up flat on shaft with screw (O) and tighten screw (O).

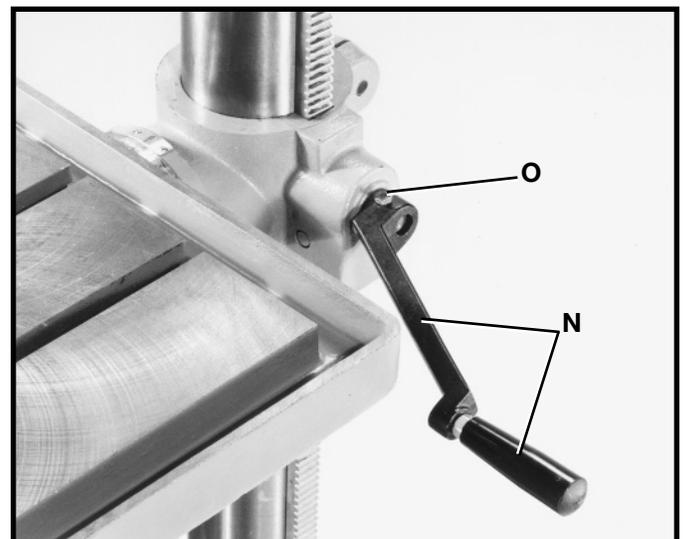


Fig. 10

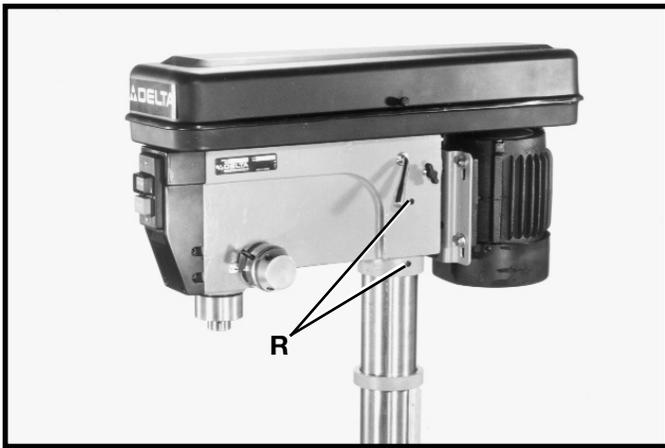


Fig. 11

11. Place the drill press head on column, as shown. Line up head with base and tighten two head locking screws (R) Fig. 11.

12. Thread the three pinion wheel handles (Z) Fig. 12, into the three threaded holes in the pinion shaft, as shown.

13. Make certain the tapered hole in the bottom of the spindle (T) Fig. 13, and the taper on the spindle adapter (U) are clean and push the spindle adapter (U) up into the spindle, making certain the tang (V) engages and locks with the mating slot inside the spindle.

14. Make certain the bottom taper of the spindle adapter (U) Fig. 14, and the tapered hole in the chuck (W) are clean and push the chuck up onto the spindle adapter (U) as far as it will go. **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.

15. Open the chuck jaws as wide as possible by turning the chuck sleeve (X) Fig. 15.

16. Place a block of wood (Y) Fig. 15, on the drill press table and lower the spindle until the chuck contacts the piece of wood. Exert pressure to properly seat the chuck.

CHUCK KEY

This drill press is provided with a self-ejecting type chuck key. Use only this key or a duplicate. The use of the self-ejecting chuck key ensures that the chuck key is removed before the chuck is rotated.

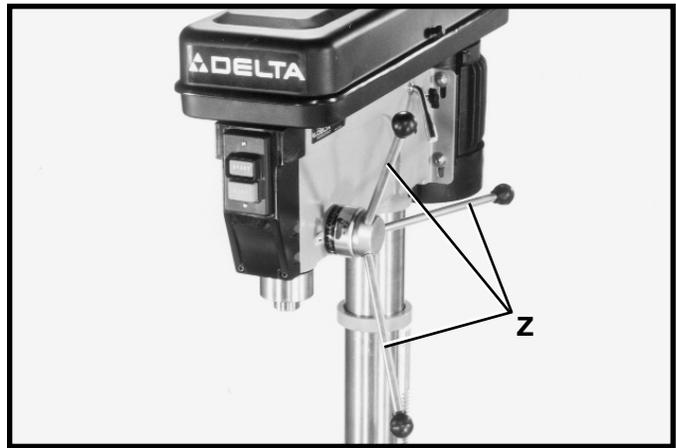


Fig. 12

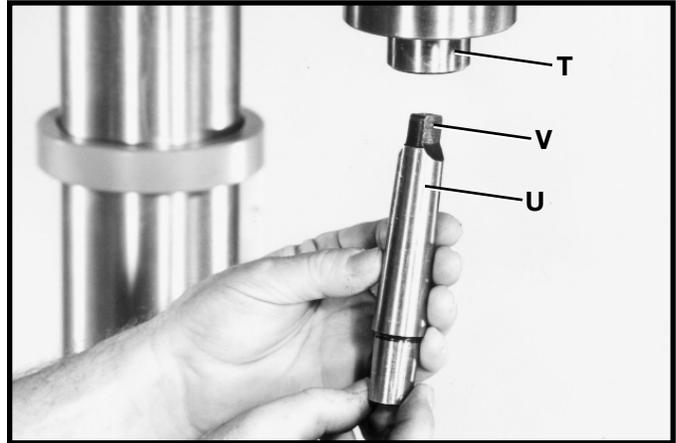


Fig. 13

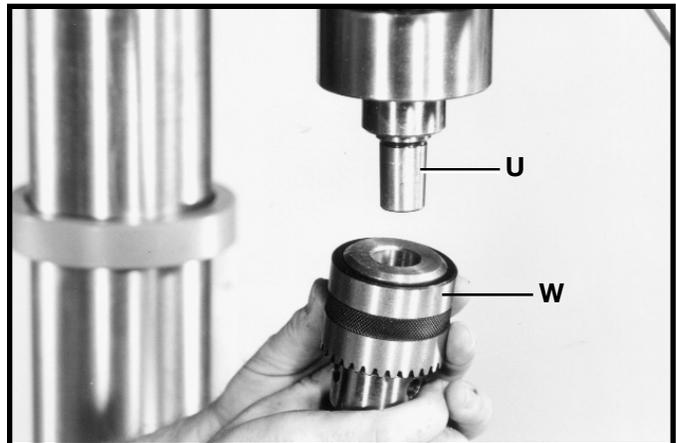


Fig. 14

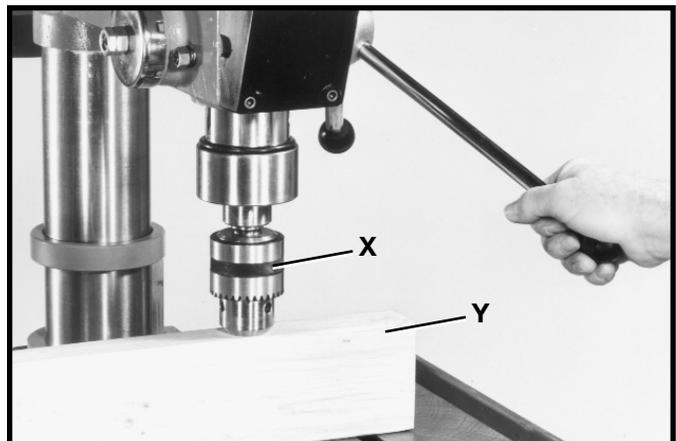


Fig. 15

OPERATION

OPERATIONAL CONTROLS AND ADJUSTMENTS

START/STOP CONTROLS

The start/stop buttons are located on the front of the drill press head. To start the machine, press the start button (A) Fig. 23, and to stop the machine, press the stop button (B).

⚠ WARNING MAKE SURE THAT THE BUTTON IS IN THE “STOP” POSITION BEFORE PLUGGING IN THE POWER CORD. IN THE EVENT OF A POWER FAILURE, PUSH THE “STOP” BUTTON. AN ACCIDENTAL START-UP CAN CAUSE INJURY.

LOCKING SWITCH IN THE “OFF” POSITION

IMPORTANT: When the machine is not in use, the “STOP” button should be locked to prevent unauthorized use, using a padlock (C) Fig. 24, with 3/16” diameter shackle.

SPINDLE SPEEDS

Nine spindle speeds of 150, 260, 300, 440, 490, 540, 1150, 1550, and 2200 RPM are available with the 20” Drill Press. Fig. 25, illustrates which steps of the pulleys the belts must be placed to obtain the nine speeds available.

CHANGING SPINDLE SPEEDS AND BELT TENSION

⚠ WARNING DISCONNECT MACHINE FROM THE POWER SOURCE.

1. Lift up the belt and pulley guard (A) Fig. 26.
2. Loosen the two lock knobs, one of which is shown at (B) Fig. 26. The remaining lock knob is located on the opposite side of the head casting.
3. Release belt tension by moving tension lever (C) Fig. 26, forward.
4. Position the two belts (D) Fig. 26, on the desired steps of the motor, center and spindle pulleys. To raise or lower motor pulley (E) Fig. 26, use the 4mm hex wrench and loosen set screw (F), located under the pulley. After pulley is positioned, re-tighten set screw (F).

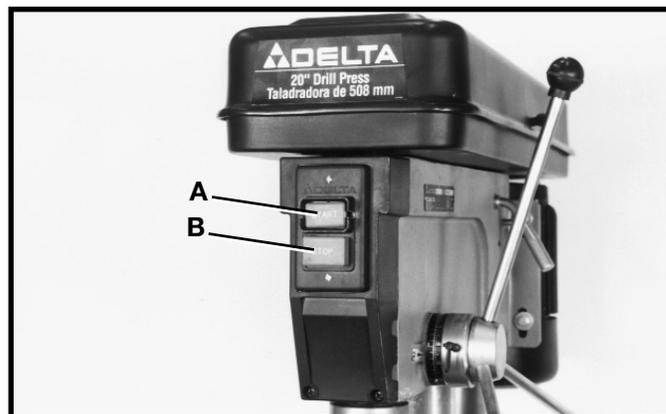


Fig. 23

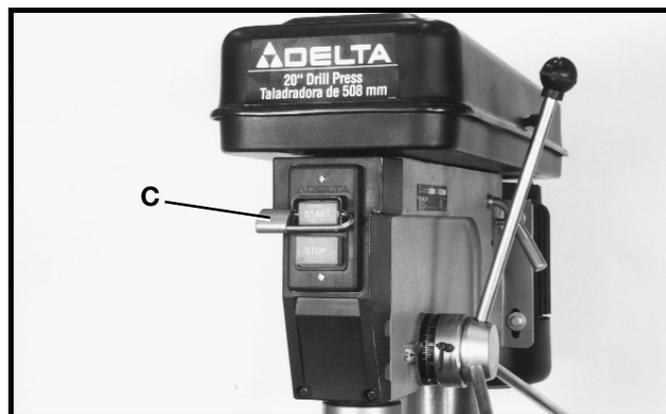


Fig. 24

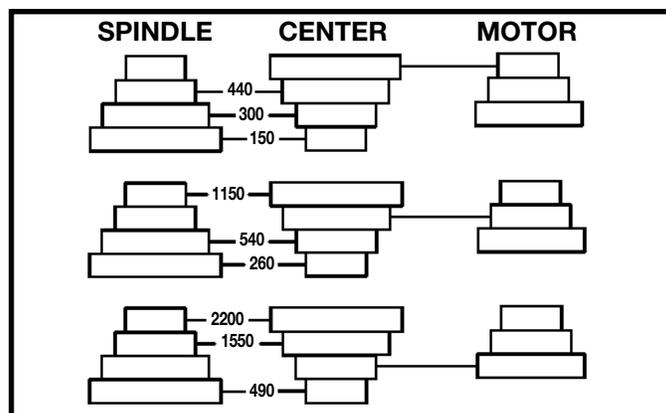


Fig. 25

5. After the belts (D) Fig. 26, are positioned on the desired steps of the motor, center and spindle pulleys, move tension lever (C) to the rear until the belts (D) are properly tensioned and tighten the two tension lock knobs (B). The belts (D) should be just tight enough to prevent slipping. Excessive tension will reduce the life of the belts, pulleys and bearings. Correct tension is obtained when the belts (D) can be flexed about 1" out of line midway between the pulleys using light finger pressure.

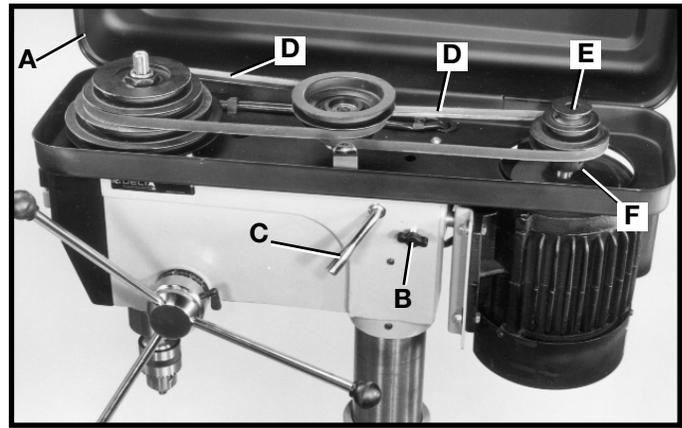


Fig. 26

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 (A) Fig. 27, and is used as follows:

1. Loosen lock lever (B) Fig. 27, and rotate housing (A) until the pointer (C) lines up with the depth indicated on the English/Metric scale (D) that you want the spindle to lower. Then tighten lock lever (B).
2. The spindle will then lower to the exact depth as indicated on the scale (D) Fig. 27

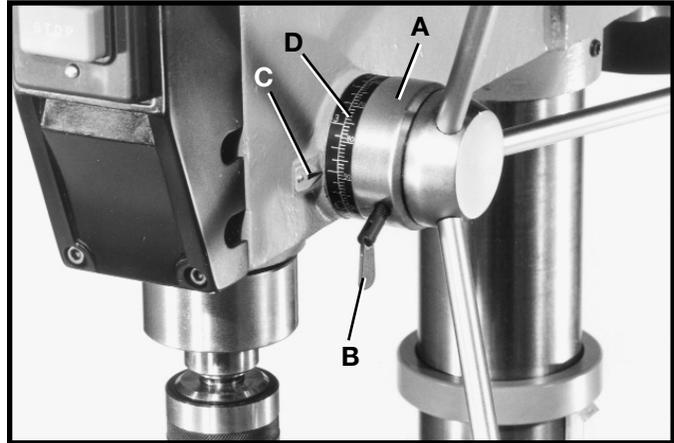


Fig. 27

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. 28. 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:

⚠ WARNING DISCONNECT MACHINE FROM THE POWER SOURCE.

1. Loosen the two nuts (B) Fig. 28, approximately one-quarter inch. **IMPORTANT: DO NOT REMOVE NUTS (B) FROM SHAFT.**
2. While **FIRMLY** holding spring housing (A) Fig. 28, pull out housing and rotate it until the roll pin (C) 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: NUTS (B) SHOULD NOT CONTACT SPRING HOUSING (A) WHEN TIGHT.**

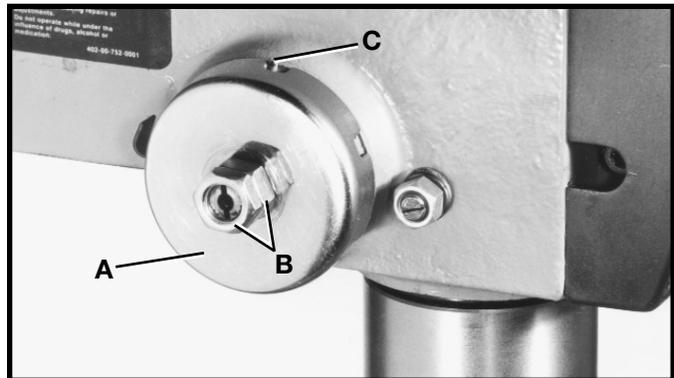


Fig. 28

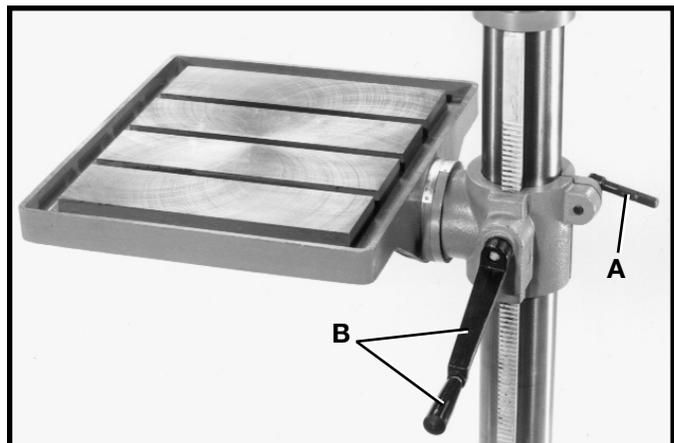


Fig. 29

TABLE ADJUSTMENTS

1. The table can be raised or lowered on the column by loosening table clamp handle (A) Fig. 29, and turning the table raising and lowering handle (B). After the table is at the desired height, tighten handle (A).

2. The table can be tilted right or left by pulling out and removing table alignment pin (C) Fig. 30, and loosening table locking bolt (D). Tilt the table to the desired angle and tighten bolt (D). A tilt scale and pointer are provided on the table bracket casting to indicate the degree of tilt. When returning table to the level position, replace table alignment pin (C) Fig. 30. This will automatically position the table surface at 90 degrees to the spindle.

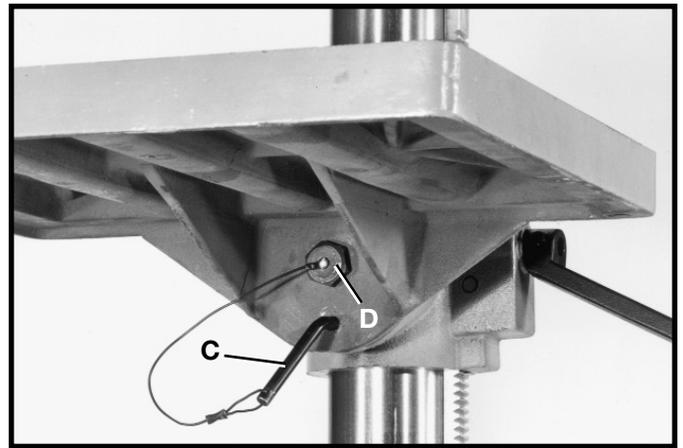


Fig. 30

REMOVING CHUCK AND SPINDLE ADAPTER

If you desire to remove the chuck and spindle adapter, lower spindle and rotate chuck until the slot in the spindle lines up with the slot in the quill, as shown in Fig. 31. Then insert tapered end of drift bar (A) into slot (B) in quill and remove chuck and spindle adapter.

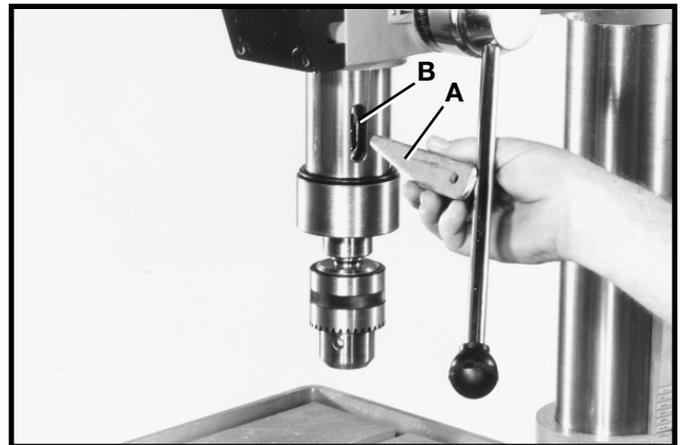


Fig. 31

MACHINE USE

NOTE: Your Drill Press should be used with drill bits 5/8" or less in diameter.

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.

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. 32. 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.

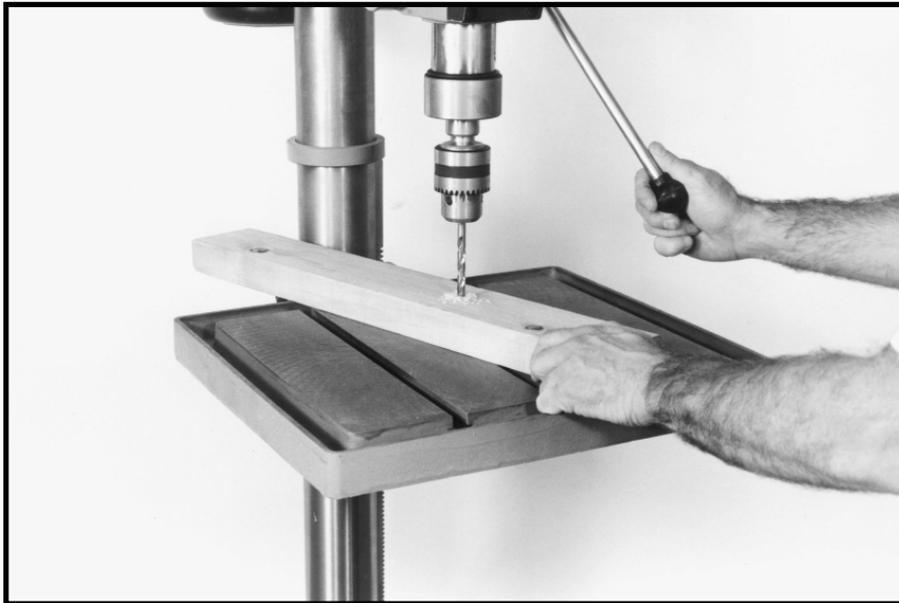


Fig. 32

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.

⚠ WARNING Use the recommended speed for the drill press bit and workpiece material. As a guideline for the speed to use for different drill diameters and materials, refer to the chart located on the inside top cover of the drill press for your convenience.

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 workpiece 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.

TROUBLESHOOTING

For assistance with your machine, visit our website at www.deltamachinery.com for a list of service centers or call the DELTA Machinery help line at 1-800-223-7278 (In Canada call 1-800-463-3582).

MAINTENANCE

KEEP MACHINE CLEAN

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

⚠ WARNING Wear ANSI Z87.1 safety glasses while using compressed air.

FAILURE TO START

Should your machine fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check for blown fuses or open circuit breakers in the line.

LUBRICATION

Apply household floor paste wax to the machine table and extension table or other work surface weekly.

PROTECTING CAST IRON FROM RUST

To clean and protect cast iron tables from rust, you will need the following materials: 1 pushblock from a jointer, 1 sheet of medium Scotch-Brite™ Blending Hand Pad, 1 can of WD-40®, 1 can of degreaser, 1 can of TopCote® Aerosol. Apply the WD-40 and polish the table surface with the Scotch-Brite pad using the pushblock as a holddown. Degrease the table, then apply the TopCote® accordingly.

SERVICE



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).

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.

WARRANTY



Two Year Limited New Product Warranty

Delta will repair or replace, at its expense and at its option, any new 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. For all refurbished Delta product, the warranty period is 180 days. 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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