



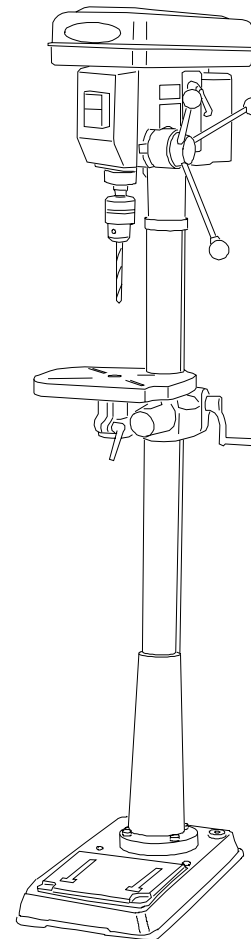
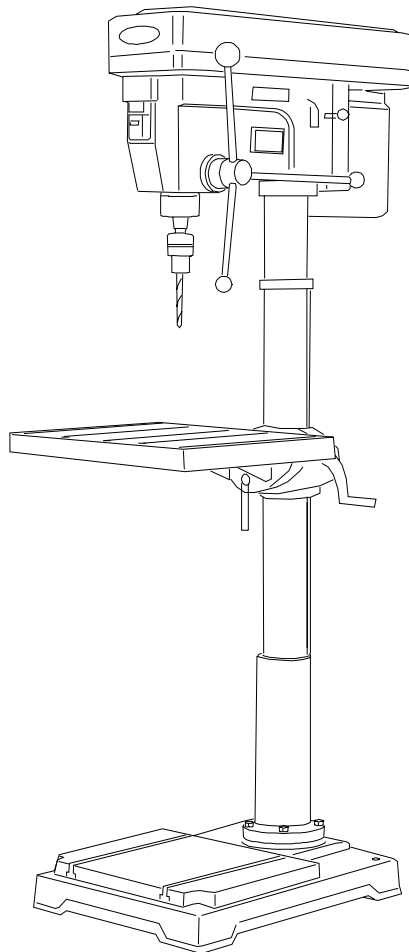
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# Operating Instructions and Parts Manual

## 15-Inch and 20-Inch 12-Speed Drill Presses

Models: 2500 & 2530 (15-Inch) / Model 2550 (20-Inch)

Manufactured after Serial no. 946001



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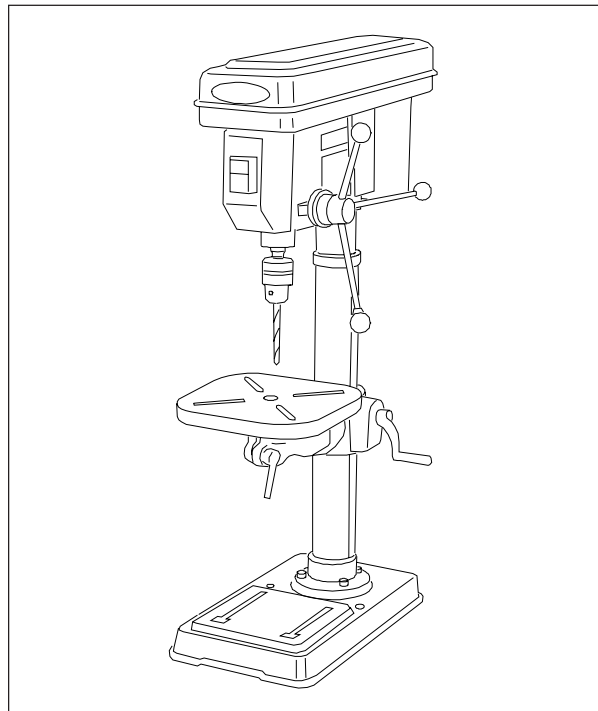
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# General Specifications

The Wilton 15-Inch and 20-Inch 12-Speed Drill Presses, Models 2500, 2530, and 2550, feature rugged cast iron design with ground-steel columns for drilling accuracy in metal, wood, and plastic. The head casting features a ball bearing spindle assembly, supported by four permanently-lubricated, heavy duty ball



bearings that are mounted in an enclosed quill for extended life.

Specifications	2500	2530	2550
Model Type .....	15-Inch Floor .....	15-Inch Bench .....	20-Inch Floor
Drilling Capacity			
Cast Iron .....	Up to 5/8 In. ....	Up to 5/8 In. ....	Up to 3/4 In.
Steel .....	Up to 1/2 In. ....	Up to 1/2 In. ....	Up to 5/8 In.
Drill to Center .....	15 Inches .....	15 Inches .....	20 Inches
Motor			
Rating .....	1/2 hp, 1-Phase .....	1/2 hp, 1-Phase .....	1 hp, 1-Phase
RPM .....	1725 .....	1725 .....	1725
Pre-wired Voltage .....	115 V .....	115 V .....	115 V
Column Diameter .....	2-7/8 In. ....	2-7/8 In. ....	3-5/8 In.
Quill			
Diameter .....	1-7/8 In. ....	1-7/8 In. ....	2-1/4 In.
Travel .....	3-3/8 In. ....	3-3/8 In. ....	4-3/4 In.
Table			
Overall .....	10 x 10 In. ....	10 x 10 In. ....	18-1/2 x 16-1/2 In.
Working Surface .....	10 x 10 In. ....	10 x 10 In. ....	14 x 16
Travel .....	32-3/8 In. ....	32-3/8 In. ....	32-3/8 In.
Base			
Size .....	11 x 19-1/2 In. ....	11 x 18-1/2 In. ....	22-3/4 x 17-3/4 In.
Working Surface .....	10 x 10 .....	10 x 10 .....	
Chuck Size .....	5/8-In., Key Chuck .....	5/8-In., Key Chuck .....	5/8-In.
Overall Dimensions			
Length .....	26 In. ....	34-1/4 In. ....	36-5/8 In.
Width .....	13-3/8 In. ....	27 In. ....	27 In.
Height .....	63-1/2 In. ....	63-1/4 In. ....	82-1/4 In.
Spindle to Table (Max.) .....	32-3/8 In. ....	32-3/8 In. ....	32-3/8 In.
Spindle to Column (Max.) .....	10-7/16 In. ....	10-7/16 In. ....	10-7/16 In.
Spindle			
To Base .....	48-3/4 .....	24-1/2 .....	43-1/2
Taper .....	MT-2 .....	MT-2 .....	MT-3
RPM (12 Speeds) .....	250, 340, 390, 510, 600, 650, 990, 1550, 1620, 1900, 2620, 3100	250, 340, 390, 510, 600, 650, 990, 1550, 1620, 1900, 2620, 3100	150, 260, 300, 440, 490, 540, 1150, 1550, 1840, 2220, 2950, 4200



# WARNING

- Misuse of this machine can cause serious injury.
- For safety, machine must be set up, used and serviced properly.
- Read, understand and follow instructions in the Operating Instructions and Parts Manual which was shipped with your machine.

## When setting up machine:

- Always avoid using machine in damp or poorly lighted work areas.
- Always be sure the machine support is securely anchored to the floor or the work bench.

## When using machine:

- Always wear safety glasses with side shields (See ANSI Z87.1)
- Never wear loose clothing or jewelry.
- Never overreach—you may slip and fall.

## When servicing machine:

- Always disconnect the machine from its electrical

supply while servicing.

- Always follow instructions in Operating Instructions and Parts Manual when changing accessory tools or parts.
- Never modify the machine without consulting Wilton Corporation.

## You—the stationary power tool user—hold the key to safety.

Read and follow these simple rules for best results and full benefits from your machine. Used properly, Wilton's machinery is among the best in design and safety. However, any machine used improperly can be rendered inefficient and unsafe. It is absolutely mandatory that those who use our products be properly trained in how to use them correctly. They should read and understand the Operating Instructions and Parts Manual as well as all labels affixed to the machine. Failure in following all of these warnings can cause serious injuries.

## Machinery general safety warnings

1. Always wear protective eye wear when operating machinery. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection.
2. Wear proper apparel. No loose clothing or jewelry which can get caught in moving parts. Rubber soled footwear is recommended for best footing.
3. Do not overreach. Failure to maintain proper working position can cause you to fall into the machine or cause your clothing to get caught — pulling you into the machine.
4. Keep guards in place and in proper working order. Do not operate the machine with guards removed.
5. Avoid dangerous working environments. Do not use stationary machine tools in wet or damp locations. Keep work areas clean and well lit.
6. Avoid accidental starts by being sure the start switch is "OFF" before plugging in the machine.
7. Never leave the machine running while unattended. Machine shall be shut off whenever it is not in operation.
8. Disconnect electrical power before servicing. Whenever changing accessories or general maintenance is done on the machine, electrical power to the machine must be disconnected before work is done.
9. Maintain all machine tools with care. Follow all maintenance instructions for lubricating and the changing of accessories. No attempt shall be made to modify or have makeshift repairs done to the machine. This not only voids the warranty but also renders the machine unsafe.
10. Machinery must be anchored to the floor.
11. Secure work. Use clamps or a vise to hold work, when practical. It is safer than using your hands and it frees both hands to operate the machine.
12. Never brush away chips while the machine is in operation.
13. Keep work area clean. Cluttered areas invite accidents.
14. Remove adjusting keys and wrenches before turning machine on.
15. Use the right tool. Don't force a tool or attachment to do a job it was not designed for.
16. Use only recommended accessories and follow manufacturers instructions pertaining to them.
17. Keep hands in sight and clear of all moving parts and cutting surfaces.
18. All visitors should be kept at a safe distance from the work area. Make workshop completely safe by using padlocks, master switches, or by removing starter keys.
19. Know the tool you are using — its application, limitations, and potential hazards.

# General Electrical Cautions

This drill press should be grounded in accordance with the National Electrical Code and local codes and ordinances. This work should be done by a qualified electrician. The saw should be grounded to protect the user from electrical shock.

## Wire sizes

**Caution:** for circuits which are far away from the electrical service box, the wire size must be increased in order to deliver ample voltage to the motor. To minimize power losses and to prevent motor overheating and burnout, the use of wire sizes for branch circuits or electrical extension cords according to the following table is recommended.

Conductor length	AWG (American wire gauge) number	
	240 volt lines	120 volt lines
0-50 feet	No. 14	No. 14
50-100 feet	No. 14	No. 12
Over 100 feet	No. 12	No. 8

# Safety Instructions for Drill Presses

Shipping Weight ..... 185 pounds  
 157 pounds ..... 321 pounds

1. All work shall be secured using either clamps or a vise to the drill press table. It is unsafe to use your hands to hold any workpiece being drilled.

2. Drill press head and table shall be securely locked to the column before operating the drill press. This must always be checked prior to starting the machine.

3. Always use the correct tooling. Tooling shall always be maintained and properly sharpened. All tooling must be run at the proper speeds and feeds as they apply to the job. Use only recommended accessories and follow those manufacturers instructions pertaining to them. Tooling shall be not be forced in to any workpiece but fed according to the proper specifications. Failure to follow these instructions will not only ruin the tooling as well as the machine, but can cause serious injury.

4. Never brush away any chips while the machine is in operation. All clean up should be done when the machine is stopped.

5. Keep hands in sight. Do not put hands or fingers around, on, or below any rotating cutting tools. Leather safety gloves should be used when handling any sharp objects or cutting tools. See Figure A.

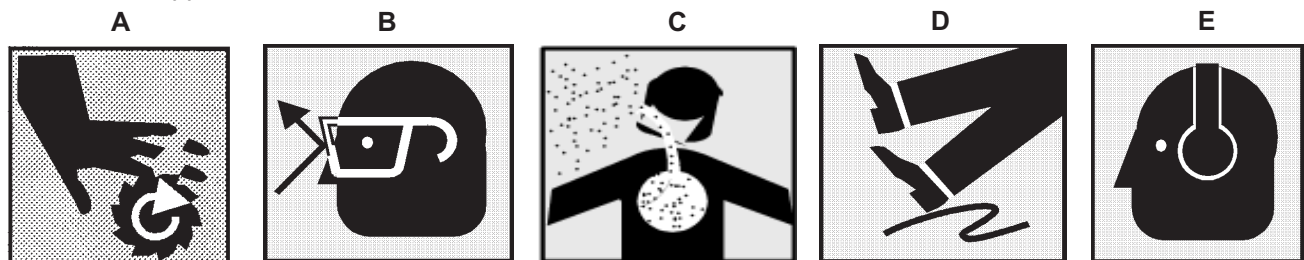
6. Always wear protective eye wear when operating, servicing or adjusting machinery. Eyewear shall be impact resistant, protective safety glasses with side shields complying with ANSI Z87.1 specifications. Use of the eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection. Figure B.

7. When drilling in material which causes dust, a dust mask shall be worn. See Figure C.

8. Avoid contact with coolant, especially guarding the eyes.

9. Non-slip footwear and safety shoes are recommended. See Figure D.

10. Wear ear protectors (plugs or muffs) during



extended periods of operation. See Figure E.

## Introduction

This manual includes operating and maintenance instructions for the Wilton Model 2500, 2530, and 2550 12-Speed Drill Presses. The manual also includes parts listings and illustrations of replaceable parts.

Refer to Figure 1 for the key features of the drill press. The features are identical on all three drill press models. Refer to the **Specifications** page for specifications applicable to each drill press model.

## Setup and Operation

This section provides the instructions required to unpack, assemble, secure, and operate the drill

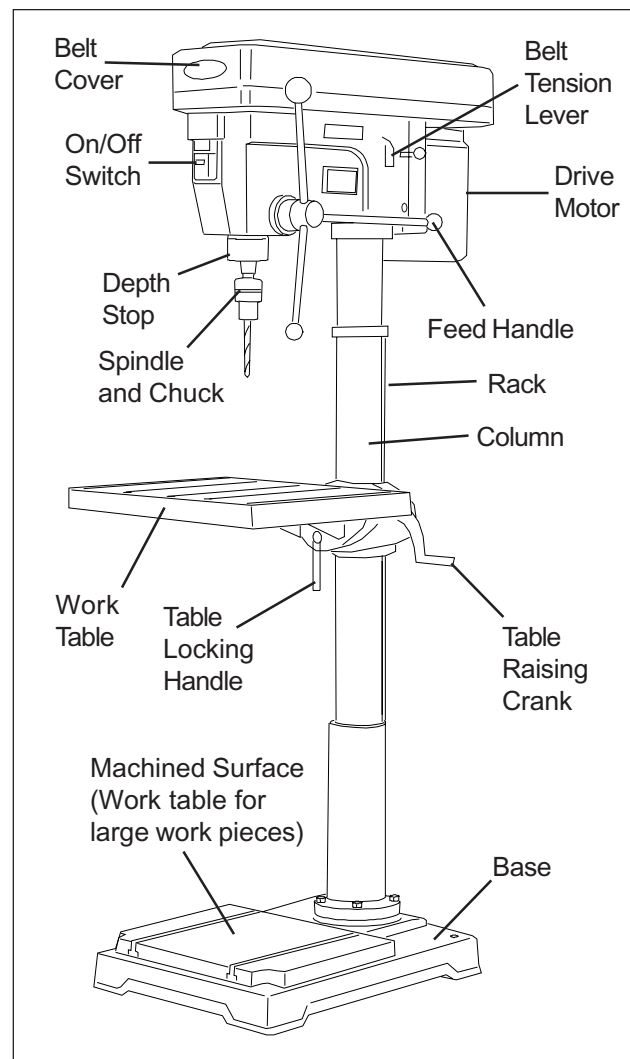


Figure 1: Drill Press Features (Model 2500)

## Unpacking

1. The drill press is shipped in a flat carton with drill press components cushioned between preformed Styrofoam panels. The loose components are packaged in plastic bags. The chuck is packaged in a box.
2. Remove all parts from the carton. Check to make sure there are no missing parts. If any parts are missing, obtain the missing parts before initiating assembly.

**WARNING: DO NOT ATTEMPT TO CONNECT A PARTIALLY ASSEMBLED DRILL PRESS TO ELECTRICAL POWER. MAKE SURE ALL PARTS HAVE BEEN INSTALLED BEFORE OPERATING THE DRILL PRESS.**

**WARNING: NEVER USE HIGHLY VOLATILE SOLVENTS TO CLEAN THE COLUMN.**

**CAUTION: THE SPINDLE HAS BEEN PROTECTED WITH A LIGHT COATING OF COSMOLINE THAT SHOULD BE REMOVED USING SOLVENT SUCH AS MINERAL SPIRITS OR NAPHTHA. ALSO THOROUGHLY CLEAN THE INTERIOR OF THE CHUCK BEFORE INSERTING CHUCK ONTO THE SPINDLE.**

3. Remove any protective oil that was applied to the column before it was shipped.

## Preparation for Assembly

1. Refer to the exploded view in the **Replacement Parts** section for identification of component parts. The reference numbers in the procedures are identical to the reference numbers in the exploded views.
2. Two Allen wrenches are supplied in the shipping carton. One 3-mm and one 5-mm wrench are required for Models 2500 and 2530. One 3-mm and one 7-mm wrench are required for Model 2550.

## Assembly of the Drill Press

1. Place the base (1) on a flat surface. Place column (4) onto the base. Align the screw holes in the base with the holes in column collar (2). Install four hex head bolts (5).
2. Apply grease to the worm shaft (9) and pre-installed pinion gear (7).
3. Install worm shaft (9) in table bracket (6). Make sure worm shaft (9) is in engagement with the pinion gear (7) and end of worm shaft (9) extends out of the hole in table bracket (6).

4. Slip rack (22) half way through table bracket (6). Position the rack with the short-tapered end down and the concave side facing the center of the table bracket.
5. Using both hands, slip the pre-assembled table bracket, worm shaft, and rack onto the column. Engage the pinion gear with the teeth on the rack. Make sure the rack remains in the channel in table bracket and the rack teeth remain engaged with the pinion gear.
6. As the table bracket and rack are installed on the column, make sure the short, tapered end of the rack is placed in the groove in the column collar. Lower the table down until the table bracket rests on the base.
7. Slip rack retaining ring (23) on the column the beveled edge down. Slide the retaining ring down until it rests on the long-tapered end of rack. Tighten retaining ring set screw (24).
8. Install locking handle (19) into table bracket (6). Install and secure crank handle (10) onto worm shaft (9) in table bracket (6). Tighten locking handle (19).
9. Install table (21) onto table bracket (12) and secure with locking handle (20).

**WARNING: DO NOT ATTEMPT TO USE DRILL PRESS AT ANYTIME UNLESS TABLE IS SECURELY LOCKED IN POSITION WITH TABLE LOCKING HANDLE.**

**WARNING: TO AVOID INJURY, USE TWO PEOPLE TO STEADY THE COLUMN WHILE LIFTING AND LOWERING THE HEAD ONTO THE COLUMN.**

10. Install and tighten three feed handles (43) in the hub on the right side of the drill press head.
11. Position the pre-assembled head (with pre-wired motor) on top of the column. Secure head with two 10-mm socket head set screws (26).
12. Install arbor (71) and chuck (72).

## Electrical Connection

Refer to the **Wiring Diagram** section for wiring information. The drill press is equipped with a grounded electrical power cord with standard U.S. three-prong plug. The branch circuit should be equipped with a circuit breaker that is sized for the rating of the motor.

If the drill press is to be connected directly to the service box, refer to local electrical code for wiring, grounding, and circuit protection requirements.

Once the drill press is connected to electrical power

source, operate drill press to verify that the drill press is operating properly.

## Securing the Base

The base of the drill press has mounting holes for securing the drill press to the floor or bench. The drill press should be level and rest solidly on the floor or bench. Use shims as required to level the drill press.

Apply even torque to the mounting screws to prevent distortion of the base.

## Operation

**WARNING: USE ONLY THE MOTOR SPECIFIED IN THE PARTS SECTION OF THIS MANUAL. DO NOT USE A BLOWER OR WASHING DRILL PRESS MOTOR ON THE DRILL PRESS. DO NOT USE ANY MOTOR THAT HAS AN AUTOMATI-RESET OVERLOAD PROTECTOR. THE USE OF THESE MOTORS MAY BE HAZARDOUS TO THE OPERATOR.**

**WARNING: READ AND UNDERSTAND OWNER'S MANUAL BEFORE OPERATING THIS DRILL PRESS. WEAR SAFETY GOGGLES TO PREVENT EYE INJURY. DO NOT WEAR GLOVES. IF THE WORK PIECE IS TOO SHORT TO CONTACT THE COLUMN, SECURELY CLAMP WORK PIECE TO TABLE TO PREVENT UNEXPECTED ROTATION.**

**CAUTION: THIS DRILL PRESS USES A 1725-RPM MOTOR ONLY. THE MOTOR IS PRE-WIRED FOR OPERATION ON 110/120VAC, 60HZ ELECTRICAL POWER. IT MUST NOT BE CONVERTED TO OPERATE ON 230VAC, EVEN THOUGH SOME MOTORS ARE DUAL VOLTAGE.**

## Operating Controls

### START/STOP Switch

The START/STOP switch (Figure 2) is mounted on the front of the drill head. Pushing the green START pushbutton starts the drive motor; pushing the red STOP pushbutton stops the drive motor.

The red STOP pushbutton protrudes farther away from the switch panel than the START switch. This provides the operator with an easily accessible emergency stop.

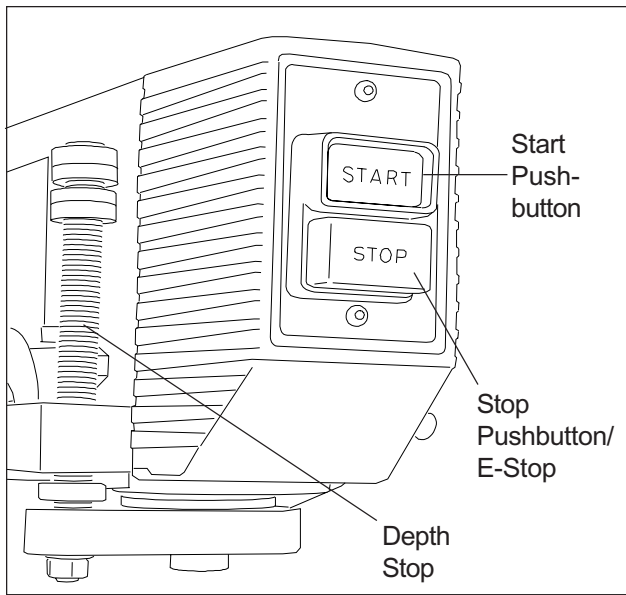


Figure 2. ON/OFF Switch

## Spindle Speeds

The Model 2500, 2530, and 2550 drill presses operate at any one of twelve spindle speeds. Spindle speeds are set by placing two V-belts in specific grooves in the drive motor pulley, the idler pulley, and the spindle pulley. Spindle speeds for each drill press model are shown below.

Model	Spindle Speeds
2500:	250, 340, 390, 510, 600, 650, 990, 1550, 1620, 1900, 2620, 3100
2530:	250, 340, 390, 510, 600, 650, 990, 1550, 1620, 1900, 2620, 3100
2550:	150, 260, 300, 440, 490, 540, 1150, 1550, 1840, 2220, 2950, 4200

## Setting Spindle Speed

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAKING ADJUSTMENTS.**

1. Refer to the exploded view in the **Replacement Parts** section for identification of component parts. The reference numbers in the procedures are identical to the reference numbers in the exploded views.
2. Disconnect electrical power to the drill press.
3. Open the belt cover.
4. Refer to Figures 3 for illustrations of the belt-to-pulley groove positions required to obtain the desired speed. Figure 3 shows the speeds for Models 2500 and 2530 and the speeds for Model 2550.

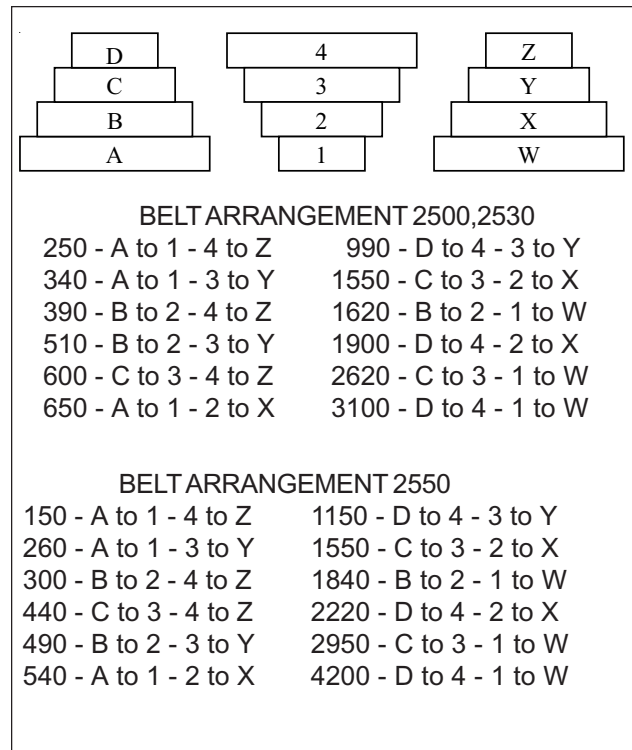


Figure 3. Speed Settings for Models 2500, 2530

5. Loosen the two motor mount lock handles on the right and left sides of the head. Move the motor toward the front of the drill press.
6. The motor and spindle V-belts should be loose enough to allow the belts to be moved to the desired pulley groove.
7. Once the belts are in the required pulley grooves, slide the motor toward the rear of the drill press. Set belt tension using tensioning handle and tighten the motor mount lock handles.
8. Check belt tension and make final adjustment if needed.
9. Connect electrical power.
10. Operate drill press to verify that the drill press is operating properly.

## Table Adjustments

The work table can be adjusted to change the height of the table and the side-to-side tilt of the table. The entire table and table bracket can be rotated on the column to enable use of the base as a second work table.

## Table Height

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE MAKING ADJUSTMENTS.**

1. Disconnect electrical power to the drill press.
2. Shut off drive motor.
3. Loosen table lock handle (19).
4. Turn crank handle (10) to raise or lower table to desired height.
5. Upon reaching the desired height, tighten table lock handle.
6. Connect electrical power.
7. Operate drill press to verify that the drill press is operating properly.

## Tilting Work Table (Side to Side)

**NOTE:** Locator pin (14) is used to keep the work table from tilting during operation. The pin must be retracted so the table can be tilted.

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE MAKING ADJUSTMENTS.**

1. Refer to Figure 5.
2. Disconnect electrical power to the drill press.
3. Remove locator pin (14) by turning nut (15) clockwise until the pin comes out.
4. Loosen pivot bolt (13) in the table bracket (12). Tilt table (21) to desired angle (45 degrees maximum) and tighten pivot bolt (13).
5. Reverse steps 1 and 2 to return the table to zero-degrees position. Before tightening pivot bolt (13), install locator pin (14). Turn locator pin until seated in pin hole. Then tighten pivot bolt.
6. Connect electrical power.
7. Operate drill press to verify that the drill press is operating properly.

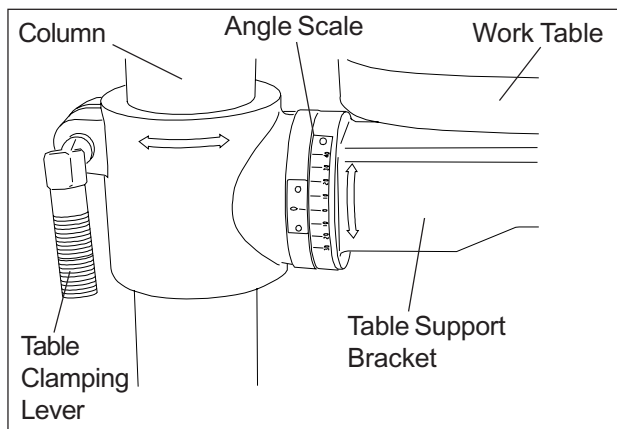


Figure 5. Tilting Work Table

## Rotation of Work Table

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE MAKING ADJUSTMENTS.**

1. Disconnect electrical power to the drill press.
2. The work table can be rotated on the column to provide additional clearance for drilling larger work pieces; the drill press surface of the base becomes the work table.
3. To rotate the table on the column, loosen the table lock handle (19). Rotate the table to the desired position.
4. Securely clamp work piece to the base before operating the drill press.
5. Connect electrical power.
6. Operate drill press to verify that the drill press is operating properly.

## Spindle Adjustment

### Setting Drill Depth

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE MAKING ADJUSTMENTS.**

1. Disconnect electrical power to the drill press.
2. The spindle can be adjusted to set drilling depth when drilling multiple holes of the same depth, or when drilling multiple work pieces.
3. To control drilling depth, loosen the wing nut (42) on the right side of the drill head next to feed handles (43).
4. Rotate scale (45) so that the desired depth is indicated on the scale next to the pointer. Lock wing nut (42).
5. Connect electrical power.
6. Operate drill press to verify that the drill press is operating properly.

### Setting Spindle Extension

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE MAKING ADJUSTMENTS.**

1. Disconnect electrical power to the drill press.
2. The drill press spindle can be locked in either the fully or partially down position for the purpose of aligning and setting up work pieces for accurate drilling.
3. Loosen wing nut (42) and lower the chuck to the desired depth.
4. Rotate scale (45) clockwise and tighten wing nut.

- Reverse steps 2 and 3 to unlock the spindle.
- Connect electrical power.
- Operate drill press to verify that the drill press is operating properly.

## Depth Stop

A depth stop (Figure 6) is provided on the left side of the drill head. The depth stop provides a means to set and maintain the depth of the hole being drilled.

The bottom end of a threaded rod is secured to a clamp attached to the spindle. The other end of the threaded rod passes through a block on left side of the head. The upper end of the rod is fitted with a nut that limits the downward travel of the spindle.

An adjustable nut and jam nut are installed on the end of threaded rod. To set the depth, the adjustable nut is set to the desired depth and the jam nut is tightened against the adjustable nut. When the hole is drilled, the spindle will extend downward until the nuts contact the stop block, controlling depth of the hole.

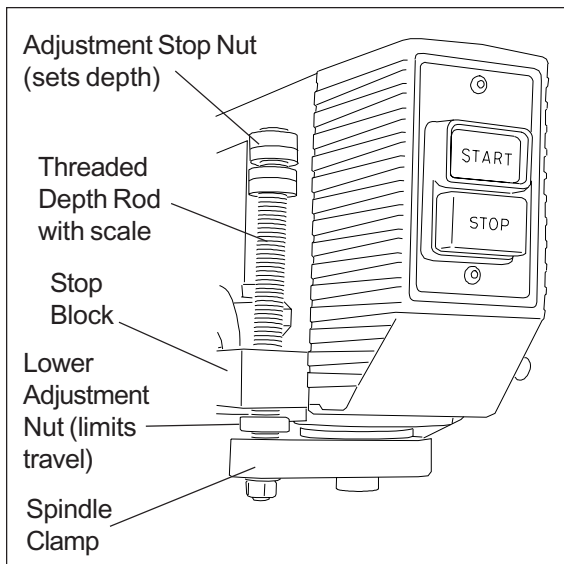


Figure 6. Depth Stop Features

## Operating Precautions

The following operating and safety precautions must be observed in order to avoid harm to the operator or damage to the drill press.

- The head assembly must be locked to the column so the thrust produced by drilling will not force the head assembly up the column.
- The work table must be locked to the column so it will not be forced down the column.
- Before drilling, release the quill lock nut to permit free travel of the quill.

- Be sure the belt is tightened to the proper tension.
- DO NOT** start to drill the workpiece until making certain the workpiece is held down securely.
- MAKE SURE THE DRIVE MOTOR IS RUNNING BEFORE** turning the speed control handwheel in either direction.
- Point of operation protection is required for maximum safety. This remains the responsibility of the user/purchaser since conditions differ between jobs.
- Make sure the drill is secured in the spindle or check before attempting to use the drill press.
- Make sure the spindle taper is clean and free of burrs, scoring, and galling to assure maximum gripping.
- Lock the quill in position when using and side-loaded tool.

## Drilling Recommendations

### Speeds for Drilling

The speed of a drill is usually measured in terms of the rate at which the outer periphery of the tool moves in relation to the work being drilled. The common term for this is Surface Feet per Minute (SFM). The relationship of SFM is expressed in the following formulas:

$$\text{SFM} = 0.26 \times \text{rpm} \times \text{Drill Diameter (in inches)}$$

$$\text{RPM} = 3.8 \times \frac{\text{SFM}}{\text{Drill diameter (in inches)}}$$

In general, the higher the speed the shorter the drill life. Operating at the low end of the speed range for a particular material will result in longer life. The most efficient speed for operating a drill depends on many variables:

- Composition and hardness of material.
- Depth of the hole.
- Efficiency of the cutting fluid.
- Type and condition of the drilling machine.
- Desired quality of the hole.
- Difficulty of set-up.

### Indication of Extreme Speeds and Feeds

A drill that splits up the web is evidence of too much feed or insufficient tip clearance at the center as a result of improper grinding. The rapid wearing away of the extreme outer corners of the cutting edges indicates that the speed is too high. A drill chipping or braking out at the cutting edges indicates that either the feed is too heavy or the drill has been ground with too much tip clearance.

Material	Cast Iron	Steel	Iron	Aluminum	Gun Metal
Drill Diameter mm (Inch)	RPM	RPM	RPM	RPM	RPM
Ø3 (1/8)	2550	1600	2230	9500	8000
Ø4 (5/32)	1900	1200	1680	7200	6000
Ø5 (3/16)	1530	955	1340	5700	4800
Ø6 (1/4)	1270	800	1100	4800	4000
Ø7 (9/32)	1090	680	960	4100	3400
Ø8 (5/16)	960	600	840	3600	3000
Ø9 (11/16)	850	530	740	3200	2650
Ø10 (3/8)	765	480	670	2860	2400
Ø11 (7/16)	700	435	610	2600	2170
Ø12 (15/32)	640	400	560	2400	2000
Ø13 (1/2)	590	370	515	2200	1840
Ø14 (9/16)	545	340	480	2000	1700
Ø16 (5/8)	480	300	420	1800	1500
Ø18 (11/16)	425	265	370	1600	1300
Ø20 (3/4)	380	240	335	1400	1200
Ø22 (7/8)	350	220	305	1300	1100
Ø25 (1.0)	305	190	270	1150	950

Figure 6. Drilling Speed Guide

## Drilling Speed Guide

The drilling speed guide (Figure 6) is provided as a guide only. The guide defines the drill speeds required for various materials.

## Maintenance

### Cleaning

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAINTENANCE.**

1. Periodically clean debris and dust from inside the motor.
2. Use a vacuum cleaner to collect as much debris as possible, followed by low-pressure compressed air to dislodge debris that could not be reached with the vacuum cleaner.
3. Cleaning should be performed on a frequency based upon the utilization of the drill press and the contaminants generated by other drill presses.
4. Connect electrical power.
5. Operate drill press to verify that the drill press is operating properly.

### Power Cord

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAINTENANCE.**

1. Open the circuit breaker for the drill press service branch to disconnect electrical power to the drill press.
2. Check the condition of the power cord; the check should be performed periodically based on the environment to which the cord is exposed.
3. If the power cord is worn, cut, or otherwise damaged, replace the cord immediately.
4. Once the power cord has been replaced, close the circuit breaker for the affected service branch.
5. Operate drill press to verify that the drill press is operating properly.

### Lubrication

#### Ball Bearings

The ball bearings used in the drill press are lubricated at the factory and require no further lubrication during their service life.

## Quill and Spindle

Periodically lubricate the splines (grooves) in the spindle and the rack (teeth on the quill). Apply lubrication as follows:

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAINTENANCE.**

1. Disconnect electrical power to the drill press.
2. Lower quill and spindle to full extension. Lock the quill in position.
3. Apply lubricant around the inside of the hole in the spindle pulley.
4. With the quill and spindle at full extension, apply lubricant to rack (teeth) on the part of the quill extending below drill press head.
5. Connect electrical power.
6. Operate drill press to verify that the drill press is operating properly.

## Column Rack

Periodically lubricate the table raising rack and pinion gear as follows:

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAINTENANCE.**

1. Disconnect electrical power to the drill press.
2. Apply lubricant to the rack on the column.
3. Apply lubricant to pinion gear and worm shaft which are accessible through the channel in the table bracket.
4. Connect electrical power.
5. Operate drill press to verify that the drill press is operating properly.

## Replacing V-Belts

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAKING ADJUSTMENTS.**

1. Disconnect electrical power to the drill press.
2. Open the belt cover (Refer to Figure 8).

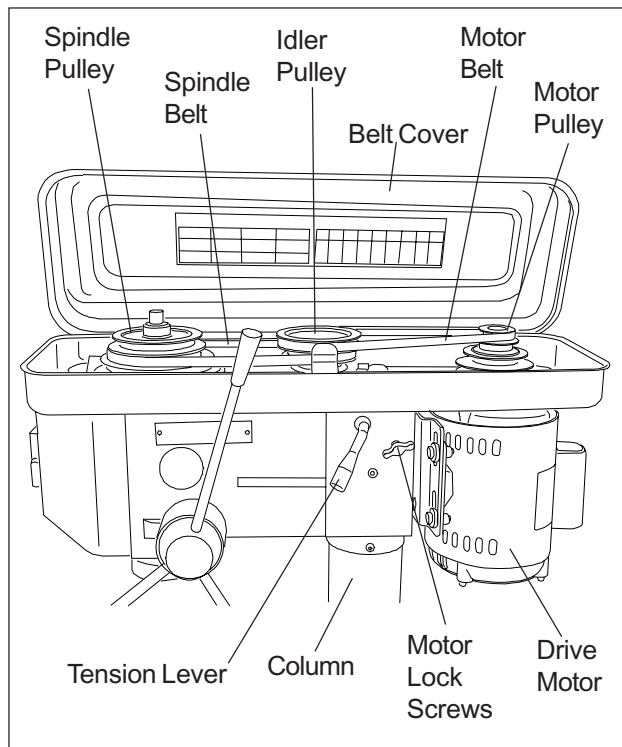


Figure 8. Pulley and Belt Locations

1. Loosen the two motor mount lock handles on the right and left sides of the head. Slide the motor toward the front of the drill press.
2. Remove the belts from the pulleys.
3. Install the replacement V-belts in the pulley grooves that will yield the desired drilling speed. Slide the motor toward the rear of the drill press.
4. Set belt tension using tensioning handle and tighten the motor mount lock handles.
5. Check belt tension and make final adjustment if needed.
6. Close the belt cover.
7. Connect electrical power.
8. Operate drill press to verify that the drill press is operating properly.

## Replacement of Motor

**WARNING: DISCONNECT ELECTRICAL POWER TO THE DRILL PRESS BEFORE PERFORMING MAKING ADJUSTMENTS.**

1. Disconnect electrical power to the drill press.
2. Remove motor junction box cover. Disconnect and tag motor wires.
3. Remove V-belts (refer to **Replacing V-Belts**).
4. Remove motor by removing nuts (78), washer (77), and screws (76).
5. Remove drive pulley (79) by loosening set screw (81). Remove key (80) from motor shaft. Retain motor key and pulley for reuse.
6. Mount the replacement motor onto the motor mount plate and attach using four screws (76), washers (77), and nuts (78). Install the screws finger tight.
7. Connect motor wires to terminals in motor junction box (refer to the **Wiring Diagram** section for connections).
8. Install the key (80) on motor shaft. Align key way in motor pulley (79) with key and install motor. Tighten set screw (
9. Place a straight edge across the pulleys to check alignment (Figure 9). Slide the motor on the mounting plate until the pulleys are aligned.

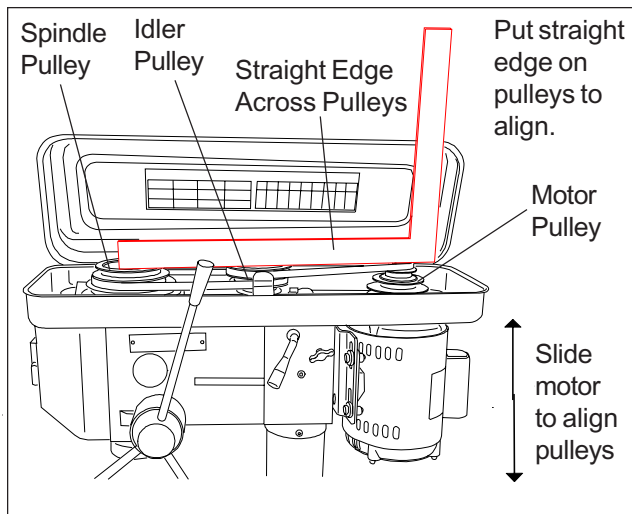
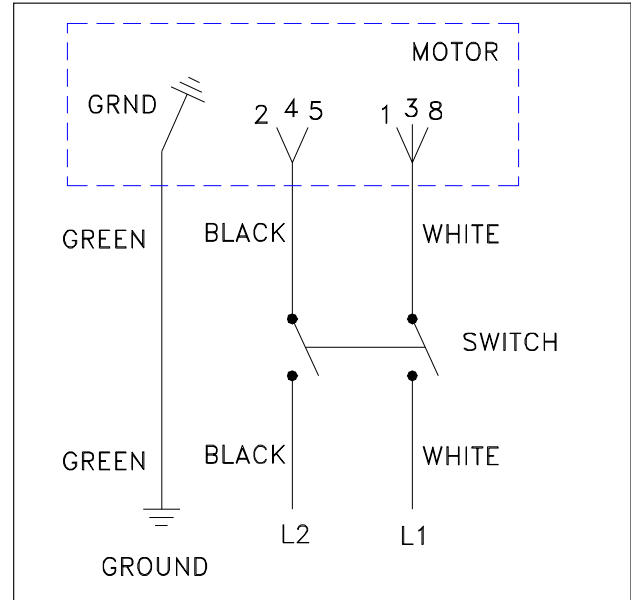


Figure 9. Pulley and Belt Locations

10. Tighten the motor mount bolts.
11. Place the belts on the pulleys.
12. Slide the motor until the belt is moderately tight. Tighten the tensioning knobs on the drill press head
13. Rotate the pulleys by hand to check the alignment.
14. Close the belt cover.
15. Connect (plug in) the cord into a grounded outlet. Using the START and STOP pushbuttons, briefly "Jog" the pushbuttons make sure that all parts are clearing the guards.
16. Close the belt cover.
17. Connect electrical power.
18. Operate drill press to verify that the drill press is operating properly.

## Wiring Diagram for Models 2500, 2530 and 2550



# Troubleshooting

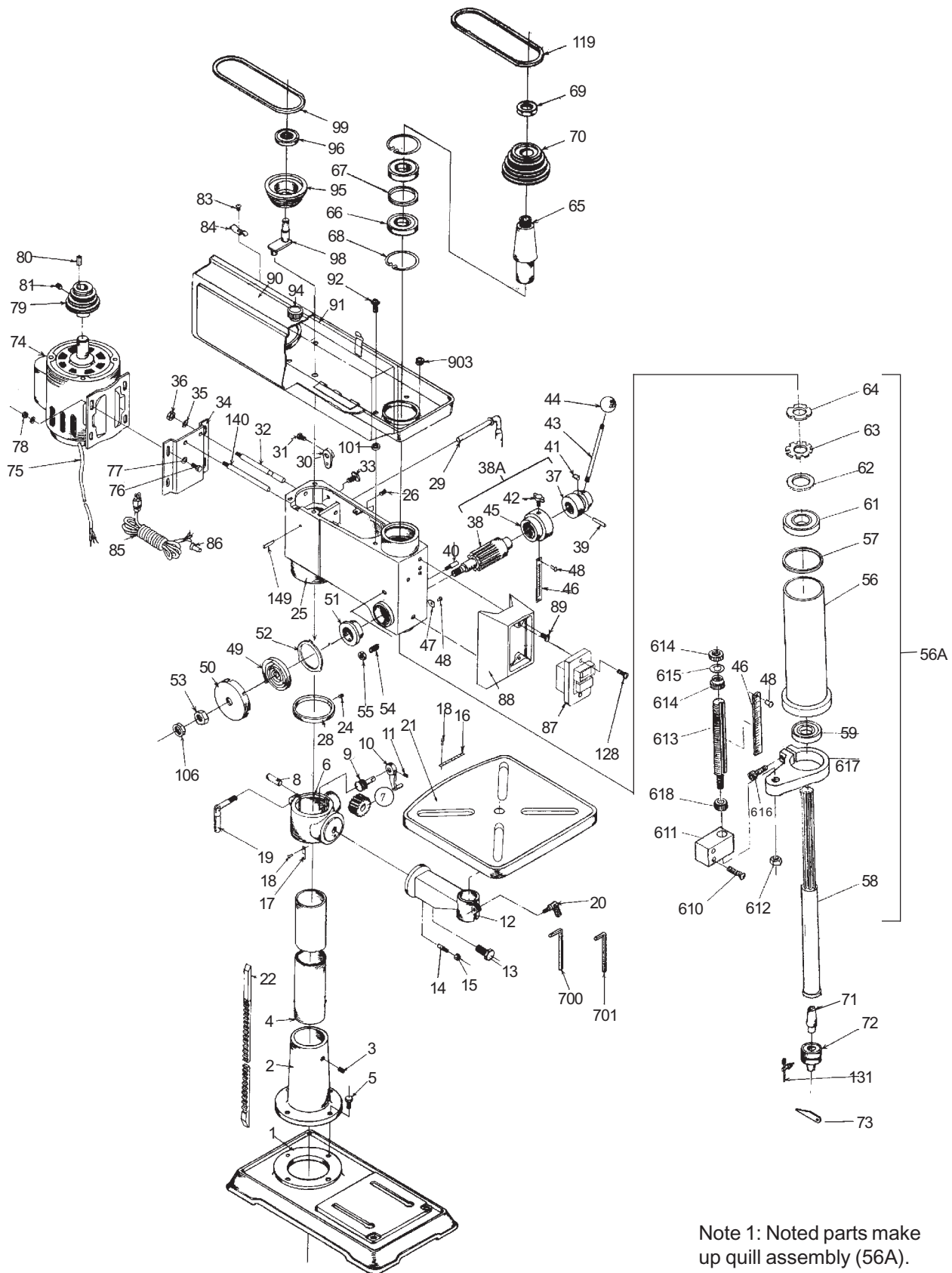
Problem	Possible Cause	Remedy
Spindle does not turn.	<ol style="list-style-type: none"> <li>1. Motor overload protector tripped.</li> <li>2. Circuit breaker tripped.</li> <li>3. Branch circuit breaker tripped or fuse blown.</li> <li>4. Open wire in switch circuit.</li> <li>5. Defective switch.</li> <li>6. Broken drive belt.</li> </ol>	<ol style="list-style-type: none"> <li>1. Press motor overload reset button.</li> <li>2. Reset circuit breaker.</li> <li>3. Reset branch circuit breaker/ replace fuse</li> <li>4. Repair open circuit.</li> <li>5. Replace switch.</li> <li>6. Replace drive belt.</li> </ol>
Noisy operation.	<ol style="list-style-type: none"> <li>1. Damaged spindle bearings.</li> <li>2. Worn spline.</li> <li>3. Insufficient belt tension.</li> <li>4. Dry spindle.</li> <li>5. Loose pulleys.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace bearings.</li> <li>2. Replace spline.</li> <li>3. Adjust tension.</li> <li>4. Lubricate spindle.</li> <li>5. Tighten pulley set screws.</li> </ol>
Drill stalls.	<ol style="list-style-type: none"> <li>1. Worn drive belt.</li> <li>2. Excessive feed rate for size of drill and being drilled. No cutting fluid or improper fluid.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check condition of belt. Replace if glazed or slipping on pulleys.</li> <li>2. Reduce feed pressure or use cutting material fluid. Use correct cutting cutting fluid.</li> </ol>
Poorly drilled holes.	<ol style="list-style-type: none"> <li>1. Drill dull.</li> <li>2. Lack of rigidity in hold-down method.</li> <li>3. Speed too fast for material and drill size.</li> <li>4. Feed too fast for material and drill size.</li> <li>5. No or improper cutting fluid or coolant being used.</li> <li>6. Improperly ground drill bit.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sharpen drill.</li> <li>2. Check that all T-slot hold-downs are tight and that table-lock and drill head bolts are tight.</li> <li>3. Check spindle speed recommendations. Reduce speed if necessary.</li> <li>4. Reduce feed rate.</li> <li>5. Use cutting fluid, or change to proper fluid or coolant for material being drilled.</li> <li>6. Check for proper angles and reliefs. Regrind to proper geometry.</li> </ol>
Motor overheating	<ol style="list-style-type: none"> <li>1. Electrical circuit fault.</li> <li>2. Oversize drill.</li> <li>3. Excessive feed.</li> <li>4. No cutting fluid, or wrong fluid.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check current draw in circuit. Make sure current draw is the same as rating on motor plate.</li> <li>2. Reduce drill size.</li> <li>3. Reduce feed rate.</li> <li>4. Use correct cutting fluid for the material and drill.</li> </ol>
Table can not be raised.	<ol style="list-style-type: none"> <li>1. Lack of lubrication.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lubricate.</li> </ol>
Excessive drill run-out or wobble.	<ol style="list-style-type: none"> <li>1. Bent bit.</li> <li>2. Worn spindle bearings.</li> <li>3. Bit not properly installed in chuck.</li> <li>4. Chuck not properly installed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a straight bit.</li> <li>2. Replace bearings.</li> <li>3. Install bit properly.</li> <li>4. Install chuck properly.</li> </ol>
Drill binds in work workpiece.	<ol style="list-style-type: none"> <li>1. Workpiece pinching bit or excessive feed pressure.</li> <li>2. Improper belt tension.</li> </ol>	<ol style="list-style-type: none"> <li>1. Support or clamp workpiece.</li> <li>2. Adjust tension.</li> </ol>

# Replacement Parts

To order parts or reach our service department, call 1-800-274-6848 between 7:00 a.m. and 6:00 p.m. (CST), Monday through Friday. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Identify the replacement part by the part number shown in the parts listing. Be sure to include the model number and serial number of your machine when ordering replacement parts to assure that you will receive the correct part.

# Exploded View — 15-Inch Drill Presses — Models 2500/2530



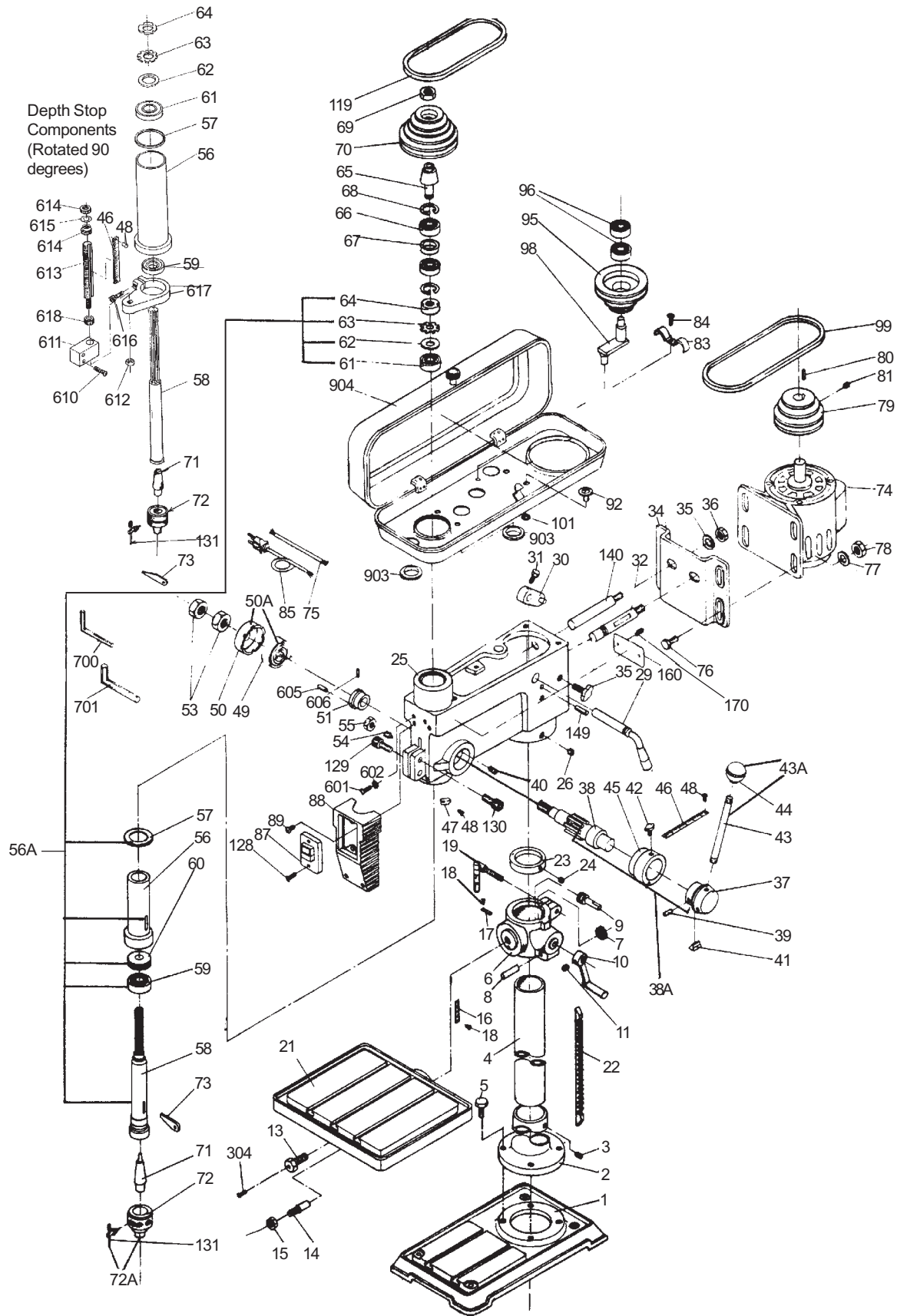
Note 1: Noted parts make up quill assembly (56A).

# Parts Listing — 15-Inch Drill Presses — Models 2500/2530

Ref No.	Part Number	Description	Qty	Ref No.	Part Number	Description	Qty
1	5625011	Base, Floor Model (19-5/8 x 11-1/8)	1	56A	5626181	Quill Assembly	1
1A	5626131	Base, Bench Model (18 x 10-5/8 In.)	1	57	5625591	Washer, Rubber (Note 1)	1
2	5625021	Holder, Column (Floor Model)	1	58	5625611	Spindle, Shaft (Note 1)	1
2A		Holder, Column (Bench Model)	1	59	5625621	Bearing, Ball (6203ZZ) (Note 1)	1
3	5625031	Set Screw (Floor Model)	1	61	5635631	Bearing, Ball (6203Z) (Note 1)	1
4	5625041	Column, Floor Model (43-7/8 In.)	1	62	5625641	Washer (Note 1)	1
4A	5626141	Column, Bench Model (31 In.)	1	63	5625651	Ring, Locking (Note 1)	1
5	5625051	Screw, Hex Head (M10 x 35 mm)	4	64	5625661	Nut, Lock (Note 1)	1
6	5625061	Bracket, Table	1	65	5625671	Sleeve, Driving	1
7	5625071	Gear, Pinion	1	66	5625681	Bearing, Ball (6204Z)	2
8	5625081	Shaft, Gear	1	67	5625691	Collar	1
9	5625091	Worm, Pinion	1	68	5625711	Ring, Retaining	2
10	5625111	Handle, Crank	1	69	5625721	Nut, Pulley Lock	1
11	5625121	Screw, Hex Head (M6 x 10 mm)	1	70	5625731	Pulley, Spindle	1
12	5625131	Arm (for Bracket)	1	71	5625741	Arbor	1
13	5625141	Screw, Hex Head (5/8-11 x 1/4 In.)	1	72	5625751	Chuck (RJ33 – 13L)	1
14	5625151	Pin, Locator	1	73	5625761	Wedge	1
15	5625161	Nut, Hex (1/4-20)	1	74	5625771	Motor (115/230 Volt, 1/2-HP)	1
16	5625171	Scale, Angle	1	76	5625791	Screw, Hex Head (M8 x 20 mm)	4
17	5625181	Scale, Centering	1	77	5625811	Washer, Flat (5/16 In.)	4
18	5625191	Drive Screw (Ø2.3x 5 mm)	3	78	5625821	Nut, Hex (M8)	4
19	5625211	Handle, Column Lock	1	79	5625831	Pulley, Motor	1
20	5626191	Handle, Table Lock	1	80	5625841	Key	1
21	5625221	Table (10-1/4 x 10-1/4 Inches)	1	81	5625851	Screw, Set (M6 x 6 mm)	1
22	5625231	Rack (Floor Model) (31-3/4 In.)	1	83	5625861	Clamp	2
22A	5626151	Rack (Bench Model) (21-1/2 In.)	1	84	5625871	Screw, Pan Head (M5 x 10 mm)	2
23	5625241	Retainer, Rack	1	85	5629341	Cord, Power	1
24	5625251	Screw Set, Hex Socket (M6 x 10mm)	1	87	5625911	Switch, ON/OFF, Pushbutton	1
25	5625261	Head	1	88	5625921	Cover, Switch	1
26	5625271	Screw Set, Hex Socket (M10x12mm)	2	89	5625931	Screw, Pan Head (M5 x 16 mm)	2
29	5625281	Lever, Cam	1	90	5625941	Cover Assembly, Pulley	1
30	5625291	Cam	1	92	5625951	Screw, Round Head with Washer (M6 x 16 mm)	4
31	5625311	Screw, Hex Head (M8 x 16 mm)	1	94	5625961	Knob, Cover	1
32	5625321	Bar, Slide	1	95	5625971	Pulley, Center	1
33	5625331	Bolt, Slide Bar	2	96	5625981	Bearing, Ball (6202Z)	2
34	5625341	Base, Motor	1	98	5625991	Shaft, Center Pulley	1
35	5625351	Washer (Ø1/2)	2	99	5626011	V-Belt (M-23)	1
36	5625361	Nut, Hex (M12)	2	101	5626021	Washer, Flat (1/4Ø)	4
37	5625371	Hub	1	106	5626031	Nut, Hex (1/2-20)	1
38	5625381	Shaft, Feed Pinion	1	119	5626041	V-Belt (M-25)	1
38A	5626161	Shaft Assembly, Feed Pinion	1	128		Screw, Machine, (M4 x 25 mm)	2
39	5625391	Pin, Roll (ØM5 x 16 mm)	1	131	5626061	Key, Chuck	1
40	5625411	Pin, Roll (ØM6 x 20 mm)	1	140	5626071	Shaft, Motor Base	1
41	5625421	Wedge, Scale Locking	1	149	5626081	Pin, Roll	2
43	5625441	Handle	3	610	5513738	Screw	2
44	5625451	Grip	3	611	5513739	Block, Depth Stop	1
45	5625461	Housing, Spindle Depth	1	612	5513740	Nut	1
46	5625471	Scale	1	613	5513741	Rod, Depth Stop Adjustment (2500/2530 Only)	1
48	5625491	Screw, Drive (Ø2.5 x 5 mm)	3	614	5513742	Nut, Adjustment Lock	1
49	5625511	Spring, Coil	1	615	5513743	Washer	1
50	5625521	Cover, Spring	1	616	5513744	Screw, Clamping	1
50A	5626171	Cover Assembly, Spring	1	617	5513745	Clamp, Depth Stop Support	1
51	5625531	Seat, Spring	1	618	5513746	Nut	1
52	5625541	Retainer, Spring	1	700	5626091	Wrench, Allen (3 mm)	1
53	5625551	Nut, Hex (1/2-20)	2	701	5626111	Wrench, Allen (7 mm)	1
54	5625561	Screw, Set (M10 x 27mm)	1	903	5626121	Strain Relief, Wire	2
55	5625571	Nut, Hex (M10)	1				
56	5625581	Quill (Note 1)	1				

Note 1: Noted parts make up quill assembly (56A).

# Exploded View — 20-Inch Drill Press — Model 2550



# Parts Listing — 20-Inch Drill Press — Model 2550

Ref. No.	Part Number	Description	Qty
1	5627751	Base	1
2	5627761	Collar, Column	1
3	5626231	Set Screw (M10 x 40 mm)	1
4	5627771	Column	1
5	5627781	Screw, Hex Head (M12 x 40 mm)	4
6	5627791	Bracket, Table	1
7	5625071	Gear, Pinion	1
8	5625081	Shaft, Gear	1
9	5625091	Worm	1
10	5627811	Handle, Lowering/Raising	1
11	5626251	Screw, Hex Head (M6 x 12 mm)	1
13	5627821	Screw, Hex Head (5/8 x 2 In.)	1
14	5627831	Pin, Location	1
15	5627841	Nut, Hex (1/4 x 20)	1
16	5627851	Scale, Tilting	1
17	5625181	Scale, Angle	1
18	5625191	Set Screw (Ø2.3x 5 mm)	3
19	5625211	Handle, Lock (M12 x 180 mm)	1
21	5627861	Table (18-3/4 x 16-3/4 Inches)	1
22	5627871	Rack	1
23	5627881	Retainer, Rack	1
24	5627061	Screw Set, Hex Socket (M6 x 10mm)	1
25	5627891	Head	1
26	5627021	Screw Set, Hex Socket (M10 x 12mm)	2
28	5627911	Screw, Pan Head, Cr.-Re. (M6 x 12mm)	2
29	5627121	Lever, Tension Adjustment	1
30	5627131	Cam	1
31	5627141	Screw, Hex Head (M8 x 16 mm)	1
32	5627921	Shaft, Motor Base	1
33	5627931	Lock, Motor Bar	2
34	5627941	Base, Motor	1
35	5627181	Washer, Spring (Ø1/2)	2
36	5627191	Nut, Hex (M12)	2
37	5627211	Hub	1
38	5627951	Shaft, Feed Pinion	1
38A	5627961	Shaft Assembly, Feed Pinion	1
39	5627971	Pin, Roll	1
40	5627241	Pin, Scale Set	1
41	5627981	Wedge, Scale Locking	1
42	5627991	Screw, Depth Lock (M8 x 17 mm)	1
43	5629011	Handle	3
43A	5629021	Bar Assembly, Handle	3
44	5627271	Grip	3
45	5629031	Housing, Spindle Depth	1
46	5629041	Scale	1
47	5625481	Pointer	1
48	5626551	Screw, Drive	3
49	5629051	Coil	1
50	5629061	Housing, Spring	1
50A	5629071	Housing Assembly, Spring	1
51	5629081	Seat, Spring	1
53	5629091	Nut, Hex (1/2-20)	2
54	5627321	Screw, Set, Quill (M10 x 27mm)	1
55	5627331	Nut, Hex (M10)	1
56	5629111	Quill (Note 1)	1
56A	5629121	Quill Assembly	1
57	5629131	Washer, Rubber (Note 1)	1
58	5629141	Spindle, MT3, Ø34) (Note 1)	1
59	5629151	Bearing, Ball (6206ZZ) (Note 1)	1
60	5629161	Bearing, Ball, Thrust 2906 Note	1

Ref. No.	Part Number	Description	Qty
61	5635271	Bearing, Ball (6204Z) (Note 1)	1
62	5629171	Washer (Note 1)	1
63	5629181	Lock, Washer (Note 1)	1
64	5629191	Lock, Nut (Note 1)	1
65	5629211	Lock, Driving	1
66	5629221	Bearing, Ball (6206Z)	2
67	5629231	Collar	1
68	5629241	Ring, Retaining	2
69	5629251	Nut, Pulley Lock	1
70	5629261	Pulley, Spindle	1
71	5624641	Arbor (MT3 x JT3)	1
72	5628931	Chuck (RJ3 - 16L)	1
72A	5627401	Chuck and Key	1
73	5624671	Wedge, Taper	1
74	5629271	Motor	1
76	5629291	Screw, Hex Head (M8 x 25 mm)	4
77	5627511	Washer, Flat (5/16 In.)	4
78	5625821	Nut, Hex (M8)	4
79	5629311	Pulley, Motor	1
80	5629321	Key	1
81	5629331	Screw, Set (M8 x 8 mm)	1
83	5627551	Clamp	2
85	5629341	Cord, Power	1
84	5626841	Screw, Pan Head (M5 x 8 mm)	2
87	5629351	Switch	1
88	5629361	Cover, Switch	1
89	5626871	Screw, Pan Head (M5 x 12 mm)	2
92	5627591	Washer, Round Head Screw (M6 x 12 mm)	4
93	5629381	Screw, Truss Head Tapping (M4 x 12 mm)	1
94	5627611	Knob	1
95	5629391	Pulley, Center	1
96	5621681	Bearing, Ball (6202Z)	2
98	5629411	Shaft, Pulley	1
99	5624701	V-Belt (A-30)	1
101	5627641	Washer, Flat (1/4 m)	4
119	5637541	V-Belt (A-32)	1
128		Screw, Machine, (M4 x 25 mm)	2
129	5629421	Screw, Socket Head Cap (M8 x 30 mm)	2
130	5629431	Screw, Socket Head Cap (M8 x 25 mm)	1
131	5629441	Key, Chuck	1
140	5629451	Shaft, Motor Base	1
149	5629461	Pin, Roll	2
601	5629471	Screw, Pan Head (M4 x 12 mm)	1
602	5629481	Washer, External Tooth Lock (Ø4)	2
605	5629491	Pin, Roll	1
606	5629511	Pin, Roll (Ø2.5 x 10 mm)	1
610	5513738	Screw	2
611	5513739	Block, Depth Stop	1
612	5513740	Nut	1
613	5513741	Rod, Depth Stop Adjustment (2550 Only)	1
614	5513742	Nut, Adjustment Lock	1
615	5513743	Washer	1
616	5513744	Screw, Clamping	1
617	5518233	Clamp, Depth Stop support	1
618	5513746	Nut	1
700	5627711	Wrench, Allen (3 mm)	1
701	5629521	Wrench, Allen (5 mm)	1
903	5627721	Grommet	2
904	5629371	Cover Assembly, Pulley	1



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