



# JET J-A3816 Variable Speed Drill Press Instruction Manual

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**JET J-A3816 Variable Speed Drill Press**



## Specifications

- **Model:** J-A3816, J-A5816, J-A5818
- **Drill Press Type:** Variable Speed
- **Size:** 15 inches
- **Manufacturer:** JET
- **Address:** 427 New Sanford Road LaVergne, Tennessee 37086
- **Phone:** 800-274-6848
- **Website:** [www.jettools.com](http://www.jettools.com)

## Product Usage Instructions

### Warranty and Service

JET warrants every product it sells against manufacturers' defects. If your tool requires service or repair, please contact Technical Service by calling 1-800-274-6846, Monday through Friday, between 8AM and 5PM CST.

- **Warranty Period:** The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.
- **Initial Purchaser:** This warranty covers only the initial purchaser of the product from the date of delivery.
- **Warranty Limitations:** Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.
- **More Information:** For complete, up-to-date product information, check with your local distributor or visit the JET website.
- **How State Law Applies:** This warranty gives you specific legal rights, subject to applicable state law.

- **Limitations on This Warranty:** JET limits all implied warranties to the period of the limited warranty for each product. Except as stated herein, any implied warranties of merchantability and fitness for a particular purpose are excluded. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.
- **Liability Limitation:** JET shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special, or consequential damages arising from the use of our products. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- **Note:** JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.

## Warnings

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand warnings posted on the machine and in this manual. Failure to comply with all of these warnings may result in serious injury.

## FAQ

- **What should I do if my tool requires service or repair?**

If your tool requires service or repair, please contact Technical Service by calling 1-800-274-6846, Monday through Friday, between 8AM and 5PM CST.

- **How long is the warranty period?**

The warranty period is specified in the literature included with your product or on the official JET branded website.

- **Can I use woodworking products with a Five Year Warranty for commercial or industrial purposes?**

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

- **Where can I find up-to-date product information?**

For complete, up-to-date product information, check with your local distributor or visit the JET website.

## Warranty and Service

JET warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

### Warranty Period

The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

## **Who is Covered**

This warranty covers only the initial purchaser of the product from the date of delivery.

## **What is Covered**

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials outside recommended guidelines may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

## **Warranty Limitations**

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

## **How to Get Technical Support**

Please contact Technical Service by calling 1-800-274-6846. Please note that you will be asked to provide proof of initial purchase when calling. If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

## **More Information**

JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

## **How State Law Applies**

This warranty gives you specific legal rights, subject to applicable state law.

## **Limitations on This Warranty**

- JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.
- JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.
- JET sells through distributors only. The specifications listed in JET printed materials and on official JET website are given as general information and are not binding. JET reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by JPW Industries, Inc.

## **Product Listing with Warranty Period**

- **90 Days** – Parts; Consumable items
- **1 Year** – Motors; Machine Accessories
- **2 Year** – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes

- **5 Year** – Woodworking Machinery
- **Limited Lifetime** – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools; Air Tools

## WARNING

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace warning labels if they become obscured or removed.
4. This drill press is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a drill press, do not use until proper training and knowledge have been obtained.
5. Do not use this drill press for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Keep guards in place and in working order when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.
7. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
8. Keep work area clean. Cluttered areas and benches invite accidents.
9. Do not use in dangerous environment. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
10. Keep children away. All visitors should be kept safe distance from work area.
11. Make workshop kid proof with padlocks, master switches, or by removing starter keys.
12. Don't force tool. It will do the job better and safer at the rate for which it was designed.
13. Use the right tool. Don't force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely at the rate for which it was designed.
14. Use 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. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.
15. 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.
16. Always use safety glasses. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
17. Secure work. Make sure the work piece is securely attached or clamped to the table. Never use your hand to hold the work piece.
18. Don't overreach. Keep proper footing and balance at all times.
19. Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
20. Disconnect tools before servicing; when changing accessories, such as blades, bits, cutters, and the like.

21. Reduce the risk of unintentional starting. Make sure switch is in off position before plugging in.
22. Use recommended accessories. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
23. Never stand on tool. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
24. Check for damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine 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.
25. A guard or other part that is damaged should be properly repaired or replaced.
26. Do not leave tool running unattended. Turn power off. Don't leave tool until it comes to a complete stop.
27. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
  - Lead from lead based paint.
  - Crystalline silica from bricks, cement and other masonry products.
  - Arsenic and chromium from chemically treated lumber.Your risk of exposure 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 face or dust masks that are specifically designed to filter out microscopic particles.
28. Make certain the switch is in the OFF position before connecting the machine to the power supply.
29. Make certain the machine is properly grounded.
30. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
31. The operator should not wear gloves when operating the machine.
32. All doors should be closed, all panels replaced and other safety guards should be in place prior to the machine being started or operated.
33. Be sure the drill bit is not in contact with the work piece when the motor is started. The motor should be started and up to full speed before bringing the drill bit into contact with the work piece.
34. Keep your hands away from the drilling area.
35. The drill press must be stopped and the electrical supply must be cut off before any drill bit replacement or machine adjustment is done, or before any attempt is made to change the drive belts or before any periodic service or maintenance is performed on the drill press.
36. Remove loose items and unnecessary work pieces from the area before starting the machine.
37. The work piece must be securely clamped before the drill bit comes in contact with the work piece.
38. The drill press must be stopped and the electrical supply cut off or machine unplugged before reaching into the drilling area.
39. Wear eye protection.
40. Do not remove jammed pieces until motor has stopped.
41. Hold workpiece firmly against table.

### **Safety Instructions for Drill Presses**

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 manufacturer's instructions pertaining to them. Tooling shall 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. See Figure B.
7. When drilling in material which causes dust, a dust mask shall be worn.
8. Avoid contact with coolant, especially guarding the eyes.
9. Non-slip footwear and safety shoes are recommended. See Figure C.
10. Wear ear protectors (plugs or muffs) during extended periods of operation. See Figure D.



A



B



C



D

#### **ON/OFF Switch Padlock**

For Model Numbers A5816 and A5818

To avoid accidental starting by young children or others not qualified to use the tool, the use of a padlock is required.

1. Open the padlock (Fig E).
2. Insert the through hole in the switch cover.
3. Close the padlock (Fig F).
4. Place the key in a safe place.



Figure E



Figure F

## Specifications

- The JET 15-Inch Vari-Speed Drill Presses, Models J-A3816, J-A5816, and J-A5818 provide drilling speeds from 400 to 5,000 rpm. Simple handwheel adjustment sets the speeds with an LED speed display on the faceplate of the machine.
- JET's 15-inch vari-speed drill press provides a solid base for drilling and offers a wide range of spindle speeds. The large quill provides greater accuracy. The large worktable provides the operator with room to work and ample support for the workpiece. The drill press has a 3-inch diameter column for head and table support. The 15-Inch Vari-Speed Drill Press is equipped with a standard table raiser.

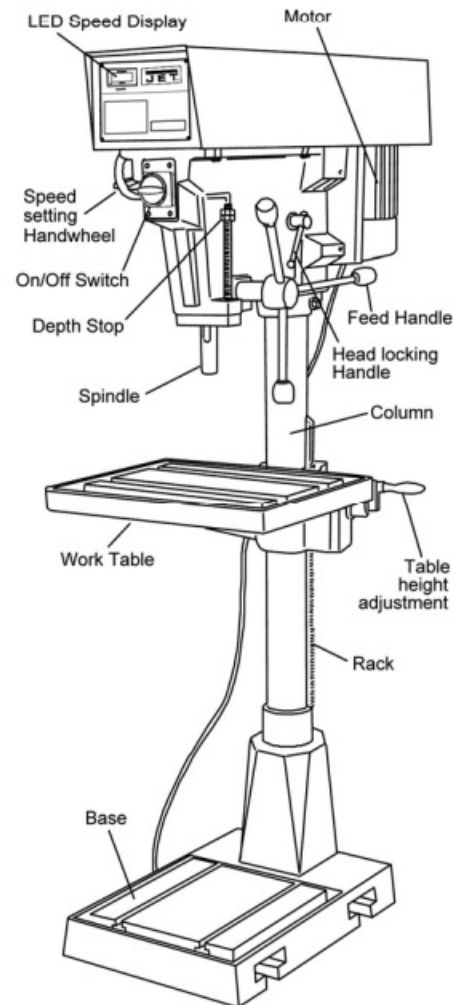
Model	J-A3816	J-A5816	J-A5818
Stock Number.....	354500	354550	354551
Type.....	Floor Model	Floor Model	Floor Model
Motor:			
Motor Speed (rpm).....	1,725 rpm	1,725 rpm	1,725 rpm
HP.....	1 HP	1 HP	1 HP
Power Rating.....	1 PH, 115/220V	1 PH, 115/220V	3 PH, 220/440V
	Prewired 115V	Prewired 115V	Prewired 220V
Spindle speeds (rpm).....	400 to 5,000rpm	400 to 5,000 rpm	400 to 5,000 rpm
Capacities:			
Cast iron.....	up to 5/8-in.	up to 5/8-in.	up to 5/8-in.
Steel.....	up to 1/2-in.	up to 1/2-in.	up to 1/2-in.
Work Table Weight Cpcty.....	90 lbs.	90 lbs.	90 lbs.
Drills to center.....	15 in.	15 in.	15 in.
Quill diameter.....	2-1/4 in.	2-1/4 in.	2-1/4 in.
Quill travel.....	6 in.	6 in.	6 in.
Spindle taper.....	#2 Morse Taper	#2 Morse Taper	#2 Morse Taper
Dimensions:			
Table (overall).....	15-1/4 x 17-3/4 in.	15-1/4 x 17-3/4 in.	15-1/4 x 17-3/4 in.
Table (working area).....	11-1/4 x 14-1/2 in.	12-1/2 x 14-1/2 in.	12-1/2 x 14-1/2 in.
Table travel.....	16-3/4 in.	16-3/4 in.	16-3/4 in.
Table T-slots.....	two at 1/2 in.	two at 1/2 in.	two at 1/2 in.
T-slot centers.....	5-5/16 in.	5-5/16 in.	5-5/16 in.
Spindle to table.....	25-3/4 in.	25-3/4 in.	25-3/4 in.
Spindle to base.....	44-1/2 in.	44-1/2 in.	44-1/2 in.
Column diameter.....	3 in.	3 in.	3 in.
Base (LxWxH).....	20-7/8x14-3/16x3-1/8 in.	20-7/8x14-3/16x3-1/8 in.	20-7/8x14-3/16x3-1/8 in.
Base T-slots.....	two at 1/2 in.	two at 1/2 in.	two at 1/2 in.
Overall height.....	67-1/2 in.	67-1/2 in.	67-1/2 in.
Net weight.....	394 lb.	426 lb.	426 lb.

## Introduction

- This manual includes operating and maintenance instructions for the JET 15-Inch Vari-Speed Drill Presses, Models J-A3816, J-A5816, and J-A5818. This manual also includes parts listings and illustrations of replaceable parts.



- Refer to Figure 1 for key features of the drill press.



*Figure 1 – Drill Press Features*

## **Set-up and Assembly**

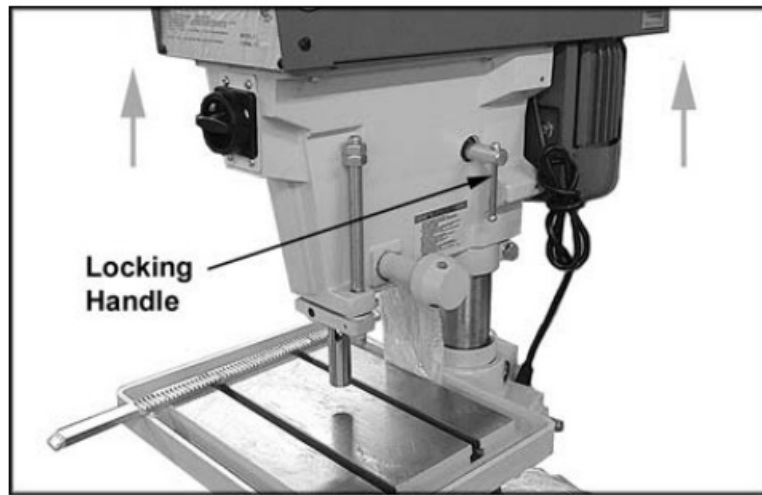
### **Securing the Base**

The base of the drill press has four mounting holes. The drill press should be level and rest solidly on the floor. Place shims under the four mounting holes in the base as required to level the drill press.

### **Assembly**

The Drill Press is shipped with the head in lowered position. Follow these instructions to assemble.

1. Figure 2: Loosen locking handle on head and raise the head toward the top of the column. NOTE: Use an assistant to help raise the head. Re-tighten locking handle to secure head in position.



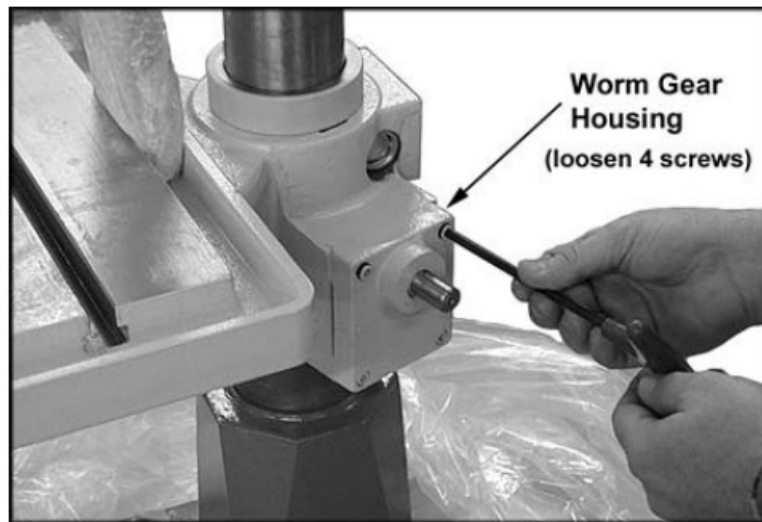
*Figure 2*

2. Figure 3: Use a wrench to loosen the hex screw on the head collar, and raise the head collar until it is contacting the head. Firmly tighten the screw on the head collar.
3. Figure 3: Loosen the set screw on the rack ring and raise rack ring to allow clearance for the rack. Re-tighten the set screw.



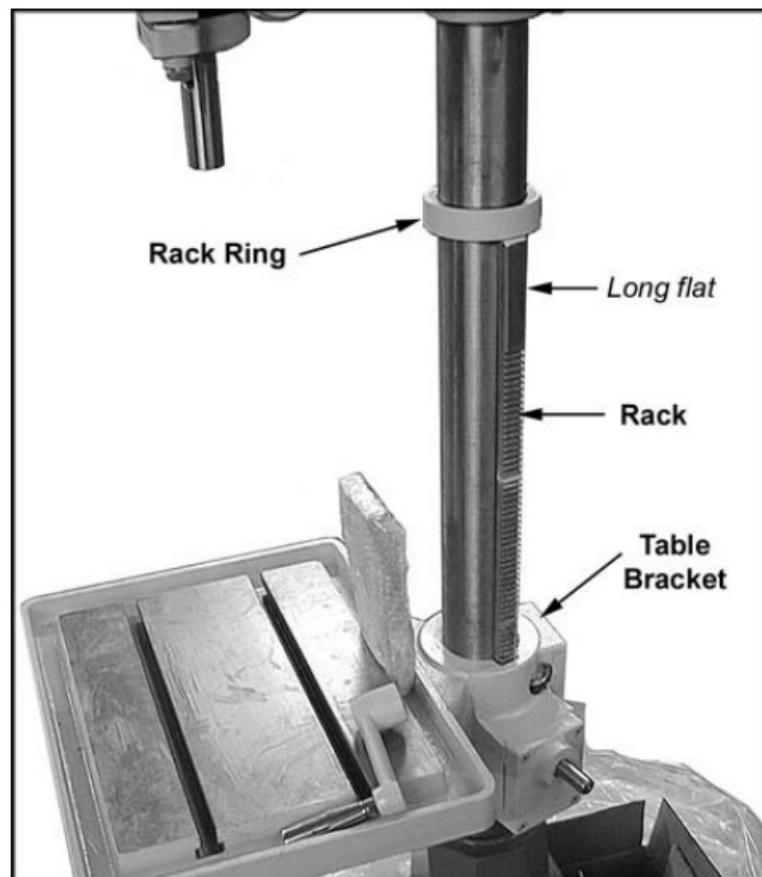
*Figure 3*

4. Figure 4: Loosen (do not remove) the four screws in the worm gear housing.



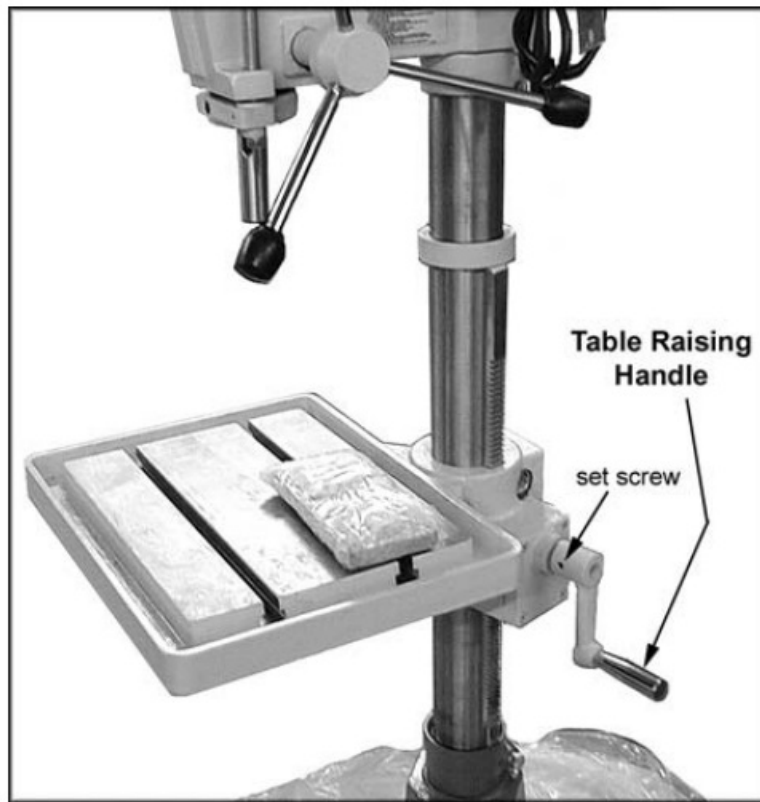
*Figure 4*

5. Figure 5: Place the rack against the column and slide it down as far as it will go into the slot in the table bracket. (Position the rack with the longer flat area toward the top and the short flat area toward the bottom.)
6. Figure 5: Slide the rack ring down onto the top of the rack and tighten the set screw on the rack ring.



*Figure 5*

7. Tighten the four screws in the worm gear housing (shown in Figure 4).
8. Figure 6: Install the table raising handle and tighten its set screw. Rotate the handle to move the table up and down the column, checking that movement is smooth and rack has been correctly installed.



*Figure 6*

## **Cleaning**

Clean off any protective grease with solvent. After cleaning, lubricate the base, table, and column with a light coating of medium weight machine oil. Repeat at six months intervals.

Internal parts of the drill press are lubricated at the factory. No further lubrication is required at the time of installation.

## **Electrical Connection**

- Refer to the Wiring Diagram section for wiring information. Connection to electrical power should be made by a qualified electrician. Observe local electrical codes when connecting the machine.
- The motor should be protected with a time delay fuse or circuit breaker with an amperage rating slightly higher than the full load current of the motor.

## **Operating Controls**

(Refer to Figure 7)

### **ON/OFF Switch**

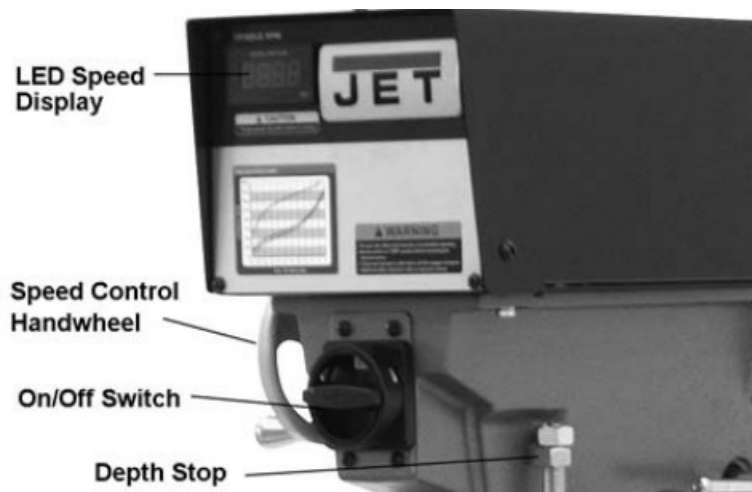
The ON/OFF switch is located at the front of the drill head.

### **Speed Control Handwheel**

#### **CAUTION**

To avoid damage to the speed adjustment mechanism, the motor must be operating before attempting to adjust the speed rate.

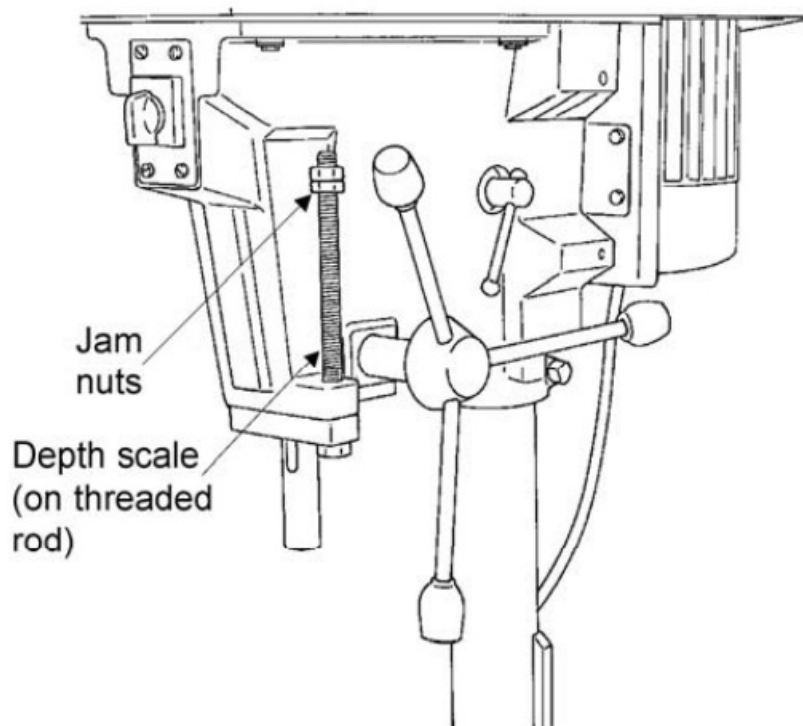
The speed control handwheel is located on the left side of the drill head. An LED speed indicator is provided on the face plate on the drill head.



*Figure 7 – Operating Controls*

### **Depth Stop**

A drilling depth stop (refer to Figure 8) is provided on the right side of the drill head. The depth stop consists of a threaded rod with depth setting jam nuts. The front side of the threaded rod has a depth scale. The jam nuts are loosened and moved to the desired depth on the scale. The upper jam nut is then tightened against the lower nut.



*Figure 8 – Depth Stop*

### **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.

1. The head assembly must be locked to the column so the thrust produced by drilling will not force the head assembly up the column.
2. The work table must be locked to the column so it will not be forced down the column.
3. Be sure the belt is tightened to the proper tension.
4. DO NOT start to drill the workpiece until making certain the workpiece is held down securely.
5. BEFORE turning the speed control handwheel in either direction.

6. Point of operation protection is required for maximum safety. This remains the responsibility of the user/purchaser since conditions differ between jobs.
7. Make sure the drill is secured in the spindle or check before attempting to use the drill press.
8. Make sure the spindle taper is clean and free of burrs, scoring, and galling to assure maximum gripping.

## 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:

$$SFM = 0.26 \times RPM \times \text{Drill Diameter (in Inches)}$$

$$RPM = 3.8 \times \frac{SFM}{\text{Drill Diameter (in Inches)}}$$

- 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:
  1. Composition and hardness of material.
  2. Depth of the hole.
  3. Efficiency of the cutting fluid.
  4. Type and condition of the drilling machine.
  5. Desired quality of the hole.
  6. 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 breaking out at the cutting edges indicates that either the feed is too heavy or the drill has been ground with too much tip clearance.

### Speeds for High Speed Steel Drills

- **Alloy Steel — 300 to 400 Brinell** 20 – 30
- **Stainless Steel** 30 – 40
- **Automotive Steel Forgings** 40 – 50
- **Tool Steel, 1.2C** 50 – 60
- **Steel, .4C to .5C** 70 – 80
- **Mild Machinery Steel, .2C to .3C** 80 – 110
- **Hard Chilled Cast Iron** 30 – 40
- **Medium Hard Cast Iron** 70 – 100
- **Soft Cast Iron** 100 – 150
- **Malleable Iron** 80 – 90

- **High Nickel Steel or Monel** 40 – 50
- **High Tensile Bronze** 70 -150
- **Ordinary Brass and Bronze** 200 – 300
- **Aluminum and its Alloys** 200 – 300
- **Magnesium and its Alloys** 250 – 400
- **Slate, Marble, and Stone** 15 -25
- **Plastics and similar material (Bakelite)** 100 – 150
- **Wood** 300 -400
- **Titanium Alloys** 10 – 25
- **Titanium Alloy Sheet** 50 – 60

## **General Applications**

- **5mm hole** 550 – 600
- **10mm hole** 250 – 300
- **15mm hole** 100 – 110

In cases where carbon steel drills are applicable, the drill should be run at speeds of from 40 to 50 percent of those given above.

## **Maintenance**

### **Replacement of Drive Belt**

**WARNING** Make sure to disconnect electrical power to the drill press to avoid the possibility of inadvertent operation and exposure to potentially lethal voltage levels.

1. Start drill press. Set speed control to highest speed. Stop drill press.
2. Disconnect electrical power to drill press.
3. Remove head cover.
4. Remove belt. (With speed control setting at the highest speed, the belt should be loose enough to remove.)
5. Install the replacement belt. Install the head cover.
6. Connect electrical power to the drill press.
7. Operate the drill press to verify correct operation.

### **Replacement of Motor**

**WARNING** Make sure to disconnect electrical power to the drill press to avoid the possibility of inadvertent operation and exposure to potentially lethal voltage levels.

1. Disconnect electrical power to drill press.
2. Remove drive belt (see Replacement of Drive Belt).
3. Disconnect electrical wiring from motor junction box.
4. Remove nuts and washers from bolts securing motor to drill head. Remove motor.
5. Remove pulleys and related components from motor shaft.
6. Install pulleys and related components on replacement motor shaft.
7. Install motor on mounting bolts and secure with nuts and washers.
8. Connect electrical wiring (refer to Wiring Diagram section for wiring details).

9. Install drive belt (see Replacement of Drive Belt).
10. Operate drill press to verify proper operation.

## Lubrication

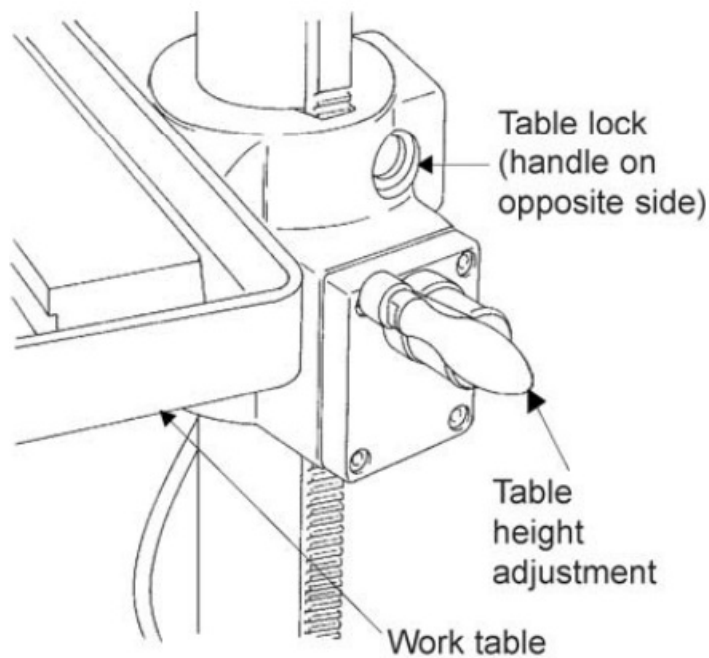
Following are lubrication recommendations for drill press components.

- Spindle pulley drive: Lubricate spindle splines occasionally with light grease.
- Quill, Table, and Column: Lubricate with light film of oil.
- Table lift rack: Lubricate regularly with SAE20 oil (clean rack with solvent before applying oil.)
- Variable speed drive fork: Lubricate contact points occasionally with grease.

## Adjustments

### Table Adjustment

The table can be raised or lowered to accommodate the height of the component being drilled (refer to Figure 9). To raise or lower the table, loosen the lock handle. Then use the hand crank to move the table to the desired height. Then retighten the lock handle.



**Figure 9 – Table Adjustment**

### Head Adjustment

**WARNING** Change the radial position of the drill head only if the drill press base is secured to the floor. Swinging the drill head without the base being secured to the floor will cause the drill press to become unstable and tip over resulting in injury and/or damage to the machine.

The radial position of the drill head can be changed to accommodate the drilling of a hole that may be offset from the center of the table. Reposition the drill head by loosening the locking handles and swinging the drill head to the desired position. Then retighten the locking handles.

## Wiring Diagrams

Refer to Figure 5 for wiring information. The drive motor is 115/230 volt single phase or 220/440 volt three phase. Notice: When converting machine voltage, it is necessary to re-wire the LED display connection accordingly. Refer



to figure 10.

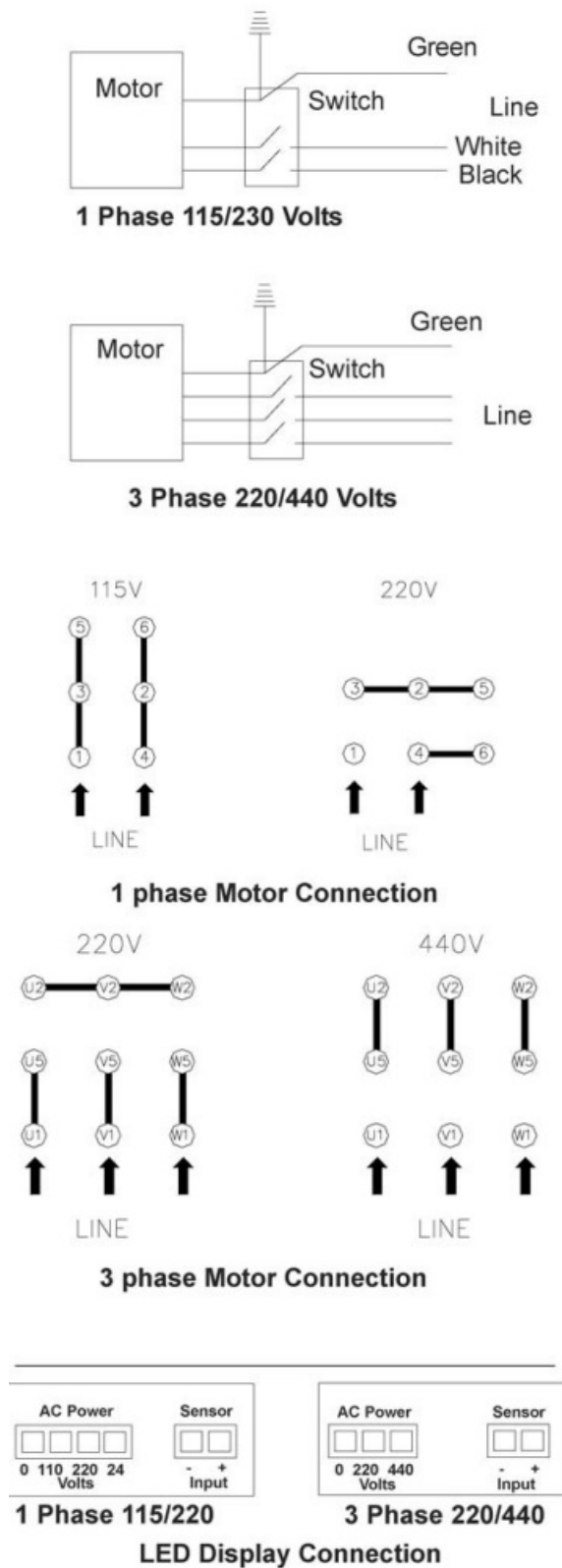


Figure 10

## Electrical

### 115 Volt Operation

Referring to Figure 11:

As received from the factory, your drill press is ready to run at 115-volt operation. This drill press, when wired for 115 volt, is intended for use on a circuit that has an outlet and a plug that looks like the one illustrated in (A). A temporary adapter, which looks like the adapter shown in (B), may be used to connect this plug to a twopole

receptacle if a properly grounded outlet is not available. The temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. The green colored rigid ear, lug, or tab, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box.

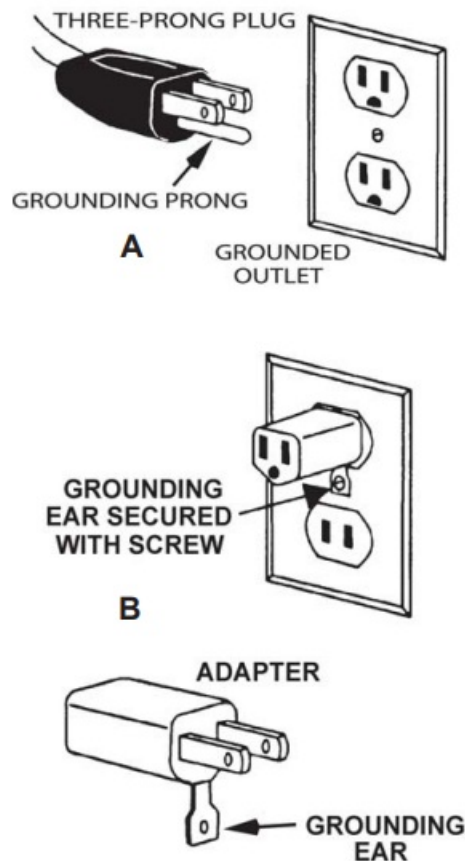


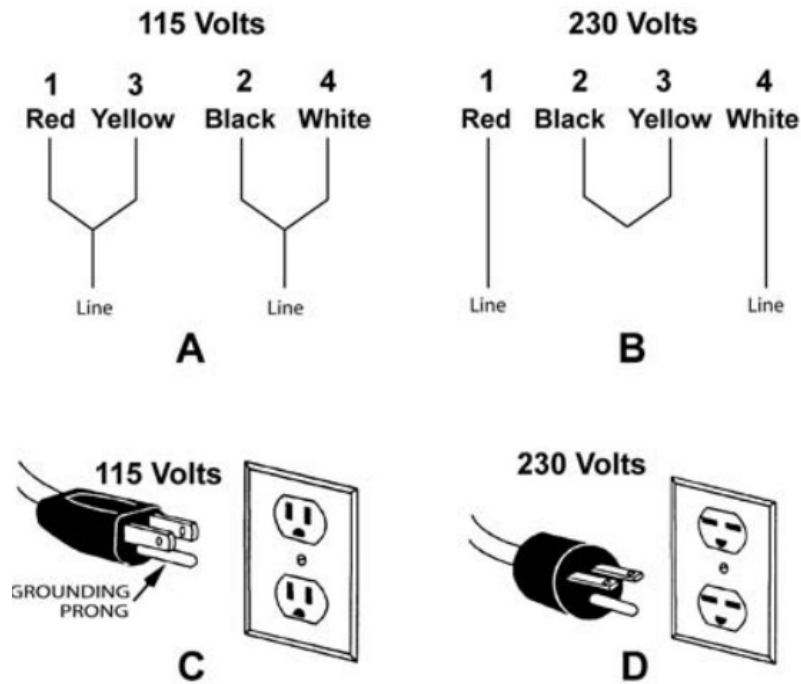
Figure 11

### 230 Volt Operation

Referring to Figure 12:

If 230V, single-phase operation is desired, the following instructions must be followed:

1. Disconnect the machine from the power source.
2. The JET drill press motor has four numbered leads that are factory connected for 115V operation, as shown in (A). For 230V operation reconnect the leads as shown in (B).
3. The 115V attachment plug (C), supplied with the drill press, must be replaced with a UL listed plug suitable for 230V operation (D). Contact your local Authorized JET Service Center or qualified electrician for proper procedures to install the plug. The drill press must comply with all local and national codes after the 230-volt plug is installed.
4. The drill press with a 230-volt plug should only be connected to an outlet having the same configuration as shown in (D). No adapter is available nor should be used with the 230-volt plug.



*Figure 12*

### Permanently Connected Tools

Models J-A3816, J-A5816 and J-A5818 drill presses that are intended for permanent connection should be connected to a grounded metal permanent wiring system or to a system having an equipment-grounding conductor.

### Grounding Instructions

**CAUTION** This tool must be grounded while in use to protect the operator from electric shock.

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipmentgrounding conductor can result in a risk of electric shock. The conductor, with insulation having an outer surface that is green with or without yellow stripes, is the equipmentgrounding 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 three wire extension cords that have three-prong grounding plugs and three-pole receptacles that accept the tool's plug.
- Repair or replace a damaged or worn cord immediately.

### Extension Cords

- 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 machine will draw. An undersized cord will cause a drop in the line voltage

resulting in power loss and overheating. The table following shows the correct size to use depending on the cord length and name plate ampere rating. If in doubt, use the next heavier gauge. Remember, the smaller the gauge number, the heavier the cord.

Length of Cord	AWG
0–25	16
25-50	14
51-100	12

- The drill press with a 230-volt plug should only be connected to an outlet having the same configuration (D, Fig. 12). No adapter is available or should be used with the 230-volt plug.
- **Important:** In all cases (115 or 230 volts), make certain the receptacle in question is properly grounded. If you are not sure, have a registered electrician check the receptacle.

## Troubleshooting

Problem	Probable Cause	Suggested Remedy
Spindle does not turn.	Circuit breaker tripped. Branch circuit breaker tripped or fuse blown. Open wire in switch circuit. Defective switch. Broken drive belt.	Reset circuit breaker. Reset branch circuit breaker/replace fuse. Repair open circuit. Repair switch. Replace drive belt.
Spindle noisy.	Damaged spindle bearings. Worn spline.	Replace bearings. Replace spline.
Drill stalls.	Worn drive belt. Excessive feed rate for size of drill and material being drilled. No cutting fluid or improper cutting fluid.	Check condition of belt. Replace if glazed or slipping on pulleys Reduce feed pressure or use cutting fluid Use correct cutting fluid.
Poorly drilled holes.	Drill dull Lack of rigidity in hold-down method.  Speed too fast for material and drill size.  Feed too fast for material and drill size. No or improper cutting fluid or coolant being used. Improperly ground drill bit.	Sharpen drill. Check that all T-slot hold-downs are tight and that table-lock and drill head bolts are tight.  Check spindle speed recommendations. Reduce speed if necessary. Reduce feed rate. Use cutting fluid, or change to proper fluid or coolant for material being drilled. Check for proper angles and reliefs. Regrind to proper geometry.

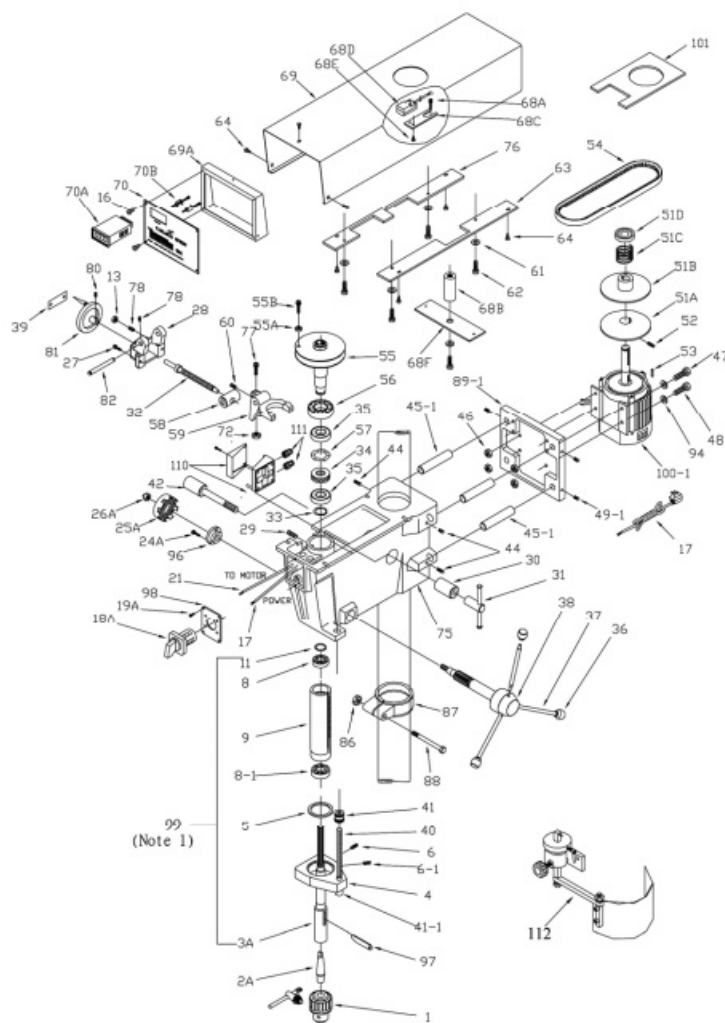
Motor overheating	Electrical circuit fault.  Oversize drill.  Excessive feed.  No cutting fluid, or wrong fluid	Check current draw in circuit. Make sure current draw is the same as rating on motor plate.  Reduce drill size.  Reduce feed rate.  Use correct cutting fluid for the material and drill.
Table cannot be raised.	Lack of lubrication	Lubricate.
No speed readout.	Speed pickup out of adjustment or failed.	Adjust gap between speed pickup and post spindle pulley. If there is no readout on the speed indicator, replace the speed pickup.

## Parts

### Ordering Replacement Parts

To order parts or reach our service department, call 1-800-274-6848 Monday through Friday (see our website for business hours, [www.jettools.com](http://www.jettools.com)). Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

### Exploded View — Head Models J-A5816 and J-A5818

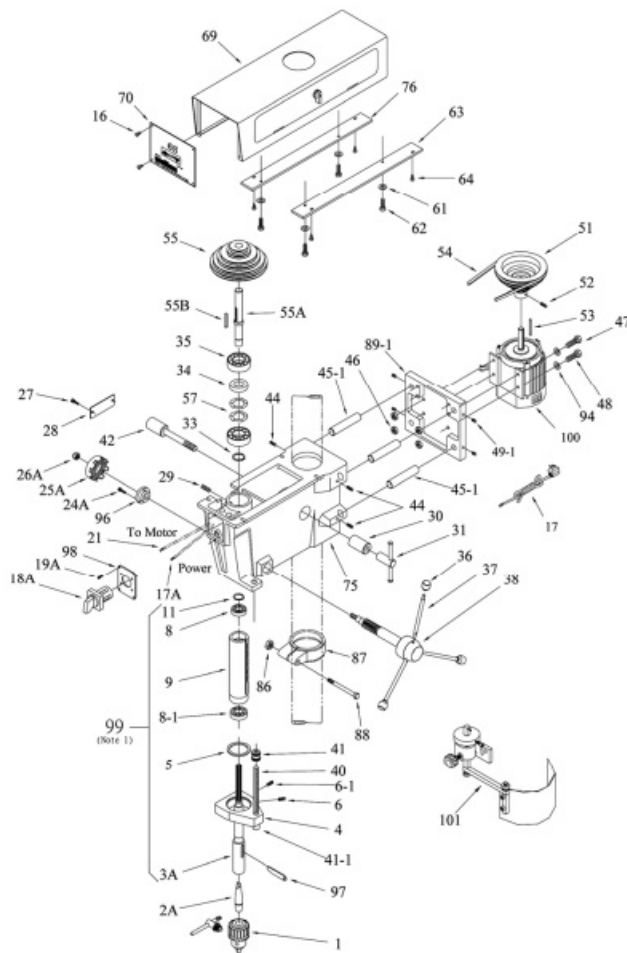


Item	Part No.	Description	Size	Qty.
1	5507580	Chuck (with Key)		1
2A	5507495	Arbor	#2 MT x JT3	1
3A	5507496A	Spindle		1
4	J-5053070G	Quill Band		1
5	9010541	O-Ring		1
6	9054511	Set Screw	5/16-18 x 3/8	2
6-1	9054511A	Flat Head Screw	M6x16	1
7	5032611	Bearing Retainer		1
8	9100331	Bearing	6203ZZ	1
8-1	9100331A	Bearing	6204ZZ	1
9	5041010	Quill		1
10	9058561	Wavy Spring Washer		1
11	9074081	Truarc Retainer		1
13	9056981	Hex Jam Nut	1/4-20	3
16	5518170	Slotted Self Tapping Screw	3/16-24 x 3/8	4
17	5518157	Power Cord (1-Phase)		1
17A	5517463	Power Cord (3-Phase)		1
18A	5507500	Switch (Single Phase)		1
	5507497	Switch (3-Phase)		1
19A	5507501	Slotted Machine Screw	1/4-20 x 1	4
21	5518158	Wiring Harness (1-Phase)		1
	5517457	Wiring Harness (3-Phase)		1
24A	5507502	Socket Head Cap Screw		3
25A	5507503	Return Spring Assemblby		1
26A	5507504	Nylon Nut		1
27	9135311	Lock Screw	1/4-20 x 1	2
28	J-5041050	Speed Change Housing		1
29	9127731	Socket Set Screw	5/16-18 x 5/16	1
30	5024541	Head Lock (Plain Side)		1
31	1000772	Lock Nut Assembly		1
32	5041071	Speed Change Shaft		1
33	9053661	Retainer		1
34	5041201	Bearing Spacer		1
35	9100321	Bearing		2
36	9070291	Knob		3
37	5053000	Spoke		3
	5053000-RHA	Rubber Handle Assembly (includes #36,37)	160mm	3
38	J-5507827G	Feed Shaft Assembly		1
39	5513378	Hi/Lo Speed Direction Plate		1
40	5053100A	Rod, Graduated		1
41	9056381	Jam Nut	5/8-11	3
41-1	9056381A	Nut M10xP1.5/Spring Washer M10		1
42	9128611	Hex Head Cap Screw	1/2-12 x 4	1
44	TS-0270031	Set Screw	5/16-18 x 3/8	4
45-1	5032781-1	Motor Plate Bar (serial no: 11110696 and higher)		4
46	9057111	Whiz Flange Locknut		4
47	TS-0152051	Carriage Bolt	5/16-18 x 2	2
48	9056171	Carriage Bolt	5/16-18 x 1-1/2	4
49-1	9058051-1	Set Screw (serial no: 11110696 and higher)	5/16"	4
51A	A5816-51A	Lower Pulley		1
51B	A5816-51B	Upper Pulley		1
51C	A5816-51C	Spring		1
51D	A5816-51D	Spring Support Cover		1
52	9054621	Socket Set Screw	1/4-20 x 1/2	2
53	5042011	Key (Motor)		1
54	9077101	Variable Speed Belt		1



Item	Part No.	Description	Size	Qty.
55	5041140	Vaiable Speed Pulley (Spindle)		1
55A	5513510	Hex Nut		1
55B	5513511	Socket Head Cap Screw		1
56	9100421	Bearing		1
57	9058571	Spring Washer		1
58	5041761	Speed Change Nut		1
59	5041040	Speed Change Lever		1
60	9127951	Socket Set Screw	1/4-20 x 1/2	1
61	9057461	Washer	1/4	3
62	9052101	Hex Head Cap Screw	1/4-20 x 1	4
63	J-5041271	Right Mounting Plate		1
64	5518170	Self Tapping Screw	3/16-24 x 3/8	7
68A	TS-0208041	Socket Head Cap Screw	5/16-18x3/4	2
68B	5513513	Spacer, Threaded		1
68C	5513514	Plate, Bracket		1
68D	5513515	Pickup, Magnetic		1
68E	5513516	Screw		2
68F	5513521	Plate		1
69	J-5041320	Cover, Pulley		1
69A	J-5513517	Bracket, Face Plate		1
70	J-5513518G	Plate, Face		1
70A	5513519	LED Display 1Ph		1
	5513736	LED Display 3 Ph		
70B	5513520	Screw, Locking		2
72	9056771	Hex Jam Nut	3/8-16	1
75	J-5041000G	Head Casting		1
76	J-5518172	Left Mounting Plate		1
77	9052831	Socket Set Screw	3/8-16 x 1	1
78	TS-0267101	Socket Set Screw	1/4-20 x 1-1/4	2
80	9052971	Socket Set Screw	5/16-18 x 5/16	1
81	5034111	Hand Wheel		1
82	5513737	Shaft speed change lever		1
86	9129051	Hex Nut	7/16-14	1
87	5041470	Collar		1
88	9128071	Hex Head Cap Screw	7/16-14 x 3-1/2	1
89-1	J-5032560-1	Motor Mounting Bracket ( <i>Serial no: 11110696 and higher</i> )		1
94	TS-0680032	Washer	5/16	8
96	5507505	Return Spring Bracket		1
97	5507507	Drift Pin		1
98	5507506	Switch Mounting Plate		1
99	5507527A	Quill Assembly (see Note)		1
100	J-A5816-100-1-1	Motor, 1 PH 115/220	1725 RPM 60 Hz	1
	A5816-100-2	Motor, 1PH 115/220	1725 RPM 50 Hz	1
	J-A5818-100-1	Motor, 3 PH 220/440	1725 RPM 50/60 Hz	1
101	A5816-01	Motor Plate		1
110	A5816-02	Connect Box		1
111	A5816-03	Strain Relief		1
112	32104A	Safety Shield Assembly (For 15" DP)		1

## Exploded View — Head Model J-A3816

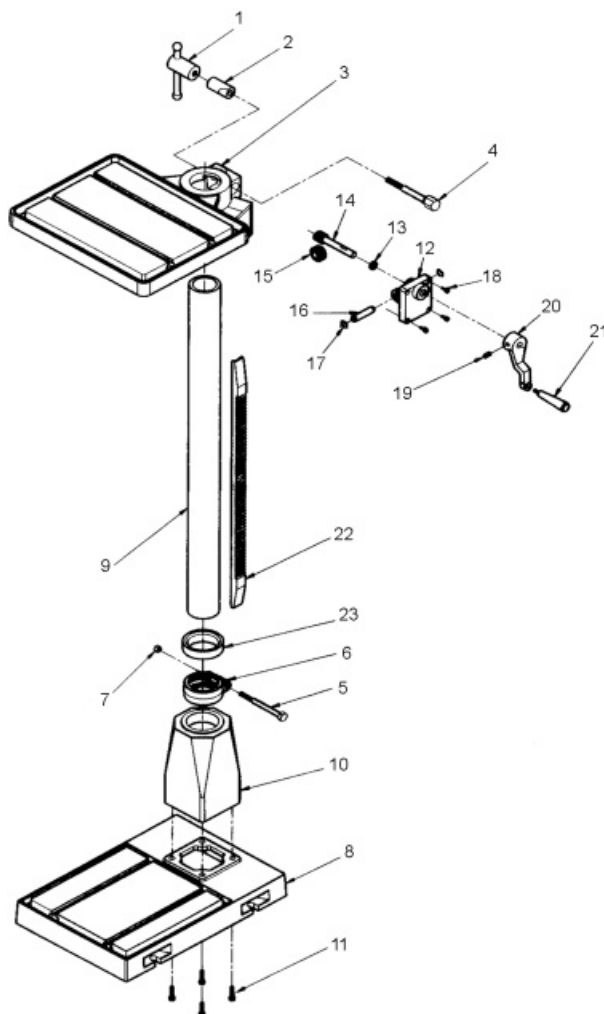


Item	Part No.	Description	Size	Qty.
1.....	5507580.....	Chuck (with Key)		1
2A.....	5507495.....	Arbor	#2 MT x JT3	1
3A.....	5507496A.....	Spindle Assembly		1
4.....	J-5053070G.....	Quill Band		1
5.....	9010541.....	O-Ring		1
6.....	9054511.....	Set Screw	5/16-18 x 3/8	2
6-1.....	9054511A.....	Flat Head Screw	M6 x 16	1
7.....	5032611.....	Bearing Retainer		1
8.....	9100331.....	Bearing	6203ZZ	1
8-1.....	9100331A.....	Bearing	6204ZZ	1
9.....	5041010.....	Quill		1
10.....	9058561.....	Wavy Spring Washer		1
11.....	9074081.....	Truarc Retainer		1
13.....	9056981.....	Hex Jam Nut	1/4-20	3
16.....	9052711.....	Self Tapping Screw	8-32 x 3/8	4
17.....	5518157.....	Power Cord (Single Phase)		1
17A.....	5517463.....	Power Cord (3-Phase)		1
18A.....	5507500.....	Switch (Single Phase)		1
	5507497.....	Switch (3-Phase)		1
19A.....	5507501.....	Slotted Machine Screw		4
21.....	5518158.....	Wiring Harness (1-Phase)		1
	5517457.....	Wiring Harness (3-Phase)		1
24A.....	5507502.....	Socket Head Cap Screw		3
25A.....	5507503.....	Return Spring Assembly		1
26A.....	5507504.....	Nylon Nut		1
27.....	5518159.....	Phillips Screw	1/4-20 x 5/16	2
28.....	5518160.....	Cover Plate		1
29.....	9127731.....	Socket Set Screw	5/16-18 x 5/16	1
30.....	5024541.....	Head Lock (Plain Side)		1
31.....	1000772.....	Lock Nut Assembly		1
33.....	9053661.....	Retainer		1
34.....	5041201.....	Bearing Spacer		1
35.....	9100321.....	Bearing		2



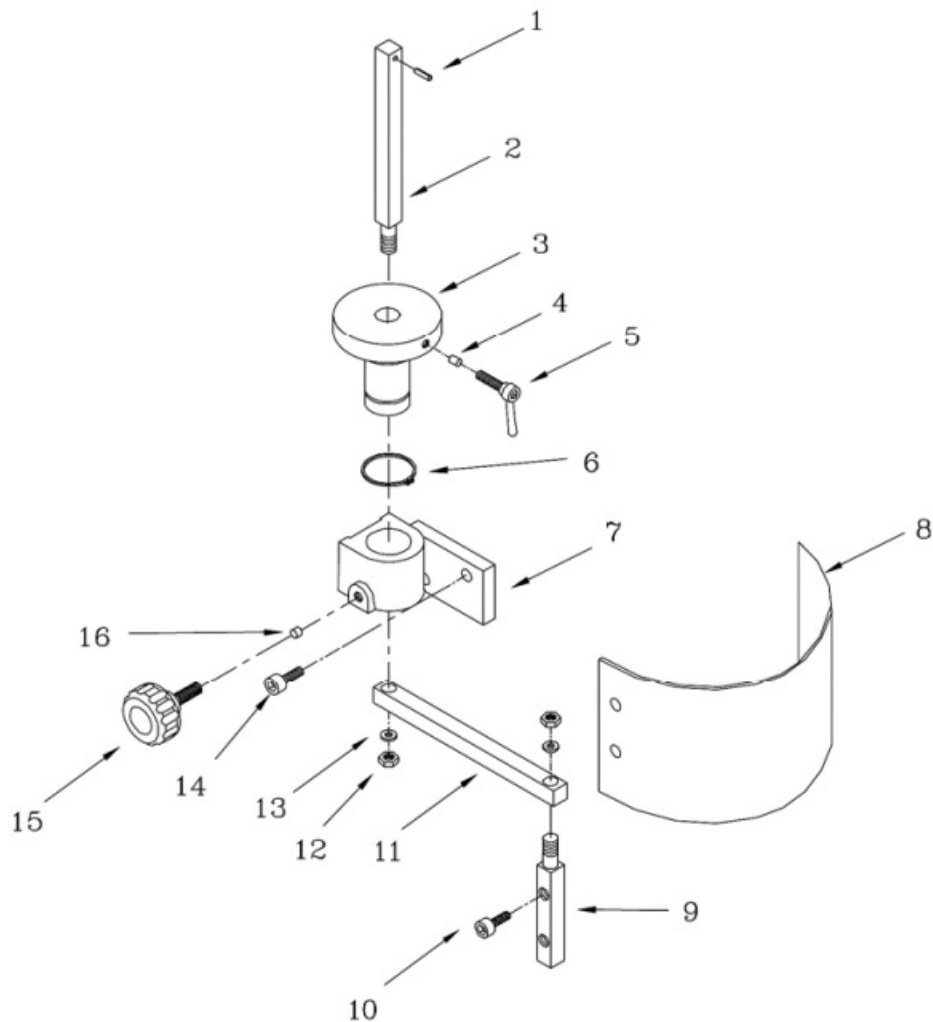
36.....	9070291.....	Knob .....	3
37.....	J-5053000.....	Spoke.....	3
.....	5053000-RHA .....	Rubber Handle Assembly (includes #36,37).....	160mm ..... 3
38.....	J-5507827G .....	Feed Shaft Assembly.....	1
40.....	5053100A .....	Rod, Graduated .....	1
41.....	9056381.....	Jam Nut.....	5/8-11 ..... 3
41-1.....	9056381A .....	Nut ... M10xP1.5/Spring Washer .....	M10 ..... 1
42.....	9128611.....	Hex Head Cap Screw .....	1/2-13 x 4 ..... 1
44.....	9052191.....	Socket Set Screw .....	5/16-18 x 1/2 ..... 4
45-1.....	5032781-1 .....	Motor Plate Bar ( <i>Serial no: 11110696 and higher</i> ).....	4
46.....	9057111.....	Whiz Flange Locknut.....	4
48.....	9056171.....	Carriage Bolt.....	5/16-18 x 1-1/2 ..... 4
49-1.....	9058051-1 .....	Set Screw ( <i>Serial no: 11110696 and higher</i> ) .....	5/16" ..... 4
51.....	5518161.....	Step Pulley (Motor).....	1
52.....	5518162.....	Socket Set Screw .....	1/4-20 x 5/16 ..... 2
53.....	5042011.....	Key (Motor) .....	1
54.....	5518163.....	Drive Belt.....	OPTI VARIO 22x8x1140 or PYRA MID 1422V 470.... 1
55.....	5518164.....	Step Pulley (Spindle).....	1
55A .....	5518165.....	Spindle Pulley Shaft .....	1
55B .....	5518166.....	Key.....	5 x 45 ..... 1
57.....	9058571.....	Spring Washer .....	2
61.....	9057461.....	Washer.....	1/4 ..... 3
62.....	9052101.....	Hex Head Cap Screw .....	1/4-20 x 1 ..... 4
63.....	J-5518167.....	Mounting Plate .....	1
64.....	9138011.....	Self Tapping Screw .....	#10 x 3/4 Type A ..... 4
69.....	J-5518168.....	Pulley Cover (w/door & latch).....	1
70.....	J-5518169G .....	Face Plate.....	1
75.....	J-5041000G .....	Head Casting.....	1
76.....	J-5518167L.....	Left Mounting Plate.....	1
86.....	9129051.....	Hex Nut.....	7/16-14 ..... 1
87.....	J-5041470.....	Collar .....	1
88.....	9128071.....	Hex Head Cap Screw .....	7/16-14 x 3-1/2 ..... 1
89-1.....	J-5032560-1.....	Motor Mounting Bracket ( <i>Serial no: 11110696 and higher</i> ) .....	1
94.....	9055281.....	Rubber Washer .....	4
96.....	5507505.....	Return Spring Bracket .....	1
97.....	5507507.....	Drift Pin .....	1
98.....	5507506.....	Switch Mounting Plate .....	1
99.....	5507527A .....	Quill Assembly (see Note) .....	1
100.....	J-5507812.....	Motor, 1 PH 115/220.....	1725 RPM 60 Hz ..... 1
.....	J-5514604.....	Motor, 1PH 115/220 .....	1725 RPM 50 Hz ..... 1
.....	J-5507813.....	Motor, 3 PH 220/440.....	1725 RPM 50/60 Hz .. 1
101.....	32104A .....	Safety Shield Assembly (For 15" DP).....	1

#### Exploded View – Base Floor Models J-A3816, J-A5816 and J-A5818



Item	Part No.	Description	Size	Qty.
1	1000772	Locknut		1
2	5003751	Table Lock (Plain Side)		1
3	J-5507508	Table		1
4	5507509	Hex Head Cap Screw		1
5	TS-0061091	Cap Screw	7/16-14 x 3-1/2	1
6	J-5041470	Collar		1
7	9129051	Hex Nut	7/16-14	1
8	J-5507528	Base		1
9	5507510	Standard Column		1
	5511850	Short Column		1
10	J-5507511	Flange (Base/Column)		1
11	5630771	HHCS	1/2-12 x 1-1/2	4
12	J-5507571	Cover Plate		1
13	5507570	Bushing		1
14	5507513	Worm, Table Raiser		1
15	5507514	Gear, Table Raiser		1
16	5507515	Shaft, Table Raiser		1
17	5507516	C-Ring, Table Raiser		2
18	TS-0050051	Socket Head Cap Screw	1/4 x 1	4
19	5507518	Socket Head Set Screw	5/16-18 x 3/8	1
20	J-5507519	Crank, Table Raiser		1
21	5507520	Handle, Table Raiser		1
22	5507521	Rack		1
23	J-5507522	Rack Ring		1
25	5507816	Table Raiser Assembly (includes index# 12 thru 17)		1

**Exploded View – Safety Shield Assembly, Models J-A3816, J-A5816 and J-A5818**





Item	Part No.	Description	Size	Qty.
	32104A	Safety Shield Assembly (For 15" DP) (#1 thru 16)		1
1	6293347	Spring Pin	3x16	1
2	32106A-2	Support Bracket Bar		1
3	32106A-3	Bushing		1
4	32106A-4	Spacer		1
5	32106A-5	Lock Handle	M6x20	1
6	32106A-6	C-Clip	S30	1
7	32106A-7	Bracket		1
8	32104A-8	Safety Shield	410x210mm	1
9	32106A-9	Lower Bracket Bar		1
10	TS-1504021	Hex Socket Head Cap Screw	M8x12	1
11	32106A-11	Support Arm		1
12	TS-0640091	Hex Nut	3/8"	1
13	TS-0720091	Spring Washer	3/8	1
14	TS-1504041	Hex Socket Head Cap Screw	M8x20	1
15	32106A-16	Lock Bolt with Knob	M8	1
16	32106A-17	Spacer		1

## ABOUT COMPANY

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- LaVergne, Tennessee 37086
- **Ph.:** 800-274-6848
- [www.jettools.com](http://www.jettools.com)

## Documents / Resources

	<p><a href="#">JET J-A3816 Variable Speed Drill Press</a> [pdf] Instruction Manual J-A3816 Variable Speed Drill Press, J-A3816, Variable Speed Drill Press, Speed Drill Press, Dri ll Press, Press</p>
	<p><a href="#">JET J-A3816 Variable Speed Drill Press</a> [pdf] Instruction Manual J-A3816 Variable Speed Drill Press, J-A3816, Variable Speed Drill Press, Speed Drill Press, Dri ll Press, Press</p>

## References

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