



Operating Instructions and Parts Manual

Variable Speed Drill Press

Model DP-15VSF



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2.0 Safety Instructions

⚠ WARNING

Failure to follow these rules may result in serious personal injury

1. FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE. Learn the machine's application and limitations as well as the specific hazards.
2. Only trained and qualified personnel can operate this machine.
3. Make sure guards are in place and in proper working order before operating machinery.
4. DO NOT bypass or defeat any safety interlock systems.
5. Remove any adjusting tools. Before operating the machine, make sure any adjusting tools have been removed. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
6. Keep work area clean. Cluttered areas invite injuries.
7. Overloading machine. By overloading the machine, you may cause injury from flying parts. DO NOT exceed the specified machine capacities.
8. Do not force tool. Your machine will do a better and safer job if used as intended. DO NOT use inappropriate attachments in an attempt to exceed the machines rated capacity.
9. Use the right tool for the job. DO NOT attempt to force a small tool or attachment to do the work of a large industrial tool. DO NOT use a tool for a purpose for which it was not intended.
10. Dress appropriately. DO NOT wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
11. Use eye protection. Always wear ISO approved protective eye wear when operating machinery. Wear a full-face shield if you are producing metal filings. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specification. Use of eye wear which does not comply with ANSI Z87.1 specification could result in severe injury from breakage of eye protection.
12. Do not overreach. Maintain proper footing and balance at all times. DO NOT reach over or across a running machine.
13. Stay alert. Watch what you are doing and use common sense. DO NOT operate any tool or machine when you are tired.
14. DO NOT operate machine if under the influence of alcohol or drugs. Read warning labels on prescriptions. If there is any doubt, DO NOT operate the machine.
15. Check for damaged parts. Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
16. Observe work area conditions. DO NOT use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. DO NOT use electrically powered tools in the presence of flammable gases or liquids.
17. Keep children away. Children must never be allowed in the work area. DO NOT let them handle machines, tools, or extension cords.
18. Keep visitors a safe distance from the work area.
19. Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.
20. DO NOT touch live electrical components or parts.
21. Turn off power before checking, cleaning, or replacing any parts.
22. Be sure all equipment is properly installed and grounded according to national, state, and local codes.
23. Keep all cords dry, free from grease and oil, and protected from sparks and hot metal.
24. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. Bare wiring can kill!
25. Know the location of the ON - OFF switch and the "E"- STOP button.
26. Machines can eject workpieces towards the operator. Know and avoid the conditions which cause the workpiece to kickback.
27. Do not leave tool running unattended. Turn power off. Do not leave tool until it comes to a complete stop.
28. Disconnect power and make sure all moving parts have come to a complete stop before changing cutting tools, starting any inspection, adjustment, or maintenance procedure.

29. Do not remove any warning signs.
30. Check safety equipment, such as safety covers, emergency stop buttons, safety mats, railings, light booms, ramps, and warning signs.
31. **⚠ WARNING** The dust generated by certain materials can be injurious to your health. Always operate machinery in well-ventilated areas and provide for proper dust removal.
32. Respiratory Protection. Wear an approved dust mask or respirator while using this machine. Continued exposure to wood dust can cause allergies or long term respiratory problems.
33. Material Removal Rate. Attempting to remove too much material at once can cause the workpiece to fly out of the lathe causing severe bodily injury.
34. Secure Bit. Properly tighten and lock the drill bit in the chuck.
35. Secure Piece Part. Unsecured objects can become rotating hazards or projectiles if not firmly secured to the table.
36. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
37. Drill Operation. Never start the drill press with the drill bit pressed against the piece part. Feed the drill bit slowly and evenly into the piece part. Position work to avoid drilling into the table.
38. Clearing Chips. Turn the machine OFF and clear chips and scrap pieces with a brush or with compressed air.
39. Operating Speed. Always operate the drill press at speeds appropriate for the size drill bit and material you are drilling.
40. Reduce the risk of unintentional starting. Make sure switch is in “OFF” position before plugging in power cord.

2.1 Additional Safety Precautions

- Turn off main power to the machine and wait for the drill bit to stop turning before removing debris, removing or securing the piece part, or changing the position of the work table.
- Never expose your hands or limbs to the cutting area while the machine is operating.
- When the machine is NOT in use, the drill bit or tool should NOT be rotating.
- Never leave the machine running while unattended. Turn the power OFF. Do not leave the machine until the spindle comes to a complete stop.
- Hold the piece part firmly against the table. DO NOT attempt to drill a piece part that does not have a flat surface against the table, or that is not secured by a vise. Prevent the piece part from rotating by clamping it to the table or by securing it against the drill press column.



Figure 2-1

- Never start the machine before clearing the table of all objects (tools, scrap pieces, etc.)
- Properly lock the drill bit, cutting tool, or sanding drum in the chuck before operating the machine.
- Check safety equipment, such as safety covers, emergency stop buttons, safety mats, railings, light booms, ramps, and warning signs.
- Make sure electrical cables are well protected from damage. Check insulation periodically for wear.
- Never use the drill press without the swing-away safety guard.
- Make sure the actuator of the limit switch is seated in the detent of the round pad or the machine will not run.

Familiarize yourself with the following safety notices used in this manual:

⚠ CAUTION

This means that if precautions are not heeded, it may result in minor injury and/or machine damage.

⚠ WARNING

This means that if precautions are not heeded, it may result in serious injury or death.

⚠ DANGER

This means that if precautions are not heeded, it will result in serious or fatal, injury.

Save the Instructions

3.0 About This Manual

This manual is provided by Baileigh Industrial, covering the safe operation and maintenance procedures for a Baileigh Model DP-15VSF Variable Speed Drill Press. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

Technical Support handles questions on setup, operation, schematics, warranty issues, and individual parts needed. Our Technical Support department can be reached at 920-684-4990.

If there are questions or comments, please contact your local supplier or Baileigh Industrial. We can also be reached at our web site: www.baileigh.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

WARNING

Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury!

Register your product online -

<https://baileigh.com/product-registration>



4.0 Product Identification

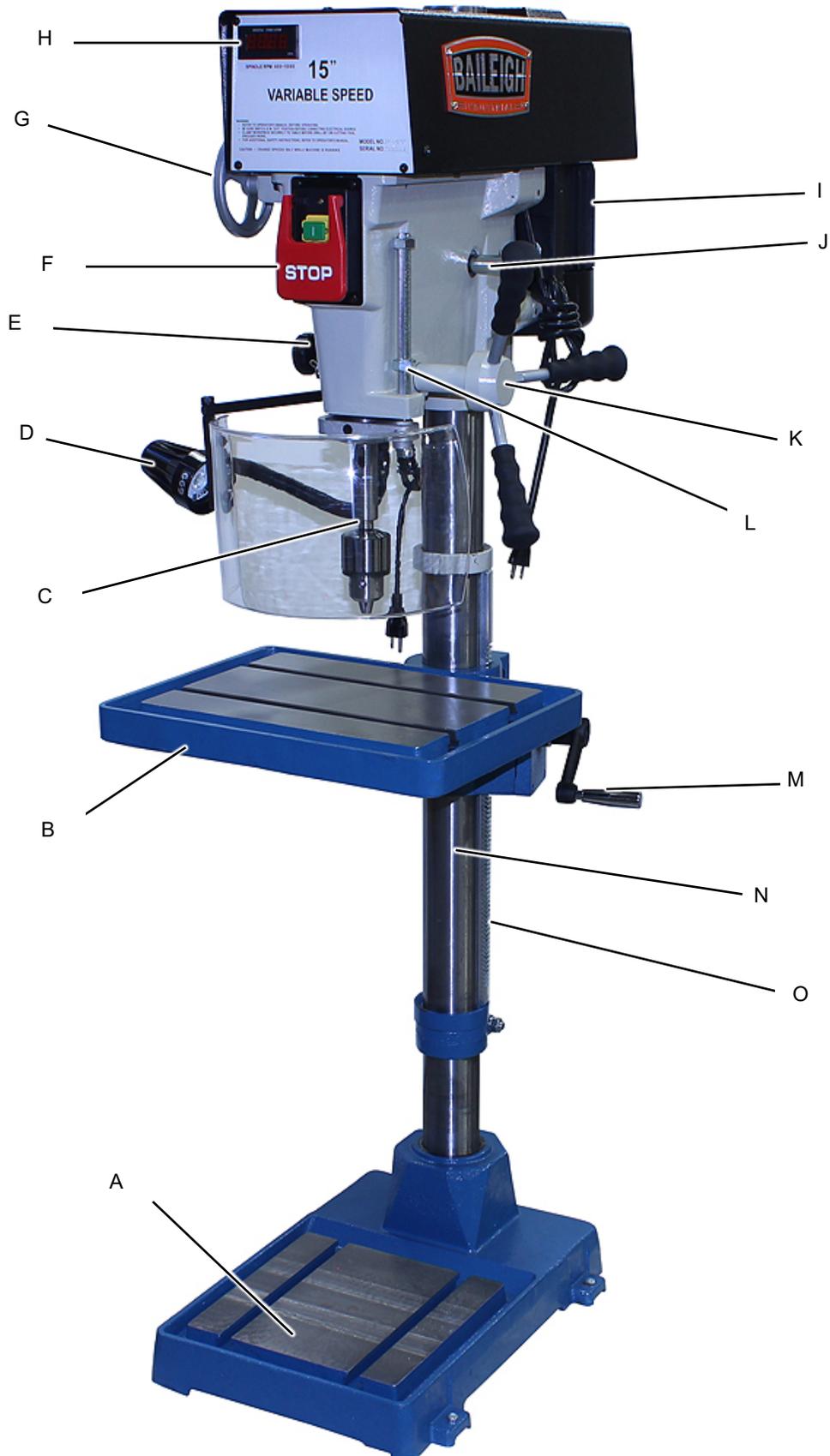


Figure 4-1

Table 4-1

Item	Description
A	Base
B	Work Table
C	Spindle
D	Work Lamp
E	Chuck Guard Interlock Switch (Not Visible)
F	On/Off Switch
G	Speed Setting Handle Wheel
H	LED Speed Display
I	Motor
J	Head Locking Handle
K	Quill Feed Handle
L	Depth Stop
M	Table Height Adjustment
N	Column
O	Table Height Adjustment Rack

5.0 Specifications

Table 5-1

Model number	DP-15VSF
Stock number	BA9-1002989
Motor and Power	
Motor (Pre-Wired 115v)	1hp (.74kw), 115V/220V, 1ph, 60hz, 14/7A, 1730rpm
Voltage	115V/220V, 1ph, 60hz (Pre-Wired 115V)
Work Lamp Power	100V~240V (separate power plug from drill press.)
General Specifications	
Description	Floor Drill Press
Type	Belt drive
Drilling Capacity Cast Iron	5/8" (16mm)
Drilling Capacity Steel	1/2" (13mm)
Swing	15" (381mm)
Work Lamp	12V, 6W
Spindle Speed Variable	400~5000RPM (±5%)
Number of Speeds	Variable
Chuck Size	5/8" (16mm) (optional accessory)
Spindle Taper	MT2#
Spindle Travel	6" (150mm)
Spindle Nose to Table	27" (680mm)
Spindle Nose to Base	46" (1170mm)
Column Diameter	3" (75mm)
Quill Diameter	2.25" (57mm)
Table Travel	16.75" (425mm)
Table Size	14" x 18" (356 x 455mm)
Table Work Surface	11.25" x 14.5" (285 x 368mm)
Table Capacity	90lbs (41kgs)
Table Slot	2 @ 9/16" (14mm)
Table Slot Centers	5.31" (135mm)
Base Size (L x W)	21" x 14" (525 x 360mm)
Machine Size (L x W x H)	30" x 20" x 71" (760 x 580 x 1803mm)
Includes	LED Readout
Weights and Dimensions	
Net Weight	394lbs (170kgs)
Gross Weight	450lbs (205kgs)
Shipping Dimensions	60" x 44" x 77" (1524 x 1118 x 1956mm)

⚠ WARNING

Read and understand the entire contents of this manual before attempting assembly or operation. Failure to comply may cause serious injury.

6.0 Setup and Assembly

6.1 Unpacking and Checking Contents

Your Baileigh machine is shipped complete. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

⚠ WARNING

SUFFOCATION HAZARD! Immediately discard any plastic bags and packing materials to eliminate choking and suffocation hazards to children and animals.

⚠ WARNING

If any parts are missing, **DO NOT** place the machine into service until the missing parts are obtained and installed correctly.

6.2 Cleaning

⚠ WARNING

DO NOT USE gasoline or other petroleum products to clean the machine. They have low flash points and can explode or cause fire.

⚠ CAUTION

When using cleaning solvents work in a well-ventilated area. Many cleaning solvents are toxic if inhaled.

Your machine may be shipped with a rustproof waxy coating and/or grease on the exposed unpainted metal surfaces. Fully and completely remove this protective coating using a degreaser or solvent cleaner. Moving items will need to be moved along their travel path to allow for cleaning the entire surface. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces.

Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.

IMPORTANT: This waxy coating is **NOT** a lubricant and will cause the machine to stick and lose performance as the coating continues to dry.

6.3 Transporting and Lifting

NOTICE

Lifting and carrying operations should be carried out by skilled workers, such as a truck operator, crane operator, etc. If a crane is used to lift the machine, attach the lifting chain carefully, making sure the machine is well balanced.

Follow these guidelines when lifting with truck or trolley:

- The lift truck must be able to lift at least 1.5 – 2 times the machines gross weight.

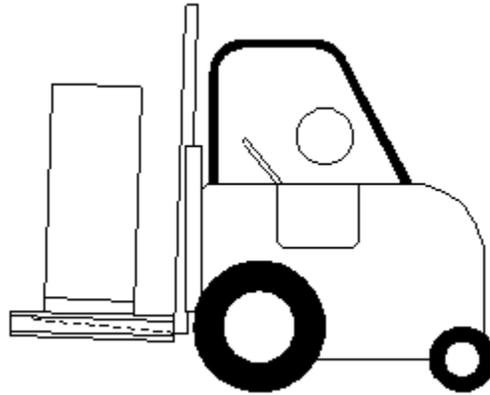


Figure 6-1

- Make sure the machine is balanced. While transporting, avoid rough or jerky motion, and maintain a safe clearance zone around the transport area.
- Use a fork lift with sufficient lifting capacity and forks that are long enough to reach the complete width of the machine.
- Remove the securing bolts that attach the machine to the pallet.
- Approaching the machine from the side, lift the machine on the frame taking care that there are no cables or pipes in the area of the forks.
- Move the machine to the required position and lower gently to the floor.
- Level the machine so that all the supporting feet are taking the weight of the machine and no rocking is taking place.

6.4 Installation

IMPORTANT:

Consider the following when looking for a suitable location to place the machine:

- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, work tables, or other machinery.

- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Keep the floor free of oil and make sure it is not slippery.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- It is important to maintain free area around the machine, which is required for the working place. If any long material is machined, it is necessary to have a sufficient room in front of the machine as well behind it in the places of material input and output.
- **LEVELING:** The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.
- **FLOOR:** This machine distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting the weight of the machine, work stock, and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.
- **WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.
- **POWER SUPPLY PLACEMENT:** The power supply should be located close enough to the machine so that the power cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.

- Once positioned, anchor the machine to the floor, as shown in the diagram. Use bolts and expansion plugs or sunken tie rods that connect through and are sized for the holes in the base of the stand.
- This machine requires a solid floor such as concrete at a minimum of 4" (102mm) thick. 6" (153mm) minimum is preferred.

6.4.2 Included Items

Table 6-1

Item	Qty
Leveling Bolts	4
Drift Key	1
Crank Lever	1
Crank Handle	1
Drill Chuck with Key	1
Drill Chuck Arbor	1

6.5 Assembly

⚠ WARNING

For your own safety, **DO NOT** connect the machine to the power source until the machine is completely assembled and you read and understand the entire instruction manual.

6.6 Arbor and Chuck



Figure 6-3

1. Clean and dry the full length of the arbor shaft, the spindle bore, and the chuck bore.
2. Adjust the chuck so that the jaws are retracted into the chuck body.
3. Using a soft mallet, tap the chuck firmly onto the straight end of the arbor.
4. Then insert the chuck and arbor assembly into the spindle shaft and align the arbor tang to the internal tang slot.
5. Tap the chuck and arbor assembly up onto the spindle shaft.

6.4.1 Anchoring the Machine

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 for leveling the drill press.

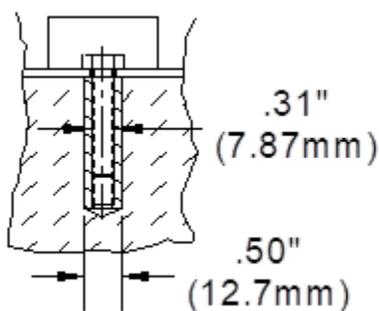


Figure 6-2

6.7 Head Positioning

The Drill Press is shipped with the head in lowered position.

1. Position the drill press in the desired location and level and secure the drill press to prevent movement and tip over.

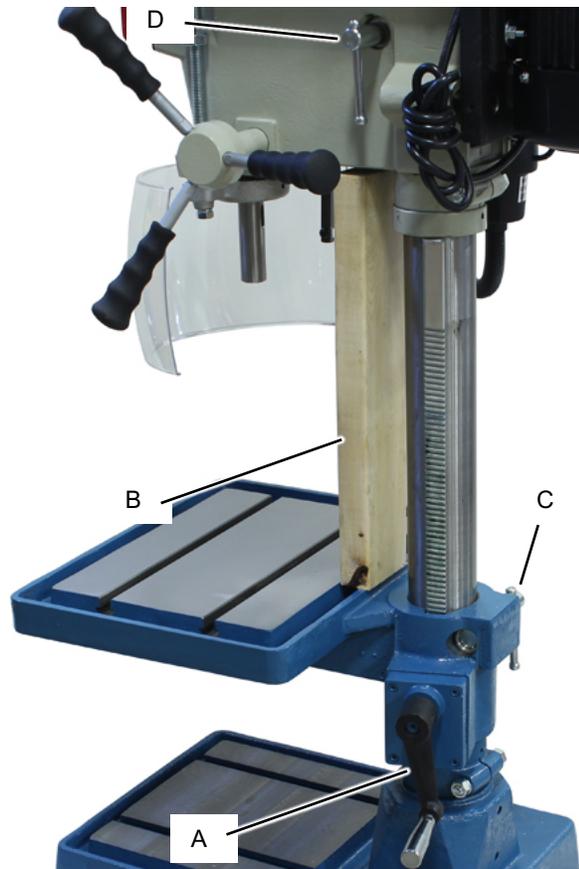


Figure 6-4

2. Install and secure the crank lever and the crank handle (A) onto the elevation shaft.
3. Cut a piece of 2x4 - 18" long (B) to use to lift the head assembly using the table elevation crank.
4. Loosen the table clamping bolt (C).
5. Place the 2x4 on the table and under the drill head. Verify that 2x4 is setting firmly on the table and under the drill head.
6. Hold the board in position and carefully raise the table until the board is tight between the table and the drill head.
7. Loosen locking handle (D) on head and using the table crank handle, raise the drill head until the top of the column is flush (or even) with the top of the drill head belt guard cover.

 **Note:** DO NOT raise the drill head enough to allow the column to be below the top of the head.

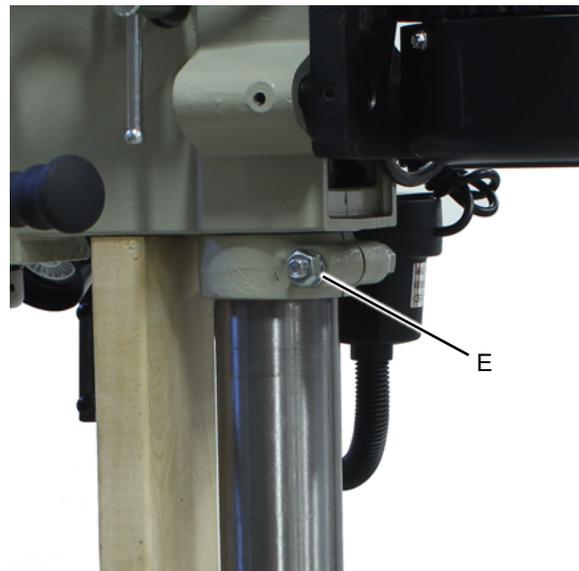


Figure 6-5

8. Tighten the drill head locking bolt (D) to hold the head in position.
9. Use a wrench to loosen the hex screw on the head collar (E) and raise the head collar until it is firmly contacting the head. Firmly tighten the screw on the head collar.
10. Lower the table and remove the 2x4.

6.8 Raise the Rack

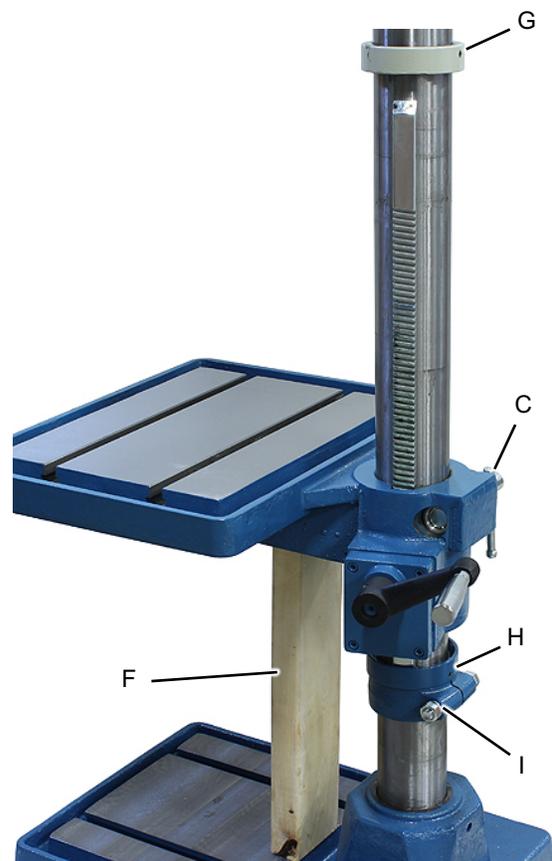


Figure 6-6

1. Position the 2x4 on the base and under the table (F) as shown and lower the table onto the 2x4.
2. Loosen the set screw (G) on the upper rack ring and raise rack ring 5" – 6" to allow clearance for the rack to raise. Tighten the set screw.
3. Turn the table crank handle counter-clockwise as if lowering the table. This will cause the rack to raise. Raise the rack until it is just in contact with the upper rack ring (G).
4. Loosen the set screw (H) on the lower rack ring and raise rack ring until it is in contact with the rack. Tighten the set screw.
5. Use a wrench to loosen the hex screw on the rack collar (I) and raise the rack collar until it is firmly contacting the lower rack ring. Firmly tighten the screw on the head collar.
6. Raise the table enough to remove the 2x4.
7. Set the table to the desired height and tighten the table clamp bolt (C).

7.0 Electrical Connection

⚠ CAUTION

HAVE ELECTRICAL UTILITIES CONNECTED TO MACHINE BY A CERTIFIED ELECTRICIAN!

Check if the available power supply is the same as listed on the machine nameplate.

⚠ WARNING

Make sure the grounding wire (green) is properly connected to avoid electric shock. DO NOT switch the position of the green grounding wire if any electrical plug wires are switched during hookup.

7.1 Power Specifications

Your machine is Pre-wired for 115 volts, 60hz alternating current. Before connecting the machine to the power source, make sure the power source is OFF.

Before switching on the power, you must check the voltage and frequency of the power to see if they meet with the requirement, the allowed range for the voltage is $\pm 5\%$, and for the frequency is $\pm 1\%$.

7.2 Considerations

- Observe local electrical codes when connecting the machine.
- The circuit should be protected with a time delay fuse or circuit breaker with a amperage rating slightly higher than the full load current of machine.

- A separate electrical circuit should be used for your machine. Before connecting the motor to the power line, make sure the switch is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the machine.
- All line connections should make good contact. Running on low voltage will damage the motor.
- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

⚠ WARNING

In all cases, make certain the receptacle in question is properly grounded. If you are not sure, have a qualified electrician check the receptacle.

- Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Repair or replace damaged or worn cord immediately.

7.3 Extension Cord Safety

Extension cord should be in good condition and meet the minimum wire gauge requirements listed below:

Table 7-1

Amp Rating	Length		
	25ft	50ft	100ft
1-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No
Wire Gauge			

An undersized cord decreases line voltage, causing loss of power and overheating. All cords should use a ground wire and plug pin. Replace any damaged cords immediately.

7.4 Power Cord Connection

1. Turn the main disconnect switch on the control panel to the OFF position.
2. Unwrap the power cord and route the cord away from the machine toward the power supply.
 - a. Route the power cord so that it will NOT become entangled in the machine in any way.
 - b. Route the cord to the power supply in a way that does NOT create a trip hazard.
3. Connect the power cord to the power supply and check that the power cord has not been damaged during installation.
4. When the machine is clear of any obstruction. The main power switch may be turned ON to test the operation. Turn the switch OFF when the machine is not in operation.

8.0 Electrical Wiring Diagram

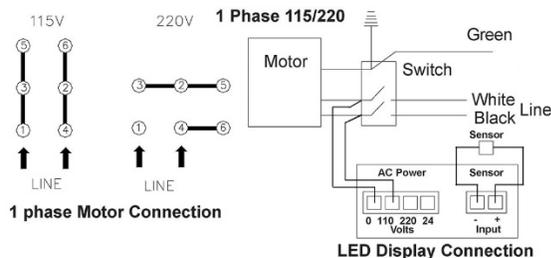


Figure 8-1

8.1 Voltage Change

This drill press is prewired for 115 volt input power, but can be converted to 220 volt input. This change requires that the motor and the DRO wiring be changed from 110V to 220V.

1. Verify that the drill press is disconnected from any power supply.
2. Open the terminal box cover on the side of the electrical motor.
3. Using the wiring diagram, change the lead connections to match the pattern and terminal connections shown in the diagram above. DO NOT change the Green (ground) connection.
4. Apply the black tape to the wire nut connections to secure the connections. Replace and secure the cover.
5. Remove existing plug from power cable and attach a UL/CSA listed plug designed for 230V power; or "hardwire" the machine directly to a panel. If hardwiring, make sure a disconnect is provided for the operator.
6. At the front of the drill press, remove the four screws securing the face panel.

7. Carefully pull the panel forward and rotate downward to access the DRO wire connections.
8. Follow the terminal markings to change to the wire in the 110V terminal to the 220V terminal.
9. Watch that the DRO wires do not entangle in the pulleys and install and secure the front panel.

9.0 Operating Controls

CAUTION

Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.

CAUTION

When handling large heavy material make sure they are properly supported.

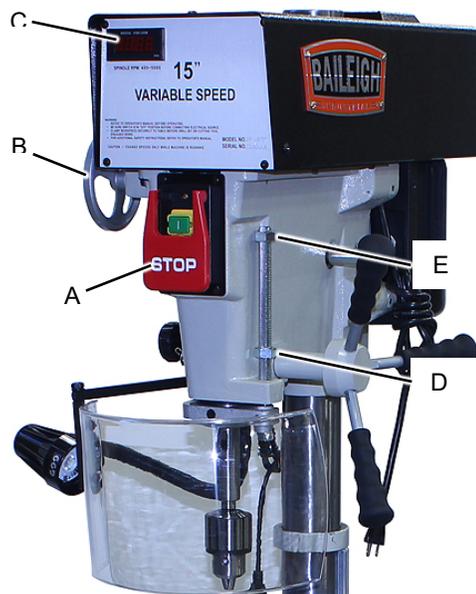


Figure 9-1

9.1 ON/OFF Switch

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

Press the Green button to start and run the drill.

Press the Red paddle to stop the drill. This is used for normal and emergency stopping of the drill motor.

9.2 Speed Control Handwheel

CAUTION

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

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

When the drill is running, turn the speed control handwheel until the desired RPM is displayed on the LED screen.

9.3 Depth Stop

A drilling depth stop is provided on the right side of the drill head.

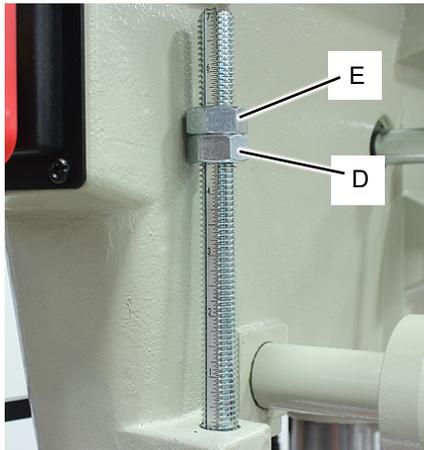


Figure 9-2

The depth stop consists of a threaded rod with a depth setting nut (D) and a jam nut (E).

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.

The depth setting is measured from the bottom of the setting nut. In this picture it is at 4.5"

10.0 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. MAKE SURE THE DRIVE MOTOR IS RUNNING 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.

11.0 Drilling Recommendations

11.1 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:

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

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

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.

11.2 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.

12.0 Machine Adjustments

12.1 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.

12.2 Table Adjustment

The table can be raised or lowered to accommodate the height of the component being drilled.

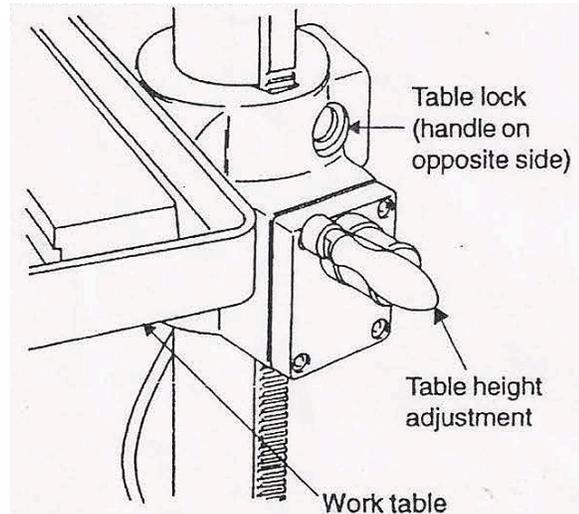


Figure 12-1

- 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.

12.3 Removing the Tools from Spindle Bore

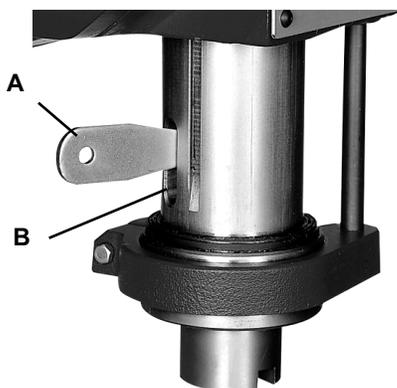


Figure 12-2

1. Disconnect machine from power supply.
2. Place a thin wood plank on the worktable to protect the surface of the worktable.
3. Raise the worktable to about 10" (250mm) under the bit.
4. Lower the spindle about 6" (150mm).

5. Place the drift key (A) into the aperture (B) of the quill and tap the end of the drift key with a hammer until the bit or chuck arbor falls down.

12.4 Spindle-Return Spring

The spindle-return spring is the retraction mechanism for the spindle. The spindle cap has slots along the side. Over time, the spindle return may become slow or lethargic. Adjust the spindle return mechanism so that the spindle retracts smoothly with the bit installed, without slamming back to the up position.

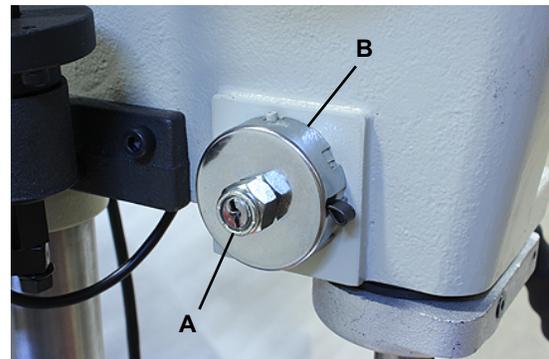


Figure 12-3

1. First, clean and lubricate the spindle and test for operation. If the retraction remains slow, proceed to the next steps.
2. Loosen the nut (A) by turning it counter-clockwise.
3. Rotate the spring casing (B) one slot at a time to increase the spring tension. Counter-clockwise will increase the tension.
4. Tighten the nut by turning it clockwise.
5. Test the spindle return and repeat the process if needed.

13.0 Maintenance

⚠ WARNING

Make sure the electrical disconnect is OFF before working on the machine.

⚠ WARNING

Maintenance should be performed on a regular basis by qualified personnel.

⚠ WARNING

Always follow proper safety precautions when working on or around any machinery.

13.1 Daily Maintenance

- Do a general cleaning by removing dust and chips from the machine.
- Check and tighten any loose mounting bolts.

- Sharpen or replace any worn or damaged tooling.
- Inspect the power plug and cord.
- Keep area around machine clear of debris.
- Check for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.

13.2 Monthly Maintenance

- Check that all screws and bolts are tight and secure.
- Check for worn or damaged electrical cables.

Note: When cleaning chips and debris from the machine, use a brush and a shop vacuum. DO NOT blow off the machine with compressed air. The force of the compressed air may force chips into critical mechanisms or may inflict injury to yourself or others.

Note: Proper maintenance can increase the life expectancy of your machine.

13.3 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 first.)
- Variable speed drive fork: Lubricate contact points occasionally with grease.

13.4 Replacement of Drive Belt

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.

13.5 Replacement of Motor

1. Disconnect electrical power to drill press.
2. Remove drive belt (refer to 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 (refer to Replacement of Drive Belt).
10. Operate drill press to verify proper operation.

14.0 Troubleshooting

⚠ WARNING

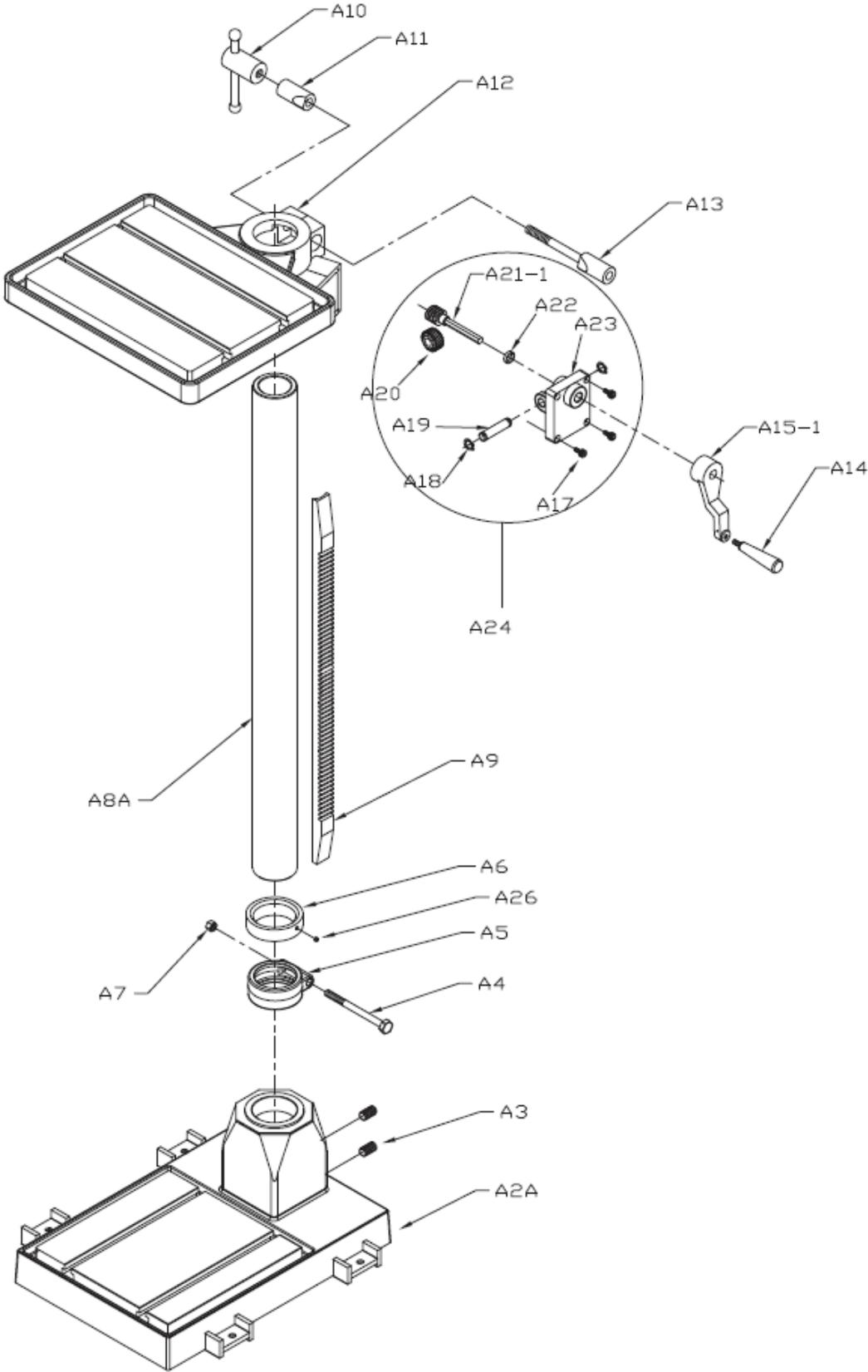
Make sure the electrical disconnect is OFF before working on the machine.

Table 14-1

Problem	Possible Cause	Remedy
Spindle does not turn.	Circuit breaker tripped.	Reset circuit breaker.
	Branch circuit breaker tripped, or fuse blown.	Reset branch circuit breaker/replace fuse.
	Open wire in switch circuit.	Repair, open circuit.
	Defective switch.	Repair switch.
	Broken drive belt.	Replace drive belt.
Spindle noisy.	Damaged spindle bearings.	Replace bearings.
	Worn spline.	Replace spline.
Drill stalls.	Worn drive belt.	Check condition of belt. Replace if glazed or slipping on pulleys.
	Excessive feed rate for size of drill and material being drilled.	Reduce feed pressure or use cutting fluid.
	No cutting fluid or improper cutting fluid.	Use correct cutting fluid.
Poorly drilled holes.	Drill dull.	Sharpen drill.
	Lack of rigidity in hold-down method.	Check that all T-slot hold-downs are tight, and that table-lock and drill head bolts are tight.
	Speed too fast for material and drill size.	Check spindle speed recommendations. Reduce speed if necessary.
	Feed too fast for material and drill size.	Reduce feed rate.
	No or improper cutting fluid or coolant being used.	Use cutting fluid or change to proper fluid or coolant for material being drilled.
	Improperly ground drill bit.	Check for proper angles and reliefs. Re grind to proper geometry.
Table cannot be raised.	Lack of lubrication.	Lubricate.
	Column or table clamp dirty or damaged.	Clean or repair/replace as needed.
Motor overheating.	Electrical circuit fault.	Check current draw in circuit. Make sure current draw is the same as rating on motor plate.
	Oversize drill.	Reduce drill size.
	Excessive feed.	Reduce feed rate.
	No cutting fluid or wrong fluid.	Use correct cutting fluid for the material and drill.
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.

15.0 Replacement Parts

15.1.1 Base / Table Assembly – Exploded View



15.1.2 Base / Table Assembly – Part List

Index No.	Part No.	Description	Size	Qty.
A2A	BA9-1227001	Base		1
A3	**	Set Screw	1/4"	2
A4	**	Hex Head Cap Screw	1/2"-12x4"	2
A5	BA9-1229734	Collar		2
A6	BA9-1229735	Rack Ring		2
A7	**	Hex Nut	7/16-14	2
A8A	BA9-1227003	Column		1
A9	**	Rack		1
A10	**	Lock handle		1
A11	**	Table Wedge Lock (Plain Side)		1
A12	**	Table		1
A13	**	Wedge Head Screw	1/2" x 4"	1
A14	BA9-1227026	Grip, Table Raiser		1
	BA9-1228887			
	BA9-1228886			
A17	BA9-1228885	Hex Head Cap Screw	1/4x1	4
A18	BA9-1228884	C-Ring, Table Raiser		2
A19	BA9-1228883	Shaft Table Raiser		1
A20	BA9-1228882	Gear Table Raiser		1
	BA9-1228881			
A22	BA9-1228880	Bushing / Brass Ring		1
A23	BA9-1228879	Raise Bracket		1
A24	BA9-1228878	Table Raiser Assembly		1
A26	**	Set Screw	M6x6	2

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

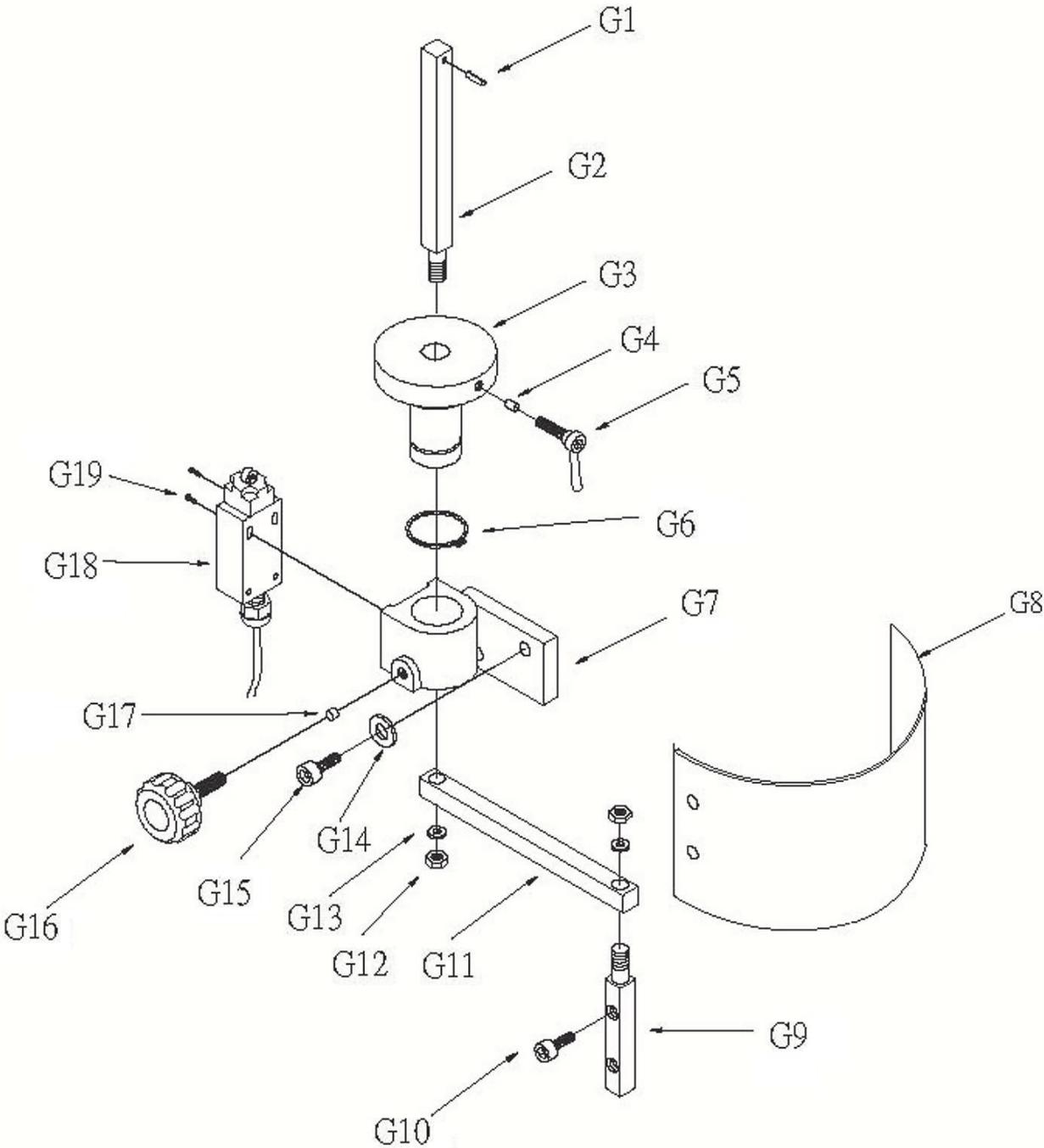
15.1.4 Head Assembly – Part List

Index No.	Part No.	Description	Size	Qty.
B1	**	Chuck with Key		1
B2	**	Nut/Spring Washer 10	M10 x P1.5	1
B3	**	Quill Band		1
B4	**	Flat Head Screw	M6x16	1
B5	**	Set Screw	M6x1	1
B6	BA1-9502	Rod, Graduated		1
B7	**	Jam Nut	05-08-2011	2
B8	**	Spindle	(MT2# / JT3#)	1
B9	**	O-Ring		1
B10	**	Bearing	6204ZZ	1
B11	**	Quill		1
B12	**	Bearing	6203ZZ	1
B13	**	Truarc Retainer		1
B15	**	Head Casting		1
B16	**	Feed Shaft		1
B17	**	Spoke with Grip		3
B19	**	Lock Handle		1
B20	**	Head Wedge Lock (Plain Side)		3
B21	**	Set Screw	5/16-18 x 3/8	4
B25	**	Motor Mounting Bracket		1
B26	**	Washer	May-16	8
B27	**	Screw	5/16-18x2	4
B28	**	Nut	May-16	4
B29	**	Bearing	6205ZZ	2
B30	**	Bearing Spacer		1
B31	**	Spring Washer		2
B32	**	Retainer		1
B33	**	Hex Head Cap Screw	1/2-12x4	1
B34	**	Set Screw	5/16-18 x 5/16	1
B35	**	Nylon Nut	1/2"	1
B36	BA9-1226963	Return Spring		1
B37	**	Socket Head Cap Screw	1/4"-1"	3
B38	**	Return Spring Bracket		1
B39	**	Wiring Harness		1
B40	**	Wiring Harness		1
B41	**	Switch Mounting Plate		1
B42	BA9-1017632	Switch, On/Off 4 Pole		1
B43	**	Cap Screw		2
B44	**	Round Head Screw	1/4"-20x1/4"	4
B45	**	Hand Wheel		1
B46	**	Set Screw	5/16-18x5/16"	1
B47	**	Nut	01-04-2020	2
B48	**	Cap Screw	01-04-2020	2
B49	**	Set Screw	1/4-20x1-1/4"	2
B50	**	Plate		1
B51	**	Speed Change Housing		1
B52	**	Shaft Speed Change Lever		1
B53	**	Speed Change Shaft		1
B54	**	Speed Change Nut		1
B55	**	Speed Change Lever		1
B56	**	Nut	03-08-2016	1
B57	**	Set Screw	1/4-20x1/2	1
B58	**	Set Screw	3/8-16x1	1
B59	BA9-1227043	LED Display		1
B60	**	Screw	3/16-24x3/8	4
B61	**	Plate Face		1
B62	**	Screw Locking		2
B63	**	Bracket, Face Plate		1
B64	**	Screw	3/16-24x3/8"	3

Index No.	Part No.	Description	Size	Qty.
B65	**	Cover, Pulley		1
B66	**	Screw		2
B67	BA9-1227498	Sensor		1
B68	**	Cap Screw	M8x12	1
B69	**	Plate, Bracket		1
B70	**	Variable Speed Pulley (Spindle)		1
B71	**	Hex Nut	3/16"	1
B72	**	Cap Screw		1
B73	**	Cap Screw	M8x12	1
B74	**	Washer	5/16"	1
B75	**	Screw	3/16"	4
B76	**	Washer	1/4"	4
B77	**	Cap Screw	1/4"	4
B78	**	Supporter		1
B79	BA9-1015845	Belt		1
B80	BA9-1227499	Spring Cover		1
B81	BA9-1227500	Spring		1
B82	BA9-1227501	Variable Speed Pulley-A (Motor)		1
B83	BA9-1227502	Variable Speed Pulley-B (Motor)		1
B84	BA9-1227503	Screw	1/4"	3
B85	BA9-1227504	Spring Washer	1/4"	3
B86	BA9-1227505	Motor Plate		1
B87	BA9-1227506	M1 Motor 1HP/115V/230V/60HZ/1PH		1
B90	**	Bar/ Motor Mounting Plate		4
B91	**	Hex Head Screw	1/4" x 1"	4
B92	BA9-1022737	Bearing	6009ZZ	1
B93	**	Chuck Arbor,	MT2 - JT3	1
B95	BA9-1227507	LED Work Lamp, 110/12V		1
	BA9-1227597	LED Work Lamp Bulb, 12VAC/DC MR16 GU5.3		1
B96	**	Safety Guard Assembly (with shut off micro switch)		1
	BA9-1227545	ON/OFF SWITCH 220V/1PH/5 POLE WITH CABLES		

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

15.1.5 Chuck Guard Assembly – Exploded View



15.1.6 Head Assembly – Part List

Index No.	Part No.	Description	Size	Qty.
G1	**	Spring Pin,	3x16mm	1
G2	**	Support Bracket Bar		1
G3	**	Bushing		1
G4	**	Spacer		1
G5	BA9-1230563	Lock Handle	M6x20	1
G6	**	C-Clip	S30	1
G7	**	Bracket		1
G8	BA9-DP15VSF-G8	Safety Shield, Lexan	410x210mm	1
G9	**	Lower Bracket Bar		1
G10	**	Hex Socket Head Cap Screw	M8x12	1
G11	**	Support Arm		1
G12	**	Hex Nut 3/8"	3/8"	1
G13	**	Spring Washer	3/8"	1
G14	**	Spacer		1
G15	**	Lock Bolt with Knob	M8x20	1
G16	**	Lock Bolt with Knob	M8x18	1
G17	**	Spacer		1
G18	BA9-DP15VSF-G18	Micro Switch		1
G19	**	Screw	M4x20	1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

16.0 Warranty and Service

Thank you for your purchase of a machine from Baileigh Industrial. We hope that you find it productive and useful to you for a long time to come.

Inspection & Acceptance. Buyer shall inspect all Goods within ten (10) days after receipt thereof. Buyer's payment shall constitute final acceptance of the Goods and shall act as a waiver of the Buyer's rights to inspect or reject the Goods unless otherwise agreed. If Buyer rejects any merchandise, Buyer must first obtain a Returned Goods Authorization ("RGA") number before returning any Goods to Seller. Goods returned without an RGA will be refused. Seller will not be responsible for any freight costs, damages to Goods, or any other costs or liabilities pertaining to Goods returned without an RGA. Seller shall have the right to substitute a conforming tender. Buyer will be responsible for all freight costs to and from Buyer and repackaging costs, if any, if Buyer refuses to accept shipment. If Goods are returned in unsalable condition, Buyer shall be responsible for full value of the Goods. Buyer may not return any special-order Goods. Any Goods returned hereunder shall be subject to a restocking fee equal to 30% of the invoice price.

Specifications. Seller may, at its option, make changes in the designs, **specifications**, or components of the Goods to improve the safety of such Goods, or if in Seller's judgment, such changes will be beneficial to their operation or use. Buyer may not make any changes in the specifications for the Goods unless Seller approves of such changes in writing, in which event Seller may impose additional charges to implement such changes.

Limited Warranty. Seller warrants to the original end-user that the Goods manufactured or provided by Seller under this Agreement shall be free of defects in material or workmanship for a period of twelve (12) months from the date of purchase, provided that the Goods are installed, used, and maintained in accordance with any instruction manual or technical guidelines provided by the Seller or supplied with the Goods, if applicable. The original end-user must give written notice to Seller of any suspected defect in the Goods prior to the expiration of the warranty period. The original end-user must also obtain an RGA from Seller prior to returning any Goods to Seller for warranty service under this paragraph. Seller will not accept any responsibility for Goods returned without an RGA. The original end-user shall be responsible for all costs and expenses associated with returning the Goods to Seller for warranty service. In the event of a defect, Seller, at its sole option, shall repair or replace the defective Goods or refund to the original end-user the purchase price for such defective Goods. Goods are not eligible for replacement or return after a period of 10 days from date of receipt. The foregoing warranty is Seller's sole obligation, and the original end-user's exclusive remedy, with regard to any defective Goods. This limited warranty does not apply to: (a) die sets, tooling, and saw blades; (b) periodic or routine maintenance and setup, (c) repair or replacement of the Goods due to normal wear and tear, (d) defects or damage to the Goods resulting from misuse, abuse, neglect, or accidents, (f) defects or damage to the Goods resulting from improper or unauthorized alterations, modifications, or changes; and (f) any Goods that has not been installed and/or maintained in accordance with the instruction manual or technical guidelines provided by Seller.

EXCLUSION OF OTHER WARRANTIES. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY AND ALL OTHER EXPRESS, STATUTORY, OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. NO WARRANTY IS MADE WHICH EXTENDS BEYOND THAT WHICH IS EXPRESSLY CONTAINED HEREIN.

Limitation of Liability. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY OTHER PARTY FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR DOWN TIME) ARISING FROM OR IN MANNER CONNECTED WITH THE GOODS, ANY BREACH BY SELLER OR ITS AGENTS OF THIS AGREEMENT, OR ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY OF LIABILITY. BUYER'S REMEDY WITH RESPECT TO ANY CLAIM ARISING UNDER THIS AGREEMENT IS STRICTLY LIMITED TO NO MORE THAN THE AMOUNT PAID BY THE BUYER FOR THE GOODS.

Force Majeure. Seller shall not be responsible for any delay in the delivery of, or failure to deliver, Goods due to causes beyond Seller's reasonable control including, without limitation, acts of God, acts of war or terrorism, enemy actions, hostilities, strikes, labor difficulties, embargoes, non-delivery or late delivery of materials, parts and equipment or transportation delays not caused by the fault of Seller, delays caused by civil authorities, governmental regulations or orders, fire, lightning, natural disasters or any other cause beyond Seller's reasonable control. In the event of any such delay, performance will be postponed by such length of time as may be reasonably necessary to compensate for the delay.

Installation. If Buyer purchases any Goods that require installation, Buyer shall, at its expense, make all arrangements and connections necessary to install and operate the Goods. Buyer shall install the Goods in accordance with any Seller instructions and shall indemnify Seller against any and all damages, demands, suits, causes of action, claims and expenses (including actual attorneys' fees and costs) arising directly or indirectly out of Buyer's failure to properly install the Goods.

Work By Others; Safety Devices. Unless agreed to in writing by Seller, Seller has no responsibility for labor or work performed by Buyer or others, of any nature, relating to design, manufacture, fabrication, use, installation, or provision of Goods. Buyer is solely responsible for furnishing and requiring its employees and customers to use all safety devices, guards and safe operating procedures required by law and/or as set forth in manuals and instruction sheets furnished by Seller. Buyer is responsible for consulting all operator manuals, ANSI or comparable safety standards, OSHA regulations and other sources of safety standards and regulations applicable to the use and operation of the Goods.

Remedies. Each of the rights and remedies of Seller under this Agreement is cumulative and in addition to any other or further remedies provided under this Agreement or at law or equity.

Attorney's Fees. In the event legal action is necessary to recover monies due from Buyer or to enforce any provision of this Agreement, Buyer shall be liable to Seller for all costs and expenses associated therewith, including Seller's actual attorney fees and costs.

Governing Law/Venue. This Agreement shall be construed and governed under the laws of the State of Wisconsin, without application of conflict of law principles. Each party agrees that all actions or proceedings arising out of or in connection with this Agreement shall be commenced, tried, and litigated only in the state courts sitting in Manitowoc County, Wisconsin or the U.S. Federal Court for the Eastern District of Wisconsin. Each party waives any right it may have to assert the doctrine of "forum non conveniens" or to object to venue to the extent that any proceeding is brought in accordance with this section. Each party consents to and waives any objection to the exercise of personal jurisdiction over it by courts described in this section. Each party waives to the fullest extent permitted by applicable law the right to a trial by jury.

Summary of Return Policy:

- 10 Day acceptance period from date of delivery. Damage claims and order discrepancies will not be accepted after this time.
- You must obtain a Baileigh Industrial issued RGA number PRIOR to returning any materials.
- Returned materials must be received at Baileigh Industrial in new condition and in original packaging.
- Altered items are not eligible for return.
- Buyer is responsible for all shipping charges.
- A 30% re-stocking fee applies to all returns.

Baileigh Industrial makes every effort to ensure that our posted specifications, images, pricing, and product availability are as correct and timely as possible. We apologize for any discrepancies that may occur. Baileigh Industrial reserves the right to make any and all changes deemed necessary in the course of business including but not limited to pricing, product specifications, quantities, and product availability.

For Customer Service & Technical Support:

Please contact one of our knowledgeable Sales and Service team members at:
(920) 684-4990 or e-mail us at Baileigh-Service@jpwindustries.com



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