# Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

24b



21221E-B

# 5-SPEED 8" BENCHTOP DRILL PRESS



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When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools.

Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein.

Tools required for assembly and service may not be included.

## **AWARNING**

Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

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WARNING SYMBOLS AND DEFINITIONS						
A	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.					
<b>▲</b> DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.					
<b>AWARNING</b>	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.					
<b>ACAUTION</b>	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.					
NOTICE CAUTION	Addresses practices not related to personal injury.					

# **IMPORTANT SAFETY INFORMATION**

## **General Tool Safety Warnings**

# **AWARNING**

Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.

- KEEP GUARDS IN PLACE and in working order.
- REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
- DON'T USE IN DANGEROUS ENVIRONMENT.
   Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
- 5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
- MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.
- DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
- 8. USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.

Table A: RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS (120 VOLT)				
NAMEPLATE AMPERES				RD
(at full load)	25′	50′	100′	150'
0 – 6	18	16	16	14
6.1 – 10	18	16	14	12
10.1 – 12	16	16	14	12
12.1 – 16	14	12	Do not use.	

9. 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 A shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

## **General Tool Safety Warnings (continued)**

- 10. 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.
- 11. 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.
- 12. SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
- 13. DON'T OVERREACH. Keep proper footing and balance at all times.
- 14. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- 15. DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.
- REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.

- 17. USE RECOMMENDED ACCESSORIES.

  Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
- 18. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
- 19. CHECK 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. A guard or other part that is damaged should be properly repaired or replaced.
- 20. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
- 21. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

## **Grounding Instructions**



## **AWARNING**

TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT GROUNDING WIRE CONNECTION

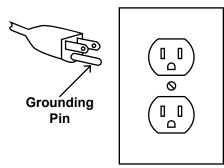
**READ AND FOLLOW THESE INSTRUCTIONS:** 

## 110-120 VAC Grounded Tools: Tools with Three Prong Plugs

- 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.
- 2. Do not modify the plug provided if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment-grounding conductor can result in a 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 equipmentgrounding conductor to a live terminal.
- 4. 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.
- 5. Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.
- 6. Repair or replace damaged or worn cord immediately.

## 110-120 VAC Grounded Tools: Tools with Three Prong Plugs (cont.)



125 VAC 3-Prong Plug and Outlet (for up to 125 VAC and up to 15 A)

- This tool is intended for use on a circuit that has an outlet that looks like the one illustrated above in 125 VAC 3-Prong Plug and Outlet. The tool has a grounding plug that looks like the plug illustrated above in 125 VAC 3-Prong Plug and Outlet.
- 8. The outlet must be properly installed and grounded in accordance with all codes and ordinances.
- 9. Do not use an adapter to connect this tool to a different outlet.

## **Drill Press Safety Warnings**

# For Your Own Safety Read Instruction Manual Before Operating Drill Press

- 1. Wear eye protection.
- 2. Do not wear gloves, necktie, or loose clothing.
- Clamp workpiece or brace against column to prevent rotation.
- Use recommended speed for drill accessory and workpiece material.
- The included chuck key is specially designed to be self-ejecting, reducing the risk of ejecting at high speed. Only use the included chuck key or an identical replacement key.
- 6. DO NOT OPERATE WITH ANY GUARD DISABLED, DAMAGED, OR REMOVED. Moving guards must move freely and close instantly.
- The use of accessories or attachments not recommended by the manufacturer may result in a risk of injury to persons.
- 8. When servicing use only identical replacement parts.
- 9. Remove the Safety Key after each use. Store the Safety Key separate from the tool and out of children's reach.

- 10. Only use safety equipment that has been approved by an appropriate standards agency. Unapproved safety equipment may not provide adequate protection. Eye protection must be ANSI-approved and breathing protection must be NIOSH-approved for the specific hazards in the work area.
- 11. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- 12. Industrial applications must follow OSHA guidelines.
- 13. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
- Avoid unintentional starting.
   Prepare to begin work before turning on the tool.
- 15. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
- 16. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



## **Vibration Safety**

This tool vibrates during use. Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders. To reduce the risk of vibration-related injury:

- 1. Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use. Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any medical or physical symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.
- 2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.
- 3. Use tools with the lowest vibration when there is a choice between different processes.
- 4. Include vibration-free periods each day of work.
- 5. Grip tool as lightly as possible (while still keeping safe control of it). Let the tool do the work.
- 6. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.



## SAVE THESE INSTRUCTIONS.

#### **Specifications**

Electrical Rating	120VAC / 60Hz / 2.3A
Spindle Speeds	5 Speeds: 750, 1100, 1500, 2100, 3200 RPM
Throat Depth	4" (8" Max Swing)
Table Tilt	45° left and right
Table Swing Around Column	360°
Spindle Stroke	2"
Chuck Taper	JT33
Chuck Capacity	1/2" (13 mm)

#### Setup - Before Use



Read the <u>ENTIRE</u> IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

## **AWARNING**

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:

Turn the Power Switch of the tool off remove the Safety Key, and unplug the tool from its electrical outlet before performing any procedure in this section.

**Note:** For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

## Mounting

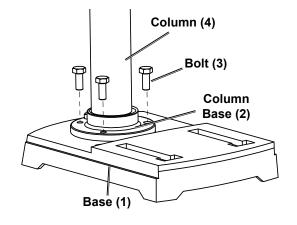
Secure the tool to a supporting structure before use. Before assembly, bolt the Base to a flat, level, solid workbench capable of supporting the weight of the drill press and any workpieces.

Verify that installation surface has no hidden utility lines before drilling or driving screws.

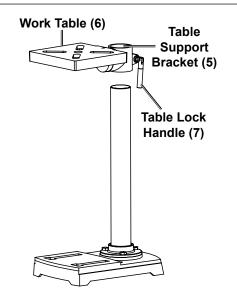
## **Assembly**

#### Column to Base

- Place Column Base (2) onto the Base (1) and align holes in the Column Base with holes in the Base.
- Attach using Hex Bolt (3) in each hole through the Column and into the Base.

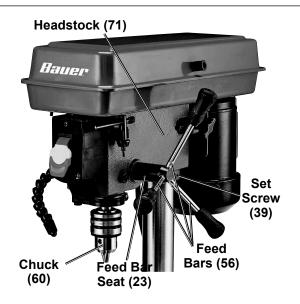


- 1. Thread the Table Lock Handle (7) into the opening in the Table Support Bracket (5).
- Lower Table Support Bracket (5) down over the Column with the top of the table face up, and tighten Table Lock Handle to secure.



#### **Headstock and Feed Handles**

- 1. Loosen the Set Screw (39) on each side of the Headstock (71) so they will stay clear while installing it.
- With the help of an assistant, lift the Headstock above the Column, and gently slide it down the Column as far as it will go.
- 3. Align Headstock with Base, and tighten the two Set Screws to secure the Headstock in place.
- 4. Thread the Feed Bars into the threaded openings on the Feed Bar Seat (23) and tighten them.



#### Installing/Removing the Chuck

- 1. Loosen the Table Lock Handle (7) and slide the Table Support Bracket up the Column to within 6" of the Spindle (14). Tighten the Table Lock Handle.
- 2. Open the jaws of the Chuck (60) to their maximum, using the supplied Chuck Key.
- 3. Put a piece of scrap wood on the table to protect the Chuck nose.
- Ensuring all parts are thoroughly clean, dry and burr free, place the Chuck with its open jaws on the scrap wood, directly under the Spindle.
- 5. Use the Feed Handle to gently lower the Spindle so it is just entering the opening in the top of the Chuck.
- Examine the Chuck from all sides to be sure that it is properly aligned with the Spindle.

- 7. Using the Feed Handles, insert the Spindle all the way into the Chuck, pressing the Chuck nose hard against the piece of scrap wood on the Table to secure the Chuck into place.
- 8. To remove the Chuck, use Feed Handles to lower Chuck to lowest position.
- Place a drift key (not included), above the chuck and tap it with a rubber mallet (not included) to release the Chuck from the Spindle. Make sure to hold Chuck with one hand to prevent it from falling.
- 10. Alternative Method: Place the Chuck Key into the opening on the side of the Chuck. Open the Headstock Cover and hold the Spindle Pulley stationary. Using the Chuck Key for leverage, rotate the entire Chuck clockwise, while gently pulling downwards. Remove the Chuck from the Spindle.

#### Operating Instructions



Read the <u>ENTIRE</u> IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

## **Tool Set Up**

## **AWARNING**

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:

Turn the Power Switch of the tool off remove the Safety Key, and unplug the tool from its electrical outlet before performing any procedure in this section.

#### TO PREVENT SERIOUS INJURY:

DO NOT OPERATE WITH ANY GUARD DISABLED, DAMAGED, OR REMOVED. Moving guards must move freely and close instantly.

#### **Table Adjustment**

 Raise or lower the Table by loosening the Table Lock Handle (7) and sliding the Table Assembly up and down on the Column. Tighten the Table Lock Handle before drilling.



2. Pivot the Table (6) around the Column by loosening the Table Lock Handle. The entire Table Assembly will move as one around the Column.

<u>CAUTION!</u> To prevent injury from unexpected Table movement, tighten Table Lock Handle (7) after adjustment.

3. Tilt the Table by loosening the Bevel Lock Bolt (8) with a 19 mm socket or wrench (not included) and tilting to the required angle. The angle can be read using the Bevel Scale.



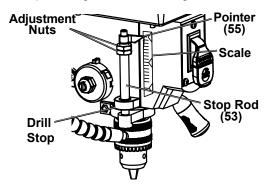
4. TO ENSURE THAT THE DRILL IS ENTIRELY PERPENDICULAR TO THE TABLE, insert a straight round bar (not included) in the Chuck, place a square on the Table and bring it up to the round bar. Adjust the angle as needed.

#### Setting a Drilling Depth

Located on the left side of the Headstock is the depth feed adjustment assembly, which allows drilling a series of holes to the same depth using one setting.

- 1. Lower the drill (with the power OFF) so that it contacts the material and hold in that position.
- Screw down the lower Adjustment Nut (65) on the Stop Rod (53) until the gap between the underside of the Nut and the Drill Stop face equals the depth of the hole required.
- 3. Screw down the upper Adjustment Nut against the lower Adjustment Nut to lock setting.

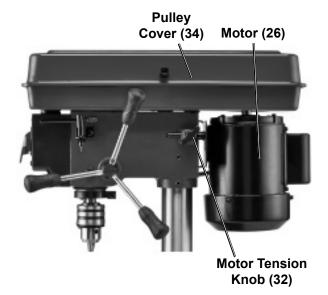
**Note:** Alternatively, drilling depth for a one-time procedure can be determined by lowering the drill (with the power OFF) until it contacts the work, noting the position of the Pointer (63) on the Scale, turning the drill ON, and drilling to the required depth using the Scale as a guide.



#### **Changing Drill Speed**

Before changing drill speeds, make sure the machine is switched OFF and UNPLUGGED.

- 1. Open the Pulley Cover.
- Loosen the Motor Tension Knob (32) on the Headstock, and move the Motor (26) towards the Headstock to relieve tension on the Belt (42).



- 3. Consult the chart below and position the Belt on the Pulleys (37, 38) according to the desired drill speed.
- 4. When the Belt has been correctly positioned, tighten it by pushing the Motor away from the Headstock until the Belt deflects by approximately 1/2" at its center when using reasonable thumb pressure. Lock this position in with the Motor Tension Knob.

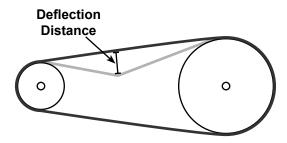
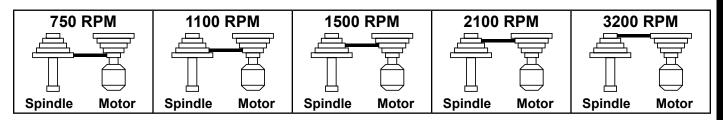


Figure A: Belt Deflection

**Note:** If the belt is too long to be properly tensioned, it must be replaced.

Speed Range	WOOD		ALUMINUM /	IRON / STEEL		
(RPM)	inch	mm	inch	mm	inch	mm
2000-3500	3/8	9.5	7/32	5.6	3/32	2.4
1400-2000	5/8	16.0	11/32	8.75	5/32	4.0
1000-1400	7/8	22.0	15.32	12.0	1/4	6.4
800-1000	1-1/4	31.75	11/16	17.5	3/8	9.5
200-800	1-5/8	41.4	3/4	19.0	1/2	12.5



The table above shows the belt arrangements for given drill speeds. A full chart is also located on the inside of the pulley cover.

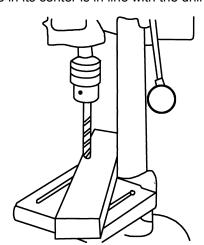
#### **Drill Bit Installation**

- 1. Place Chuck Key into the side keyhole of the Chuck, ensuring the key engages with the gear teeth.
- Turn Chuck key counterclockwise to open the chuck jaws.
- Insert the drill bit into the jaws of the Chuck approximately 1", ensuring that the jaws do not touch the flutes of the drill bit.
- 4. Before tightening the Chuck, ensure that the drill bit is centered within the jaws.
- 5. Tighten the Chuck securely with the included Chuck Key.

## Workpiece and Work Area Set Up

- Designate a work area that is clean and well-lit.
   The work area must not allow access by children or pets to prevent distraction and injury.
- Route the power cord along a safe route to reach the work area without creating a tripping hazard or exposing the power cord to possible damage. The power cord must reach the work area with enough extra length to allow free movement while working.
- Secure loose workpieces using a vise or clamps (not included) to prevent movement while working.
- There must not be objects, such as utility lines, nearby that will present a hazard while working.
- Make sure the table height and position is set so that the drill travel range is sufficient for the material to be drilled.
- Set the drilling depth so that the bit will not contact the table - or align the table so that the hole in its center is in line with the bit.
- 7. Make sure the workpiece is securely clamped. That is, held in a drill vise, or bolted to the table. WARNING! <u>Do not hold the workpiece with your bare hands while drilling</u>. Serious injury may be caused if the workpiece is flung out of the operator's hand.
- 8. IF THE MATERIAL IS IRREGULARLY SHAPED and cannot be laid flat on the table, it should be securely blocked and clamped. Any tilting, twisting or shifting will result not only in a roughly drilled hole but also increases the chances of damage to the drill.

- FOR FLAT WORK, lay the piece on to a wooden base and clamp it down firmly against the table to prevent it from turning.
- FOR SMALL MATERIALS that cannot be clamped to the table, use a drill press vise. Make sure the vise is clamped or bolted to the table.
- 11. WHEN DRILLING COMPLETELY THROUGH WOOD, position a piece of scrap wood between the material and the table to prevent splintering on the underside of the material as the drill breaks through. The scrap piece of wood must make contact with the left side of the column. Securely clamp the other end of the scrap wood to the table. Also, set the depth of the drill so that the drill will not come in contact with the table or align the table so that the hole in its center is in line with the drill bit.





## **General Operating Instructions**

- Bring the drill bit down with the Feed Knob to where the hole is to be drilled.
   Make minor workpiece alignment adjustments.
- 2. Plug the Power Cord into an electrical outlet.
- 3. Turn the Drill Press on.
- 4. Pull down on the Feed Knob and slowly drill the hole into the workpiece.
- 5. Turn Drill Press off by flipping Power Switch down.

6. To lock Drill Press in the OFF position, remove the safety key from Power Switch and store key in a safe place until next use.

<u>WARNING!</u> TO PREVENT SERIOUS INJURY: If the drill bit grabs and spins the workpiece, do not attempt to stop the spinning with your hands. Step back, and turn the drill press off. Wait for the spindle to stop turning before dislodging the workpiece.

7. To prevent accidents, turn off the tool and disconnect its power supply after use. Clean, then store the tool indoors out of children's reach.



#### Maintenance and Servicing



Procedures not specifically explained in this manual must be performed only by a qualified technician.

## **AWARNING**

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:

Turn the Power Switch of the tool off remove the Safety Key, and unplug the tool from its electrical outlet before performing any procedure in this section.

#### TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

## Cleaning, Maintenance, and Lubrication

- 1. **BEFORE EACH USE**, inspect the general condition of the tool. Check for:
  - · loose hardware
  - · misalignment or binding of moving parts
  - · cracked or broken parts
  - damaged electrical wiring
  - any other condition that may affect its safe operation.
- 2. **AFTER USE**, wipe external surfaces of the tool with clean cloth.

- 3. Every 3 months, oil the Quill moderately. Lubricate the Table Bracket and Locking Knobs, as needed.
- 4. Keep the ventilation openings free from dust and debris to prevent motor from overheating. Wear ANSI-approved safety goggles and NIOSH-approved breathing protection when blowing dust out of the motor vents using dry compressed air.
- 5. AWARNING! TO PREVENT SERIOUS INJURY: If the supply cord of this power tool is damaged, it must be replaced only by a qualified service technician.

## **Belt Inspection and Tensioning**

1. Examine belt for cracks, tears in the backing, and other damage.

2. Replace belt if damaged, follow the instructions under Changing Drill Speed on page 9.

# **Troubleshooting**

Problem	Possible Causes	Likely Solutions		
Tool will not start.	Cord not connected.	Check that cord is plugged in.		
	2. No power at outlet.	Check power at outlet. If outlet is unpowered, turn off tool and check circuit breaker.     If breaker is tripped, make sure circuit is right capacity for tool and circuit has no other loads.		
	Tool's thermal reset breaker tripped (if equipped).	Turn off tool and allow to cool.  Press reset button on tool.		
	Internal damage or wear. (Carbon brushes or switch, for example.)	4. Have technician service tool.		
Tool operates slowly.	Extension cord too long or wire size too small.	Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See <b>Table A</b> on page 2.		
Performance decreases	Accessory dull or damaged.	Keep cutting accessories sharp.     Replace as needed.		
over time.	2. Carbon brushes worn or damaged.	2. Have qualified technician replace brushes.		
Excessive noise or rattling.	Internal damage or wear. (Carbon brushes or bearings, for example.)	Have technician service tool.		
	2. Belt (if equipped) too loose (slipping) or too tight (bearing damage).	2. Properly tension belt.		
Overheating.	Forcing machine to work too fast.	Allow machine to work at its own rate.		
	Accessory dull or damaged.	Keep cutting accessories sharp.     Replace as needed.		
	3. Blocked motor housing vents.	Wear ANSI-approved safety goggles and     NIOSH-approved dust mask/respirator while     blowing dust out of motor using compressed air.		
	Motor being strained by long or small diameter extension cord.	4. Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See <b>Table A</b> on page 2.		



Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply and remove the Safety Key, before service.

#### PLEASE READ THE FOLLOWING CAREFULLY

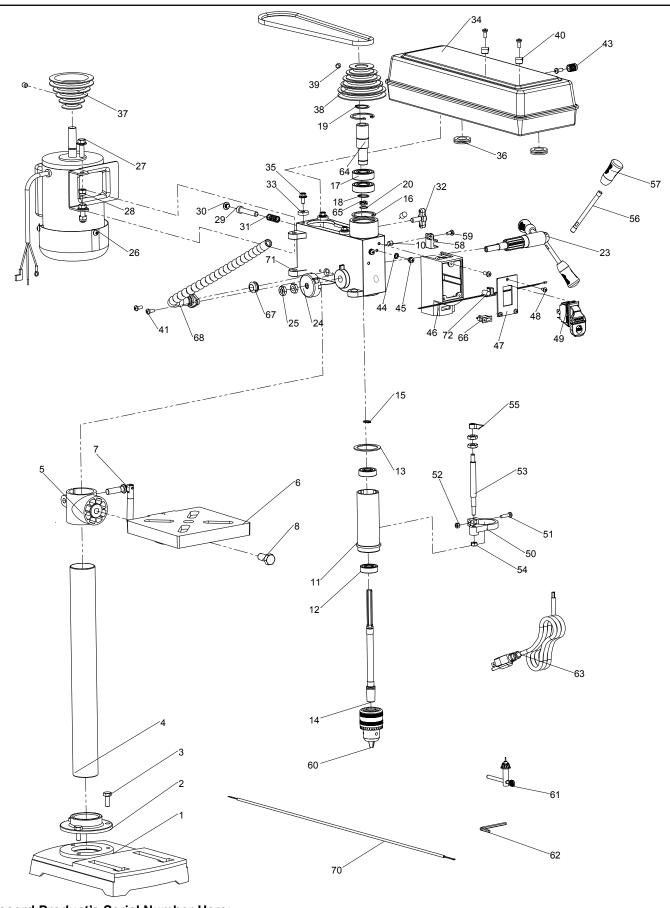
THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO.

#### **Parts List**

Part	Description	Qty
1	Base	1
3	Column Base	1
3	Hex Bolt M8 x 20	3
4	Column	1
5	Table Support	1
6	Work Table	1
7	Table Lock Handle	1
8	Hex Bolt M12 x 25	1
9	Spring 4 x 18	1
	(not shown on diagram/inside #24)	
10	Hex Socket Screw M8 x 8	2
11	Quill	1
12	Ball Bearing 6201-2RZ	2
13	Rubber Washer	1
14	Spindle JT33	1
15	Circlip for Shaft 11	1
16	Circlip for Shaft 40	2
17	Ball Bearing 6203-2RZ	2
18	Circlip for Shaft 17	1
19	Circlip for Shaft 22	1
20	Retainer-14	1
21	Quill Set Screw	1
22	Nut M8	1
23	Gear Shaft	1
24	Spring Cap Assembly	1
25	Thin Nut M10	5
26	Motor	1
27	Hex Bolt M8 x 25	2
28	Nut M8	2
29	Motor Rod	1
30	Motor Rod Pad	1
31	Compress Spring	1
32	Plastic Knob	1
33	Sponge Pad	4
34	Pulley Cover Assembly	1
35	Phillips Screw M6 x 12	4
36	Rubber Bush	2

Part	Description	Qty
37	Motor Pulley	1
38	Spindle Pulley	1
39	Hex Socket Screw	2
40	Wire Fix Plate	2
41	Phillips Screw M5 x 12	7
42	Belt K660	1
43	Pulley Cover Knob	1
44	Star Washer 5	2
45	Phillips Screw Assembly M5 x 8	2
46	Switch Box	1
47	Switch Box Cover	1
48	Phillips Screw ST4.2 x 10	3
49	ON/OFF Switch HY18-2P	1
50	Scale Base	1
51	Phillips Screw M5 x 20	1
52	Nut Type 1 M5	1
53	Depth Rod	1
54	Nut Type 1 M6	1
55	Pointer	1
56	Handle Bar	3
57	Knob	3
58	Key Holder	1
59	Phillips Screw M5 x 10	1
60	Chuck	1
61	Chuck Key	1
62	Hex Wrench S4 x 63	1
63	Power Cord	1
64	Drive Sleeve	1
65	Damper	1
66	LED Lamp Switch	1
67	Cord Bush	1
68	Flexible Lamp Assembly	1
69	LED Bulb	1
70	LED Wire	1
71	Headstock	1
72	Transformer	1

## **Assembly Diagram**



**Record Product's Serial Number Here:** 

**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 193175446534 when ordering parts.

#### **Limited 90 Day Warranty**

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We 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 product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

