



Floor Mounted Drill Presses

OWNER'S MANUAL



WARNING:
Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #s 49383, 49384, 49385



Floor Mounted Drill Presses OWNER'S MANUAL

Thank you very much for choosing a Klutch product. For future reference, please complete the owner's record below:
Serial Number/Lot Date Code: _____ Purchase Date: _____
Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

These 13", 14", and 17" floor mounted drill presses are designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions please call 1-800-222-5381.

Table of Contents

- Intended Use.....1
- Technical Specifications.....1
- Important Safety Considerations.....2
- Specific Operation Warnings.....4
- Grounding.....5
- Extension Cords.....6
- Assembly7
- Before Each Use.....9
- Operating Instructions.....10
- After Each Use.....12
- Maintenance.....12
- Parts Diagram – 49383 & 49384.....14
- Parts List – 49383 & 49384.....14
- Parts Diagram - 49385.....16
- Parts List - 49385.....18
- Troubleshooting.....20
- Replacement Parts.....20
- Limited Warranty.....20

Intended Use

These drill presses include multiple or variable speeds for drilling holes on cast iron, steel, aluminum, wood, etc. The presses have been designed for indoor use and must be used only in dry conditions.

Technical Specifications

49383, 13" Drill Press	
Property	Specification
Voltage / Frequency:	120V / 60Hz
Motor Power	3/4 HP
Chuck	5/8"
Spindle Travel	3-1/4"
Spindle Taper	MT2
Speed Change	16 speeds
Speed	260-3410 r/min
Dist. Spindle to Column	6-3/8"
Table Size	D 11 3/8"
Base Size	18-1/8" X 11-1/32"
Column	2-27/32"
Total Height	62-3/16"

49384, 14" Drill Press	
Property	Specification
Voltage / Frequency:	120V / 60Hz
Motor Power	1 HP
Chuck	5/8"
Spindle Travel	3 1/4"
Spindle Taper	MT3
Speed Change	12 speeds
Speed	340-2860 r/min
Dist. Spindle to Column	7-1/16"
Table Size	11-3/8" x 11-3/8"
Base Size	18-1/8" x 11"
Column	3-1/8"
Total Height	63"

49385 17" Drill Press	
Property	Specification
Voltage / Frequency:	120V / 60Hz
Motor Power	1-1/2 HP
Chuck	5/8"
Spindle Travel	6"
Spindle Taper	MT2
Speed Change	Variable-speed
Speed	600-2400 r/min
Dist. Spindle to Column	8-7/8"
Table Size	14" x 14"
Base Size	20-1/16" x 13-3/4"
Column	3-1/8"
Total Height	68-7/8"

Important Safety Considerations

WARNING:

- Read and understand all instructions. Failure to follow all instructions may result in serious injury.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using the drill press. Always be aware of the environment and ensure that the drill press is used in a safe and responsible manner.
- DO NOT modify the drill press in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the drill press. There are specific applications for which the product was designed.
- DO NOT allow persons to operate or assemble the drill press until they have read this manual and have developed a thorough understanding of how it works.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

WARNING:

- This product may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
- Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:
 - lead from lead-based paints,
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.
- Handling power cords on corded products may expose you to lead, a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Wash your hands after handling.

WARNING:

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well lit. Cluttered, wet, or dark work areas can result in injury. Using the tool in confined work areas may put you dangerously close to other cutting tools and rotating parts.
- Do not use the drill press where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The drill press can create sparks, which may ignite the dust or fumes.
- Keep children and bystanders away from the work area while operating the drill press. Do not allow children to operate the drill press.

WARNING:

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the drill press. Do not use the drill press while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the drill press may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can get caught.
- Use ANSI Z87.1-compliant safety goggles or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Remove adjusting keys or wrenches before turning on the drill press. A wrench or key that is left attached to a rotating part of the drill press may cause personal injury.
- Secure the work with clamps or a vise instead of your hand. This safety precaution allows for proper drill press operation using both hands.

WARNING:

ELECTRICAL SAFETY

- Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

- Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way. Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the power cord. Never use the power cord to carry the tools or pull the plug from an outlet. Keep the power cord away from heat, oil, sharp edges, or moving parts. Replace damaged power cords immediately. Damaged power cords increase the risk of electric shock.
- When operating a power tool outside, use an outdoor extension cords marked "W-A" or "W". These extension cords are rated for outdoor use, and reduce the risk of electric shock.

 **CAUTION:****DRILL PRESS USE AND CARE**

- Do not force the tool. Tools do a better and safer job when used in the manner for which they are designed. Plan your work, and use the correct tool for the job.
- Check for damaged parts before each use. Carefully check that the tool will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the tool with a damaged part.
- Do not use a tool with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the tool when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your tool. Accessories that may be suitable for one tool may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.
- Do not leave the tool running unattended.

Specific Operation Warnings **WARNING:****GENERAL SAFETY INSTRUCTIONS**

To avoid mistakes that could cause serious injury, do not plug the Drill Press in until you have read and understood the following:

- **USE PROPER 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 product will draw. An undersized cord will result in a drop in line voltage and in loss of power that will cause the tool to overheat.
- **ALWAYS WEAR EYE PROTECTION.** Any Drill Press can throw foreign objects into the eyes that could cause permanent eye damage. ALWAYS wear ANIS Z87.1 compliant safety Goggles (not glasses). Everyday eyeglasses have only impact-resistance lenses. They ARE NOT safety glasses. USE a face or dust mask along with safety goggles if drilling operation

- is dusty. USE ear protectors, especially during extended periods of operation.
- **USE ONLY RECOMMENDED ACCESSORIES.** See the Accessories section in this manual for recommended accessories. The use of improper accessories may cause serious injury.
- **NEVER TIP THE DRILL PRESS.** Serious injury could occur if the tool is tipped while running or if the cutting tool is unintentionally contacted.
- **CHECK FOR DAMAGED PARTS BEFORE EACH USE.** 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.
- **ALWAYS operate the Drill Press in a well-ventilated area and provide for proper dust removal.** Use dust collection systems whenever possible. Dust generated from certain materials can be hazardous to your health.
- **THIS DRILL PRESS is intended for use in dry conditions, indoor use only.**
- **DO NOT try to drill material too small to be securely held.**
- **ALWAYS keep hands out of the path of a drill bit.** Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit. **DO NOT** install or use any drill bit that exceeds 175mm in length or extends 150mm below the chuck jaws. They can suddenly bend outward or break.
- **DO NOT USE** wire wheels, router bits, shaper cutters, circle (fly) cutters, or rotary planers on this drill press.
- **WHEN cutting a large piece of material, make sure it is fully supported at the table height.**
- **DO NOT** perform any operation freehand. ALWAYS hold the workpiece firmly against the table so it will not rock or twist. Use clamps or a vise for unstable workpieces.
- **CLAMP THE WORKPIECE OR BRACE IT** against the left side of the column to prevent rotation. If it is too short or the table is tilted, clamp it solidly to the table.
- **IF THE WORKPIECE overhangs the table** such that it will fall or tip if not held, clamp it to the table or provide auxiliary support.
- **MAKE SURE** there are no nails or foreign objects in the part of the workpiece to be drilled.
- **MAKE SURE** all clamps and locks are firmly tightened and securely lock the head and table support to the column and the table to the table support before operating the drill press.
- **NEVER** turn your drill press ON before clearing the table of all objects (tools, scraps, etc.).
- **BEFORE STARTING** the operation, jog the motor switch to make sure the drill bit does not wobble or vibrate.
- **LET THE SPINDLE REACH FULL SPEED** before starting to drill. If your drill press makes an unfamiliar noise or if it vibrates excessively, stop immediately, turn the drill press OFF and unplug. Do not restart the unit until the problem is corrected.
- **DO NOT** perform layout assembly or set up work on the table while the drill press is in operation.
- **USE THE RECOMMENDED SPEED** for any drill press accessory and for different workpiece material.
- **WHEN DRILLING** large diameter holes, clamp the workpiece firmly to the table. Otherwise, the bit may grab and spin the workpiece at high speeds. **DO NOT USE** fly cutters or multiple-part hold cutters, as they can come apart or become unbalanced in use.
- **MAKE SURE** the spindle has come to a complete stop before touching the workpiece.
- To avoid electrical hazards, fire hazards, or damage to the tool, use proper circuit protection. Use a separate electrical circuit for your machine. To avoid shock or fire, if power cord is worn or cut, or damaged in any way, have it replaced immediately.

Grounding **WARNING:**

- This machine must be grounded while in use to protect the operator from electrical shock. This drill press is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle 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 receptacle, have the proper receptacle installed by a qualified electrician.
- CHECK with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

Grounded Tools: Tools with 3-Prong Plugs

Tools marked with Grounding Required have a 3-wire cord and 3-prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically live terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration.

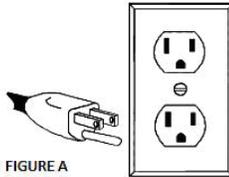


FIGURE A

Double Insulated Tools: Tools with Two-Prong Plugs

Tools marked Double Insulated do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code. (See Figure B.)

Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration.

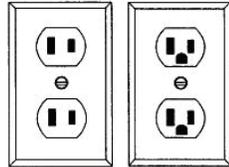


FIGURE B

Extension Cords

⚠ WARNING:

- USE A 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 cause overheating.
- Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.
- Grounded tools require a 3-wire extension cord. Double Insulated tools can use either a 2- or 3-wire extension cord.
- As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.

- The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14-gauge cord can carry a higher current than a 16-gauge cord. Minimum extension cord wire size is shown in the following table:

Nameplate AMPS	Minimum Wire Size Of Extension Cords			
	Cord Length			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	NOT RECOMMENDED	

- When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required.
- If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size.
- If you are using an extension cord outdoors, make sure it is marked with the suffix W-A (W in Canada) to indicate it is acceptable for outdoor use.
- Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
- Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

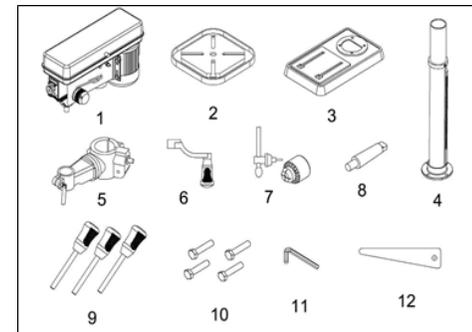
Assembly

⚠ WARNING:

For your own safety, do not try to plug in the drill press until it is completely assembled and installed according to the instructions and until you have read and understood this instruction manual.

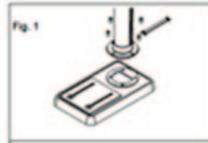
⚠ WARNING:

- To avoid injury from unexpected starting, do not plug the power cord into a power source receptacle during unpacking and assembly. This cord must remain unplugged whenever you are assembling or adjusting the machine.
 - If any part is missing or damaged, do not plug the machine in until the missing or damaged part is replaced, and assembly is complete.
 - To protect the machine from moisture, a protective coating has been applied to the machined surfaces. Remove this coating with a soft cloth moistened with kerosene.
1. Unpack the shipping carton and check the contents to verify all the parts listed below are present

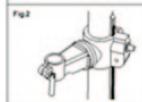


1. Head assembly
2. Table
3. Base
4. Column assembly
5. Table support assembly
6. Crank handle
7. Chuck and key
8. Arbor
9. Feed handle
10. Bolt
11. Hex wrench
12. Wedge

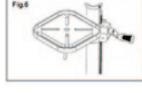
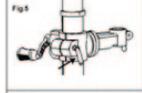
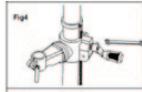
2. Install the column support to the base
 - a. Position the base on the floor or a workbench.
 - b. Place the column on the base, aligning the holes in the column support with the holes in the base.
 - c. Locate the four long hex bolts from the loose parts bag.
 - d. Place a bolt in each hole through the column support and the base. Tighten with an adjustable wrench. See Fig. 1



3. Install the table and rack
 - a. Take the retaining ring off and table bracket.
 - b. Install the table support and bracket. See Fig. 2 and the parts list.
 - c. Reinstall the retaining ring and secure it firmly. See Fig. 3



4. Install the crank handle and table. See Figs 4 and 5 and the parts list.
 - a. Fix the crank handle with the attached screw.
 - b. Tighten the clamp bolt to lock the table bracket.
 - c. Place the table onto table support. See Fig. 6



5. Installing the head assembly
 - a. Carefully lift the head assembly above the column and slide it onto the column. Make sure the head slides down over the column as far as possible. Align the head with the base.
 - b. Using the hex wrench, tighten the head lock set screws. See Fig. 7



6. Installing the feed handles
 - a. Locate the three feed handles in the loose parts bag.
 - b. Screw the feed handles into the threaded holes in the hub and tighten them. See Fig. 8

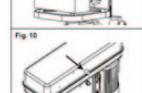
7. Before any assembly of the chuck and arbor to the drill press head, clean all mating surfaces with a non-petroleum based product; such as alcohol or lacquer thinner. Any oil or grease used in the packing of these parts must be removed; otherwise the chuck may come loose during operation.

8. Install the chuck
 - a. Open the jaws of the chuck by rotating the chuck sleeve clockwise. To prevent damage, make sure the jaws are completely retracted into the chuck.
 - b. Push the chuck onto the spindle.

NOTE: Clean the spindle taper with a non-alcohol based cleaner before inserting it into the chuck.

 - c. Using a wood mallet, firmly tap the chuck upward into position on the spindle shaft. See Fig. 9

9. Install the knob and screw of upper pulley cover. See Fig.10



Before Each Use

⚠ WARNING:

To avoid injury from accidental starting, always turn the switch OFF and unplug the drill press before installing or removing any accessory or attachment or making any adjustment. Make the following adjustments before each use of the drill press.

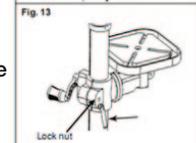
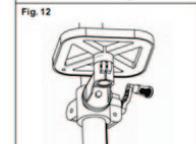
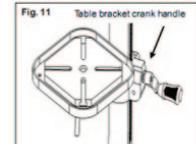
1. Table Adjustment

- A. Height adjustment

To adjust the table up or down. Loosen the locking handle then adjust the table to your desired height using the table bracket crank handle. See Fig. 11
- B. Tilting adjustment:

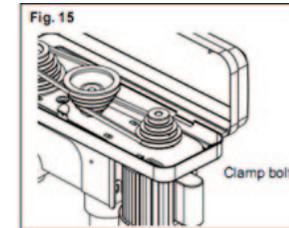
Loosen the locking handle then tilt the table to the desired angle and retighten the handle. See Fig. 12
- C. Swing adjustment

Loosen the locking handle then rotate the table to a desired position and retighten the handle. See Fig. 13



2. Feed Depth Adjustment

- 2.1 Loosen the locking screw; rotate scale so desired depth is indicated on scale next to the pointer. Tighten locking screw. Use this feature to drill more than one hole to same depth.
- 2.2 Spindle can be locked in either fully or partially down position. Loosen locking screw. Lower chuck to desired depth, rotate scale fully clockwise and tighten locking screw. Use this feature to set up and align work.

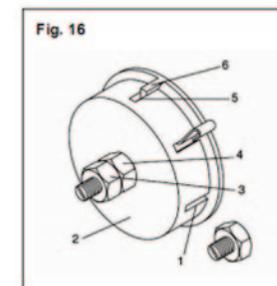


3. SPEED ADJUSTING

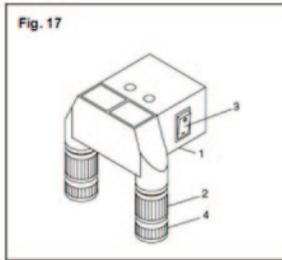
The spindle speeds shown in the speed label. To change the speed, loose the belt tension lock knob, pull the motor mounting plate to the front end then change the belt location. To tighten the belt, push the motor mounting plate to the rear end and lock the belt tension lock knob. See Fig.15

4. Quill Spring Adjustment

The quill return spring may need adjustment if the tension causes the quill to return too rapidly or too slowly. See Fig. 16



- a. Lower the table for additional clearance.
- b. Place a screwdriver in the lower front notch (1) of the spring cap (2). Hold it in place while loosening and removing only the outer jam nut (3).
- c. e
- CAUTION: DO NOT REMOVE THIS INNER NUT, because the spring will forcibly unwind.
- d. Carefully turn the spring cap (2) counterclockwise with the screwdriver, engaging the next notch.
- e. Lower the quill to the lowest position by rotating the feed handle in a counterclockwise direction while holding the spring cap (2) in position.
- f. If the quill moves up and down as easily as you desire, tighten the inner nut (4) with the adjustable wrench. If too loose, repeat steps b through d to tighten. If too tight, reverse steps c and d. DO NOT OVERTIGHTEN; this will restrict quill movement.
- g. Replace the jam nut (3) and tighten against the inner nut (4) to prevent the inner nut from loosening. Fig. 17



Operating Instructions

⚠ WARNING:

To avoid injury from accidental starting, always turn the switch OFF and unplug the drill press before installing or removing any accessory or attachment or making any adjustment. Always wear safety goggles when operating the drill.

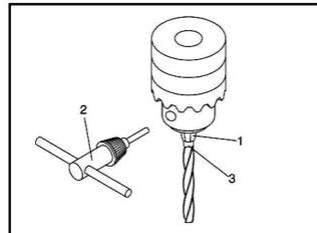
⚠ WARNING:

- Use only accessories designed for this machine to avoid injury from thrown broken parts.
- Follow instructions that accompany accessories. Do not use any accessory unless you have completely read the instruction or operator's manual for that accessory.

1. Installing a Drill Bit

For key-type drill chuck

- a. With the switch "OFF", open the chuck jaws (1) using the chuck key (2). Turn the chuck key counterclockwise to open the chuck jaws (1).
- b. Insert the drill bit (3) into the chuck far enough to obtain maximum gripping by the jaws, but not far enough to touch the spiral grooves (flutes) of the drill bit when the jaws are tightened.
- c. Make sure that the drill is centered in the chuck.
- d. Turn the chuck key clockwise to tighten the jaws.
- e. When fully tightened remove the chuck key.



⚠ WARNING:

Always recheck and remove the chuck key before turning the power ON to avoid injury or accident by the chuck key ejecting forcibly from the chuck.

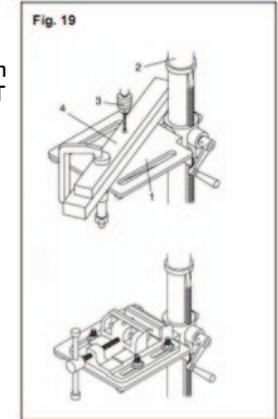
For self-tighten drill chuck

2. Positioning the Workpiece

To prevent the workpiece or backing piece from being torn from your hands while drilling, you MUST position it against the LEFT side of the column. Failure to do this could result in personal injury. See Fig.19

3. Using a Vise

Use a drill press vise to hold a small workpiece that cannot be clamped to the table. The vise must be clamped to the table.



⚠ WARNING:

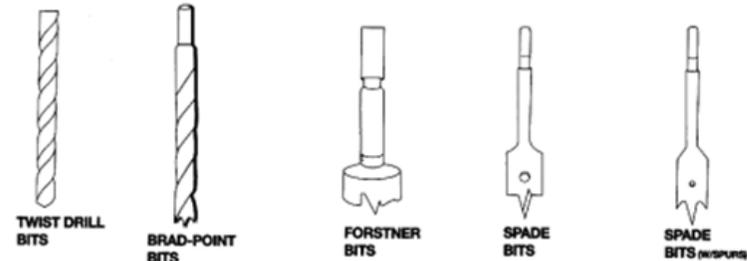
A drill press vise, if used, MUST be clamped or bolted to the table to avoid injury from a spinning workpiece or damage to the vise or bit parts

4. Correct Drill Speeds

⚠ WARNING:

To avoid injury from accidental starting, always turn the switch OFF and unplug the drill press before adjusting speeds.

Use the recommended speed for the drill bit and workpiece. The drill bits that can be used are shown in following figure:



Recommended Operating Speeds (in RPMS)

	Material					
	SOFTWOOD	HARDWOOD	ACRYLIC	BRASS	ALUMINUM	STEEL
TWIST DRILL BITS						
1/16-3/16" (3-5mm)	3000	3000	2500	3000	3000	3000
1/4-3/8" (6-10mm)	3000	1500	2000	1200	2500	1000
7/16-5/8" (11-16mm)	1500	750	1500	750	1500	600
11/16-1" (11-25mm)	750	500	NR	400	1000	250
BRAD-POINT BITS						
1/8"	1800	1200	1500	NR	NR	NR
1/4"	1800	1000	1500	NR	NR	NR
3/8"	1800	750	1500	NR	NR	NR
1/2"	1800	750	1000	NR	NR	NR
5/8"	1800	500	750	NR	NR	NR
3/4"	1400	250	750	NR	NR	NR
7/8"	1200	250	500	NR	NR	NR
1"	1000	250	200	NR	NR	NR
FORSTNER BITS						
1/4-3/8"	2400	700	250	NR	NR	NR
1/2-5/8"	2400	500	250	NR	NR	NR
3/4-1"	1500	500	250	NR	NR	NR
1 1/8-1 1/4"	1000	250	250	NR	NR	NR
1 3/8-2"	500	250	NR	NR	NR	NR
SPADE BITS						
1/4-1/2"	2000	1500	NR	NR	NR	NR
5/8-1 1/2"	1750	1500	NR	NR	NR	NR
1 1/8-1 1/2"	1500	1000	NR	NR	NR	NR
SPADE BITS WITH SPURS						
3/8-1 NR	2000	1800	500	NR	NR	NR

NR-Not Recommended

After Each Use

After each use,

- Disconnect the power cord
- Clear the scrap iron
- Clean the surface
- Add anti-rust oil onto the metal surface of workbench, baseboard, column and main spindle quill

Maintenance

WARNING:

- TO AVOID INJURY from accidental starting, always turn the power switch OFF and unplug the drill press before installing or removing any accessory or attachment or making any adjustment.
- MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

Maintain your tool. It is recommended that the general condition of any tool be examined before it is used. Keep your tool in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. Keep all cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease.

Daily Maintenance

Before each use:

- Check and adjust the tightness of the belt
- Ensure the protective guard assembled well
- Check the power cord undamaged
- Idle run the machine

After each use,

- Disconnect the power cord
- Clear the scrap iron
- Clean the surface
- Add anti-rust oil onto the metal surface of workbench, baseboard, column and main spindle quill

Periodic Maintenance

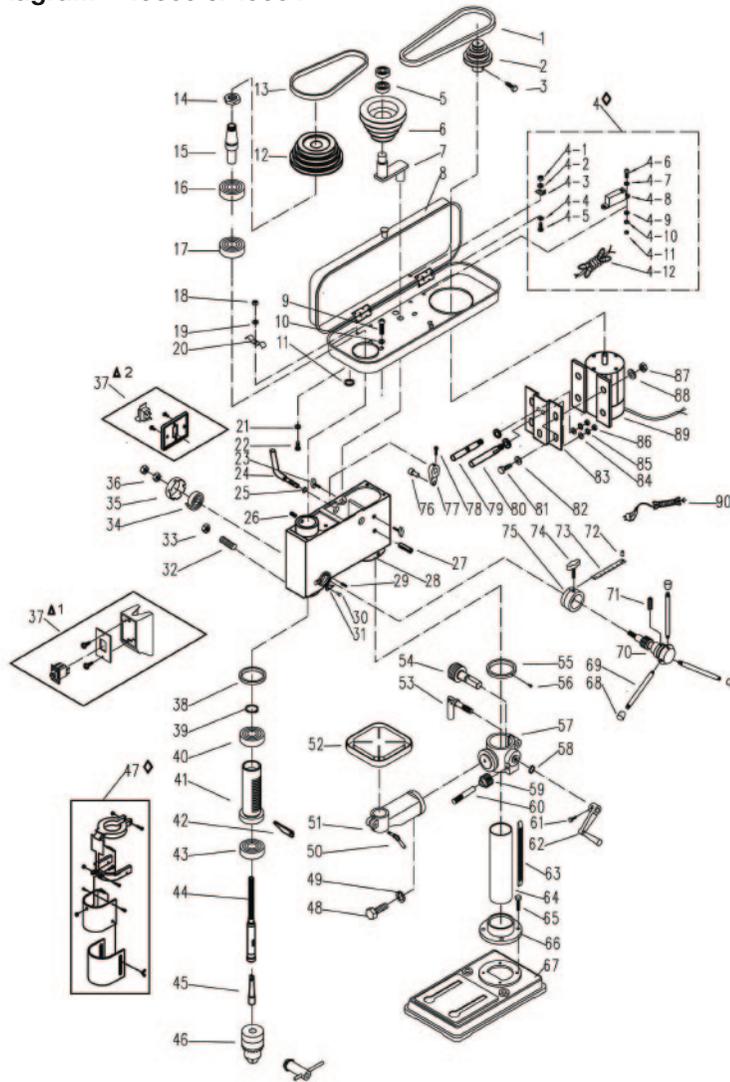
Maintain the machine after using each 100 hours:

- Check the tightness of the spindle reset spring
- Lubricate the lifting gear rack of workbench with lubricating grease.
- Check all clamp handles are in good condition.

Maintain the machine after using each 6 months:

- Check and ensure the bearing in good condition
- Check whether the precision of the drilling machine meet the needs of the work
- Check all electrical parts are in good condition

Parts Diagram – 49383 & 49384



Parts List – 49383 & 49384

Part No.	Description
1	Belt
e	Motor pulley
3	Bolt
4	◇ Micro switch assembly
5	Ball bearing

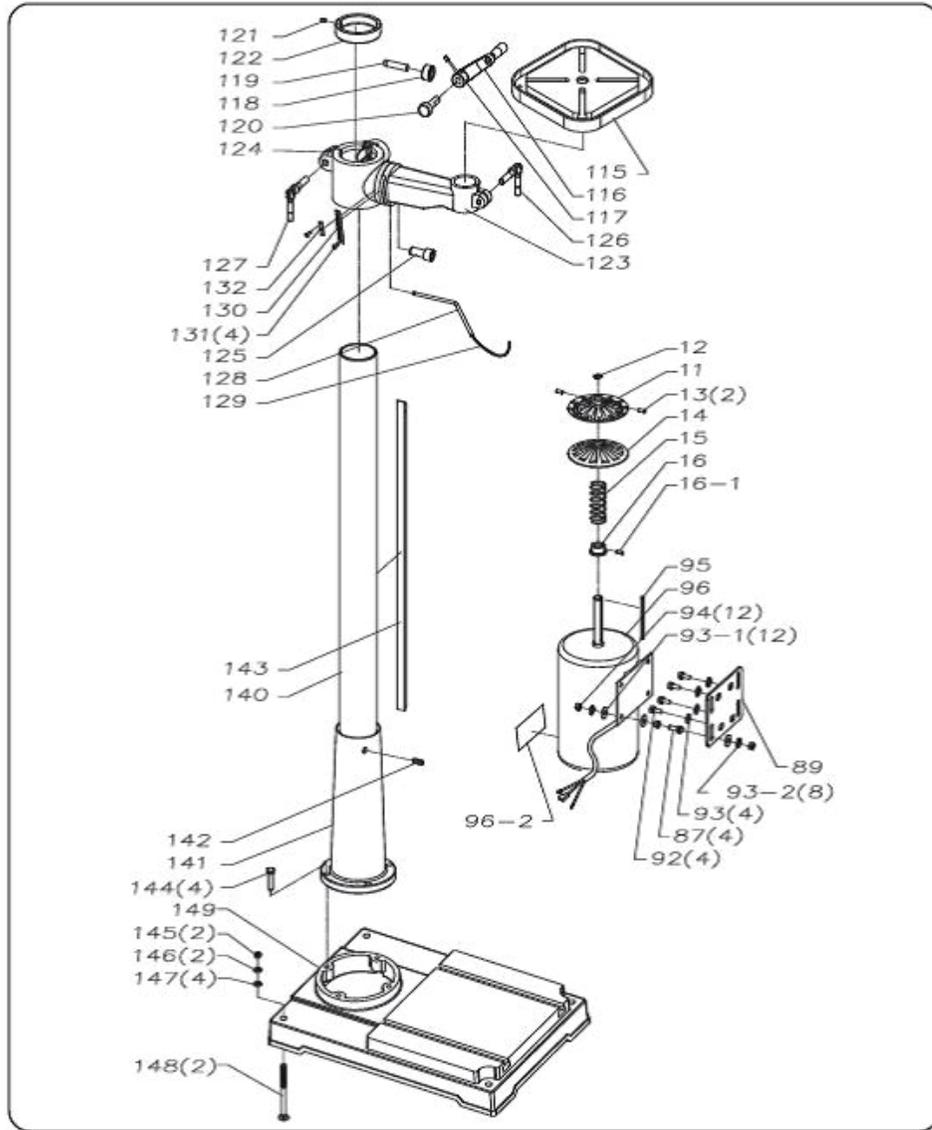
Part No.	Description
6	Idler pulley
7	Idler pulley shaft
8	Belt cover
9	Screw
10	Washer

Part No.	Description
11	Grommet
12	Spindle pulley
13	Belt
14	Nut
15	Upper spindle sleeve
16	Ball bearing
17	Ball bearing
18	Nut
19	Washer
20	Cord line clamp
21	Washer
22	Screw
23	Locking screw
24	Belt tension adjusting handle
25	Retaining ring
26	Set screw
27	Pin
28	Drill press head
29	Pin
30	Rivet
31	Pointer
32	Set screw
33	Nut
34	Spring
35	Cap cover
36	Nut
37	Switch assembly
38	Rubber bumper
39	Retaining ring
40	Ball bearing
41	Quill
42	Wedge
43	Ball bearing
44	Spindle
45	Arbor
46	Chuck and key
47	Chuck guard assembly
48	Bolt
49	Washer
50	Locking handle

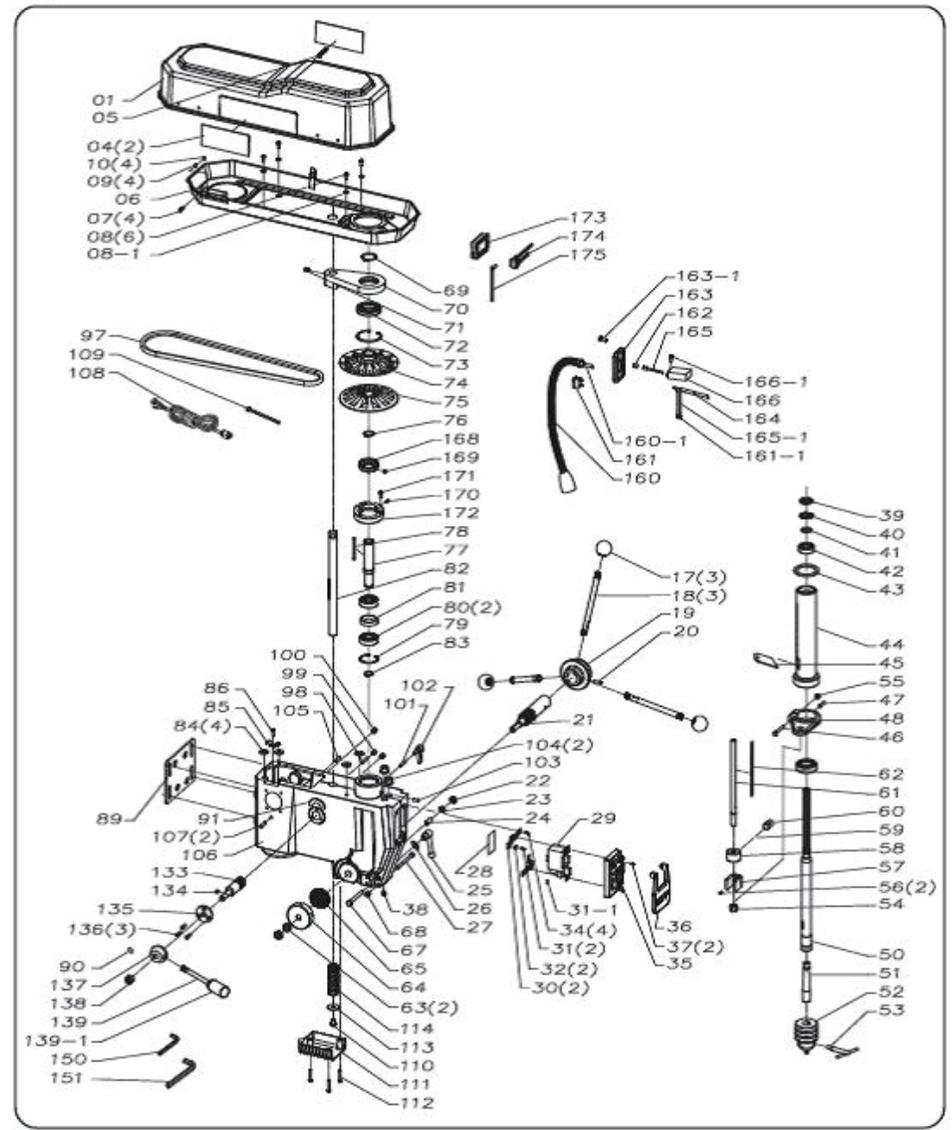
Part No.	Description
51	Table support
52	Table
53	Locking handle
54	Worm gear
55	Rack retaining ring
56	Set screw
57	Bracket
58	Retaining ring
59	Pinion gear
60	Shaft
61	Bolt
62	Crank handle
63	Rack
64	Column
65	Bolt
66	Collar
67	Base
68	Grip
69	Feed handle
70	Shaft pinion assembly
71	Pin
72	Rivet
73	Depth scale
74	Locking screw
75	Depth gauge
76	Shaft
77	Tension block
78	Screw
79	Motor support shaft A
80	Motor support shaft B
81	Bolt
82	Washer
83	Motor support plate
84	Flat washer
85	Lock washer
86	Nut
87	Washer
88	Nut
89	Motor
90	Cord

Parts Diagram - 49385

Repair Parts Illustration for Table



Repair Parts Illustration for Head





**Floor Mounted Drill Presses
OWNER'S MANUAL**

Parts List - 49385

#	Part No.	Description	Qty.	#	Part No.	Description	Qty.
11	20535-011	Motor pulley 2	1	115	20535-115	Table	1
12	20535-012	Circlip of shaft 16	1	116	20535-116	Crank	1
13	20535-013	Set screw M6x10mm	2	117	20535-117	Set screw M6x10	1
14	20535-014	Motor pulley 1	1	118	20535-118	Pinion	1
15	20535-015	Tension sheath	1	119	20535-119	Pin roll	1
16	20535-016	Spring sheath	1	120	20535-120	Worm	1
16-1	20535-016-1	Set screw M6x6mm	1	121	20535-121	Set screw M6x8	1
				122	20535-122	Fixing ring	1
87	20535-087	Special screw	4	123	20535-123	Bracket	1
89	20535-089	Motor base	1	124	20535-124	Bracket holder	1
92	20535-092	Hex bolt 8x20	4	125	20535-125	Hex bolt 16x30	1
93	20535-093	Flat washer 8	4	126	20535-126	Lock handle M10x35	1
93-1	20535-093-1	Flat washer 8	12	127	20535-127	Lock handle M12x50	1
93-2	20535-093-2	Spring washer 8	8	128	20535-128	Locating pin	1
94	20535-094	Nut 8	12	129	20535-129	Chain	1
95	20535-095	Key 4x98	1	130	20535-130	Angle ruler	1
96	20535-096	Motor	1	131	20535-131	Rivet 2x5	7
96-2	20535-096-2	Motor label	1	132	20535-132	Angle label	1
				140	20535-140	Column	1
				141	20535-141	Flange	1
				142	20535-142	Set screw M10x12	2
				143	20535-143	Rack 17x810	1
				144	20535-144	Hex bolt M10x40	4
				145	20535-145	Nut 8	2
				146	20535-146	Spring washer 8	2
				147	20535-147	Flat washer 8	4
				148	20535-148	Hex bolt M8x125	2
				149	20535-149	Base	1

Repair Parts List for Head

#	Part No.	Description	Qty.	#	Part No.	Description	Qty.
1	20535-001	Pulley cover	1	19	20535-019	Handle holder	1
4	20535-004	Label	2	20	20535-020	Spring Pin 5x20	1
5	20535-005	Tapping screw ST4.2x 9.5	1	21	20535-021	Feed shaft	1
6	20535-006	Lower cover	1	22	20535-022	Nut 10	1
7	20535-007	Pan head screw M4x10	4	23	20535-023	Spring washer 10	1
8	20535-008	Pan head screw M6x12	6	24	20535-024	Locking screw	1
8-1	20535-008-1	Flat washer 6	6	25	20535-025	Locking handle	1
9	20535-009	Teeth washer 4	4	26	20535-026	Flat washer 8	1
10	20535-010	Nut 4	4	27	20535-027	Socket screw M6x80	1
17	20535-017	Handle rod	3	28	20535-028	Clapboard	1
18	20535-018	Handle grip	3	29	20535-029	Switch	1



#	Part No.	Description	Qty.	#	Part No.	Description	Qty.
30	2020535-030	Switch fixing plate	2	74	20535-074	Spindle pulley 1	1
30-1	20535-030-1	Grounding	2	75	20535-075	Spindle pulley 2	1
31	20535-031	Pan head screw M5x10	2	76	20535-076	Circlip of shaft 24	1
32	20535-032	Teeth washer 5	2	77	20535-077	Spline housing	1
34	20535-034	Pan head screw M5x10	2	78	20535-078	Key 4x72	1
35	20535-035	Switch cover	1	79	20535-079	Circlip of hole 52	1
36	20535-036	Switch plate	1	80	20535-080	Bearing 6304	2
37	20535-037	Pan head screw M4x20	2	81	20535-081	Spacer	1
38	20535-038	Nut 6	1	82	20535-082	Transmission shaft	1
39	20535-039	Locking nut	1	83	20535-083	Circlip of shaft 20	1
40	20535-040	Teeth washer	1	84	20535-084	Rubber ring Ø6xØ15xØ2	6
41	20535-041	Washer 17.5	1	85	20535-085	Clamp	1
42	20535-042	Bearing 6023-2rs	1	86	20535-086	Socket screw M5x12	1
43	20535-043	Rubber ring	1	90	20535-090	Pointer	1
44	20535-044	Sleeve	1	91	20535-091	Speed label	1
45	20535-045	Wedge	1	97	20535-097	Belt 1130	1
46	20535-046	Hex bolt M6x46	1	98	20535-098	Pin A5x35	1
47	20535-047	Set screw M6x12	1	99	20535-099	Set screw M8x15	1
48	20535-048	Long ring	1	100	20535-100	Set screw M10x15	1
49	20535-049	Bearing 6205-2rs	1	101	20535-101	Pin A4x28	1
50	20535-050	Spindle	1	102	20535-102	Handle Ø4x4	1
51	20535-051	Arbor	1	103	20535-103	Set screw M6x16	1
52	20535-052	Chuck<JT3 Max=16mm>	1	104	20535-104	Jacket	2
53	20535-053	Chuck key	1	105	20535-105	Set screw M10x20	1
54	20535-054	M12 Lock nut	1	106	20535-106	Housing	1
55	20535-055	M6 Hex nut	1	107	20535-107	Spring Pin 6x24	2
56	20535-056	M6x12mm Flat hd scr	2	108	20535-108	Cord	1
57	20535-057	Mounting bracket	1	109	20535-109	Strapping tape	1
58	20535-058	Stop nut assy	1	110	20535-110	Pan head screw M5x35	1
59	20535-059	Spring	1	111	20535-111	Cover	1
60	20535-060	Quick release nut	1	112	20535-112	Pan head screw M5x35	3
61	20535-061	Depth rod	1	113	20535-113	Washer 10	1
62	20535-062	Depth scale	1	114	20535-114	Speed change spring	1
63	20535-063	M12 Hex nut	2	133	20535-133	Gear shaft	1
64	20535-064	Spring cap	1	134	20535-134	Key 4x10	1
65	20535-065	Coil spring	1	135	20535-135	Limit plate	1
67	20535-067	M8x70mm Hex hd scr	1	136	20535-136	Sunk screw M5x16	3
68	20535-068	Nut	1	137	20535-137	Handle holder	1
69	20535-069	Ø40 Retaining ring	1	138	20535-138	Nut 12	1
70	20535-070	Link plate	1	139	20535-139	Handle	1
71	20535-071	M8x12mm Hex soc set scr	2	139-1	20535-139-1	Handle grip	1
72	20535-072	Ball bearing(16008)	1	150	20535-150	Allen key 3mm	1
73	20535-073	Ø68 Retaining ring	6	151	20535-151	Allen key 5mm	1



Floor Mounted Drill Presses OWNER'S MANUAL

#	Part No.	Description	Qty.	#	Part No.	Description	Qty.
160	20535-160	Led	1	166	20535-166	Actuator	1
160-1	20535-160-1	Nut 10	1	166-1	20535-166-1	Pan head screw M4x10	1
161	20535-161	Led switch	1	168	20535-168	Speed checking plate	1
161-1	20535-161-1	Terminal	2	169	20535-169	Head	1
162	20535-162	Plug	1 SET	170	20535-170	Set screw M4x10	1
163	20535-163	Light holder	1	171	20535-171	Pan head screw M4x12	3
163-1	20535-163-1	Socket M5x10	4	172	20535-172	Bearing cover	1
164	20535-164	Cord	1	173	20535-173	Display assembly	1
165	20535-165	Wire	2	174	20535-174	Transformer	1
165-1	20535-165-1	Wire	1	175	20535-175	Speed sensor	1

Troubleshooting

Symptom	Possible Cause(s)	Corrective Action
Noisy operation	<ol style="list-style-type: none"> 1. Incorrect belt tension 2. Dry spindle 3. Loose spindle 4. Loose motor pulley 	<ol style="list-style-type: none"> 1. Adjust tension 2. Lubricate spindle 3. Tighten pulley nut 4. Tighten set screw in pulley
Bit burns or smokes	<ol style="list-style-type: none"> 1. Incorrect speed 2. Chips not coming out of hole 3. Dull bit 	<ol style="list-style-type: none"> 1. Change speed 2. Retract bit frequently to clear chips 3. Sharpen or replace bit
Excessive drill bit run out or wobble	<ol style="list-style-type: none"> 1. Bent bit 2. Bit not properly installed in chuck 3. Chuck not properly installed 4. Worn spindle bearings 	<ol style="list-style-type: none"> 1. Replace bit 2. Install bit properly 3. Install chuck properly 4. Replace bearings
Drill bit binds in workpiece	<ol style="list-style-type: none"> 1. Workpiece pinching bit or excessive feed pressure 2. Improper belt tension 	<ol style="list-style-type: none"> 1. Support or clamp workpiece, decrease feed pressure 2. Adjust tension
Workpiece torn loose from hand	<ol style="list-style-type: none"> 1. No supported or clamped properly 	<ol style="list-style-type: none"> 1. Support or clamp workpiece properly

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at 1-800-222-5381.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following will be required: Model Number, Serial Number/Lot Date Code, and Description.
- The distributor reserves the rights to make design changes and or improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Ironton Air Tool product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of one year from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose.



If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) accessories both consumable and durable; (c) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (d) damage from misapplication, overloading, or improper installation; (e) improper maintenance and repair; and (f) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



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