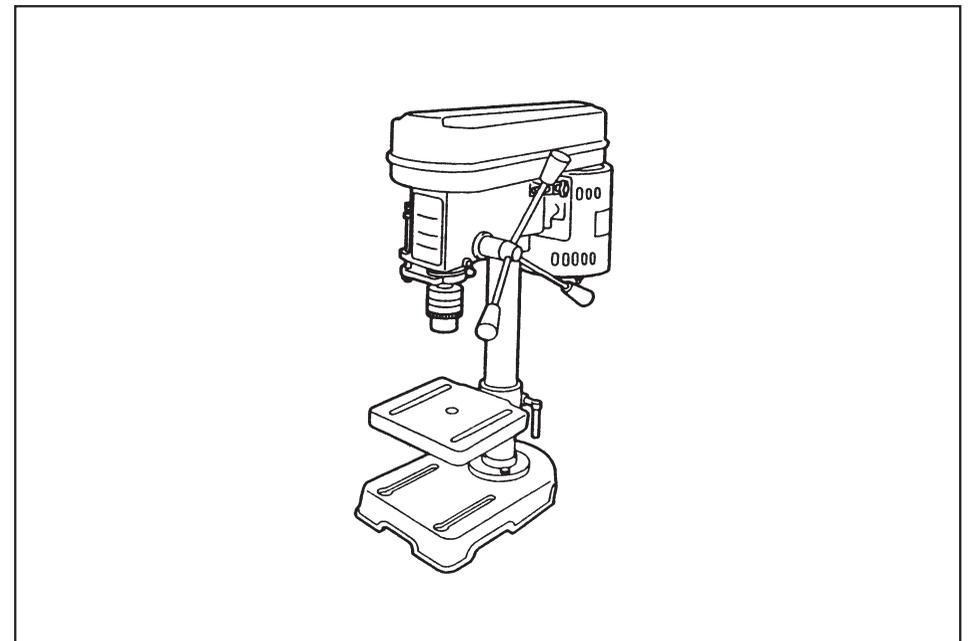




DRILL PRESS

MODEL TB131

INSTRUCTION MANUAL



SPECIFICATIONS

Voltage		Hz				Amps.		
220V~240V		50/60 Hz				4,3.5 A		
Speed(rpm) <5 speeds>						Capacities		Weight
50Hz	570	890	1300	1900	2670	Steel	Wood	20kg(44lbs)
60Hz	690	1070	1560	2280	3200	13mm(1/2")	24mm(1/4")	

SAFETY RULES

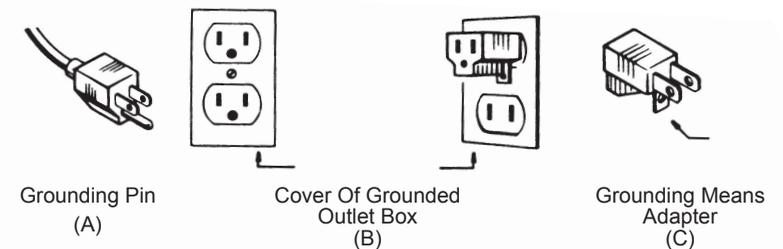
1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet location, or expose them to rain. Keep work area well lighted.
5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
6. MAKE WORKSHOP CHILD PROOF with padlocks, master switches, or by removing starter keys.
7. DON'T FORCE TOOL. Don't force tool or attachment to do a job for which it was not designed.
8. USE RIGHT TOOL. It will do the job better and safer at the rate for which it was designed.
9. WEAR PROPER APPAREL. No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. ALWAYS USE SAFETY GLASSES. Common eyeglasses only have impact resistant lenses, they are NOT safety glasses.
11. 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.
12. DON'T OVERREACH. Keep proper footing and balance at all times.
13. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
14. DISCONNECT TOOLS before servicing; when changing accessories such as blades.
15. REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.
16. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
17. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
18. 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.
19. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

GROUNDING

1. 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 it will not fit the outlet, have the proper outlet installed by a qualified electrician.
3. 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 stripe 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.
4. Check with a qualified electrician or serviceman 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.
7. This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in sketch A. The tool has a grounding plug that looks like the plug illustrated in sketch A. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect his plug to a 1-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, etc. extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

Note: The type of electrical plug and receptacle differs from country to country.

Caution: In Canada only the grounding shown in figure (A) is acceptable. The extension cords should be CSA certified S.J.T. type or something better.



Drill binds in workpiece	A) Excessive pressure on feed handle B) Loose belt C) Loose drill D) Speed too fast	A) Apply less pressure B) Check belt tension C) Tighten drill with key D) Change speed
Drill burns or smokes	A) Incorrect speed slow down RPM B) Chips are not discharging C) Dull drill or not cut properly for material D) Needs lubrication E) Feed pressure wrong	A) Refer to speed chart B) Clean drill C) Check sharpness & taper D) Use lubrication while drilling E) Apply less pressure
Table difficult to raise	A) Needs lubrication B) Bent rack C) Table lock tightened	A) Lubricate with light oil B) Straighten rack C) Loosen clamp

MAINTENANCE

Frequently blow out any dust that may accumulate inside the motor.

A coat of automobile-type wax applied to the table and column will help to keep the surfaces clean.

If the power cord is worn or cut, or damaged in any way. have it replaced immediately.

Lubrication

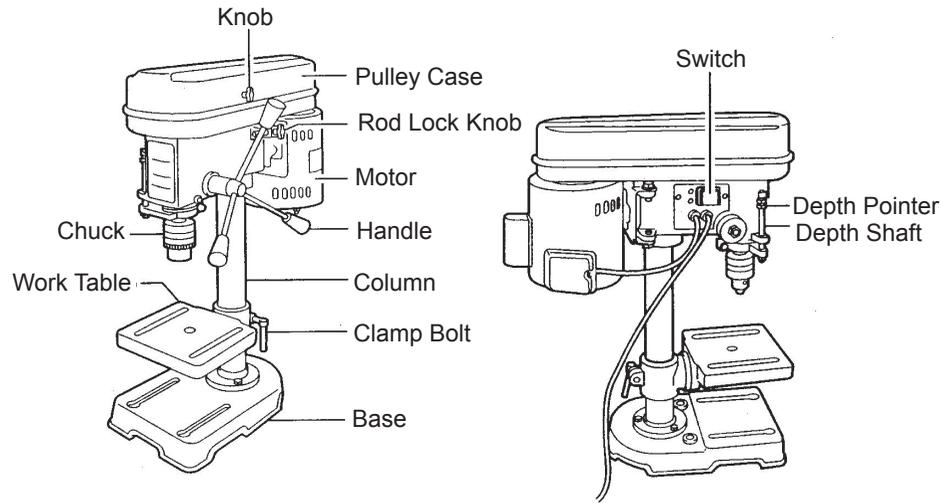
All of the BALL BEARINGS are packed with grease at the factory. They require no further lubrication.

Periodically lubricate the gear and rack table elevation mechanism. the SPLINES (grooves) in the spindle and the RACK (teeth on the quill).

Special Safety Rules For Drill press:

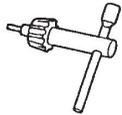
1. Caution: This drill press is intended for use only with drill bits. The use of other accessories may be hazardous.
2. Correct drilling speeds: Factors which determine the best speed to use in any drill press operation are: Kind of material being worked, size of hole, type of drill or other cutter, and quality of cut desired. The smaller the drill, the greater the required RPM. In soft materials, the speed should be higher than for hard metals.
3. Drilling in metal: Use clamps to hold the work when drilling in metal. The work should never be held in the bare hand; the flutes of the drill may seize the work at any time, especially when breaking through the stock. If the piece is whirled out of the operator's hand, he may be injured, in any case. the drill will be broken when the work strikes the column.
4. The work must be clamped firmly while drilling: Any tilting, twisting, or shifting results not only in a rough hole, but also increases drill breakage. For flat work, lay the piece on a wooden base and clamp it firmly down against the table to prevent it from turning. If the piece is of irregular shape and cannot be laid flat on the table, it should be securely blocked and clamped.
5. The chuck shall be securely fastened to the spindle and so that it can't separate from spindle.
6. Remove key from chuck after adjustment.
7. The tool is to be disconnected from the power supply while the motor is being mounted, connected, or reconnected.
8. Secure the tool to the supporting structure if, during normal operation there is any tendency for the tool to tip over, slide, or walk on the supporting surface.
9. The set screws of head frame should be screwed tightly before using this machine.
10. Connect to a supply circuit protected by a circuit breaker or time delay fuse.
11. Fasten base to floor or worktable before using the drill press.

PARTS & ACCESSORIES

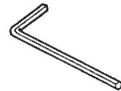


Accessories

· Chuck Key

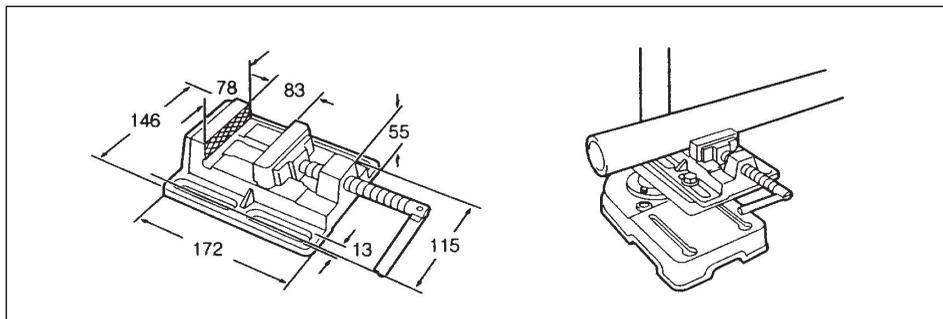


· Hex Wrench



OPTIONAL ACCESSORIES

Vise for drill press



OPERATION & TROUBLE SHOOTING GUIDE

1. Installing Drills

Insert drill into chuck jaws about 1" (25.4mm) long. When using a small drill does not insert it so far that the jaws touch the arbor of the drill. Make sure that the drill is centered in the chuck before tightening the chuck with the key. Fig. 13.

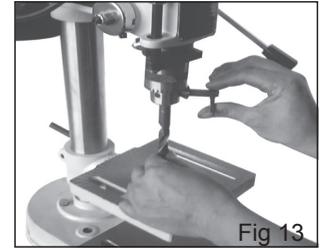


Fig 13

2. Positioning Workpiece

Always place a piece of wood (or plywood...) on the table. This will prevent "splintering" or making a heavy hurs on the underside of the workpiece as the drill breaks through. The wood must contact the left side of the column. Fig. 14

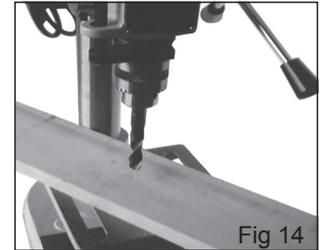


Fig 14

3. Using Vise

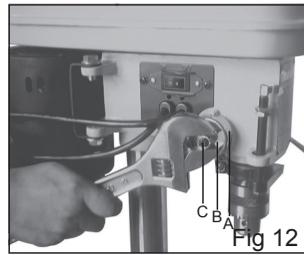
For small workpiece that cannot be clamped to the table, use a drill press vise not included. The vise must be clamped or bolted to the table.

4. Trouble Shooting Guide

TROUBLE	PROBABLE CAUSE	REMEDY
Noisy operation	A) Incorrect belt tension B) Dry spindle C) Loose pulley D) Loose belt E) Bad bearing	A) Adjust tension B) Remove spindle/quill assembly-lubricate C) Tighten pulley D) Adjust belt tension E) Replace bearing
Excessive drill wobble	A) Loose chuck B) Worn spindle shaft or bearing C) Bad chuck	A) Tighten by pressing chuck down against table B) Replace spindle shaft or bearing C) Replace chuck
Motor won't start	A) Power supply B) Motor connection C) Switch connections D) Motor windings burned E) Bad switch	A) Check power cord B) Check motor connections C) Check switch connections D) Replace motor E) Replace switch

5. Quill Spring Adjustment

1. Move the stop nuts to lowest position and lock in place with wrench to prevent quill dropping while tensioning spring.
2. Place screwdriver in lower front notch (A) of spring cap (B) and hold it in place while loosening and removing nuts.
3. Carefully turn screwdriver counter clockwise and engage next notch. Fig. 12.
4. Tighten inner nut (C) with wrench. Do not overtighten as this will restrict quill removal.
5. Move stop nuts to upper position and check tension while turning feed handle. If there is not enough tension on spring, repeat steps 2-4.
6. Check quill while feeding to be smooth and unrestricted movement. If movement is too tight, slightly loosen nuts until unrestricted.



ASSEMBLY

1. Assembly the Column

- Place column assembly on base and align holes in column support with holes in base.
- Secure the column with the three bolts and washers provided. Fig. 1.



2. Install Table

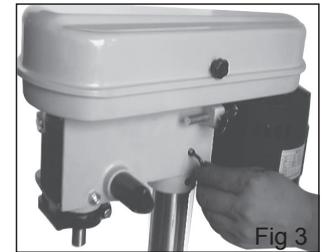
- Slide the table onto the column and lock with bolt. Fig. 2.



3. Attach Head to Column

- Carefully put the head assembly over column and slide it onto column into position. Align head frame with table and base.

Fix set screws in right side of head to lock head into position then tighten with allen wrench. Fig. 3.



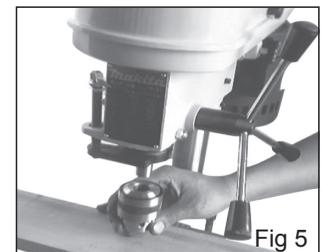
4. Install the Feeding Handles

- Screw knob on each feeding handle, install them into hub of pinion shaft. Fig. 4.



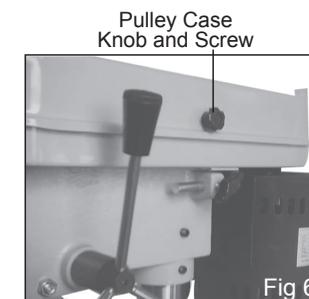
5. Attach the Chuck

- Slide working table up about 1" (25.4mm) from the tip of spindle.
- Open chuck jaws completely by turning attached chuck key counter clockwise to the end.
- Put a piece of scrap wood on the table to protect chuck nose.
- Pull feeding handle down pressing the chuck against the scrap wood until chuck is forced on the spindle. Fig. 5.



6. Install knob and screw of upper pulley

Fig. 6.



ADJUSTMENT

1. Table Adjustment

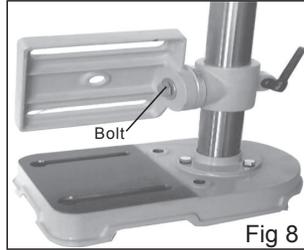
A. Height Adjustment:

To adjust up or down, loosen the clamp bolt then adjust the table to desired position, then tighten clamp bolt securely. Fig. 7.



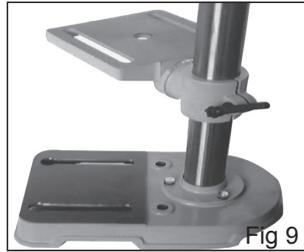
B. Tilting Adjustment:

Loosen work table bolt adjust to desired angle and retighten. Fig. 8.



C. Swing 360°

Loosen clamp bolt then swing table to appropriate position and retighten clamp bolt. Fig. 9.



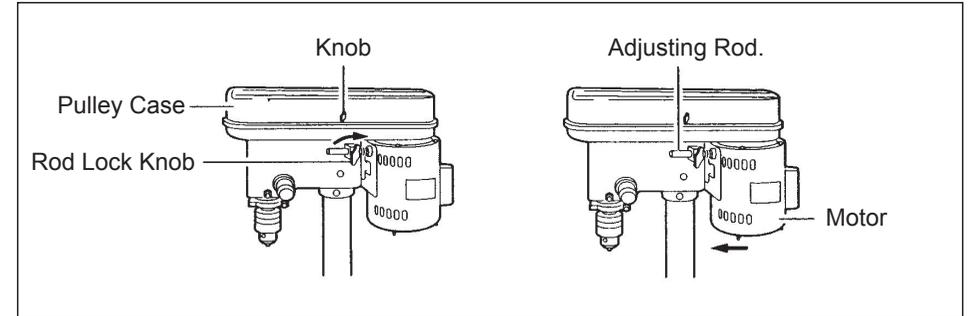
2. Feed Depth Adjustment

Lower spindle assembly to desired depth and spin down nut. If nut moves due to vibration, spin down the 2nd nut and lock in position by holding the lower nut and tighten upper nut. Fig. 10.



Speed Adjustment

1. Open the pulley case and loosen the belt tension lock handle



Position of Belt	1	2	3	4	5
Speed per minutes	50 Hz—570 60 Hz—690	50 Hz—890 60 Hz—1,070	50 Hz—1,300 60 Hz—1,560	50 Hz—1,900 60 Hz—2,280	50 Hz—2,670 60 Hz—3,200
Suitable Drill (estimate) When Using For Metal	10, 11, 12, 13 mm	6, 7, 8, 9 mm	4.5 mm	3 mm	

2. Choose speed for drilling operation and move belt to correct position for desired speed.
3. Push motor backward until moderate belt tension is acquired. Lock handle again.
4. Belt tension Adjustment

For proper belt tension: Use 10 lbs pressure or hand pressure on the belt as shown below. The distance is 1/2" (13mm) +10%.

