



12 SPEED- 22" DRILL PRESS



MODEL: KC-122FC

INSTRUCTION MANUAL

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IMPORTANT INFORMATION



<p>2-YEAR LIMITED WARRANTY FOR THIS DRILL PRESS</p>	<p>KING CANADA TOOLS OFFERS A 2-YEAR LIMITED WARRANTY FOR INDUSTRIAL USE.</p>
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PROOF OF PURCHASE

Please keep your dated proof of purchase for warranty and servicing purposes.

REPLACEMENT PARTS

Replacement parts for this tool are available at our authorized KING CANADA service centers across Canada. For servicing, contact or return to the retailer where you purchased your product along with your proof of purchase.

LIMITED TOOL WARRANTY

KING CANADA makes every effort to ensure that this product meets high quality and durability standards. KING CANADA warrants to the original retail consumer a 2-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations and lack of maintenance. KING CANADA shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products. To take advantage of this warranty, the product or part must be returned for examination by the retailer. Shipping and handling charges may apply. If a defect is found, KING CANADA will either repair or replace the product.



GENERAL SAFETY RULES FOR POWER TOOLS

1. KNOW YOUR TOOL

Read and understand the owners manual and labels affixed to the tool. Learn its application and limitations as well as its specific potential hazards.

2. GROUND THE TOOL.

This tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. **NEVER** connect the green wire to a live terminal.

3. KEEP GUARDS IN PLACE.

Keep in good working order, properly adjusted and aligned.

4. REMOVE ADJUSTING KEYS AND WRENCHES.

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

5. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents. Make sure the floor is clean and not slippery due to wax and sawdust build-up.

6. AVOID DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit and provide adequate surrounding work space.

7. KEEP CHILDREN AWAY.

All visitors should be kept a safe distance from work area.

8. MAKE WORKSHOP CHILD-PROOF.

-with padlocks, master switches or by removing starter keys.

9. USE PROPER SPEED.

A tool will do a better and safer job when operated at the proper speed.

10. USE RIGHT TOOL.

Don't force the tool or the attachment to do a job for which it was not designed.

11. WEAR PROPER APPAREL.

Do not wear loose clothing, gloves, neckties or jewelry (rings, watch) because they could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbows.

12. ALWAYS WEAR SAFETY GLASSES.

Always wear safety glasses (ANSI Z87.1). Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses. Also use a face or dust mask if cutting operation is dusty.

13. DON'T OVERREACH.

Keep proper footing and balance at all times.

14. MAINTAIN TOOL 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 or attachments.

16. AVOID ACCIDENTAL STARTING.

Make sure the switch is in the "OFF" position before plugging in.

17. USE RECOMMENDED ACCESSORIES.

Consult the manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

18. NEVER STAND ON TOOL.

Serious injury could occur if the tool tips over. Do not store materials such that it is necessary to stand on the tool to reach them.

19. CHECK DAMAGED PARTS.

Before further use of the tool, a guard or other parts that are damaged should be carefully checked to ensure that they will operate properly and perform their intended function. Check for alignment of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other parts that are damaged should be properly repaired or replaced.

20. NEVER LEAVE MACHINE RUNNING UNATTENDED.

Turn power "OFF". Don't leave any tool running until it comes to a complete stop.

SPECIFIC SAFETY RULES FOR DRILL PRESSES

1. TO AVOID INJURY FROM PARTS BEING THROWN BY THE SPRING

Follow the instructions exactly as given and shown in "Adjusting the quill return spring".

2. USING A DRILL PRESS VISE

When using a drill press vise, always fasten it to the table.

3. NEVER DO "FREEHAND WORK"

Never do any work "Freehand" (Hand holding the workpiece rather than supporting it on the table) except when you have polishing to do.

4. **SECURE** the lock head to the column, table support to column and table to table support before operating the drill press.

5. **NEVER** move the head or table while the drill press is running.

6. **USE THE RECOMMENDED SPINDLE SPEED** for the specific operation and workpiece material. Check the panel inside the guard cover for drill information. For accessories, use the instructions provided with the accessories.

7. **NEVER** climb on the drill press table, you could break or pull the entire drill press down on you.

SPECIFICATIONS



SPECIFICATIONS FOR 22" DRILL PRESS MODEL: KC-122FC

VOLTAGE	110V/220V
AMPS	12.5A@ 110V, 6.25A@ 220V
MOTOR R.P.M.	1720
Hz	60
PHASE	1
CHUCK CAPACITY	3/4"
SPINDLE TAPERMT#4
NUMBER OF SPEEDS	12

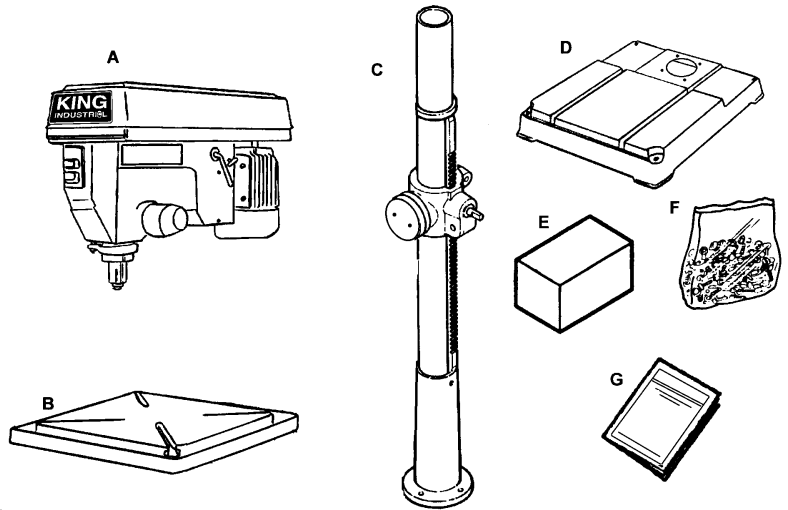
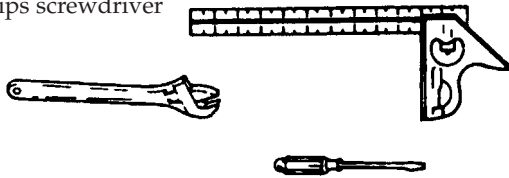
UNPACKING/TOOLS NEEDED

TABLE OF BOX CONTENTS

A- Head assembly	1
B- Table	1
C- Column and table support	1
D- Base.....	1
E- Box of loose parts	1
F- Bag of loose parts	1
G- Instruction manual.....	1

TOOLS NEEDED

- 1- Combination square
- 1- 8" Adjustable wrench
- 1- Medium Phillips screwdriver



WARNING! To avoid injury from unexpected starting or electrical shock, never connect the plug to an outlet until all the assembly instructions are completed.

FIGURE 1



ELECTRICAL CONNECTIONS

WARNING

ALL ELECTRICAL CONNECTIONS MUST BE DONE BY A QUALIFIED ELECTRICIAN. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH THE DRILL PRESS DISCONNECTED FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

POWER SUPPLY

WARNING: YOUR DRILL PRESS MUST BE CONNECTED TO A 110V, 15-AMP, BRANCH CIRCUIT AND USE A 15-AMP TIME DELAY FUSE OR CIRCUIT BREAKER. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

Your drill press must be properly grounded. Not all outlets are properly grounded. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician.

WARNING: IF NOT PROPERLY GROUNDED, THIS DRILL PRESS CAN CAUSE ELECTRICAL SHOCK, PARTICULARLY WHEN USED IN DAMP LOCATIONS. TO AVOID SHOCK OR FIRE, IF THE POWER CORD IS WORN OR DAMAGED IN ANY WAY, HAVE IT REPLACED IMMEDIATELY.

GROUNDING

This drill press must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock. This drill press is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING: TO MAINTAIN PROPER GROUNDING OF YOUR DRILL PRESS, DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER.

110V OPERATION

As received from the factory, your drill press is ready to run for 110V operation. This drill press is intended for use on a circuit that has an outlet and a plug which looks like the one illustrated in Fig.2.

WARNING: DO NOT USE TWO-PRONG ADAPTORS FOR THEY ARE NOT IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES. NEVER USE IN CANADA.

220V OPERATION

If 220V, single phase operation is desired, the following instructions must be followed:

1. Disconnect the machine from its power source.
2. The drill press comes with four motor leads that are connected for 110V operation. Reconnect these four motor leads for 220V operation, as indicated on the inside of the capacitor cover.
3. The 110V plug supplied with the drill press must be replaced with a CSA listed plug suitable for 220V operation. This plug is illustrated in Fig.3. Contact your authorized service center or qualified electrician to install the plug and to change the connections from 110V to 220V. The drill press must comply with all local and national codes after the 220V plug is installed.
4. The main switch is 110V only, the switch must be replaced by a 220V switch (part order number 0201181162).
5. A drill press with a 220V plug should only be connected to an outlet having the same configuration as illustrated by the grounded outlet box in Fig.3. No adaptor is available or should be used for 220V operation.

EXTENSION CORDS

The use of any extension cord will cause some loss of power. Use the following table to determine the minimum wire size (A.W.G.-American Wire Gauge) extension cord. Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-hole receptacles which accept the tool's plug.

For circuits that are further away from the electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the dust collector motor. Refer to Fig.4 for wire length and size.

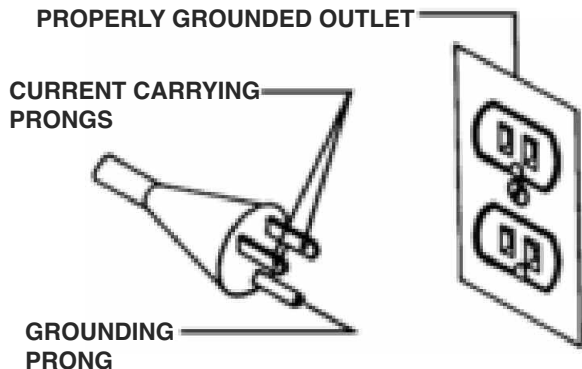


FIGURE 2

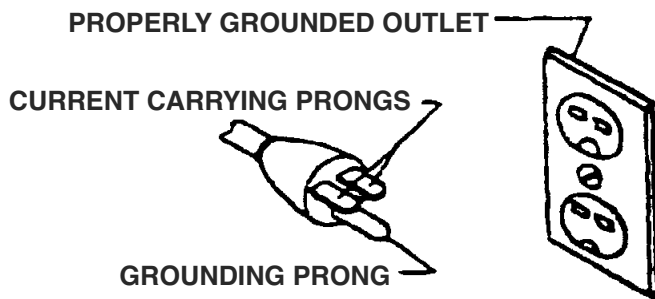


FIGURE 3

<u>LENGTH OF CONDUCTOR</u>	<u>WIRE SIZES REQUIRED (AMERICAN WIRE GAUGE)</u>
	<u>110V LINES</u>
0-25 FEET	NO.16
26-50 FEET	NO.14
51-100 FEET	NO.12

FIGURE 4

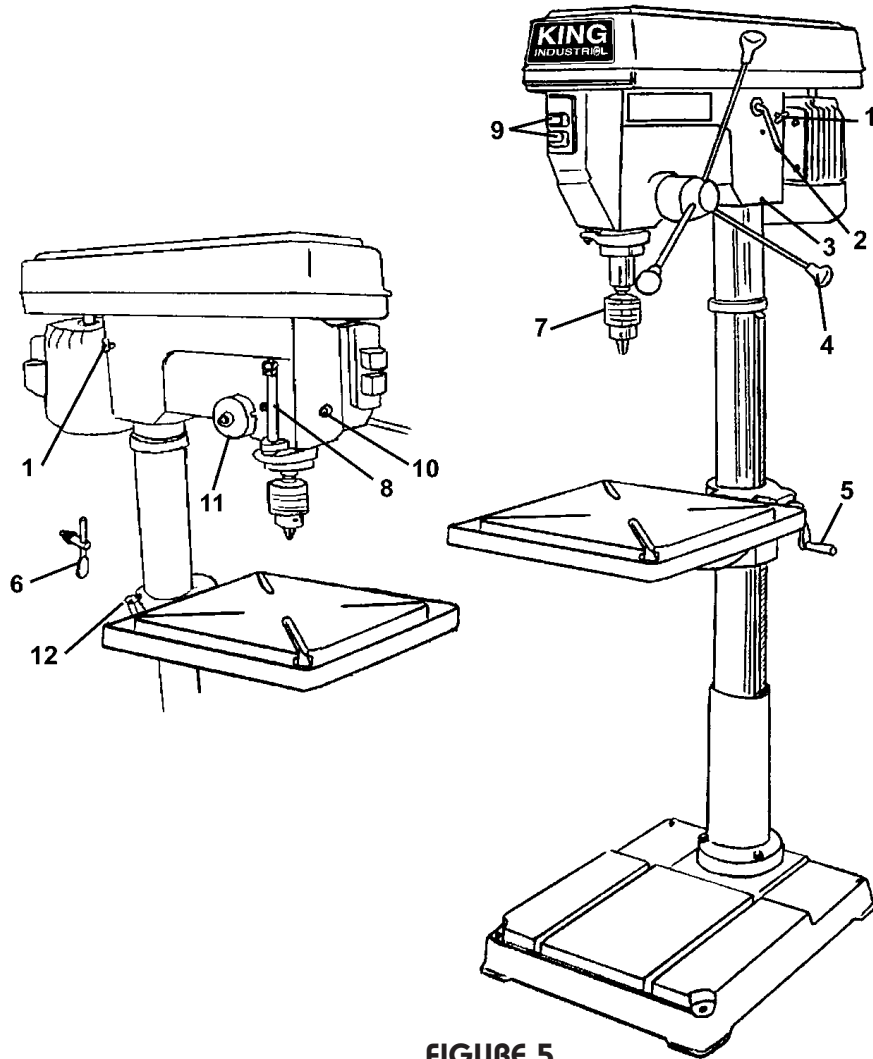


FIGURE 5

LOCATION AND FUNCTION OF CONTROLS

1. **Belt tension lock handles...**Tightening handles locks motor bracket support to maintain correct belt distance and tension.
2. **Belt tension handle...**Turn handle counterclockwise to apply tension to the belt, turn clockwise to release belt tension.
3. **Head locking set screws...**Locks the head to the column. Always have them locked in place while operating the drill press.
4. **Feed handle...**For moving the chuck up or down. One or two of the handles may be removed if necessary whenever the workpiece is of such unusual shape that it interferes with the handles.
5. **Table crank...**Turn clockwise to elevate the table. Support lock must be released before operating crank.
6. **Chuck key...**Used to tighten a drill into the chuck and also to loosen the chuck for drill removal.
7. **Chuck...**Holds the drill bit or other recommended accessory to perform desired operations.
8. **Depth scale...**Allows the operator to adjust the drill press to drill to a desired depth.
9. **Drill "ON-OFF" Switch.**
10. **Light "ON-OFF" Switch...**Turns the light on and off.
11. **Spring cap...**Provides means to adjust the quill spring tension.
12. **Support lock handle...**Tightening locks the table support to the column. Always have it locked in place while operating the drill press.

Note and follow the safety warnings and instructions that appear on the panel on the right side of the head.



ASSEMBLY INSTRUCTIONS

BASE AND COLUMN ASSEMBLY (FIG.6)

1. Position the base on the floor. Remove the protective covering and discard.
2. Remove protective sleeve from the column and discard. Place the column assembly on the base, align the holes in the column support with the holes in the base.
3. Locate three long bolts from the parts bag.
4. Install a bolt in each hole through the column support and the base and tighten with an adjustable wrench.

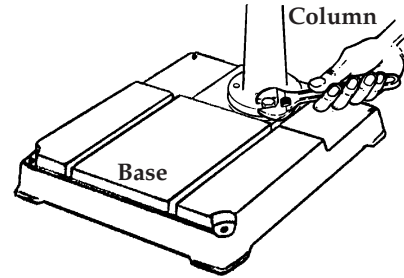


FIGURE 6

5. Locate table crank and support lock in loose parts box.
6. Install support lock from left side into the table support and tighten by hand. (Fig.7).
7. Install table crank assembly and tighten set screw with a hex. key. Do not overtighten. The set screw should be tightened against the flat section of the shaft. NOTE: To minimize crank backlash, tighten support lock, rotate elevation worm shaft clockwise, then assemble crank tight against the table support and tighten set screw.

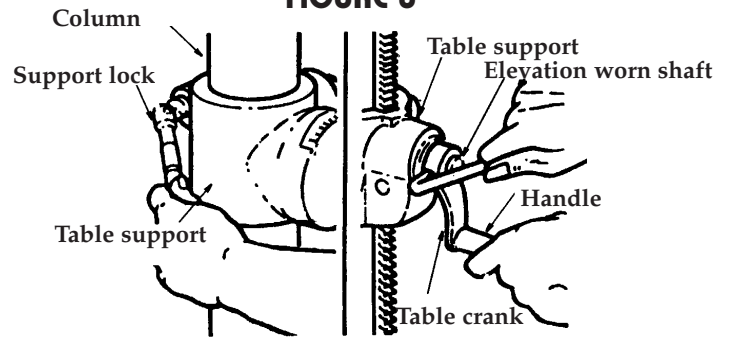


FIGURE 7

8. Check column collar for proper adjustment. The collar should not be angled on the column and it should be positioned so the rack will slide freely in the collar when the table is rotated 360° around the column table. If re-adjusted, only tighten set screw enough to keep the collar in place. NOTE: To avoid column or collar damage, do not overtighten set screw. (Fig.8).

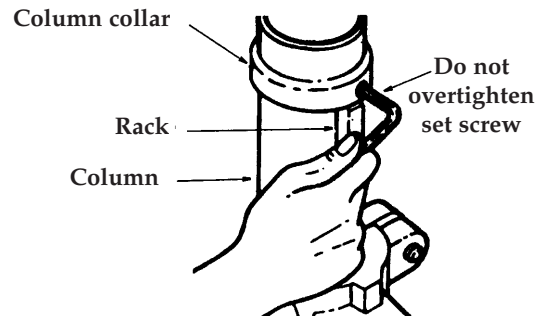


FIGURE 8

INSTALLING THE TABLE (Fig.9,10)

1. Loosen support lock and raise table support by turning the crank clockwise until the support is at a working height level. Tighten support lock.
2. Remove protective covering from the table and discard. Place table against table support making sure the stud go through the slots of the table. Fix the table to the table support using nuts and washers.

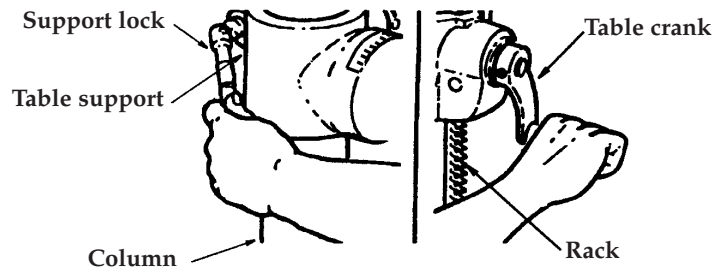


FIGURE 9

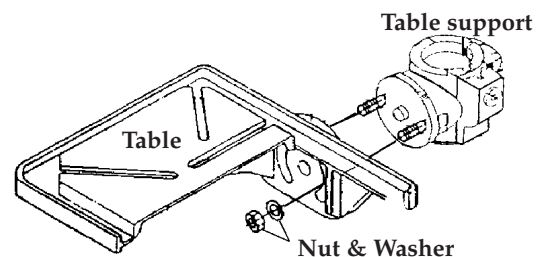


FIGURE 10

ASSEMBLY INSTRUCTIONS



INSTALLING THE HEAD (FIG.11)

1. Remove the protective covering from the head assembly.
2. Carefully lift the head above the column and slide it down on the column as far as it will go. Align the head with the table and the base.
3. Using a hex. key, tighten the head set screws on the right side of the head.

PULLEY ALIGNMENT AND SPEED ADJUSTMENT

Checking pulley alignment

Warning: To reduce the risk of injury due to accidental starting always turn drill press off before making belt adjustments.

The pulleys and motor are assembled at the factory and should require no further adjustment. If the pulleys or motor are removed for service, follow the pulley alignment instructions below.

1. Place a straightedge such as a piece of wood, metal, or framing square across the top of the pulleys.
2. The top of all three pulleys should touch the straightedge.
3. If not, a) Loosen motor mount nuts. b) Move motor until the pulleys are in line. c) Retighten the motor mount nuts.

NOTE: To avoid rattles or other noises, motor frame must not touch lower belt guard.

Speed adjustment

1. Release belt tension lock handles located on each side of the drill press by turning them counterclockwise.
2. Loosen belt tension by turning the belt tension handle clockwise.
3. Use the speed chart inside the belt guard to choose the speed for the drilling operation. Install belts in the correct position for the desired speed. The longer of the two belts is always positioned between the spindle pulley and the idler pulley.

NOTE: Refer to inside belt guard for recommended drilling speeds.

TENSIONING BELT

1. Apply tension to the belt by turning belt tension handle counterclockwise until belt deflects approximately 1/2" by thumb pressure at its center.
2. Tighten belt tension lock handles. **NOTE:** Over tensioning belt may cause the motor not to start or damage bearings.
3. If belt slips while drilling, reajust belt tension.

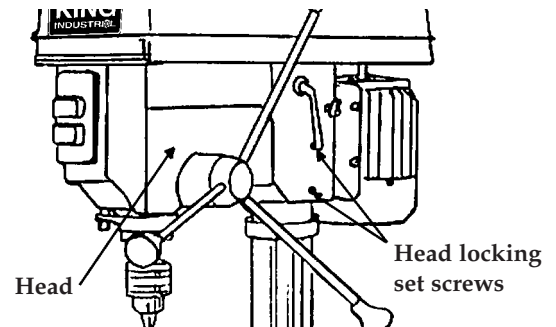


FIGURE 11

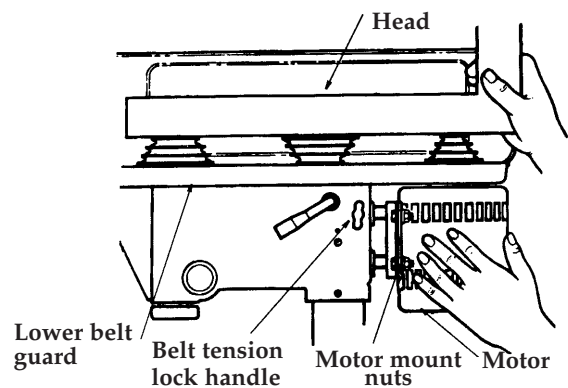


FIGURE 12

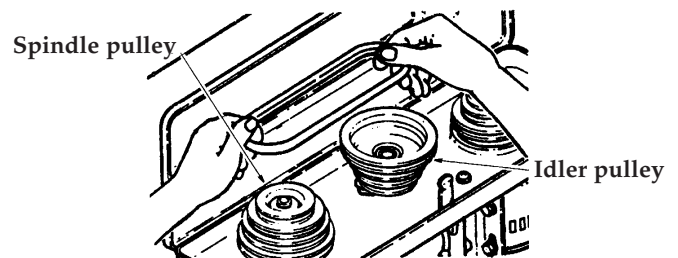
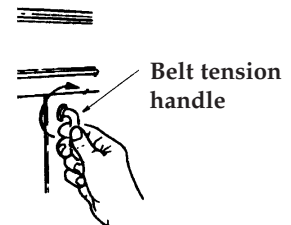


FIGURE 13

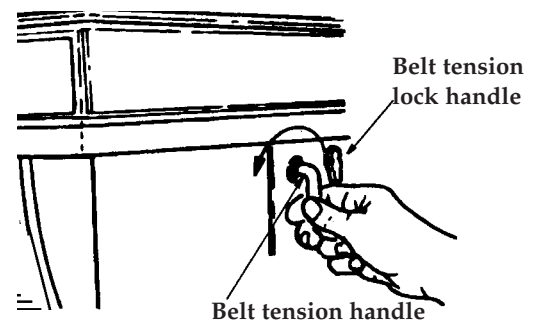


FIGURE 14



ASSEMBLY INSTRUCTIONS

INSTALLING THE CHUCK

1. Clean out the tapered hole in the chuck, clean the spindle nose with a clean cloth. Make sure there are no foreign particles sticking to the surfaces. The slightest piece of dirt on the spindle nose or on the chuck will prevent the chuck from seating properly. This will cause the drill to "wobble".
2. Slide the chuck up over the arbor as illustrated in Fig.15.
3. Unlock the table support lock and raise the table so that it is two inches below the tip of the chuck.
4. Turn the chuck sleeve clockwise and open jaws in chuck completely.
5. Turn the feed handles counterclockwise and force the chuck against the table until the chuck is secure.(Fig.16).

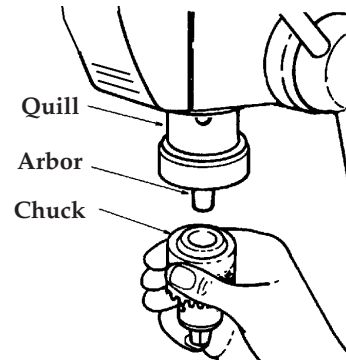


FIGURE 15

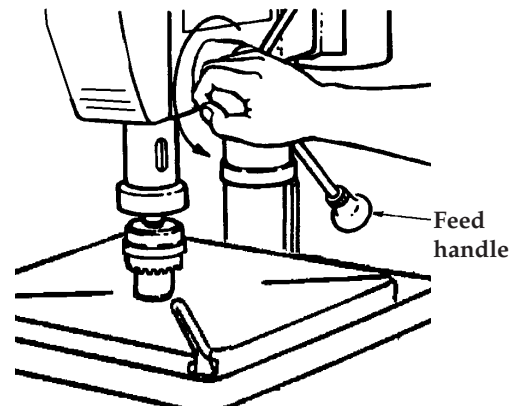


FIGURE 16

REMOVING CHUCK AND ARBOR

1. With the switch off, hold the chuck at a depth of 3".
2. Align key holes in spindle and quill by rotating the chuck by hand.
3. Insert key drift into key holes.
4. Tap key drift lightly until the chuck and arbor fall out of the spindle.
NOTE: Place one hand below the chuck to catch it when it falls out. (Fig.17).

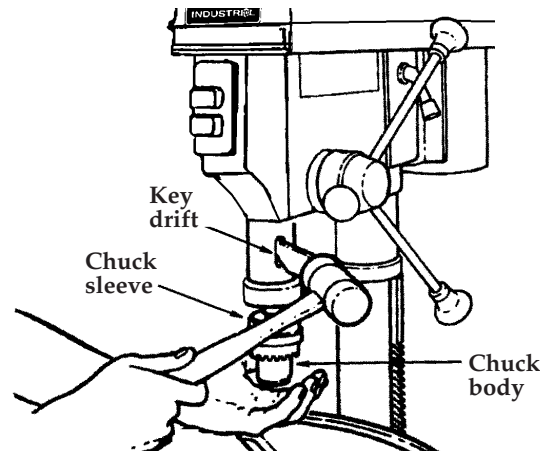


FIGURE 17

INSTALLING LIGHT BULB

1. Install a light bulb (no larger than 60Watts) into the socket inside the head. (Fig.18). The light switch can be found on the left side of the drill press head.

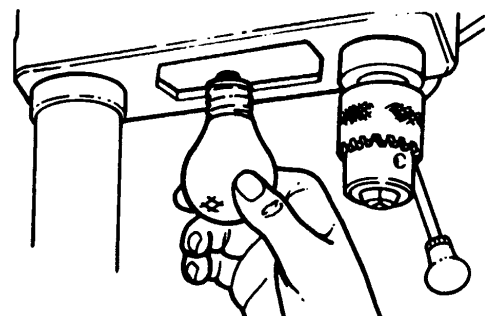


FIGURE 18

ADJUSTING THE TABLE SQUARE TO THE HEAD

NOTE: The combination square must be “true”.

1. Insert precision round steel rod or straight drill bit approximately 3” long into the chuck and tighten.
2. With the table raised to work height and locked to the column, place the combination square flat on the table beside the rod or drill bit.(Fig.19).
3. If an adjustment is necessary, loosen bevel lock nuts under the work table.
4. Align the table square to the rod or drill bit by pivoting the table until they are in line.
5. Retighten table bevel lock nuts.

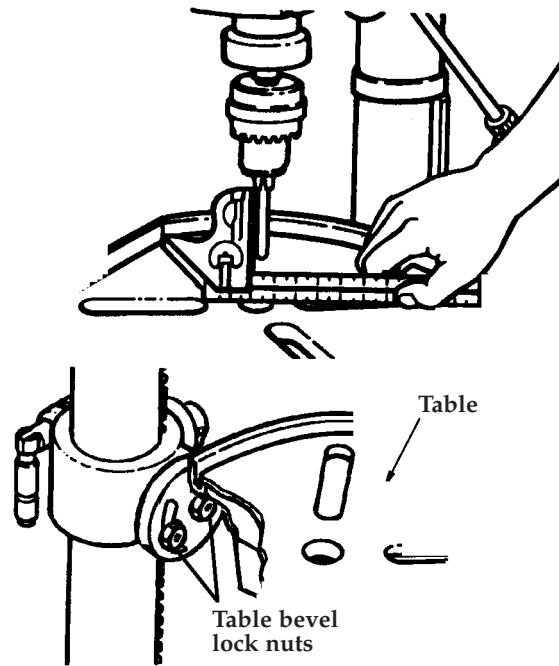


FIGURE 19

BEVEL SCALE

NOTE: The bevel scale has been included to provide a quick method for beveling the table to approximate angles. If precise accuracy is necessary, a square, or other precision measuring tool should be used to position the table.

1. To use the bevel scale do the following: a) Loosen the table bevel lock nuts (See step 3 above for reference). b) Move table so that desired angle on the bevel scale is straight across from the zero line on the table. c) Retighten table bevel lock nuts.

DRILLING TO A SPECIFIC DEPTH (Fig.20)

To drill a blind hole (not all the way through) to a given depth, proceed as follows.

1. Mark the depth of the hole on the workpiece.
2. With the switch OFF, bring the drill bit down until the tip of the lips of the drill bit are even with the mark.
3. Take note of the depth measurement on the depth scale.
4. Bring both adjustment nuts down to the noted and desired depth.
5. The drill bit will stop at this depth until the adjustment nuts are re-adjusted.

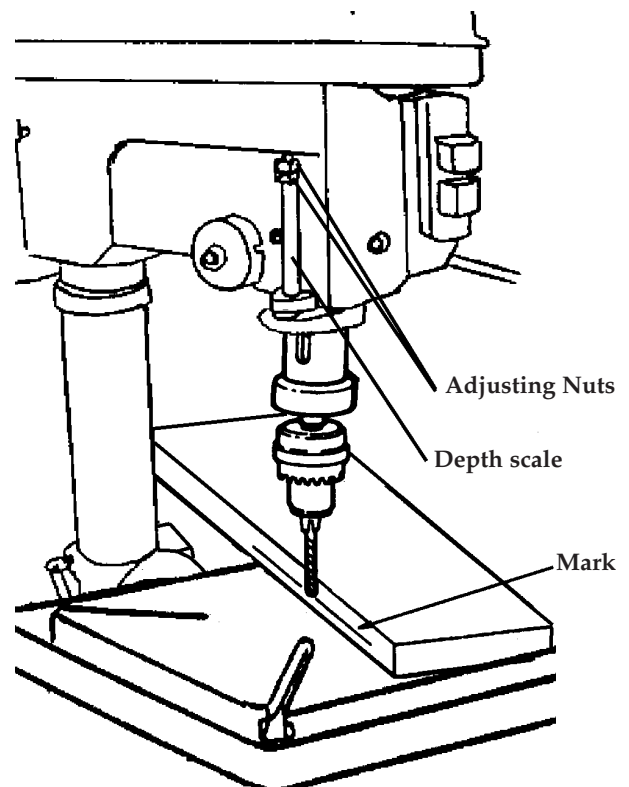


FIGURE 20



ADJUSTMENTS & OPERATIONS

BASIC DRILL PRESS OPERATIONS

INSTALLING DRILL BITS

Insert drill bit into chuck far enough to obtain maximum gripping of the chuck jaws (fig.21). The jaws are approximately 1" long. When using a small drill bit, do not insert it so far that the jaws touch the flutes (spiral grooves) of the drill bit. Make sure the drill bit is centered in the chuck before tightening the chuck with the key.

Tighten the drill bit sufficiently, so that it does not slip while drilling. Turn the chuck key clockwise to tighten, counterclockwise to loosen.

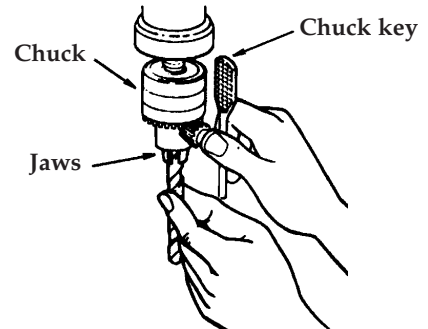


FIGURE 21

POSITIONING THE TABLE AND WORKPIECE

Lock the table to the column in a position so that the tip of the drill bit is just a little above the top of the workpiece.

Always place backup material (wood, plywood...) on the table underneath the workpiece. This will prevent "splintering" or making a heavy burr on the underside of the workpiece as the drill bit breaks through. To keep the backup material from spinning out of control, it must contact the left side of the column, as illustrated in fig.22.

WARNING! If the backup material is not long enough to reach the left side of the column, clamp it to the table. Failure to do this could result in personal injury.

For small workpieces that can't be clamp to the table, use a drill press vise (optional accessory) (Fig.23). See authorized KING CANADA retailer for more information on purchasing drill press vises.

WARNING! The vise must be clamped or bolted to the table to reduce the risk of injury from spinning work or vise or tool breakage.

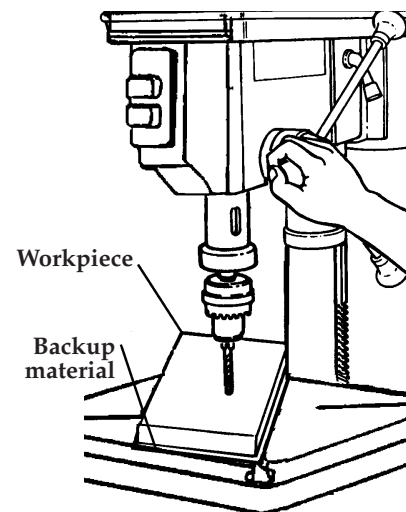


FIGURE 22

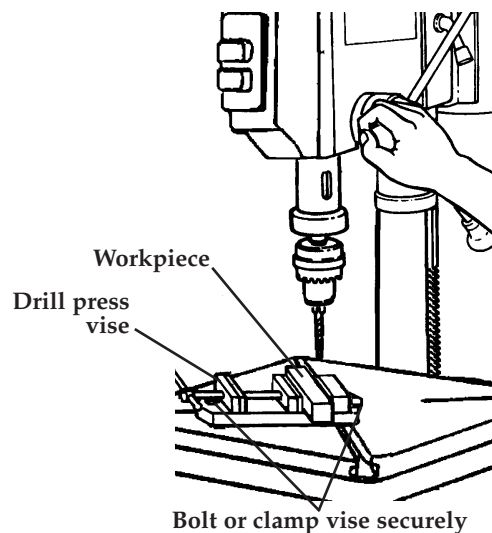


FIGURE 23

TILTING TABLE

To use the table in a bevel (tilted) position (Fig.24), loosen the table bevel lock nuts under the table. Tilt the table to the desired angle by reading the bevel scale. Retighten bevel lock nuts.

WARNING: To reduce the risk of injury from spinning work or tool breakage, always clamp workpiece and backup material securely to the table before operating the drill press with the table tilted.

To return the table to its original position, loosen the table bevel lock nuts under the table, tilt the table back to zero on the bevel scale and retighten table bevel lock nuts under the table.

HOLE LOCATION

Make a dent in the workpiece where you want the hole to be, using a center punch or a nail. Before turning the switch on, bring the drill down to the workpiece and line up with the dent in the workpiece and clamp into place.

FEEDING

Pull down on the feed handles with only enough effort to allow the drill to cut. Feeding too slowly might cause the drill to burn. Feeding too rapidly might stop the motor, cause the belt or drill to slip, tear the workpiece loose or break the drill bit. When drilling metal, it may be necessary to lubricate the tip of the drill bit with cutting oil or motor oil to prevent burning of the drill tip.

ADJUSTING THE QUILL RETURN SPRING

NOTE: The return spring tension is set at the factory and should not require further adjustment.

1. Keep the chuck at its highest possible position.
2. Lower the table for additional clearance.
3. Work from the left side of the drill press.
4. Place screwdriver in the lower front notch of the spring cap, and hold it in place while loosening and removing the nut.
5. With screwdriver remaining in the notch, loosen nut (approx. 1/8") until the notch disengages from the boss on the head. Do not remove this nut.
6. Carefully turn screwdriver counterclockwise and engage the next notch in the boss. Do not remove screwdriver.
7. Tighten standard nut with wrench only enough to engage boss. Do not over tighten as this will restrict quill movement.
8. If there is not enough tension on the spring, repeat steps 4-7 moving only one notch each time and checking tension after each repetition.
9. Proper tension is achieved when the quill returns gently to the full up position when released from 3/4" depth.

10. When there is enough tension after checking, tighten nut. Do not over tighten.
11. Check quill while feeding to have smooth and unrestricted movement. If movement is too tight, loosen nut until unrestricted.

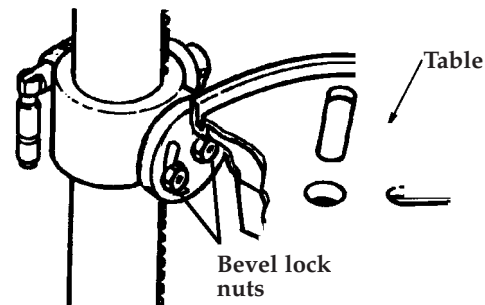


FIGURE 24

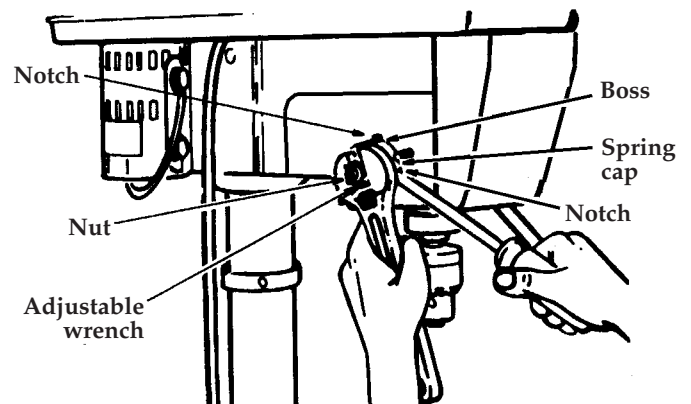


FIGURE 25



MAINTENANCE / TROUBLESHOOTING

LUBRICATION

All of the ball bearings are packed with grease at the factory. They require no further lubrication. Periodically lubricate the splines (Grooves) in the spindle and the rack (Teeth of the quill).

WARNING! For your own safety, turn the switch "OFF" and remove the plug from the power source before maintaining or lubricating your drill press.

Frequently blow out any dust that may accumulate inside the motor. After operation, remove chips or dirt on the machine and apply a coat of furniture-type paste wax to the table and the column, this will help keep the surfaces clean and free of rust.

PROBLEM	PROBABLE CAUSE	SOLUTION
Noisy operation.	<ol style="list-style-type: none"> 1. Incorrect belt tension. 2. Dry spindle. 3. Loose spindle pulley. 4. Loose motor pulley. 	<ol style="list-style-type: none"> 1. Adjust the tension. 2. Lubricate the spindle. 3. Tighten the retaining nut on the pulley as needed. 4. Tighten the set screws which hold the pulleys in place.
Drill bit burns.	<ol style="list-style-type: none"> 1. Incorrect speed. 2. Chips not coming out of hole. 3. Dull drill bit. 4. Feeding too slow. 5. Not lubricated. 	<ol style="list-style-type: none"> 1. Change the speed. 2. Retract the drill bit frequently to clear the chips. 3. Resharpen the drill bit. 4. Feeding too fast...allow the drill bit to cut. 5. Lubricate the drill bit with cutting or motor oil.
Wood splinters on underside of workpiece.	<ol style="list-style-type: none"> 1. No "Back-up material" under the workpiece. 	<ol style="list-style-type: none"> 1. Support the workpiece or clamp it.
Workpiece torn loose from hand.	<ol style="list-style-type: none"> 1. Not supported or clamped properly. 	<ol style="list-style-type: none"> 1. Support the workpiece or clamp it.
Drill bit binds in workpiece.	<ol style="list-style-type: none"> 1. Workpiece is pinching the drill bit or there is an excessive feeding pressure. 2. Improper belt tension. 	<ol style="list-style-type: none"> 1. Support the workpiece or clamp it. 2. Adjust the tension of the belt.
Excessive drill bit wobbling.	<ol style="list-style-type: none"> 1. Bent drill bit. 2. Worn spindle bearings. 3. Drill bit is not properly installed in the chuck. 4. Chuck not properly installed. 	<ol style="list-style-type: none"> 1. Use a straight drill bit. 2. Replace the bearings. 3. Install drill bit properly. 4. Install chuck properly.
Quill returns too fast or too slow.	<ol style="list-style-type: none"> 1. Spring has improper tension. 	<ol style="list-style-type: none"> 1. Adjust the spring tension.
Chuck will not stay attached to the spindle. It falls off when trying to install it.	<ol style="list-style-type: none"> 1. Dirt, grease or oil on the tapered inside surface of the chuck or on the spindle tapered surface. 	<ol style="list-style-type: none"> 1. Using a household detergent, clean the tapered surfaces of the chuck and the spindle to remove the dirt, grease and oil.

PARTS DIAGRAM & PARTS LISTS

Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.