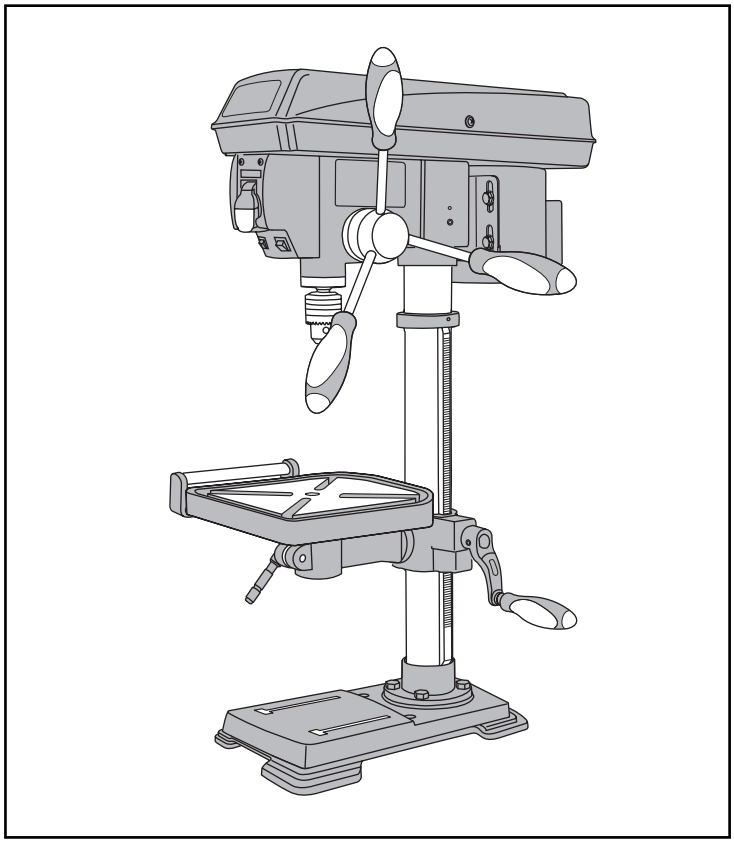
KINCROME®
WORKSHOP

BENCH DRILL PRESS



Operation and Safety Instructions

PART No. K15310

Table of contents

SECTION **PAGE**

I. Technical data 2
II. General safety rules 3
III. Specific safety rules for bench drill presses 5
IV. Electrical information 6
V. Know your bench drill press 8
VI. Assembly and adjustments 9
VII. Operation 19
VIII. Maintenance 24
IX. Troubleshooting 25
X. Replacement parts 27

I. Technical data

Bench Drill Press with Laser Line

MOTOR:	220-240 V 50 Hz
POWER:	550W
SPEED:	450–2500 RPM
CHUCK CAPACITY:	1/8–5/8" (3–16 mm)
QUILL DIAMETER:	2 3/16" (55 mm)
STROKE:	3 1/8" (80 mm)
CAPACITY:	6" (152 mm) (chuck to column)
	19 1/2" (495 mm) (chuck to base)
TABLE TILT:	0 to 45° left and right
LASER:	Class III, transformer powered
WEIGHT:	43 kg

II. General safety rules

Safety is a combination of common sense, staying alert, and knowing how your bench drill press works.

WARNING: TO AVOID MISTAKES THAT COULD CAUSE SERIOUS INJURY, DO NOT PLUG IN THE BENCH DRILL PRESS UNTIL THE FOLLOWING STEPS HAVE BEEN READ AND UNDERSTOOD.

1. READ and become familiar with this entire instruction manual. LEARN the tool's applications, limitations, and possible hazards.
2. AVOID DANGEROUS CONDITIONS. DO NOT use power tools in wet or damp areas or expose them to rain. Keep work area well-lit.
3. DO NOT use power tools in the presence of flammable liquids or gases.
4. ALWAYS keep your work area clean, uncluttered, and well-lit. DO NOT work on floor surfaces that are slippery with sawdust or wax.
5. KEEP BYSTANDERS AT A SAFE DISTANCE FROM the work area, especially when the tool is in operation. NEVER allow children near the tool.
6. DO NOT FORCE THE TOOL to do a job for which it was not designed.
7. DRESS FOR SAFETY. DO NOT wear loose clothing, gloves, neckties, or jewellery (rings, watches, etc.) when operating the tool. Inappropriate items can get caught and draw you into moving parts. ALWAYS wear non-slip footwear, and tie back long hair.
8. WEAR A FACE MASK OR DUST MASK. Drilling into materials produces dust.
9. ALWAYS remove the power cord plug from the power supply outlet when making adjustments, changing parts, cleaning, or working on the tool.
10. AVOID ACCIDENTAL START-UPS. Make sure that the power switch is in the OFF position before plugging in the power cord.
11. REMOVE ADJUSTING TOOLS. ALWAYS MAKE SURE all tools are removed from the bench drill press before turning it ON.
12. NEVER LEAVE A RUNNING TOOL UNATTENDED. Turn the power switch to OFF. DO NOT leave the tool unattended until it has come to a complete stop.
13. NEVER STAND ON A TOOL. Serious injury could result if the tool tips or is accidentally hit. DO NOT store anything above or near the tool.
14. DO NOT OVERREACH. Keep proper footing and balance at all times. Wear oil-resistant rubber-soled footwear. Keep the floor clear of oil, scrap, and other debris.
15. MAINTAIN TOOLS PROPERLY. ALWAYS keep tools clean and in good working order. Follow instructions for lubricating and changing accessories. See Maintenance section.

SAVE THESE SAFETY RULES

II. General safety rules ... continued

16. DO NOT operate the tool if you are under the influence of drugs, alcohol or medication that could affect your ability to use the tool properly.
17. CHECK FOR DAMAGED PARTS. Check for alignment of moving parts, jamming, breakage, improper mounting, or any other conditions that may affect the tool's operation. Any part that is damaged should be properly repaired or replaced before use.
18. MAKE THE WORKSHOP CHILDPROOF. Use padlocks, master switches, and ALWAYS remove starter keys.

WARNING: DUST GENERATED FROM CERTAIN MATERIALS CAN BE HAZARDOUS TO YOUR HEALTH. ALWAYS OPERATE THE DRILL PRESS IN A WELL-VENTILATED AREA. USE DUST COLLECTION SYSTEMS WHENEVER POSSIBLE.



ALWAYS WEAR EYE PROTECTION.

A bench drill press can throw foreign objects into the eyes which could cause permanent eye damage.

ALWAYS wear safety goggles (not glasses). Ordinary eyeglasses have only impact-resistant lenses...they are NOT safety glasses.

LASER SAFETY

- The laser light beam used in this system is Class III. These lasers do not normally present an optical hazard, although staring at the beam may cause flash blindness.

WARNING: DO NOT STARE DIRECTLY AT THE LASER BEAM! A HAZARD MAY EXIST IF YOU DELIBERATELY STARE INTO THE BEAM, PLEASE OBSERVE ALL SAFETY RULES AS FOLLOWS:

- THE LASER SHALL BE USED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- NEVER AIM THE BEAM AT ANY PERSON OR AN OBJECT OTHER THAN THE WORKPIECE.
- DO NOT PROJECT THE LASER BEAM INTO THE EYES OF OTHERS.
- ALWAYS ENSURE THE LASER BEAM IS AIMED AT A WORKPIECE THAT DOES NOT POSSESS REFLECTIVE SURFACES, AS THE LASER BEAM COULD BE PROJECTED INTO YOUR EYES OR THE EYES OF OTHERS.

SAVE THESE SAFETY RULES

III. Specific safety rules for bench drill presses

WARNING: DO NOT OPERATE YOUR BENCH DRILL PRESS UNTIL IT IS COMPLETELY ASSEMBLED AND INSTALLED ACCORDING TO THE INSTRUCTIONS.

1. NEVER TURN THE BENCH DRILL PRESS ON until the table is clear of all foreign objects (tools, scraps, etc.).
2. ALWAYS KEEP hands and fingers away from the drill bit.
3. DO NOT drill materials that do not have a flat surface—unless a suitable support is used (clamp or vise).
4. NEVER start the drill press with the drill bit pressed against the workpiece.
5. MAKE SURE the table lock is tightened before starting the bench drill press.
6. NEVER layout, assemble, or set-up any work on the table while the drill is ON.
7. MAKE SURE drill bit is securely locked in the chuck.
8. MAKE SURE chuck key is removed from the chuck before turning power ON.
9. ADJUST the table or depth stop to avoid drilling into the table.
10. ALWAYS stop the drill before removing scrap pieces from the table.
11. USE CLAMPS or a vise to secure a workpiece to the table. This will prevent the workpiece from rotating with the drill bit.
12. DO NOT wear gloves when operating a drill press.
13. BEFORE LEAVING THE MACHINE, SHUT THE POWER OFF, remove the drill bit and clean the table.
14. SET THE DRILL PRESS to the speed that is appropriate for the material being drilled.
15. SHOULD any part of your bench drill press be missing, damaged, or any electrical component fail to perform properly, shut the power OFF and unplug the drill press. Replace missing, damaged, or failed parts before resuming operation.

SAVE THESE SAFETY RULES

IV. Electrical information

GROUNDING INSTRUCTIONS

IN THE EVENT OF A MALFUNCTION OR BREAKDOWN, grounding provides the path of least resistance for electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has 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.

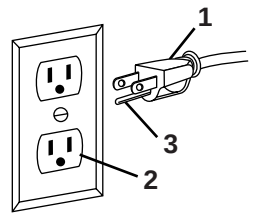
DO NOT MODIFY THE PLUG. If the plug will not fit the power supply outlet, have the proper power supply outlet installed by a licenced electrician.

IMPROPER CONNECTION of the equipment grounding conductor can result in electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment grounding conductor. If repair or replacement of the electric cord or plug is necessary, DO NOT connect the equipment grounding conductor to a live terminal.

CHECK with a licenced electrician or service personnel if you do not completely understand the grounding instructions, or if you are not sure if the tool is properly grounded.

USE ONLY THREE-WIRE EXTENSION CORDS that have 3-prong plugs and 3-prong outlets that accept the tool's plug as shown in Fig. A. Repair or replace a damaged or worn cord immediately.

Fig. A



1 - 3-prong plug 2 - Properly grounded outlet
3 - Grounding prong

CAUTION: In all cases, make certain the power supply outlet in question is properly grounded. If you are not sure, have a licenced electrician check the power supply outlet.

WARNING: THIS BENCH DRILL PRESS IS FOR INDOOR USE ONLY. DO NOT EXPOSE TO RAIN OR USE IN DAMP LOCATIONS.

SAVE THESE SAFETY RULES

IV. Electrical information ... continued

GUIDELINES FOR USING 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 cause a drop in line voltage, and result in loss of power and overheating. The table below shows the correct size to use according to cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Minimum Gauge for Extension Cords (AWG)

Ampere Rating		Total Length of Cord in feet (metres)			
More Than	**Not More Than**	**25' (7.6 m)**	**50' (15 m)**	**100' (30.4 m)**	**150' (45.7 m)**
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Recommended	

Make 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.

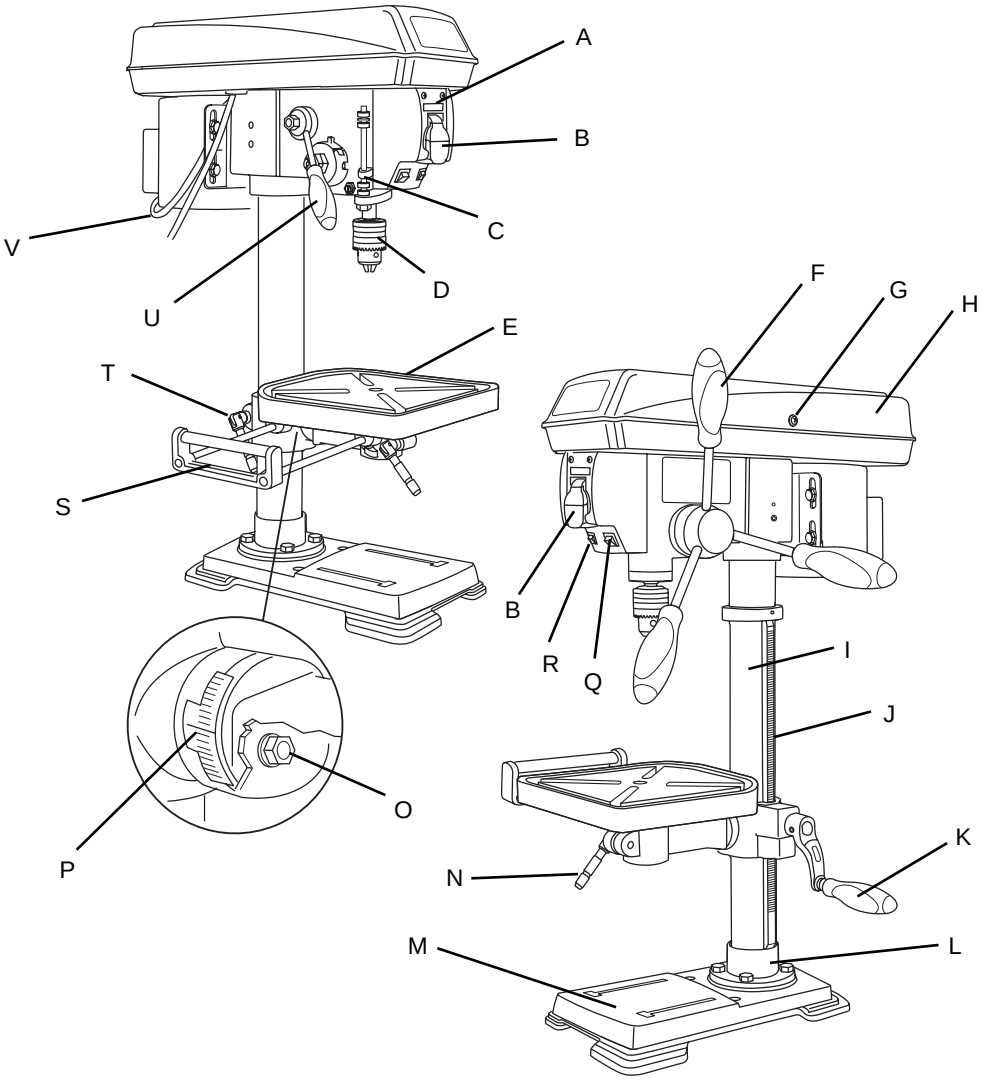
Use a separate electrical circuit for your tools. This circuit must not be less than #12 wire and should be protected with a 15 A time-delayed fuse. Before connecting the motor to the power line, make sure the switch is in the OFF position and the electric current is rated the same as the current stamped on the motor nameplate. Running at a low voltage will damage the motor.

WARNING: THIS TOOL MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRICAL SHOCK.

SAVE THESE SAFETY RULES

V. Know your drill press

Fig. 1



A Digital speed readout
B Large ON/OFF switch
C Depth scale
D Chuck
E Table
F Large, heavy-duty feed handles
G Housing cover screw
H Housing cover
I Column
J Rack
K Crank handle
L Column support
M Base
N Table lock handle
O Table lock bolt
P Bevel scale
Q Laser line ON/OFF switch
R LED work light switch
S Extension wing with integrated rollers
T Support lock handle
U Speed control handle
V Power cord

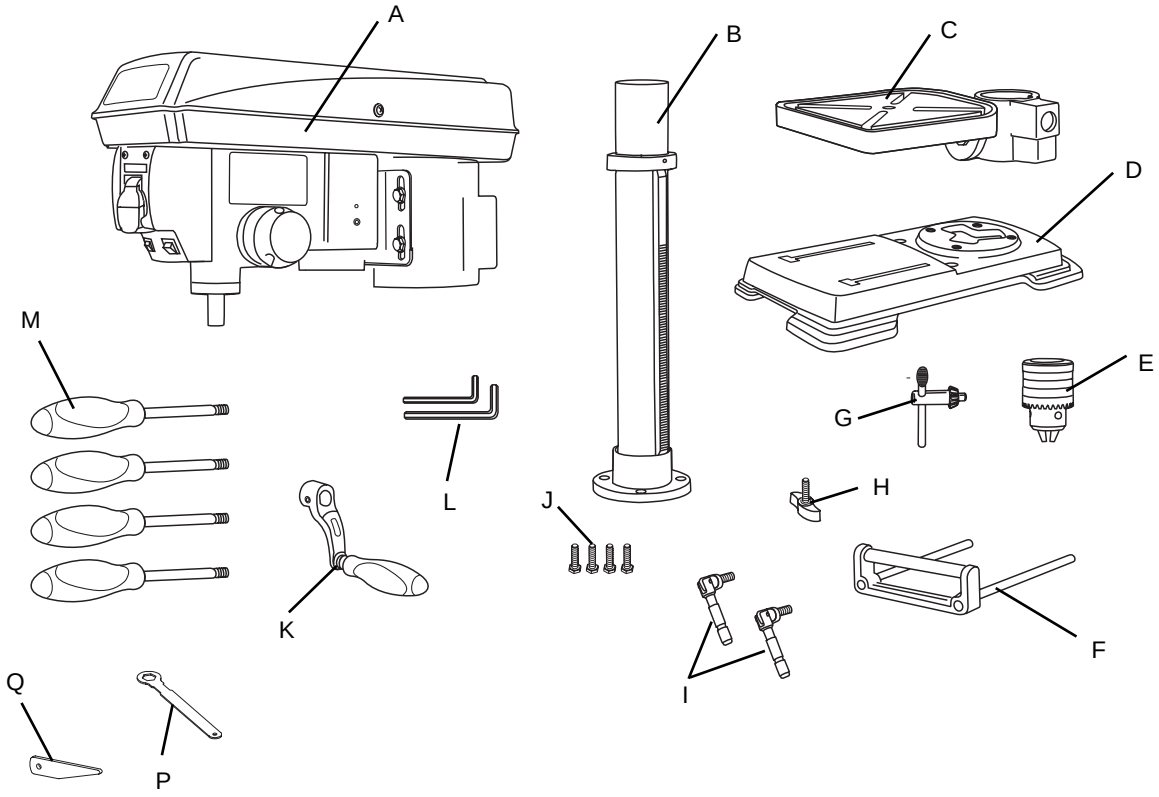
VI. Assembly and adjustments

UNPACKING AND CLEANING

Unpack the bench drill press and all its parts, and compare against the list below. Do not discard the carton or any packaging until the bench drill press is completely assembled.

To protect the bench drill press from moisture, a protective coating has been applied to the machined surfaces. Remove this coating with a soft cloth moistened with kerosene. Do not use acetone, gasoline, or lacquer thinner to clean. Apply a coat of paste wax to the table and column. Wipe all parts with a clean, dry cloth.

Fig. 2



A Head/motor assembly
B Column assembly and table bracket
C Table
D Base
E Chuck
F Extension wing with integrated rollers
G Chuck key
H Wing knobs (2)
I Table lock handles (2)
J Hex head bolts (4)
K Table crank handle
L Hex keys (2)
M Feed and speed handles (4)
P Table adjustment wrench
Q Wedge

VI. Assembly and adjustments ... continued

ASSEMBLY

The column assembly (column, column support, rack, rack collar, and table support bracket) must be attached to the base. The table and table support handles must be attached to the table support bracket. The motor housing must be attached to the column.

WARNING: IF ANY PART IS MISSING OR DAMAGED, DO NOT PLUG THE BENCH DRILL PRESS IN UNTIL THE MISSING OR DAMAGED PART IS REPAIRED OR REPLACED, AND ASSEMBLY IS COMPLETE.

Tools needed for assembly

- Adjustable wrench
- ⊕ screwdriver
- Hammer and block of wood

Column assembly to base (Fig. 3)

1. Place the column tube **(1)** on the base **(2)**, aligning the column support holes to the base holes.
2. Install a hex head bolt **(3)** in each column support hole and tighten bolts using the adjustable wrench.

Table to table support bracket (Fig. 4)

1. Place the crank handle **(1)** onto the shaft **(2)** of the table bracket so the flat of the shaft is under the set screw **(3)**. Tighten the set screw.
2. Thread the table lock handle **(4)** into the front of the table support bracket.
3. Thread the table support lock handle into the rear of the table support bracket (not shown).
4. Position the table **(5)** in the same direction as the base, install the table, and tighten the table lock handle **(4)**.

Fig. 3

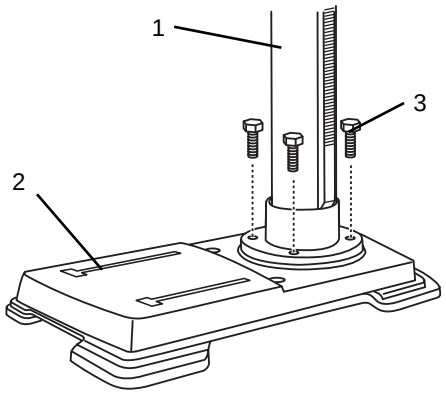
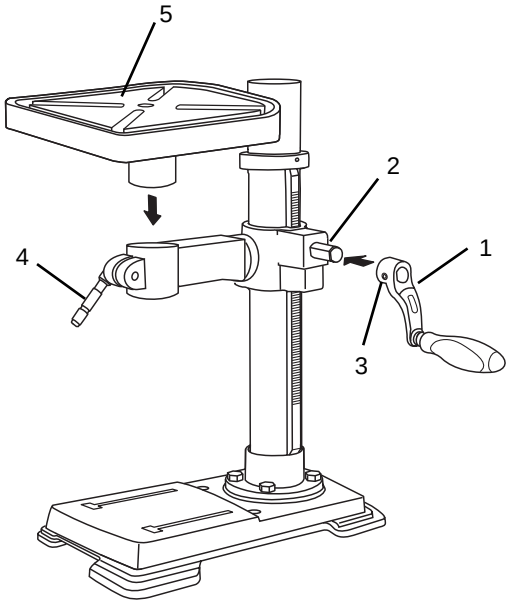


Fig. 4



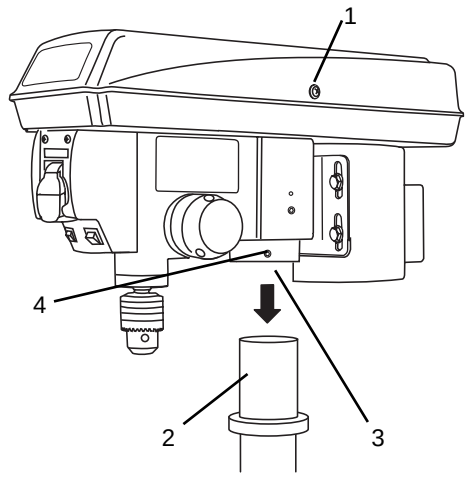
VI. Assembly and adjustments ... continued

Drill press head to column (Fig. 5)

CAUTION: The drill press head is heavy. To avoid injury, two people should lift it into position.

1. Carefully lift the drill press head assembly **(1)** and position it over the column **(2)**.
2. Place the mounting opening **(3)** on the drill press head over the top of the column. Ensure the drill press head is seated properly on the column.
3. Align the direction of the drill press head with the direction of the base and the table.
4. Tighten the set screw **(4)** using a hex key.

Fig. 5

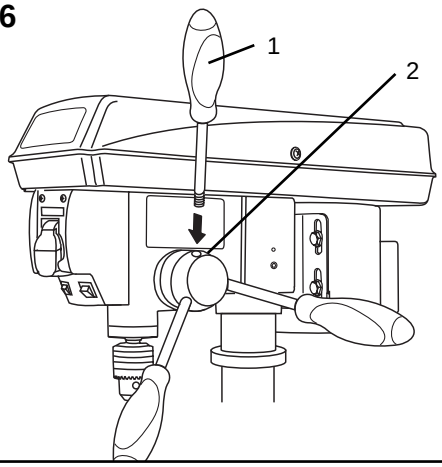


Feed handles (Fig. 6)

1. Insert the three feed handles **(1)** into the threaded openings on the feed hub **(2)**.
2. Manually tighten handles into openings.

Note: When using the bench drill press, one or two of the feed handles may be removed if an unusually-shaped workpiece interferes with handle rotation.

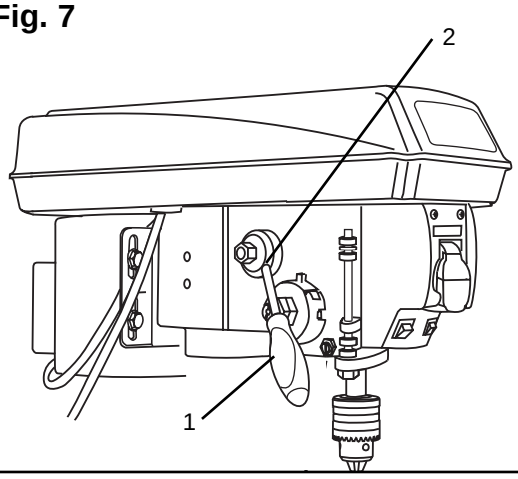
Fig. 6



Speed handle (Fig. 7)

1. Insert the feed handle **(1)** into the threaded opening on the speed hub **(2)**.
2. Manually tighten handle into opening.

Fig. 7



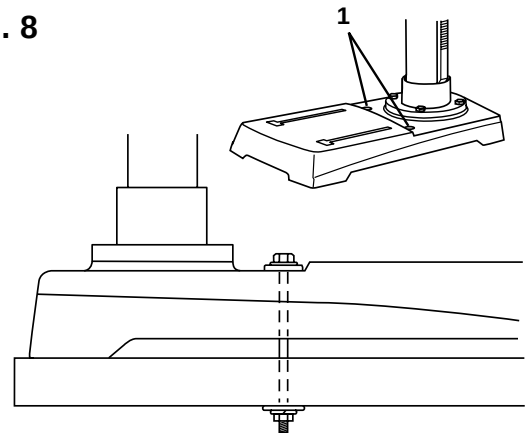
VI. Assembly and adjustments ... continued

Mount the bench drill press (Fig. 8)

The bench drill press must be securely fastened through the mounting holes **(1)** to a stand or workbench with heavy-duty fasteners. This will prevent the bench drill press from tipping over, sliding, or walking during operation.

IMPORTANT: If the stand or workbench has a tendency to move during operation, fasten the workbench securely to the floor.

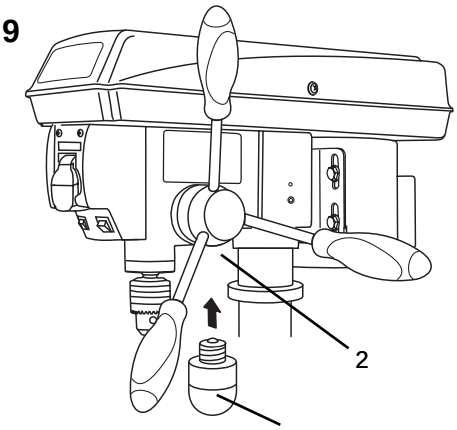
Fig. 8



LED bulb (Fig. 9)

Insert the LED bulb into the socket **(2)** in the motor head assembly.

Fig. 9



VI. Assembly and adjustments ... continued

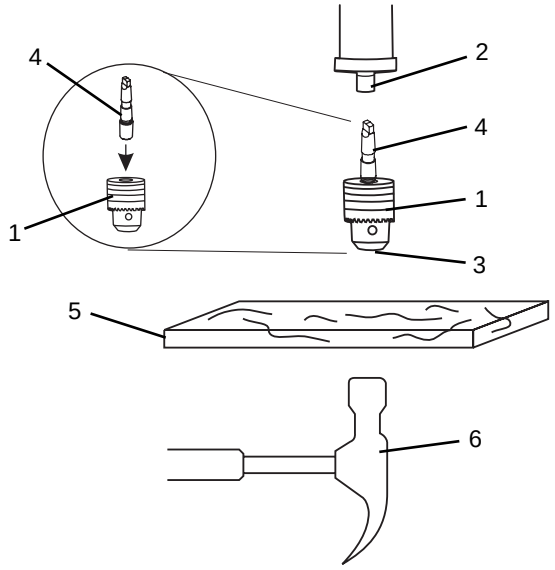
WARNING: DISCONNECT THE BENCH DRILL PRESS FROM THE POWER SOURCE BEFORE INSTALLING, ADJUSTING, OR REMOVING THE CHUCK.

To install the chuck (Fig. 10)

1. Inspect and clean the taper hole in the chuck **(1)** and the spindle **(2)**. Remove all grease, coatings, and particles from the chuck and spindle surfaces with a clean cloth.
2. Open the chuck jaws **(3)** by manually turning the chuck barrel clockwise. Make sure the jaws are completely recessed inside the chuck.
3. Insert the chuck arbor **(4)** into the opening at the top of the chuck **(1)**.
4. Seat the chuck and chuck arbor on the spindle by placing a block of wood **(5**; not included**)** under the chuck **(1)** and tapping the wood with a hammer **(6**; not included**)** or tap the chuck with a rubber mallet (not included).

CAUTION: To avoid damaging the chuck, make sure the jaws are completely recessed into the chuck. Do not use a metal hammer to drive the chuck into the spindle.

Fig. 10

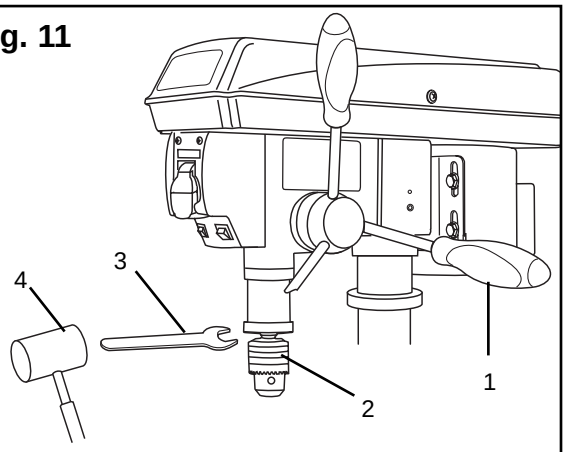


To remove the chuck (Fig. 11)

1. Turn the feed handles **(1)** to lower the chuck **(2)** to the lowest position.
2. Place a ball joint separator **(3**; not included**)** above the chuck and tap the separator lightly with a hammer **(4**; not included**)** to cause the chuck to drop from the spindle.

   Note: To avoid possible damage to the drill or chuck, be prepared to catch the chuck as it falls.

Fig. 11



VI. Assembly and adjustments ... continued

ADJUSTMENTS

Table adjustments

To raise or lower the table (Fig. 12)

1. Loosen the support lock handle **(1)** and turn the crank handle **(2)** until the table is at the desired height.
2. Tighten the table lock before drilling.

To rotate the table (Fig. 12)

1. Loosen the support lock handle **(1)** and turn the table around the column to the desired position.

   Note: The rack should rotate around the column with the table support bracket. If the rack binds and will not rotate, slightly loosen the set screw in the rack collar.
2. Tighten the support lock before drilling.

To tilt the table (Fig. 13)

1. Loosen the bevel lock bolt **(1)** with the table adjustment wrench provided, or with a suitable socket wrench.
2. Tilt the table to the desired angle, using the bevel scale **(2)** as a basic guide.
3. Re-tighten the bevel lock bolt.
4. To return the table to its original horizontal position, loosen the bevel lock bolt **(1)**.
5. Realign the table to the 0° setting on the bevel scale **(2)**.
6. Tighten the bevel lock bolt with the wrench.

To install the table extension (Fig. 14)

1. Insert the two rods **(1)** of the table extension into the two channels **(2)** at the side of the table.
2. Place a wing knob **(3)** in the opening on the bottom of each channel and tighten to secure the extension to the table.

Fig. 12

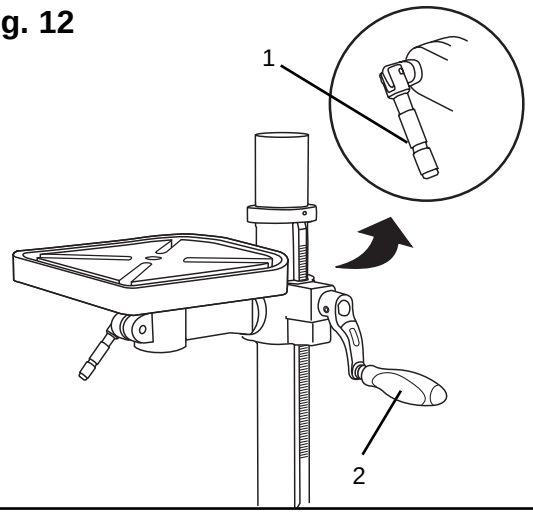


Fig. 13

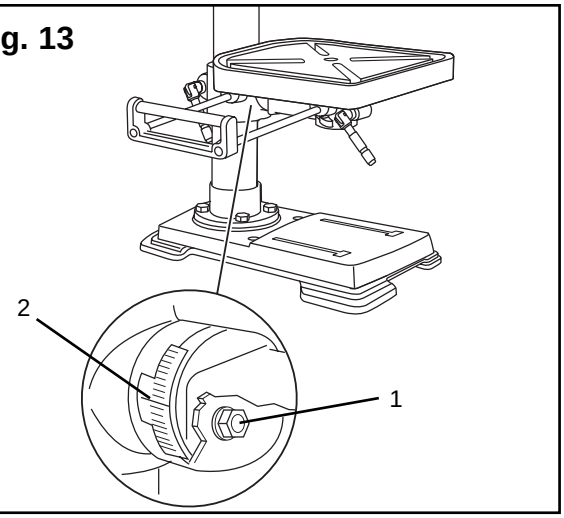
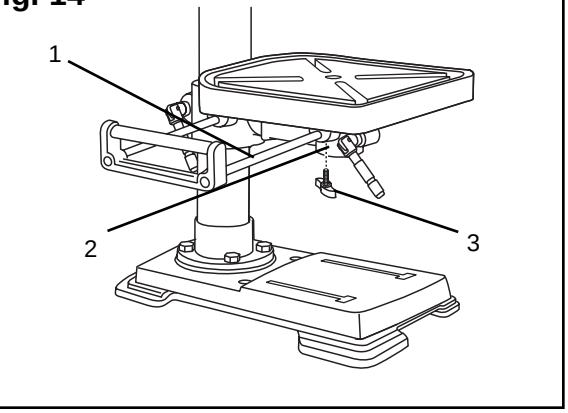


Fig. 14



VI. Assembly and adjustments ... continued

To install drill bits (Fig. 15)

1. Place the chuck key **(1)** into the side keyhole of the chuck **(2)**, meshing the key with the gear teeth.
2. Turn the chuck key counter-clockwise to open the chuck jaws **(3)**.
3. Insert a drill bit **(4)** into the chuck far enough to obtain maximum gripping of the chuck jaws.
4. Centre the drill bit in the chuck jaws before final tightening of the chuck.
5. Tighten the chuck jaws using the chuck key to ensure that the drill bit will not slip while drilling.
6. Remove the chuck key.

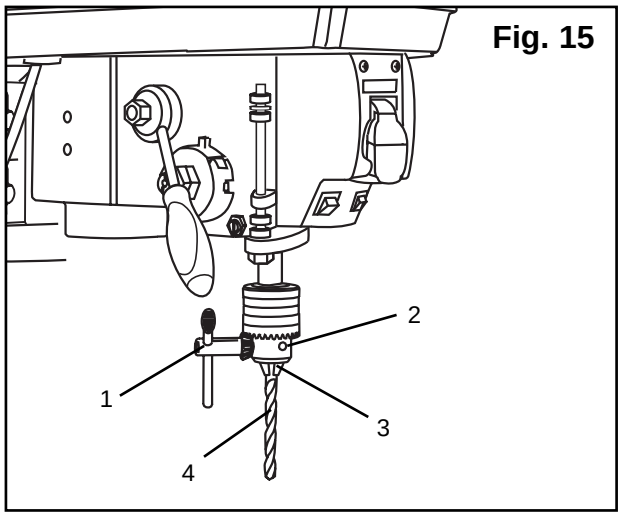


Fig. 15

WARNING: TO AVOID INJURY, MAKE SURE THAT THE CHUCK KEY IS REMOVED FROM THE CHUCK BEFORE STARTING ANY DRILLING OPERATION.

To square the table to the drill bit (Fig. 16)

1. Insert a 3" (7.6 cm) long drill bit **(1)** into the chuck **(2)** and tighten the jaws with the chuck key.
2. Raise the table with the crank handle **(3)**, and lock the table **(4)** approximately 1" (2.5 cm) below the drill bit.
3. Place a combination square **(5)** on the table as shown, placing the long straight edge of the combination square against the drill bit. Make sure the drill bit is parallel or aligned exactly to the straight edge of the square.

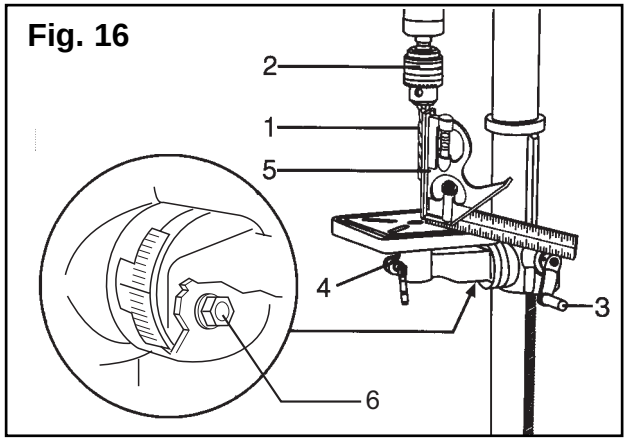


Fig. 16

4. If an adjustment is needed, loosen the bevel lock bolt **(6)** with a wrench.
5. Tilt the table slightly, until the combination straight edge is aligned perfectly with the drill bit.
6. Tighten the bevel lock when square.

Note: Adjustments for the correct function of your bench drill press return spring have been done at the factory. Please do not modify them. However, prolonged use of the drill press may make some readjustments necessary.

VI. Assembly and adjustments ... continued

Laser line (Fig. 17 and 18)

WARNING: DO NOT STARE DIRECTLY AT THE LASER BEAM! A HAZARD MAY EXIST IF YOU DELIBERATELY STARE INTO THE BEAM, PLEASE OBSERVE ALL SAFETY RULES: THE LASER SHALL BE USED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS:

- NEVER AIM THE BEAM AT ANY PERSON OR AN OBJECT OTHER THAN THE WORKPIECE.
- DO NOT PROJECT THE LASER BEAM INTO THE EYES OF OTHERS.
- ALWAYS ENSURE THE LASER BEAM IS AIMED AT A WORKPIECE THAT DOES NOT POSSESS REFLECTIVE SURFACES AS THE LASER BEAM COULD BE PROJECTED INTO YOUR EYES OR THE EYES OF OTHERS.

1. Place a workpiece on the table.
2. Turn the laser switch **(1)** to the ON position.
3. Lower the drill bit to meet the workpiece **(2)**. The two laser lines should cross where the drill meets the workpiece.
4. If the laser needs to be adjusted:
   a. Using a 3 mm hex key, turn the laser adjustment set screws **(3)** counter-clockwise.
   b. Rotate the laser light housing **(4)** until the two laser lines intersect where the drill meets the workpiece. DO NOT stare directly at the laser lines.
5. Re-tighten the adjustment set screws **(3)**.

Fig. 17

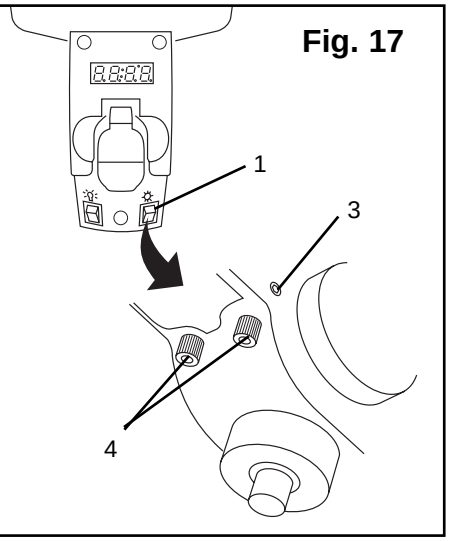
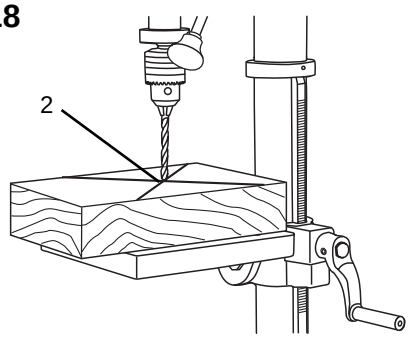


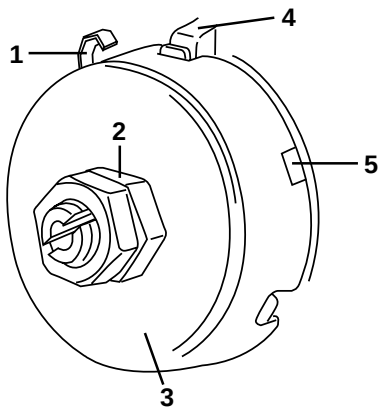
Fig. 18



VI. Assembly and adjustments ... continued

Spindle return spring (Fig. 19)
The spindle is equipped with an auto-return mechanism. The main components are a spring and a notched housing. The spring was properly adjusted at the factory and should not be readjusted unless absolutely necessary.

Fig. 19

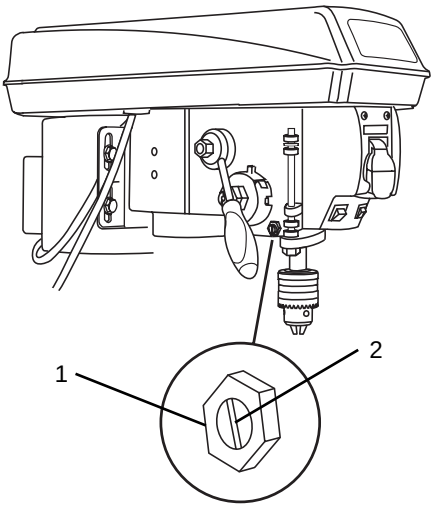


1. Unplug the drill press.
2. Place a screwdriver into the loop **(1)** to hold the spring in place.
3. Loosen the two housing nuts **(2)** approximately 1/4" (6 mm). **Do not remove the nuts from the threaded shaft. Do not allow the spring or spring housing to slip out of control.**
4. While firmly holding the spring housing **(3)**, carefully pull the spring housing out until it clears the raised notch **(4)**.
5. Turn the housing so that the next notch **(5)** is engaged with the raised notch **(4)**.
   - To increase the spindle return tension, turn the spring housing counter-clockwise.
   - To decrease the tension, turn the spring housing clockwise.
6. Tighten the two housing nuts. Do not overtighten the two nuts. If the nuts are tightened too much, the movement of the spindle and feed handles will become sluggish.

Angular "play" of the spindle (Fig. 20)

Move the spindle to the lowest downward position and hold in place. Try to make the spindle revolve around its axis while also moving it with a side motion. If there is too much "play", proceed as follows:

Fig. 20



1. Loosen the lock nut **(1)**.
2. Without obstructing the upward and downward motion of the spindle, turn the screw **(2)** clockwise to eliminate the "play".

   Note: A little bit of "play" is normal.
3. Tighten the lock nut **(1)**.

VI. Assembly and adjustments ... continued

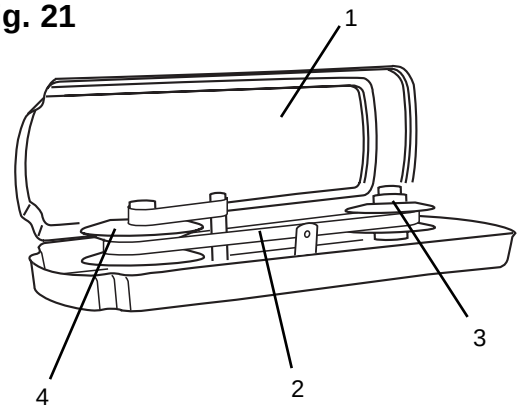
WARNING: DISCONNECT THE BENCH DRILL PRESS FROM THE POWER SOURCE BEFORE REPLACING THE BELT.

To replace the belt (Fig. 21)

Belt tension and bench drill press speed is controlled by automatic adjustments made to the diameter of the front spindle when the drive handle is moved.

Note: See page 23 for information on the variable speed function of this bench drill press.

Fig. 21

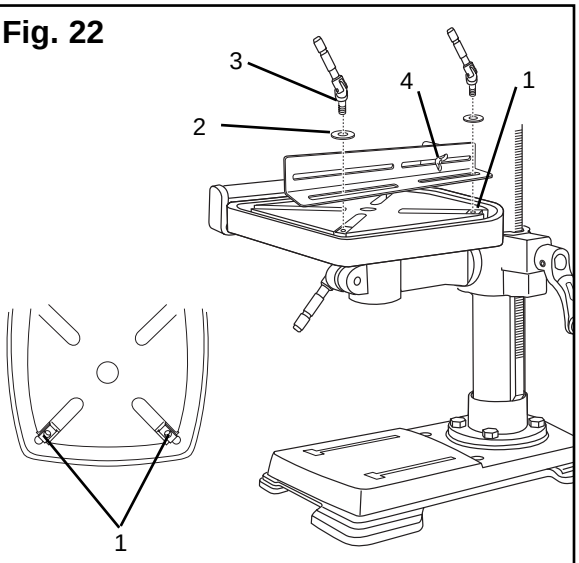


1. Remove the screw that secures the housing cover **(1)**. Open the housing cover.
2. Remove the belt **(2)** from the housing cover if it is broken. If it is not broken, but is too stretched to operate correctly, work the belt off the drive (motor) spindle **(3)**. Then remove the belt from the front spindle **(4)**.
3. Replace the belt by putting a new belt over the front spindle **(4)** and carefully sliding the belt over the drive (motor) spindle **(3)**.

WARNING: DO NOT CHANGE THE DRIVE SPEED WHEN THE BENCH DRILL PRESS IS TURNED OFF.

To install the clamp assembly (Fig. 22)

Fig. 22



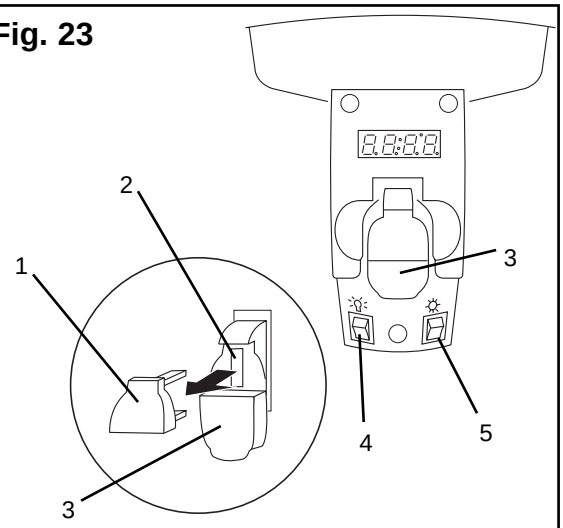
1. Place the two metal squares **(1)** of the clamp assembly into two corners of the table and align the tapered edge of the squares with the groves.
2. Align the long slots on the base of the clamp over the openings in the metal squares.
3. Place a washer **(2)** over the threaded end of each lock handle **(3)**. Insert the lock handles into the metal squares. Tighten handles loosely.
4. Position the clamp as needed on the table and fully tighten the lock handles to secure the clamp.
5. Loosen the wing nut **(4)** to move the small support on the front of the clamp into position. Tighten the wing nut to secure.

VII. Operation

Bench Drill Press ON/OFF switch (Fig. 23)

1. To turn the drill press ON, insert the yellow safety key **(1)** into the switch housing **(2)**. As a safety feature, the switch cannot be turned ON without the safety key.
2. Flip the switch **(3)** upwards to the ON position.
3. To turn the drill press OFF, press the switch downwards.
4. To lock the switch in the OFF position, remove the safety key **(1)** from the switch. Store the safety key in a safe place.

Fig. 23



Light and laser Line ON/OFF switches (Fig. 23)

The light switch **(4)** is located below the ON/OFF switch on the left.

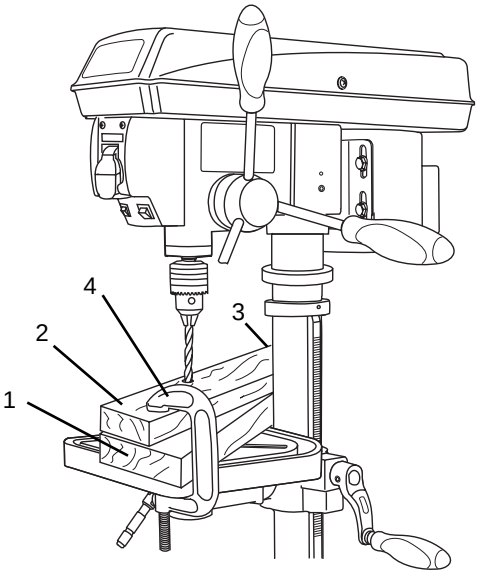
The laser switch **(5)** is located below the ON/OFF switch on the right.

Position the table and workpiece (Fig. 24)

Always place a piece of backup material **(1)** (wood, plywood, etc.) on the table underneath the workpiece **(2)**. This will prevent splintering on the underside of the workpiece as the drill bit breaks through. To keep the material from spinning out of control, it must contact the left side **(3)** of the column as illustrated, or be clamped **(4**; not included**)** to the table.

Note: For small workpieces that cannot be clamped to the table, use a drill press vise (not included). The vise must be clamped or bolted to the table to avoid injury.

Fig. 24



VII. Operation ... continued

GENERAL DRILLING GUIDELINES

WARNING: TO PREVENT THE WORKPIECE AND THE BACKUP MATERIAL FROM SLIPPING FROM YOUR HAND WHILE DRILLING, POSITION WORKPIECE AND BACKUP MATERIAL TO THE LEFT SIDE OF THE COLUMN. IF THE WORKPIECE AND THE BACKUP MATERIAL ARE NOT LONG ENOUGH TO REACH THE COLUMN, CLAMP WORKPIECE AND BACKUP MATERIAL TO THE TABLE. FAILURE TO DO THIS COULD RESULT IN PERSONAL INJURY.

To drill a hole:

1. Mark where you want to drill in workpiece by using a centre punch or a sharp nail or turn ON Laser Line to mark drilling point.
2. Before turning ON the bench drill press, turn the feed handles to bring the drill bit down. Line the drill bit tip up with the mark. Clamp the workpiece in place.
3. Turn ON the bench drill press and pull down on the feed handles with appropriate force needed to allow the drill bit to drill material.

   Note: FEEDING TOO SLOWLY might cause the drill bit to turn in the chuck. FEEDING TOO RAPIDLY might stop the motor, cause the belt to slip, force the workpiece loose, or break the drill bit. Practice with scrap material to get the feel of the machine before attempting to do any drilling operation.

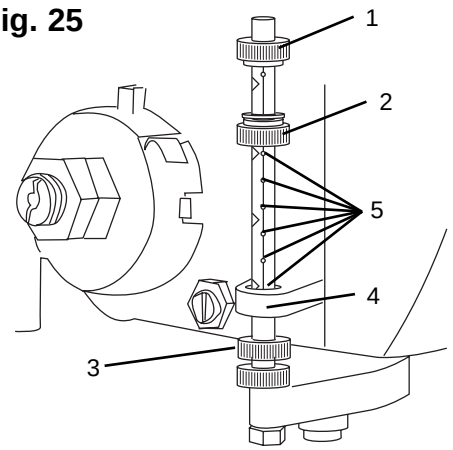
To adjust drilling depth (Fig. 25)

The depth gauge controls the maximum distance the drill bit will move up or down.

To stop the drill bit at a pre-measured depth:

1. Rotate the upper depth knob **(2)** until the bottom of the knob is aligned with the desired depth mark **(5)** on the gauge scale.
2. Rotate the depth scale lock knob **(1)** until it meets the lower depth scale knob **(2)**. The chuck will stop after travelling downward to the selected distance.

Fig. 25



To adjust quill (return) height (Fig. 25)

To adjust the upward distance the quill (shaft that moves up and down) can travel:

1. Turn the feed handles until the quill is at the desired height and hold it there.
2. Rotate the lower depth knob **(3)** until it rests against the bottom of the metal gauge support **(4)**.

VII. Operation ... continued

Drilling an unmeasured blind hole (not all the way through the workpiece) to a given depth can be done two ways: using the depth scale method or workpiece method.

Depth scale method (Fig. 26)

1. Make sure the 0 (" or mm) mark on the depth gauge rests at the top edge of the metal support **(3)** when the quill is fully retracted.
2. Put the workpiece on the table, and raise the table until the tip of the drill bit just touches the top of the workpiece. Lock the table in place.
3. Determine the drill depth for this workpiece.
4. Rotate the lower depth knob **(2)** until it is aligned with the desired depth mark **(4)** (for example, 1") on the gauge scale.
5. Rotate the upper depth lock knob **(1)** until it meets the lower depth knob **(2)**. The chuck will be stopped at the distance selected on the depth scale.

Workpiece method (Fig. 26 and 27)

1. Mark the desired depth **(5)** of the drill hole on the side of the workpiece.
2. With the bench drill press in the OFF position, bring the drill bit **(6)** down until the tip is even with the mark.
3. Holding the feed handles at this position, rotate the lower depth knob **(2)** until it meets the metal support.
4. Rotate the upper **(1)** depth scale lock knob until it meets the lower knob **(2)**. The chuck and the drill bit will now be stopped at the distance selected on the depth scale.

Fig. 26

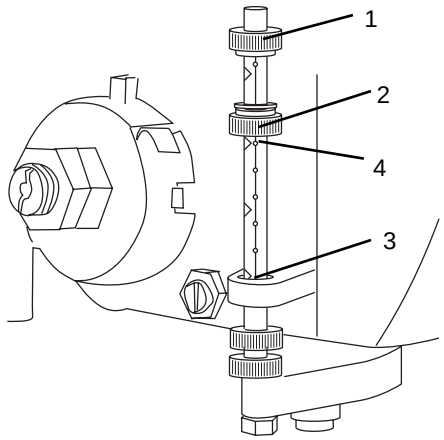
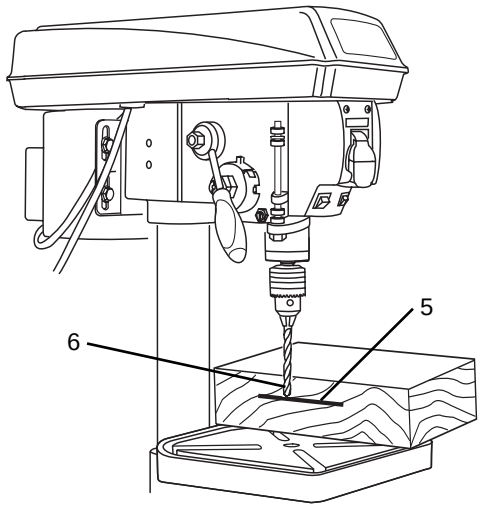


Fig. 27



VII. Operation ... continued

Drilling speeds
Important factors when determining the best drilling speed:
- Material type
- Hole size
- Drill bit or cutter type
- Quality desired

Smaller drill bits require greater speed than large drill bits. Softer materials require greater speed than harder materials. See page 23 for recommended speeds for the workpiece material.

Drilling metal
- Use metal-piercing twist drill bits.
- It is always necessary to lubricate the tip of the drill with oil to prevent overheating the drill bit.
- All metal workpieces should be clamped down securely. Any tilting, twisting, or shifting causes a rough drill hole, and increases the potential of drill bit breakage.
- Never hold a metal workpiece with your bare hands. The cutting edge of the drill bit may seize the workpiece and throw it, causing serious injury. The drill bit will break if the metal piece suddenly hits the column.
- If the metal is flat, clamp a piece of wood under it to prevent turning. If it cannot be laid flat on the table, then it should be blocked and clamped.

Drilling wood
- Brad point bits are preferred. Metal piercing twist bits may be used on wood.
- DO NOT use auger bits. Auger bits turn so rapidly that they can lift the workpiece off of the table and whirl it around.
- ALWAYS PROTECT THE DRILL BIT by positioning the table so that the drill bit will enter the centre hole when drilling through the workpiece.
- To prevent splintering, feed drill bit slowly when the bit is about to cut through to the backside of the workpiece.
- To reduce splintering and protect the point of the bit, use scrap wood as a backing or a base block under the workpiece.

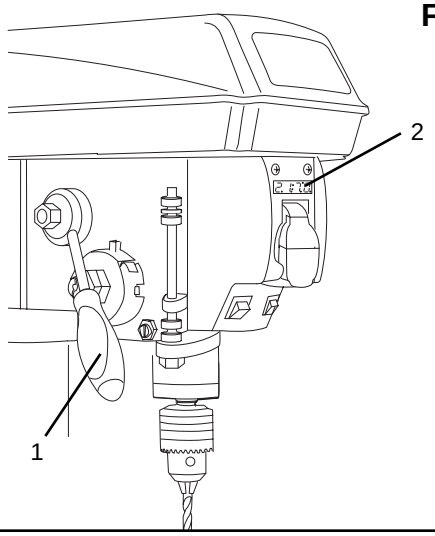
Feeding the drill bit
- Pull down on the feed handles with only enough force to allow the drill bit to cut.
- FEEDING TOO RAPIDLY might stall the motor, cause the belt to slip, damage the workpiece, or break the drill bit.
- FEEDING TOO SLOWLY will cause the drill bit to heat up and burn the workpiece.

VII. Operation ... continued

Mechanical variable speed (Fig. 28)
This is a variable speed bench drill press. To increase or decrease the speed when operating, raise or lower the speed handle **(1)**.

Use the following table to determine the recommended speed for the drill size you are using and the type of material you are to drill. While drilling, check the speed on the digital speed readout **(2)** located at the front of the drill press.

Fig. 28



VIII. Maintenance

WARNING: FOR YOUR OWN SAFETY, TURN THE SWITCH OFF AND REMOVE THE PLUG FROM THE POWER SUPPLY BEFORE MAINTAINING OR LUBRICATING THE BENCH DRILL PRESS.

Vacuum sawdust or metal shavings that accumulates in and on the motor, pulley housing, table, and work surface.

Apply a light coat of paste wax to the column and table to help keep these surfaces clean and rust-free.

The ball bearings in the spindle and the V-belt pulley assembly are greased and permanently sealed. Pull the spindle down and oil the spindle sleeve moderately every three months.

Lubricate the table bracket and locking knobs if they become difficult to use.

CAUTION: All servicing of the drill press should be performed by a qualified service technician.

IX. Troubleshooting

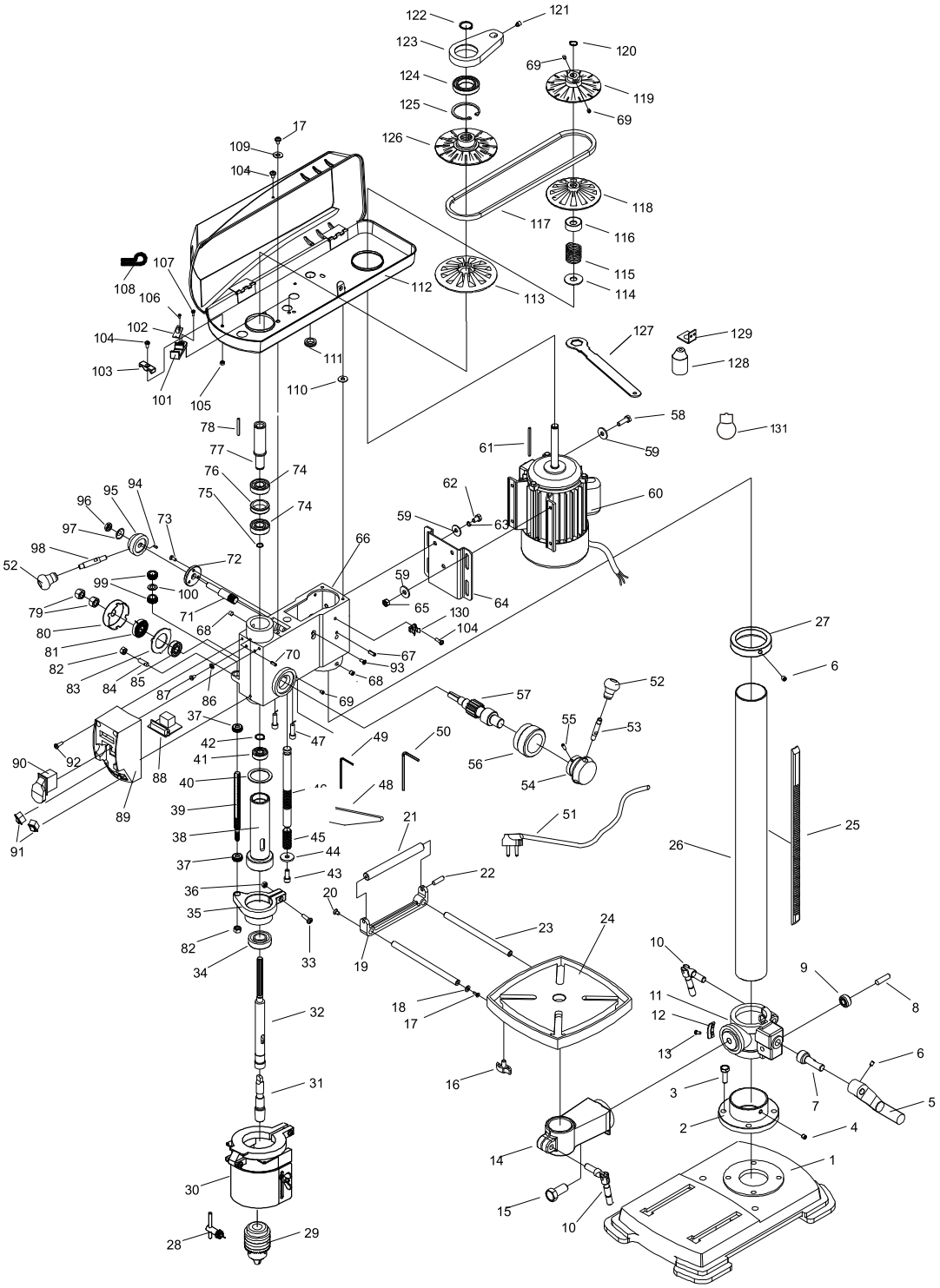
PROBLEM	PROBABLE CAUSE	REMEDY
Noisy operation.	1. Incorrect belt tension. 2. Dry spindle. 3. Loose spindle pulley. 4. Loose motor pulley.	• Adjust the belt tension. See "To replace the belt" in ADJUSTMENTS. • Lubricate the spindle. See MAINTENANCE section. • Tighten the retaining nut on the pulley insert. • Tighten the set screw on the side of the motor pulley.
The drill bit burns or smokes.	1. Drilling at the incorrect speed. 2. The wood chips are not coming out of the hole. 3. Dull drill bit. 4. Feeding the workpiece too slowly. 5. Not lubricated.	• Change the speed. See "Variable speed" in OPERATION. • Retract the drill bit frequently to clear the chips. • Resharpen or replace the drill bit. • Feed fast enough to cut the workpiece. See "To drill a hole" in OPERATION. • Lubricate the drill bit with cutting oil or motor oil.
Excessive drill run-out or wobble, drilled hole is not round.	1. Bent drill bit. 2. Bit improperly installed in the chuck. 3. Worn spindle bearings. 4. Lengths of cutting flutes or angles not appropriate for the hardness of the wood grain. 5. Chuck not properly installed.	• Replace the drill bit. • Reinstall the bit. See "To install drill bits" in ADJUSTMENTS. • Replace bearings. Take to a qualified service technician. • Resharpen the drill bit correctly or replace with the appropriate type. • Reinstall the chuck. See "To install the chuck" in ASSEMBLY.
Drill bit binds in the workpiece.	1. The workpiece is pinching the bit. 2. Excessive feed pressure.	• Support or clamp the workpiece. See "Position the table and workpiece" in OPERATION. • Feed more slowly. See "Feeding the drill bit" in OPERATION.
Spindle returns too slowly or too quickly.	1. Spring has improper tension.	• Adjust the spring tension. See "Spindle return spring" in ADJUSTMENTS.
Chuck falls off spindle.	1. Dirt, grease, or oil on the tapered surface on the spindle or in the chuck.	• Clean the tapered surface of both the chuck and the spindle with a household detergent. See "To install the chuck" in ASSEMBLY.

IX. Troubleshooting ... continued

PROBLEM	PROBABLE CAUSE	REMEDY
The workpiece splinters on the underside.	1. No backup material under the workpiece.	• Always use a backup material. See "Position the table and workpiece" in OPERATION.
The workpiece is slipping from your hand.	1. Not supported or clamped properly.	• Support workpiece using extension wing or clamps. See "Position the table and workpiece" in OPERATION.
Motor will not run.	1. Defective or broken switch. 2. Defective or damaged power cord. 3. Open circuit, loose connections, or burned out motor. 4. Blown fuse or circuit breaker. 5. Low voltage.	• Take to a qualified service technician. • Take to a qualified service technician. • Take to a qualified service technician. • Replace fuse or reset circuit breaker. Turn off other machines on the same circuit. • Check the power line for the proper voltage. Use another circuit or have a qualified electrician upgrade the service.
Motor will not start and fuses or circuit breakers blow.	1. Short circuit in motor or power cord. 2. Incorrect fuses or circuit breakers.	• Take to a qualified service technician. • Replace with correct fuse or circuit breaker for the circuit.
Motor fails to reach full power.	1. Overloaded circuit. 2. Improper extension cord.	• Turn off other machines and retry. • Replace with proper size extension cord. See ELECTRICAL INFORMATION.
Motor stalls.	1. Short circuit in motor. 2. Incorrect fuses or circuit breakers. 3. Overloaded circuit. 4. Low voltage.	• Take to a qualified service technician. • Replace with correct fuse or circuit breaker for the circuit. • Turn off other machines and retry. • Check the power line for the proper voltage. Use another circuit or have a qualified electrician upgrade the service.

X. Replacement parts

K15310 Explosive Drawing



X. Replacement parts ... continued

K15310 PARTS LIST

No.	Part No.	Description	No.	Part No.	Description
1	K15310-1	Base	38	K15310-38	Tube-quill
2	K15310-2	Support column	39	K15310-39	Lock-depth bolt
3	K15310-3	Hex.Bolt M10x30	40	K15310-40	Quill Gasket
4	K15310-4	Hex.Screw M8x8	41	K15310-41	Ball Bearing 6201
5	K15310-5	Handlebar Assembly	42	K15310-42	Retaining ring
6	K15310-6	Hex.Screw M6x10	43	K15310-43	Hex.Bolt M8x12
7	K15310-7	Worm	44	K15310-44	lock washer 8
8	K15310-8	Gear pin	45	K15310-45	Spring
9	K15310-9	Gear helical	46	K15310-46	Shaft
10	K15310-10	column clamp	47	K15310-47	Laser Beam Device
11	K15310-11	Table Support	48	K15310-48	Wedge
12	K15310-12	Indicator for bracket	49	K15310-49	Allen wrench
13	K15310-13	Pan Head ScrewM4x8	50	K15310-50	Allen wrench
14	K15310-14	Table arm	51	K15310-51	Cord-power
15	K15310-15	Hex.Bolt M12x25	52	K15310-52	Handle knob
16	K15310-16	Lock knob	53	K15310-53	Handle
17	K15310-17	Pan Head Screw	54	K15310-54	Hub
18	K15310-18	lock washer 6	55	K15310-55	Pin
19	K15310-19	Roller support	56	K15310-56	Scale
20	K15310-20	Screw	57	K15310-57	Shaft-pinion
21	K15310-21	Roller	58	K15310-58	Hex.Bolt M8x25
22	K15310-22	Screw	59	K15310-59	Washer 8
23	K15310-23	Guide bar	60	K15310-60	Motor
24	K15310-24	Table	61	K15310-61	Key
25	K15310-25	Rack	62	K15310-62	Hex.Bolt M8x12
26	K15310-26	Column tube	63	K15310-63	Washer 8
27	K15310-27	Collar-rack	64	K15310-64	Motor mount
28	K15310-28	Chuck key	65	K15310-65	nut M8
29	K15310-29	Chuck	66	K15310-66	Head
30	K15310-30	EYE-SHIELD	67	K15310-67	Pin
31	K15310-31	Chuck Arbor	68	K15310-68	Hex scrow M8x8
32	K15310-32	Spindle	69	K15310-69	Hex scrow M6x8
33	K15310-33	Screw	70	K15310-70	Pin
34	K15310-34	Ball Bearing 6204	71	K15310-71	Shaft
35	K15310-35	Lock Collar	72	K15310-72	Shaft plate
36	K15310-36	Nut	73	K15310-73	Screw
37	K15310-37	Lock Nut	74	K15310-74	Ball bearing 6203

X. Replacement parts ... continued

No.	Part No.	Description	No.	Part No.	Description
75	K15310-75	Ring-retaining	104	K15310-104	Screw
76	K15310-76	Spacer	105	K15310-105	nut M5
77	K15310-77	Pulley Insert	106	K15310-106	Self-tapping screw
78	K15310-78	Key	107	K15310-107	Screw
79	K15310-79	Hex nut M12	108	K15310-108	Cord clamp
80	K15310-80	Cap-spring	109	K15310-109	Washer
81	K15310-81	Spring-torsion	110	K15310-110	Washer Foam
82	K15310-82	Hex nut M8	111	K15310-111	Bushing rubber
83	K15310-83	Retaining spring	112	K15310-112	Pulley cover
84	K15310-84	Socket set screw	113	K15310-113	Spindle pulley
85	K15310-85	Seat Spring	114	K15310-114	Spring seat
86	K15310-86	Filling-in Ring	115	K15310-115	Moter Pully Spring
87	K15310-87	Pan Head ScrewM5x6	116	K15310-116	Spring cover
88	K15310-88	Digital screen	117	K15310-117	V-Belt
89	K15310-89	Switch Box	118	K15310-118	Motor Pulley
90	K15310-90	Switch	119	K15310-119	Motor Pulley
91	K15310-91	Switch XCK-017	120	K15310-120	Ring-retaining
92	K15310-92	Pan Head ScrewM5x14	121	K15310-121	Hex screw M8x16
93	K15310-93	Screw	122	K15310-122	Ring-retaining
94	K15310-94	Key	123	K15310-123	Cam
95	K15310-95	Handle seat	124	K15310-124	Ball bearing 61907
96	K15310-96	Self-lock nut	125	K15310-125	Ring-retaining
97	K15310-97	Butter Spring	126	K15310-126	Spindle Pulley
98	K15310-98	Handle	127	K15310-127	Wrench
99	K15310-99	Adjust Nut	128	K15310-128	Lamp assembly
100	K15310-100	Washer	129	K15310-129	Socket support
101	K15310-101	Receiver seat	130	K15310-130	Key chuck clip
102	K15310-102	Receiver	131	K15310-131	Globe
103	K15310-103	Cord clamp			