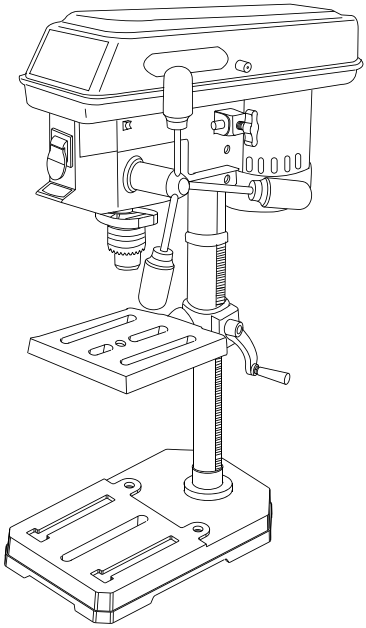
TOUGH-WORKS®

DP2501A

10-INCH DRILL PRESS WITH LASER



US
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IMPORTANT:

For your own safety, read and follow all of the Safety Guidelines and Operating Instructions before operating this product.

INSTRUCTION MANUAL

TABLE OF CONTENTS

SPECIFICATIONS

Motor	**120V, 60Hz , 6.2A**
Speed	**5(620~2800RPM)**
Chuck size	**1/2 in.**
Horsepower	**2/3 HP (Max. Developed)**
Swing	**10 in.**
Spindle travel	**2 in.**
Throat	**5 in.**

SAFETY GUIDELINES - DEFINITIONS

WARNING ICONS

Your power tool and its Instruction Manual may contain "WARNING ICONS"(a picture) symbol intended to alert you to and/or instruct you how to avoid a potentially hazardous condition). Understanding and heeding these symbols will help you operate your toobetter and safer. Shown below are some of the symbols you may see.

SAFETY ALERT: Precautions that involve your safety.

PROHIBITION

WEAR EYE PROTECTION: Always wear safety goggles or safety glasses with side shields.

WEAR RESPIRATORY AND HEARING PROTECTION: Always wear respiratory and hearing protection.

READ AND UNDERSTAND INSTRUCTION MANUAL: To reduce the risk of injury, user and all bystanders must read and understand instruction manual before using this product.

KEEP HANDS AWAY FROM THE MOVING PART AND CUTTING SURFACE: Failure to keep your hands away from the moving part and cutting surface will result in serious personal injury.

SUPPORT AND CLAMP WORK

⚠ DANGER **DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION **CAUTION:** Indicates a potentially hazardous situation which, if not avoided,may result in minor or moderate injury.

NOTICE **NOTICE:** Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

⚠ WARNING

Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks and cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work

with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. Avoid prolonged contact with dust from power sanding, sawing, grinding, drilling, and other construction activities. Wear protective clothing and wash exposed areas with soap and water. Allowing dust to get into your mouth, eyes, or lay on the skin may promote absorption of harmful chemicals.

⚠ WARNING

To avoid electrical hazards, fire hazards or damage to the tool, use proper circuit protection. This tool is wired at the factory for 110-120 Volt operation. It must be connected to a 110-120 Volt /15 Ampere time delay fuse or circuit breaker. To avoid shock or fire, replace power cord immediately if it is worn, cut or damaged in any way.

Before using your tool, it is critical that you read and understand these safety rules. Failure to follow these rules could result in serious injury to you or damage to the tool.

GENERAL SAFETY INSTRUCTIONS BEFORE USING THIS POWER TOOL

Safety is a combination of common sense, staying alert and knowing how to use your power tool.

⚠ WARNING

- To avoid mistakes that could cause serious injury, do not plug the tool in until you have read and understood the following.
- Read all instructions before operating product. Failure to follow all instructions listed below may result in electric shock, fire and /or serious injury.

1.  **READ** and become familiar with the entire Instruction Manual. **LEARN** the tool's application, limitations and and possible hazards.
2. **KEEP GUARDS IN PLACE** and in working order.
3. **KEEP WORK AREA CLEAN**. Cluttered areas and benches invite accidents.
4. **DO NOT USE IN DANGEROUS ENVIRONMENTS**. Do not use power tools in damp locations, or expose them to rain or snow. Keep work area well lit.
5. **KEEP CHILDREN AWAY**. All visitors and bystanders should be kept a safe distance from work area.
6. **DO NOT FORCE THE TOOL.** It will do the job better and safer at the rate for which it was designed.
7. **WEAR PROPER APPAREL**.Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
8.  **ALWAYS WEAR EYE PROTECTION**. Any power tool can throw foreign objects into the eyes and could cause permanent eye damage. **ALWAYS** wear Safety Goggles (not glasses) that comply with ANSI Safety standard Z87.1. Everyday eyeglasses have only impact–resistant lenses. They **ARE NOT** safety glasses. **NOTE**: Glasses or goggles not in compliance with ANSI Z87.1 could seriously injure you when they break.
9.  **WEAR A FACE MASK OR DUST MASK**. Sanding operation produces dust.
10. **DISCONNECT TOOLS FROM POWER SOURCE** before servicing, and when changing accessories such as blades, bits and cutters.
11. **USE PROPER EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will result in a drop in line voltage and in loss of power which will cause the tool to overheat. The table on page 8 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
12. **USE RECOMMENDED ACCESSORIES**. Consult this Instruction Manual for recommended accessories. The use of improper accessories may cause risk of injury to yourself or others.
13. **NEVER STAND ON THE TOOL**. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
14. **MAINTAIN TOOLS WITH CARE**. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **CHECK FOR 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.

16. **NEVER LEAVE THE TOOL RUNNING UNATTENDED. TURN THE POWER "OFF".** Do not walk away from a running tool until the blade comes to a complete stop and the tool is unplugged from the power source.
17. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
18. **⚠ WARNING**

    Dust generated from certain materials can be hazardous to your health. Always operate saw in well-ventilated area and provide for proper dust removal.
19. **⚠ DANGER**

    People with electronic devices, such as pacemakers, should consult their physician(s) before using this product. Operation of electrical equipment in close proximity to a heart pacemaker could cause interference or failure of the pacemaker.
20. **WEAR HEARING PROTECTION** to reduce the risk of induced hearing loss.

DRILL PRESS SAFETY

⚠ WARNING

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

1. **YOUR DRILL PRESS MUST BE BOLTED** securely to a workbench. In addition, if there is any tendency for your drill press to move during certain operations, bolt the workbench to the floor.
2. **THIS DRILL PRESS** is intended for use in dry conditions, indoor use only.
3. **WEAR EYE PROTECTION. USE** a face or dust mask along with safety goggles if drilling operation is dusty.

   USE ear protectors, especially during extended periods of operation.
4. **DO NOT** wear gloves, neckties, or loose clothing.
5. **DO NOT** try to drill material too small to be securely held.
6. **ALWAYS** keep hands out of the path of a drill bit.

   Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit.
7. **DO NOT** install or use any drill bit that exceeds 175 mm (7 in.) in length or extends 150 mm (6 in.) below the chuck jaws. They can suddenly bend outward or break.
8. **DO NOT USE** wire wheels, router bits, shaper cutters, circle (fly) cutters, or rotary planers on this drill press.
9. **WHEN** cutting a large piece of material, make sure it is fully supported at the table height.
10. **DO NOT** perform any operation freehand.

    ALWAYS hold the workpiece firmly against the table so it will not rock or twist. Use clamps or a vise for unstable workpieces.
11. **MAKE SURE** there are no nails or foreign objects in the part of the workpiece to be drilled.
12. **CLAMP THE WORKPIECE OR BRACE IT** against the left side of the column to prevent rotation. If it is too short or the table is tilted, clamp it solidly to the table and use the fence provided.
13. **IF THE WORKPIECE** overhangs the table such that it will fall or tip if not held, clamp it to the table or provide auxiliary support.
14. **SECURE THE WORK**. Use clamps or a vise to hold the work when practical. It's safer

than using your hand and it frees both hands to operate tool.

15. **WHEN** using a drill press vise, always fasten to the table.
16. **MAKE SURE** all clamps and locks are firmly tightened before drilling.
17. **SECURELY LOCK THE HEAD** and table support to the column, and the table to the table support before operating the drill press.
18. **NEVER** turn your drill press on before clearing the table of all objects (tools, scraps of wood, etc.)
19. **BEFORE STARTING** the operation, jog the motor switch to make sure the drill bit does not wobble or vibrate.
20. **LET THE SPINDLE REACH FULL SPEED** before starting to drill. If your drill press makes an unfamiliar noise or if it vibrates excessively, stop immediately, turn the drill press off and unplug. If do not restart the unit until the problem is corrected.
21. **DO NOT** perform layout assembly or set up work on the table while the drill press is in operation.
22. **USE THE RECOMMENDED SPEED** for any drill press accessory and for different workpiece material. **READ THE INSTRUC TIONS** that come with the accessory.
23. **WHEN DRILLING** large diameter holes, clamp the workpiece firmly to the table. Otherwise, the bit may grap and spin the workpiece at high speeds.

    DO NOT USE fly cutters or multiple-part hole cutters, as they can come apart or become unbalanced in use.
24. **MAKE SURE** the spindle has come to a complete stop before touching the workpiece.
25. **TO AVOID INJURY** from accidental starting, always turn the switch “OFF” and unplug the drill press before installing or removing any accessory or attachment or making any adjustment.
26. **KEEP GUARDS IN PLACE** and in working order.
27. **USE ONLY THE SELF-EJECTING TYPE CHUCK KEY** as provided with the drill press.
28. **⚠ WARNING**

    TO AVOID BEING PULLED INTO THE SPINNING TOOL - Tie back long hair and roll long sleeves above elbows.
29. Drum sanders must never be operated on this drill press at a speed greater than the speed rating of the drum sander.
30. **⚠ WARNING**

    Feed workpiece into a sanding drum or other approved accessory, against the direction of rotation.
31. **⚠ WARNING**

    A kickback occurs when workpiece suddenly binds on the cutting edge of the tool and the workpiece is thrown by the cutter in the direction of the cutter’s rotation. This can cause serious injury.
32. **⚠ WARNING**

    Do not allow familiarity (gained from frequent use of your drill press) to become commonplace. Always remember that a careless fraction of a second is sufficient to inflict severe injury.

GROUNDING INSTRUCTIONS
IN THE EVENT OF A MALFUNCTION OR BREAKDOWN, grounding provides a path of least resistance for electric current and reduces the risk of shock. This tool is equipped with an electric cord that has an equipment grounding conductor and grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.

DO NOT MODIFY THE PLUG PROVIDED. If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.

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

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

USE only 3-wire extension cords that have three-pronged grounding plugs with three-pole receptacles that accept the tool's plug. Repair or replace damaged or worn cords immediately.

Fig. A

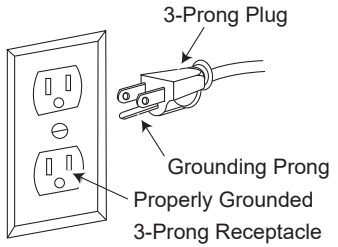
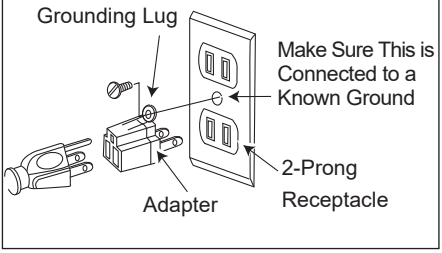


Fig. B



GUIDELINES FOR EXTENSION CORDS

⚠ WARNING

This tool must be grounded while in use to protect the operator from electrical shock.

MINIMUM GAUGE FOR EXTENSION CORDS (AWG)					
(When using 120 volts only)					
Ampere Rating		**Total Length of Cord**			
More Than	Not More Than	25 (7.62	50 15.24	100 30.48	150 ft. 45.72 m)
		AWG- American Wire Gauge			
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 technician before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

Use a separate electrical circuit for your tool. This circuit must not be less than #18

wire and should be protected with a 15 Amp time lag 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 lower voltage will damage the motor.

⚠ WARNING

This drill press is for indoor use only. Do not expose to rain or use in damp locations.

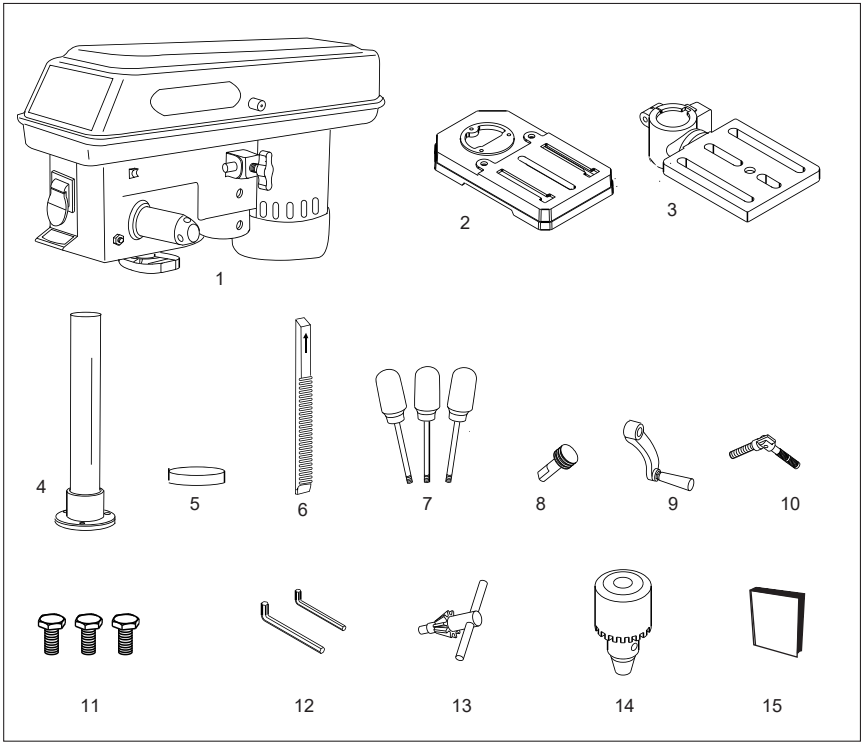
This tool is intended for use on a circuit that has a receptacle like the one illustrated in Fig. A shows a three-pronged electrical plug and receptacle that has a grounding conductor. If a properly grounded receptacle is not available, an adapter (Fig. B) can be used to temporarily connect this plug to a two-contact grounded receptacle. The adapter (Fig.B) has a rigid lug extending from it that MUST be connected to a permanent earth ground, such as a properly grounded receptacle box.

THE TEMPORARY ADAPTER SHOULD BE USED ONLY UNTIL A PROPER GROUNDED OUTLET CAN BE INSTALLED BY A QUALIFIED ELECTRICIAN.

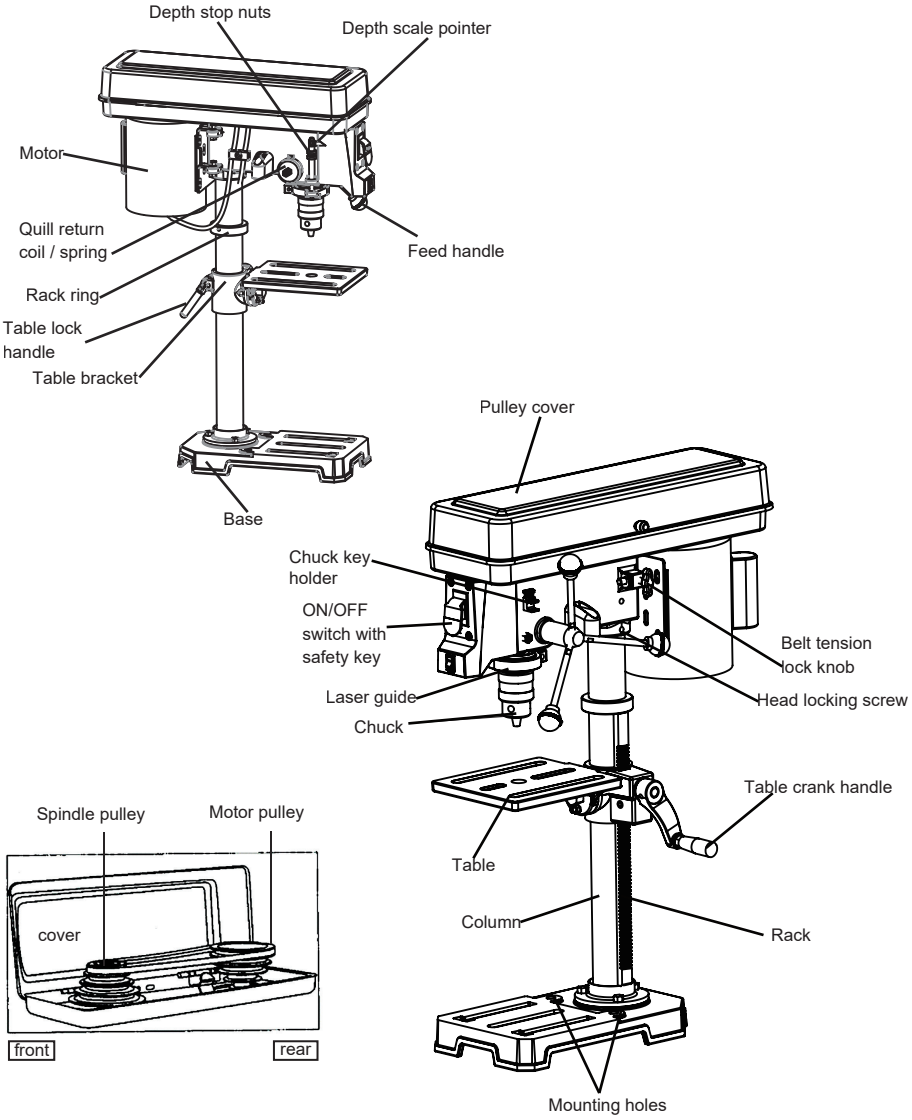
⚠ CAUTION

In all cases, make certain the receptacle is properly grounded. If you are not sure, have a qualified electrician check the receptacle.

No.	Description	Qty.	No.	Description	Qty.
1	Head assembly	1	9	Table crank handle	1
2	Base	1	10	Table lock handle	1
3	Table	1	11	Hex bolts	3
4	Column assembly	1	12	3 mm & 4 mm hex keys	2
5	Rack ring	1	13	Chuck key	1
6	Rack	1	14	Chuck	1
7	Feed handles	3	15	Operator's manual	1
8	Worm gear	1			



KEY PARTS DIAGRAN



⚠ WARNING

For your own safety, never connect plug to power source outlet until all assembly steps are complete and you have read and understood the safety and operating instructions.

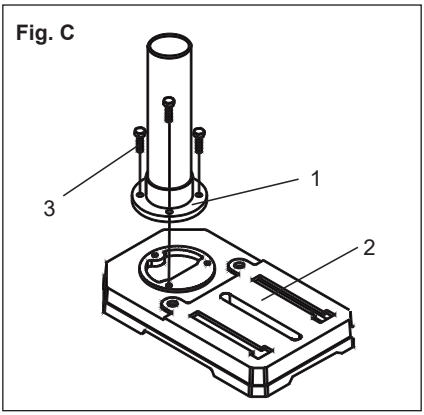
⚠ WARNING

The drill press is a heavy power tool and should be lifted with the help of two **PEOPLE OR MORE** to safely assemble it.

ASSEMBLING COLUMN TO BASE (FIG. C)

1. Position the base (2) on a flat stable work surface(must be able to support 100 lbs.)
2. Place the column (1) on the base, aligning the mounting holes to the base.
3. Locate the three hex bolts (3) from the loose parts bag.
4. Place a bolt in each hole through the column support and thread into the base. Tighten with a 12 wrench.

Fig. C



INSTALLING TABLE TO COLUMN ASSEMBLY (FIG. D THROUGH F)

1. Install the table lock handle (4) into the hole at the rear of the table bracket.

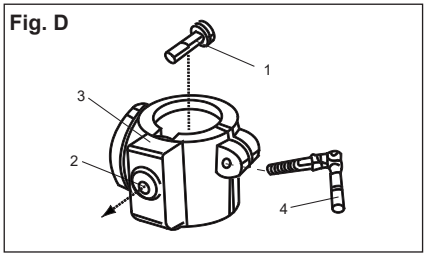
NOTE
Install the handle from left to right, so it enters the non-threaded side of the table bracket first.

2. Insert the worm gear (1) into the table crank handle hole (2) from inside the table support (3). Make sure the worm gear (1) meshes with the inside gear.

NOTE
Do not remove the lubrication from this worm gear.

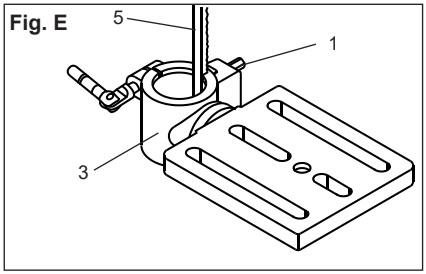
Table removed from bracket in illustration for clarity.

Fig. D



3. Place the rack (5) inside the table bracket (3) as shown in Fig. E, making sure the worm gear (1) on the inside of the table bracket is engaged with the teeth of the rack and the arrow stamped on the rack is pointing up.

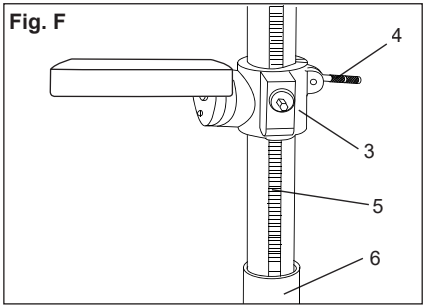
Fig. E



4. Slide this table assembly with the rack onto the column.
5. Engage the bottom of the rack (5) with the lip of the column support (6). Tighten the table bracket lock handle (4) to lock the table assembly to the column.

NOTE: Do not overtighten.

Fig. F

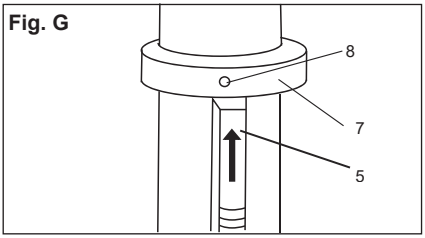


6. Install the rack ring (7) on the column so the top lip of the rack sits into the rack ring.

IMPORTANT: The bottom of the collar **MUST NOT** be pushed all the way down onto the top of the rack. **MAKE SURE** the top of the rack is under the bottom of the collar and that there is enough clearance to allow the rack to freely rotate around the column. Tighten the set screw (8) using the 3 mm hex wrench.

NOTE: To avoid column or collar damage, **DO NOT OVERTIGHTEN** the set screw.

Fig. G



7. Install the table crank handle (9) onto the worm gear shaft (11)on the side of the table support (12).
8. Line up the fl at side of the shaft with the set screw (10) in the crank handle and tighten the screw with the 3 mm hex wrench provided.Do not overtighten.

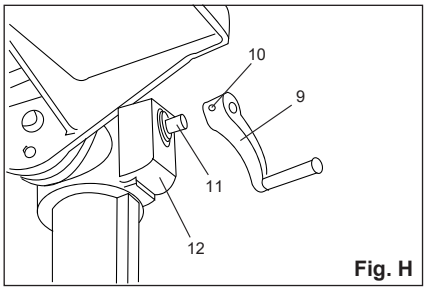


Fig. H

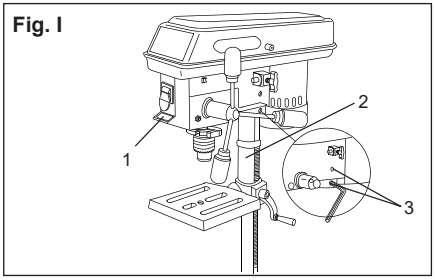
INSTALLING THE HEAD (FIG. I)

⚠ WARNING

The Drill Press head is heavy and should be lifted with the help of two PEOPLE to safely assemble the drill press head on the column.

1. Carefully lift the head (1) and slide it into the top of column (2). Make sure the head slides down over the column as far as possible. Align the head with the base.
2. Using the 4 mm hex wrench provided, tighten the two head locking setscrews (3) on the right side of the head.

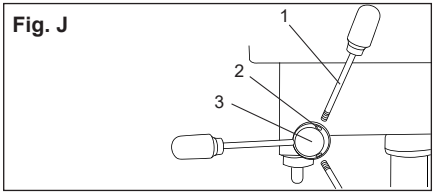
Fig. I



INSTALLING FEED HANDLES (FIG. G)

1. Screw the three feed handles (1) into the holes (2) on the hub assembly (3) and tighten.

Fig. J



INSTALLING THE CHUCK (FIG. I, J AND K)

⚠ WARNING

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

⚠ WARNING

To avoid injury from an accidental start, **ALWAYS** make sure the power switch is in the "OFF" position, the switch key is removed, and the plug is not connected to the power source outlet before removing or installing the chuck.

1. Clean out the tapered hole in the chuck (1) with a clean cloth and a non-alcohol based cleaner. Wipe clean all oil reside and any dirt or grime thoroughly.
2. Clean tapered surfaces on the spindle (2) in the same manner as above.

NOTE: Make sure there are no foreign particles sticking to the surfaces. The slightest piece of dirt or oil reside on any of these surfaces will prevent the chuck from seating properly. This will cause the drill chuck and bit to wobble.

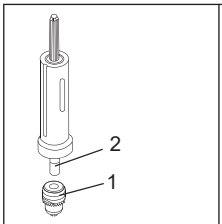


Fig. K

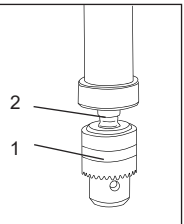


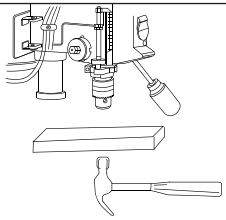
Fig. L

3. Open the jaws of the chuck (1) by rotating the chuck sleeve clockwise. To prevent damage, make sure the jaws are completely receded into the chuck.
4. Unlock the table support lock (4- Fig. F) and swing the table away from the bottom of the chuck.
5. Insert the chuck onto the spindle, pushing upwards all the way.
6. Using a rubber mallet or a hammer and a block of wood, tap the chuck onto the spindle firmly (Fig. M).

⚠ CAUTION

RISK OF PROPERTY DAMAGE. To avoid damage to the chuck, **NEVER** drive the chuck on the spindle with a metal hammer.

Fig.M



REMOVING THE CHUCK

1. Turn the feed handles to lower the chuck to the lowest position.
2. Place a ball joint separator (not shown) above the chuck and tap it lightly with a hammer or rubber mallet to cause the chuck to drop from the spindle.

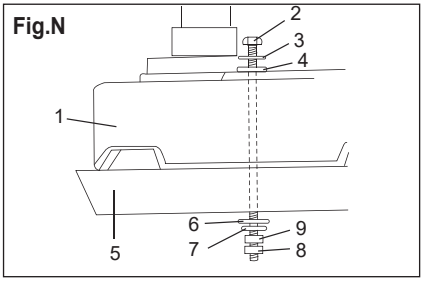
NOTE:
Never hit the chuck directly with the hammer or rubber mallet.
The avoid possible damage to the chuck, raise the jaws all the way first and be prepared to catch the chuck as it falls.

MOUNTING DRILL PRESS TO WORK SURFACE (FIG. N)

1. If mounting the drill press to a workbench, a solid wood bench is preferred over a plywood board, to reduce noise and vibration.
2. Holes should be pre-drilled through the supporting surface.
3. The hardware to mount this drill press is **NOT** supplied with the tool. The hardware as shown in the illustration should be used:

1.Drill press base	4. Rubber washer	7. Lockwasher
2.Bolt	5. Worksurface	8. Hex nut
3. Flat washer	6. Flatwasher	9. Jam nut

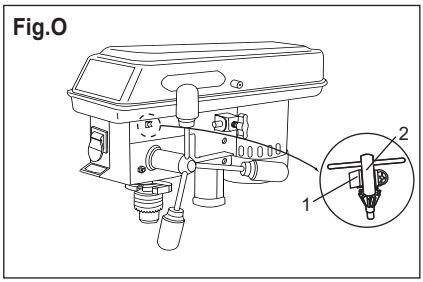
Fig.N



CHUCK KEY STORAGE (FIG. O)

Storage holder (1) for the chuck key (2) is located on the right side of the drill press.

Fig.O



⚠ WARNING

To avoid injury from an accidental start, **ALWAYS** make sure the switch is in the "OFF" position, the switch key is removed, and the plug is not connected to the power source outlet before making belt adjustments.

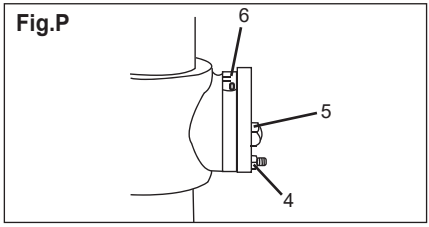
BEVEL DRILLING (FIG.P)

NOTE: A bevel scale has been included to measure approximate bevel angles. If precision is necessary, a square or other measuring tool should be used to position the table. To use the bevel scale (6):

1. **TIGHTEN** the nut (4) on the locking pin using a 10 mm or adjustable wrench clockwise to RELEASE the pin from its table support. This pin will be needed when placing the table back to its 0 degree setting, from the table support, do not throw away.
2. Loosen the large hex head table bevel locking bolt (5) using a 17 mm or adjustable wrench.
3. Tilt the table, aligning the desired angle measurement to the zero line opposite the scale (6).
4. Tighten the table bevel locking bolt (5).
5. To return the table to its original position, loosen the table bevel locking bolt (5). Return the table (6) to the 0° position.
6. Return nut (4) on locking pin to the **OUTSIDE END OF THREADS**. Gently tap locking pin, using a rubber mallet, until it is seated in the mating hole of the table bracket. Hand tighten nut (4).

NOTE: The table has been removed from the illustration for clarity.

Fig.P



⚠ WARNING

To prevent personal injury, always disconnect the plug from the power source when making any adjustments.

SPINDLE / QUILL (FIG. Q)

Rotate the feed handles counterclockwise to lower spindle to its lowest position. Hold the chuck and move it front to back. If there is excessive play, proceed with the following adjustments:

1. Loosen the lock nut (1) located on the right side of the drill press, using a 10mm wrench.
2. Turn the screw (2) clockwise to eliminate the play using a slotted screwdriver, but without obstructing the upward movement of the the spindle. (A little play in the spindle is normal.)
3. Tighten the lock nut (1).

Fig.Q

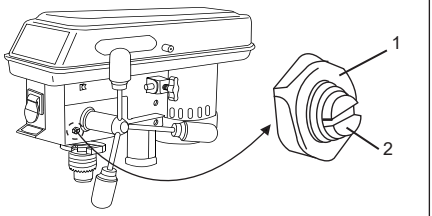
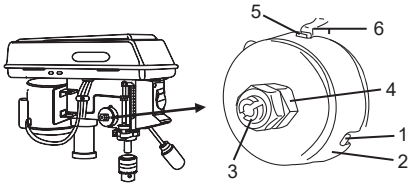


Fig.R



QUILL RETURN SPRING (FIG. R)

The quill return spring may need adjustment if the quill return speed is too rapid or too slow.This spring is located on the left side of the drill head.

1. Lower the table for additional clearance.
2. Place a screwdriver in the lower front notch (1) of the spring cap (2). Hold it in place while loosening and removing only the outer jam nut (3), using a 10 mm wrench.
3. With the screwdriver still engaged in the notch, loosen the inner nut (4) just until the notch (5) disengages from the boss (6) on the drill press head.

NOTE: DO NOT REMOVE THIS INNER NUT, because the spring will forcibly unwind.

4. Carefully turn the spring cap (2) counterclock wise with the screwdriver, engaging the next notch.
5. Lower the quill to the lowest position by rotating the feed handle in a counterclockwise direction while holding the spring cap (2) in position.
6. If the quill moves up and down as you desire, tighten the inner nut (4) sung against the spring cap and spring cap with the wrench. If too loose, repeat steps 3 through 5 to tighten. if too tight, reverse steps 4 and 5.
7. Secure the outer nut (3) against the inner nut with the wrench.

NOTE: DO NOT OVERTIGHTEN and restrict quill movement.

⚠ WARNING

To avoid injury from an accidental start, **ALWAYS** make sure the switch is in the "OFF" position, the switch key is removed, and the plug is not connected to the power source outlet before making belt adjustments.

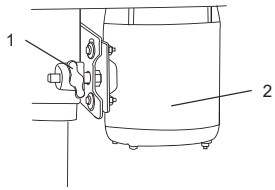
BELT TENSION (FIG. S)

1. Open the pulley cover.
2. To unlock the belt tension, turn the belt tension lock knob (1) on the right side of the drill press head counterclockwise.
3. Pull the motor (2) toward the front of the drill press to loosen the belt tension.
4. Position the belt on the correct pulley steps for the desired speed.
5. Push the motor away from the drill press head until the belt is properly tensioned.

NOTE: Belt tension is correct if the belt deflects approximately 1/2 inch when pressed at its center.

6. Tighten the belt tension lock knob (1) to secure the motor in position.Close pulley cover.

Fig.S



⚠ WARNING

LASER RADIATION. Never aim the beam at a work piece with a reflective surface. Bright shiny reflective sheet steel or similar reflective surfaces are not recommended for laser use. Reflective surfaces could direct the beam back toward the operator or by standers.

ADJUSTING THE LASER LINES (FIG. T)

A. How to check the Laser-beam Alignment?

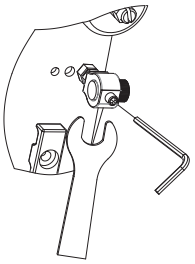
1. Adjust the table height so it is 5 in. below the bottom of the chuck.
2. Scribe a round circle (approx. 1/8 in.) on a piece of scrap wood.
3. Insert a drill bit approx 1/8 in. diameter into the chuck and tighten.
4. Lower the quill and align the scribed circle with the drill bit and fasten the wood to the table.
5. Turn on the laser and verify the laser lines (x) are centered onto the scribed circle.

B. ALIGNING THE LASER-BEAM (FIG .T)

To adjust the laser lines:

1. Turn on the laser by pressing the rocker switch.
2. Lower the drill press quill and loosen one turn each the four screws (4).
3. To adjust the laser beam left / right, turn the adjustment screw (1) no more than 1/8 turn in either direction. To adjust the laser beam front to back, turn the adjusting screw (2) no more than 1/8 turn in either direction.
4. Once adjustments are completed, retighten the four screws (4).

Fig.T



NOTE: This machine incorporates view windows on the pulley cover used to observe the location of the belt.

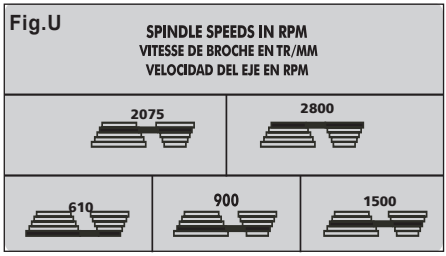
⚠ WARNING

To avoid possible injury, keep guard closed and in place while tool is in operation.

SPEEDS AND BELT PLACEMENT (FIG.U)

This drill press has five operating speeds. Fig. U shows each speed and the placement of the belt to obtain those speeds. This chart is also located in the inside pulley guard for reference.

Fig.U



NOTE: See the DRILLING SPEED TABLE (RPM) on page 21 for size of drill bit and material drilling commendations.

ON/OFF SWITCH (FIG.V)

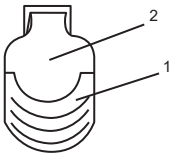
The ON / OFF switch has a removable, safety key. With the key removed from the switch, unauthorized and hazardous use by children and others is minimized.

1. To turn the drill press “ON”, insert key (2) into the slot of the switch (1). Move the switch upward to the “ON” position.
2. To turn the drill press “OFF”, move the switch downward.
3. To lock the switch in the OFF position, grasp the sides of the safety key, and pull it out.
4. With the safety key removed, the switch will not turn the power tool on.
5. If the safety key is removed while the drill press is running, it can be turned “OFF” but cannot be restarted without inserting the safety key.

⚠ WARNING

ALWAYS lock the switch “OFF” when the drill press is not in use by removing the safety switch key keep it in a safe place. In the event of a power failure, blown fuse,or tripped circuit breaker, turn the switch “OFF” and remove the key, preventing an accidental startup when power comes on.

Fig.V



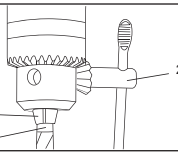
INSTALLING DRILL BIT IN CHUCK (FIG. W)

1. With the switch “OFF” and the safety key removed, open the chuck jaws (1) using the chuck key (2). Turn the chuck key counter-clockwise to open the chuck jaws (1).
2. Insert the drill bit (3) into the chuck far enough to obtain maximum gripping by the jaws, but not far enough to touch the spiral grooves (flutes) of the drill bit when the jaws are tightened.
3. Make sure that the drill is centered in the chuck.
4. Turn the chuck key clockwise to tighten the jaws.

⚠ WARNING

To avoid injury or accident by the chuck key ejecting forcibly from the chuck when the power is turned “ON”,use only the self-ejecting chuck key supplied with this drill press. ALWAYS recheck and remove the chuck key before turning the power “ON”.Place the chuck key into its storage holder when not in use.

Fig.W



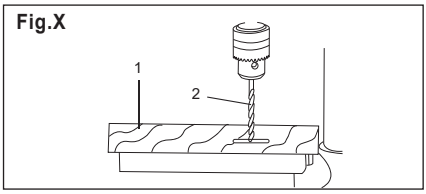
DRILLING TO A SPECIFIC DEPTH

Drilling a blind hole (not all the way through workpiece) to a given depth can be done two ways:

Workpiece method (Fig. X and Y)

1. Mark the depth (1) of the hole on the side of the workpiece (Fig. X).
2. With the switch “OFF”, bring the drill bit (2) down until the tip is even with the mark (Fig. X)

3. Hold the feed handle at this position.
4. Spin the lower nut (3) down to contact the depth stop lug (6) on the head (Fig. Y).
5. Spin the upper nut (5) down and tighten against the lower nut (3) (Fig. Y).
6. The drill bit will now stop after traveling the distance marked on the workpiece.



Depth scale method (Fig. Y)

Note: With the chuck in the upper position, the tip of the drill bit must be just slightly above the top of the workpiece.

1. With the switch "OFF", turn the feed handle until the pointer (7) points to the desired depth on the depth scale (4) and hold the feed handle in that position.
2. Spin the lower nut (3) down to contact the depth stop lug (6).
3. Spin the upper nut (5) against against the lower stop nut and tighten.
4. The drill bit will stop after traveling the distance selected on the depth scale.

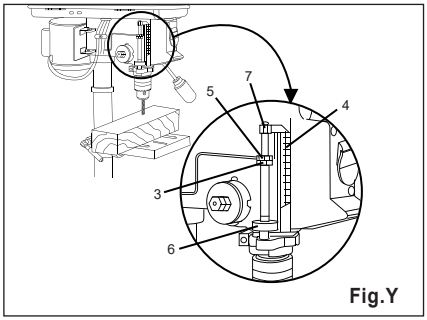
Drill a hole

Using a center punch or a sharp nail, make an indentation in the workpiece where you want to drill.

Turn on the laser assembly and align the laser lines (x) with the indentation. Turn the power switch on and pull down on the feed handles with only enough effort to allow the drill to cut.

FEEDING TOO RAPIDLY might cause the belt or drill to slip, tear the workpiece loose, or break the drill bit.

When drilling metal, it will be necessary to lubricate the tip of the drill bit with metal drilling oil to prevent it from overheating.



ABOUT PROTECTION

⚠ WARNING

To avoid being pulled into the power tool, do not wear loose clothing, gloves, neckties, or jewelry. Always tie back long hair.

1. If any part of your drill press is missing, malfunctioning, damaged or broken, stop operation immediately until that part is properly repaired or replaced.
2. Never place your fingers in a position where they could contact the drill bit or other cutting tool.The workpiece may unexpectedly shift, or your hand could slip.
3. To prevent the workpiece from being torn your hands, thrown, spun by the tool, or shattered, always properly support your workpiece as follows:

   a. Always position BACKUP MATERIAL (used beneath workpiece) so that it contacts the left side of the column, or use the fence provided and a clamp to brace the workpieces.

   b. Whenever possible, position the workpiece to contact the left side of the column. If it is too short or the table is tilted, use the fence provided or clamp solidly to the table, using the table slots.

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

   d. Never do any work freehand (hand-holding the workpiece rather than supporting it on the table), except when polishing sanding.

   e. Securely lock the head and support to the column, the table arm to the support, and the table to the table arm, before operating the drill press.

f. Never move the head or the table while the tool is running.

g. Before starting an operation, jog the motor switch to make sure the drill or other cutting tool does not wobble or cause vibration.

h. If a workpiece overhangs the table so it will fall or tip if not held, clamp it to the table or provide auxiliary support.

i. Use fix tures for unusual operations to adequately.hold, guide, and position workpiece.

j. Use the SPINDLE SPEED recommended for the speci coperation and workpiece material. Check the panel on the inside pulley cover or the chart below for drilling speed information. For accessories, refer to the instructions provided with each accessory.

4. Never climb on the drill press table, it could break or pull the entire drill press down on you.
5. Turn the power switch "OFF", and put away the safety key when leaving the drill press.
6. To avoid injury from thrown work or tool contact, do not perform layout, assembly, or setup work on the table while the cutting tool is rotating.

DRILLING SPEED TABLE (RPM)			
Drill Bit Diameter (Inches)	Material		
	Wood	Alum. / Zinc. / Brass	Iron / Steel
1/16	2800	2800	2800
1/8			2080
3/16			1500
1/4		2080	
5/16			900
3/8		1500	
1/2	2080	900	610

Fig.Z

POSITIONING THE TABLE AND WORKPIECE (FIG. AA AND BB)

1. Lock the table (1) to the column (2) at a position so the tip of the drill bit (3) is just above the top of the workpiece (4).
2. **ALWAYS place a BACK-UP MATERIAL** (scrap wood) on the table beneath the workpiece. This will prevent splintering or heavy burring on the underside of the workpiece. To keep the back-up material from spinning, it MUST be positioned against the LEFT side of the column.
3. For a small piece that cannot be clamped to the table, use a drill press vise (optional accessory).

⚠ WARNING

To prevent the workpiece or backup material from being thrown while drilling, you MUST position the workpiece against the LEFT side of the column. If the workpiece or the backup material is not long enough to reach the column, clamp them to the table, or use the fence provided with the drill press to brace the workpiece. Failure to secure the workpiece could result in personal injury.

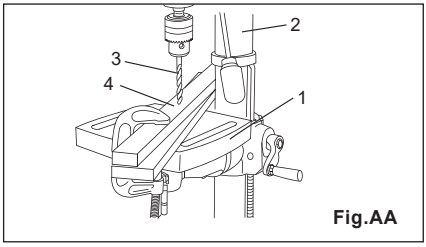


Fig.AA

⚠ WARNING

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

Remove the drill press fence when it interferes with other drill press accessories.

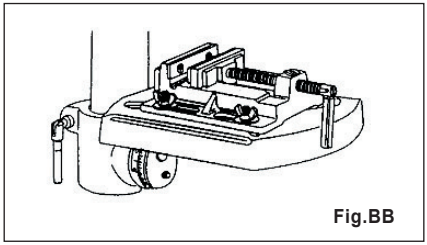


Fig.BB

HOLDING A DRILLING LOCATION

1. Using a centerpunch or sharp nail, make an indentation in the workpiece where you will be drilling.

2. Turn the laser “ON” and align the laser lines (x) with the indentation before turning the drill ON.

TILTING THE TABLE (FIG. CC)

NOTE: The table arm and support (1) has a predrilled hole with a locking pin inserted for locking the table into a predrilled 0° bevel angle.

1. TIGHTEN the nut (4) on the locking pin using a 10 mm or adjustable wrench clockwise to RELEASE the pin from its table support. This pin will be needed when placing the table back to its 0 degree setting from the table support.
2. Loosen the large hex head table bevel locking bolt (3) using a 17 mm or adjustable wrench.

⚠ WARNING

To prevent injury, be sure to hold the table & table arm assembly, so it will not swivel or tilt.

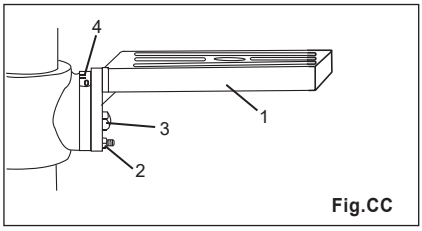


Fig.CC

3. Tilt the table, aligning the desired angle measurement to the zero line opposite the scale (4).
4. Tighten the table bevel locking bolt (3).
5. To return the table to its original position, loosen the table bevel locking bolt (3). Return the table (1) to the 0° position.
6. Return nut (2) on locking pin to the OUTSIDE END OF THREADS. Gently tap locking pin until it is seated in the mating hole of the table bracket. Hand tighten nut (2).

⚠ WARNING

To avoid injury from spinning work or tool breakage, always clamp workpiece and backup material securely to the table before operating the drill press.

FEEDING

1. Pull down the feed handles with only enough effort to allow the drill bit to cut.
2. Feeding too slowly might cause the drill bit to burn.
   Feeding too rapidly might cause the belt or drill to slip, tear the workpiece loose or break the drill bit.
3. When drilling metal, it is necessary to lubricate the drill bit tip with oil to prevent burning of the workpiece and bit.

⚠ WARNING

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

Frequently blow out, using an air compressor or dust vacuum, any sawdust or metal chips that accumulates inside the motor, pulley housing, table and work surface. Always wear protective safety goggles.

⚠ WARNING

To avoid shock or fire hazard, if the power cord is worn or cut in any way, have it replaced immediately by a qualified electrician or service technician.

LUBRICATION

All of the drill press ball bearings are packed with grease at the factory. They require no further lubrication.

Periodically lubricate the gear and rack, table elevation mechanism of the spindle the rack (teeth) of the quill.

Lower the spindle down and oil the spindle sleeve moderately every three months.

TROUBLESHOOTING GUIDE

⚠ WARNING

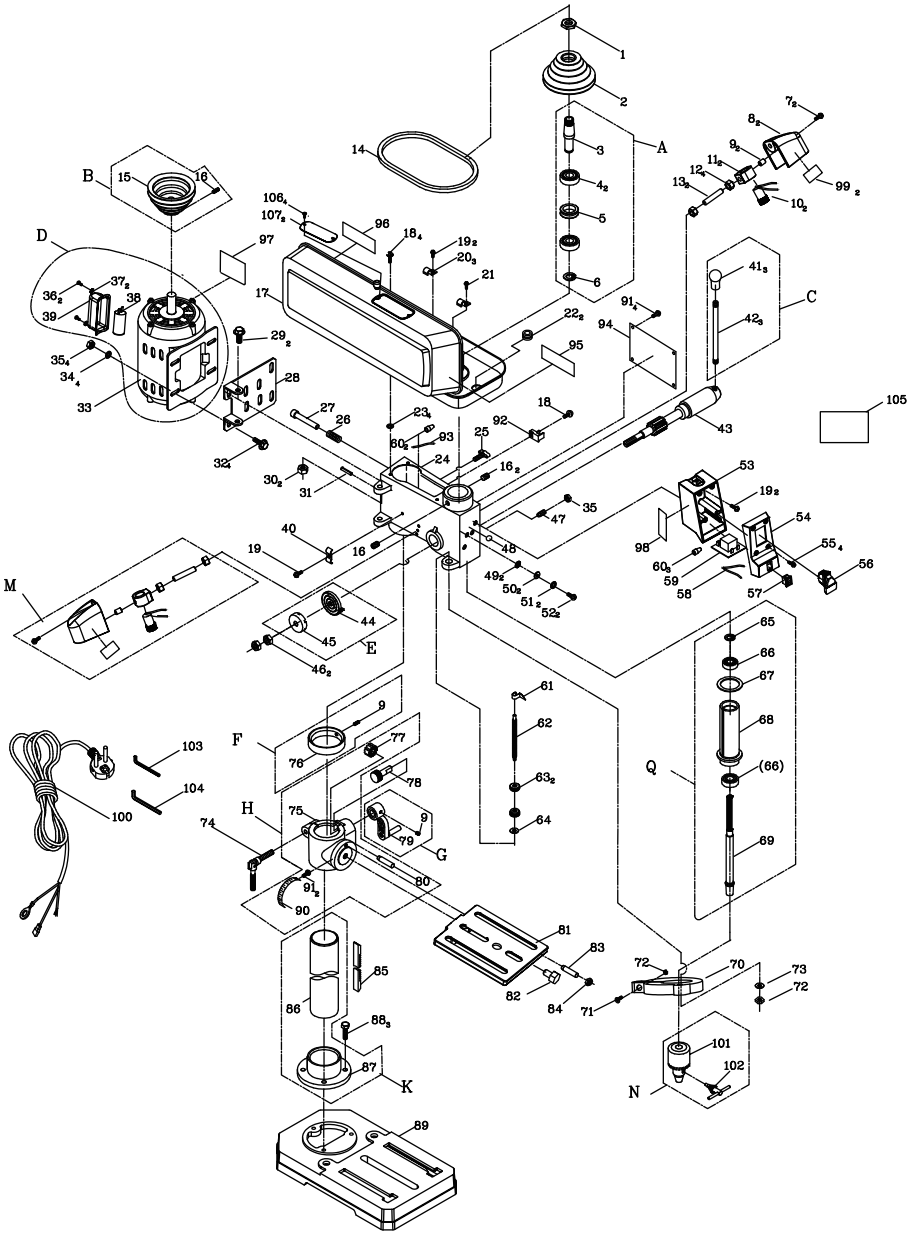
To avoid injury from an accidental start, turn the switch OFF and unplug the tool before moving, or making adjustments.

• Consult your Sears Service Center if for any reason the motor will not run.

PROBLEM	PROBLEM CAUSE	SUGGESTED CORRECTIVE ACTION
Noisy operation	1. Incorrect belt tension. 2. Dry spindle. 3. Loose spindle pulley. 4. Loose motor pulley.	1. Adjust tension. See section "ASSEMB LYTENSIONING BELT" 2. Lubricate spindle. See Section "LUBRICATION". 3. Check tightenness of retaining nut on pulley, and tighten if necessary. 4. Tighten set screw in motor pulley.
Drill bit burn.	1. Incorrect speed. 2. Chips not coming out of hole. 3. Dull drill bit. 4. Feeding too slowly. 5. Not lubricated.	1. Change speed. See Section " BASIC DRILL PRESS OPERATION SPEEDS AND BELT REPLACEMENT" 2. Retract drill frequently to clear chips. 3. Resharpen drill bit or replace with new bit. 4. Feed fast enough – allow drill to cut. 5. Lubricate drill. See Section "BASIC DRILL PRESS OPERATION-FEEDING"
Run out of drill bit pointdrilled hole not round.	1. Hand grain in wood or lengths of cutting utes and/ or angles not equal. 2. Bent drill bit.	1. Resharpen drill bit correctly. 2. Replace drill bit.
Wood splinters on underside.	1. No backup material under workpiece.	1. Use backup material. See Section "BASIC DRILL PRESS OPERATION".
Workpiece torn loose from hand.	1. Not supported or clamped properly.	1. Support workpiece or clamp it. See Section "BASIC DRILL PRESS OPERATION".
Drill bit binds in workpiece.	1. Workpiece pinching drill bit, or excessive feed presure. 2. Improper belt tension.	1. Support workpiece or clamp it. See Section "BASIC DRILL PRESS OPERATION". 2. Adjust tension. See Section" ASSEMBLY – TENSIONING BELT"

PROBLEM	PROBLEM CAUSE	SUGGESTED CORRECTIVE ACTION
Excessive drill bit runout or wobble.	1. Bent drill bit. 2. Worn bearings. 3. Drill bit not properly installed in chuck. 4. Chuck not properly installed.	1. Use a straight drill bit. 2. Replace bearings. 3. Install drill properly. See Section "BASIC DRILL PRESS OPERATION" and "ASSEMBLY". 4. Install chuck properly. See Section "ASSEMBLY –INSTALLING THE CHUCK".
Quill returns too slow or too fast.	1. Coil spring has improper tension.	1. Adjust spring tension. See Section " ASSEMBLY – ADJUSTMENTS –QUILL RETURN SPRING".
Chuck will not stay attached to spindle. It falls off when trying to install.	1. Dirt, grease, or oil on the tapered inside surface of chuck or on the spindle's tapered surface.	1. Using a non-alcohol based cleaner, clean the tapered surface of the chuck and spindle to remove all dirt, grease and oil. See Section "ASSEMBLY – INSTALLING THE CHUCK".

EXPLONED VIEW



ID	Description	Size	Qity	ID	Description	Size	Qity
1	PULLEY SET NUT		1	30	NUT	M8	2
2	SPINDLE PULLEY		1	31	SPRING PIN	4*18	1
3	DRIVE SLEEVE		1	32	HEX SCREW	M8*16	4
4	BALL BEARING		2	33	MOTOR 1/2HP		1
5	RETAINER	φ39 * 10	1	34	FLAT WASHER	φ8	4
6	CIRCLIP FOR SHAFT		1	35	HEX NUT	M8	5
7	CR. RE. COUNT HD. SCREW	M6X12	2	36	CR. RE. COUNT HD. SCREW	M4*6	2
8	LASER COVER		2	37	FLAT WASHER	φ4	2
9	HEX SCREW	M6X10	4	38	CAPACITOR		1
10	LASER	SCM13*22L5	2	39	CAPACITOR BOX		1
11	LASER BASE		2	40	POWER CORD FIXED BLOCK		1
12	HEX NUT	M6	4	41	HANDLE KNOB		3
13	HEX. SOC. SET SCREW	M6X25	2	42	HANDLE BAR		3
14	V-BELT		1	43	FEED SHAFT		1
15	MOTOR PULLEY		1	44	SPRING		1
16	HEX. SOC. SET SCREW	M8*8	4	45	SPRING CAP		1
17	PULLEY COVER ASSEMBLY		1	46	HEX NUT	3/8*24UNF	2
18	CR. RE. COUNT HD. SCREW	M6*12	5	47	QUILL SET NUT	M8*14	1
19	CR. RE. COUNT HD. SCREW	M5*12	5	48	EARTH MARK		1
20	CLAMP-CORD		3	49	STAR WASHER	φ5	2
21	CR. RE. COUNT HD. SCREW	M5*8	1	50	FLAT WASHER	φ5	2
22	RUBBER SLEEVE	φ20	2	51	SPRING WASHER	φ5	2
23	BUSHING		4	52	PHILIPS SCREW	M5*10	2
24	HEAD		1	53	SWITCH BOX BOARD		1
25	SHIFTER BOLT		1	54	SWITCH BOX COVER		1
26	COMPRESSION SPRING		1	55	PHILIPS SCREW	S4.2*20	4
27	MOTOR RAD ASS'Y		1	56	LOCK SWITCH		1
28	MOTOR BOARD		1	57	LASER SWITCH		1
29	HEX SCREW	M8X25	2	58	LASER SWITCH CONNECTING WIRE		1
30	NUT	M8	2	59	PCB		1
31	SPRING PIN	4*18	1	60	TERMINAL	φ4	5

ID	Description	Size	Qity	ID	Description	Size	Qity
61	POINTER		1	91	LABEL RIVET	φ2.3-5	6
62	SET BOLT		1	92	CHUCK KEY HOLDER		1
63	NUT	M10	2	93	LASER LAMP CONNECTING WIRE		1
64	FLAT WASHER	φ6	1	94	WARNING LABEL		1
65	CIRCLIP FOR SHAFT		1	95	DATA LABEL		1
66	BALL BEARING		2	96	SPEED LABEL		1
67	RUBBER WASHER		1	97	MOTOR LABEL		1
68	QUILL		1	98	DEPTH SCALE		1
69	SPINDLE		1	99	LASER WARING LABEL		2
70	DEPTH SCALE BASE		1	100	POWER CORD		1
71	HEX SOCKET SCREW	M6*20	1	101	CHUCK		1
72	HEX NUT	M6	2	102	CHUCK KEY		1
73	FLAT WASHER	Φ6	1	103	HEX WRENCH	3*57	1
74	TABLE LOCK HANDLE		1	104	HEX WRENCH	K4*64	1
75	TABLE BRACKET		1	105	MANUAL		1
76	RACK RING		1	106	PHILIPS SCREW	M4	4
77	INNER GEAR		1	107	TRANSPARENT SHEET		2
78	ROD		1	A	DRIVE SLEEVE ASS'Y		1
79	CRANK HANDLE		1	B	MOTOR PULLEY		1
80	INNER SHAFT		1	C	HANDLE BAR ASS'Y		3
81	WORK TABLE		1	D	MOTOR ASS'Y		1
82	HEX BOLT		1	E	SPRING CAP ASS'Y		1
83	POSITIONING PIN		1	F	RACK RING ASS'Y		1
84	HEX NUT		1	G	CRANK HANDLE ASS'Y		1
85	RACK		1	H	TABLE BRACKET ASS'Y		1
86	COLUMN		1	K	COLUMN ASS'Y		1
87	COLUMN BASE		1	M	LASER ASS'Y		2
88	HEX SCREW	M8*25	3	N	CHUCK & KEY		1
89	BASE		1	Q	QUILL ASS'Y		1
90	ANGLE SCALE		1				

ONE-YEAR LIMITED WARRANTY

Having Problems ?
Give us a chance to help you before returning this product

Email : info@toolots.com

After the phone: (844) 866-5687

TOUGH-WORKS®