



MODEL CX614

14" DRILL PRESS

USER MANUAL



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GENERAL SAFETY INSTRUCTIONS FOR MACHINES

Extreme caution should be used when operating all power tools. Know your power tool, be familiar with its operation, read through the user manual, and practice safe usage procedures at all times.

- ❖ **ALWAYS** read and understand the user manual before operating the machine.
- ❖ **CONNECT** your machine **ONLY** to the matched and specific power source.
- ❖ **ALWAYS** wear safety glasses respirators, hearing protection and safety shoes, when operating your machine.
- ❖ **DO NOT** wear loose clothing or jewelry when operating your machine. Wear protective hair covering.
- ❖ **A SAFE ENVIRONMENT** is important. Keep the area free of dust, dirt and other debris in the immediate vicinity of your machine.
- ❖ **BE ALERT! DO NOT** use prescription or other drugs that may affect your ability or judgment to safely use your machine.
- ❖ **DISCONNECT** the power source when changing drill bits, hollow chisels, router bits, shaper heads, blades, knives or making other adjustments or repairs.
- ❖ **NEVER** leave a tool unattended while it is in operation.
- ❖ **NEVER** allow unsupervised or untrained person to operate the machine.
- ❖ **NEVER** reach over the table when the tool is in operation.
- ❖ **ALWAYS** keep blades, knives and bits sharpened and properly aligned.
- ❖ **ALL OPERATIONS MUST BE** performed with the guards in place to ensure safety.
- ❖ **ALWAYS** use push sticks and feather boards to safely feed your work through the machine.
- ❖ **ALWAYS** make sure that any tools used for adjustments are removed before operating the machine.
- ❖ **ALWAYS** keep bystanders safely away while the machine is in operation.
- ❖ **NEVER** attempt to remove jammed cutoff pieces until the blade has come to a full stop.

CX614 – 14" DRILL PRESS

SPECIFIC SAFETY INSTRUCTIONS

- ❖ **READ AND UNDERSTAND** the user manual before operating the CX614.
- ❖ **ALWAYS WEAR** safety glasses for the protection of your eyes while operating this machine.
- ❖ **WEAR PROPER APPAREL.** Loose clothing, gloves neckties, rings, bracelets, or other jewelry may get caught in moving parts of the machine. Wear protective hair covering to contain long hair. Do not wear gloves and keep your fingers and hair away from rotating parts.
- ❖ **KEEP GUARDS** in place. Safe guards must be kept in place and in working order. Do not operate the drill press unless the chuck guard is in its position, guarding the chuck.
- ❖ **MAKE SURE** the work-piece is properly clamped to the table before operating the machine. Never hold the work-piece by hand when using the mill.
- ❖ **MAKE SURE** the cutting tool is sharp, not damaged and properly secured in the chuck before you start the machine.
- ❖ **NEVER** turn the power ON with the cutting tool contacting the work-piece.
- ❖ **SELECT THE PROPER SPINDLE SPEED** for the type of work and material you are cutting. Let the spindle reach to its full speed before beginning a cut.
- ❖ **DO NOT FORCE THE TOOL.** Always use the machine at the rate for which it is designed. Do not force the machine doing a job for which it is not designed.
- ❖ **NEVER LEAVE** the machine unattended while it is running.
- ❖ **ALWAYS** turn off the power before removing scrap pieces and cleaning the machine.
- ❖ **SHOULD ANY PART** of your tool be missing, damaged or fail in any way, shut off the machine immediately and remove the plug from power source. Replace any damaged or missing parts before resuming operation.
- ❖ **MAKE SURE** before installing and removing any parts, servicing, cleaning or making any adjustments, the switch is in the "OFF" position and the cord is unplugged from the power source.
- ❖ **BEFORE OPERATING** your drill press make sure you have read and understood all the safety instructions in the manual and you are familiar with your machine. If you fail to do so, serious injury could occur.

WARNING!

The safety instructions given above can not be complete because the environment in every shop is different. Always consider safety first as it applies to your individual working conditions.



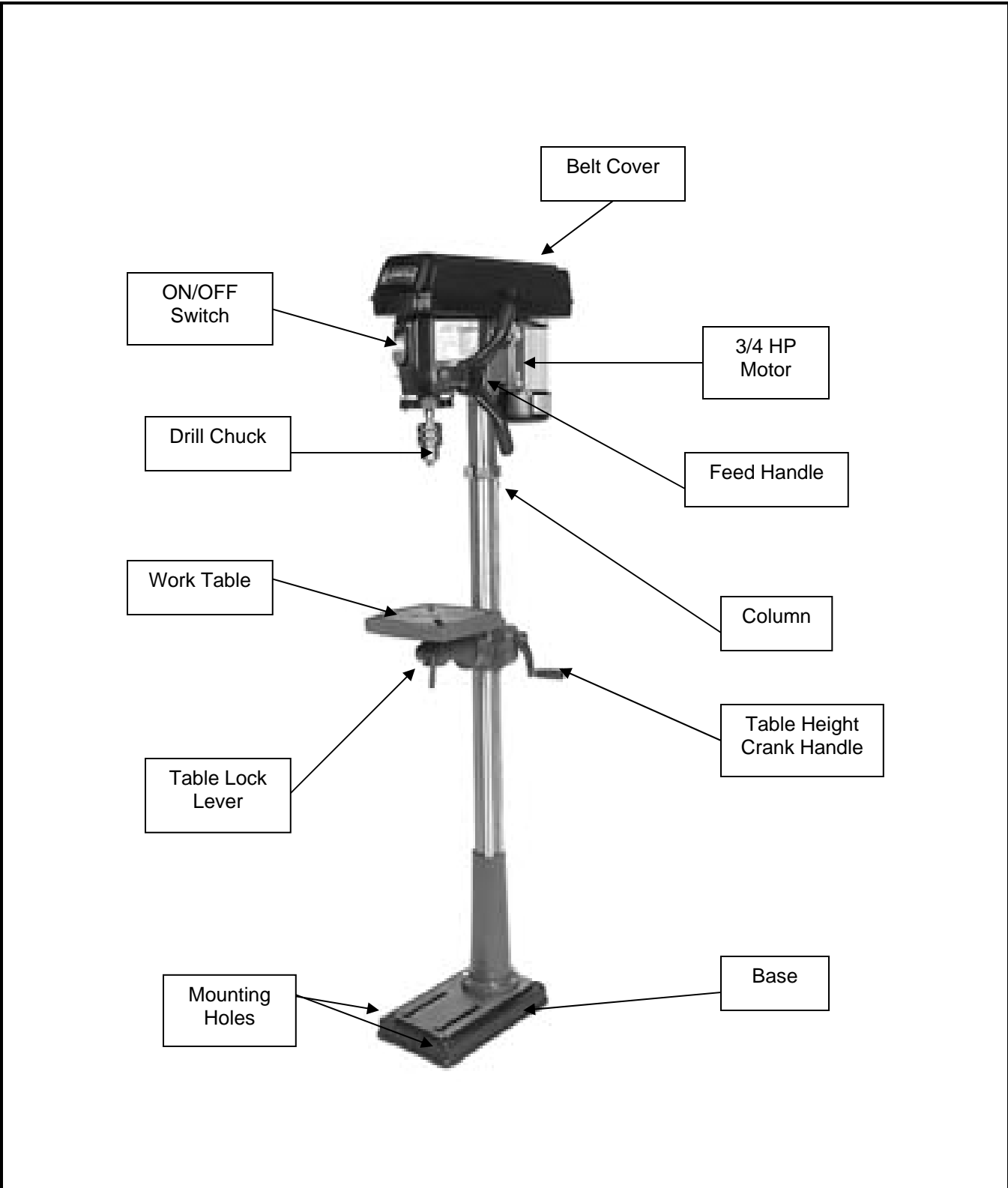
CX614 – 14" Drill Press FEATURES

MODEL CX614 – 14" DRILL PRESS

As part of the growing line of Craftex metalworking equipment, we are proud to offer the CX614, a 14" Drill Press. By following the instructions and procedures laid out in this user manual, you will receive years of excellent service and satisfaction. The CX614 is a professional tool and like all power tools, proper care and safety procedures should be adhered to.

- ⊞ Motor 3/4 HP
- ⊞ Size 14"
- ⊞ Chuck 5/8"
- ⊞ Spindle MT2
- ⊞ Spindle Travel..... 3-1/2"
- ⊞ Quill 66mm
- ⊞ Table Size..... 11-1/4" x 11-1/4"
- ⊞ Speeds 12
- ⊞ Height 64"
- ⊞ Weight (Approx)..... 67 Kg
- ⊞ Carton Size..... 20" x 10" x 56"
- ⊞ Warranty 3 Years

CX614 - 14" DRILL PRESS PHYSICAL FEATURES



PROPER GROUNDING

Grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

CX614 is for use on a normal 110 volt circuit. Make sure that the machine is connected to an outlet having the same configuration as the plug. If an adaptor plug is used, it must be attached to the metal screw of the receptacle. To prevent electrical hazards, have a qualified electrician ensure that the line is properly wired.

The drill press should be wired with a plug having 3 prongs to fit a 3 prong grounded receptacle as shown in figure-1. Do not remove the grounding prong to fit it into a 2 pronged outlet.

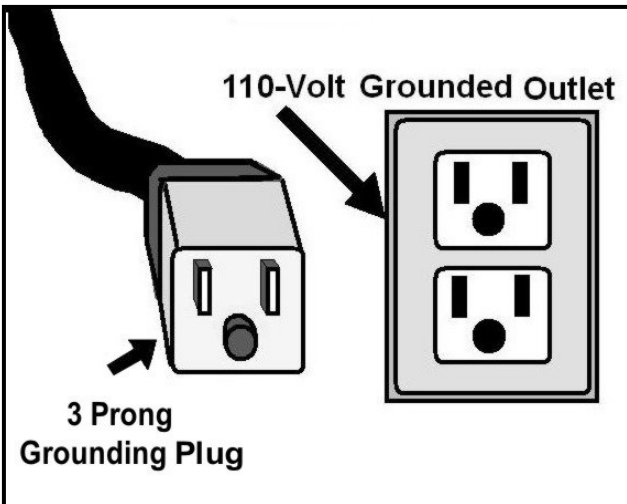


Figure-1 110-Volts outlet for CX614

WARNING!

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.

It is strongly recommended not to use extension cords with your CX614. Always try to position your machine close to the power source so that you do not need to use extension cords.

If you really find it necessary to use an extension cord, make sure the extension cord does not exceed 50-feet in length and the cord is 14-gauge to prevent motor damage.

SETUP

Before setting up your machine you should read and understand the instructions given in this manual.

The unpainted surfaces of this machine are coated with a rust preventive waxy oil and you will want to remove this before starting assembly. Use a solvent cleaner that will not damage painted surfaces.

WARNING!

CX614 is a heavy machine, do not over-exert yourself. Use a fork truck or get the help of an assistant for safe moving.

UNPACKING

To ensure safe transportation this machine is properly packaged and shipped completely in a crate. When unpacking, carefully inspect the crate and ensure that nothing has been damaged during transit.

While doing inventory, if you can not find any part, check if the part is already installed on the machine. Some of the parts come assembled with the machine for the shipping purposes.

ASSEMBLY

BASE TO COLUMN

Select the base and the drill press column from the loose parts. Select the four M10 - 1.5 x 25 hex bolts from the parts bag. Align the holes of the post flange to the threaded holes in the base. Insert the bolts and tighten securely.

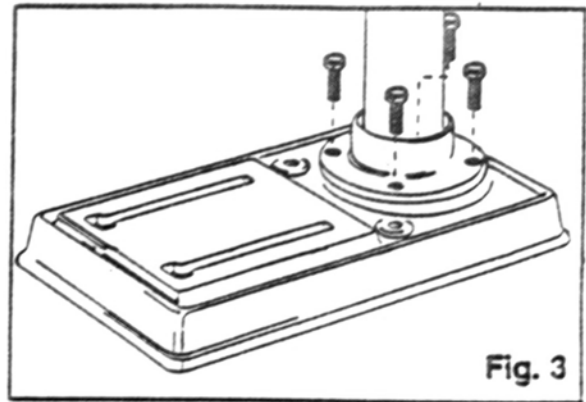
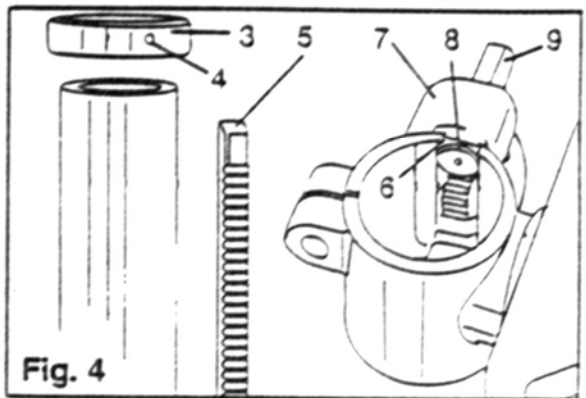


TABLE TO COLUMN

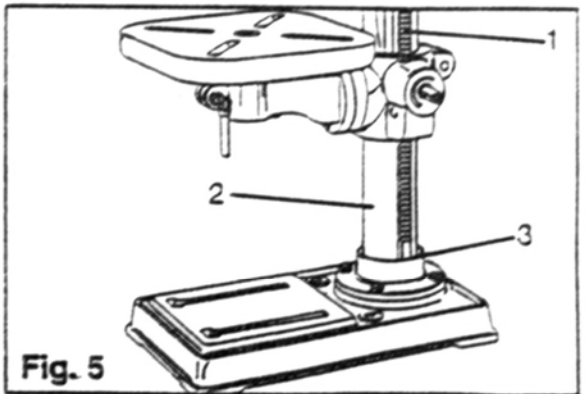
Remove the ring (3) by loosening the set-screw (4).

Remove the rack (5) from the column. Check that the worm gear (8) is properly seated inside the table bracket (7) and it comes in contact with the gears. The handle shaft (9) should extend out of the housing by about 1".



Insert the rack (5) into the geared groove (6) of the table bracket (7). The table bracket should sit at the center section of the rack.

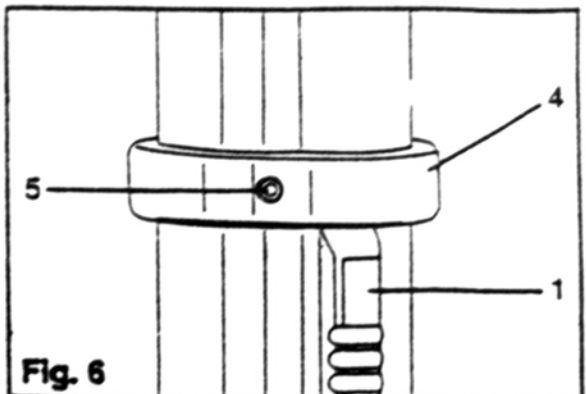
Slip the table bracket and rack (1) carefully onto the column (2). Insert the bottom of the rack into the slot (3) at the base of the column.



Hold the bracket and rack against the column and slip the rack ring (4) onto the column.

The rack (1) fits under the rack ring (4). Make sure there is enough clearance between the rack and the ring to allow the table to rotate around the column.

Tighten the set-screw (5) to hold the ring in position.



Attach the elevation handle by tightening the set-screw (2)

Thread the column lock into the table bracket (1).

Rotate the table and position it directly over and in line with the base.

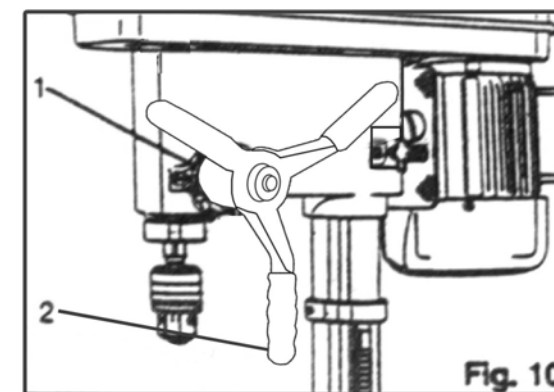
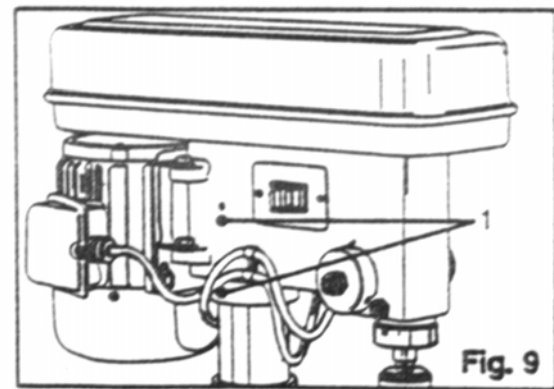
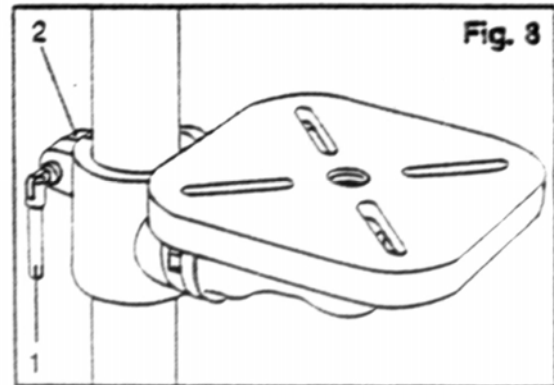
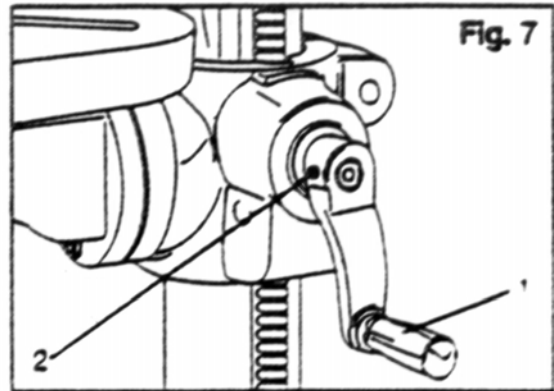
DRILL PRESS HEAD TO COLUMN

Lift the drill press head carefully and position it above the column. NOTE: this will require the help of a second person.

The column fits into the drill press mounting hole. Make certain the mounting hole is properly seated on the column. Line the drill press head up with the table and base and then tighten the two set-screws using the supplied hex wrench.

FEED HANDLE

Fit the one-piece cast-iron feed handle onto the shaft.



PULLEY COVER

Insert washer and screw through the hole in the pulley cover, thread the knob onto the screw and then tighten.

INSTALLING THE ARBOR AND CHUCK

Slide the long end of the arbor (1) into the spindle (2) as far as it will go.
Slide the chuck (3) onto the arbor and then place a block of wood under the chuck and tap the chuck and arbor with a hammer until it seats into the spindle.

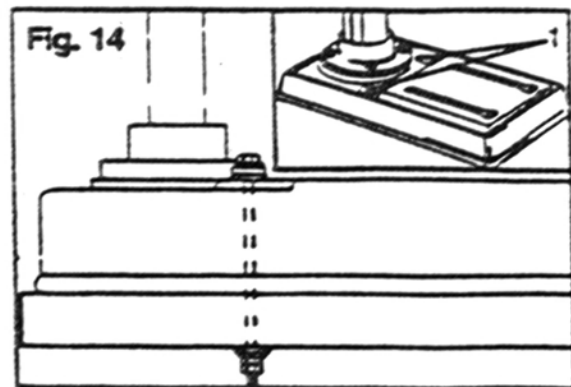
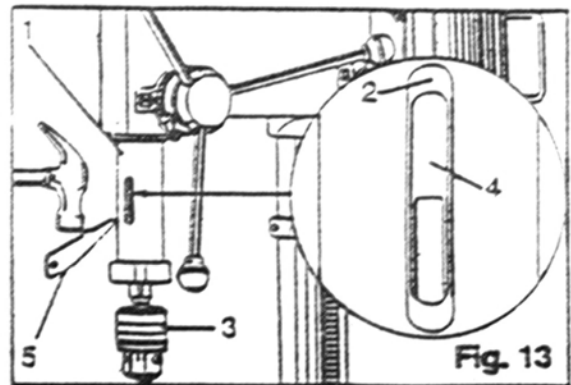
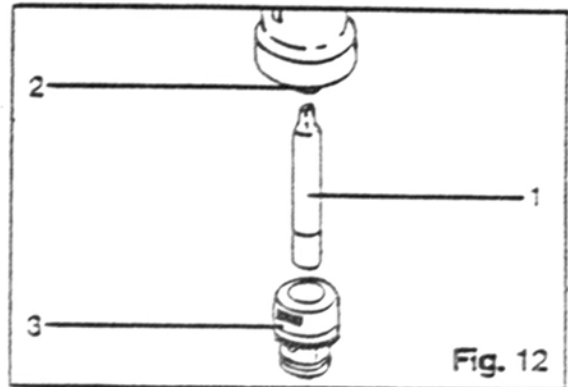
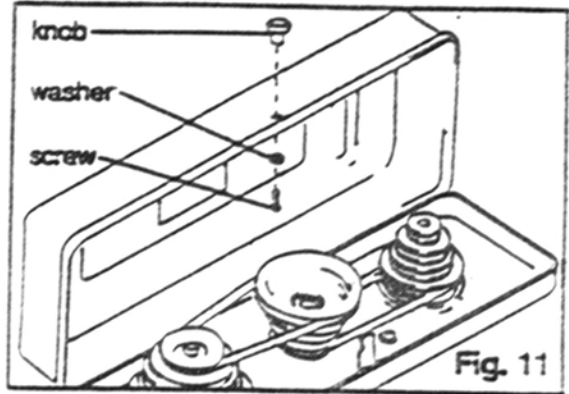
DO NOT STRIKE THE CHUCK DIRECTLY WITH A STEEL HAMMER.

REMOVING THE CHUCK

Lower the chuck to its lowest position exposing the spindle sleeve (1).
The spindle sleeve has a large oval hole (2) on both sides of it.
Rotate the chuck (3) until the spindle hole (4) lines up with the hole in the spindle sleeve.
Insert the wedge (5) and tap the wedge lightly with a hammer.
The arbor and the chuck will release from the spindle.

MOUNTING THE DRILL PRESS

Your drill press must be securely fastened to the floor to prevent the machine from tipping, sliding or walking during operation. There are four base holes provided for this.



ADJUSTMENTS

CHANGING SPINDLE SPEEDS

Disconnect the drill press from the power source.

Open the pulley cover.

Loosen the slide bar knob (1).

Move the motor to the front by using shifter bar to loosen the tension on both belts.

Relocate the belts to the pulley steps appropriate to the required spindle speed (2).

To tighten the belt tension, move the motor by using the shifter bar toward the rear of the drill press.

Tighten the slide bar knobs (1).

Check the belts for proper tension.

Close the pulley cover.

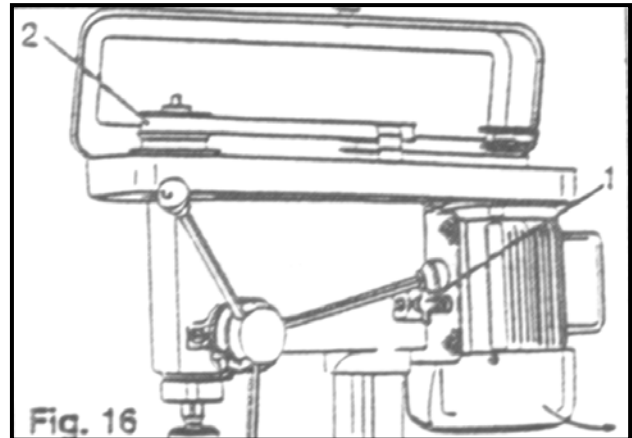


TABLE ADJUSTMENTS

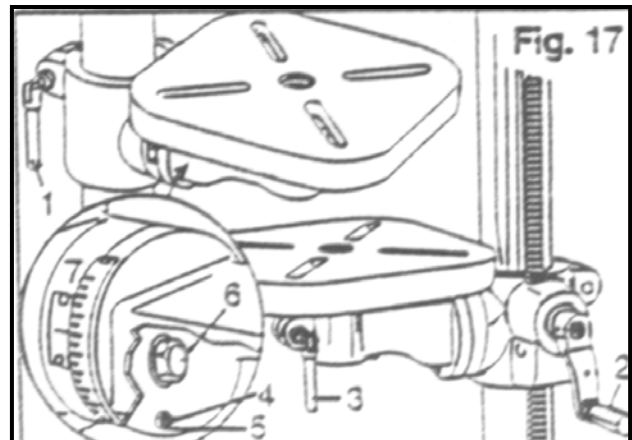
Raise or lower the drill press table by loosening the column lock lever (1) and turning the rack and pinion handle (2) to the desired elevation. Securely tighten the column lock before using the drill press.

To rotate the table around the post, loosen the column lock lever. Secure the column lock before operating the tool.

To rotate the table only, loosen the table lock (3). Do not operate the drill press without tightening the table lock lever.

To tilt the table from 0 degrees to 45 degrees left or right, remove the pin (4) and nut (5). If the pin sticks, rotate the nut (5) clockwise until the pin slips out. Loosen the table locking bolt (6), tilt the table to the desired angle and tighten the bolt (6).

When returning the table to 0 degrees, replace the pin (4) and tighten bolts (5) and (6).



DRILLING DEPTH

Your drill press has been equipped with a new type depth adjustment. To set the depth stop, loosen the depth locking nuts and rotate them to the desired depth as indicated on the scale.

SPINDLE RETURN SPRING

The spindle is equipped with an auto-return mechanism. The main components of which are a spring and a notched chrome housing. The spring was properly adjusted at the factory and should not be readjusted unless absolutely necessary. If required, proceed as follows:

Disconnect the cord from the power source.

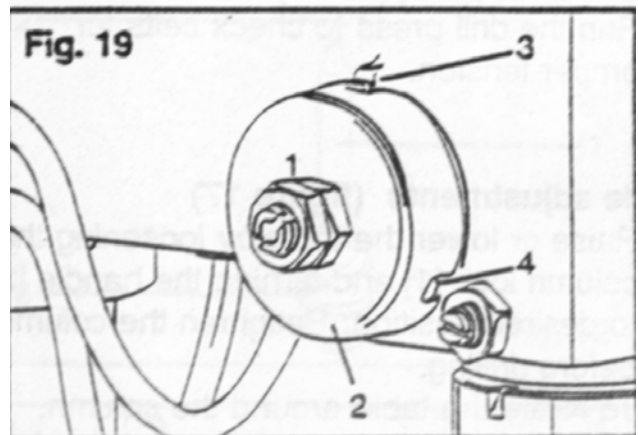
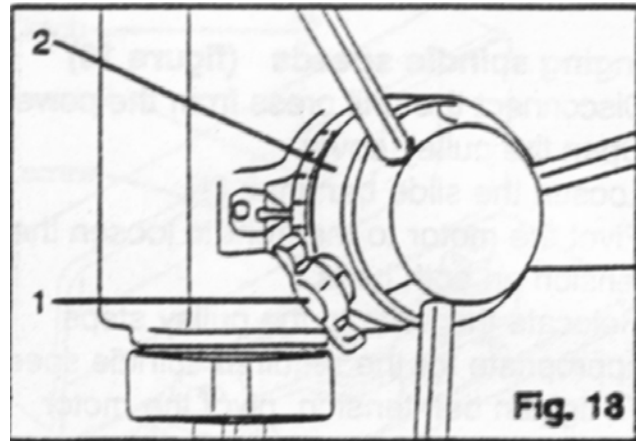
Loosen the two housing nuts (1) approximately 1/4".

Firmly hold the spring housing (2) and pull it out so it clears the raised notch (3).

Turn it until the next notch is engaged with the boss. To increase the tension, turn it clockwise and counter-clockwise to decrease the tension.

Tighten the two nuts.

Do not over-tighten the nuts, as it will make the spindle handle sluggish.



OPERATION

DRILLING SPEEDS

The following is intended to be a general rule-of-thumb, not specific information. Important drilling speed factors are the type of material, hole size, the type of drill bit/cutter and the desired cut quality. The smaller the drill bit, the higher the speed required and soft materials generally require a higher speed while hard materials a slower speed.

METALWORKING

A metal work-piece (like all work) should be firmly clamped to the drill press table and the table securely locked. NEVER hold the work-piece with your bare hands. The drill bit may grab and cause serious personal injury.

Flat metal pieces should be backed with scrap wood and clamped.

Irregular-shaped pieces should be blocked and clamped.

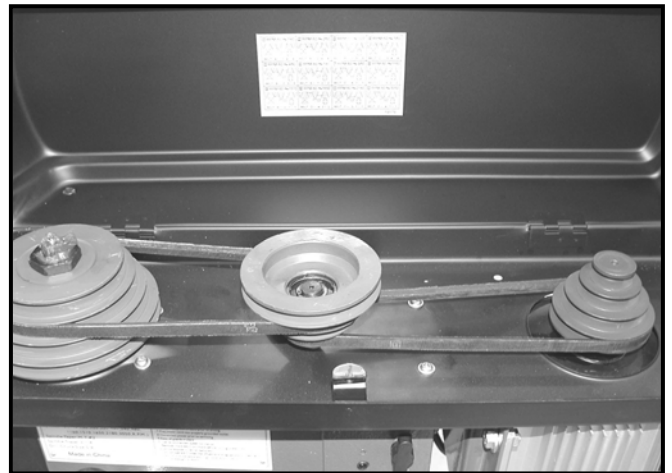
WOODWORKING

Metal-piercing twist drills may be used on wood but the preferred choice is brad-point bits or Forstner-type bits. Do not use auger bits, as they will tend to lift off the table. To prevent tear-out when drilling through a work-piece, back it with a piece of scrap wood.

FEEDING

Be aware of the sound of the drill press motor when drilling.

Do not rotate the feed handles too quickly as the belts may slip or the motor may stall. Feeding too slowly may cause the drill bit to heat up and possibly burn the work-piece.



LASER OPERATION

CAUTION!

The laser light may seriously harm your eyes if the beam is aimed directly at them.

The CX614 drill press is equipped with a laser to assist in accurate drilling in single or repetitive drilling operations.

The laser projector is located under the drill press head, just behind the shaft and chuck.

The laser projects an 'X' onto the drill press table and the projector itself may be moved like a joystick. This may be re-aimed.

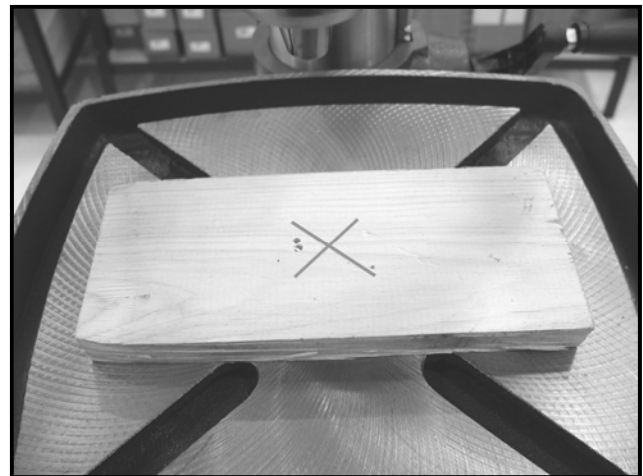
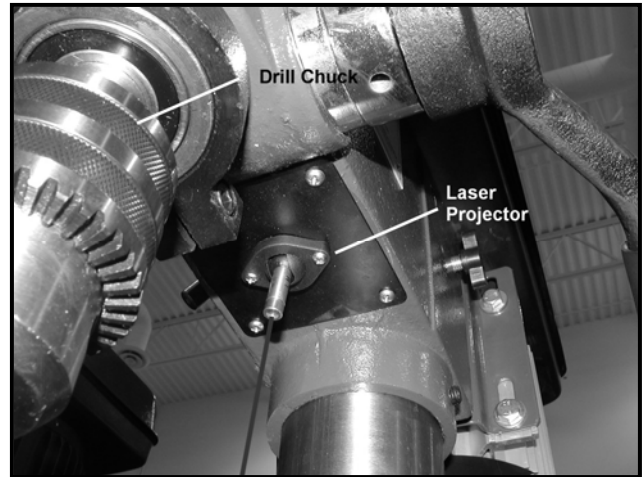
The best way of correctly aiming the laser beam is to install the drill bit you intend to use into the chuck.

Use a piece of scrap wood on the drill press table.

Lower the drill bit so that it touches the scrap wood.

Aim the laser so that the center of the "X" is intersected by drill bit. If the drill bit interferes with the laser beam, press the point of the bit into the scrap and that mark should be in the center of the "X".

As long as the drill press table remains in that position the laser beam will remain as the target.



MAINTENANCE

During the life of your machine, you will need to practice some regular maintenance to keep your machine in peak performance condition.

WARNING!

Make sure the main power switch is OFF and the cord is disconnected from the power source, before making any adjustments, lubricating or servicing. Failure to do so could result in serious personal injury or even death.

1. Check the machine everyday before operation for; worn or damaged cord, wire, loose nuts and bolts and make sure all the safety devices are working properly.
2. Treat your machine with care, keep it clean and grease and lubricate it regularly. Only through good care you can be sure that the working quality of the machine will remain constant.
3. Although machines such as this drill press are designed to work in wood shops and metal shops, sawdust and metal shavings are not friendly to electrical motors.

4. The owner should routinely (once a month) blow out or vacuum metal shavings and sawdust from the motor cover, the pulley housing, the drill press table and other surfaces.

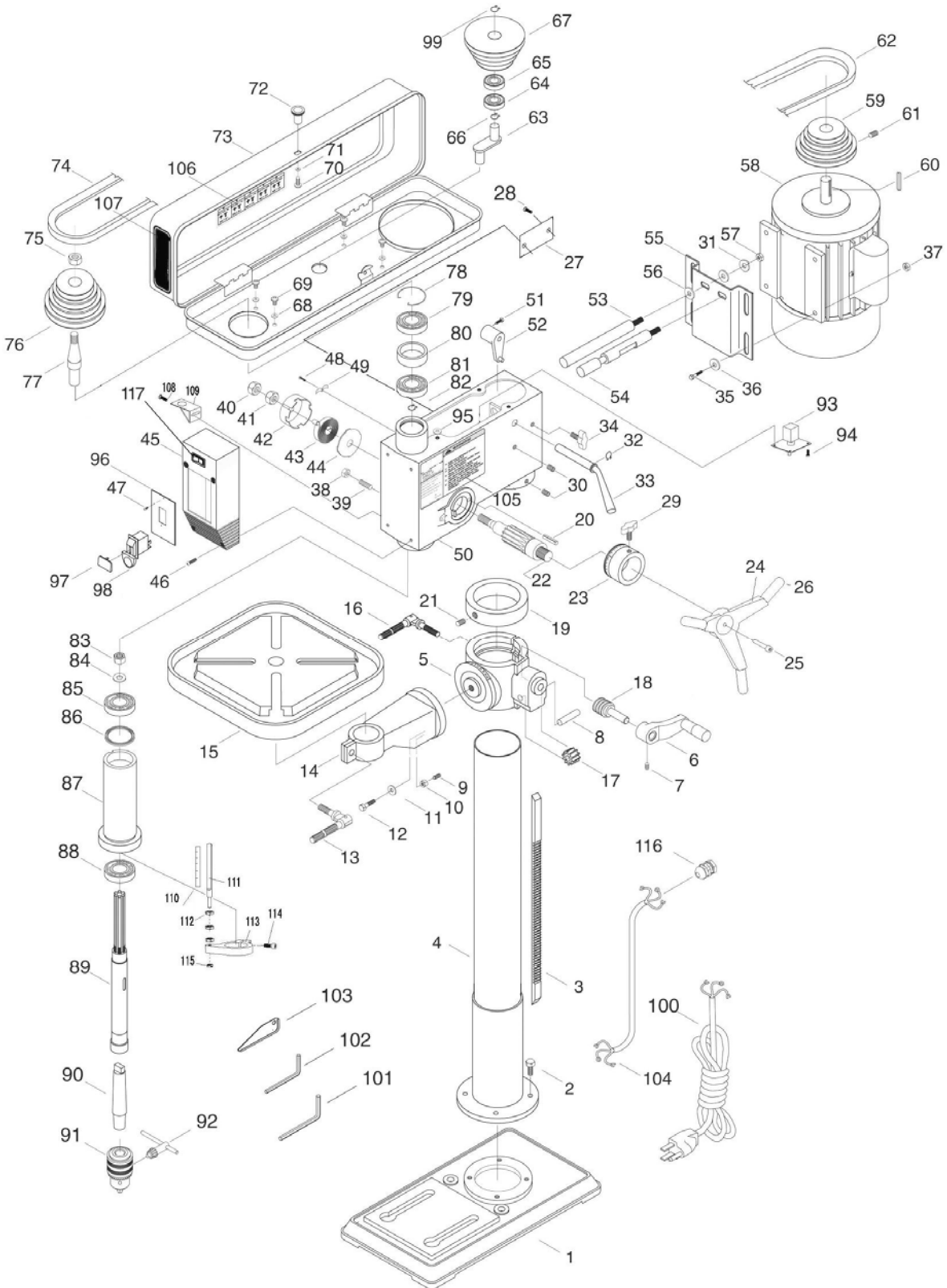
5. The application of a light coat of paste wax on drill press column and the table will help keep these surfaces clean and rust-free.

The bearings in the quill and V-belt assembly are permanently greased and sealed.

A light application of oil to the quill every three months is recommended.

Lubricate other moving parts such as the table swivel, tilt, rack and pinion etc. on a regular basis.

CX614 PARTS DIAGRAM



CX614 PARTS LIST

PART #	DESCRIPTION	QTY	PART #	DESCRIPTION	QTY
001	Base	1	042	Spring cap	1
002	Hex bolt	4	043	Torsion spring	1
003	Rack	1	044	Spring cover	1
004	Column	1	045	Switch box	1
005	Table bracket	1	046	Screw	4
006	Handle	1	047	Screw	2
007	Setscrew	1	048	Screw	1
008	Shaft	1	049	Clamp cord	1
009	Pin	1	050	Body	1
010	Nut	1	051	Hex bolt	1
011	Washer	1	052	Shifter	1
012	Hex bolt	1	053	Slide bar	1
013	Table bolt	1	054	Slide bar	1
014	Table arm bracket	1	055	Motor base	1
015	Table	1	056	Washer	1
016	Clamp bolt	1	057	Nut	2
017	Gear	1	058	Motor	1
018	Worm gear	1	059	Motor pulley	1
019	Rack ring	1	060	Key	1
020	Pin stop	1	061	Setscrew	1
021	Set screw	1	062	V-belt	1
022	Feed shaft	1	063	Center shaft	1
023	Depth ring	1	064	Ball bearing	1
024	Handle	1	065	Ball bearing	1
025	Bolt	1	066	C-clip	1
026	Handle cap	3	067	Center pulley	1
027	Plate	1	068	Washer	4
028	Bolt	2	069	Screw	4
029	Slide bar bolt	1	070	Screw	1
030	Setscrew	2	071	Washer	1
031	Lock washer	2	072	Knob	1
032	C-clip	1	073	Pulley cover	1
033	Shift bar	1	074	V-belt	1
034	Slide bar bolt	2	075	Pulley nut	1
035	Hex bolt	4	076	Spindle pulley	1
036	Washer	4	077	Insert pulley	1
037	Nut	4	078	C-clip	1
038	Nut	1	079	Ball bearing	1
039	Screw special set	1	080	Spacer	1
040	Nut	1	081	Ball bearing	1
041	Nut	1	082	C-clip	1

PART #	DESCRIPTION	QTY	PART #	DESCRIPTION	QTY
083	Round nut	1	101	Wrench	1
084	Washer	1	102	Wrench	1
085	Ball bearing	1	103	Wedge	1
086	Rubber washer	1	104	Motor cord	1
087	Spindle sleeve	1	105	Label	1
088	Ball bearing	1	106	Speed label	1
089	Spindle	1	107	Brand label	1
090	Arbor	1	108	Bolt	2
091	Chuck	1	109	Support plate	1
092	Chuck key	1	110	Scale	1
093	Laser	1	111	Scale base	1
094	Bolt	2	112	Nut	2
095	Washer	4	113	Block	1
096	Switch base	1	114	Bolt	1
097	Key for switch	1	115	Nut	1
098	Switch	1	116	Wire gasket	1
099	C-clip	1	117	Laser ON/OFF Button	
100	Pin & cable	1			



WARRANTY

CRAFTEX 3 YEARS LIMITED WARRANTY

Crafter warrants every product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers **three years** for parts and 90 days for labor (unless specified otherwise), to the original purchaser from the date of purchase but does not apply to malfunctions arising directly or indirectly from misuse, abuse, improper installation or assembly, negligence, accidents, repairs or alterations or lack of maintenance.

Proof of purchase is necessary.

All warranty claims are subject to inspection of such products or part thereof and Crafter reserves the right to inspect any returned item before a refund or replacement may be issued.

This warranty shall not apply to consumable products such as blades, bits, belts, cutters, chisels, punches etceteras.

Crafter shall in no event be liable for injuries, accidental or otherwise, death to persons or damage to property or for incidental contingent, special, or consequential damages arising from the use of our products.

RETURNS, REPAIRS AND REPLACEMENTS

To return, repair, or replace a Crafter product, you must visit the appropriate Busy Bee Tools showroom or call 1-800-461-BUSY. Crafter is a brand of equipment that is exclusive to Busy Bee Tools.

For replacement parts directly from Busy Bee Tools, for this machine, please call 1-800-461-BUSY (2879), and have your credit card and part number handy.

- All returned merchandise will be subject to a minimum charge of 15% for re-stocking and handling with the following qualifications.
- Returns must be pre-authorized by us in writing.
- We do not accept *collect* shipments.
- Items returned for warranty purposes must be insured and shipped pre-paid to the nearest warehouse
- Returns must be accompanied with a copy of your original invoice as proof of purchase. Returns must be in an un-used condition and shipped in their original packaging a letter explaining your reason for the return. Incurred shipping and handling charges are not refundable.
- Busy Bee will repair or replace the item at our discretion and subject to our inspection.
- Repaired or replaced items will be returned to you pre-paid by our choice of carriers.
- Busy Bee reserves the right to refuse reimbursement or repairs or replacement if a third party without our prior authorization has carried out repairs to the item.
- Repairs made by Busy Bee are warranted for 30 days on parts and labour.
- Any unforeseen repair charges will be reported to you for acceptance prior to making the repairs.
- The Busy Bee Parts & Service Departments are fully equipped to do repairs on all products purchased from us with the exception of some products that require the return to their authorized repair depots. A Busy Bee representative will provide you with the necessary information to have this done.
- For faster service it is advisable to contact the nearest Busy Bee location for parts availability prior to bringing your product in for repairs.