



CX610
1-1/2 HP DRILL PRESS
User Manual



TABLE OF CONTENTS

General Safety Instructions for Machines	3
Specific Safety Instructions	4
CX610 Features.....	5
Physical Features	6
Proper Grounding	7
Setup	8
Un-Packing	8
ASSEMBLY	
Base to Column	9
Table to Column.....	9
Drill Press Head to Column.....	10
Feed Handle	10
Pulley Cover	11
Installing the Arbor and Chuck.....	11
Removing the Chuck.....	11
Mounting the Drill Press.....	11
Installing the Chuck Guard.....	13
ADJUSTMENT	
Changing Spindle Speeds	12
Table Adjustments	12
Spindle Return Spring.....	13
OPERATION	
Drilling Speeds.....	14
Metalworking.....	14
Woodworking	14
Laser Operation	15
Maintenance	16
Parts Diagram.....	17
Parts List.....	18
Warranty	20

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.

CX610 – 1-1/2 HP DRILL PRESS

SPECIFIC SAFETY INSTRUCTIONS

- ❖ **READ AND UNDERSTAND** the user manual before operating the CX610.
- ❖ **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.



CX610 – Drill Press

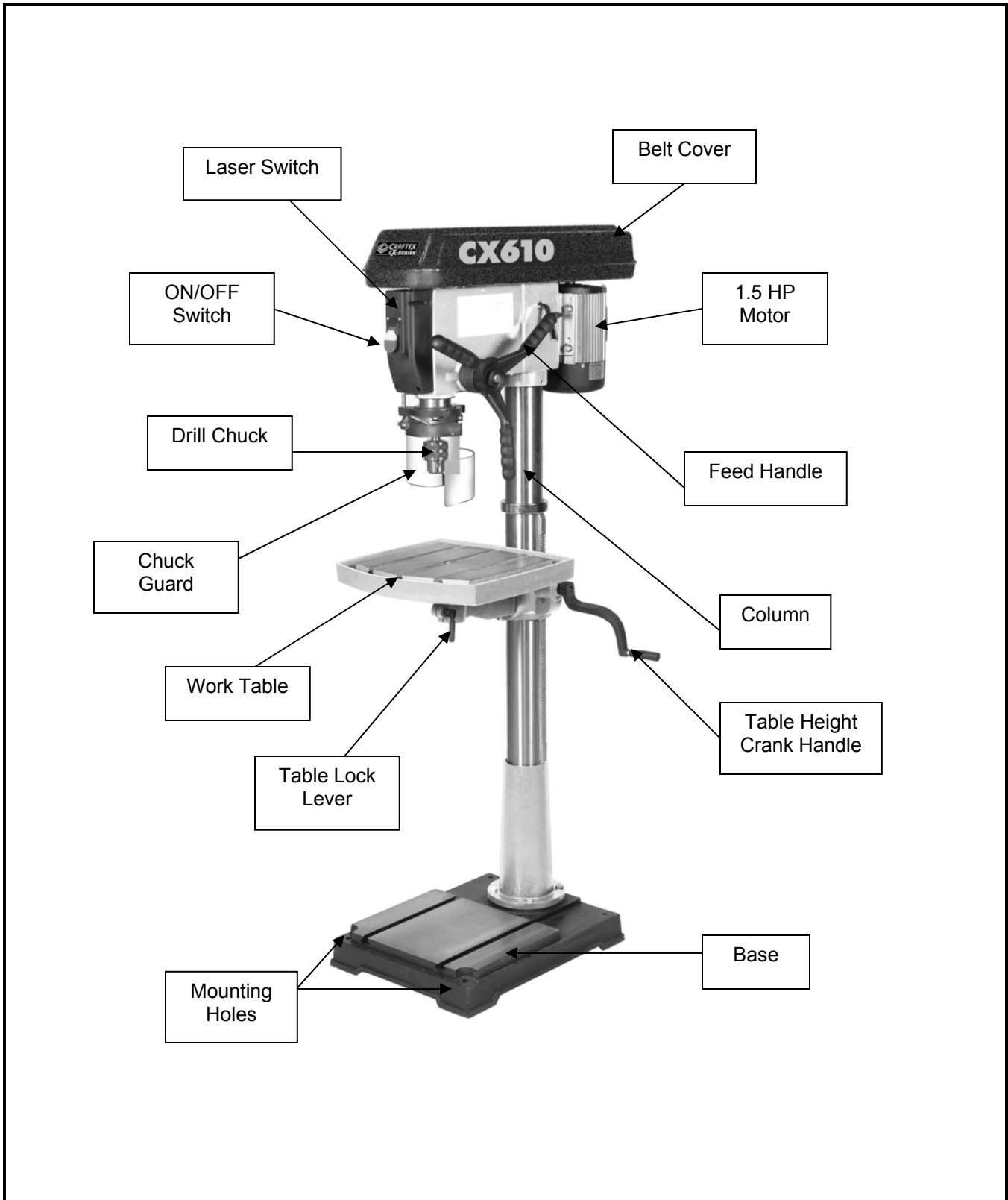
FEATURES

MODEL CX610 – 1-1/2 HP DRILL PRESS

As part of the growing line of Craftex metalworking equipment, we are proud to offer the CX610, a 1-1/2 HP Drill Press. By following the instructions and procedures laid out in this user manual, you will receive years of excellent service and satisfaction. The CX610 is a professional tool and like all power tools, proper care and safety procedures should be adhered to.

- ❖ Motor 1-1/2 HP
- ❖ Size 20"
- ❖ Chuck 5/8"
- ❖ Spindle MT4
- ❖ Spindle Travel..... 4-5/8"
- ❖ Table Size..... 18-3/4" x 16-3/4"
- ❖ Speeds 12
- ❖ Height 67"
- ❖ Weight (Approx)..... 148 Kg
- ❖ Carton Size..... 29" x 13" x 56"
- ❖ Warranty 3-Years

CX610 1-1/2 HP DRILL PRESS PHYSICAL FEATURES



PROPER GROUNDING

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

CX610 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.

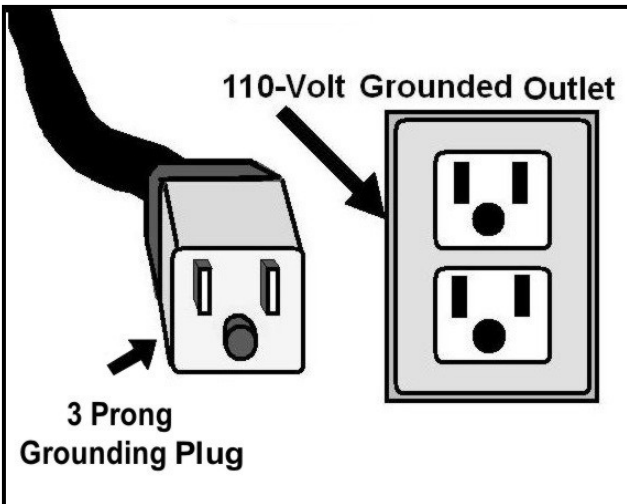


Figure-1 110-Volts outlet for CX610

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 CX610. 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!

CX610 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.

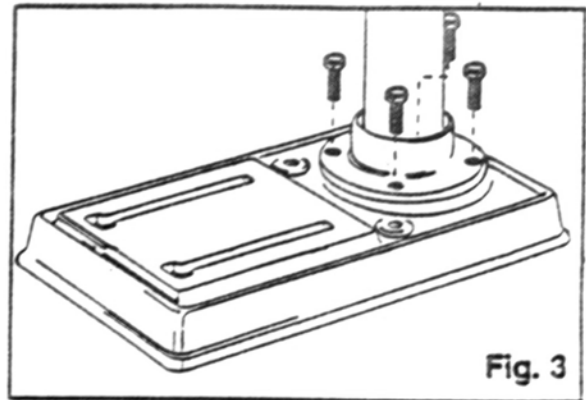


TABLE TO COLUMN

Place the pinion (8) in the table bracket (7) so that the gear teeth mesh together. The handle shaft (9) should extend out of the housing by about 1".

Mark the top of the rack (5) with a marker so that you know which end is up.

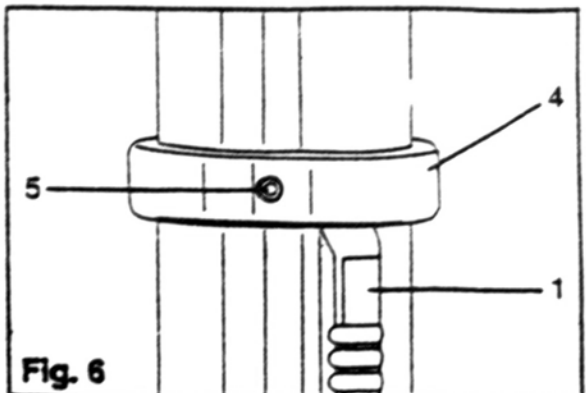
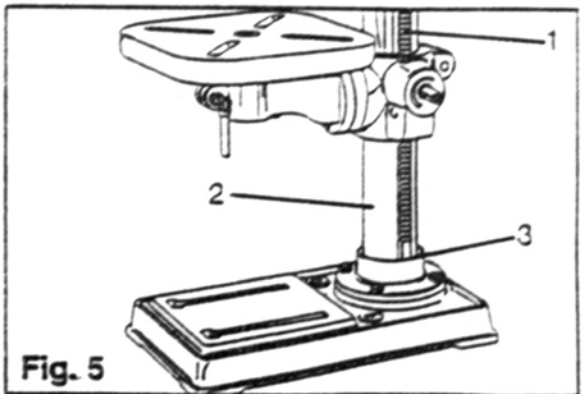
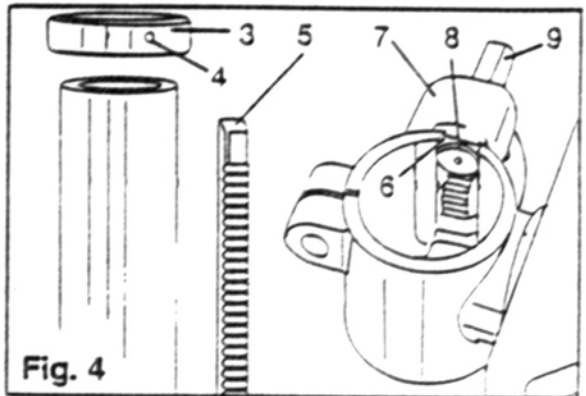
Remove the column ring (3) by loosening the set screw (4), and remove the rack (8). Fig-4.

Place the rack (5) inside the table bracket (7), mesh it together with the pinion (8). Fig-4.

Slide the table bracket over the column (2). Insert the bottom end of the rack (1) into the column (3). Fig-5.

Slide the column ring (4) with its beveled edge facing down, 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. Fig-6.

Tighten the set screw (4) to hold the ring in position, make sure not to over-tighten it. Fig-6.



Attach the crank handle (1) by tightening the set screw (2). Fig-7.

Thread the clamp bolt into the table bracket (1). Fig-8.

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

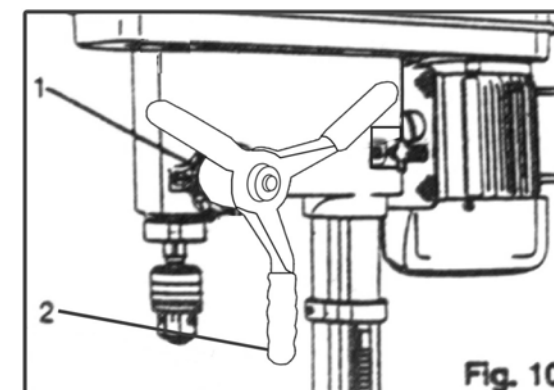
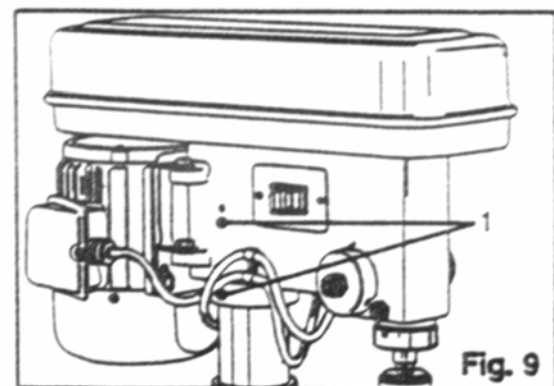
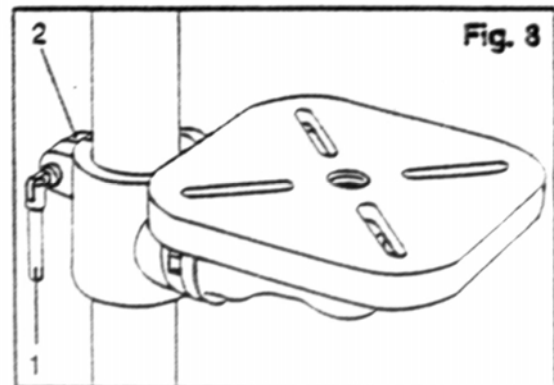
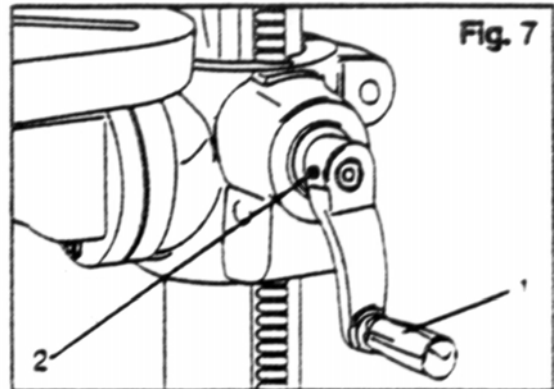
DRILL PRESS HEAD TO COLUMN

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.

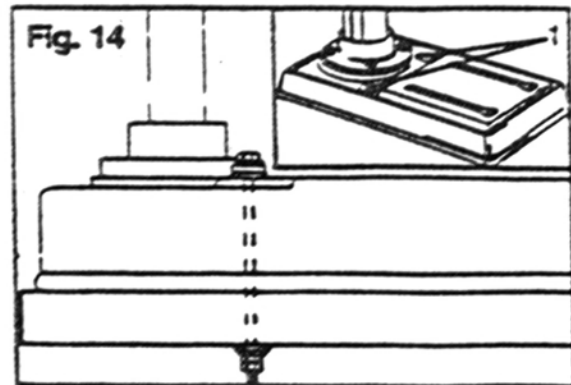
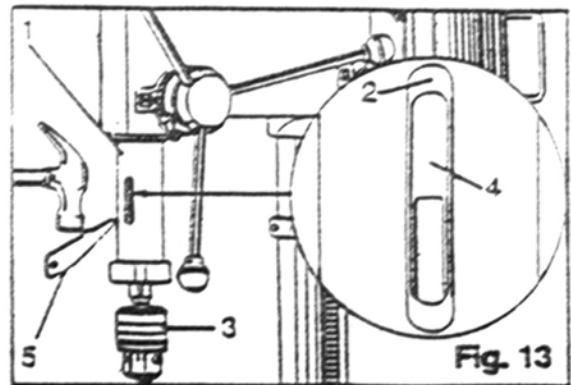
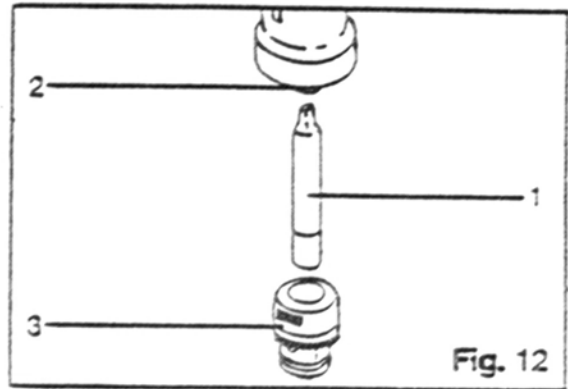
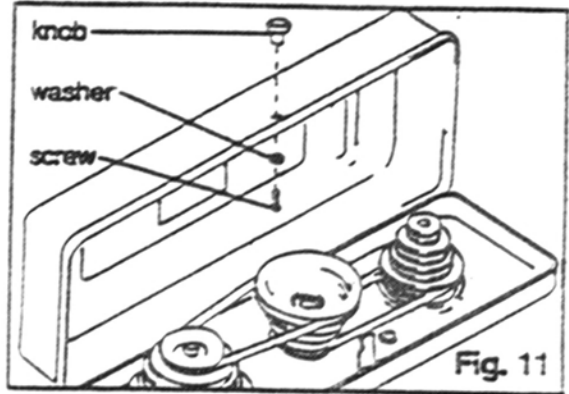
DO NOT STRIKE THE CHUCK DIRECTLY WITH A STEEL HAMMER.

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.

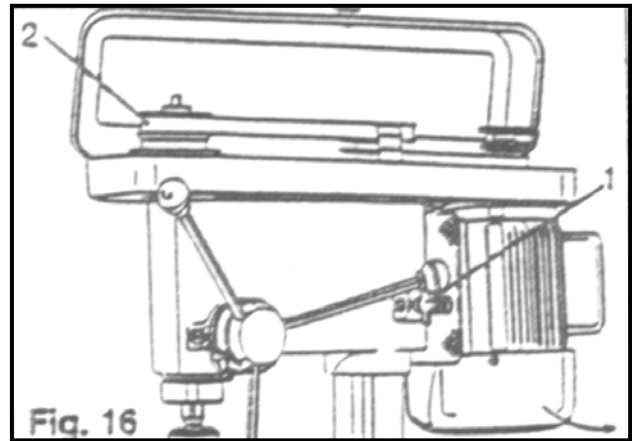


TABLE ADJUSTMENTS

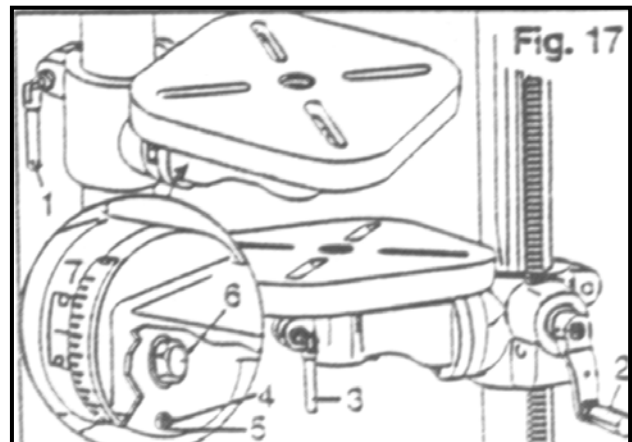
Raise or lower the drill press table by loosening the column lock lever (1) and turning the rack and pinion handle (2) to the desired elevation. Securely tighten the column lock before using the drill press.

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).



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:

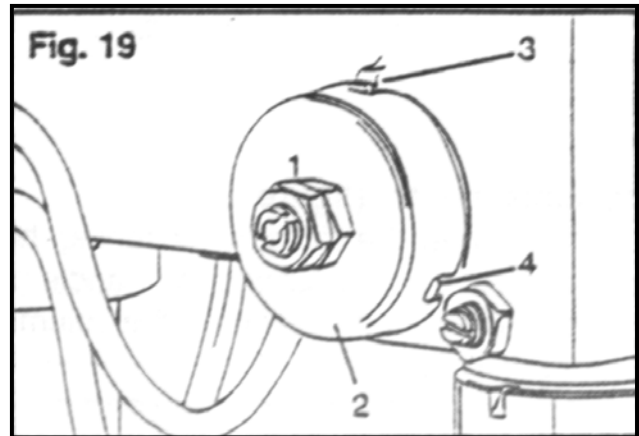
Unplug the cord from the power source.

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).

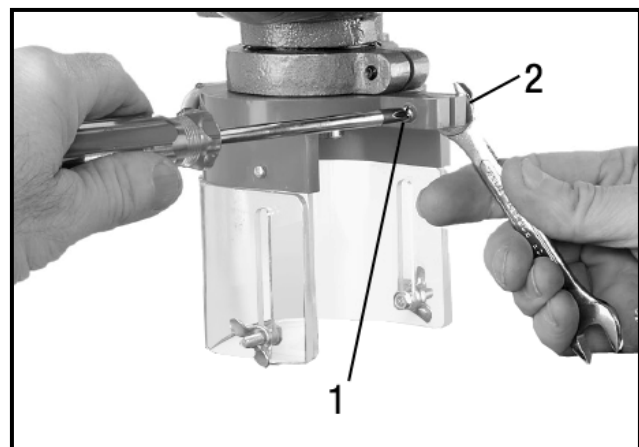
Turn it until the next notch is engaged with the boss. To increase the tension, turn it clockwise and counter-clockwise to decrease the tension.

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



INSTALLING THE CHUCK GUARD

Position the chuck guard over the depth gauge mount and tighten the Philips head screw (1) and hex nut (2) to secure it.



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.

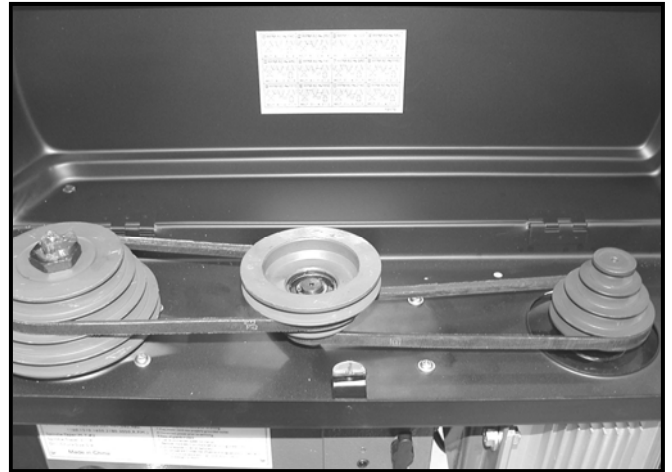
WOODWORKING

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 CX610 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.

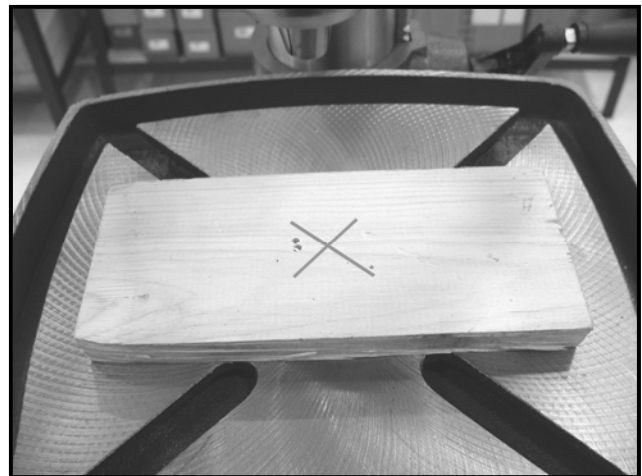
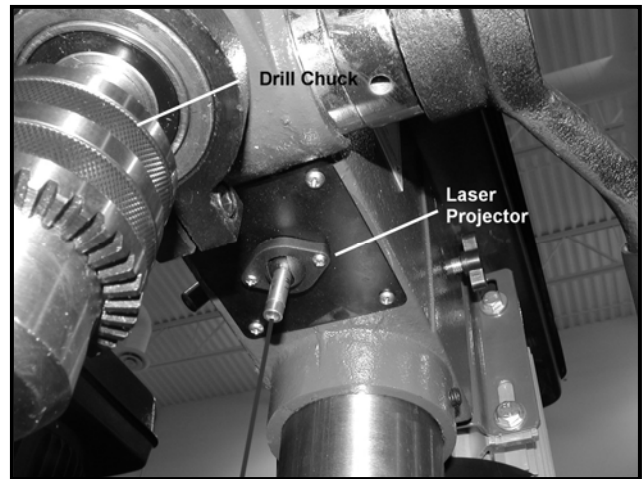
The best way of correctly aiming the laser beam is to install the drill bit you intend to use into the chuck.

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.

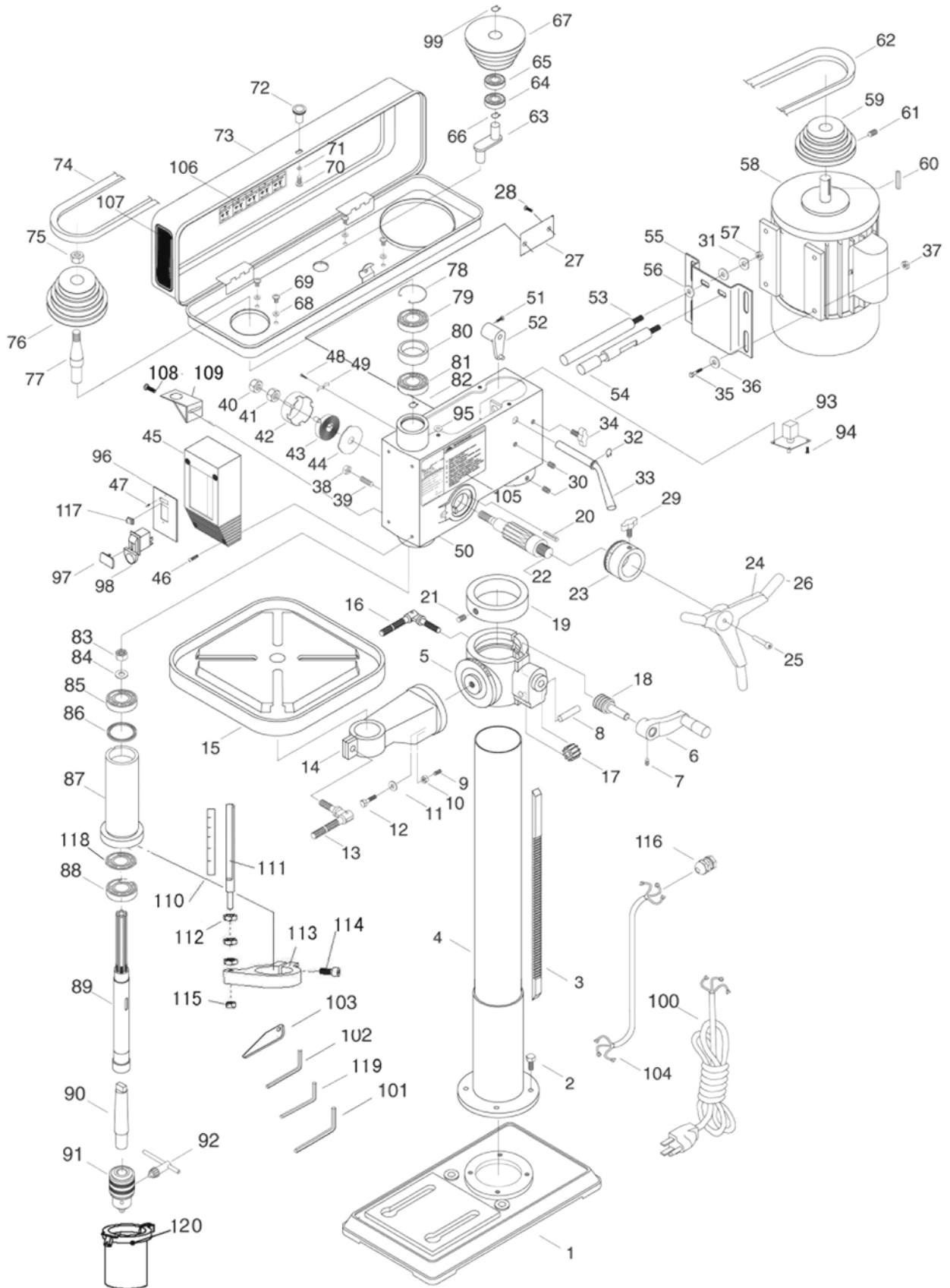
5. The application of a light coat of paste wax on drill press column and the table will help keep these surfaces clean and rust-free.

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.

CX610 PARTS DIAGRAM



CX610 PARTS LIST

PART#	DESCRIPTION
1	BASE
2	BOLT - HEX HD M12-1.75 X 40
3	RACK
4	COLUMN
5	TABLE BRACKET
6	HANDLE
7	SCREW - SET M8-1.25 X 10
8	SHAFT WORM GEAR
9	PIN
10	NUT - HEX M6-1.0
11	WASHER - FLAT M20
12	BOLT - HEX HD
13	LOCK LEVER
14	TABLE ARM BRACKET
15	TABLE
16	LOCK LEVER
17	GEAR
18	WORM GEAR
19	RACK RING
20	PIN - SPRING Φ 4 X 20
21	SCREW - SET M10-1.5 X 10
22	FEED SHAFT
23	DEPTH RING
24	HANDLE
25	BOLT
26	HANDLE CAP
27	HANDLE CAP PLATE
28	SCREW - PAN HD M4-0.7 X 10
29	LOCK KNOB
30	SCREW - SET M10 -1.5 X 10
31	WASHER - LOCK Φ 12
32	C-RING EXT Φ 16
33	SHIFTER BAR
34	KNOB
35	BOLT - HEX HD M8-1.25 X 25
36	WASHER - FLAT Φ 8
37	NUT - HEX M8-1.25
38	NUT - HEX M10-1.5
39	SCREW - SET(SPECIAL)
40	NUT - HEX M16-1.5
41	NUT - HEX M16-1.5
42	SPRING CAP
43	TORSION SPRING

44	SPRING COVER
45	SWITCH BOX
46	SCREW - PAN HD M5-0.8 X 14
47	SCREW - TAPPING M4 X 12
48	SCREW - PAN HD M5-0.8 X 10
49	CORD CLAMP
50	BODY
51	BOLT - HEX HD M8-1.25 X 16
52	SHIFTER
53	SLIDE BAR
54	SLIDE BAR
55	MOTOR BASE
56	WASHER - FLAT M12
57	NUT - HEX M12-1.75
58	MOTOR
59	PULLEY - MOTOR
60	KEY M5 X 5 X 20
61	SCREW - SET M6-1.0 X 10
62	V-BELT
63	CENTER SHAFT
64	BEARING 6202
65	BEARING
66	C-RING EXT
67	PULLEY - IDLER
68	WASHER - FLAT M8
69	SCREW - PAN HD M8-1.25 X 12
70	SCREW - PAN HD M5-0.8 X 12
71	WASHER - FLAT M6
72	KNOB
73	PULLEY COVER
74	V-BELT
75	PULLEY NUT
76	PULLEY - SPINDLE
77	PULLEY SHAFT
78	C-RING INT Φ 72
79	BEARING 6207
80	SPACER
81	BEARING 6207
82	C-RING
83	NUT - (SPECIAL)
84	WASHER - FLAT
85	BEARING 6206
86	WASHER - RUBBER
87	SPINDLE SLEEVE

88	BEARING 6207
89	SPINDLE
90	ARBOR MT4-JT3
91	CHUCK JT3
92	CHUCK KEY
93	LASER
94	SCREW PAN HD - M5-0.8 X 10
95	WASHER
96	SWITCH BASE
97	SWITCH KEY
98	SWITCH
99	C-RING INT Φ 35
100	POWER CORD
101	WRENCH
102	WRENCH
103	WEDGE
104	MOTOR CORD

105	LABEL
106	SPEED LABEL
107	BRAND LABEL
108	SCREW - PAN HD M5-0.8 X 10
109	SUPPORT PLATE
110	SCALE
111	SCALE BASE
112	NUT - HEX M12-1.5
113	BLOCK
114	SCREW - SET
115	NUT - HEX M8-1.25
116	STAIN RELIEF
117	LASER SWITCH
118	BEARING - THRUST 51107
119	HEX WRENCH
120	CHUCK GUARD



WARRANTY

CRAFTEX 3 YEARS LIMITED WARRANTY

Craftex 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 Craftex 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.

Craftex 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 Craftex product, you must visit the appropriate Busy Bee Tools showroom or call 1-800-461-BUSY. Craftex 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.