



## OWNER'S MANUAL



## CT020N & CT021N OWNER'S MANUAL



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## GENERAL SAFETY INSTRUCTIONS

EXTREME CAUTION SHOULD BE USED IN OPERATING ALL POWER TOOLS. KNOW YOUR POWER TOOL, BE FAMILIAR WITH ITS OPERATION. READ THE OWNER'S MANUAL AND PRACTICE SAFE USAGE PROCEDURES AT ALL TIMES.

- ❑ **CONNECT** your machine **ONLY** to the matched and specified power source.
- ❑ **WEAR SAFETY GLASSES, RESPIRATORS, HEARING PROTECTION and SAFETY SHOES** when operating this machine.
- ❑ **DO NOT** wear loose clothing or jewellery when operating machinery.
- ❑ **A Safe Environment is important.** Keep the area free of dust, dirt and other debris in the immediate vicinity of the machine.
- ❑ **BE ALERT!** Do Not Use prescription or other drugs that may affect your ability or judgement to safely use this 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 an operating tool unattended.
- ❑ **NEVER** reach over the table when the tool is in operation.
- ❑ **NEVER** make crosscuts with the rip fence in place.
- ❑ **NEVER** attempt cut material that is warped or twisted.
- ❑ **ALWAYS** keep blades, knives or bits sharp and properly aligned.
- ❑ **ALWAYS** keep all safety guards in place and ensure their proper function.
- ❑ **ALWAYS** use push sticks and featherboards to safely feed your work through the machine.
- ❑ **ALWAYS** make sure that any tools used for adjustments are removed before operating the machine.
- ❑ **ALWAYS** secure your work with the appropriate clamps or vises.
- ❑ **ALWAYS** keep bystanders safely away while operating machinery.
- ❑ **THINK SAFETY. WORK SAFELY.** Never attempt a procedure if it does not feel safe or comfortable.

## **SPECIFIC SAFETY INSTRUCTIONS**

### **CT020N & CT021N LASER RADIAL DRILL PRESSES**

- ❑ **ALWAYS** make certain that you clamp down any object that you are drilling into.
- ❑ When drilling, make sure that you are using the correct speed for the material being drilled.
- ❑ Clear the drill press table of all objects before turning the tool on.
- ❑ Keep hands and fingers safely away from the spinning drill bits.
- ❑ **NEVER** start the drill press with the drill bit in contact with the workpiece.
- ❑ Make certain that the drill bit is securely tightened into the drill chuck.
- ❑ **NEVER** wear gloves while operating a drill press.
- ❑ Make certain that the table lock is securely tightened before using the drill press.
- ❑ **NEVER** attempt to drill any material that is not flat without using a secure jig for that specific workpiece.
- ❑ Always remove the drill bit before leaving the machine.

## **CT020N & CT021N RADIAL DRILL PRESSES**

### **FEATURES**

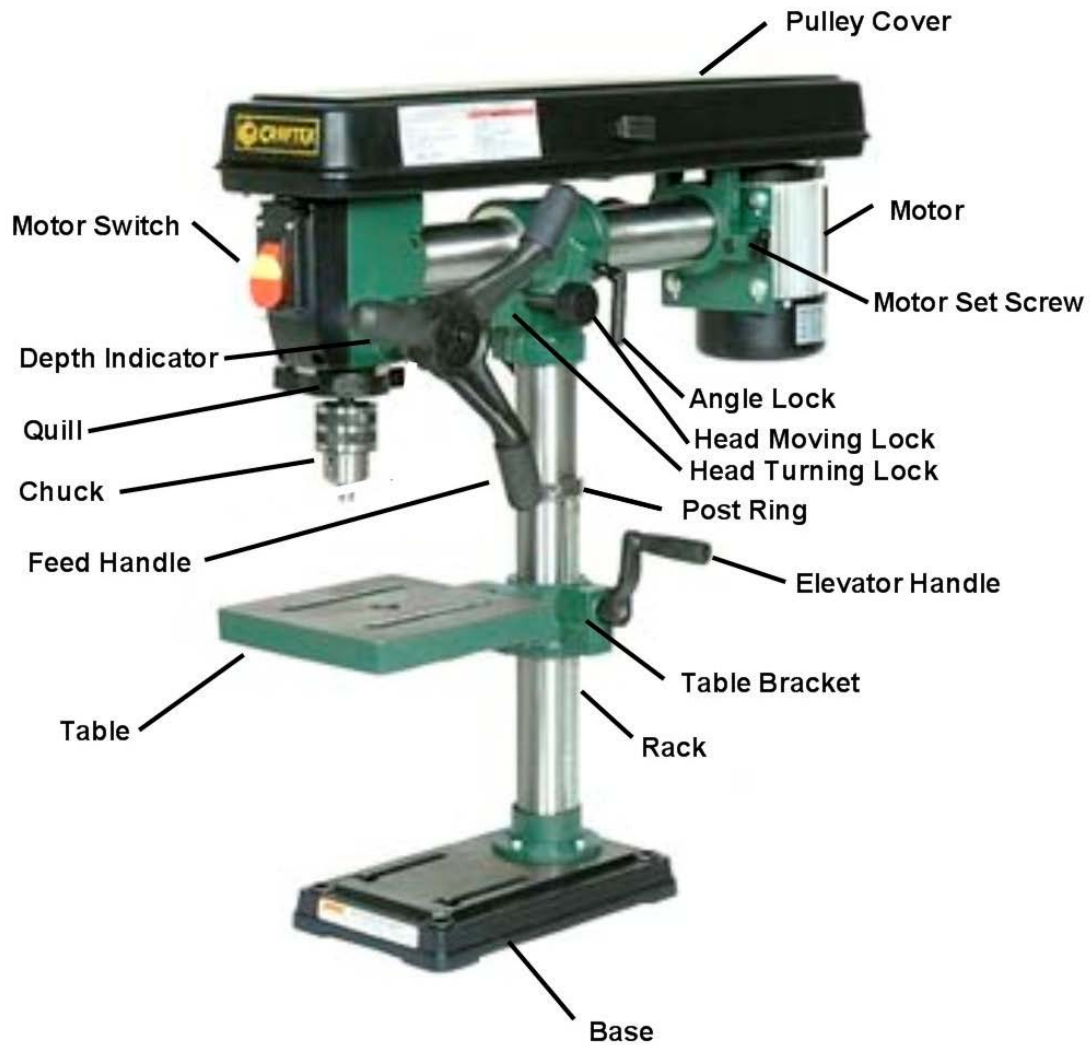
#### **CT020N:**

- ❑ Bench-top Radial Drill Press.
- ❑ 4" – 34" Radial
- ❑ Motor: 1/2 HP, 110/120 volt.
- ❑ Chuck: 5/8".
- ❑ Spindle: JT33
- ❑ Table: 8 1/2" x 9", Tilting.
- ❑ Laser Guidance for Drilling Accuracy.
- ❑ Speeds: 5.
- ❑ Height: 31 1/2".
- ❑ Weight: 40 kg.
- ❑ Rack and Pinion Elevating System.
- ❑ Cast-Iron Feed with Comfort-Grip Handles.
- ❑ 2-Year Warranty.

#### **CT021N:**

- ❑ Bench-top Radial Drill Press.
- ❑ 4" – 34" Radial
- ❑ Motor: 1/2 HP, 110/120 volt.
- ❑ Chuck: 5/8".
- ❑ Spindle: JT33
- ❑ Table: 12" Round, Tilting.
- ❑ Laser Guidance For Drilling Accuracy.
- ❑ Speeds: 5.
- ❑ Height: 64"
- ❑ Weight: 65 kg.
- ❑ Rack and Pinion Elevating System.
- ❑ Cast-Iron Feed with Comfort-Grip Handles.
- ❑ 2-Year Warranty.

## CT020N & CT021N COMPONENTS



## CT020N & CT021N RADIAL DRILL PRESSES UNPACKING

Your CT020N and CT021N have been carefully packed to prevent damage in shipping. Care should be taken when opening the cartons to make certain that all parts and components have been accounted for.

Do Not throw away any packaging until your drill press is assembled and properly running.



Some of your Craftex drill press components have been coated with a protective lubricant to prevent rust. Prior to assembly, these parts should be cleaned with a soft cloth dampened with mineral spirits. When cleaned, the components should be coated with paste wax and then buffed dry.



## **GROUNDING INSTRUCTIONS**

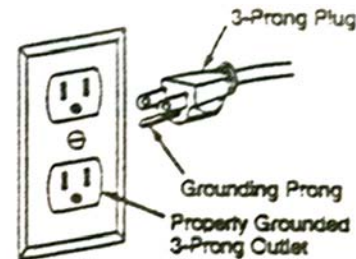
**In the event of a malfunction or breakdown, grounding provides the path of least resistance for electrical current and reduces the risk of electrical shock. This tool is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching outlet that has been properly installed and grounded in accordance with ALL local codes and ordinances.**

**DO NOT MODIFY THE PLUG PROVIDED.** If the provided plug will not fit the electrical outlet, have the proper outlet installed by a qualified licensed electrician.

**IMPROPER CONNECTION** of the equipment-grounding conductor can result in risk of electrical shock. The conductor wire 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 required, **DO NOT** connect the equipment-grounding conductor to a live terminal.

If in doubt about these instructions consult a qualified, licensed electrician.

**USE ONLY A THREE-WIRE EXTENSION CORD** with a 3-prong grounding plug and three-hole receptacles that accept the tool's plugs as shown.

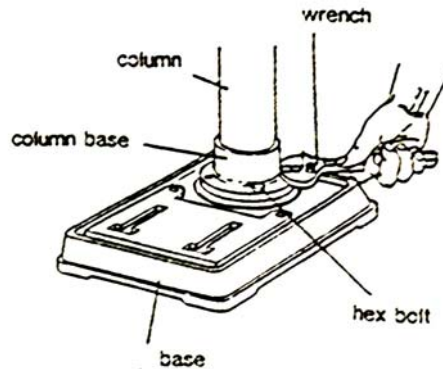


It is recommended that stationary tools be assigned to a dedicated 15 amp circuit using #12 wire.

# CT020N & CT021N RADIAL DRILL PRESSES ASSEMBLY

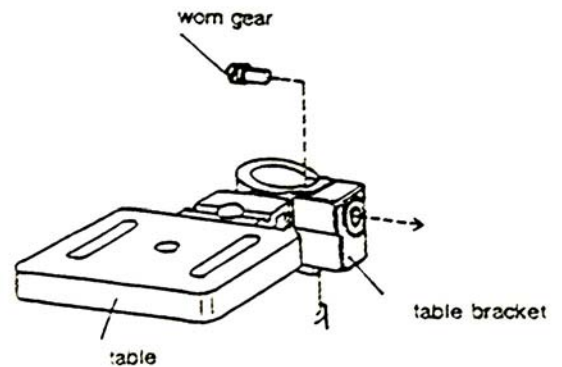
## Mounting the Post to the Base

Align the holes in the post flange with the threaded holes in the base top. From the parts bag, select the 4 hex bolts, install them into the threaded holes and tighten securely.

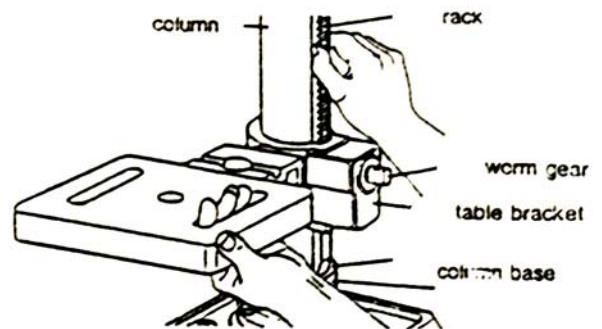


## Mounting the Table and Table Bracket

Place the worm or pinion gear into the hole on the table bracket and link it up with the inside of the gear.

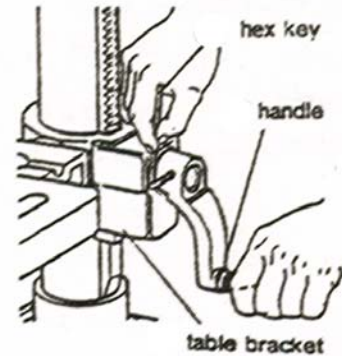


Place the rack into the table bracket and link it with the gear, the bottom end of the rack should be inserted into the groove on the column base and tightened.

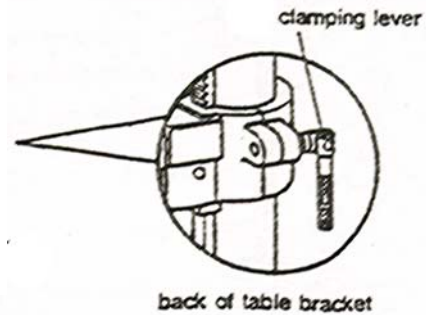


## CT020N & CT021N RADIAL DRILL PRESSES ASSEMBLY, Continued

Select the elevation handle from the parts bag. Push the elevation handle onto the worm or pinion gear and tighten it with the included hex key.

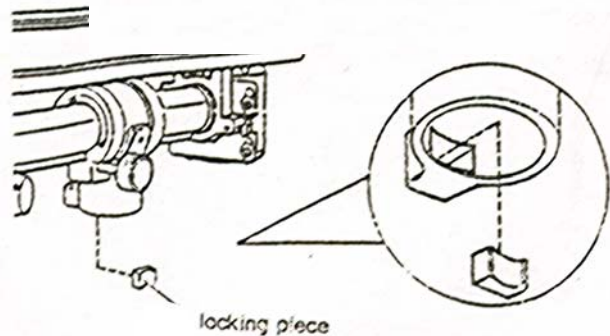


Mount the clamping lock on the rear of the table bracket.



### Radial Drill Head Assembly

Select the locking wedge from the loose parts bag. Place the locking wedge into the pocket in the radial arm bracket. Select and install the clamping lock.

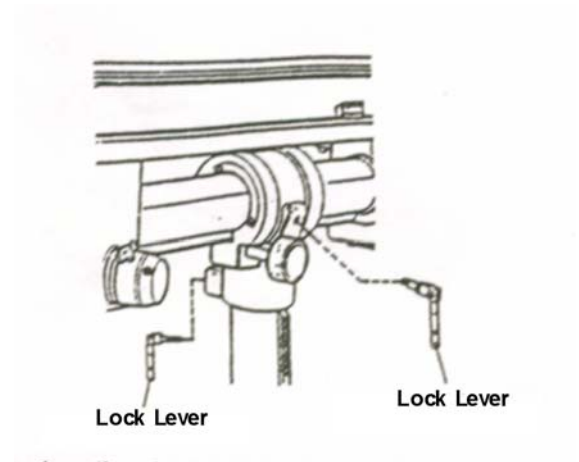


## CT020N & CT021N RADIAL DRILL PRESSES ASSEMBLY, Continued

### Assembling the Radial Drill Head to the Post.

Install the lock lever loosely into the drill head cap and place the drill head onto the drill post. Rotate the radial drill head so that it is directly over and in line with the drill press table and base.

Securely tighten the lock lever.



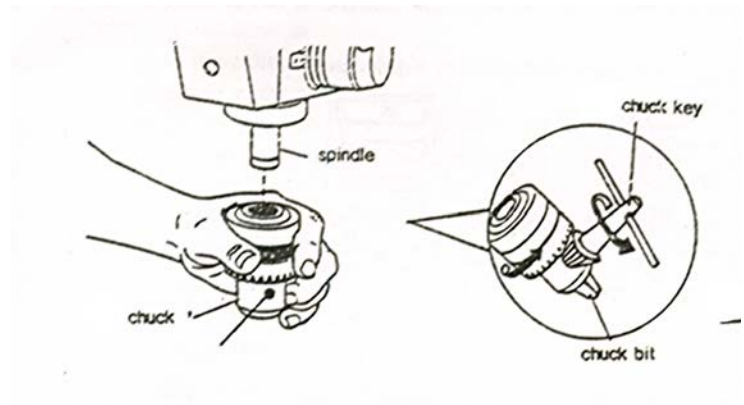
### Chuck Assembly.

Select the drill chuck and chuck key from the parts bag.

Place the chuck on the Morse taper spindle.

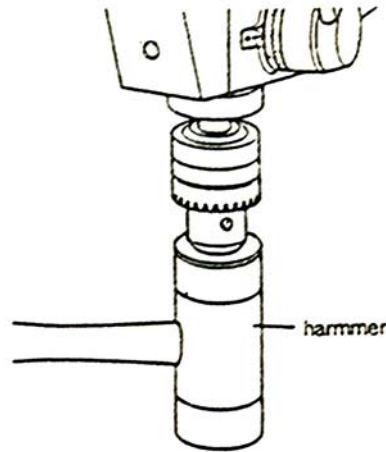
While holding the chuck in place, insert the key and rotate it to close the chuck.

Remove the key.



## CT020N & CT021N RADIAL DRILL PRESSES ASSEMBLY, Continued

Using a wooden mallet or a plastic-head hammer, hit the end of the chuck to firmly seat it.



### Installing the Feed Lever

The CT020N & CT021N are now equipped with a one-piece solid cast iron feed lever.

Select the lever from the parts and screw it onto the drill head.

### Setting the Belt

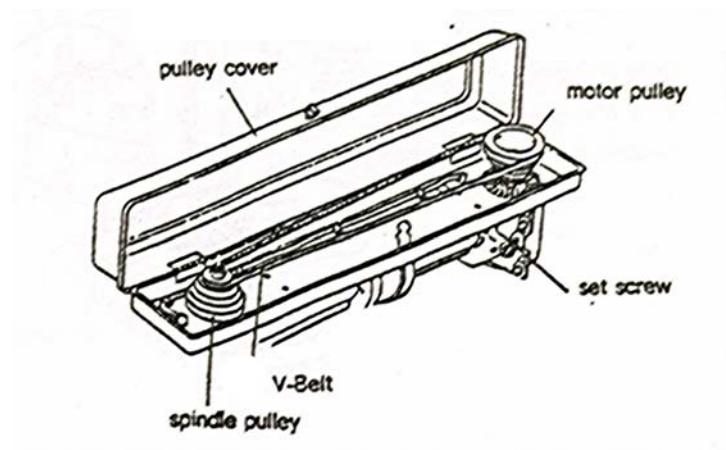
Open the pulley cover.

Loosen the setscrew on the motor.

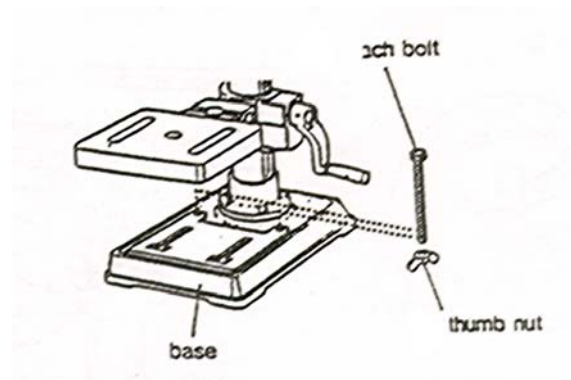
Place the V-belt on the pulleys (see belt speeds under Operations) to your speed choice.

Tighten the motor tension.

Tighten the motor setscrew.



**NOTE:** YOUR RADIAL DRILL PRESS SHOULD *NOT* BE USED UNTIL IT IS SECURELY BOLTED TO THE FLOOR OR BENCH.



# CT020N & CT021N RADIAL DRILL PRESSES

## OPERATION

### Operations and Adjustments

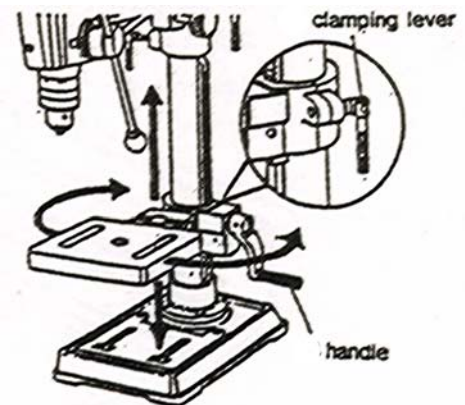
The Craftex CT020N & CT021N are precision machines that, if properly operated and adjusted, will provide excellent service for many years.

### Motor Switch

Your radial drill press is equipped with a safety switch. The switch lock may be removed to prevent unauthorised operation. In addition, the switch key should be removed when making any adjustments to the machine.

### Table Adjustments

To rotate the radial drill press table, loosen the post clamping lock at the rear of the table bracket.  
To adjust the height of the radial drill press table, loosen the post clamping lock at the rear of the table bracket.  
Rotate the table elevator handle to raise or lower the table to the desired height.  
Tighten the post clamping lock.



## CT020N & CT021N RADIAL DRILL PRESSES

### OPERATION, Continued

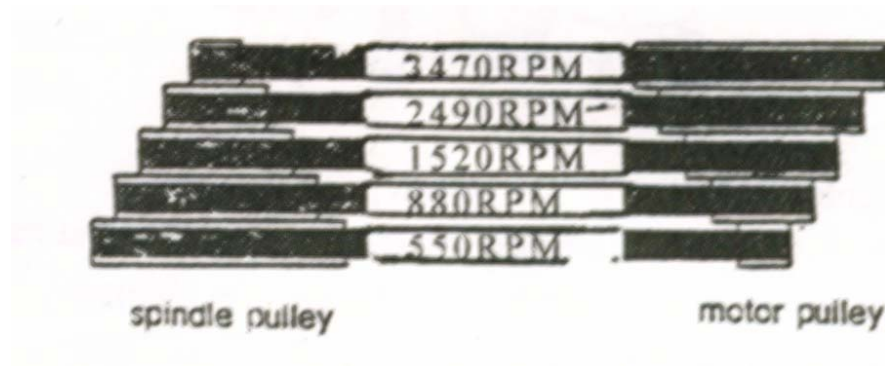
**Note:** As with any new piece of equipment, the owner/operator should use scrap material in order to become accustomed it.

#### Drilling Depth Stop

The CT020N and CT021N have been fitted with a new style depth stop. To set the depth stop, loosen the depth locking nuts and rotate them to the desired depth as indicated on the scale. Tighten the bolts.

#### Drill Speeds

The CT020N and CT021N are 5-speed drill presses with the speed ratings as shown.



#### 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.

# CT020N & CT021N RADIAL DRILL PRESSES

## OPERATION, Continued

### METAL WORKING

A metal workpiece (like all work) should be firmly clamped to the drill press table and the table securely locked. **NEVER** hold the workpiece 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

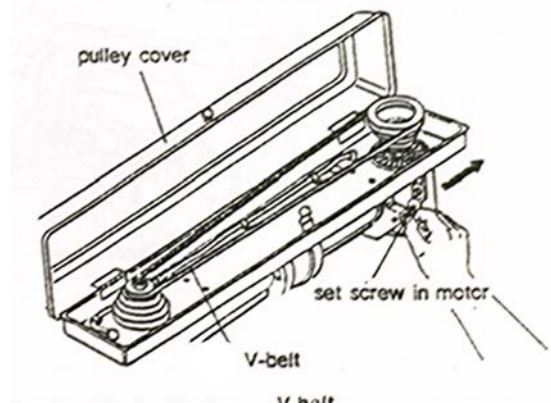
Metal-piercing twist drills may be used on wood but the preferred choice is brad-point bits or Forstner-type bits. Do not use auger bits as they will tend to lift off the table. To prevent tear-out when drilling through a workpiece, back it with a piece of scrap wood.

### 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 workpiece.

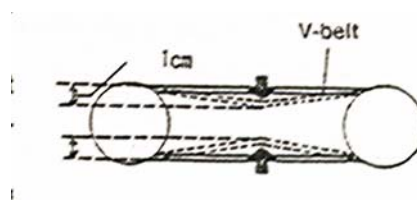
### Pulley Adjustments

Open the pulley housing cover.  
Loosen the motor setscrew.  
Refer to the speed levels and move the V-belt accordingly.  
Push the motor to the rear to put tension on the V-belt.  
Tighten the setscrew.



### Correct Belt Tension

The correct belt tension is achieved when the belt, using finger pressure, can be flexed 1 cm from the center of the belt. Relieve the belt pressure if the drill press will be out of use for a long time.



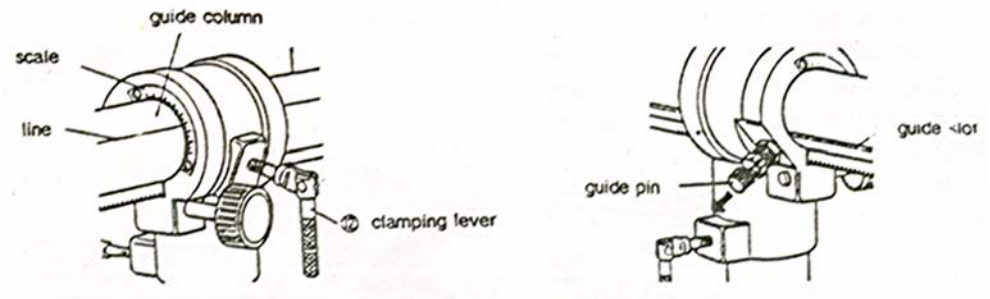
# CT020N & CT021N RADIAL DRILL PRESSES

## OPERATION, Continued

### Head Tilting

The Drill head on the CT020N and CT021N may be rotated 45 degrees clockwise and 90 degrees counter clockwise.

To adjust the rotation, loosen the clamping lever as shown and then pull out the guide pin. The guide pin is a positive stop at 90 degrees. Align the reference line with the appropriate degree on the scale. Tighten the clamping lever.



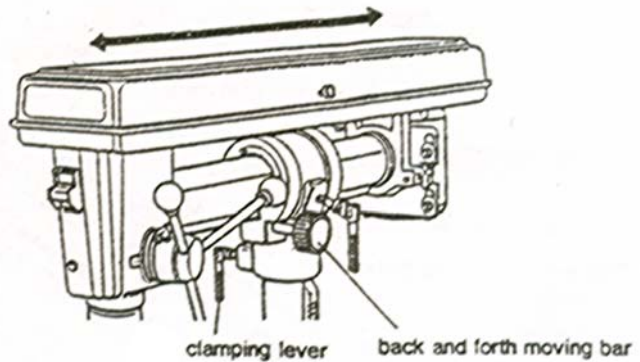
### Horizontal Head Rotation

To swing the drill press head left or right, loosen the post cap clamping lever. When the desired rotation is achieved, tighten the clamping lever.

### Extending The Drill Head

To move the drill head front to rear, loosen the clamping lever on the head.

Rotate the control knob to move the head to the desired position. Tighten the clamping lever.



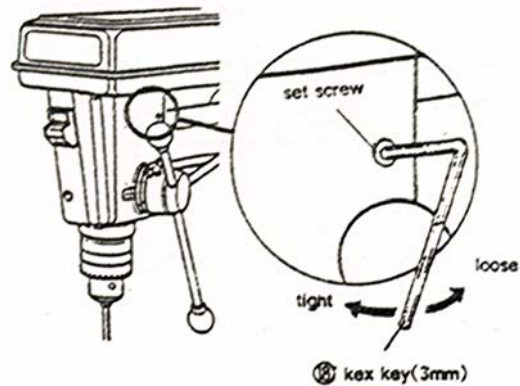
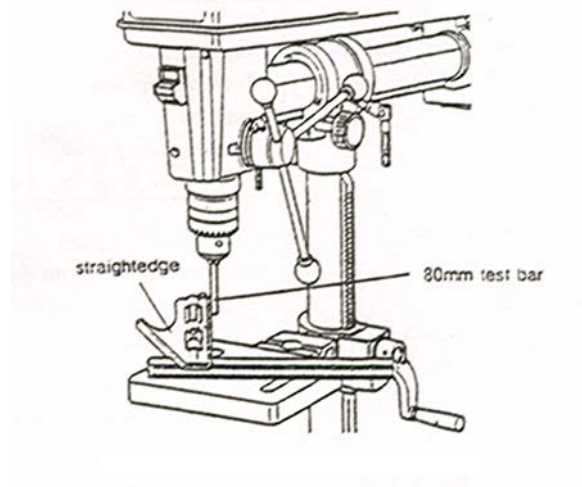
# CT020N & CT021N RADIAL DRILL PRESSES

## OPERATION, Continued

### Spindle Adjustments

The table and spindle have been factory set and should not require any further adjusting. In the rare event that this is required, proceed with the following procedure.

Clamp an 80mm steel rod into the chuck.  
Check the vertical alignment with a straight edge.  
Loosen the setscrews on the two sides of the drill head with a hex key.  
Adjust the alignment.  
Securely tighten the setscrews.



## **MAINTENANCE**

### **CT020N & CT021N RADIAL DRILL PRESSES**

Disconnect the power to the machine before making any adjustments, repairs or maintenance.

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.

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

The drill press table should be cleaned after each use.

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.

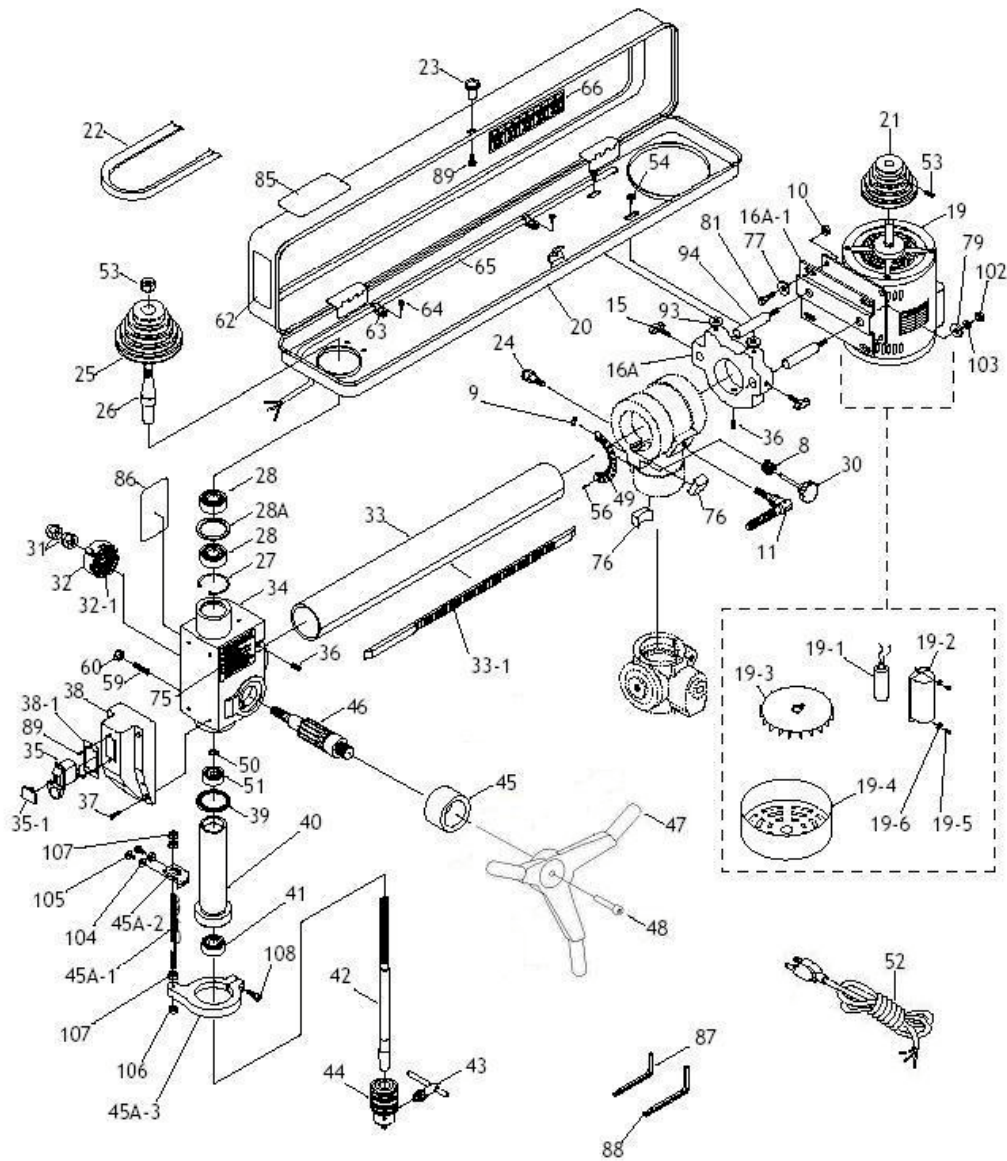
The bearings in the quill and V-belt assembly are permanently greased and sealed.

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

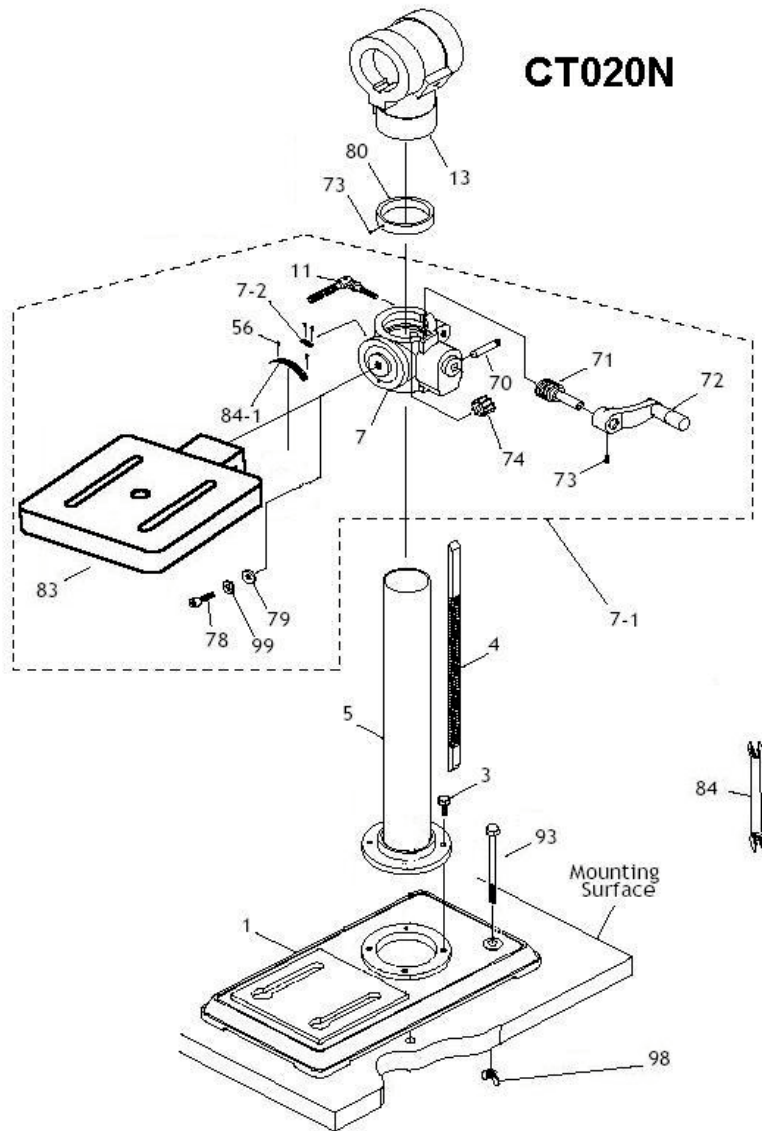
Lubricate other moving parts such as the table swivel, tilt, rack and pinion etc. on a regular basis.

# CT020N & CT021N SCHEMATIC DIAGRAM

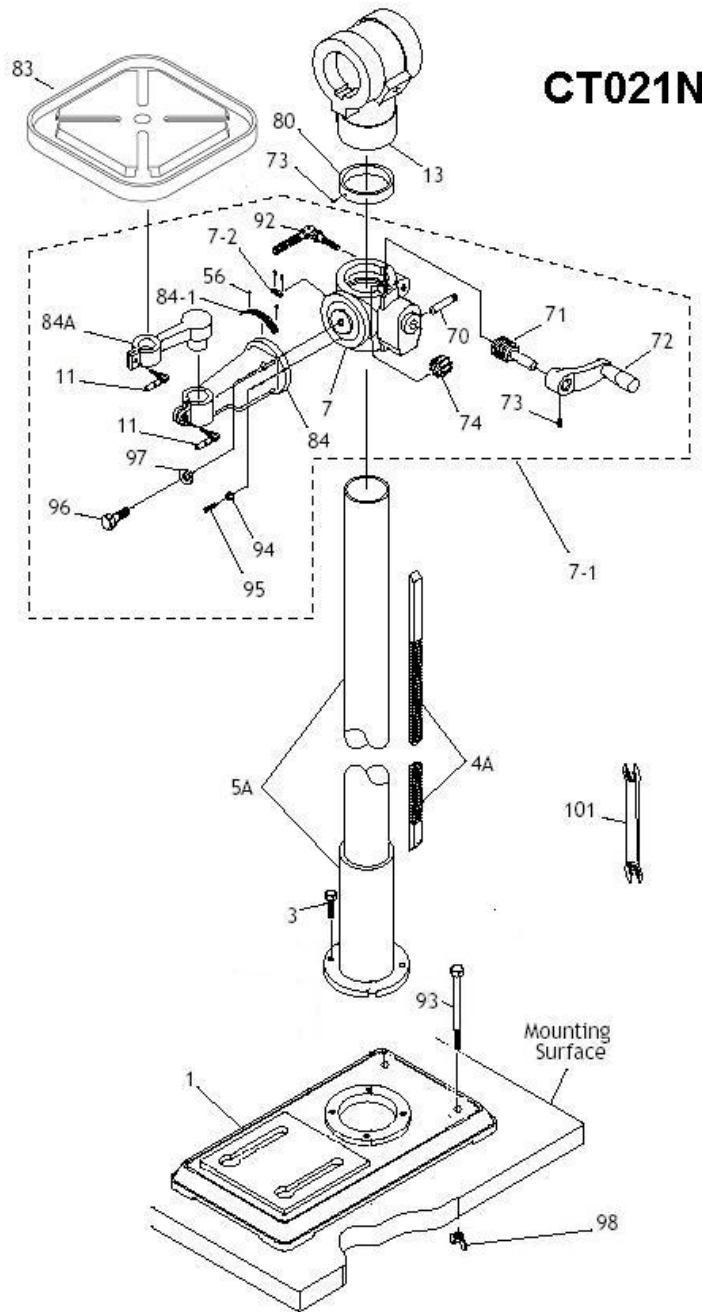
## CT020N & CT021N PARTS



## CT020N COLUMN & BASE SCHEMATIC



## CT021N COLUMN & BASE SCHEMATIC



## CT020N&CT021N Parts List

PART #	DESCRIPTION
8	GEAR
9	EXT RETAINING RING 9MM
10	HEX NUT
11	CLAMP BOLT
15	KNOB BOLT
16A	MOUNT PLATE N/S
16A-1	MOTOR PLATE N/S
19	MOTOR
19-1	S. CAPCTR
19-2	CAPACITOR COVER
19-3	MOTOR FAN
19-4	FAN COVER
19-5	PHLP HD SCR
19-6	FLAT WASHER
20	PULLEY COVER
21	MOTOR PULLEY
22	V-BELT
23	UNTHREADED FEMALE KNOB
24	LOCK PIN ASSEMBLY
25	SPINDLE PULLEY
26	DRIVE SLEEVE
27	INT RETAINING RING
28	BEARING
28A	SPACER
30	LEVER
31	LOCK NUT
32	SPRING COVER
32-1	RETURN SPRING
33	HORIZONTAL COLUMN
33-1	HORIZONTAL COLUMN RACK
34	HEADSTOCK
35	SWITCH AND KEY
35-1	SWITCH KEY
36	SET SCREW
37	PHLP SCREW
38	SWITCH BOX
38-1	SWITCH MOUNTING PLATE
39	RUBBER WASHER
40	QUILL SHAFT
41	BEARING
42	SPINDLE
43	CHUCK KEY

PART #	DESCRIPTION
44	CHUCK
45	COLLAR
45A-1	DEPTH STOP ROD N/S
45A-2	DEPTH STOP ROD BRACKET
45A-3	DEPTH STOP MOUNT
46	FEED SHAFT
47	HANDLE AND KNOB
48	BOLT
49	DEGREE SCALE
50	EXT RETAINING RING 12M
51	BEARING
52	POWER CORD
53	set screw
54	PHLP SCREW
56	RIVET
59	SPECL SET SCR
60	HEX NUT
62	LABEL
63	WIRE STRAP
64	PHLP SCREW
65	MOTOR SWITCH CORD
66	SPEED CHART
75	SAFETY LABEL
76	LOCKING GIB
77	FLAT WASHER
79	FLAT WASHER
81	HEX BOLT
85	SAFETY GLASSES LABEL
86	LONG HAIR SAFETY LABEL
87	HEX WRENCH
88	HEX WRENCH
89	SELF TAP SCREW
93	RUBBER WASHER
94	GUIDE ROD
102	HEX NUT
103	LOCK WASHER
104	FLAT WASHER
105	PHLP HD SCR
106	HEX NUT
107	HEX NUT
108	CAP SCREW

## CT020N Parts List

PART #	DESCRIPTION
1	BASE
3	HEX BOLT
4	RACK
5	COLUMN
7	GEARED TBL BRKT N/S
7-1	COMPLETE TBL BRKT ASSY
7-2	GEARED TBL BRKT SCALE
13	HORR. COLUMN BRKT
54	PHLP SCREW
56	RIVET
70	PIN
71	WORM PINION

PART #	DESCRIPTION
72	LIFT HANDLE CRANK
73	SET SCREW
74	GEAR
78	CAP SCREW
79	FLAT WASHER
80	COLUMN RING
83	TABLE
84	WRENCH
84-1	SCALE
93	HEX BOLT
99	LOCK WASHER
98	WING NUT



## CT020N & CT021N

### CRAFTEX 2 YEAR LIMITED WARRANTY

Craftex warrants every product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers **two years** for parts and 90 days for labour (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, please contact your nearest Busy Bee Tools (or contact Head Office). 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 and 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.











