CX611
6" x 21" MILL / DRILL
WITH VARIABLE SPEED

User Manual (March 18th, 2014)

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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 owner's 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** wears 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.

CX611 – 6" x 21" MILL / DRILL
SPECIFIC SAFETY INSTRUCTIONS

- **READ AND UNDERSTAND** the user manual before operating the mill/drill.
- **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 mill / drill unless the chip guard is in its position, guarding the spindle.
- **MAKE SURE** the work-piece is properly clamped to the table before operating the machine. Never hold the work-piece by hands 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 un-plugged from the power source.
- **BEFORE OPERATING** your CX611 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*.**

CX611 – MILL / DRILL

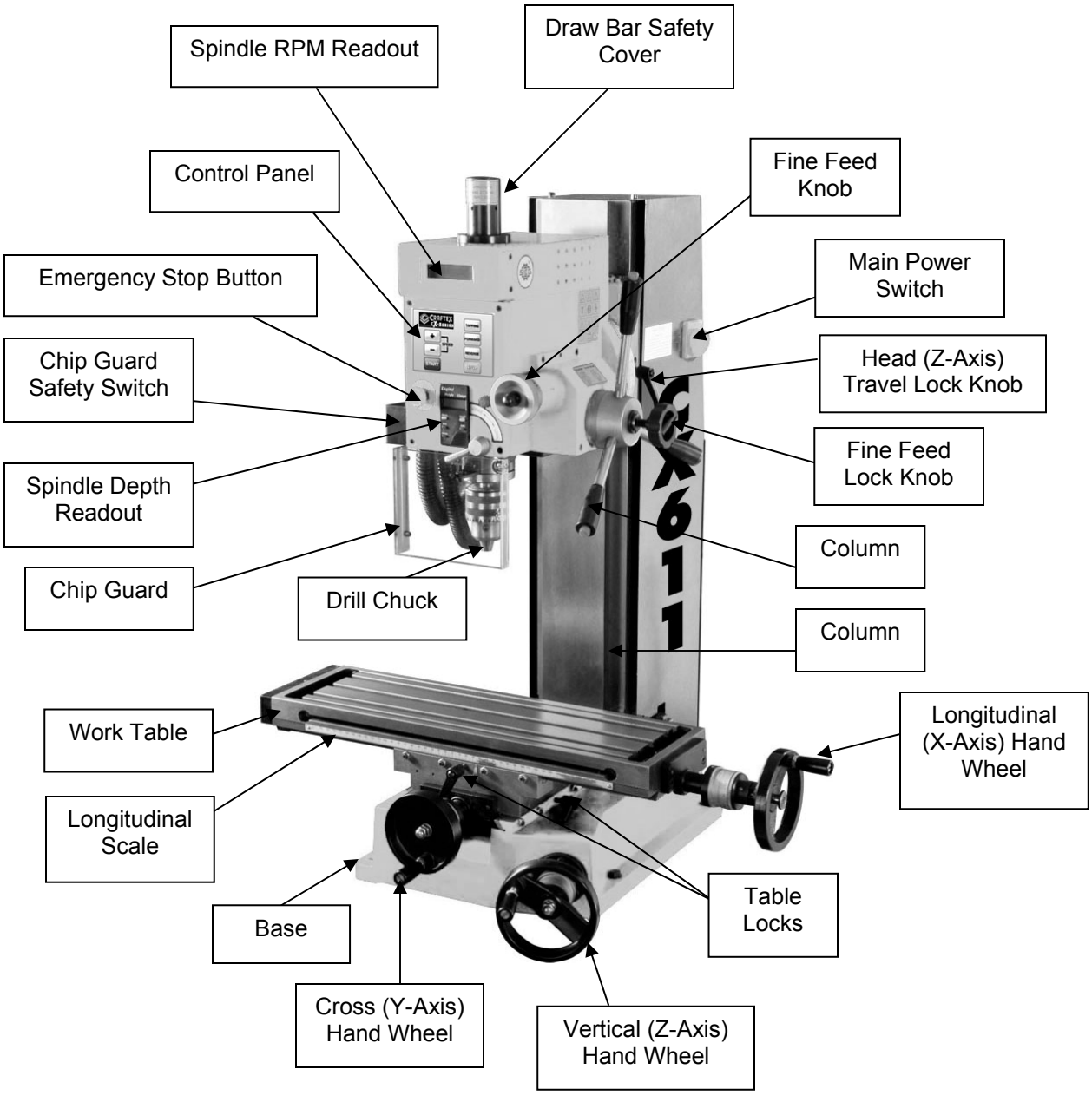
FEATURES

MODEL CX611 – 6" x 21" MILL / DRILL WITH VARIABLE SPEED

As part of the growing line of Craftex metalworking equipment, we are proud to offer the CX611, 6" x 21" Mill / Drill with Variable Speed. By following the instructions and procedures laid out in this user manual, you will receive years of excellent service and satisfaction. The CX611 is a professional tool and like all power tools, proper care and safety procedures should be adhered to.

- Motor ..... Brushless, 1000 Watt, 110V, 6 Amp, 60Hz
- Drilling Capacity..... 1" (25mm)
- Max. Tapping Capacity..... 1/2" (12mm)
- End Mill Capacity..... 5/8” (16mm)
- Face Mill Capacity ..... 2” (50mm)
- Spindle Taper R8
- Throat ..... 9" (230mm)
- Max. Distance Spindle to Table ..... 15-1/8" (380mm)
- Number of Spindle Speeds..... Variable
- Range of Spindle Speeds..... 100 - 1800 RPM
- Head Tilt ..... 45° Left and 90° Right
- Table Size..... 21-1/2" (550mm) x 6" (160mm)
- Max. Table Longitudinal Travel..... 16” (400mm)
- Max. Table Cross Travel..... 5-3/4” (145mm)
- Maximum Spindle Travel ..... 11-3/4" (300mm)
- Number of T-Slots 3
- Overall Dimension ..... 29" Length x 32" Width x 41"
- Net Weight (approx) ..... 165 Kg
- Warranty..... 3-Years

CX611 MILL / DRILL MACHINE
PHYSICAL FEATURES



PROPER GROUNDING

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

CX611 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 sander 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.

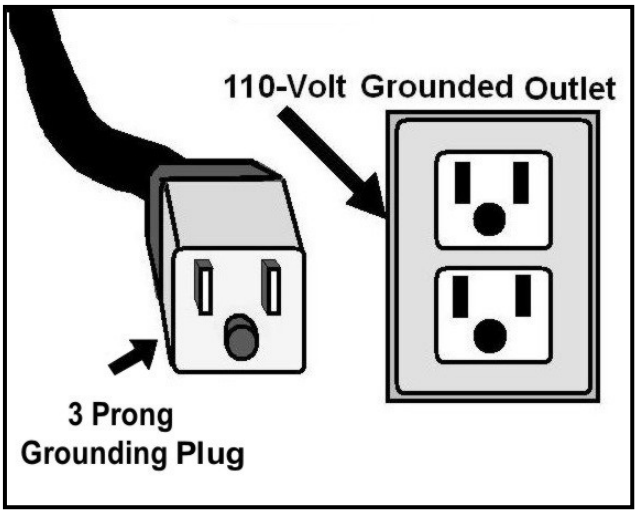


Figure-1 110-Volts outlet for CX611

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 CX611. Always try to position your machine close to the power source so that you do not need to use extension cords.

In case 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!***
>
> *CX611 is a heavy machine, do not over-exert yourself. Use a fork truck or get the help of an assistant for safe moving.*

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

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.

FEET

Four leveling feet come with the CX611.

To install the feet :

Place a precision level on the table.

Install the feet into the four holes and turn the feet until the machine is level.

Tighten the hex nuts on the feet. See figure-2.

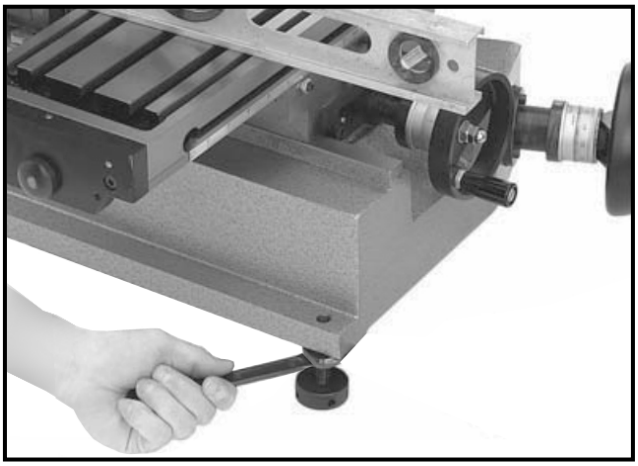


Figure-2 Installing the feet

MOUNTING TO WORKBENCH OR STAND

For maximum safety and rigidity we recommend to bolt your mill/drill to a workbench or stand.

To mount the machine on a stand or workbench:

Make sure the stand or the workbench is sturdy enough to support a weight of 165 Kg (weight of CX611). The stand or workbench must be level so that the machine is mounted in a stable position.

Lift the machine using a fork truck or get the help of an assistant and place it over the stand or workbench. Make sure the machine is centered on the workbench.

Locate the four mounting holes on the CX611 base and mark the holes on workbench or stand using a center punch.

Remove the machine and drill four holes where you marked the workbench or stand top. Position the machine on the stand or workbench and align the holes on the machine base with the holes on the stand or workbench top.

Bolt the machine base properly on the work bench or stand top.

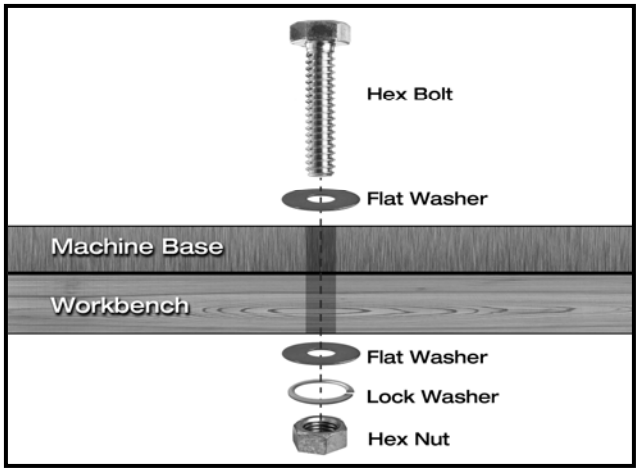


Figure-3 Example of through mount

CONTROL PANEL

This section provides information on the CX611 control panel. It is good to get familiar with your machine's control panel before operation.

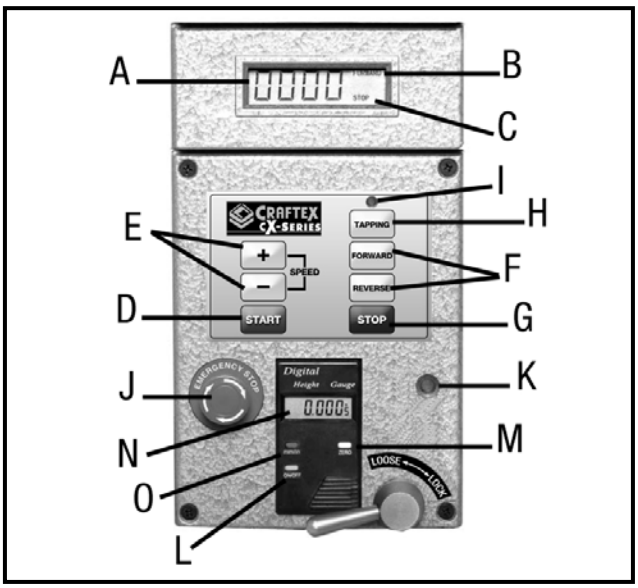


Figure-4 Control panel

A. SPINDLE RPM DISPLAY: Shows the spindle RPM with an accuracy of +/- 10%.

B. SPINDLE ROTATION MODE: Shows the direction of rotation of the spindle.

C. SPINDLE MODE: Stop appears when the spindle is stopped and disappears when the spindle is turning.

D. SPINDLE START BUTTON: Starts the spindle at 200 RPM when pressed.

E. SPEED BUTTONS: Are used to increase or decrease the spindle RPM.

F. SPINDLE ROTATION BUTTONS: Are used to change the direction of rotation of the spindle.

G. SPINDLE STOP BUTTON: Stops the spindle rotation when pressed.

H. TAPPING BUTTON: Is used to switch the mill/drill into tapping mode only when the motor is running. When in tapping mode, the LED tapping lamp glows and the RPM automatically drops to approximately 500 RPM.

I. GREEN LED LAMP: Glows when the machine is in the tapping mode and does not glow in the milling / drilling mode.

J. EMERGENCY STOP/RESET BUTTON: Stops the mill/drill when pressed.
After using emergency stop button it is necessary to reset it. Rotate the button clockwise until it pops back out to reset.

K. GREEN MAIN POWER LAMP: Glows when the main power switch is turned to the ON position.

L. DIGITAL SPINDLE SCALE ON/OFF BUTTON: Turns the digital scale ON/OFF when pressed.

M. ZERO BUTTON: Zeros the digital spindle scale when pressed.

N. SPINDLE HEIGHT DIGITAL DISPLAY: Shows the spindle height.

O. mm / inch BUTTON: Changes the units of measure between metric and inch conversions.

TEST RUN & SPINDLE BREAK-IN

Once you have assembled your CX611 mill / drill completely, it is then time for a test run to make sure that the machine works properly and is ready for operation.

Remove all the tools used for assembling the machine and make sure all the guards are in place.

WARNING!

Before starting the mill/drill, make sure that you have read and understood the manual and you are familiar with the functions and safety features on this machine. Failure to do so may cause serious personal injury or damage to the machine.

To test run the CX611:

1. Lubricate the machine as instructed in the Lubrication Section -page16 and 17.

2. Remove the drawbar if there is no arbor or collet in the spindle.

3. Close the chip guard.

4. Connect the power cord to the outlet and turn the main power switch ON. Push the start button in the control panel and the spindle will turn at low RPM.

5. Let the machine run at low speed for 2 minutes and then push the **+** button until the mill/drill reaches approximately 600 RPM. Let it run for 10 minutes at this speed.

If you hear any unusual noise(s) coming from the machine or if it vibrates excessively, shut the machine OFF immediately and disconnect from the power source. Investigate to determine the problem with your machine

If the machine runs smoothly, perform as instructed in the next step.

6. Increase the speed to 1000 RPM and let the machine run for another 10 minutes.

7. Increase the speed to 1800 RPM and let the machine run for another 10 minutes.

8. Now, push the Emergency Stop Button in, it should turn the machine OFF.

9. Turn the Emergency stop button to reset..

10. Push the Reverse button on the control panel, setting the spindle to rotate in the opposite direction.

11. Start the machine and let it run in the opposite direction at the speed of 1800 RPM for another 10 minutes.

12. Turn OFF the mill/drill.

WARNING!

The procedure above is to break-in the spindle. Make sure to follow as instructed. Failure to do so could result in rapid deterioration of the spindle and other parts.

SPINDLE HEIGHT CONTROL

The spindle height is adjusted by unlocking the quill lock and using the down feed handles or the fine feed knob. The digital spindle height readout indicates the spindle height.

To change the spindle position:

Unlock the quill lock lever and loosen the fine feed knob.

Pull down the down feed lever to lower or raise the spindle. Lock the quill lock to hold the spindle in position.

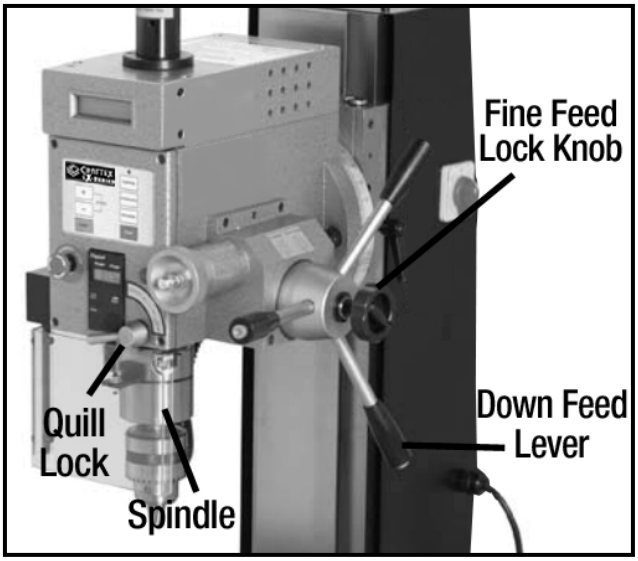


Figure-5 Spindle controls

WARNING!

Milling with the quill fully extended, can cause the tool chatter. for maximum spindle rigidity, it is better to keep the spindle retracted unto the headstock as far as possible with the quill lock lever locked.

DRILL CHUCK

To install the drill chuck:

Disconnect the cord from the power source.

Insert the chuck arbor into the spindle so that it engages the alignment pin inside of the spindle an make contact with the draw bar threads.

Thread the drawbar into the arbor until the arbor fits tight into the spindle taper.

Tighten the drawbar with the wrench (provided) while supporting the chuck and arbor with other hand.

WARNING!

Do not over tighten the drawbar. Over tightening the drawbar will damage the drawbar threads and will make it very difficult to remove the arbor.

To remove the chuck and arbor from the spindle:

Disconnect the cord from the power source.

Remove the safety cap that covers the drawbar.

Tighten the quill lock to lock the quill in place.

Insert the pin spanner into the two holes at the bottom of the spindle. Loosen the drawbar (one turn only), using a proper sized wrench. Do not remove it.

Tap the drawbar from the top with a mallet to unseat the taper off the arbor from the spindle.

Loosen the drawbar with one hand, hold and remove the chuck with another.

R8 COLLETS

The CX611 comes with an R8 spindle taper and accepts only R8 collets.

To install the collet:

Make sure the machine is OFF and the cord is disconnected from the power source.

Remove the drawbar cap and loosen the drawbar.

Clean the surface of the collet and spindle taper so that there is no debris and grease.

Insert the cutting tool into the collet and then insert the collet all the way into the spindle taper untill it touches the threaded end of the drawbar.

Hold the collet with one hand and thread the drawbar into the collet.

Hold the cutting tool into the collet with one hand and tighten the draw bar using the proper sized wrench with another hand.

Make sure not to over-tighten the drawbar.

Over-tightening the drawbar will make collet removal difficult and will cause damage to the spindle taper.

To remove the collet:

Make sure the machine is OFF and the cord is disconnected from the power source.

Hold the cutting tool with a piece of cloth to prevent it from falling on the table.
Loosen the drawbar with a wrench, do not remove it.

Now, tap the drawbar with a mallet to unseat the taper.

Unscrew the drawbar by hand and remove the collet.

TABLE TRAVEL

The CX611 is designed so that the table travels in X, Y and Z axis and the travels is controlled by three hand wheels.

Z-AXIS
The headstock on the CX611 is adjustable in the vertical Z-axis to accept large work-pieces and the movement is controlled by a handwheel at the front right of the machine and can be locked in position using the lock lever shown in figure-6.

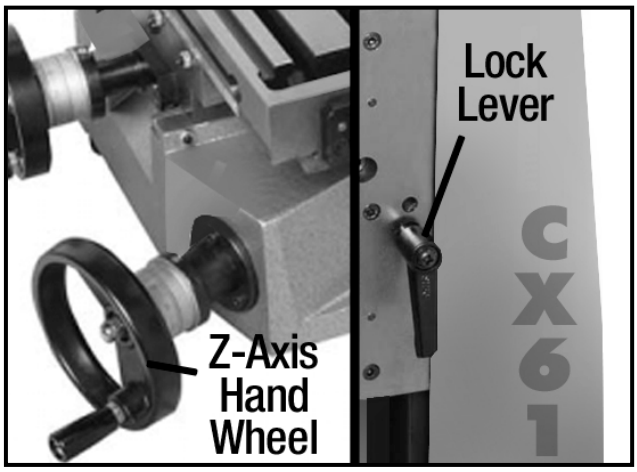


Figure-6 Headstock adjustment controls

LONGITUDINAL TRAVEL
The longitudinal travel or X axis movement of the table is controlled by a hand wheel at the end of the table. This hand wheel moves the table side to side. The longitudinal movement can be locked in position using the lock lever located on the front of the table. See figure-7.

CROSS FEED

The cross feed or Y axis movement of the table is controlled by a hand wheel at the front of the table. This hand wheel moves the table close to or away from the column and it can be locked using the lock lever located underneath the table on the right side of the machine. See figure-7.

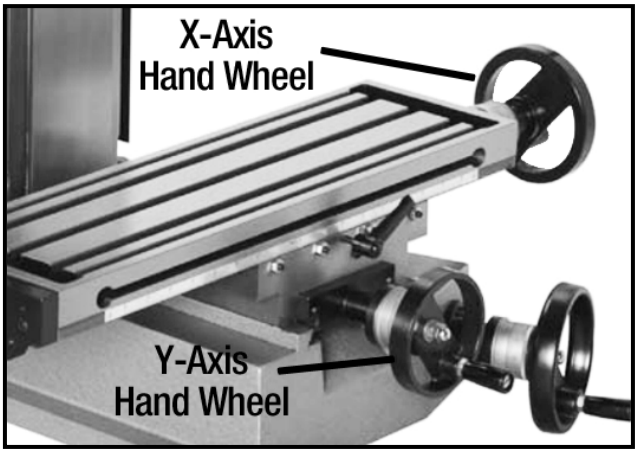


Figure-7 X and Y axis hand wheels

Insert a 6mm hex wrench into the index pin release port (See figure-8), and turn the hex wrench clockwise to disengage the spring loaded index pin from the headstock.

Tilt the headstock to the desired angle as shown on the tilt scale and tighten the lock nuts to secure the headstock in position.

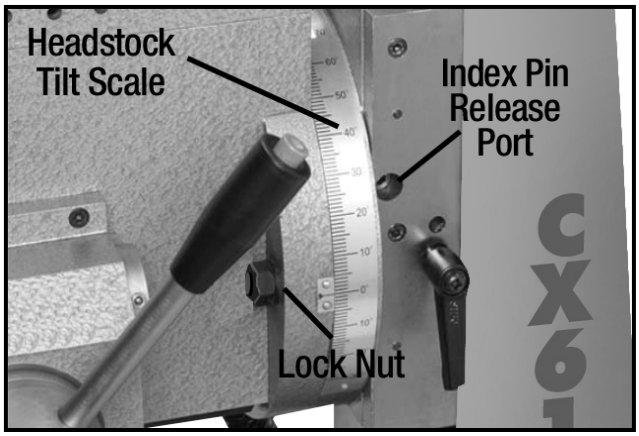


Figure-8 Headstock tilt

TILTING THE HEADSTOCK

The headstock on the CX611 can be tilted up to 45° to the left and 90° to the right and locked in position.

To tilt the headstock:

Make sure the machine is OFF and the cord is disconnected from the power source.

Ensure that the machine is securely connected to the workbench or table and the workbench or table is sturdy enough to hold the machine when the column is tilted.

Use a hex wrench, loosen the two lock nuts securing the headstock from both sides. See figure-8.

MILLING/DRILLING MODE

The CX611 is designed to use of the most end mills, drill buts and face cutters.

To mill a work-piece:

Refer to Control Panel on page-10 and learn how to use the machine controls.

Zero the spindle height scale and select units of measure; in inch or mm.

Clamp the work-piece to the milling table and adjust the headstock to the needed height, depth of cut and milling path.

Wear safety goggles for the protection of your eyes and turn the main power switch to ON. Press START button in the control panel.

Push the FORWARD or REVERSE button to select the appropriate cutting direction for the type of cutter being used.

Press the SPEED button and select the appropriate milling speed.

Now, use the X-axis or Y-axis hand wheels to feed the work-piece into the cutter slowly. If you are only milling in one direction, make sure to lock the unused table slide in place.

TAPPING MODE

Using the mill/drill in the tapping mode takes some level of skill but it will come as you practice this feature.

To drill and thread a hole:

Refer to Control Panel on page-10 and learn how to use the machine controls.

Zero the spindle height scale and select units of measure; in inch or mm. Calculate the maximum tapping depth without bottoming-out the tap.

Make sure to clamp the work-piece to the milling table firmly and adjust the headstock to the required height for drilling and tapping.

Wear safety goggles for the protection of your eyes and turn the main power switch to ON. Press START button in the control panel.

Drill the hole using appropriate speed and drill bit size for the tap.

Install the tap, and apply tapping fluid or oil when needed.

Push START, then the TAPPING button, and then the - SPEED button. The safest speed for tapping is 100 RPM.

When disengaging the threads, frequently push the FORWARD and REVERSE buttons on the down feed handles to cut and back out the tap, removing the chips from the hole without damaging the thread.

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. During operation, the chips which fall onto the sliding surface should be cleaned in a timely fashion. Frequent inspections should be made to prevent chips from falling into the position between the work table and the slide ways.

> ***WARNING!***
> *Do not remove the chips with your bare hands. There is a risk of cut due to sharp-edged chips. Never use flammable solvents or cleaning agents or agents that generate noxious fumes. Protect electrical components such as motors, switches, switch boxes, etc..., against humidity when cleaning.*

4. After the operation every day, eliminate all the chips and clean different parts of the machine tool and apply machine tool oil to prevent from rusting.

5. Make sure your work area is well ventilated.

LUBRICATION

Regular lubrication will ensure the mill/drill perform at its peak potential.

Apply 2-3 drops of machine oil directly on the ways of the cross slide and saddle.

The figure below shows the areas of the machine that should be lubricated daily with several drops of oil.

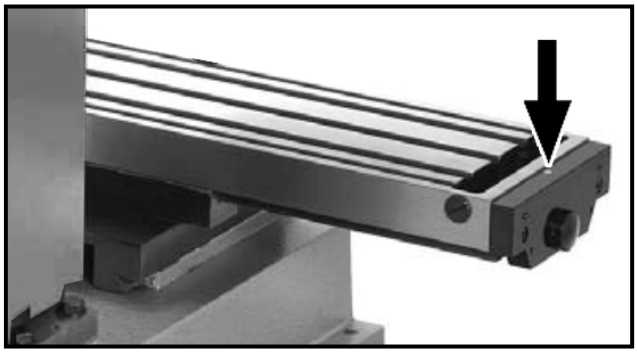


Figure-9 Table ball oiler location

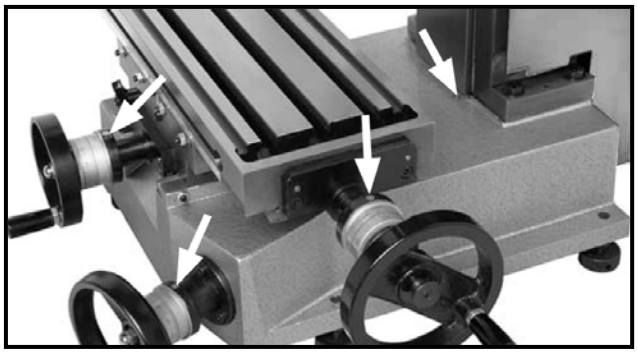


Figure-10 Hand wheel ball oiler location

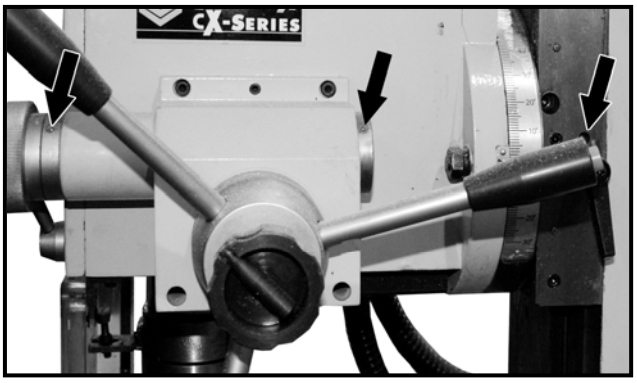


Figure-11 Headstock ball oiler location

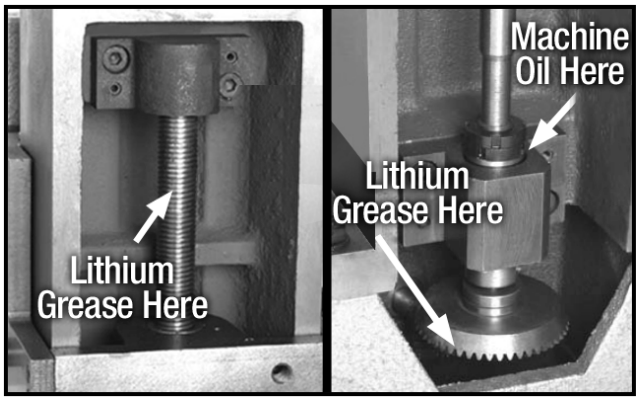


Figure-12 Headstock lead screw and gear lubrication

It is recommended to lubricate the headstock leadscrew and gears with lithium grease and light machine oil every six months.

To lubricate the leadscrew and gears:

Make sure the cord is disconnected from the power source.

Remove the two lower cap screws securing the cabinet assembly using a hex wrench.

Hold the cabinet with one hand and loosen the lower cap screws with the other hand. Remove the cabinet.

Spray mineral spirits on the leadscrew and gears. Use a brush with a rag and clean the leadscrew and gears.

Apply lithium grease on the leadscrew and a few drops of machine oil on the bearings. See figure-12.

Reinstall the cabinet.

GIBS ADJUSTMENT

After a period of time, movement of the work table and the head over the slide ways will cause normal wear that needs to be adjusted. Make sure the adjustments are equal and in small increment.

To adjust the gib screws:

Make sure the machine is OFF and the cord is disconnected from the power source.

Locate the work table horizontal adjustment gib screw **(A)** on the right side of the table and vertical adjustment gib screw **(B)** on the front side of the table as shown in figure-13.

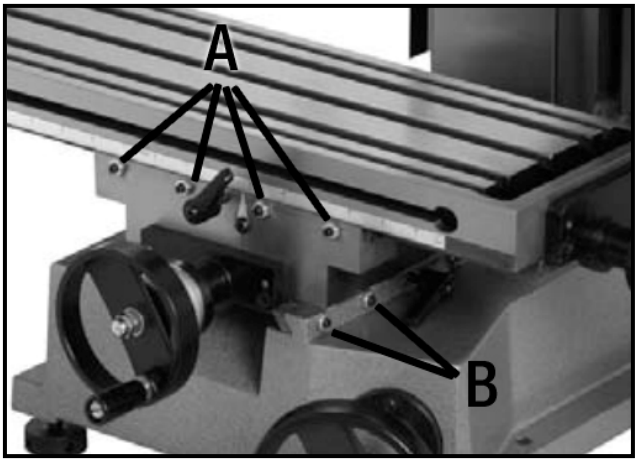


Figure-13 Adjusting the gib screws

Loosen the lock nuts.

Move the table and tighten each set screw a little. When the screws are properly adjusted you will feel the resistance.

Tighten the lock nuts.

To adjust the headstock gibs:

Disconnect the cord from the power source.

Loosen the headstock lock lever.

Loosen or tighten the upper and lower gib screws shown in figure-14 in alternating manner.

The headstock should slide smoothly with no play or looseness. Do not overtighten the gibs.

Lubricate the headstock way and gib.

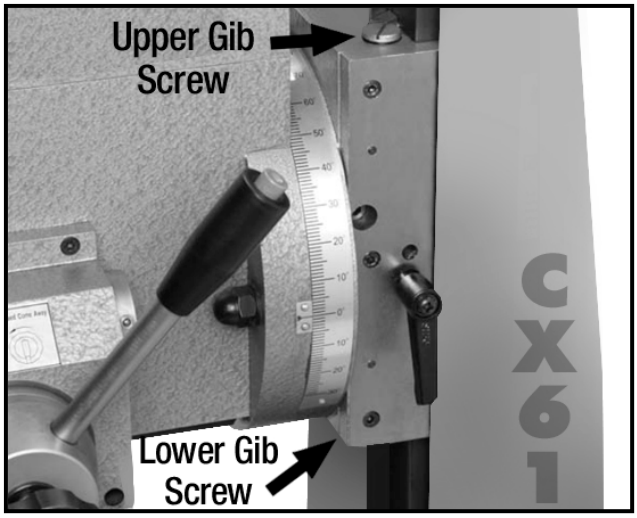
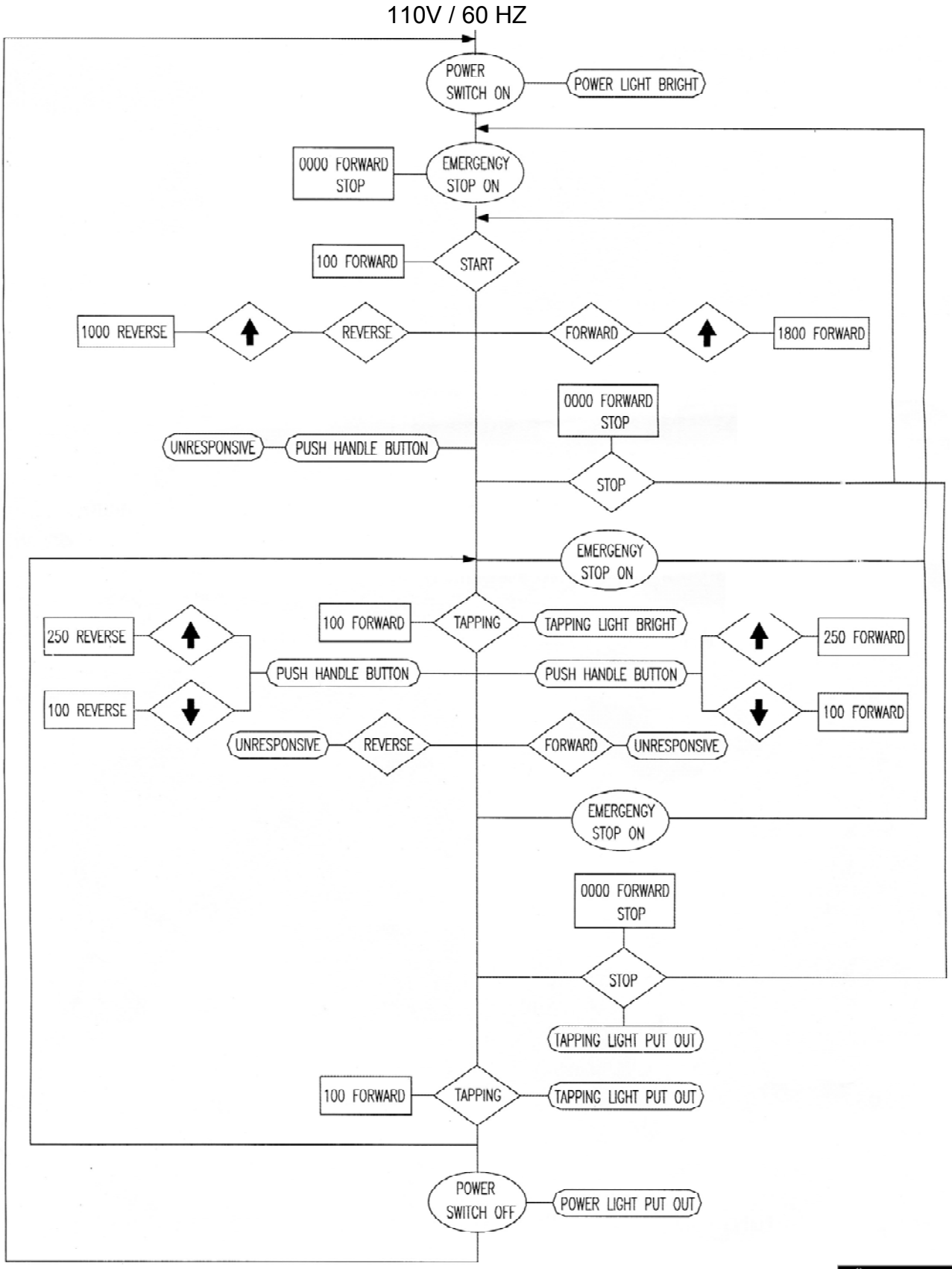
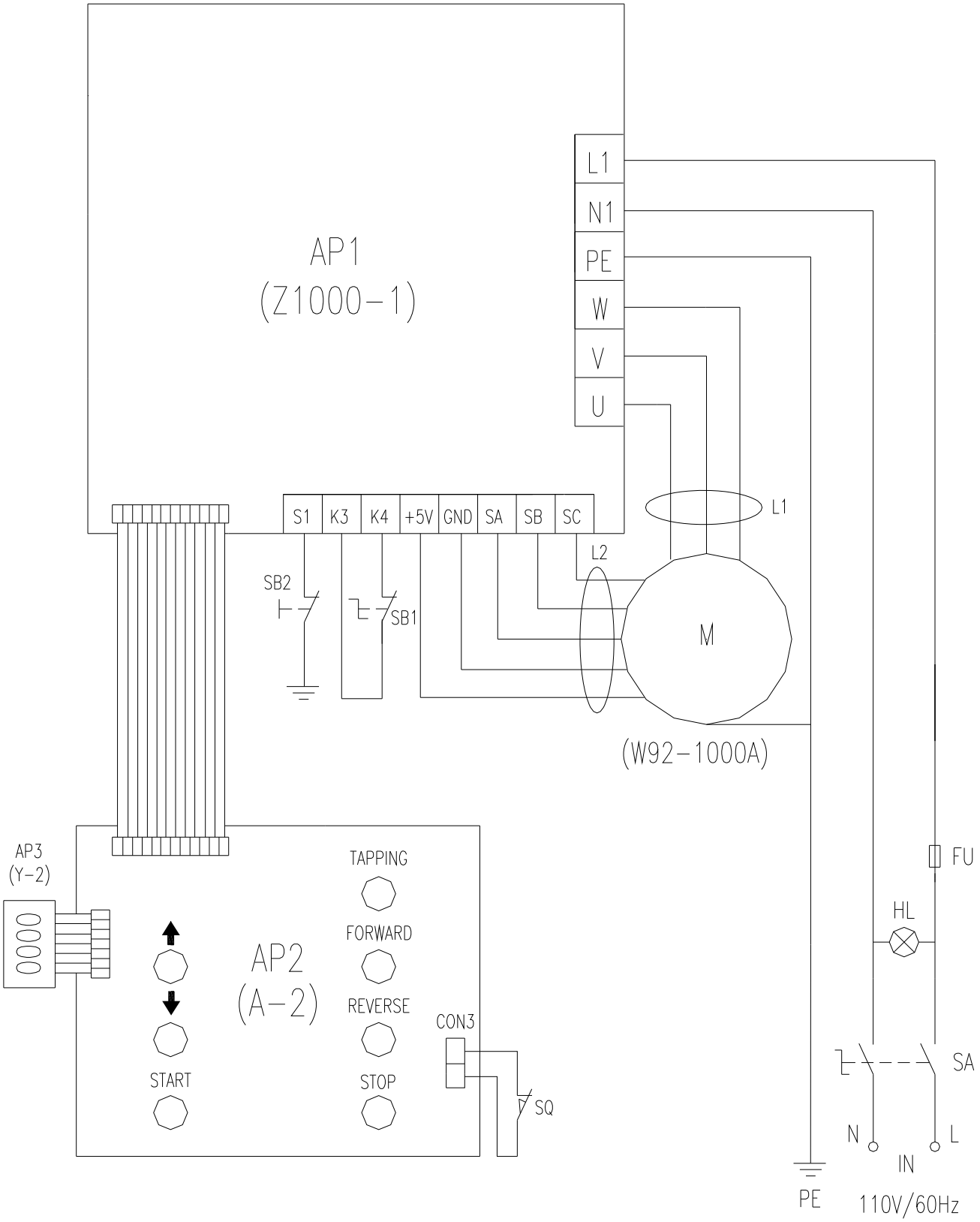


Figure-14 headstock gib screws

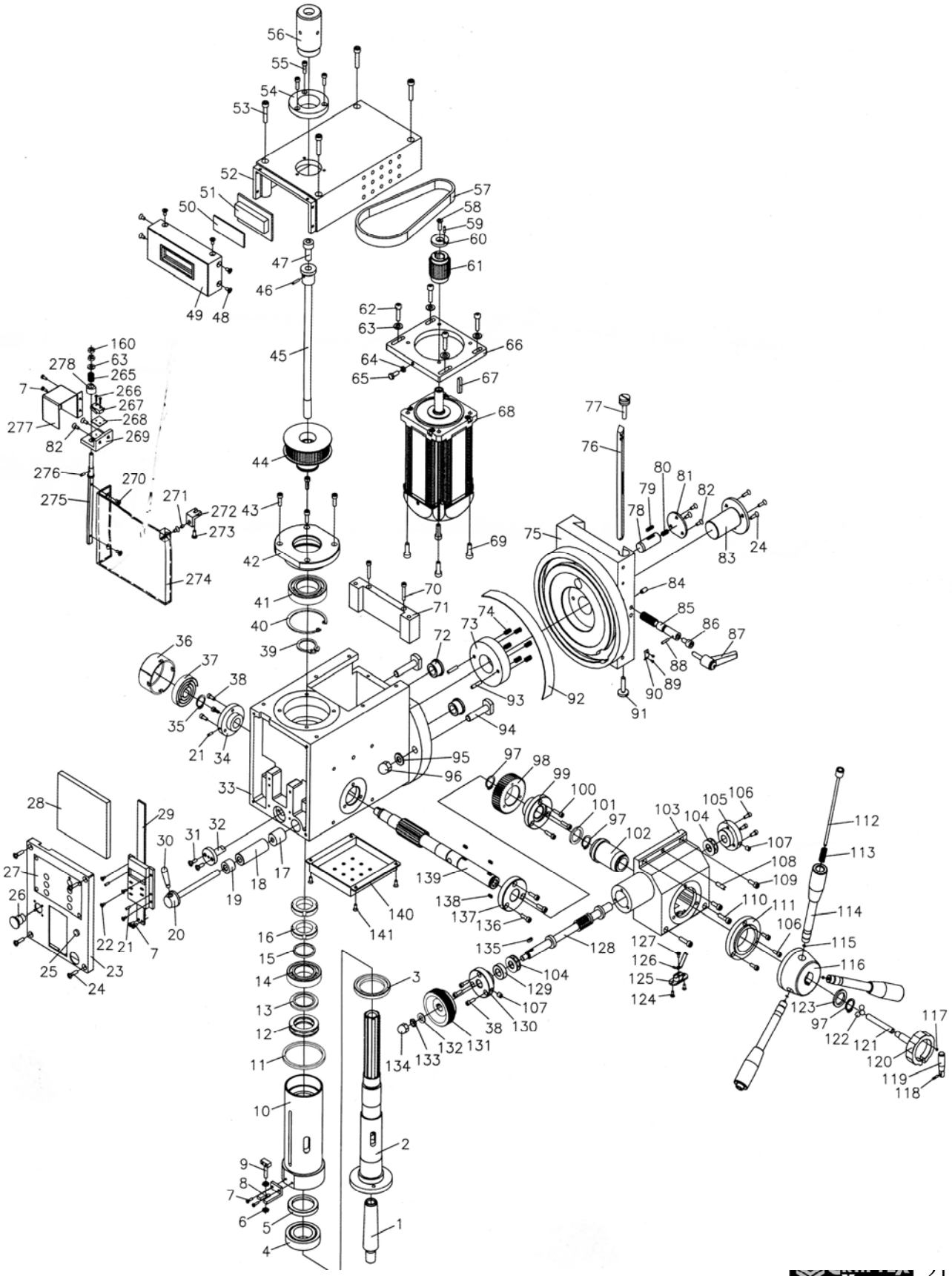
FLOW CHART


110V / 60 HZ
POWER SWITCH ON
POWER LIGHT BRIGHT
0000 FORWARD STOP
EMERGENGY STOP ON
100 FORWARD
START
1000 REVERSE
REVERSE
FORWARD
1800 FORWARD
0000 FORWARD STOP
UNRESPONSIVE
PUSH HANDLE BUTTON
STOP
EMERGENGY STOP ON
250 REVERSE
100 FORWARD
TAPPING
TAPPING LIGHT BRIGHT
250 FORWARD
PUSH HANDLE BUTTON
PUSH HANDLE BUTTON
100 REVERSE
100 FORWARD
UNRESPONSIVE
REVERSE
FORWARD
UNRESPONSIVE
EMERGENGY STOP ON
0000 FORWARD STOP
STOP
TAPPING LIGHT PUT OUT
100 FORWARD
TAPPING
TAPPING LIGHT PUT OUT
POWER SWITCH OFF
POWER LIGHT PUT OUT

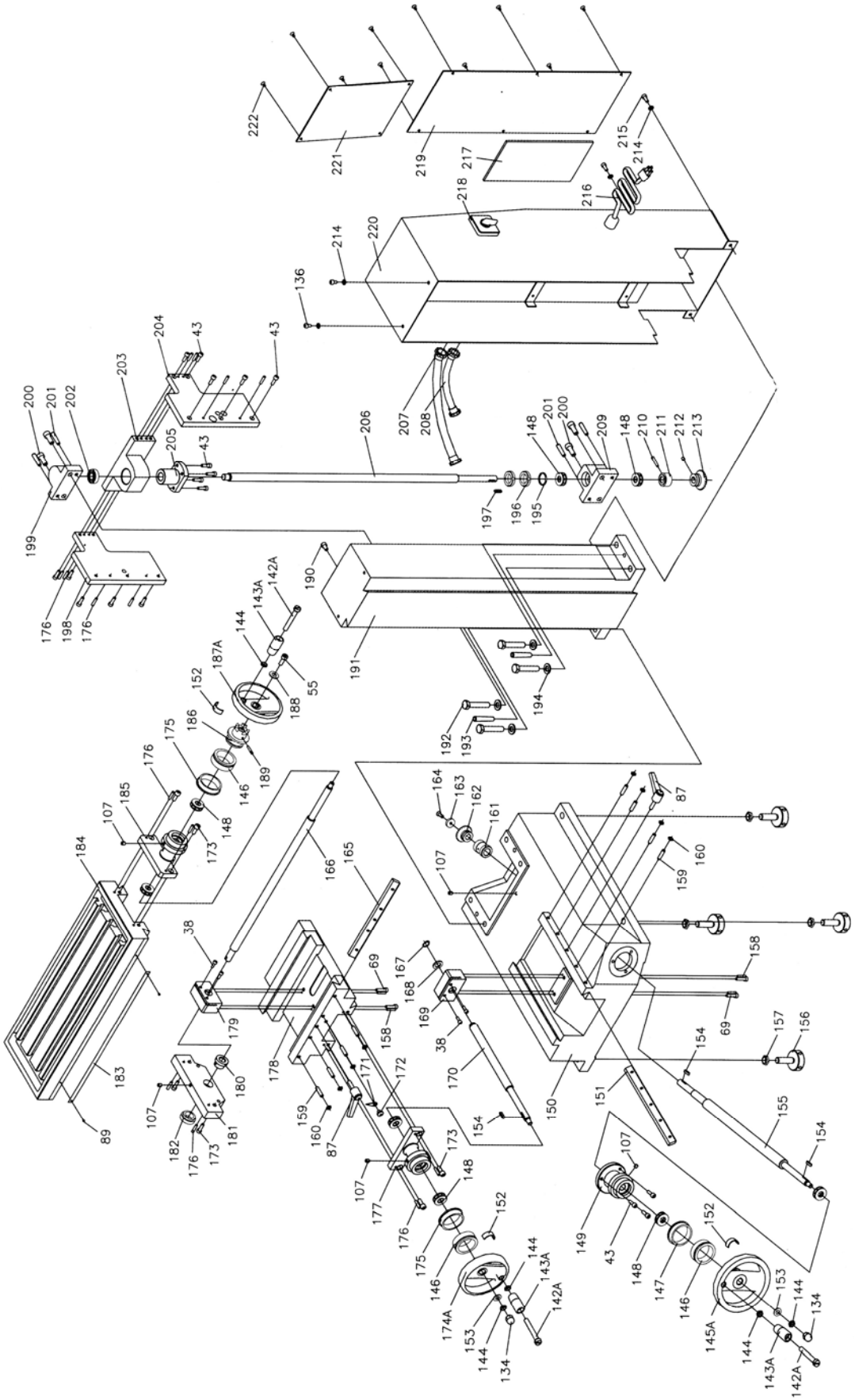
CX611 ELECTRICAL DIAGRAM



CX611 PARTS DIAGRAM



CX611 PARTS DIAGRAM



CX611 PARTS LIST

PART#	IM	DESCRIPTION	QTY
1	SM18901	DRILL CHUCK ARBOR R8 J33	1
2	SM18902	SPINDLE	1
3	SM18903	LOWER OIL SEAL I	1
4	SM18904	TAPER BEARING 32907	1
5	SM18905	LOWER OIL SEAL II	1
6	SM18906	NUT - HEX M5-0.8	2
7	SM18907	SCREW - PAN HD M3-0.5 X 8	4
8	SM18908	DISPLAY FIXED BRACKET	1
9	SM18909	T-BOLT	1
10	SM18910	SPINDLE SLEEVE	1
11	SM18911	SLEEVE LIMIT PAD	1
12	SM18912	BEARING 8106	1
13	SM18913	UPPER WASHER II	1
14	SM18914	BEARING 80106	1
15	SM18915	UPPER WASHER I	1
16	SM18916	NUT - ROUND M27-1.5 (SPINDLE)	2
17	SM18917	SPINDLE BRAKE SLEEVE II	1
18	SM18918	SPINDLE BRAKE SLEEVE I	1
19	SM18919	BUSHING	1
20	SM18920	LEVER - SPINDLE LOCK	1
21	SM18921	PIN - SPRING 3 X 8	3
22	SM18922	SCREW - FLAT HD M3-0.5 X 8	4
23	SM18923	SWITCH PANEL	1
24	SM18924	SCREW - FLAT HD M4-0.8 X 16	7
25	SM18925	INDICATOR LIGHT	1
26	SM18926	EMERGENCY STOP SWITCH	1
27	SM18927	TOUCH PANEL	1
28	SM18928	TOUCH PAD PC BOARD	1
29	SM18929	DIGITAL READOUT	1
30	SM18930	LOCK LEVER HANDLE	2
31	SM18931	SCREW - FLAT HD M3-0.5 X 10	1
32	SM18932	SPINDLE SLEEVE ORIENTATION SHAFT	1
33	SM18933	MILL HEAD	1
34	SM18934	LEFT SUPPORT FLANGE	1
35	SM18935	C-RING M16 EXTERNAL	1
36	SM18936	SPRING COVER	1
37	SM18937	SPRING	1
38	SM18938	SCREW - CAP M4-0.7 X 12	10
39	SM18939	C-RING M35 EXTERNAL	1
40	SM18940	C-RING M65 EXTERNAL	1

41	SM18941	BEARING 80107	1
42	SM18942	BEARING SEAT	1
43	SM18943	SCREW - CAP M5-0.8 X 16	21
44	SM18944	SPINDLE PULLEY	1
45	SM18945	DRAWBAR 7/16-20	1
46	SM18946	PIN - TAPER 3 X 18	1
47	SM18947	SCREW - CAP M10-1.5 X 16	1
48	SM18948	SCREW - FLAT HD M4-0.7 X 6	6
49	SM18949	COVER - SPINDLE SPEED DISPLAY	1
50	SM18950	BLOCK PIECE	1
51	SM18951	SPINDLE SPEED DISPLAY	1
52	SM18952	MILL HEAD COVER	4
53	SM18953	SCREW - CAP M6-1.0 X 40	1
54	SM18954	SPINDLE DUST COVER I	4
55	SM18955	SCREW - CAP M4-0.7 X 10	1
56	SM18956	SPINDLE DUST COVER II	1
57	SM18957	DRIVE BELT	1
58	SM18958	SCREW - CAP M6-1.0 X 16	1
59	SM18959	PIN 3 X 10	1
60	SM18960	WASHER - SPECIAL	1
61	SM18961	MOTOR PULLEY	1
62	SM18962	SCREW - CAP M6-1.0 X 20	4
63	SM18963	WASHER - FLAT M6	4
64	SM18964	NUT - HEX M5-0.8	1
65	SM18965	BOLT - HEX M5-0.8 X 25	1
66	SM18966	MOTOR MOUNTING PLATE	1
67	SM18967	KEY M5 X 25	1
68	SM18968	MOTOR BRUSHLESS 1000W 230V 3Φ 6A	1
69	SM18969	SCREW - CAP M5-0.8 X 20	8
70	SM18970	SCREW - CAP M4-0.7 X 35	2
71	SM18971	SPINDLE BOX PANELING	1
72	SM18972	ORIENTATION STEEL SLEEVE	2
73	SM18973	RUB CIRCLE	6
74	SM18974	SPRING 1 X 6 X 20	1
75	SM18975	VERTICAL SLIDE	1
76	SM18976	VERTICAL SLIDE GIB	1
77	SM18977	UPPER GIB ADJUSTING SCREW	3
78	SM18978	ORIENTATION SMALL GEAR SHAFT	1
79	SM18979	KEY 4 X 12	1
80	SM18980	SPRING 0.7 X 4.7 X 25	1
81	SM18981	COVER BOARD	1
82	SM18982	SCREW - FLAT HD M4-0.7 X 10	3
83	SM18983	CENTER ORIENTATION SHAFT	1
84	SM18984	SCREW - SET M6-1.0 X 8	1
85	SM18985	SMALL GEAR SHAFT	1

86	SM18986	INLAY SHAFT	1
87	SM18987	VERTICAL SLIDE LOCK LEVER	3
88	SM18988	PIN - TAPER 3 X 10	1
89	SM18989	RIVET	4
90	SM18990	INDICATOR	1
91	SM18991	LOWER GIB ADJUSTING SCREW	1
92	SM18992	HEAD TILT SCALE	1
93	SM18993	PIN 5 X 20	2
94	SM18994	BOLT - T BOLT	2
95	SM18995	WASHER - FLAT M10	2
96	SM18996	NUT - HEX M10-1.5	2
97	SM18997	C-RING EXT M20	3
98	SM18998	GEAR - BEVEL 47T	1
99	SM18999	SUPPORTING FLANGE	1
100	SM189100	SCREW - CAP M4-0.7 X 16	3
101	SM189101	WASHER - FLAT	1
102	SM189102	GUIDE ELECTRICITY ASSEMBLY	1
103	SM189103	WORM SUPPORT BOX	1
104	SM189104	BEARING 8101	2
105	SM189105	WORM RIGHT SUPPORT FLANGE	1
106	SM189106	SCREW M4-0.7 X 10	6
107	SM189107	OIL CUP 6	7
108	SM189108	SCREW M6-1.0 X 20	1
109	SM189109	SCREW M5-0.7 X 16	2
110	SM189110	SCREW - CAP M5-0.7 X 20	2
111	SM189111	RIGHT SUPPORT FLAMGE II	1
112	SM189112	JOY STICK	3
113	SM189113	SPRING 0.7 X 6 X 25	3
114	SM189114	HANDLE	3
115	SM189115	C-RING M4 EXTERNAL	3
116	SM189116	HANDLE SEAT	1
117	SM189117	MAGNETIC BLOCK	1
118	SM189118	PIN 3 X 14	1
119	SM189119	SPINDLE LOCK HANDWHEEL	1
120	SM189120	WORM WHEEL LOCK HANDLE	1
121	SM189121	LOCK SMALL SHAFT	1
122	SM189122	STEEL BALL M8	3
123	SM189123	ADJUST MAT	1
124	SM189124	SCREW - FLAT HD M3-0.5 X 6	2
125	SM189125	FIXING PLATE	1
126	SM189126	GUIDE ELECTRICITY BAR	1
127	SM189127	SCREW - PAN HDN M3-0.5 X 6	1
128	SM189128	WORM	1
129	SM189129	WORM ADJUST MAT	1
130	SM189130	WORM LEFT SUPPORT FLANGE	1

131	SM189131	FINE FEED HANDWHEEL	1
132	SM189132	WASHER - FLAT M8	1
133	SM189133	NUT - HEX M8-1.25	1
134	SM189134	NUT - ACORN M8-1.25	3
135	SM189135	KEY 4 X 10	1
136	SM189136	SCREW - CAP M5-0.8 X 12	5
137	SM189137	RIGHT SUPPORT FLANGE I	1
138	SM189138	KEY 6 X 8	3
139	SM189139	GEAR SHAFT	1
140	SM189140	SPINDLE BOX BELOW COVER	1
141	SM189141	SCREW M4-0.7 X 10	4
142A	SM189142A	SCREW M8-1.25 X 75	3
143A	SM189143A	HANDLE SLEEVE	3
144	SM189144	NUT - HEX M8-1.25	5
145A	SM189145A	HANDWHEEL	1
146	SM189146	DIAL	3
147	SM189147	INLAY CIRCLE	1
148	SM189148	BEARING 51101	8
149	SM189149	SUPPORT FLANGE	1
150	SM189150	BASE	1
151	SM189151	CROSS GIB	1
152	SM189152	SPRING - FLAT	3
153	SM189153	WASHER - FLAT M8	2
154	SM189154	KEY 4 X 16	3
155	SM189155	Z AXIS HORIZONTAL DRIVE SHAFT	1
156	SM189156	FOOT THREADED BOLT M12-1.75	1
157	SM189157	NUT - HEX M12-1.75	4
158	SM189158	PIN - TAPER 3 X 20	4
159	SM189159	SCREW - SET M6-1.0 X 25	8
160	SM189160	NUT - HEX M6-1.0	8
161	SM189161	SHAFT SLEEVE	1
162	SM189162	BEVEL GEAR 24T	1
163	SM189163	WASHER - FLAT	1
164	SM189164	SCREW M5-0.8 X 14	1
165	SM189165	LONGITUDINAL GIB	1
166	SM189166	LONGITUDINAL LEAD SCREW	1
167	SM189167	C-RING M12 EXTERNAL	1
168	SM189168	WASHER - FLAT	1
169	SM189169	CROSS LEADSCREW NUT	1
170	SM189170	CROSS LEADSCREW	1
171	SM189171	INDICATING POINTER	1
172	SM189172	SCREW - PAN HD M6-1.0 X 6	1
173	SM189173	SCREW - CAP M6-1.0 X 16	6
174A	SM189174A	HANDWHEEL	1
175	SM189175	INLAY CIRCLE	2

176	SM189176	PIN - TAPER 4 X 20	14
177	SM189177	BEARING SEAT	1
178	SM189178	SADDLE	1
179	SM189179	LONGITUDINAL LEADSCREW NUT	1
180	SM189180	LEFT BEARING SLEEVE	1
181	SM189181	LEFT SUPPORT	1
182	SM189182	LEFT SUPPORT STOP UP	1
183	SM189183	LONGITUDINAL SCALE	1
184	SM189184	WORK TABLE	1
185	SM189185	PORTRAIT LEADSCREW BEARING SEAT	1
186	SM189186	LEADSCREW CLUTCH	1
187A	SM189187A	HANDWHEEL	1
188	SM189188	WASHER - FLAT	1
189	SM189189	PIN 4 X 28	1
190	SM189190	SCREW - CAP M6-1.0 X 10	1
191	SM189191	COLUMN	1
192	SM189192	BOLT - HEX HD M10-1.5 X 50	4
193	SM189193	PIN - TAPER 6 X 40	2
194	SM189194	WASHER - FLAT M10	4
195	SM189195	WASHER - FLAT	1
196	SM189196	SMALL ROUND NUT M16-1.5	2
197	SM189197	KEY 4 X 20	1
198	SM189198	SIDE SUPPORT PLATE RIGHT	1
199	SM189199	UPPER BEARING SEAT	1
200	SM189200	SCREW - CAP M8-1.25 X 20	4
201	SM189201	PIN - TAPER 6 X 30	4
202	SM189202	BEARING 80101	1
203	SM189203	UPPER SUPPORT BRACKET	1
204	SM189204	SIDE SUPPORT PLATE LEFT	1
205	SM189205	Z AXIS LEADSCREW NUT	1
206	SM189206	Z AXIS LEADSCREW	1
207	SM189207	FLEX CABLE CONDUIT CONNECTOR	4
208	SM189208	FLEX CABLE CONDUIT	2
209	SM189209	LOWER BEARING SEAT	1
210	SM189210	PIN - TAPER 4 X 26	1
211	SM189211	LIMIT SLEEVE	1
212	SM189212	SCREW-SET M5-0.8 X 8 (SLOTTED/POINT)	1
213	SM189213	GEAR - BEVEL	1
214	SM189214	WASHER - FLAT M5	4
215	SM189215	SCREW - CAP M5-0.8 X 8	2
216	SM189216	POWER LINE	1
217	SM189217	INVERTER	1
218	SM189218	POWER SWITCH	1
219	SM189219	COVER II	1
220	SM189220	BACK COVER	1

221	SM189221	COVER I	1
222	SM189222	SCREW - PAN HD M4-0.7 X 5	10
265	SM189265	SPRING 1.4 X 8.2 X 24	1
266	SM189266	SCREW - PAN M2-0.4 X 10	2
267	SM189267	MICRO SWITCH	1
268	SM189268	INSULATION WASHER 20 X 27	1
269	SM189269	SUPPORT PLATE	1
270	SM189270	SCREW - FLAT HD M4-0.7 X 8	3
271	SM189271	MAGNET BLOCK	1
272	SM189272	BLOCK	1
273	SM189273	SCREW - PAN HD M4-0.7 X 10	1
274	SM189274	PROTECT COVER	1
275	SM189275	GUARD SUPPORT SHAFT	1
276	SM189276	SCREW - SET M3-0.5 X 4	1
277	SM189277	COVER	1
278	SM189278	SPACER	1

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.