



CX704

7" x 12" MINI METAL LATHE

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.
- ❖ **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 operate 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** reach over the machine 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 and clamp the work-piece (when necessary) to prevent the work-piece from any unexpected movement.
- ❖ **ALWAYS** make sure that any tools used for adjustments are removed before operating the machine.
- ❖ **ALWAYS** keep the bystanders safely away while the machine is in operation.
- ❖ **NEVER** attempt to remove jammed cutoff pieces until the saw blade has come to a full stop.

CX704 - MINI METAL LATHE

SPECIFIC SAFETY INSTRUCTIONS

- ❖ **This machine is designed and intended for use by properly trained and experienced personnel only.** If you are not familiar with the proper use of lathes, do not use this machine until proper training and knowledge has been obtained.
- ❖ **Keep guards in place.** Safety guards must be kept in place and in working order all the times to ensure safety.
- ❖ **Keep children and visitors away.** All children and visitors should be kept at a safe distance from the work area.
- ❖ **Wear proper apparel.** Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Do not wear any type of gloves.
- ❖ **Always use safety glasses.** For the safety of your eyes, safety glasses should be used while operating the lathe.
- ❖ **Do not use the lathe in dangerous environments.** Do not expose the machine to rain. Do not use the machine in wet locations.
- ❖ **Check for damaged parts.** Check for proper alignment of moving parts, broken parts, and any other conditions that may effect the tools operation.
- ❖ **Remove adjusting keys and wrenches.** Remove all the tools used for adjustment before turning the machine on.
- ❖ **Be careful.** Do not put your hand close to the cutter while the machine is running.
- ❖ **Never leave the lathe unattended** while it is running.
- ❖ **Do not over-reach.** Keep proper footing and balance at all times.
- ❖ **Maintain tools with care.** Keep tools sharp and clean for best and safest performance. Follow instructions given in the manual for lubrication and replacing accessories.
- ❖ **Turn the power OFF.** Before making any adjustments, make sure the switch is in the "OFF" position and the cord is un-plugged from the power outlet.
- ❖ **Make sure** you have read and understood all the safety instructions in the manual and you are familiar with your metal lathe, before operating it. 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.



CX704 – METAL LATHE

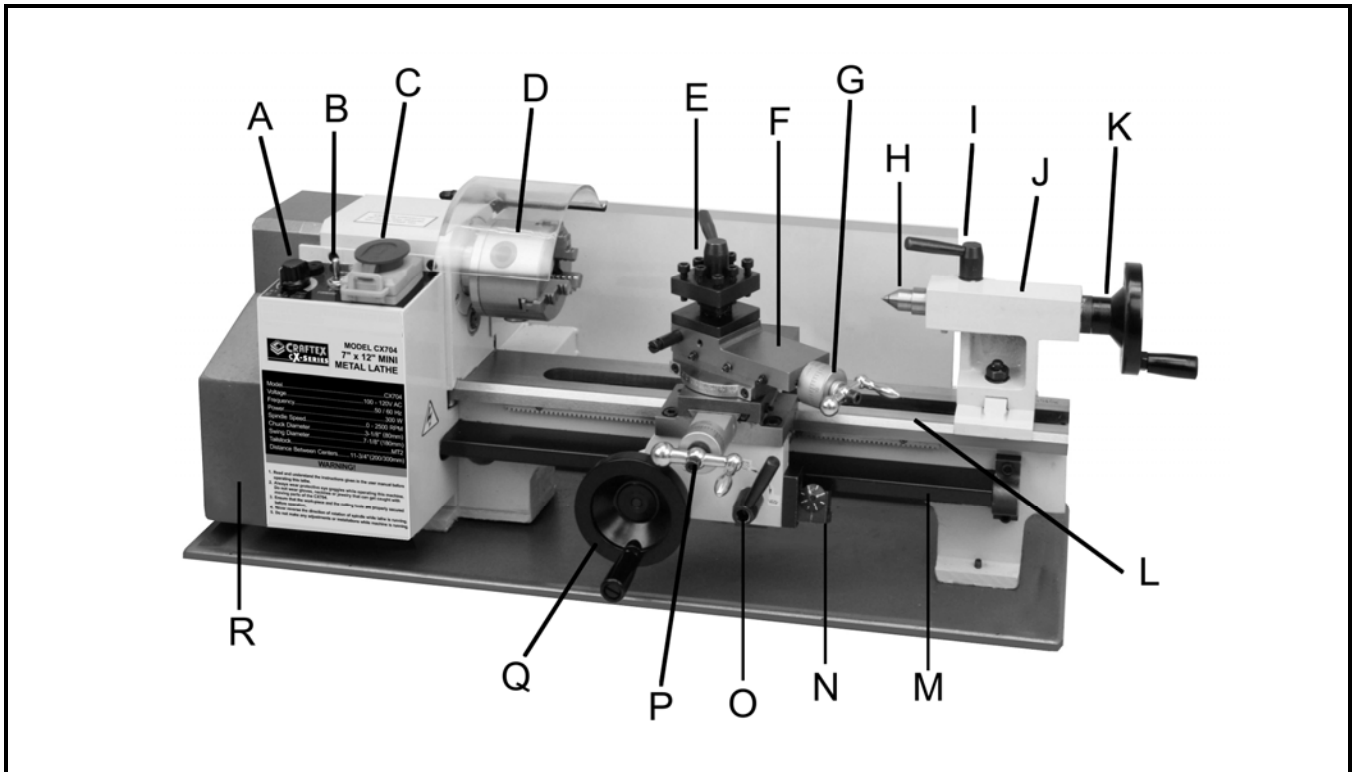
FEATURES

MODEL CX704 – 7” x 12” MINI METAL LATHE

As part of the growing line of Crafttex metalworking equipment, we are proud to offer the CX704 a 7” x 12” Mini Metal Lathe. By following the instructions and procedures laid out in this user manual, you will receive years of excellent service and satisfaction. The CX704 is a professional tool and like all power tools, proper care and safety procedures should be adhered to.

- ⊞ Motor300W, 110 V, 60 Hz, Single Phase, 3 Amps
- ⊞ Number Of Speeds Variable
- ⊞ Swing Over Bed7"
- ⊞ Swing Over Cross Slide (RD).....2-1/8"
- ⊞ Swing Over Saddle5"
- ⊞ Compound Slide Travel2-3/4"
- ⊞ Carriage Travel10-1/2"
- ⊞ Cross Slide Travel.....2-3/4"
- ⊞ Maximum Tool Bit Size5/16"
- ⊞ Headstock Construction..... Cast Iron
- ⊞ Spindle Bore20mm
- ⊞ Spindle Size3"
- ⊞ Spindle Taper.....MT#3
- ⊞ Range of Spindle SpeedsLow 0 - 1100, High 0 - 2500 RPM
- ⊞ Tailstock Travel.....2-1/2"
- ⊞ Tailstock TaperMT#2
- ⊞ No. of Inch Threads18
- ⊞ Range of Inch Threads12 - 52 TPI
- ⊞ No. of Metric Threads10
- ⊞ Range of Metric Threads0.4 - 2.0mm
- ⊞ Bed ConstructionCast Iron
- ⊞ Overall Dimension of the lathe28" x 12" x 12"
- ⊞ Weight.....75 lbs
- ⊞ Warranty3 Years

CX704 - MINI METAL LATHE PHYSICAL FEATURES



- | | |
|------------------------------|---------------------------|
| A. Variable Speed Switch | J. Tailstock |
| B. Forward/Reverse Switch | K. Tailstock Hand Wheel |
| C. Emergency Stop Button | L. Bed Way |
| D. Chuck | M. Lead Screw |
| E. Tool Post | N. Thread Dial |
| F. Compound Slide | O. Automatic Feed Lever |
| G. Compound Slide Hand Wheel | P. Cross Slide Hand Wheel |
| H. Tailstock Quill | Q. Carriage Hand Wheel |
| I. Tailstock Quill Lock | R. Gears Cover |

SETUP

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

The unpainted surfaces of this lathe 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!

CX704 is a heavy machine, do not over-exert yourself. Use fork truck or other mechanical devices or get the help of a friend for safe moving method.

When setting up your machine, you will want to find an ideal spot where your metal lathe will most likely be positioned most of the time.

UNPACKING

To ensure safe transportation this machine is properly packaged and shipped completely in crates. When unpacking, carefully inspect the crates and ensure that nothing has been damaged during transit. Open the crates and check that the machine and the parts are in good condition.

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 because of shipping purposes.

PROPER GROUNDING

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

CX704 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 lathe 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.

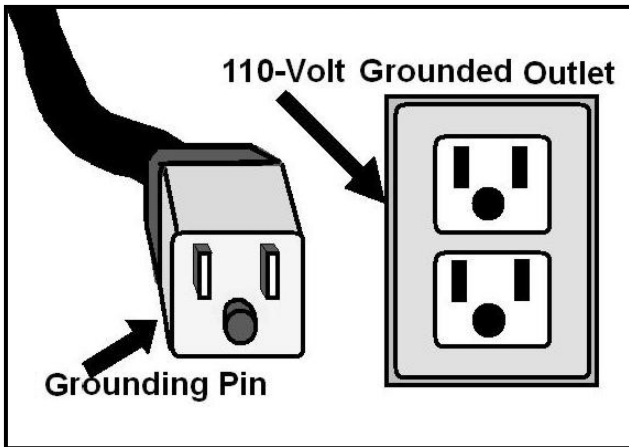


Figure-1 110-Volts outlet for CX704

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 CX704. 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.

HAND WHEEL HANDLES

Thread the handles into the longitudinal and tailstock handwheels and tighten using a screw driver and an open wrench. See figure-2 & 3.



Figure-2 Installing the tailstock hand wheel handle

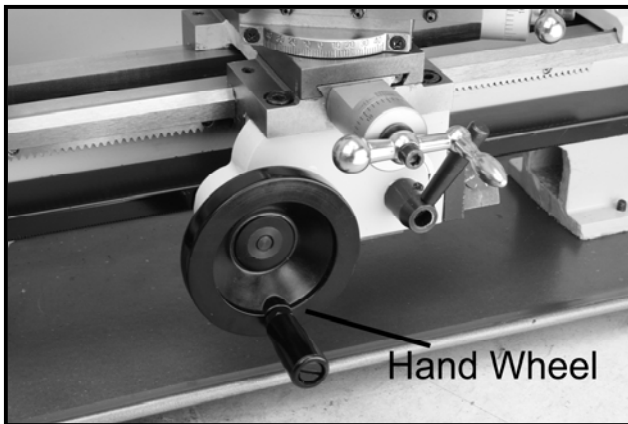


Figure-3 Installing longitudinal hand wheel handle

The cross slide feed handle comes installed with the opposite direction for shipping purposes. Remove the cap screw using a hex wrench and turn the handle around. Secure the handle by retightening the cap screw. See figure-4.

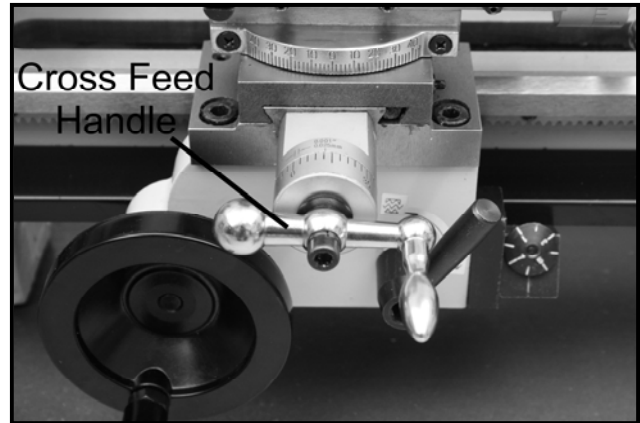


Figure-4 Installing the cross feed hand wheel handle

BASIC CONTROLS

This section describes the basic controls of the CX704. Use the figure and read the descriptions to understand the basic controls of this lathe.

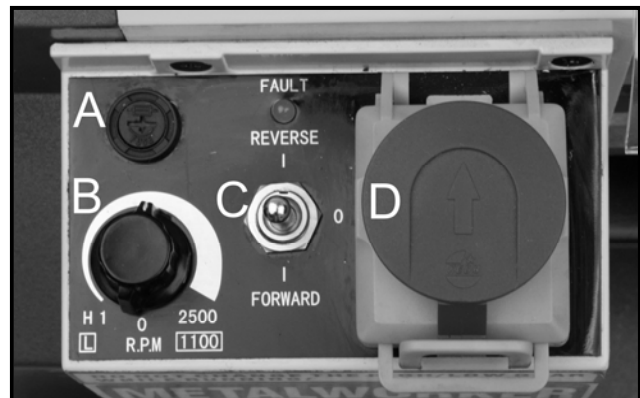


Figure-5 Control panel

A. FUSE SOCKET: Features a 5 Amp system fuse.

B. VARIABLE SPEED CONTROL KNOB: Controls the spindle speed range from 0 - 2500 RPM.

C. FORWARD/REVERSE SWITCH:

Changes the direction of rotation of spindle from clockwise to neutral and counter-clockwise.

D. EMERGENCY STOP BUTTON: Shuts down the power to the motor when pushed in.

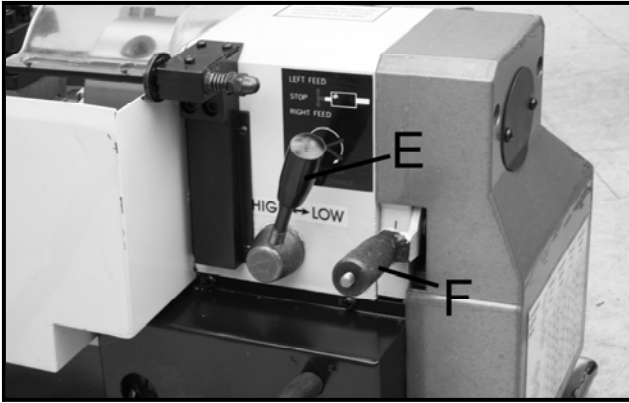


Figure-6 Rear controls

E. LEAD SCREW REVERSE LEVER:

Changes the direction of rotation of leadscrew for power feed or threading operations.

F. HIGH/LOW RANGE CONTROL LEVER:

Changes the spindle speed range from high (0 - 2500 RPM) to low (0 - 1100 RPM).

TEST RUN

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

WARNING!

Before starting the lathe, 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 lathe.

TO TEST RUN THE CX704:

Remove all the tools and objects used for assembling the machine.

Walk around the machine, ensure all nuts, bolts, and screws are tightened and the machine is properly assembled.

Locate the High/Low range control lever at the back of the lathe and set it to Low range.

Set the Forward/Reverse button to Forward position.

Connect the cord to the power source and lift the Emergency Stop button.

Rotate the Variable Speed Control Knob slowly and you will hear a click as the power is turned ON. The spindle speed will increase as you turn the knob and the lathe should run with little or no vibration.

During the test run if you hear any unusual noise coming from the lathe or the spindle does not rotate smoothly, immediately shut

off the machine and investigate to find out the problem.

If the lathe is running smoothly, let it run for a few minutes and gradually increase the RPM using the variable speed control knob until it reaches the maximum RPM of 2500.

Allow the lathe to run for a few minutes and stop it by pressing the Emergency Stop Button.

WARNING!

DO NOT change the direction of rotation of leadscrew while the lathe is running. Failure to do so could result damage to the lathe.

CHUCK JAWS REPLACEMENT

Replacing the chuck jaws is very simple on CX704. You just have to pay attention to the sequence in which the jaws are loaded into the chuck.

TO REPLACE THE JAWS:

Make sure the cord is disconnected from the power source.

Remove all the jaws on the chuck by turning the chuck key counter clockwise.

Clean the jaws and the slot in the chuck with a piece of cloth and make sure there is no debris.

The jaws are numbered as A, B, C or 1,2,3 and the numbers are in the slot on the chuck.

Insert the jaw in to the slot#1 and turn the chuck key clockwise until the jaw is engaged with the thread.

Repeat the same step with jaw#2 and then jaw#3. Make sure the jaws are installed in sequence.

WARNING!

Make sure not to over-tighten the jaws. This will damage the jaws. For doing eccentric work, do not install the jaws into the chuck incorrectly. Always use a 4 jaw chuck for this job.

INSTALLING / REMOVING CHUCK OR FACEPLATE

The chuck is mounted directly to the spindle nose plate using studs and hex nuts.

TO REMOVE THE CHUCK / FACEPLATE:

Make sure the cord is disconnected from the power source.

Hold the chuck with one hand and remove the three hex nuts securing the chuck to the spindle nose plate using a wrench.

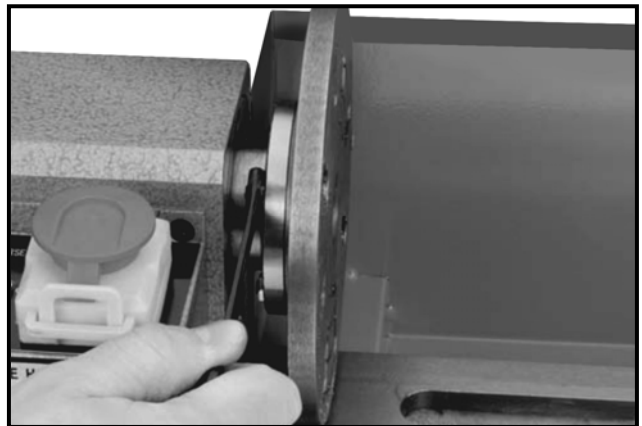


Figure-7 Removing the faceplate

Tap the chuck / faceplate with a rubber mallet (if needed) and pull it out.

TO INSTALL THE CHUCK / FACEPLATE:

Remove the studs from the old faceplate / chuck you just removed and thread them into the faceplate / chuck you want to install.

When threading the studs into the new faceplate/chuck, make sure the studs are protruding 1/2" from the check surface.

Align the studs with holes on the spindle nose and secure the faceplate / chuck using the hex nuts removed.

TAILSTOCK

The tailstock slides along the bed way and can be locked in position by tightening the hex nut on its base. The tailstock features a hand wheel which moves the MT2 tailstock quill in or out and a lock lever to secure the quill in position. The offset screw on the tailstock helps maintain tailstock position during tailstock offset adjustment. See figure-8.

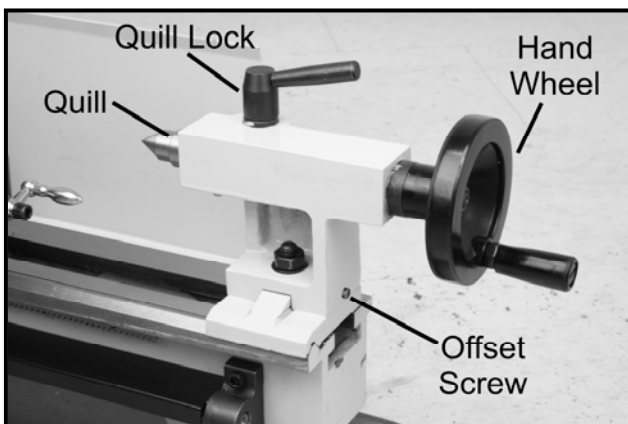


Figure-8 Tailstock controls

TAILSTOCK POSITIONING

TO ADJUST THE LONGITUDINALLY:

Make sure the cord is disconnected from the power source.

Loosen the tailstock lock nut securing the tailstock on the lathe bed with a proper size wrench. See figure-9.

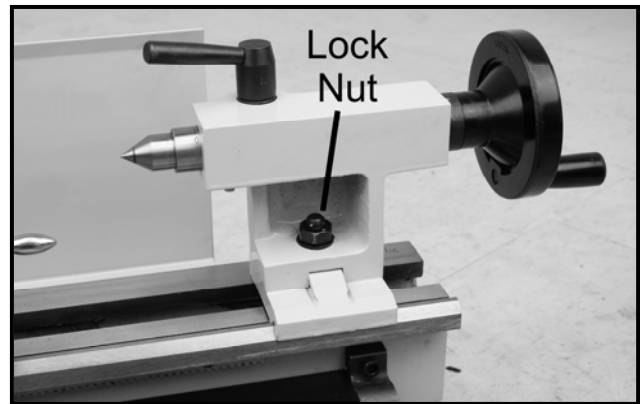


Figure-9 Loosening the tailstock lock nut

TO OFFSET THE TAILSTOCK:

Loosen the tailstock lock nut shown in figure-9 and remove the tailstock.

Loosen the tailstock offset cap screw shown in figure-8 a few turns and slide the tailstock back onto the bed.

Adjust the tailstock to the desired offset and tighten the setscrew to secure the tailstock in position.

Remove the tailstock from the lathe bed and tighten the offset cap screw.

Slide the tailstock back onto the lathe bed and tighten the tailstock lock nut to secure the tailstock in position.

Repeat the above steps often to change the tailstock offset.

DEAD CENTER

When the work-piece is 3 times longer than its diameter should be supported by a dead or live center.

TO INSTALL THE DEAD CENTER:

Make sure the cord is disconnected from the power source.

Turn the tailstock hand wheel so that the quill is about 1" out.

Use a piece of cloth and clean the tailstock quill and the dead center and make sure there is no dirt, debris, grease or oil on them.

Now, insert the dead center into the tailstock quill and the taper will hold the center in position.

Make sure the quill does not extend less than 0 and not greater than 1-1/2" out of the tailstock while operation.

TO REMOVE THE DEAD CENTER:

Turn the tailstock hand wheel to move the quill all the way back into the tailstock and dead center will come out of the quill.

TOOL POST

A four-way tool post is supplied with CX704 which rotates to four 90° preset stops or at any angle in between. Cutting tools can be attached and removed by tightening or loosening the cap screws on the tool post.

TO USE THE TOOL POST:

Attach the cutting tool you want to use to the tool post and secure it by tightening cap screws. See figure-10.

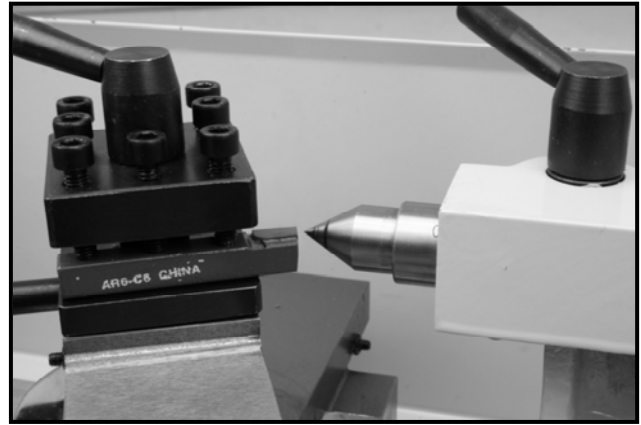


Figure-10 Proper tool post setup

The tip of the cutting tool should be right at the centerline on the work-piece. If it is not, use shims under the cutting tool to bring the tool up, to the centerline of the work-piece.

STEADY REST

The steady rest supports long, small diameter stock that otherwise could not be turned. The steady rest can also replace the tailstock to allow for cutting tool access at the outboard end of your work-piece.

TO SET-UP THE STEADY REST:

Loosen the hex nuts and knurled screws and open the sliding fingers until the steady rest can be moved with its finger around the work-piece.

Slide the work-piece between the steady rest fingers and secure the two ends of the work-piece between chuck and dead center or two centers as required.

Position the steady rest on the lathe bed where desired and secure it in place by tightening the nut.

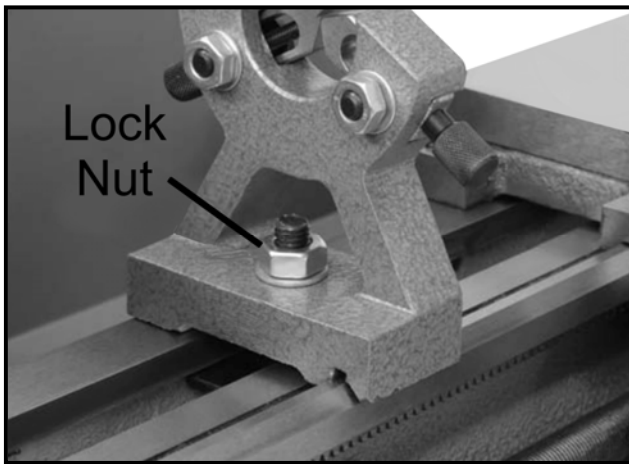


Figure-11 Installing steady rest

Tighten the knurled screws so that the fingers are snug but not tight against the work-piece and the work-piece can rotate easily.

Tighten three hex nuts shown in and lubricate the sliding points with machine oil.

IMPORTANT

The sliding fingers of the steady rest should receive periodic lubrication when used, to prevent premature wear. The fingers tips will show wear after sometimes and will need to be milled or filed for new contact surface.

CROSS SLIDE

The cross slide allows the cutting tool to travel perpendicular to the bed and features a scale and a hand wheel having graduations of 0.001".

TO ADJUST THE CROSS SLIDE:

Move the cross slide back and forth a few turns using the hand wheel and then move it to your starting point. This will clear any free movements in the leadscrew increasing accuracy on cross slide scale.

Hold the hand wheel with one hand and turn the scale so that the "0" mark on the scale lines up with the "0.000" mark on the cross slide. See figure-12.

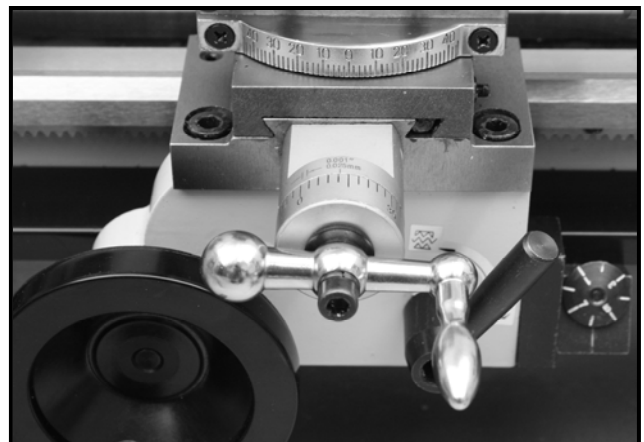


Figure-12 Adjusting the cross slide

When making the next cut, make sure to clear the backlash before moving the cross slide forward to the "0" mark.

COMPOUND SLIDE

The compound slide rotates at a set angle and features a graduation scale of 0.001".

TO ADJUST THE COMPOUND SLIDE:

Loosen the bolts located on the compound slide shown in figure-13.

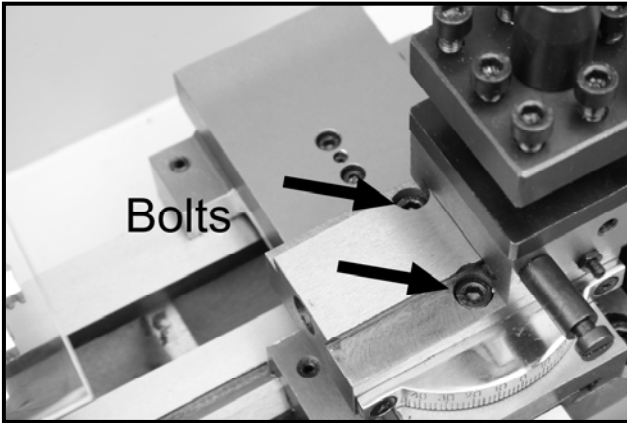


Figure-13 Loosening the bolts

Rotate the compound slide to the desired angle.

Tighten the bolt, loosened in the first step and make sure the compound slide does not move during tightening.

Move the compound slide back and forth using the hand wheel and make sure the threads are engaging and there is no backlash, before you set the hand wheel scale to "0".

CARRIAGE

The carriage allows the cutting tool to move along the length of the lathe bed and the carriage movement can be controlled manually or automatically.

MANUAL MOVEMENT

The manual movement of the carriage can be controlled using the hand wheel shown in figure-14.

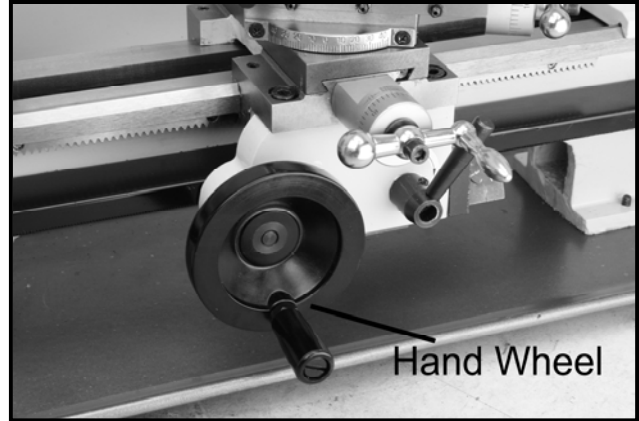


Figure-14 Carriage hand wheel

Rotating the hand wheel clockwise will move the carriage to the right and counter-clockwise will move the carriage to the left on the lathe bed.

AUTOMATIC MOVEMENT

To use the automatic carriage movement, set the carriage to the desired starting point using the carriage hand wheel.

Turn the variable speed control dial to the required RPM.

Move the automatic feed lever down to engage the half-nut and activate the automatic feed feature. See figure-15.

To deactivate the automatic feed feature, simply lift the the automatic feel lever up.

Automatic feed feature also works when operating the lathe in reverse direction by changing the leadscrew after turning the lathe OFF.

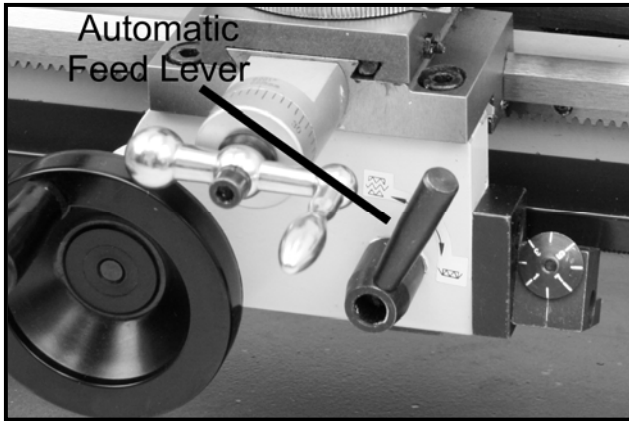


Figure-15 Automatic feed lever

WARNING!

DO NOT change the direction of rotation of leadscrew while the lathe is running. Failure to do so could result damage to the lathe.

CHANGING GEARS

The gears on CX704 can be changed for a variety of different feed rates.

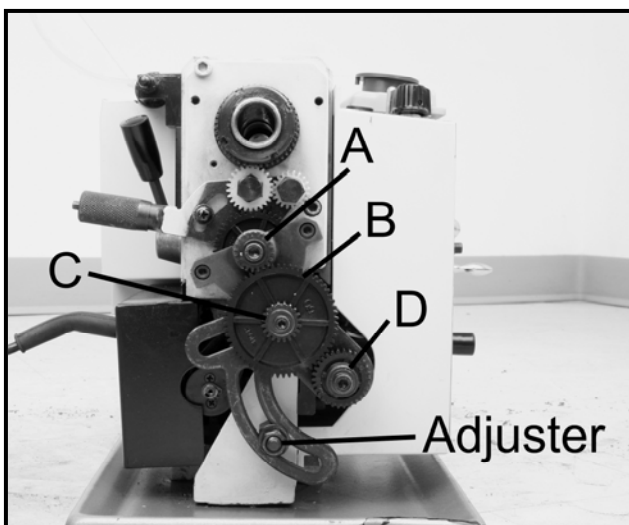


Figure-16 Gears and adjuster

TO CHANGE THE GEARS:

Make sure the cord is disconnected from the power source.

Remove the gear cover to access the gears. Loosen the adjusted to disengage the gears from each other.

Remove the gears and install the new gears according to the chart. See figure-17 & 18.

Reinstall the adjuster and close the cover.

TPI	GEARS				TPI	GEARS			
	A	B	C	D		A	B	C	D
12	40	65	/	30	26	40	60	/	65
13	40	65	60	30	28	20	65	/	35
14	40	65	/	35	32	20	65	/	40
16	40	65	/	40	36	20	65	/	45
18	40	65	/	45	38	20	50	60	57
19	40	50	60	57	40	20	65	/	50
20	40	65	/	50	44	20	65	/	55
22	40	65	/	55	48	20	65	/	60
24	40	65	/	60	52	20	60	/	65

Figure-17 Threads per inch chart

mm	GEARS			
	A	B	C	D
0.4	20	50	40	60
0.5	20	50	/	60
0.6	40	50	30	60
0.7	40	50	35	60
0.8	40	50	40	60
1.0	20	60	/	30
1.25	50	40	/	60
1.5	40	60	/	40
1.75	35	60	/	30
2.0	40	60	/	30

Figure-18 Metric thread chart

THREADS CUTTING

Several different threads can be cut using the proper combination of gears and settings.

Set the compound slide to the proper angle required for the cut and align the tip of the cutting tool with the center of the work-piece.

Engage the thread dial with the leadscrew according to the chart (figure-19).

Install the gears according to the thread charts (figure-17 & 18) to get the required RPM for the job.

Turn the spindle ON and select the RPM and make sure that the carriage is moving to the correct direction for cutting.

<i>TPI</i>	<i>SCALE</i>	<i>MM</i>	<i>SCALE</i>
12	1,3,5,7	0.4	1,3,5,7
13	1		
14	1 or 5	0.5	1 - 8
16	1 – 8	0.6	1 - 8
18	1 or 5		
19	1	0.7	1, 4.5
20	1,3,5,7		
22	1 or 5	0.8	1 - 5
24	1 – 8		
26	1 or 5	1.0	1 - 8
28	1,3,5,7		
32	1 – 8	1.25	1, 3.5
36	1,3,5,7		
38	1 or 5	1.5	1 - 8
40	1 – 8		
44	1,3,5,7	1.75	1, 4.5
48	1 – 8		
52	1,3,5,7	2.0	1 - 8

Figure-19 Thread dial chart

MAINTENANCE

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

Check your machine daily for the following before use:

- * Loose mounting nuts and bolts
- * Worn or damaged cord
- * Damaged parts
- * Any other unsafe condition

CLEANING

Treat the 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.

Oil, grease and cleaning agents are pollutants and must not be disposed off through the drains or in normal garbage. Dispose of those agents in accordance with current local environmental regulations. Cleaning rags impregnated with oil, grease and cleaning wool in a suitable closed vessel and disposed of in an environmentally sound way. Do not put them with normal garbage.

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 carriage and bed way.

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

Good housekeeping practice should be followed on a daily basis keeping your lathe clean and well lubricated.

LUBRICATION

Lubricate all slide ways of the lathe bed, compound slide and cross slide lightly before every use using 10-30W oil or similar.

The change gears, cross slide and compound slide lead screws must also be lightly lubricated with lithium based grease after every 6 months.

Lubricate the transmission gears using lithium based grease every year. To lubricate the transmission gears, disconnect the cord from the power source and remove the front control panel, remove the ground wire from the headstock and spray grease in the hole. Rotate the chuck with your hand and shift the gears high to low.

GIBS ADJUSTMENT

The cross slide and the compound slide gibs will need to be adjusted after sometimes.

TO ADJUST THE CROSS-SLIDE AND COMPOUND SLIDE GIBS:

Disconnect the cord from the power source.

Loosen the lock nuts on the set screws shown in figure-20.

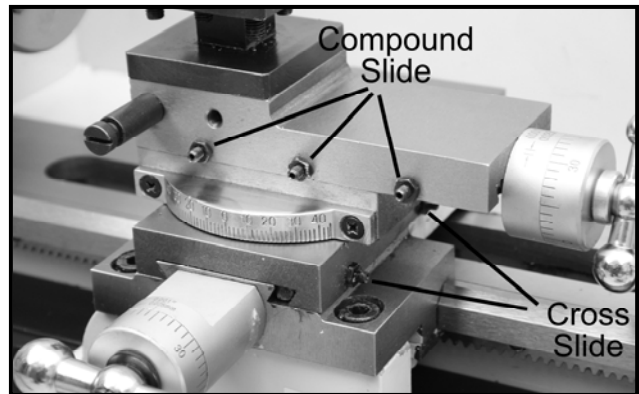


Figure-20 Cross slide and compound slide gibs adjustment screws

Tighten or loosen the set screws as required and check the sliding movement of the cross slide / compound slide. It should move smoothly without any play.

Once the set screws are adjusted, tighten the lock nuts to secure the set screws in position.

MOTOR BRUSHES REPLACEMENT

TO REPLACE THE MOTOR BRUSHES:

Make sure the cord is disconnected from the power source.

Remove the front and rear caps shown in figure-21.



Figure-21 Front motor brush cap

Replace the motor brushes with new ones and tighten the caps.

HEADSTOCK & TAILSTOCK ALIGNMENT

The headstock and tailstock alignment has been adjusted properly in the factory before the machine is shipped to you. However, after lengthy operation, the headstock and tailstock may be out of alignment.

TO CHECK THE CENTERS ALIGNMENT:

Center drill a 6" piece of bar stock on one end and position it between the headstock and tailstock as shown in figure-22.

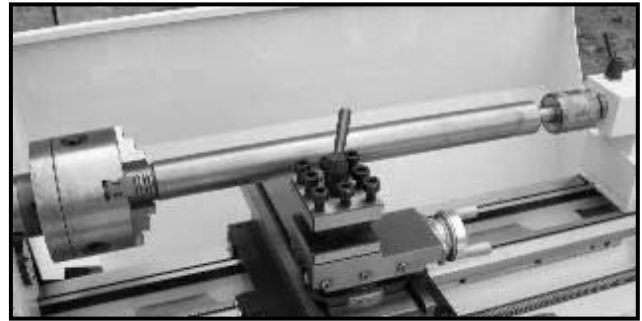


Figure-22 checking headstock and tailstock alignment

Turn approximately 0.010" off diameter.

Measure the stock with a micrometer. If the stock is thicker at the tailstock end, the tailstock needs to be moved towards you by half the amount of taper. See figure-23.

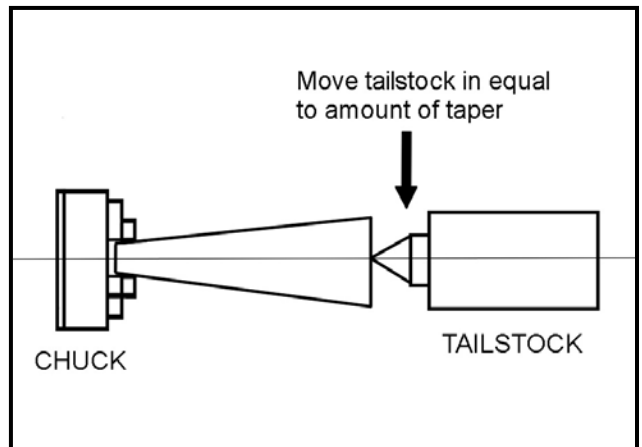


Figure-23 Stock thicker at the tailstock end

If the stock is thinner at the tailstock end, the tailstock needs to be moved away from you half the amount of taper. See figure-24.

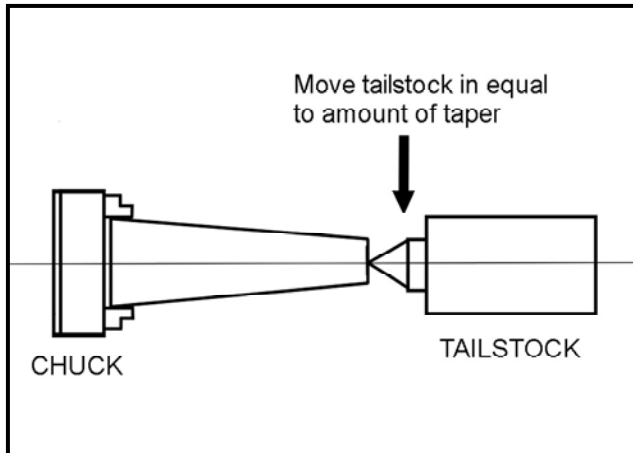


Figure-24 Stock thinner at the tailstock end

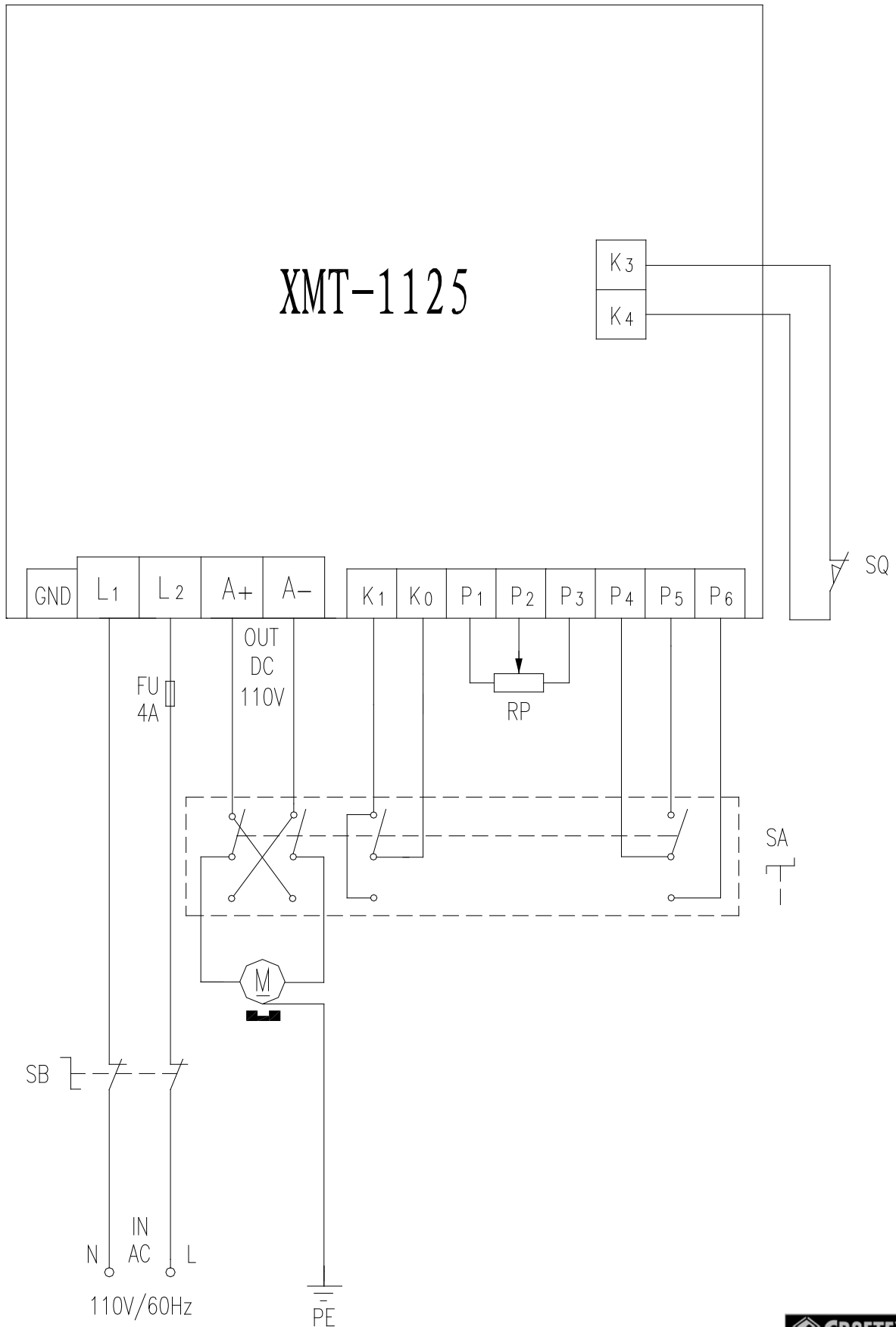
TO MOVE THE TAILSTOCK:

Make sure the switch is in the OFF position and the cord is disconnected from the power outlet.

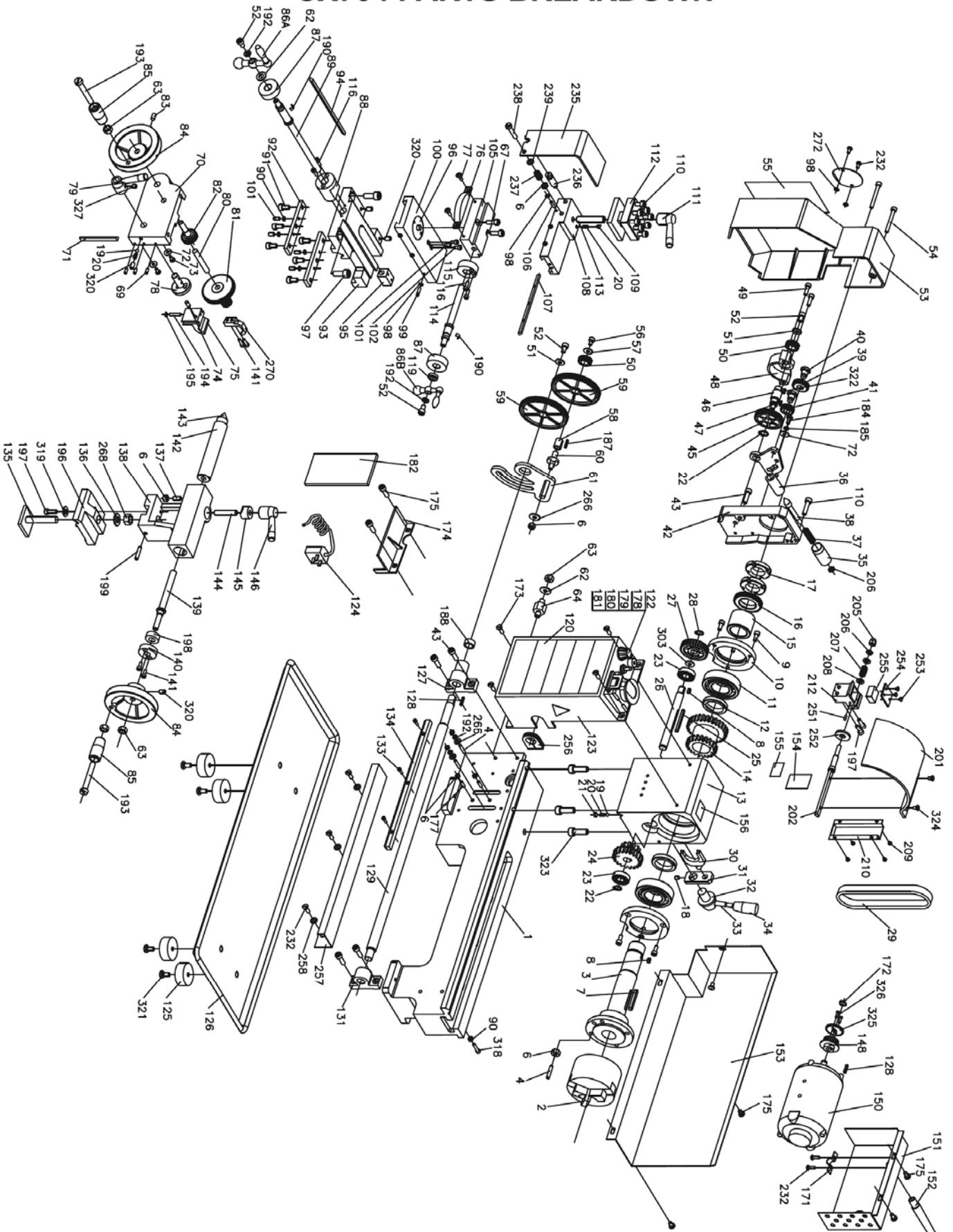
Adjust the tailstock offset half the amount by turning the offset screw.

Turn another 0.010" off the stock and check for taper. Repeat this procedure until the tailstock is aligned with the headstock.

WIRING DIAGRAM FOR CX704



CX704 PARTS BREAKDOWN



CX704 PARTS LIST

PART#	DESCRIPTION	QTY
1	Bed Way	1
2	3 Jaws Chuck	1
3	Spindle	1
4	Screw M6 x 25	5
6	Nut M6	10
7	Key M5 x 50	1
8	Key M4 x 8	2
9	Screw M5 x 12	6
10	Cover	2
11	Ball Bearing	2
12	Spacer	2
13	Head Stock Casting	1
14	Gear	1
15	Spacer	1
16	Spindle Gear	1
17	Nut M27x1.5	2
18	Screw M5x8	1
19	Steel Ball	2
20	Fixed Spring	3
21	Screw M6x6	1
22	Retaining Ring M12	2
23	Ball Bearings	2
24	Gear	1
25	Parallel Key M4 x 45	1
26	H/L Gear Shaft	1
27	Pulley	1
28	Retaining Ring M10	1
29	Timing Belt	1
30	Shifting Fork	1
31	Shifting Arm	1
32	Shifting Knob	1

33	Shifting Lever	1
34	Shifting Grip	1
35	Handle	1
36	Fanning strip	1
37	Compressive Spring	1
38	Indicator	1
39	Pinion 25T	1
40	Support Screw	2
41	Pinion 20T	1
42	Fixed Cover	1
43	Screw M6x20	5
45	Gear 45T	1
46	Shaft	1
47	Parallel Key	1
48	Gear shelf	1
49	Screw M5 x 18	2
50	Pinion 20T	2
51	Washer	2
52	Screw M6 x 8	4
53	Cover	1
54	Screw M5 x 45	2
55	Threads Cutting Chart	1
56	Screw M5 x 8	1
57	Washer M5	1
58	Bush W/Key	1
59	Gear 80T	2
60	Shaft	1
61	Support Plate	1
62	Washer M8	2
63	Nut M8	4
64	Shaft	1
67	Screw M6x16	2
69	Screw M4x10	3

70	Slide carriage box	1
71	Slope lock block	1
72	Washer	3
73	Screw M4 x 8	2
74	Key	2
75	Half nuts	2
76	Angle Block	1
77	Screw M4x10	2
78	Groove plate opening	1
79	Handle seat	1
80	Shaft	1
81	Feeding Gear (A) 11T/54T	1
82	Feeding Gear (B) 24T	1
83	Screw	1
84	Hand wheel assembly	2
85	Hand shank	2
86A	Three Ball Handle	1
86B	Three Ball Handle	1
87	Dial	2
88	Positioning scale set	1
89	Lead Screw	1
90	Nut M5	5
91	Screw M6x12	6
92	Slide Plate	2
93	Saddle	1
94	Gib Strip	1
95	Feeding Nut	1
96	Wheel aligner	1
97	Screw M8 x 20	2
98	Nut M4	8
99	Screw M4 x 16	3
100	Cross Slide	1
101	Screw M5 x 10	5
102	Screw M4 x 8	2
105	Positioning plate	1

106	Screw M4 x 14	3
107	Gib Strip	1
108	Small carriage	1
109	Tool Rest fixed position	1
110	Screw M6 x 25	9
111	Tool rest handle seat	1
112	Tool Rest	1
113	Stud M10 x 65	1
114	Lead screw	1
115	Indication position	1
116	Screw M4 x 12	4
119	Washer	1
120	Model Label	1
122	Indicator Table Label	1
123	Electric Cover	1
124	Plug	1
125	Non-slip mat	4
126	Chip Tray	1
127	Bracket	1
128	Key	2
129	Lead Screw	1
131	Bracket	1
133	Screw M3x10	3
134	Rack	1
135	Clamp Plate	1
136	Washer M10	1
137	Screw M5 x 16	1
138	Tailstock	1
139	Tailstock Lead Screw	1
140	Bearing flange	1
141	Screw M4 x 10	4
142	Tailshaft	1
143	Center	1
144	Stud M8 x 40	1
145	Pad	1

146	Handle seat	1
148	Pulley	1
150	Motor	1
151	Motor Cover	1
152	Power cord Guard	1
153	Rear Splash Guard	1
154	H/L Label	1
155	H/L Label	1
156	Warning Label	1
157	Gear 30T	1
158	Gear 35T	1
159	Gear 40T	2
160	Gear 45T	1
161	Gear 50T	1
162	Gear 55T	1
163	Gear 57T	1
164	Gear 60T	1
165	Gear 65T	1
166	Claw(cover)	1
167	3-Jaw chuck Key	1
171	Clamp Block	1
172	Check Ring	1
173	Screw M5 x8	4
174	Protector	1
175	Screw M5 x 8	7
177	Screw M6 x 20	2
178	Emergency Stop Switch	1
179	Fuse	1
180	Variable Speed Control Knob	1
181	Toggle Switch	1
182	PC Board	1
184	Screw M5x10	1
185	Spring washer 5	1
187	Key	1

188	Small spacer	1
190	Spring	2
192	Washer	4
193	Screw M8*55	2
194	Screw M4*38	1
195	Nut M4	1
196	Plate of tailstock	1
197	Screw M5*16	3
198	Base body cover	1
199	Screw M5*25	1
201	Chuck guard	1
202	Shaft	1
205	Screw M6	1
206	Nut M6	2
207	Compression Spring	1
208	Washer 6	2
209	Screw M3*4	4
210	Switch Cover	1
212	Permanent seat	1
232	Screw M4x6	7
235	Clamp Cover	1
236	Screw	1
237	Compression Spring	1
238	Screw M6x30	1
239	Washer	1
251	Cylinder Pin	1
252	Turntable	1
253	Screw	3
254	Cover	1
255	Micro switch	1
256	Dust sheet	1
257	Lead Screw Cover	1
258	Washer 4	3
266	Washer 6	3
268	Screw 10	1

270	Support Pin	1
272	Protective Cover	1
303	Washer	1
318	Screw M5*20	1
319	Washer	1
320	Screw M6x10	4
321	Screw M6x16	4
322	Key	1
323	Screw M8x25	3
324	Screw M4x8	2
325	Flange	1
326	Screw	2
327	Screw M6x8	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.