



CX706
10" x 22" METAL LATHE
WITH DIGITAL READOUT
USER MANUAL



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Version 2.0

TABLE OF CONTENTS

| | |
|--|-----------|
| General Safety Instructions for Machines | 2 |
| CX706 Specific Safety Instructions | 3 |
| Features | 4 |
| Tool Box Contents | 5 |
| Unpacking and Cleanup..... | 6 |
| GENERAL DESCRIPTION..... | 7 |
| Lathe Bed..... | 7 |
| Headstock..... | 7 |
| Gearbox..... | 7 |
| Carriage..... | 7 |
| Apron..... | 8 |
| Leadscrew..... | 8 |
| Tailstock..... | 8 |
| CONTROLS..... | 9 |
| Emergency Stop ON/OFF Button..... | 9 |
| Change-Over Switch..... | 9 |
| Variable Speed Control Switch | 9 |
| Feed Direction Control Switch..... | 9 |
| Feed Direction Selector | 9 |
| Feed Rate Selector | 9 |
| Compound Rest Lock | 9 |
| Compound Slide Lock..... | 9 |
| Cross Slide Lock..... | 9 |
| Carriage Lock..... | 10 |
| Longitudinal Travel..... | 10 |
| Half Nut Engage Lever..... | 10 |
| Cross Travel Handwheel..... | 10 |
| Compound Rest Travel Lever | 10 |
| Tool Post Clamping Lever..... | 10 |
| Cross/Longitudinal Power Feed Lever | 10 |
| Tailstock Clamping Handle | 10 |
| Tailstock Quill Clamping Lever..... | 10 |
| Tailstock Quill Travel Handwheel..... | 10 |
| Tailstock Off-set Adjustment | 10 |
| OPERATIONS | 11 |
| Chuck Replacement..... | 11 |
| Tool Setup..... | 11 |
| Changing to High/Low Speed | 11 |
| Belt Adjustment..... | 11 |
| Manual Turning..... | 12 |

| | |
|--|-----------|
| Longitudinal Turning with Auto-Feed | 12 |
| Change Gears Replacement..... | 12 |
| Threading and Feeding Table for Lathe..... | 13 |
| Straight Turning | 14 |
| Facing and Recesses | 14 |
| Turning Between Centers | 14 |
| Taper Turning Using Tailstock Offset..... | 14 |
| Taper Turning by Setting the Top Slide | 15 |
| Thread Cutting | 15 |
| LATHE ACCESSORIES | 16 |
| Three Jaw Universal Lathe Chuck | 16 |
| Four Jaw Independent Lathe Chuck..... | 16 |
| Drill Chuck (Optional)..... | 16 |
| Morse Taper Arbor (Optional) | 16 |
| Live Center (Optional)..... | 16 |
| Steady Rest | 17 |
| Follow Rest..... | 17 |
| ADJUSTMENTS | 18 |
| Main Spindle Bearings | 18 |
| Adjustment of Cross Slide..... | 18 |
| Adjustment of Top Slide..... | 18 |
| Adjustment of Half Nut Guide..... | 18 |
| LUBRICATION | 19 |
| Gearbox | 19 |
| Change Gear | 19 |
| Carriage | 19 |
| Top Slide..... | 19 |
| Cross Slide..... | 19 |
| Apron | 19 |
| Leadscrew..... | 20 |
| Tailstock..... | 20 |
| ELECTRICAL DIAGRAM | 20 |
| MAINTENANCE | 21 |
| TROUBLESHOOTING | 22 |
| PARTS DIAGRAM AND LIST | 23 |
| Headstock Assembly | 23 |
| Gearbox Assembly..... | 25 |
| Carriage, Tool Post & Cross Slide Assembly | 27 |
| Apron Assembly..... | 30 |
| Tailstock & Bed Assembly..... | 33 |
| Electrical Box Assembly..... | 36 |
| Quadrant Assembly | 38 |
| WARRANTY | 40 |

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.

CX706 - 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.



CX706 – METAL LATHE FEATURES

MODEL CX706 – 10" x 22" METAL LATHE WITH VARIABLE SPEED

As part of the growing line of Crafttex CX-Series metalworking equipment, we are proud to offer the CX706, a 10" x 22" Metal Lathe 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 CX706 is a professional tool and like all power tools, proper care and safety procedures should be adhered to.

- ⊗ Motor 1 HP
- ⊗ Swing Over Bed 10" (250mm)
- ⊗ Swing Over Cross Slide 6" (152 mm)
- ⊗ Distance Between Centers 21-3/4" (550mm)
- ⊗ Width of Bed 5-5/16" (135mm)
- ⊗ Hole Through Spindle 1" (25mm)
- ⊗ Spindle Nose Taper MT4
- ⊗ Number of Spindle Speeds Variable
- ⊗ Range of Spindle Speeds 50 - 2000 RPM
- ⊗ Number of Metric Threads 21
- ⊗ Range of Metric Threads 0.35mm – 3mm
- ⊗ Number of Imperial Threads & Range... 37/8-80 T.P.I
- ⊗ Range of Cross Feed..... 0.0014" - 0.004"
- ⊗ Range of Longitudinal Feed..... 0.0025" - 0.014"
- ⊗ Tool Post Type..... 4-Way
- ⊗ Max Compound Slide Travel..... 3" (80mm)
- ⊗ Max Cross Slide Travel..... 4-1/2" (110mm)
- ⊗ Maximum Carriage Travel..... 17-3/4" (187mm)
- ⊗ Tailstock Spindle Travel..... 3" (76mm)
- ⊗ Taper in Tailstock Spindle..... MT2
- ⊗ Overall Dimension of the lathe Length 45-1/3" x Width 22" x Height 22"
- ⊗ Weight..... 319 lbs (145 kgs)
- ⊗ Warranty 3-Years

CONTENTS OF SHIPPING CONTAINER (not shown in figure 01)

- CX706 Lathe
- Test Flow Chart
- Toolbox
- Steady Rest
- Follow Rest
- Face Plate
- 3 Jaw Chuck
- 4 Jaw Chuck

WARNING!

Read and understand the entire contents of this manual before attempting to setup or operate the machine. Failure to do so could result in serious personal injury and damage to the machine.

TOOLBOX CONTENTS (Fig. 1)

- Dead Center MT4
- Dead Center MT2
- External Jaw for 3 Jaw Chuck
- Oil Bottle
- Philips Screwdriver
- Flat Screwdriver
- Key for 3-Jaw Chuck
- Hex Socket Wrenchs
- Double End Head Wrenchs
- Change Gears



UNPACKING AND CLEAN-UP

1. Remove the wooden crate .
2. Check all the machine accessories according to the packing list.
3. Unbolt the lathe from the shipping crate bottom.
4. Choose a location for the lathe that is dry, has good lighting and has enough room to be able to service the lathe on all four sides.
5. With adequate lifting equipment, slowly raise the lathe off the shipping crate bottom. **Do not lift by spindle.** Make sure lathe is balanced before moving to sturdy bench or stand.
6. To avoid twisting the bed, the lathe's location must be absolutely flat and level. Bolt the lathe to the stand (if used). If using a bench, through bolt for best performance.
7. Clean all rust protected surfaces using a mild commercial solvent, kerosene or diesel fuel. Do not use paint thinner, gasoline or lacquer thinner. These will damage painted surfaces. Cover all cleaned surfaces with a light film of 20W machine oil.
8. Remove the end gear cover. Clean all components of the quadrant assembly and coat all gears with a heavy, non-slinging grease.

FOUNDATION DRAWING

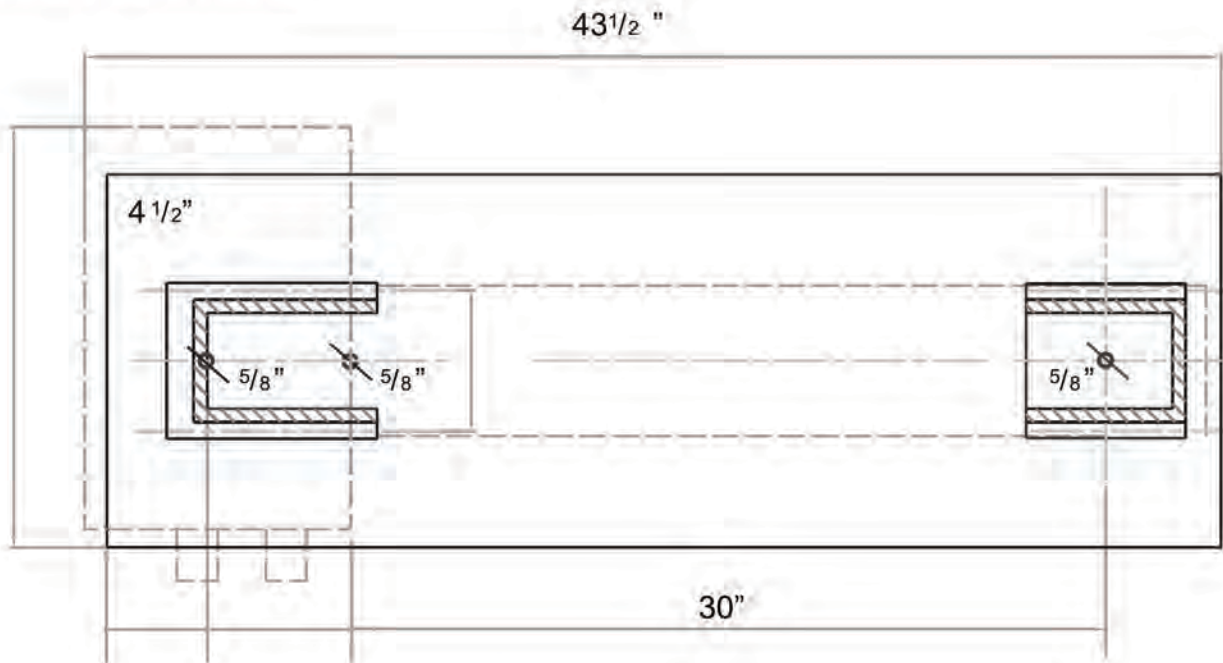


Fig. 2

GENERAL DESCRIPTION

Lathe Bed (Fig. 3)

The lathe bed is made of high-grade iron. By combining high cheeks with strong cross ribs, a bed of low vibration and rigidity is produced. It integrates the headstock and drive unit, for attaching the carriage and leadscrew. The two precision-ground V – sideways, re-enforced by heat hardening and grinding, are accurate guide for the carriage and tailstock. The main motor is mounted to the rear of the left side of the bed.

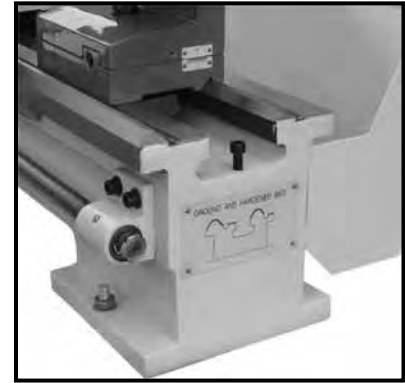


Fig. 3

Headstock (Fig. 4)

The headstock is cast from high grade, low vibration cast iron. It is bolted to the bed with four screws. The headstock houses the main spindle with two precision taper roller bearings and the drive unit.

The main spindle transmits the torque during the turning process. It also holds the workpieces and clamping devices. (e.g. 3-jaw chuck).



Fig. 4

Gear Box (Fig. 5)

The gear box is made from high quality cast iron and is mounted on the left side of the machine bed. It is to select the feeds for straight turning as well as for thread cutting. In order to achieve certain thread pitches, it is necessary reconfigure according to the gear chart.

The torque of the work spindle is transmitted to the feed gear and thus to the leadscrew.



Fig. 5

Carriage (Fig. 6)

The carriage is made from high quality cast iron. The slide parts are smoothly ground. They fit the V on the bed without play. The lower sliding parts can be easily and simply adjusted. The cross slide is mounted on the carriage and moves on a dove tailed slide. Play in the cross slide is eliminated by the gibs.

Move the cross slide with its conveniently positioned handwheel. There is a graduated collar on the handwheel.

The top slide, mounted on the cross slide, can be rotated 360°. The top slide and the cross slide travel is dove-tail slides and have gibs, adjustable nuts, and graduated collars.

A four way tool post is fitted on the top slide and allows four tools to be clamped. Loosen the center clamp handle to rotate any of the four tools into position.

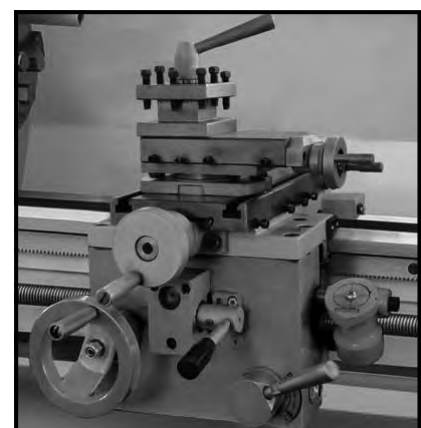


Fig. 6

Apron (Fig. 7)

The apron is mounted on the bed. It houses the half nut with an engaging lever for activating the automatic feed. The half nut gibs can be adjusted from the outside.

A rack, mounted on the bed, and a pinion operated by the handwheel on the carriage allow for quick travel of the apron.

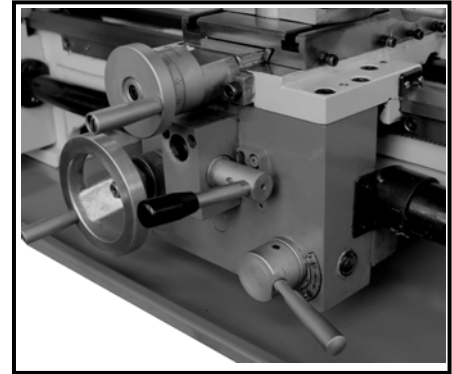


Fig. 7

Leadscrew (Fig. 8)

The leadscrew is mounted on the front of the machine bed. It is connected to the gear box at the left for automatic feed and is supported by bearings on both ends. The two grooved nuts (A, Fig. 9) on the right end are designed to take up play on the leadscrew.

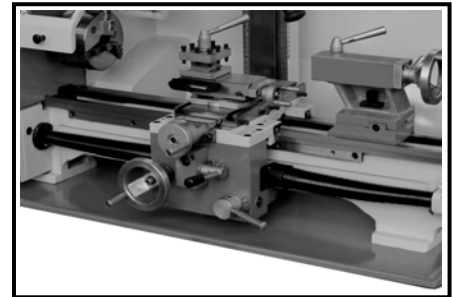


Fig. 8

Tailstock (Fig. 10)

The tailstock slides on a V-way and can be secured at any location. The tailstock has a heavy-duty spindle with a Morse taper No. 2 socket and a graduated scale. The spindle can be secured at any location with a clamping lever. The spindle is moved with a handwheel at the end of the tailstock.

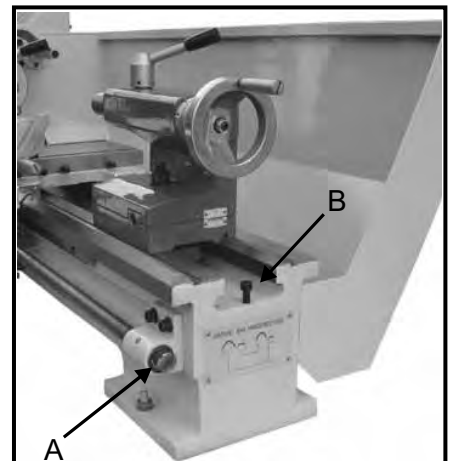


Fig. 9

NOTE:

Fit the securing screw (B, Fig. 9) at the end of the lathe be in order to prevent the tailstock from falling off the lathe bed.

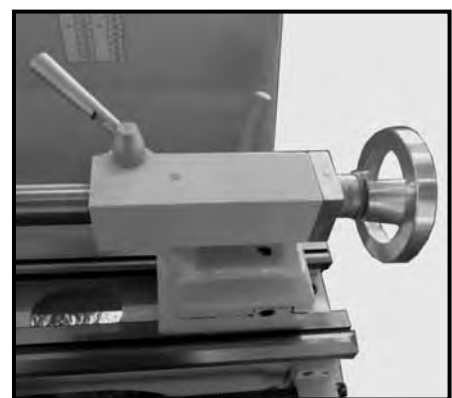


Fig. 10

CONTROLS

1. Emergency GHCD Button ON/OFF Switch (A, Fig. 11)

The machine is switched on and off with ON/OFF button. Depress to stop all machine functions. To restart, lift the cover and press ON button.

2. Change-over Switch (B, Fig. 11)

After the machine is switched on, turn the switch (B) to “F” position for counter-clockwise spindle rotation (forward). Turn the switch to “R” position for clockwise spindle rotation (reverse). “0” position is OFF and the spindle remains idle.

3. Variable Speed Control Switch (C, Fig. 11)

Turn the knob (C) clockwise to increase the spindle speed. Turn the knob (C) counter-clockwise to decrease the spindle speed. The possible speed range is dependent on the position of the drive belt on the pulley.

4. Feed Direction Selector (D, Fig. 12)

Select carriage travel direction when the chuck is rotating in the forward direction or counter-clockwise as viewed from the front of the chuck.

5. Feed Rate Selector (E, Fig. 12)

Set the desired feed or thread rates.

6. Compound Rest Lock

Turn two hex nuts (F, Fig. 13) clockwise to lock and counter - clockwise to unlock.

7. Compound Slide Lock

Turn hex socket cap screws (G Fig. 13) clockwise, and tighten to lock. Turn counter-clockwise to loosen.

8. Cross Slide Lock

Turn hex socket cap screw (H, Fig. 13) clockwise and tighten to lock. Turn counter-clockwise and loosen to unlock.

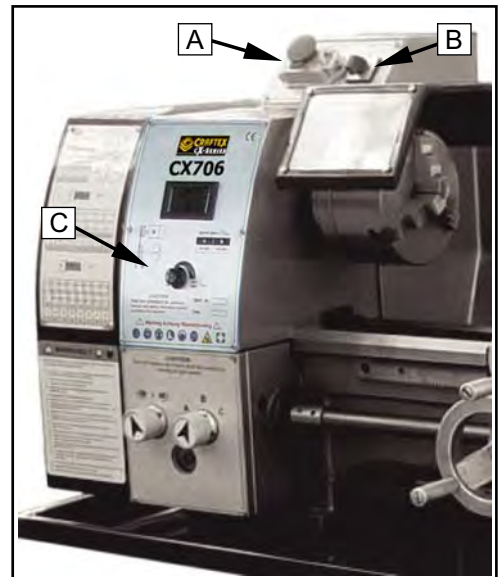


Fig. 11

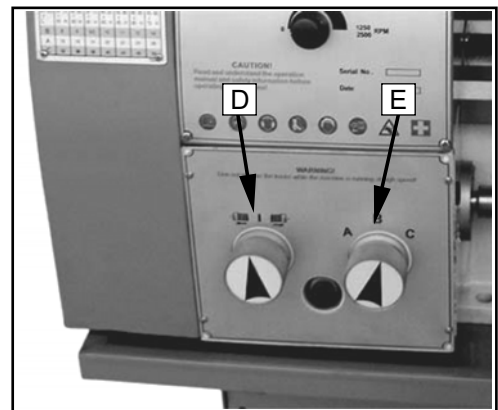


Fig. 12

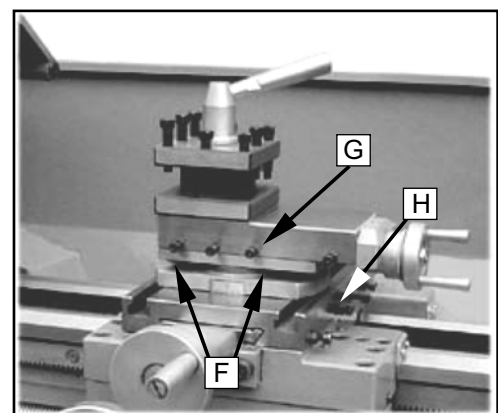


Fig. 13

9. Carriage Lock

Tighten the hex socket cap screw (A, Fig.14) clockwise to lock and counter-clockwise to unlock.

Caution: carriage lock screw must be unlocked before engaging automatic feeds or damage to lathe may occur.

10. Longitudinal Travel (B, Fig. 15)

Rotate hand wheel (B) lockwise to move the apron assembly toward the tailstock (right). Rotate the hand wheel (B) counter-clockwise to move the apron assembly toward the headstock (left).

11. Half Nut Engage Lever (C, Fig. 15)

Move the lever down to engage. Move the lever (C) up to disengage.

12. Cross Travel Handwheel (D, Fig. 15)

Clockwise rotation moves the cross slide toward the rear of the machine.

13. Compound Rest Travel Handwheel (E, Fig. 15)

Rotate clockwise or counter-clockwise to move or position.

14. Tool Post Clamping Lever (F Fig. 15)

Rotate counter-clockwise to loosen and clockwise to tighten. Rotate the tool post when the lever is unlocked.

15. Corss/Longitudinal Power Feed Lever (Q Fig. 15)

Moving the lever left side and up, engages corss feed. Moving the lever right and down, engages longitudinal feed.

16. Tailstock Clamping Handle (G, Fig. 16)

Move the handle up to lock and down to unlock.

17. Tailstock Quill Clamping Lever (H, Fig. 16)

Rotate the lever clockwise to lock the spindle and counter-clockwise to unlock.

18. Tailstock Quill Travel Handwheel (I, Fig. 16)

Rotate clockwise to advance the quill. Rotate counter-clockwise to retract the quill

19. Tailstock Off-set Adjustment (J, Fig. 16)

Three set screws located on the tailstock base (L) are used to off-set the tailstock for cutting tapers. Loosen lock screw (J) on tailstock end. Loosen one side set screw while tightening the other until the amount of off-set is indicated on scale. Tighten lock screw.

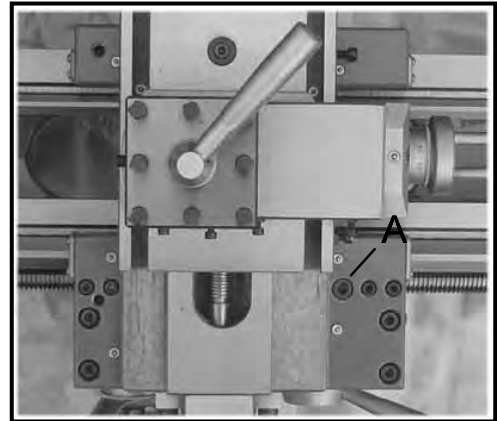


Fig. 14

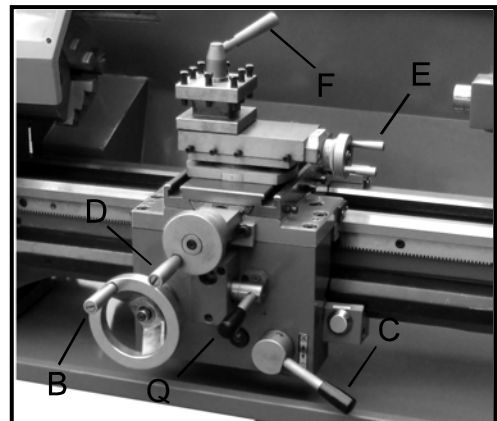


Fig. 15

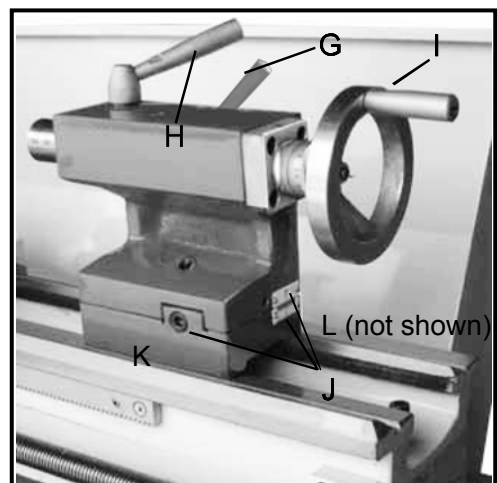


Fig. 16

OPERATIONS

Replacement of Chuck

The head spindle holding fixture is cylindrical. Loosen three set screws and nuts (A, Fig.17, only two are shown) on the lathe chuck flange to remove the chuck. Position the new chuck and fix it using the same set screws and nuts.

Tool Set-Up

Clamp the turning tool into the toolholder.

The tool must be clamped firmly. When turning, the tool has a tendency to bend under the cutting force generated during the chip formation. For best results, tool overhang should be kept to a minimum of 3/8" or less.

The cutting angle is correct when the cutting edge is in line with the center axis of the work piece. The proper alignment of the cutting tool can be achieved by using shims. For proper positioning reference the tool tip to point of center mounted in the tailstock. If necessary, use steel spacer shims under the tool to get the required height. (Fig. 18)

Change H/L Speed

1. Unscrew the two fastening knobs (B, Fig.19) and remove the protective cover.
2. Position the belt on the pulley as indicated in the feed chart. A is low speed, B is high speed. (Fig. 20)

Caution: K e suggest'ci f'W glca Yfg'to select`ck `gdYYXž Ug]hprovides`ja dfcj YX torque!

Belt Adjustment

Loosen the four nuts and screws (C, Fig. 20).

Reposition the motor mounting plate to increase or decrease the tension on the belt.

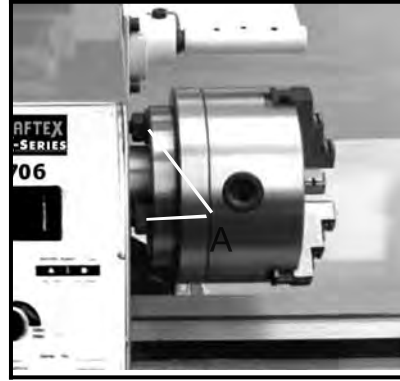


Fig. 17



Fig. 18

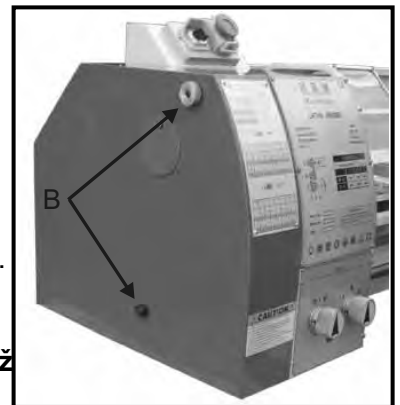


Fig. 19

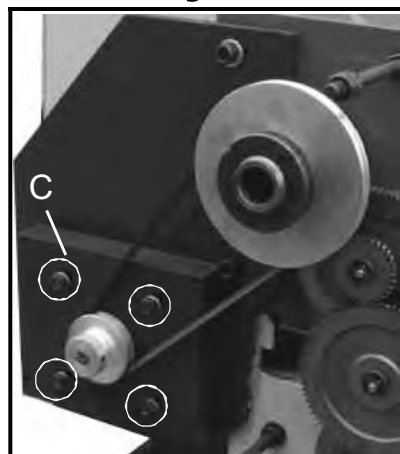


Fig. 20

Manual Turning

Apron travel, cross travel, and top slide handwheel can be operated for manual longitudinal or cross feeding. (Fig.21)

Longitudinal Turning with Auto-Feed

1. Set the selector knobs (A, Fig.22) to select the feed direction and feed speed.
2. Use the feed chart (B, Fig.22) on the lathe for selecting the feed speed or the thread pitch. Adjust the change gears as required for the desired feed or thread pitch.

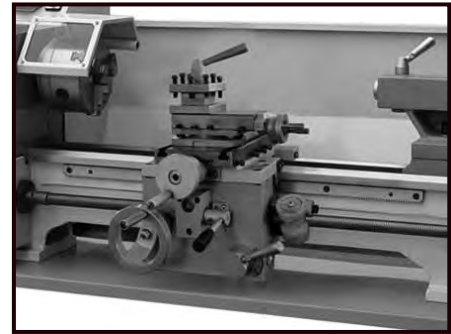


Fig. 21

Change Gears Replacement

1. Disconnect the machine from the power source.
2. Unscrew the two fastening knobs and remove the protective cover.
3. Loosen the locking screw (C, Fig.23) on the change gear support.
4. Swing the change gear support (D, Fig.23) to the right.
5. Unscrew the bolt (E, Fig.23) from the leadscrew or the square bolts (F, Fig.23) from the quadrant bolts in order to remove the change gears from the front.
6. Install the change gears according to the thread and feed table (Fig.24) and secure the gearwheels onto the quadrant again.
7. Swing the quadrant to the left until the gears have engaged again.
8. Re-adjust the gear backlash by inserting a normal sheet of paper as an adjusting or distance aid between the gearwheels.
9. Secure the change gear support with the locking screw (C, Fig.23)
10. Install the protective cover of the headstock and reconnect the machine to the power supply.



Fig-22

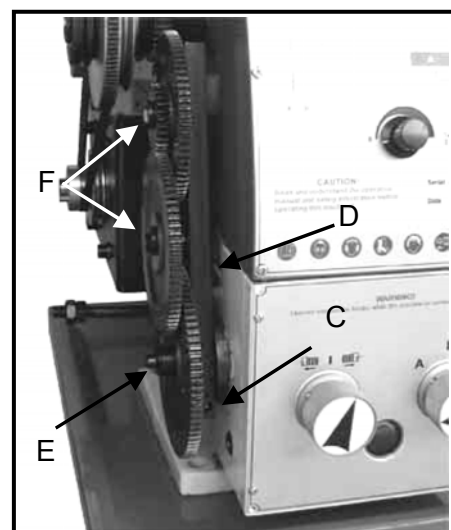


Fig. 23

THREADING AND FEEDING TABLE FOR LATHE

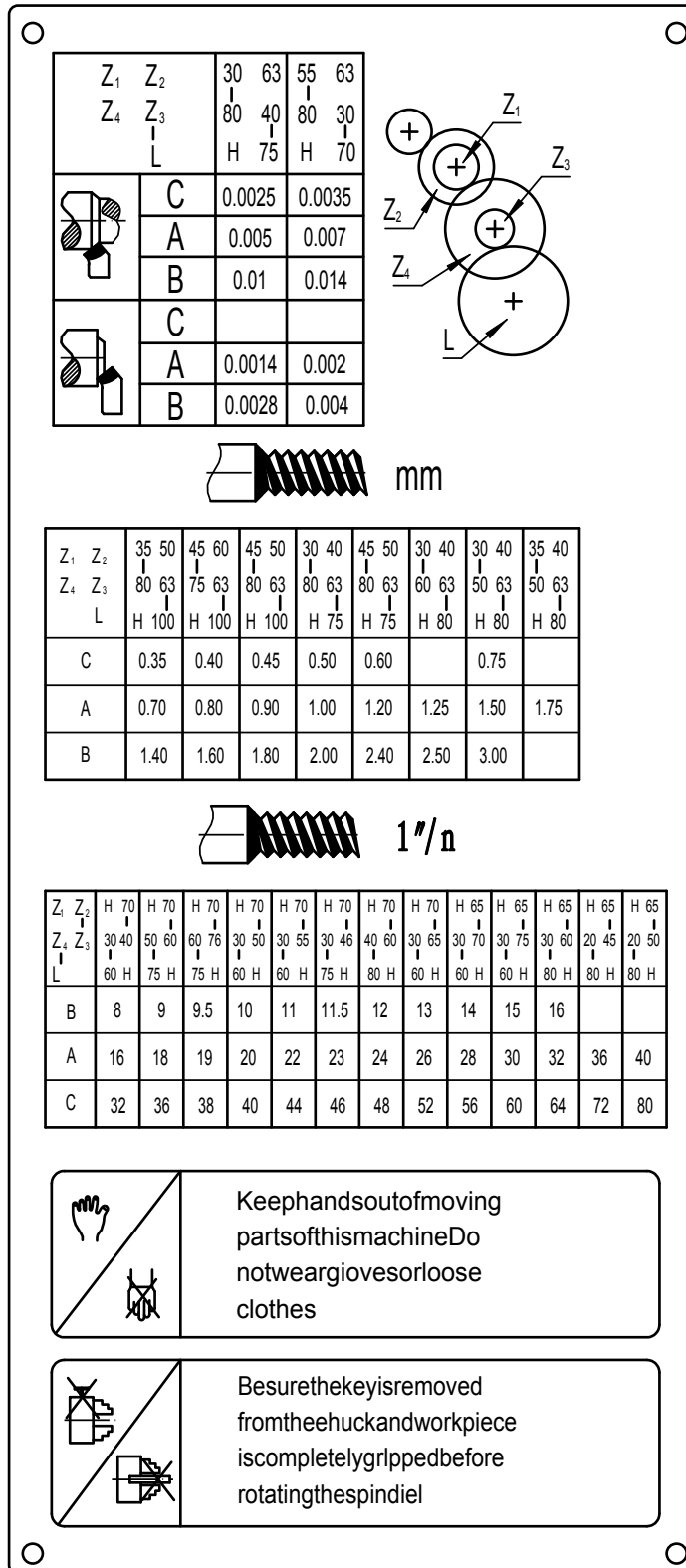


Fig. 24

Straight Turning (Fig. 25)

For the straight turning operation, the tool feeds parallel to the axis of rotation of the workpiece. The feed can be either manual by turning the handwheel on the lathe saddle or the top slide, or by activating the automatic feed. The crossfeed for the depth of cut is achieved using the cross slide.

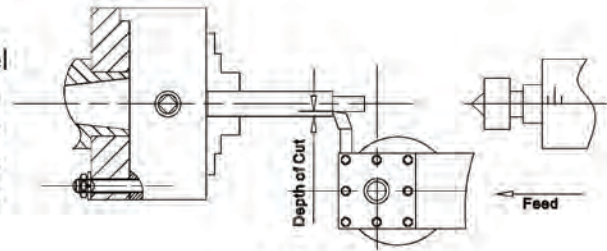


Fig. 25

Facing and Recesses (Fig. 26)

In the facing operation, the tool feeds perpendicular to the axis of rotation of the workpiece. The feed is made manually with the cross slide handwheel. The crossfeed for cut depth is made with the top slide or lathe saddle.

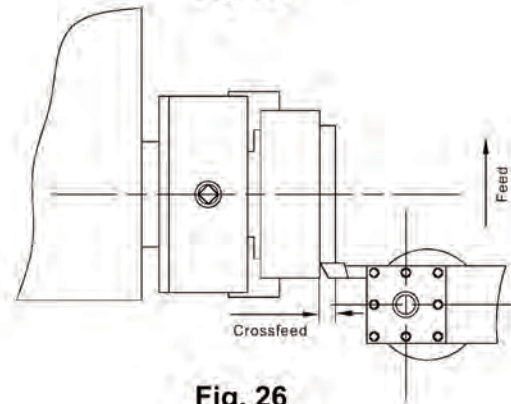
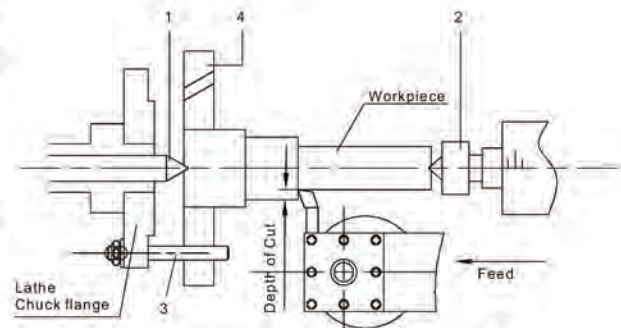


Fig. 26

Turning Between Centers (Fig. 27)

For turning between centers, it is necessary to remove the chuck from the spindle. Fit the M.T.3 center into the spindle nose and the M.T.4 center into the tailstock. Mount the workpiece fitted with a driver dog between the centers. The driver is driven by a catch or face plate.

Note: Always use a small amount of grease on the tailstock center to prevent center tip form overheating.



- 1.Fixed Centre 60°
- 2.Living Centre 60°
- 3.Dog Drive Pin
- 4.Dog Plate

Fig. 27

Taper Turning Using Tailstock Off-Set

Work to a side angle of 5 can be turned by off-setting the tailstock. The angle depends on the length of the workpiece.

To off-set the tailstock, loosen locking screw (A, Fig.28) Loosen the set screw (B, Fig.28) on right end of the tailstock. Loosen the front adjusting screw(C, Fig.28) and take up the same amount by tightening the rear adjusting screw (D, Fig.28) until the desired taper has been reached. The desired cross-adjustment can be read off the scale. (E, Fig.28). First retighten the set screw (B, Fig.28) and then the two (front and rear) adjusting screw to lock the tailstock in position. Retighten the locking screw (A, Fig.28) of the tailstock. The workpiece must be held between to centers and driven by a face plate and driver dog.

After taper turning, the tailstock should be returned to its original position according to the zero position on the scale of tailstock. (E, Fig.28)

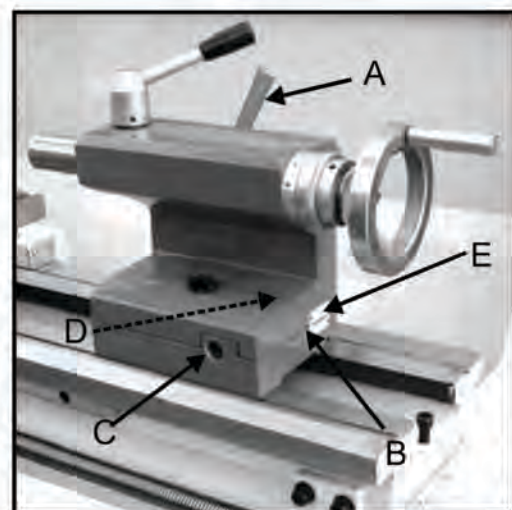


Fig. 28

Taper Turning by Setting the Top Slide

By angling the top slide, tapers may be turned manually with the top slide. (Fig. 29)

Rotate the top slide to the required angle. A graduated scale permits accurate adjustment of the top slide. The crossfeed is performed with the cross slide. This method can only be used for short tapers.

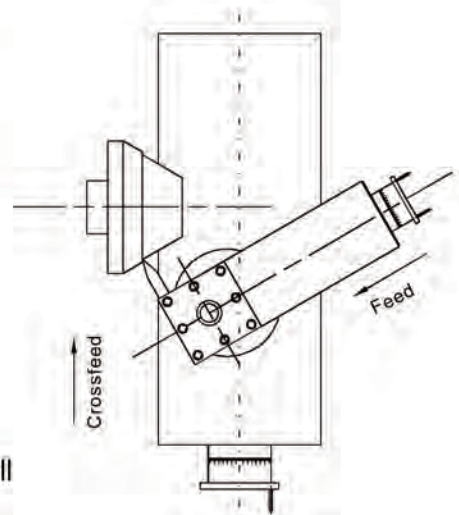


Fig. 29

Thread Cutting

Set the machine up to the desired thread pitch (according to the threading chart, Fig.24). Start the machine and engage the half nut. When the tool reaches the work-piece, it will cut the initial threading pass. When the tool reaches the end of the cut, stop the machine by turning the motor off and at the same time back the tool out of the work-piece so that it clears the thread. Do not disengage the half nut lever. Reverse the motor direction to allow the cutting tool to traverse back to the starting point. Repeat these steps until you have obtained the desired results.

NOTES

Example: Male Thread

- The workpiece diameter must have been turned to the diameter of the desired thread.
- The workpiece requires a chamfer at the beginning of the thread and an undercut at the thread runout.
- The speed must be as low as possible.
- The change gears must have been installed according to the required pitch.
- The thread cutting tool must be exactly the same shape as the thread, must be absolutely rectangular and clamped so that it coincides exactly with the turning center.
- The thread is produced in various cutting steps so that the cutting tool has to be turned out of the thread completely (with the cross slide) at the end of each cutting step.
- The tool is withdrawn with the leadscrew nut engaged by inverting the change-over switch.
- Stop the machine and feed the thread cutting tool in low cut depths using the cross slide.
- Before each passage, place the top slide approximately 0.2 to 0.3mm to the left and right alternately in order to cut the thread free. This way, the thread cutting tool cuts only on one thread flank with each passage. Keep cutting the thread free until you have almost reached the full depth of thread.

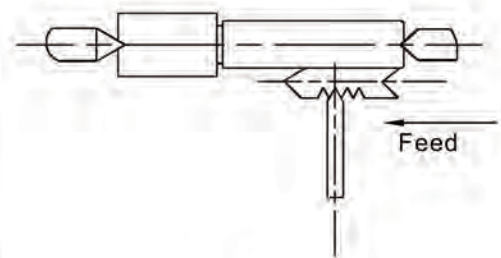


Fig. 30

Lathe Accessories

Three Jaw Universal Lathe Chuck

Using this universal chuck, round, triangular, square, hexagonal octagonal, and twelve-cornered stock may be clamped. (Fig.31)

Note: new lathes have very tight fitting jaws. This is necessary to ensure accurate clamping and long service life. With repeated opening and closing, the jaws adjust automatically and their operation becomes progressively smoother.

Note:

For the original 3-jaw chuck mounted on the lathe, the factory has mounted the chuck in the best way to guarantee the holding accuracy with two "0" mark (A, Fig.) showed on the chuck and chuck flange.

There are two types of jaws: Internal and external jaws. Please note that the number of jaws fit with the number inside the chuck's groove. Do not mix them together. When you are going to mount them, please mount them in ascending order 1-2-3, when you are going to take them out, be sure to take them out in descending order 3-2-1, one by one. After you finished this procedure, rotate the jaws to the smallest diameter and check that the three jaws are well fitted.

Four Jaw Independent Lathe Chuck

This special chuck has four independently adjustable chuck jaws. These permit the holding of asymmetrical pieces and enable the accurate set-up of cylindrical pieces. (Fig.32)

Drill Chuck (Optional)

Use the drill chuck to hold centering drills and twist drills in the tailstock. (A, Fig.33)

Morse Taper Arbor (Optional)

An arbor is necessary for mounting the drill chuck in the tailstock. It has a No. 2 Morse taper. (B, Fig.33)

Live Center (Optional)

The live center is mounted in ball bearings. Its use is highly recommended for turning at speeds in excess of 600 RPM. (Fig. 34)

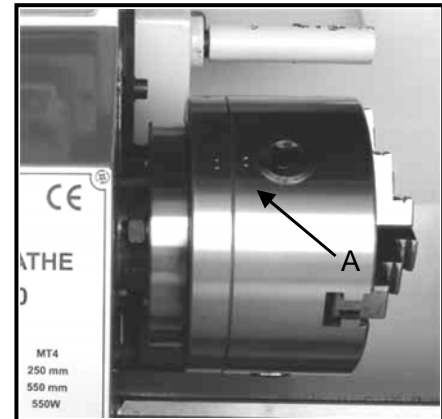


Fig. 31



Fig. 32

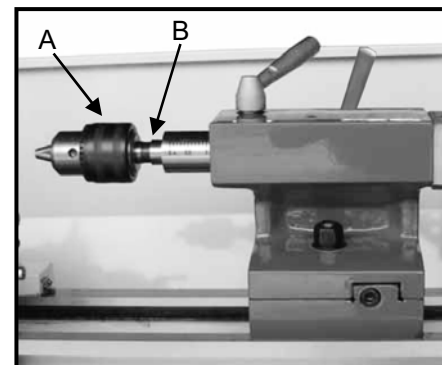


Fig. 33

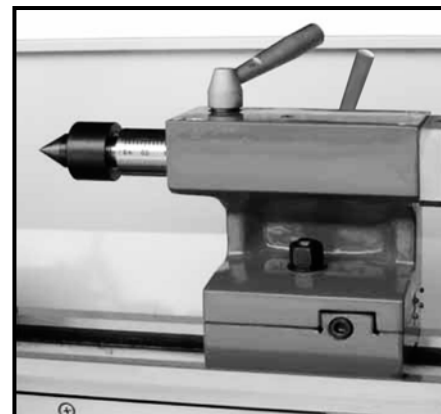


Fig. 34

Steady Rest

The steady rest serves as a support for shafts on the free tailstock end. For many operations the tailstock can not be used as it obstructs the turning tool or drilling tool, and therefore, must be removed from the machine. The steady rest, which functions as an end support, ensures chatter-free operation. The steady rest is mounted on the bedways and is secured from below with a locking plate. The sliding fingers require continuous lubrication at the contact points to prevent premature wear. (Fig.35)

Setting the Steady Rest

1. Loosen three hex nuts. (A, Fig.36)
2. Loosen knurled screw (B, Fig.36) and open the sliding fingers. (C, Fig.36) until the steady rest can be moved with its finger around the workpiece. Secure the steady rest in position.
3. Tighten knurled screws so that fingers are snug but not tight against the workpiece. Tighten three nuts (A, Fig.36). Lubricate the sliding points with machine oil.
4. When, after prolonged operation, the jaw show wear, the tips of the fingers may be filed or remilled.

Follow Rest

The follow rest is mounted on the saddle and follow the movement of the turning tool. Only two sliding fingers are required. The place of the third finger is taken by the turning tool. The follow rest is used for turning operations on long, slender workpieces. It prevents flexing of the workpiece under pressure from the turning tool. (Fig.37)

Set the fingers snug to the workpiece but not overly tight. Lubricate the fingers during operation to prevent premature wear.

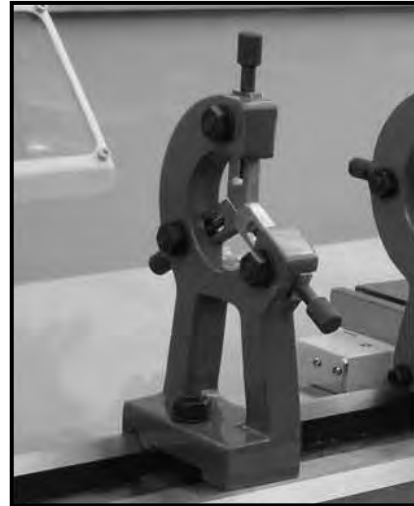


Fig. 35

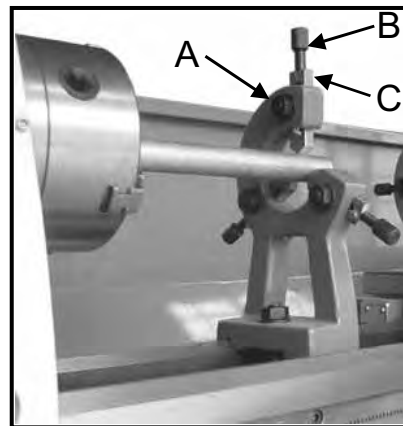


Fig. 36



Fig. 37

ADJUSTMENT

After a period of time, wear in some of the moving components may need to be adjusted.

Main Spindle Bearings

The main spindle bearings are adjusted at the factory. If end play becomes evident after considerable use, the bearings may be adjusted.

How to Adjust?

Loosen two hex socket cap screws (A, Fig.38) in the slotted nut (B, Fig.38) on the back of the spindle. Tighten slotted nut until all end play is taken up. The spindle should still revolve freely. Tighten two hex socket cap screws (A, Fig.38).

Caution: excessive tightening or preloading will damage the bearings.

Adjustment of Cross Slide

The cross slide is fitted with a gib strip(C, Fig.39) and is adjusted with screws (D, Fig.39) fitted with lock nuts. (E, Fig.39) Loosen the lock nuts and tighten the set screws until slide moves freely without play. Tighten lock nuts to retain adjustment.

Adjustment of Top Slide

The top slide is fitted with a gib strip(F, Fig.40) and can be adjusted with screws (G, Fig. 40) fitted with lock nuts. (H, Fig. 40) Loosen the lock nuts and tighten the set screws until slide moves freely without play. Tighten lock nuts to retain adjustment.

Adjustment of Half Nut Guide

Loosen the nut (I, Fig.41) on the right side bottom of the apron and adjust the control screws (J, Fig.41) until both half nuts move freely without play. Tighten the nut.

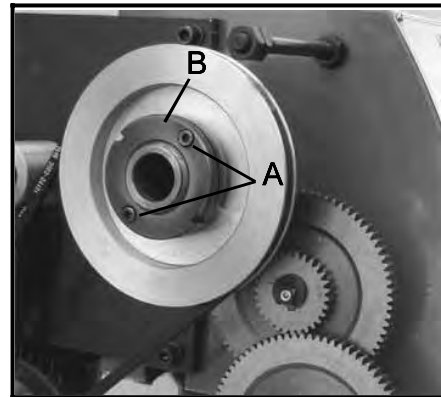


Fig. 38

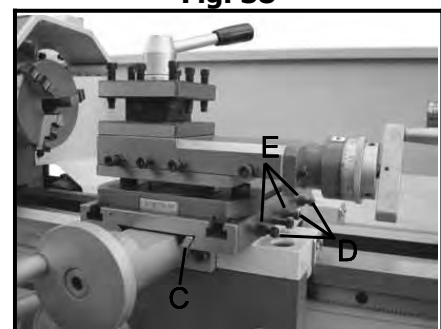


Fig. 39

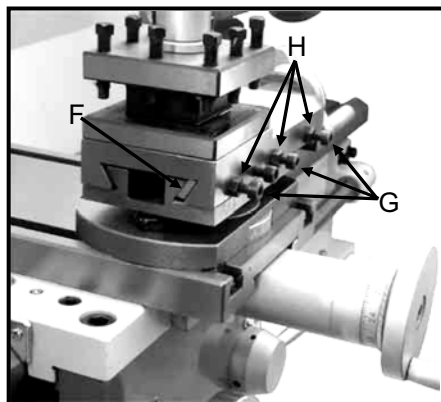


Fig. 40

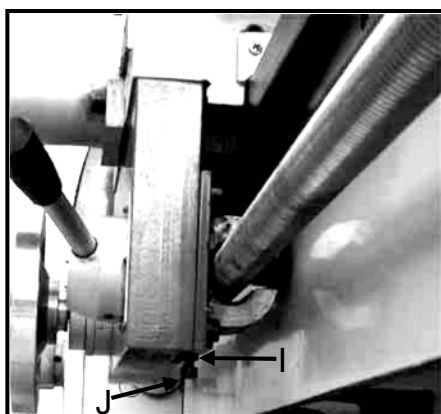


Fig. 41

LUBRICATION

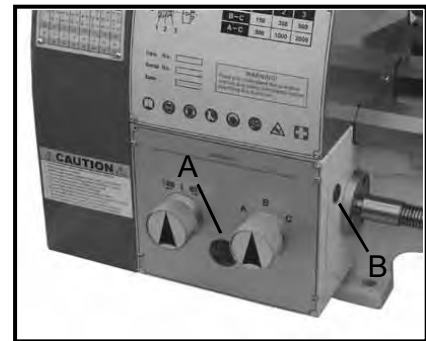
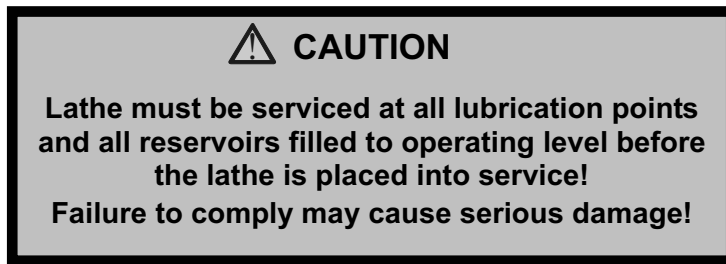


Fig. 41

NOTES:

Lubricate all slideways lightly before every use. Lubricate the change gears and the leadscrew slightly with a lithium-based grease.

1. Gearbox

Oil Must be up to indicator mark in oil sight glass (A, Fig. 41). Top off with Mobilgear 627 or equivalent. Fill by pulling plug (B, Fig. 41). To drain, remove drain plug on the right side of headstock (C, Fig. 42). Drain oil completely and refill after the first three months of operation. Then, change oil in the headstock annually.

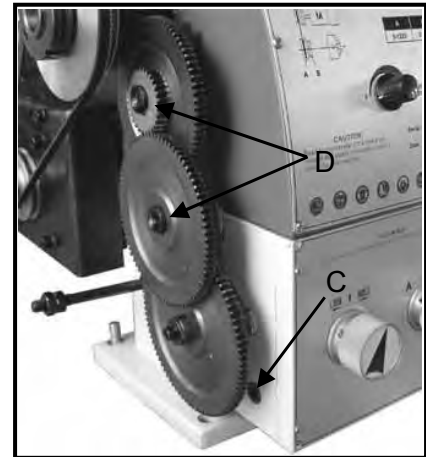


Fig. 42

2. Change Gear

Lubricate two oil ports (D, Fig. 42) on the gear shafts with 20W machine oil once daily.

3. Carriage

Lubricate Four oil ports (E, Fig. 43) with 20W machine oil once daily.

4. Top Slide

Lubricate one oil port (F, Fig. 43) with 20W machine oil once daily.

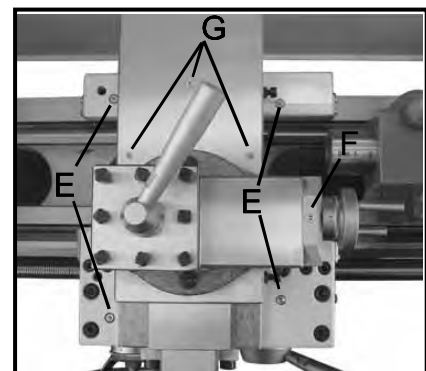


Fig. 43

5. Cross Slide

Lubricate two oil ports (G, Fig. 43) with 20W machine oil once daily.

6. Apron

Lubricate one oil ports (H, Fig. 44) with 20W machine oil once daily.

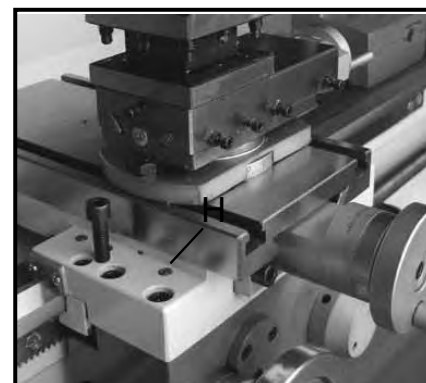


Fig. 44

7. Leadscrew

Lubricate the oil port (A, Fig. 45) with 20W machine oil once daily.

8. Tailstock

Lubricate two oil ports (B, Fig. 45) with 20W machine oil once daily.

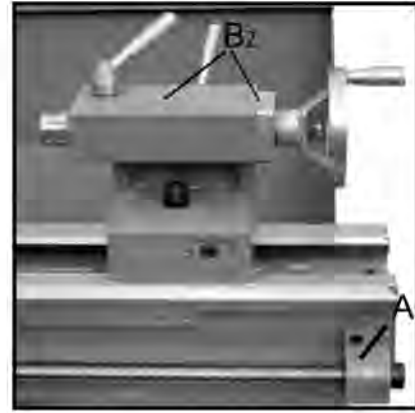


Fig. 45

ELECTRICAL CONNECTIONS

⚠ WARNING!

Connection of the lathe and all other electrical work may only be carried out by an authorized electrician!

Failure to comply may cause serious injury and damage to the machinery and property

The Lathe is rated at 750W, 1PH, 110V only. Confirm power available at the lathe's location is the same rating as the lathe. Using the wiring diagram (Fig.46) for connecting the lathe to the mains supply.

Make sure the lathe is properly grounded.

The following is wiring diagram of the lathe: (Fig.46)

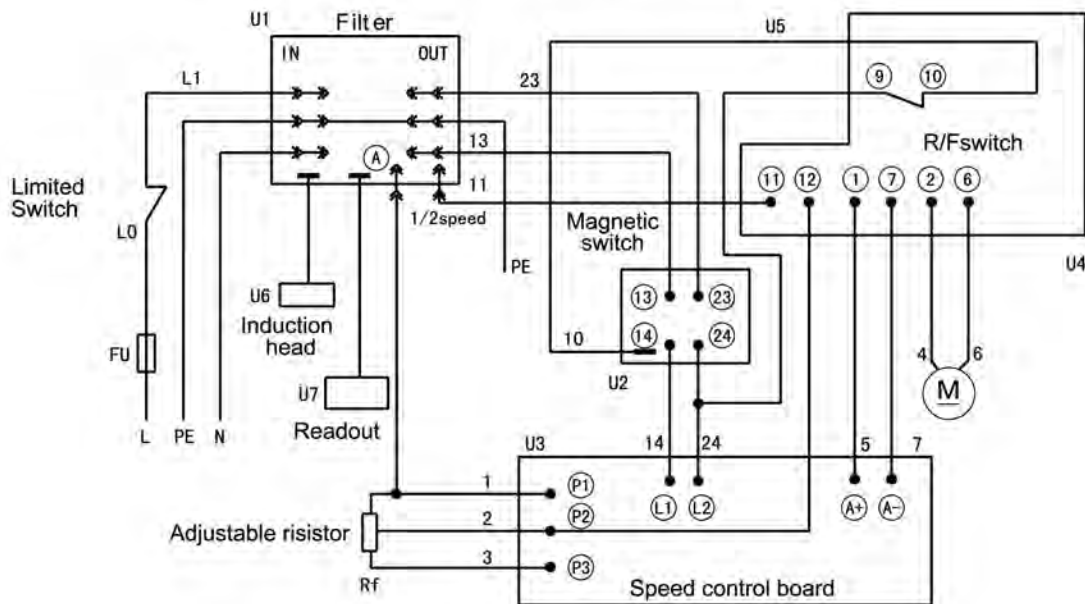


Fig.4

MAINTENANCE

Keep the maintenance of the machine tool during the operation to guarantee the accuracy and service life of the machine tool.

1. In order to retain the machine's precision and functionality, it is essential to treat it 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.

NOTES:

Disconnect the machine plug from the mains supply whenever you carry out cleaning, maintenance or repair work!

Oil, grease and cleaning agents are pollutants and must not be disposed of through the drains or in normal refuse. Dispose of those agents in accordance with current legal requirements on the environment. Cleaning rags impregnated with oil, grease and cleaning agents are easily inflammable. Collect cleaning rags or cleaning wool in a suitable closed vessel and dispose of them in an environmentally sound way – do not put them with normal refuse!

2. Lubrication all slideways lightly before every use. The change gears and the leadscrew must also be lightly lubricated with lithium base grease.
3. During the operation, the chips which falls onto the sliding surface should be cleaned timely, and the inspection should be often made to prevent chips falling into the position between the machine tool saddle and lathe bed guide way. Asphalt felt should be cleaned at certain time.

NOTES:

Do not remove the chips with your bare hands. There is a risk of cuts 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 part of the machine tool and apply machine tool oil to prevent rusting.
5. In order to maintain the machining accuracy, take care of the center, the surface of the machine tool for the chuck and the guide way and avoid mechanical damage and the wear due to improper guide.
6. If the damage is found, the maintenance should be done immediately.

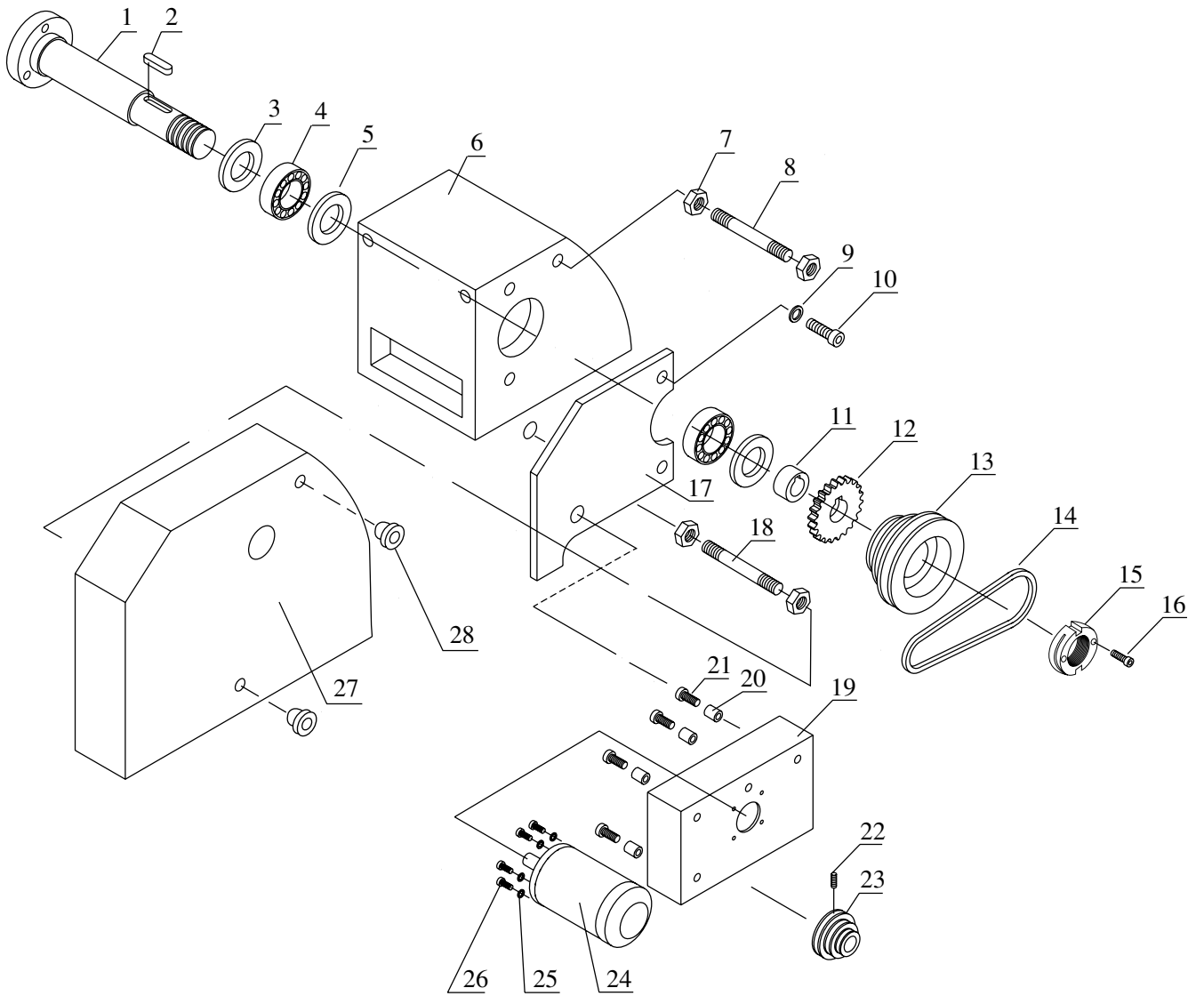
NOTES:

Repair work may only be carried out by qualified personnel with the corresponding mechanical and electrical knowledge.

TROUBLESHOOTING

| Problem | Possible Reason | Elimination |
|--------------------------------|--|---|
| Surface of workpiece too rough | Tool blunt Tool springs Feed too high Radius at the tool tip too small | Resharpen tool Clamp tool with less overhang Reduce feed Increase radius |
| Workpiece becomes coned | Centers are not aligned (tailstock has offset) Top slide not aligned well (cutting with the top slide) | Adjust tailstock to the center Align top slide well |
| Lathe is chattering | Feed too high Slack in main bearing | Reduce feed Adjust the main bearing |
| Center runs hot | Workpiece has expanded | Loosen tailstock center |
| Tool has a short edge life | Cutting speed too high Crossfeed too high Insufficient cooling | Reduce cutting speed Lower crossfeed(finishing allowance should not exceed 0.5mm) More coolant |
| Flank wear too high | Clearance angle too small Tool tip not adjusted to center high | Increase clearance angle Correct height adjustment of the tool |
| Cutting edge breaks off | Wedge angle too small (heat build-up) Grinding crack due to wrong cooling Excessive slack in the spindle bearing Arrangement (vibrations) | Increase wedge angle Cool uniformly Adjust the slack in the spindle bearing arrangement |
| Cut thread is wrong | Tool is clamped incorrectly or has been started grinding the wrong way Wrong pitch Wrong diameter | Adjust too to the center Grind angle correctly Adjust the right pitch Turn the workpiece to the correct diameter |
| Spindle does not activate | Emergency stop switch activated | Unlock emergency stop switch |

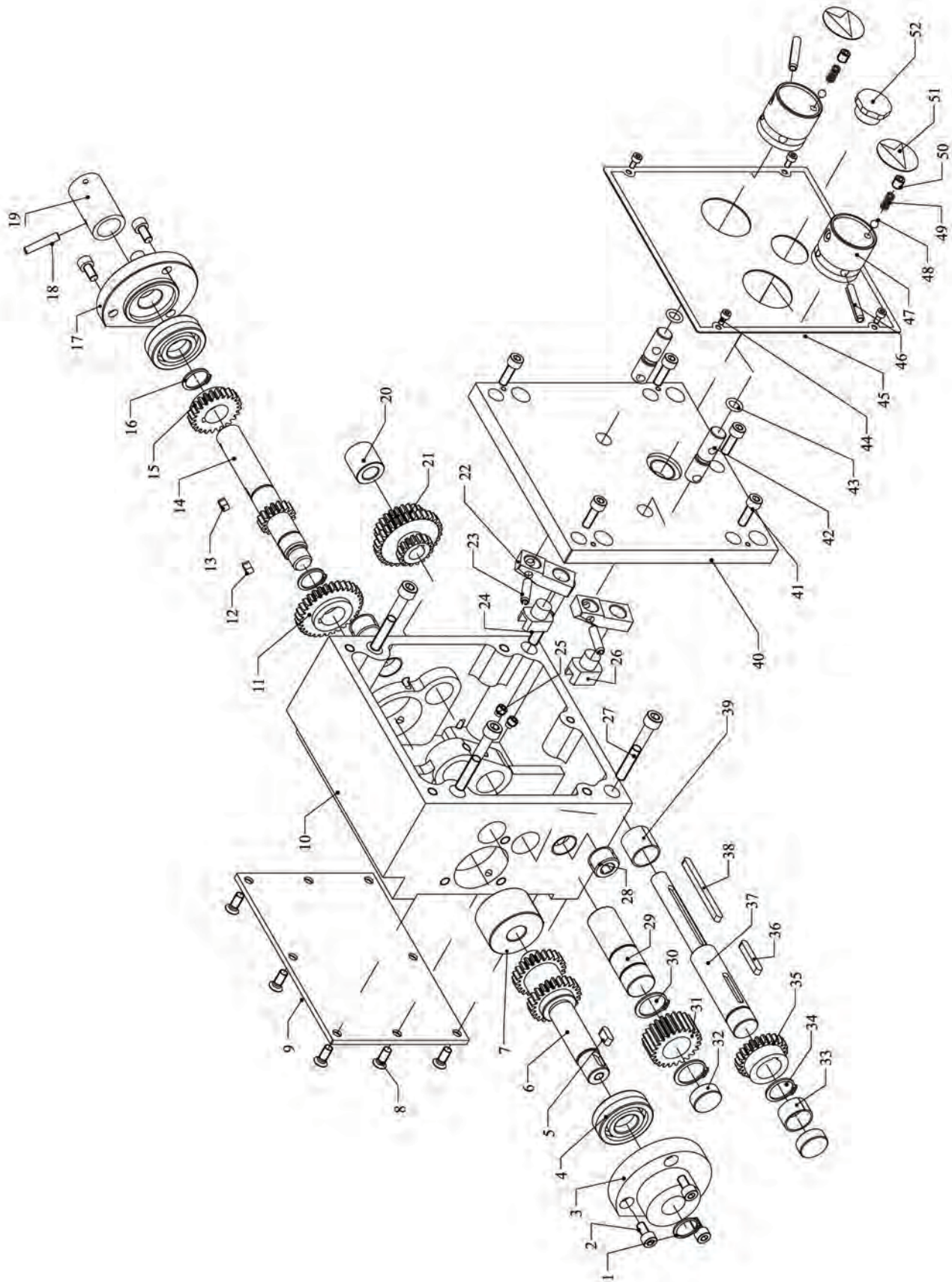
CX706 - Headstock Assembly



CX706 Headstock Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|--|-----|
| 1 | 1 | PCX706HS01 | SPINDLE | 1 |
| 2 | 2 | PCX706HS02 | KEY M8 X 8 x 45 | 1 |
| 3 | 3 | PCX706HS03 | EXTERNAL SPACER | 2 |
| 4 | 4 | PCX706HS04 | SPINDLE BEARING 32009 | 2 |
| 5 | 5 | PCX706HS05 | INNER SPACER | 2 |
| 6 | 6 | PCX706HS06 | HEADSTOCK BODY | 1 |
| 7 | 7 | PCX706HS07 | NUT - HEX M10-1.5 | 4 |
| 8 | 8 | PCX706HS08 | STUD - M10-1.5 X 115 THREADED DOUBLE END | 1 |
| 9 | 9 | PCX706HS09 | WASHER - FLAT M10 | 3 |
| 10 | 10 | PCX706HS10 | SCREW - CAP M10-1.5 X 20 | 2 |
| 11 | 11 | PCX706HS11 | SLEEVE | 1 |
| 12 | 12 | PCX706HS12 | GEAR 40T | 1 |
| 13 | 13 | PCX706HS13 | PULLEY - SPINDLE | 1 |
| 14 | 14 | PCX706HS14 | V-BELT 7M730 | 1 |
| 15 | 15 | PCX706HS15 | NUT - LOCK (SPECIAL) | 1 |
| 16 | 16 | PCX706HS16 | SCREW - CAP M5-0.8 X 10 | 1 |
| 17 | 17 | PCX706HS17 | SUPPORT PLATE | 1 |
| 18 | 18 | PCX706HS18 | STUD - M10-1.5 X 125 THREADED DOUBLE END | 1 |
| 19 | 19 | PCX706HS19 | MOTOR MOUNTING PLATE | 1 |
| 20 | 20 | PCX706HS20 | BUSHING Φ 21MM | 4 |
| 21 | 21 | PCX706HS21 | SCREW - CAP M6-1.0 X 12 | 4 |
| 22 | 22 | PCX706HS22 | SCREW - SET M6-1.0 X 6 | 1 |
| 23 | 23 | PCX706HS23 | PULLEY - MOTOR | 1 |
| 24 | 24 | PCX706HS24 | MOTOR DC (108ZYT005AL) | 1 |
| 25 | 25 | PCX706HS25 | WASHER - FLAT M8 | 4 |
| 26 | 26 | PCX706HS26 | SCREW - CAP M8-1.25 X 25 | 4 |
| 27 | 27 | PCX706HS27 | COVER | 1 |
| 28 | 28 | PCX706HS28 | KNOB - KNURLED METAL | 2 |

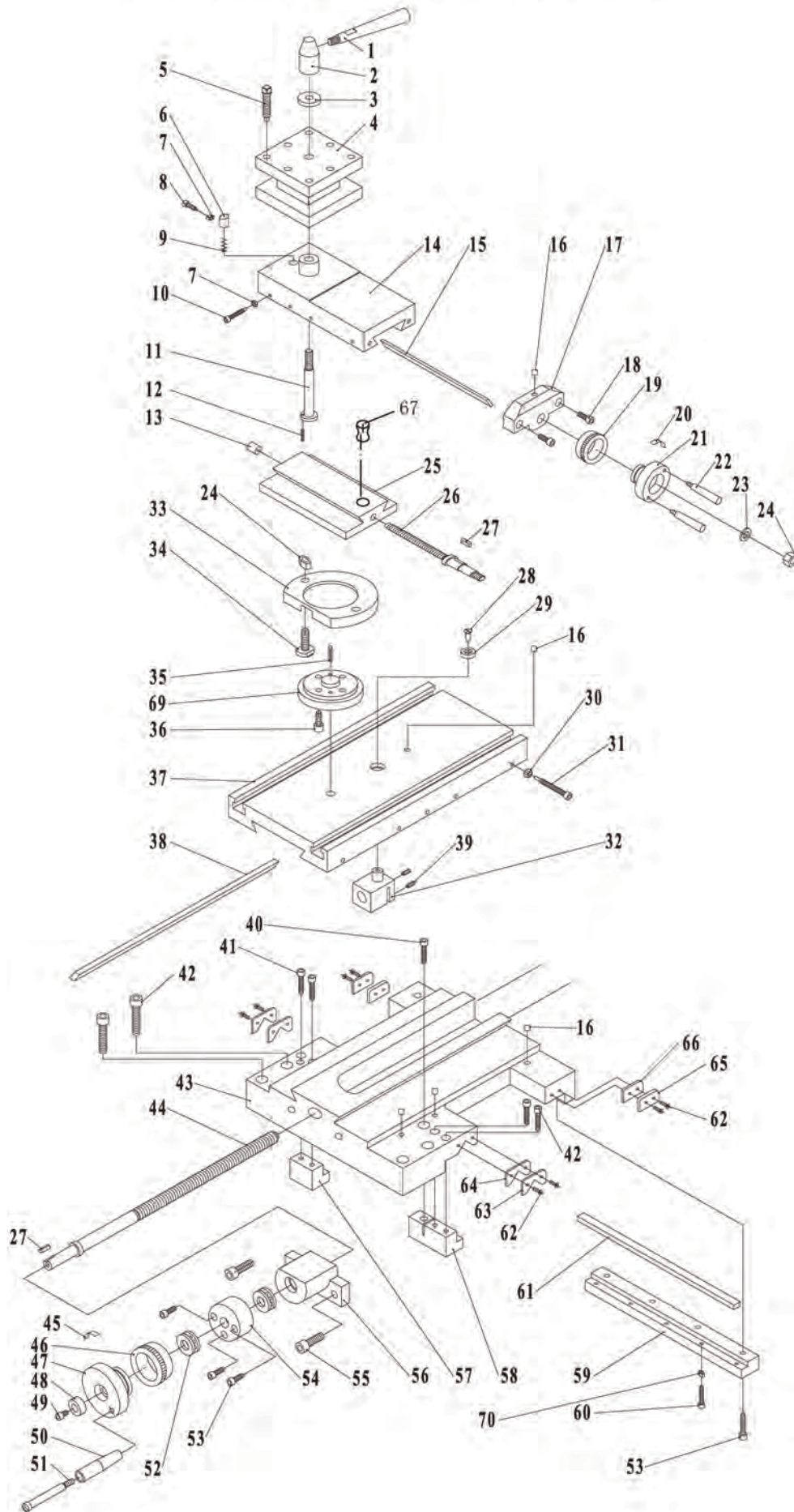
CX706 Gearbox Assembly



CX706 Gearbox Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|---------------------------------------|-----|
| 29 | 1 | PCX706GB01 | C-RING Φ 14 EXTERNAL | 1 |
| 30 | 2 | PCX706GB02 | SCREW - CAP M5-0.8 X 10 | 6 |
| 31 | 3 | PCX706GB03 | LEFT FLANGE | 1 |
| 32 | 4 | PCX706GB04 | BEARING 6202 | 2 |
| 33 | 5 | PCX706GB05 | KEY M5 X 5 X 12 | 1 |
| 34 | 6 | PCX706GB06 | SHAFT WITH DOUBLE GEAR 24/24T, M=1.25 | 1 |
| 35 | 7 | PCX706GB07 | SLEEVE | 1 |
| 36 | 8 | PCX706GB08 | SCREW - FLAT HEAD M5-0.8 X 8 | 8 |
| 37 | 9 | PCX706GB09 | REAR COVER | 1 |
| 38 | 10 | PCX706GB10 | GEAR BOX BODY | 1 |
| 39 | 11 | PCX706GB11 | GEAR 32T, M=1.25 | 1 |
| 40 | 12 | PCX706GB12 | KEY M4 X 4 X 8 | 1 |
| 41 | 13 | PCX706GB13 | KEY M4 X 4 X 10 | 1 |
| 42 | 14 | PCX706GB14 | GEAR SHAFT | 1 |
| 43 | 15 | PCX706GB15 | GEAR 24T, M=1.25 | 1 |
| 44 | 16 | PCX706GB16 | C-RING M15 EXTERNAL | 2 |
| 45 | 17 | PCX706GB17 | RIGHT FLANGE | 1 |
| 46 | 18 | PCX706GB18 | PIN - TAPER Φ 4 X 22 STEEL | 1 |
| 47 | 19 | PCX706GB19 | COUPLING SLEEVE | 1 |
| 48 | 20 | PCX706GB20 | RIGHT CHOKE PLUG | 1 |
| 49 | 21 | PCX706GB21 | TRIPLE GEAR 16/32/24T, M=1.25 | 1 |
| 50 | 22 | PCX706GB22 | FORK SEAT | 2 |
| 51 | 23 | PCX706GB23 | PIN - SPRING Φ 5 X 16 | 2 |
| 52 | 24 | PCX706GB24 | FORK - I | 1 |
| 53 | 25 | PCX706GB25 | SCREW - SET M6-1.0 X 6 | 2 |
| 54 | 26 | PCX706GB26 | FORK II | 2 |
| 55 | 27 | PCX706GB27 | SCREW - CAP M6-1.0 X 45 | 4 |
| 56 | 28 | PCX706GB28 | SCREW - SET M16- X 10 (FLAT) | 2 |
| 57 | 29 | PCX706GB29 | SHAFT | 1 |
| 58 | 30 | PCX706GB30 | C-RING Φ 18mm EXTERNAL | 2 |
| 59 | 31 | PCX706GB31 | GEAR - INTERMEDIATE | 1 |
| 60 | 32 | PCX706GB32 | LEFT CHOKE PLUG | 1 |
| 61 | 33 | PCX706GB33 | SLIDING BEARING SF-1 1610 | 1 |
| 62 | 34 | PCX706GB34 | C-RING (16) EXTERNAL | 1 |
| 63 | 35 | PCX706GB35 | GEAR 24T | 1 |
| 64 | 36 | PCX706GB36 | KEY - FLAT 4x4x25 | 1 |
| 65 | 37 | PCX706GB37 | SHAFT | 1 |
| 66 | 38 | PCX706GB38 | KEY M4 X 4 X 50 | 1 |
| 67 | 39 | PCX706GB39 | SLIDING BEARING SF-1 1620 | 1 |
| 68 | 40 | PCX706GB40 | FRONT COVER | 1 |
| 69 | 41 | PCX706GB41 | SCREW - CAP M5-0.8 X 16 | 5 |
| 70 | 42 | PCX706GB42 | AXLE - SMALL | 2 |
| 71 | 43 | PCX706GB43 | O-RING Φ 10 X 1.8 | 2 |
| 72 | 44 | PCX706GB44 | SCREW - CAP M3-0.5 X 6 | 4 |
| 73 | 45 | PCX706GB45 | LABEL - GEAR BOX | 1 |
| 74 | 46 | PCX706GB46 | PIN - SPRING Φ 5 X 26 | 2 |
| 75 | 47 | PCX706GB47 | HANDLE BASE | 2 |
| 76 | 48 | PCX706GB48 | STEEL BALL Φ 5 | 2 |
| 77 | 49 | PCX706GB49 | SPRING Φ 0.8 X 4 X 14 | 2 |
| 78 | 50 | PCX706GB50 | SCREW - SET M6-1.0 X 6 (FLAT) | 2 |
| 79 | 51 | PCX706GB51 | LABEL - INDICATOR | 2 |
| 80 | 52 | PCX706GB52 | OIL SIGHT GLASS 10 | 1 |

CX706 Carriage Tool Post Cross Slide Assembly



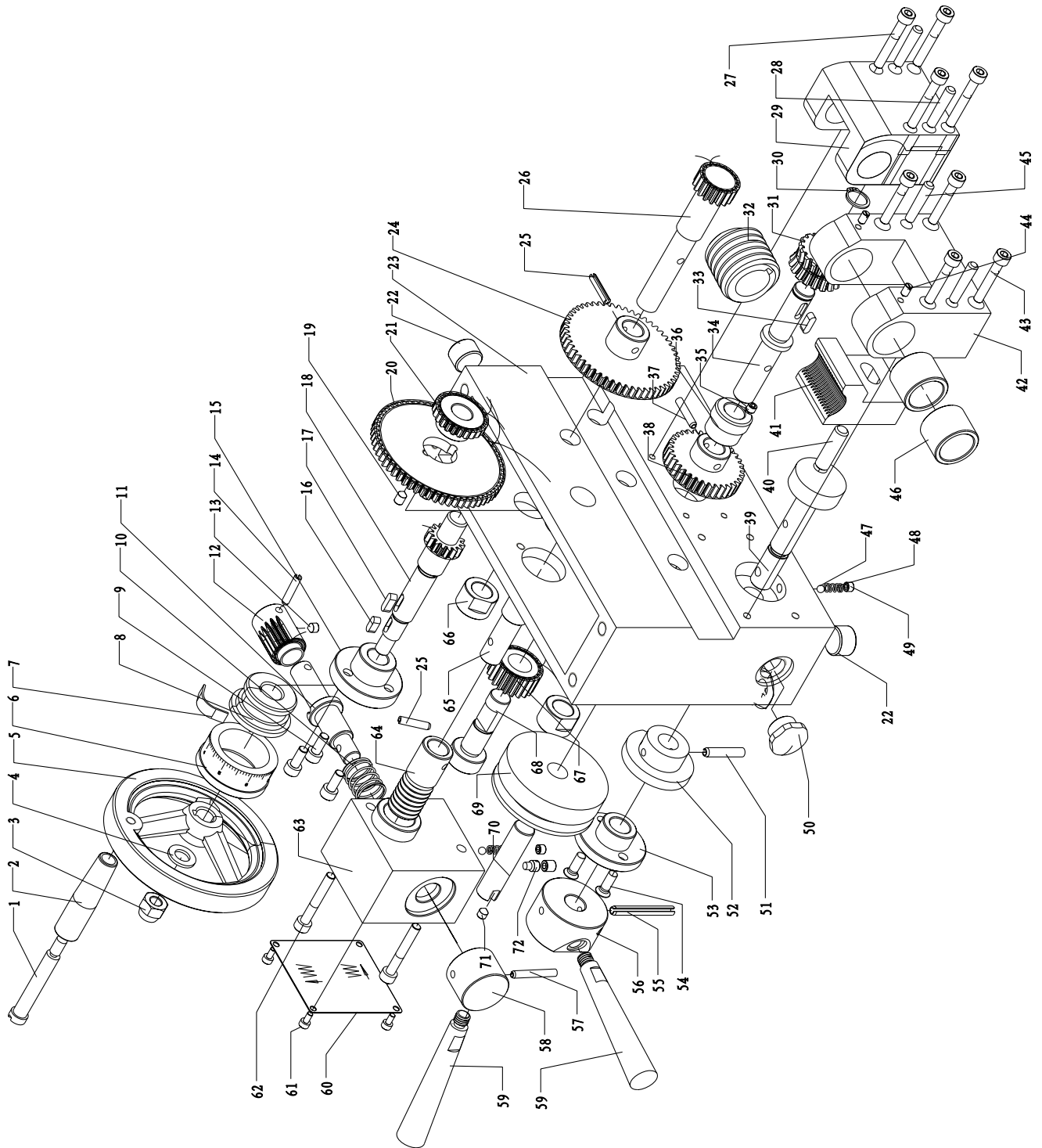
CX706 Carriage Tool Post Cross Slide Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|--|-----|
| 81 | 1 | PCX706CS01 | HANDLE | 1 |
| 82 | 2 | PCX706CS02 | HANDLE BASE | 1 |
| 83 | 3 | PCX706CS03 | WASHER - FLAT (SPECIAL) | 1 |
| 84 | 4 | PCX706CS04 | TOOL POST 4-WAY | 1 |
| 85 | 5 | PCX706CS05 | SCREW - SQUARE HEAD (SPECIAL) M8-1.25 X 30 | 1 |
| 86 | 6 | PCX706CS06 | PIN - (SPECIAL) | 1 |
| 87 | 7 | PCX706CS07 | NUT - HEX M4-0.7 X 16 | 4 |
| 88 | 8 | PCX706CS08 | SCREW - CAP M4-0.7 X 16 | 1 |
| 89 | 9 | PCX706CS09 | SPRING 0.8 X 4.8 X 16 | 1 |
| 90 | 10 | PCX706CS10 | SCREW - CAP M4-0.7 X 20 | 4 |
| 91 | 11 | PCX706CS11 | TOOL POST AXLE | 1 |
| 92 | 12 | PCX706CS12 | PIN - SPRING Φ 3 X 6 | 1 |
| 93 | 13 | PCX706CS13 | OIL CUP Φ 10 | 2 |
| 94 | 14 | PCX706CS14 | TOP SLIDE | 1 |
| 95 | 15 | PCX706CS15 | GIB - TOP SLIDE | 1 |
| 96 | 16 | PCX706CS16 | OIL CUP Φ 6 | 9 |
| 97 | 17 | PCX706CS17 | BRACKET | 1 |
| 98 | 18 | PCX706CS18 | SCREW - CAP M5-0.8 X 16 | 2 |
| 99 | 19 | PCX706CS19 | GRADUATED FRICTION DIAL | 1 |
| 100 | 20 | PCX706CS20 | SMALL SPRING PIECE | 1 |
| 101 | 21 | PCX706CS21 | HAND WHEEL | 1 |
| 102 | 22 | PCX706CS22 | HAND WHEEL HANDLE | 2 |
| 103 | 23 | PCX706CS23 | WASHER Φ 8 | 1 |
| 104 | 24 | PCX706CS24 | NUT - HEX M8-1.25 | 3 |
| 105 | 25 | PCX706CS25 | TOP SLIDE BASE | 1 |
| 106 | 26 | PCX706CS26 | LEADSCREW - TOP SLIDE T8X20TPI | 1 |
| 107 | 27 | PCX706CS27 | KEY M3 X 3 X 10 | 2 |
| 108 | 28 | PCX706CS28 | SCREW - CAP M5-0.8 X 40 | 1 |
| 109 | 29 | PCX706CS29 | WASHER - FLAT (SPECIAL) | 1 |
| 110 | 30 | PCX706CS30 | NUT - HEX M5-0.8 | 4 |
| 111 | 31 | PCX706CS31 | SCREW - CAP M5-0.8 X 40 | 5 |
| 112 | 32 | PCX706CS32 | NUT - CROSS SLIDE LEADSCREW 10TPI | 1 |
| 113 | 33 | PCX706CS33 | CLAMPING RING | 1 |
| 114 | 34 | PCX706CS34 | BOLT - T-BOLT M8-1.25 X 22 | 2 |
| 115 | 35 | PCX706CS35 | PIN - SPRING Φ 4 X 16 | 2 |
| 116 | 36 | PCX706CS36 | SCREW - CAP M6-1.0 X 14 | 4 |
| 117 | 37 | PCX706CS37 | CROSS SLIDE | 1 |
| 118 | 38 | PCX706CS38 | GIB - CROSS SLIDE | 1 |
| 119 | 39 | PCX706CS39 | SCREW - SET M4-0.7 X 12 (SLOTTED) | 2 |
| 120 | 40 | PCX706CS40 | SCREW - CAP M8-1.25 X 35 | 1 |
| 121 | 41 | PCX706CS41 | SCREW - CAP M5-0.8 X 25 | 4 |
| 122 | 42 | PCX706CS42 | SCREW - CAP M6-1.0 X 35 | 4 |
| 123 | 43 | PCX706CS43 | CARRIAGE | 1 |
| 124 | 44 | PCX706CS44 | LEADSCREW - CROSS SLIDE T14X10TPI | 1 |
| 125 | 45 | PCX706CS45 | SMALL SPRING PIECE | 1 |
| 126 | 46 | PCX706CS46 | GRADUATED FRICTION DIAL | 1 |
| 127 | 47 | PCX706CS47 | HANDWHEEL | 1 |
| 128 | 48 | PCX706CS48 | WASHER - FLAT (JY240-04-25) (special) | 1 |

CX706 Carriage Tool Post Cross Slide Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|-----------------------------|-----|
| 129 | 49 | PCX706CS49 | SCREW - CAP M5-0.8 X 8 | 1 |
| 130 | 50 | PCX706CS50 | HANDLE SLEEVE | 1 |
| 131 | 51 | PCX706CS51 | HANDLE BOLT | 1 |
| 132 | 52 | PCX706CS52 | BEARING - THRUST 5101 | 2 |
| 133 | 53 | PCX706CS53 | SCREW - CAP M5-0.8 X 20 | 7 |
| 134 | 54 | PCX706CS54 | BASE | 1 |
| 135 | 55 | PCX706CS55 | SCREW - CAP M8-1.25 X 20 | 2 |
| 136 | 56 | PCX706CS56 | BRACKET | 1 |
| 137 | 57 | PCX706CS57 | CLAMPING BLOCK I | 1 |
| 138 | 58 | PCX706CS58 | CARRIAGE BRAKE BLOCK | 1 |
| 139 | 59 | PCX706CS59 | CLAMPING BLOCK II | 1 |
| 140 | 60 | PCX706CS60 | SCREW - CAP M4-0.7 X 20 | 5 |
| 141 | 61 | PCX706CS61 | GIB - CARRIAGE | 1 |
| 142 | 62 | PCX706CS62 | SCREW - PAN HD M3-0.5 X 8 | 8 |
| 143 | 63 | PCX706CS63 | V-WIPER | 2 |
| 144 | 64 | PCX706CS64 | V RUBBER WIPER | 2 |
| 145 | 65 | PCX706CS65 | FLAT WIPER | 2 |
| 146 | 66 | PCX706CS66 | FLAT RUBBER WIPER | 2 |
| 147 | 67 | PCX706CS67 | NUT-TOPSLIDE SCREW 20TPI | 1 |
| 149 | 69 | PCX706CS69 | SWIVEL BASE | 1 |
| 150 | 70 | PCX706CS70 | NUT - HEX M4-0.7 | 5 |

CX706 - Apron Assembly



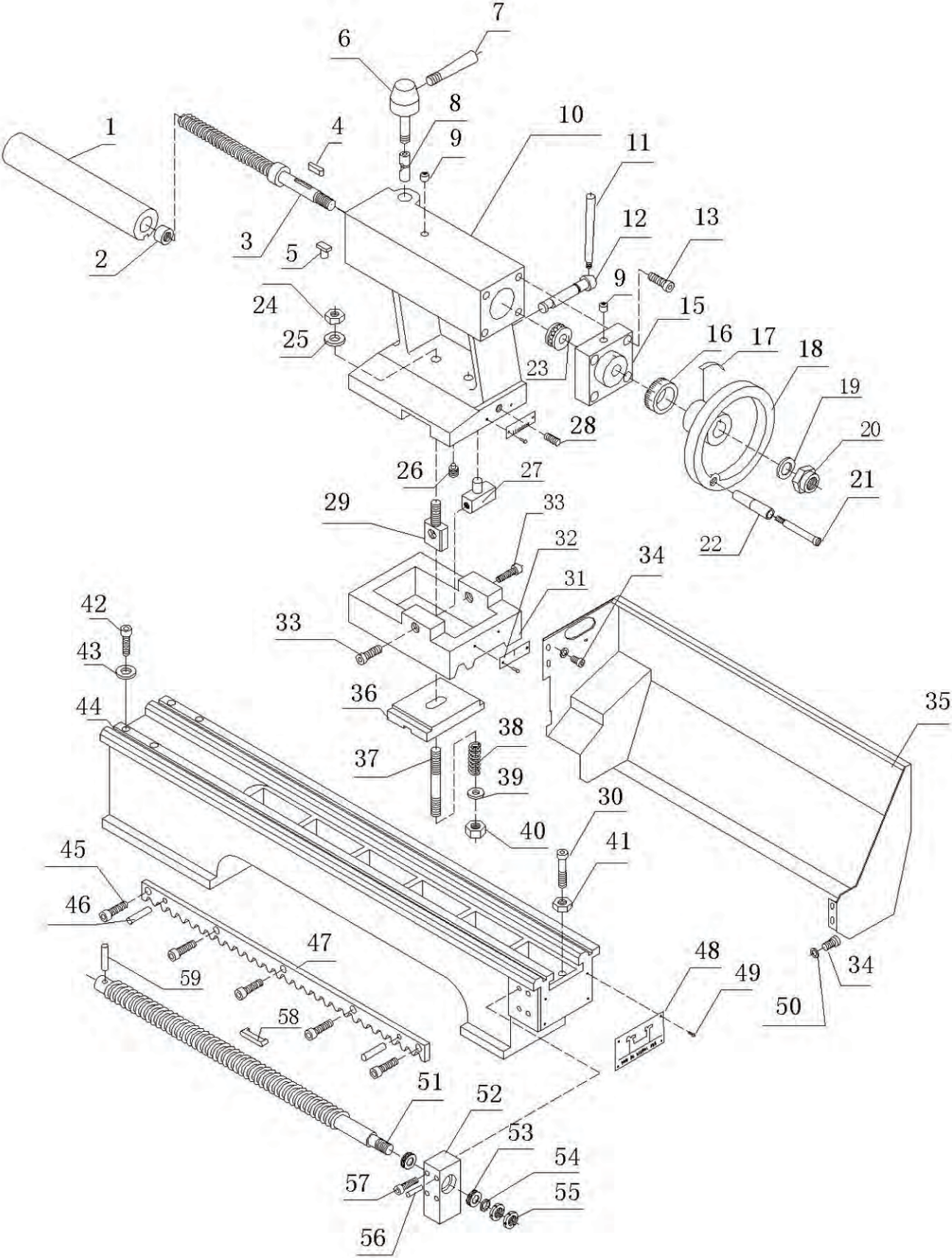
CX706 Apron Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|---------------------------------------|-----|
| 151 | 1 | PCX706AP01 | HANDLE BOLT | 1 |
| 152 | 2 | PCX706AP02 | HANDLE SLEEVE | 1 |
| 153 | 3 | PCX706AP03 | NUT - ACORN M8-1.25 GB/T889/1-2000 | 1 |
| 154 | 4 | PCX706AP04 | WASHER - FLAT M8 | 1 |
| 155 | 5 | PCX706AP05 | HANDWHEEL | 1 |
| 156 | 6 | PCX706AP06 | DIAL RING | 1 |
| 157 | 7 | PCX706AP07 | SPRING PIECE | 1 |
| 158 | 8 | PCX706AP08 | DIAL FLANGE | 1 |
| 159 | 9 | PCX706AP09 | SCREW - CAP M5-0.8 X 12 | 3 |
| 160 | 10 | PCX706AP10 | SPRING 1 X 16 X 20. | 1 |
| 161 | 11 | PCX706AP11 | SHIFTER SHAFT | 1 |
| 162 | 12 | PCX706AP12 | SHIFTER | 1 |
| 163 | 13 | PCX706AP13 | SCREW - SET M5-0.8 X 6 | 1 |
| 164 | 14 | PCX706AP14 | PIN - SPRING Φ 4 X 20 | 3 |
| 165 | 15 | PCX706AP15 | GEAR SHAFT SEAT | 1 |
| 166 | 16 | PCX706AP16 | KEY M4 X 4 X 10 | 1 |
| 167 | 17 | PCX706AP17 | KEY M4 X 4 X 12 | 1 |
| 168 | 18 | PCX706AP18 | GEAR SHAFT | 1 |
| 169 | 19 | PCX706AP19 | SCREW - SET M5-0.8 X 8 | 2 |
| 170 | 20 | PCX706AP20 | GEAR 60T | 1 |
| 171 | 21 | PCX706AP21 | GEAR 23T | 1 |
| 172 | 22 | PCX706AP22 | SCREW - SET M16-1.5 X 12 | 2 |
| 173 | 23 | PCX706AP23 | APRON BODY | 1 |
| 174 | 24 | PCX706AP24 | GEAR 53T | 1 |
| 175 | 25 | PCX706AP25 | PIN - SPRING Φ 4 X 20 | 1 |
| 176 | 26 | PCX706AP26 | GEAR SHAFT | 1 |
| 177 | 27 | PCX706AP27 | SCREW - CAP M5-0.8 X 35 | 4 |
| 178 | 28 | PCX706AP28 | PIN - TAPER Φ 5 X 28 | 4 |
| 179 | 29 | PCX706AP29 | WORM SEAT | 1 |
| 180 | 30 | PCX706AP30 | C-RING EXT Φ 12 | 1 |
| 181 | 31 | PCX706AP31 | WORM GEAR 17T | 1 |
| 182 | 32 | PCX706AP32 | WORM | 1 |
| 183 | 33 | PCX706AP33 | KEY M4 X 4 X 12 | 1 |
| 184 | 34 | PCX706AP34 | WORM SHAFT | 1 |
| 185 | 35 | PCX706AP35 | SCREW - SET M4-0.7 X 8 (SLOTTED CONE) | 1 |
| 186 | 36 | PCX706AP36 | COLLAR | 1 |
| 187 | 37 | PCX706AP37 | PIN - SPRING Φ 4 X 20 | 1 |
| 188 | 38 | PCX706AP38 | GEAR 34T | 1 |
| 189 | 39 | PCX706AP39 | CAM SHAFT | 1 |
| 190 | 40 | PCX706AP40 | PIN - STRAIGHT M8 X 24 | 2 |
| 191 | 41 | PCX706AP41 | HALF NUT | 1 |
| 192 | 42 | PCX706AP42 | BRACKET - HALF NUT | 1 |
| 193 | 43 | PCX706AP43 | SCREW - CAP M5-0.8 X 30 | 1 |
| 194 | 44 | PCX706AP44 | SCREW - SET M4-0.7 X 8 (SLOTTED CONE) | 2 |
| 195 | 45 | PCX706AP45 | PIN - SPRING Φ 4 X 20 | 1 |
| 196 | 46 | PCX706AP46 | BUSHING | 2 |
| 197 | 47 | PCX706AP47 | STEEL BALL Φ 5 | 2 |
| 198 | 48 | PCX706AP48 | SPRING 0.8 X 4 X 14 | 2 |
| 199 | 49 | PCX706AP49 | SCREW - SET M6-1X6 (FLAT) | 3 |
| 200 | 50 | PCX706AP50 | OIL LEVEL GUAGE A16 X 1.5 | 1 |
| 201 | 51 | PCX706AP51 | PIN - SPRING Φ 4 X 25 | 1 |
| 202 | 52 | PCX706AP52 | CAM | 1 |
| 203 | 53 | PCX706AP53 | FLANGE | 1 |

CX706 Apron Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|--|-----|
| 204 | 54 | PCX706AP54 | COUNTERSUNK SCREW M5-0.8 X 12-Z2 | 2 |
| 205 | 55 | PCX706AP55 | PIN - SPRING Φ 5 X 40 | 1 |
| 206 | 56 | PCX706AP56 | HANDLE BASE | 1 |
| 207 | 57 | PCX706AP57 | PIN - SPRING Φ 4 X 28 | 1 |
| 208 | 58 | PCX706AP58 | HANDLE BASE | 1 |
| 209 | 59 | PCX706AP59 | HANDLE | 2 |
| 210 | 60 | PCX706AP60 | LONGITUDIBNAL CROSS LABEL | 1 |
| 211 | 61 | PCX706AP61 | SCREW - CAP M3-0.5 X 6 | 4 |
| 212 | 62 | PCX706AP62 | SCREW - CAP M5-0.8 X 35 | 1 |
| 213 | 63 | PCX706AP63 | FEEDING BASE | 1 |
| 214 | 64 | PCX706AP64 | REVERSING SHAFT | 1 |
| 215 | 65 | PCX706AP65 | SHAFT | 1 |
| 216 | 66 | PCX706AP66 | SPACER BUSHING | 1 |
| 217 | 67 | PCX706AP67 | IDLER GEAR 20T | 1 |
| 218 | 68 | PCX706AP68 | AXLE | 1 |
| 219 | 69 | PCX706AP69 | LOCKING WHEEL | 1 |
| 220 | 70 | PCX706AP70 | AXLE | 1 |
| 221 | 71 | PCX706AP71 | SCREW - SET M4-0.7 X 8 (SLOTTED CONE) | 1 |
| 222 | 72 | PCX706AP72 | SCREW - SET M6-1.0 X 6 (CYLINDRICAL END) | 1 |

CX706 Tailstock, Bed Assembly



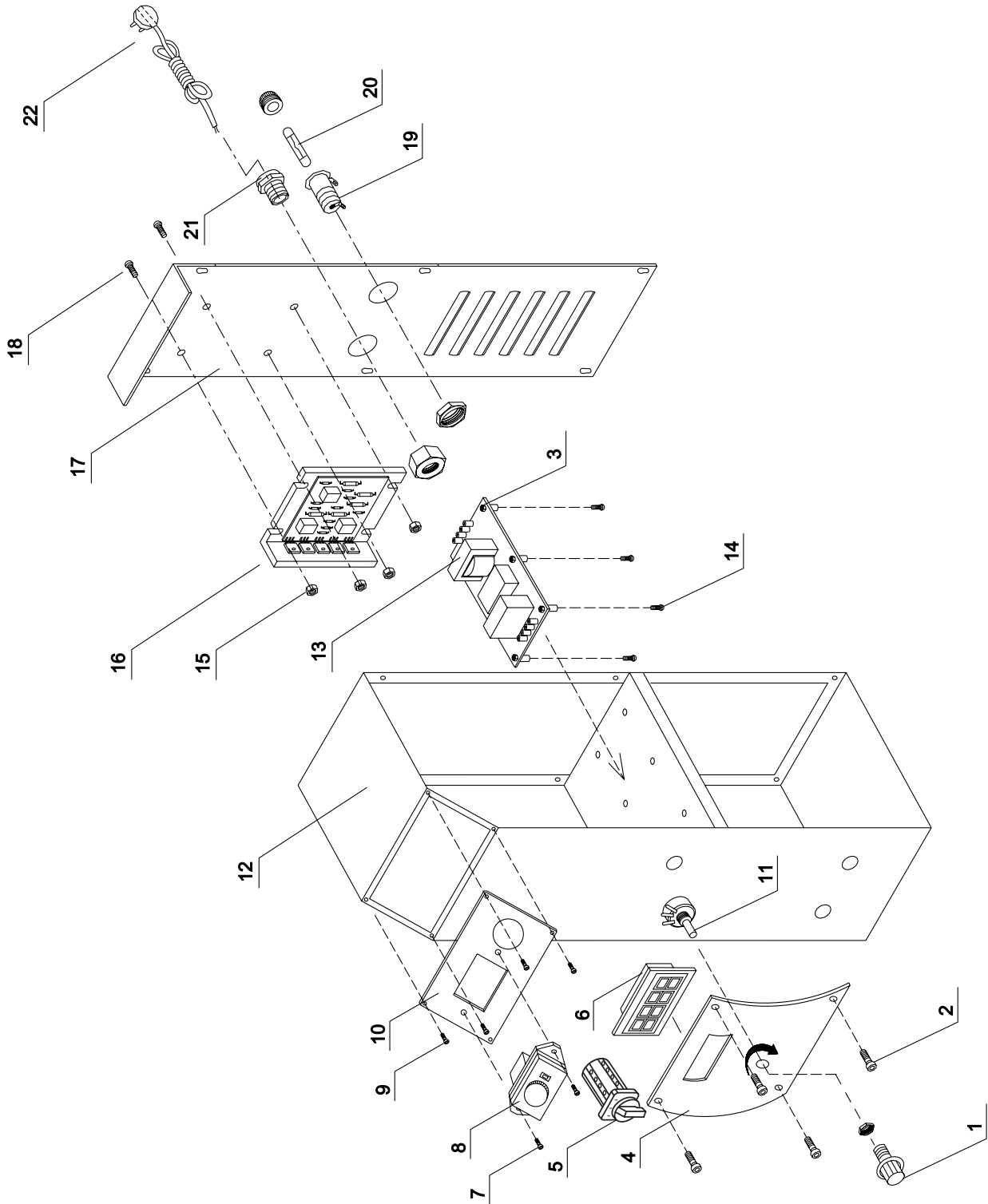
CX706 Tailstock Bed Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|---------------------------------------|-----|
| 223 | 1 | PCX706TS01 | TAILSTOCK QUILL | 1 |
| 224 | 2 | PCX706TS02 | LEADSCREW NUT | 1 |
| 225 | 3 | PCX706TS03 | LEADSCREW T12 X 10 TPI | 1 |
| 226 | 4 | PCX706TS04 | KEY 4 X 4 X 15 | 1 |
| 227 | 5 | PCX706TS05 | KEY - FEATURE JY240-10-28 | 1 |
| 228 | 6 | PCX706TS06 | LOCK HANDLE SEAT | 1 |
| 229 | 7 | PCX706TS07 | HANDLE | 1 |
| 230 | 8 | PCX706TS08 | CLAMPING SLEEVE | 1 |
| 231 | 9 | PCX706TS09 | OIL CUP ϕ 6 | 2 |
| 232 | 10 | PCX706TS10 | TAILSTOCK BODY | 1 |
| 233 | 11 | PCX706TS11 | LEVER - LOCK | 1 |
| 234 | 12 | PCX706TS12 | ECCENTRIC SHAFT | 1 |
| 235 | 13 | PCX706TS13 | SCREW - CAP M5-0.8 X 16 | 4 |
| 237 | 15 | PCX706TS15 | SQUARE FLANGE | 1 |
| 238 | 16 | PCX706TS16 | GRADUATED FRICTION DAIL | 1 |
| 239 | 17 | PCX706TS17 | SPRING PIECE (JY240V-10-13/1) | 1 |
| 240 | 18 | PCX706TS18 | HANDWHEEL | 1 |
| 241 | 19 | PCX706TS19 | WASHER - FLAT M8 | 1 |
| 242 | 20 | PCX706TS20 | NUT - ACORN M8-1.25 | 1 |
| 243 | 21 | PCX706TS21 | HANDWHEEL HANDLE BOLT | 1 |
| 244 | 22 | PCX706TS22 | HANDWHEEL HANDLE | 1 |
| 245 | 23 | PCX706TS23 | BEARING 51101 i.e THRUST | 1 |
| 246 | 24 | PCX706TS24 | NUT - HEX M10-1.5 | 1 |
| 247 | 25 | PCX706TS25 | WASHER - FLAT ϕ 10 | 1 |
| 248 | 26 | PCX706TS26 | SCREW - SET M6-1.0 X 10 | 1 |
| 249 | 27 | PCX706TS27 | ADJUSTING BLOCK | 1 |
| 250 | 28 | PCX706TS28 | SCREW - SET M6-1.0 X 16 | 1 |
| 251 | 29 | PCX706TS29 | CLAMPING BOLT (SPECIAL) | 1 |
| 252 | 30 | PCX706TS30 | SCREW - CAP M8-1.25 X 25 | 1 |
| 253 | 31 | PCX706TS31 | TAILSTOCK BASE | 1 |
| 254 | 32 | PCX706TS32 | ZERO MARK LABEL | 1 |
| 255 | 33 | PCX706TS33 | SCREW - CAP M8-1.25 X 30 | 2 |
| 256 | 34 | PCX706TS34 | SCREW - CAP M5-0.8 X 8 | 4 |
| 257 | 35 | PCX706TS35 | SPLASH GUARD | 1 |
| 258 | 36 | PCX706TS36 | CLAMPING PLATE | 1 |
| 259 | 37 | PCX706TS37 | STUD M12/M10 X 69 THREADED DOUBLE END | 1 |
| 260 | 38 | PCX706TS38 | SPRING ϕ 13 X ϕ 1 X 62 | 1 |
| 261 | 39 | PCX706TS39 | WASHER - FLAT ϕ 12 | 1 |
| 262 | 40 | PCX706TS40 | NUT - HEX M12-1.75 | 1 |
| 263 | 41 | PCX706TS41 | NUT - HEX M8-1.25 | 1 |
| 264 | 42 | PCX706TS42 | SCREW - CAP M8-1.25X30 | 4 |
| 265 | 43 | PCX706TS43 | WASHER FLAT ϕ 6 | 4 |
| 266 | 44 | PCX706TS44 | BED | 1 |
| 267 | 45 | PCX706TS45 | SCREW - CAP M5-0.8 X 10 | 5 |
| 268 | 46 | PCX706TS46 | LOCATING PIN ϕ 6X25 SHEAR PIN | 2 |
| 269 | 47 | PCX706TS47 | RACK | 1 |
| 270 | 48 | PCX706TS48 | HARDENING LABEL | 1 |
| 271 | 49 | PCX706TS49 | RIVET ϕ 2 X 6 | 4 |
| 272 | 50 | PCX706TS50 | WASHER - FLAT ϕ 5 | 4 |
| 273 | 51 | PCX706TS51 | LONGITUDINAL LEADSCREW T20 X 8TPI | 1 |
| 274 | 52 | PCX706TS52 | BRACKET | 1 |
| 275 | 53 | PCX706TS53 | BEARING 51101 i.e THRUST | 2 |

CX706 Tailstock Bed Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|------------|-----------------|----------------------------|--|------------|
| 276 | 54 | PCX706TS54 | WASHER - FLAT Φ 15 | 1 |
| 277 | 55 | PCX706TS55 | NUT - HEX M12-1.25 | 1 |
| 278 | 56 | PCX706TS56 | PIN - (LOCATING) Φ 6 X 25. | 2 |
| 279 | 57 | PCX706TS57 | SCREW - CAP M6-1 X 12 | 2 |
| 280 | 58 | PCX706TS58 | KEY - FLAT 5 X 5 X 25 | 1 |
| 281 | 59 | PCX706TS59 | PIN - TAPER Φ 3 X 22 (BRASS) | 1 |

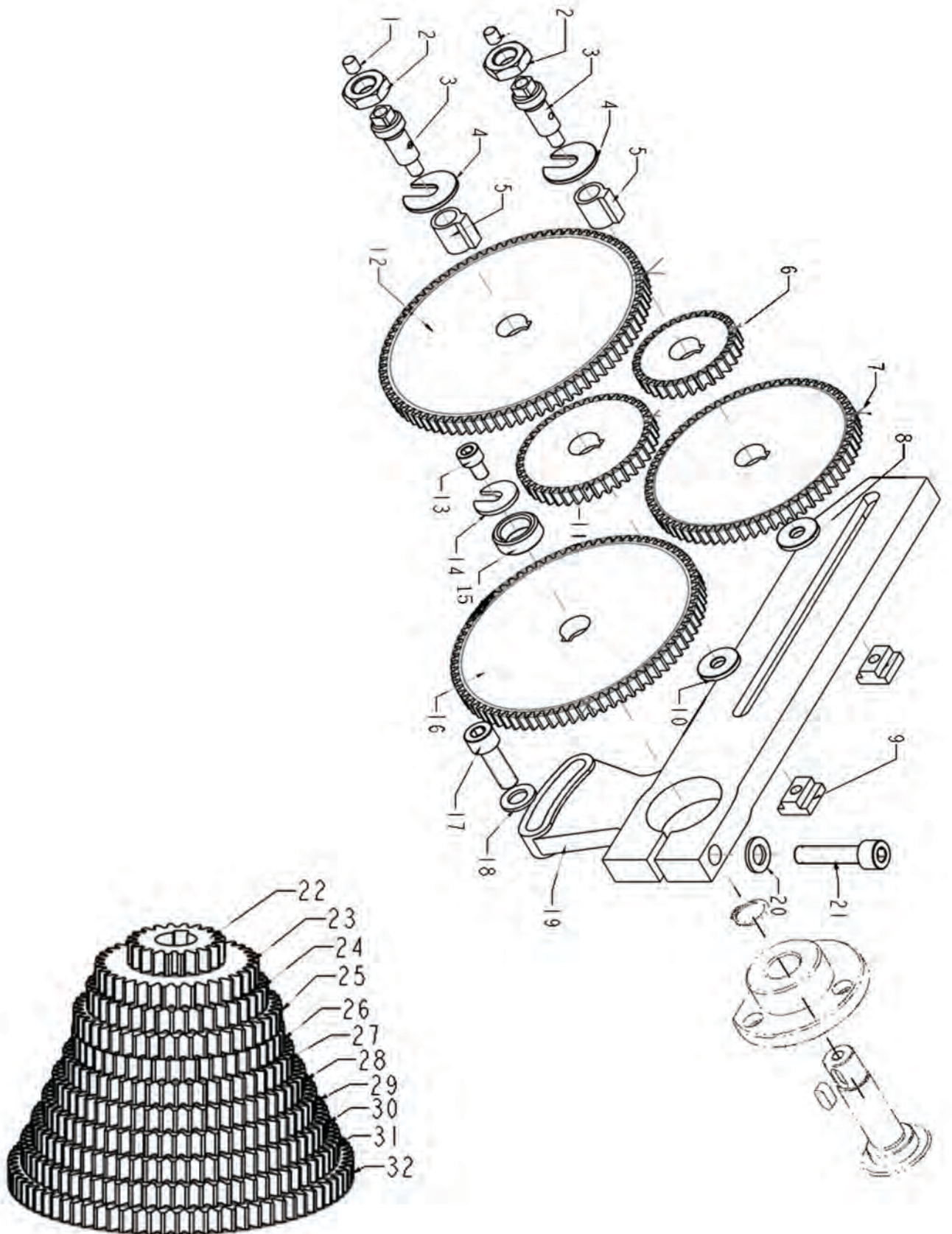
CX706 Electrical Box Assembly



CX706 Electrical Box Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|--|-----|
| 282 | 1 | PCX706EB01 | KNOB - SPEED CONTROL | 1 |
| 283 | 2 | PCX706EB02 | SCREW - CAP M3-0.5 X 6 | 4 |
| 284 | 3 | PCX706EB03 | NUT - HEX M4-0.7 | 4 |
| 285 | 4 | PCX706EB04 | LABEL | 1 |
| 286 | 5 | PCX706EB05 | SWITCH - FOR / REV ZH-A | 1 |
| 287 | 6 | PCX706EB06 | SPEED DISPLAY | 1 |
| 288 | 7 | PCX706EB07 | SCREW M4-0.7 X 14 | 2 |
| 289 | 8 | PCX706EB08 | SWITCH - MAG KJD-17B-110V | 1 |
| 290 | 9 | PCX706EB09 | SCREW - CAP M4-0.7 X 10 | 4 |
| 291 | 10 | PCX706EB10 | COVER PLATE | 1 |
| 292 | 11 | PCX706EB11 | SWITCH - SPEED CONTROL (POTENTIOMETER) | 1 |
| 293 | 12 | PCX706EB12 | ELECTRICAL BOX | 1 |
| 294 | 13 | PCX706EB13 | FILTER | 1 |
| 295 | 14 | PCX706EB14 | SCREW - M3-0.5 X 16 | 6 |
| 296 | 15 | PCX706EB15 | NUT - HEX M4-0.7 | 4 |
| 297 | 16 | PCX706EB16 | SPEED CONTROL BOARD | 1 |
| 298 | 17 | PCX706EB17 | PANEL COVER | 1 |
| 299 | 18 | PCX706EB18 | SCREW - CAP M4-0.7 X 12 | 4 |
| 300 | 19 | PCX706EB19 | FUSE HOLDER | 1 |
| 301 | 20 | PCX706EB20 | FUSE 15A | 1 |
| 302 | 21 | PCX706EB21 | STRAIN RELIEF M16 X 2 | 1 |
| 303 | 22 | PCX706EB22 | PLUG | 1 |

CX706 Quadrant Assembly



CX706 Quadrant Assembly

| No. | Part No. | Customer's Part No. | Description & Specification | QTY |
|-----|----------|---------------------|-----------------------------|-----|
| 304 | 1 | PCX706QA01 | OIL CUP $\Phi 6$ | 2 |
| 305 | 2 | PCX706QA02 | NUT - HEX M12-1.25 | 2 |
| 306 | 3 | PCX706QA03 | SHAFT | 2 |
| 307 | 4 | PCX706QA04 | WASHER - SPECIAL | 2 |
| 308 | 5 | PCX706QA05 | BUSHING | 2 |
| 309 | 6 | PCX706QA06 | CHANGE GEAR 30T | 1 |
| 310 | 7 | PCX706QA07 | CHANGE GEAR 63T | 1 |
| 311 | 8 | PCX706QA08 | WASHER - FLAT SPECIAL | 1 |
| 312 | 9 | PCX706QA09 | NUT - TNUT | 2 |
| 313 | 10 | PCX706QA10 | WASHER - FLAT SPECIAL | 1 |
| 314 | 11 | PCX706QA11 | CHANGE GEAR 40T | 1 |
| 315 | 12 | PCX706QA12 | CHANGE GEAR 80T | 1 |
| 316 | 13 | PCX706QA13 | SCREW - CAP M6-1.0 X 10 | 1 |
| 317 | 14 | PCX706QA14 | WASHER - SPECIAL | 1 |
| 318 | 15 | PCX706QA15 | SPACER | 1 |
| 319 | 16 | PCX706QA16 | CHANGE GEAR 75T | 1 |
| 320 | 17 | PCX706QA17 | SCREW - CAP M6-1.0 X 25 | 1 |
| 321 | 18 | PCX706QA18 | WASHER - FLAT $\Phi 6$ | 1 |
| 322 | 19 | PCX706QA19 | CHANGE GEAR SUPPORT | 1 |
| 323 | 20 | PCX706QA20 | WASHER - FLAT $\Phi 8$ | 1 |
| 324 | 21 | PCX706QA21 | SCREW - CAP M8-1.25 X 35 | 1 |
| 325 | 22 | PCX706QA22 | CHANGE GEAR 20T | 1 |
| 326 | 23 | PCX706QA23 | CHANGE GEAR 35T | 1 |
| 327 | 24 | PCX706QA24 | CHANGE GEAR 39T | 1 |
| 328 | 25 | PCX706QA25 | CHANGE GEAR 45T | 1 |
| 329 | 26 | PCX706QA26 | CHANGE GEAR 46T | 1 |
| 330 | 27 | PCX706QA27 | CHANGE GEAR 50T | 1 |
| 331 | 28 | PCX706QA28 | CHANGE GEAR 55T | 1 |
| 332 | 29 | PCX706QA29 | CHANGE GEAR 60T | 1 |
| 333 | 30 | PCX706QA30 | CHANGE GEAR 65T | 1 |
| 334 | 31 | PCX706QA31 | CHANGE GEAR 70T | 1 |
| 335 | 32 | PCX706QA32 | CHANGE GEAR 76T | 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.