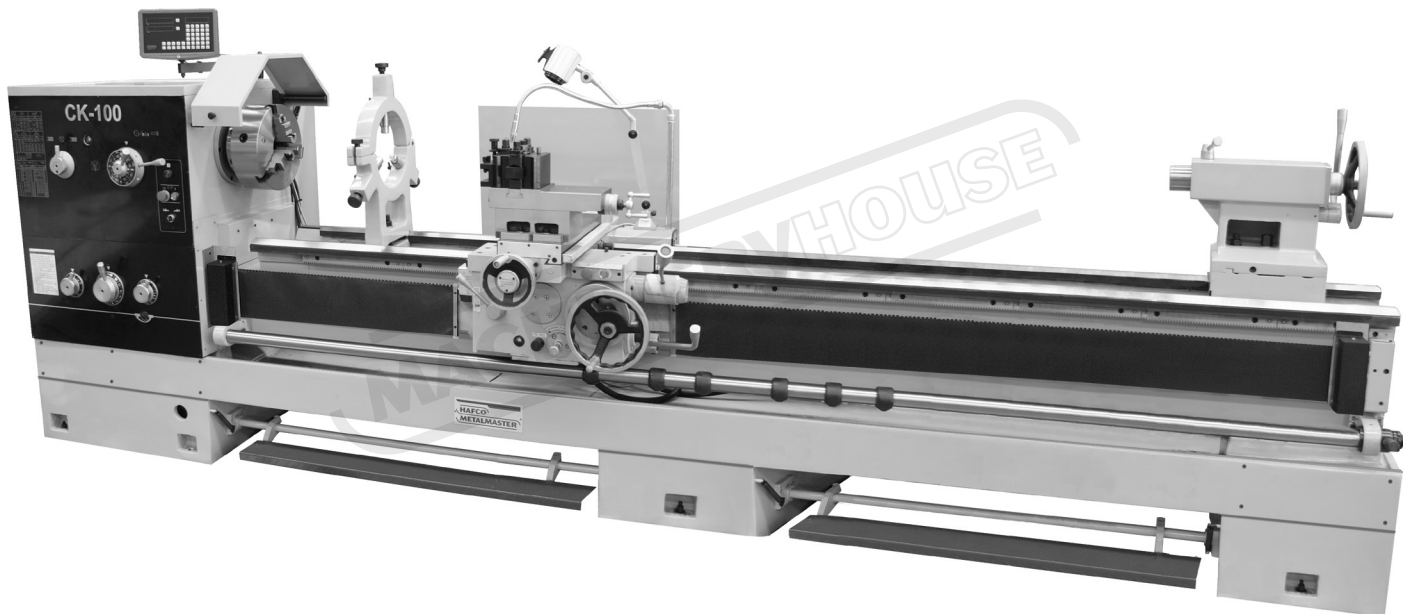


INSTRUCTION MANUAL

CK-100 Centre Lathe (415V) 660 x 3000mm - 105mm Bore



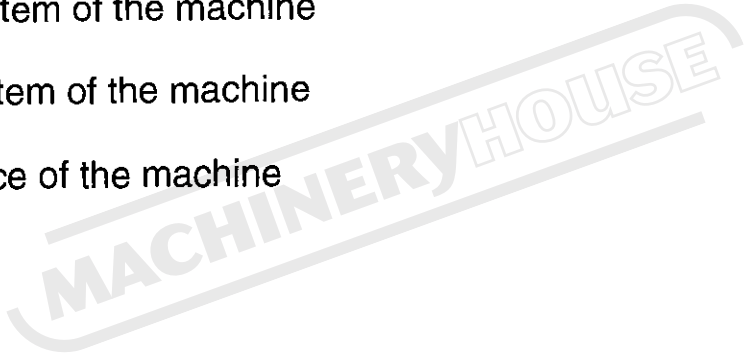
L666D

CAUTION

Be sure to read the manual before operation of this machine. Pay attention to the following notes.

1. Always be sure to wear safety shoes and goggles during operation.
2. Wear a safety hat, and keep the sleeves and edges of the work uniform tight.
3. Keep head and hands out of moving parts of the machine.
4. Do not operate wearing gloves.
5. Provide adequate light around the machine, and keep the perimeter around the machine dry, clean and in good order. In addition, do not place anything near the machine; otherwise it becomes an obstacle during operation.
6. Do not place tools, workpieces, or other items on the machine, especially on the moving parts.
7. Make sure that the workpiece is completely gripped. And the wrench is removed from the chuck before rotating the spindle.
8. Stop the machine before adjusting the position of the coolant nozzles.
9. During operating and maintenance, care should be taken so that the caution plate is not dirtied or damaged.
10. Disconnect power before servicing.
11. Do not move the carriage longitudinally unless it is released.

CONTENTS

1. Appearance of the lathe
 2. Specifications
 3. Main specifications of the machine
 4. Transportation and installation of the machine
 5. Operation system of the machine
 6. Main structural property and adjustment of the machine
 7. Lubrication system of the machine
 8. Coolant system of the machine
 9. Electric system of the machine
 10. Maintenance of the machine
- 
- A large, light gray watermark with the text "MachineryHouse" is oriented diagonally across the lower half of the page, starting from the bottom left and extending towards the top right.

Advice

This machine is suitable for two shift operation with each shift being 8 hours. The continuous working time should not exceed 16 hours. Operation regulations should be strictly observed.

1. APPEARANCE OF THE MACHINE (See Fig 1)

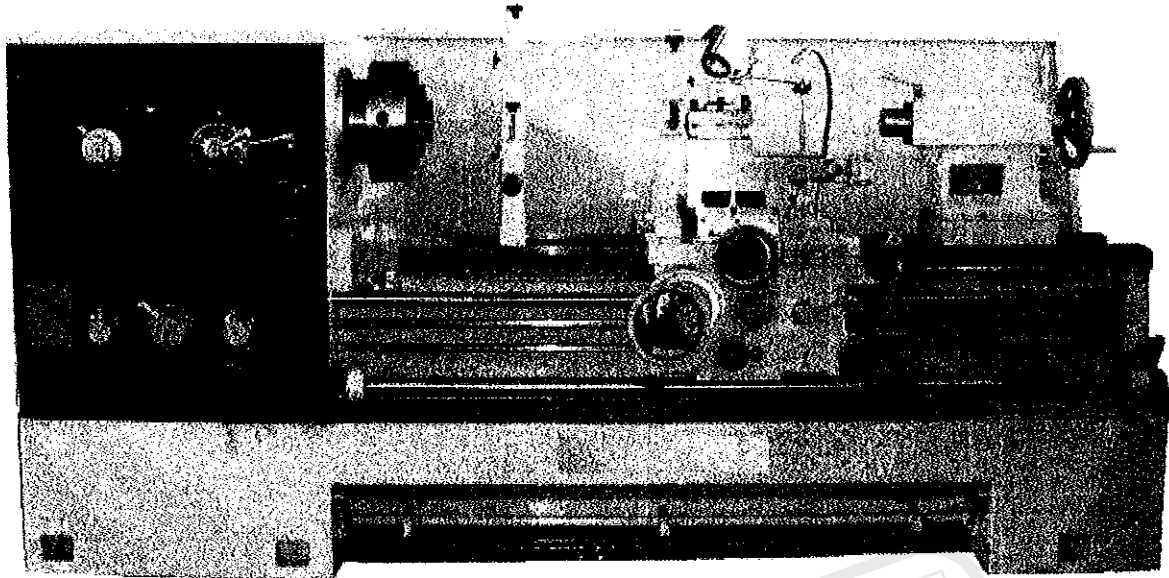


Fig 1 Appearance of the machine

2. APPLICATION AND CHARACTERISTICS OF THE MACHINE

2.1 This machine in series is capable of many turning operations, such as internal and external turning, end facing and other rotary surface turning, it can cut threads which may be Metric or Inch, Module or Diametral. Drilling and reaming also can be carried out on it.

2.2 Gap- bed lathe, in addition, can machine all kinds of flat parts and those in special shapes.

2.3 Machining accuracy of the machine is as follows: roundness deviation is less than 0.01mm, cylindricity is no more than 0.02mm over a measured length of 200mm, surface finish not exceed $Ra1.6 \mu m$.

2.4 The lathe has many accessories for people to choose, for the details, please refer to the accessories list.

3. MAIN SPECIFICATIONS OF THE MACHINE

1) Max. swing over bed	660mm (26")
2) Max. swing over slide	420mm (16.5")
3) Max. swing over gap	870mm (34.2")
4) Max. cutting dia. for disc parts	520mm (20.5")
5) Available length in gap	240mm (9.4")
6) Max. length of workpiece	1000/1500/2000/3000mm (40"/60"/80"/120")
7) Max. cutting length	950/1450/1950/2950mm (37.4"/57.1"/76.8"/116.1")
8) Spindle nose	cam lock type D1-8
9) Spindle bore	Φ105mm
10) Taper & dia. of spindle bore	Φ113 1: 20
11) Steps of spindle speeds	12
12) Range of spindle speeds	36 ~ 1600rpm
13) Number & range of longitudinal feeds	65 kinds 0.063-2.52mm/r (0.0023-0.0937in/r)
14) Number & range of cross feeds	65 kinds 0.027-1.07mm/r (0.0011-0.0404 in/r)
15) Rapid feed: Longitudinal	4.5 m/min (177.1in/min)
Cross	1.9 m/min (74.8in/min)
16) Thread cutting	
Metric: 22 kinds	1 ~ 14mm
Inch: 32 kinds	28 ~ 2 TPI
Module: 18 kinds	0.5 ~ 7mm
D.P.: 24 kinds	56 ~ 4 D.P.
17) Leadscrew pitch	12mm (2TPI)
18) Distance from spindle axis to tool supporting surface	28mm (1.1")
19) Section of tool shank	25×25mm (1"×1")
20) Max. cross travel	320mm (12.6")
21) Max. swivel of top slide	±90°
22) Max. travel of top slide	145mm (5.7")
23) Max. Cross slide travel	310mm (12.2")

24) Max. cross displacement of tailstock	±15mm (0.59")
25) Taper in center sleeve bore of tailstock	Morse No.5
26) Max. travel of tailstock sleeve	150mm (6")
27) Center sleeve	75mm (3")
28) Main motor power	7.5KW
Main motor speed	1450rpm
29) Coolant pump power	60W
Coolant pump speed	2800rpm
30) Rapid feed motor power	250W
Rapid feed motor speed	1360rpm
31) Overall dimensions (L)	2500/3000/3500/4500mm (98.43"/120"/137.8"/ 177.2")
(W)	1100mm (43.3")
(H)	1450mm (57.1")
32) Net weight	3330/3565/3870/4250 Kg (7326/7843/8514/9350lbs)

4. TRANSPORTATION AND INSTALLATION OF THE MACHINE

4.1 When machines are craned, be sure to crane one package at a time so as to avoid shocking.

4.2 When rollers are used for transportation, their diameter should be 70 to 80 mm, and the ground slant should be less than 15° .

4.3 Be sue to avoid collision of the operation levers and the surface of the machine.

4.4 To crane the machine, use a steel wire rope to tie on the ribs of the bed. The contact surface should be lined with cotton yarn or wood pieces. To keep the balance of the machine, move the tailstock and apron to the right end and lock them tightly to the bed so as to prevent them from sliding (See Fig 2).

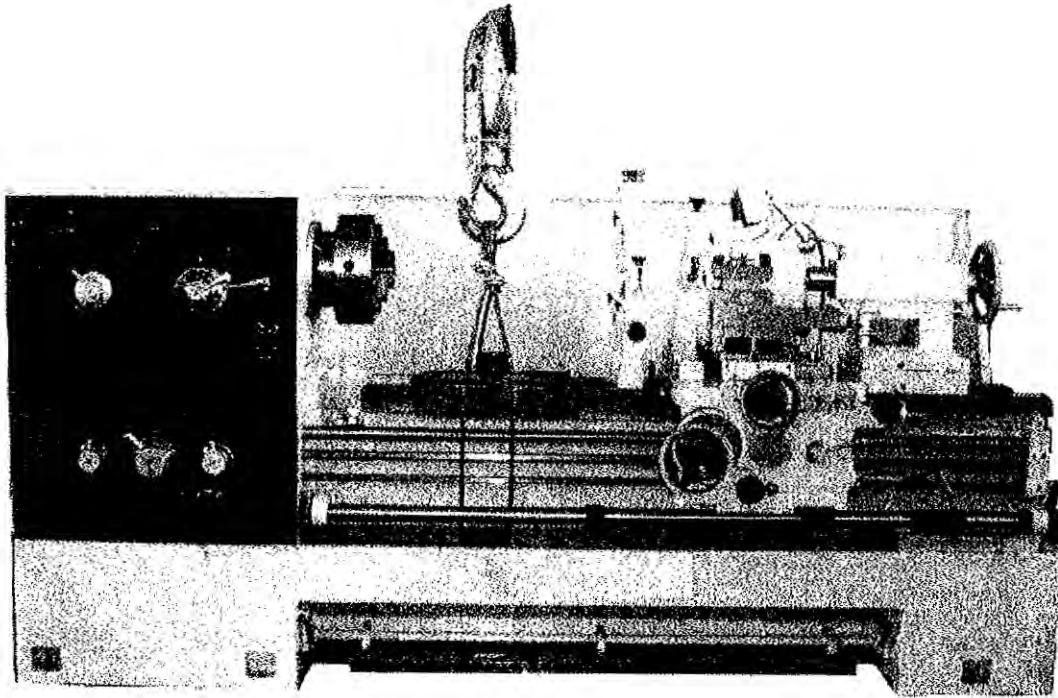
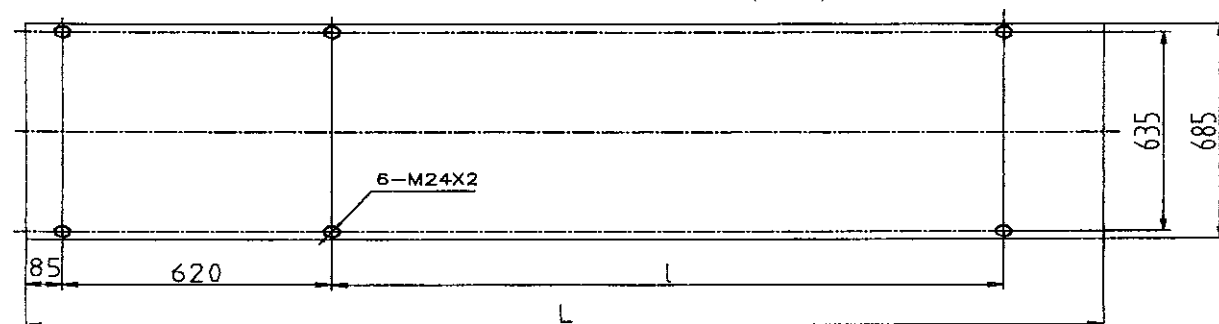


Fig 2 Craning the machine

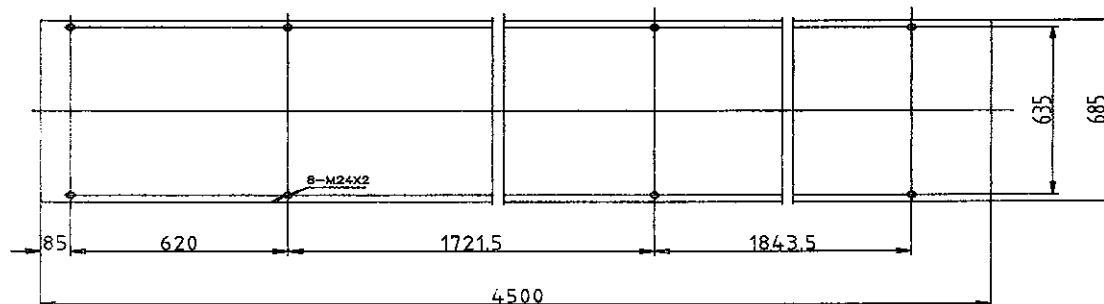
4.5 The machine should be mounted on a solid foundation where no vibration will be caused when it is working. Put a leveling pad near each foot hole, and fasten the machine with foot screws. The dimensions of the foundation are shown in Fig 3.

When the machine is to be mounted on a concrete foundation, it is necessary to prepare considerably deep foot screw holes beforehand. If the foundation is a concrete floor, the holes must be through.

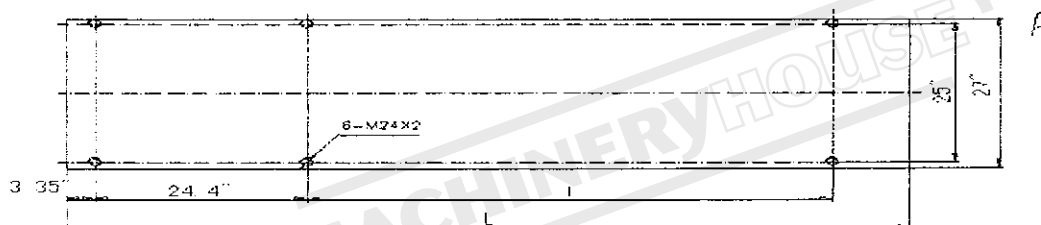
For the installation of the machine, a level gage must be used to set the longitudinal and cross levelness of the machine. Fix the foot screws with concrete. After the cement has become dry and solid, tighten the foot screw nuts evenly to avoid distortion of the machine which will affect machine accuracy. After re-checking the machine levelness, pour cement down under the bed stands to fix them.



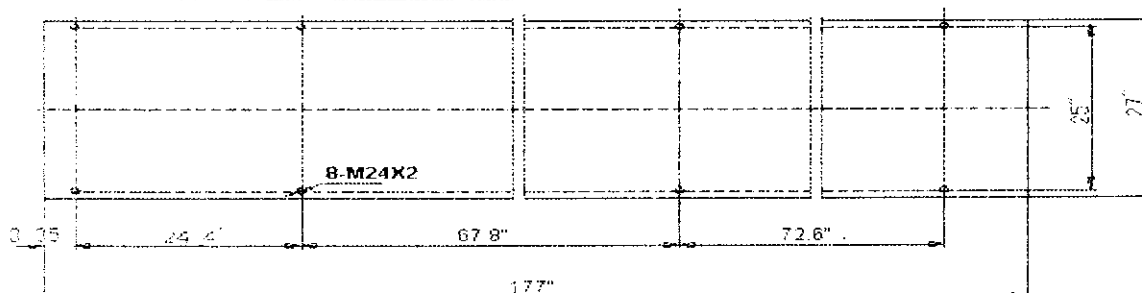
	1000	1500	2000
I	1560	2060	2560
L	2495	2995	3495



(for 3000mm lathe)



Size	40"	60"	80"
I	61.42"	81.1"	100.8"
L	98.2"	117.9"	137.6"



(for 120" lathe)

Fig 3 Drawing of foundation

4.6 Leveling of the machine (See Fig 4)

First move the carriage to the middle of the bed, then set the bed stands by adjusting leveling pads and tightening foot screws so that both ends of the guide ways

are at the same level. It is also necessary to rectify the distortion of the bed. So the level gage should be placed as shown in Fig 4. Take the reading in one direction every 250mm. The max. reading should not exceed ± 3 scales with the accuracy of the level gage being 0.02/1000 per scale. At cross position the reading should not exceed 2 scales.

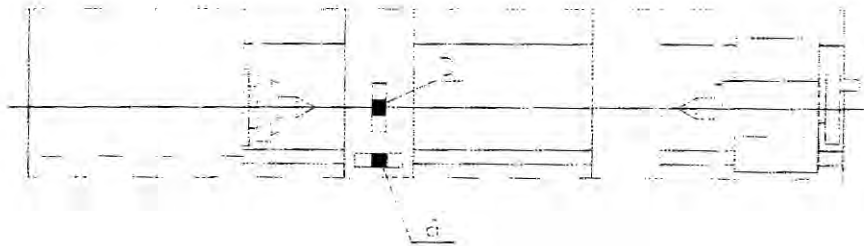


Fig. 4 Leveling of the machine

4.7 Inspection of the machine accuracy

The linearity of the guide ways can be inspected as follows:

- a) Remove the compound rest and put the level gage on the cross slide transversally. Move the carriage from the left end to the middle and then to the right end of the bed. Put down the readings. Set the stand supports so that linear error of the guide ways in the same plane is less than 0.04/1000 for the entire inspected length.
- b) Put the level gage longitudinally on the carriage near the contact surface with the front guide way. Move the carriage from the left end to the middle and then to the right end of the bed. Put down the readings. Draw the diagram of motion curves of the carriage. The linear error of the guide way in the vertical plane should be less than 0.02 mm for the whole bed length.

4.8 Try running of the machine

Before operating the machine, read carefully the directions about the machine construction, control levers and lubrication system, and check the working conditions of each part manually.

Before connecting the machine to the shop mains, check if the electric system is in proper order, especially with respect to moisture. After turning on the power, check if the motor runs in correct direction. If it is all right, proceed with trial running without load. First run the machine at the lowest speed for a certain period, then gradually

raise the speed. Check the conditions of each part such as lubrication, operating, electrical and coolant system. Only when the machine runs smoothly with full lubrication and reliable control and braking, can the machine be put into production.

5. OPERATION SYSTEM OF THE MACHINE

5.1 All controls on the lathe are illustrated in Fig 5.

5.2 Spindle speeds are made by using the speed change lever 21 and 2.

Twelve steps of speeds are available if moving lever 21 to anyone of its four positions while lever 2 to a position with the same colour as lever 21. See Table 1.

Table 1 Table of spindle speeds

No.	Position of lever		Spindle speeds (r/min)
	2	21	
1	white	white	36
2			50
3			70
4	blue	blue	100
5			140
6			200
7	yellow	yellow	280
8			400
9			560
10	red	red	800
11			1200
12			1600

5.3 To obtain different thread pitches and different feed settings, four handdes 1,23,22 and 20 must be used together.

a. Handle 1 is used to select the hand of thread leads. Because of the overrunning clutch in the apron, the tool post does not feed unless the thread being cut is a right hand one.



Right hand thread, feed



Left hand thread, no feed

b. Handle 23 is a thread change control. But it can be used for the purpose of altering the feed setting.

t ----- Standing for Metric threads

n ----- Standing for Inch threads

m ----- Standing for Module threads

DP ----- Standing for Diametral pitches

-II- ----- Driving the leadscrew directly, not through any thread change device.

c. Move handle 22 for selecting the pitch and feed.

d. Handle 20 doubles the pitch or feed differently at the following positions:

I, II, III, IV: Leadscrew works to cut threads.

A, B, C, D: Rod works to do feeding.

Ratios between them:

I: II: III: IV = A:B:C:D = 1:2:4:8

Using the methods mentioned above, any of the motions listed in Table 3 can be obtained.

To make the machine always work well, here is a principle for you to follow. That is fine feed is based upon high speeds and coarse feed upon low speeds.

When a thread excluded from Table 3 is to be cut, you need move handle 23 to “-II-” position, handle 20 to “IV” position, then reset the change gears.

Table 2 Directions for the function of control elements

No.	Description and function
1	Thread Pitch Lever
2	Speed change Lever
3	Emergency Stop button
4	Push-button of cooling Pump
5	Main Motor Start button
6	Lamp Switch
7	Tool Post Clamp Lever
8	Coolant Delivery cock
9	Compound-rest knob
10	Quill Clamp Lever
11	Tailstock Clamp Lever
12	Tailstock quill Hand wheel
13	Switch Lever
14	Feeding and rapid speed Lever
15	Half Nut Lever
16	Main Motor Button
17	Cross feed Lever
18	Carriage Hand wheel
19	Power Switch
20	Feeding Speed Lever
21	Speed Change Lever
22	Feed Change Lever
23	Thread Selector Lever

Cautions about the machine operation:

Before starting the machine, check the lubrication of all moving parts. Be sure that the starting lever is at neutral position. Turn on the power and the indicator will light. Then the machine can be started.

- 1) Be familiar enough with the machine driving system, the function and changing sequence of all operation levers or handles before starting the machine.
- 2) Check accuracy of lever position. Be sure that levers are at a fixed position.
- 3) All lever positions must be changed only after the machine has been stopped.

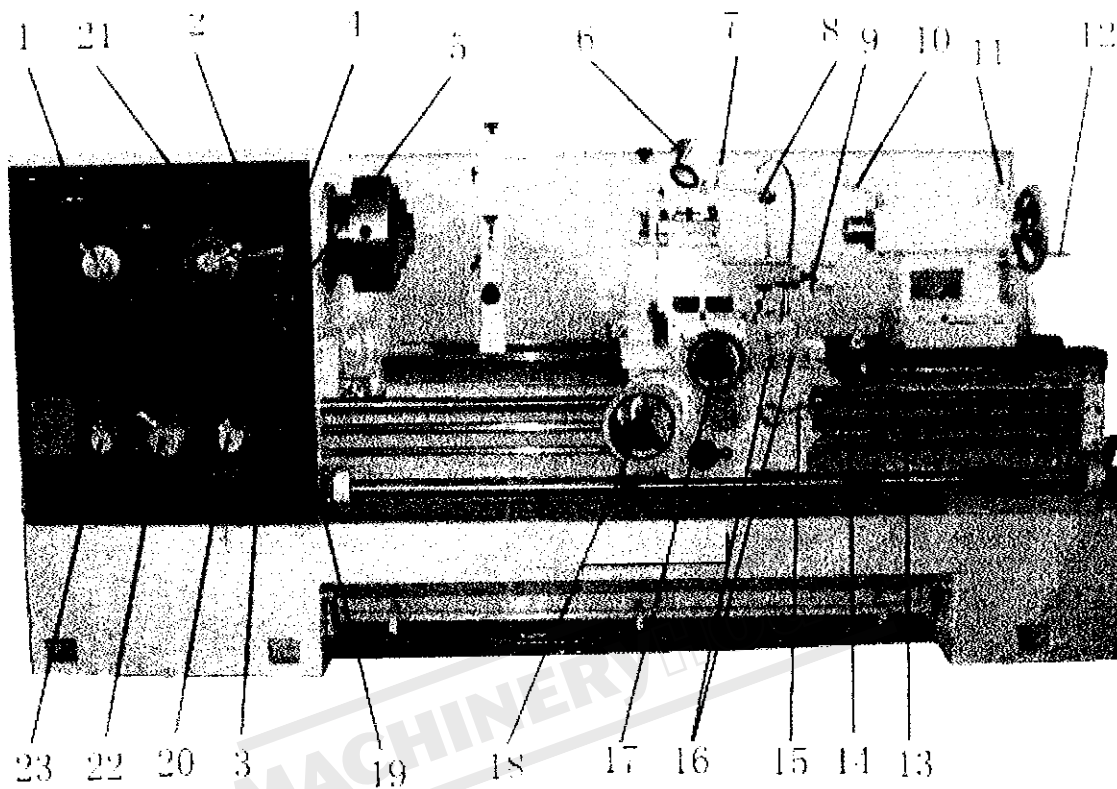


Fig 5 Diagram of operation system

Table 3

(Metric Thread Table)

 mm/ø										 mm/ø										 60°										 69°										 56°										 57°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°										60°																			
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5.4 Controlling the motions of the carriage

a. Automatic feed lever 14 is used to move or feed the carriage back and forth or the cross slide in and out. The button on it is used to speed up the motion.

b. when threading, half nut lever 15 is used to move or feed the carriage crosswise.

c. Handwheel 18, knob 17 and 9 are all manual controls. The graduations on each help the operator to measure the distance moved.

5.5 Lever 13 can be used to stop the spindle or to turn it either clockwise or counter-clockwise.

Operations of other controls are shown in Fig.5.

6. MAIN STRUCTURAL PROPERTY AND ADJUSTMENT OF THE MACHINE

6.1 Bed

The part of machine bed consists of front and rear stands joining together with bolts. The guide ways of the machine, having undergone supersonic frequency hardening, are high in durability. The main motor is inside the front stand and coolant system inside the rear stand. Behind the bed is the electric system. The tightness of the belts for main drive should be suitably adjusted by means of adjusting nuts (See Fig 6).

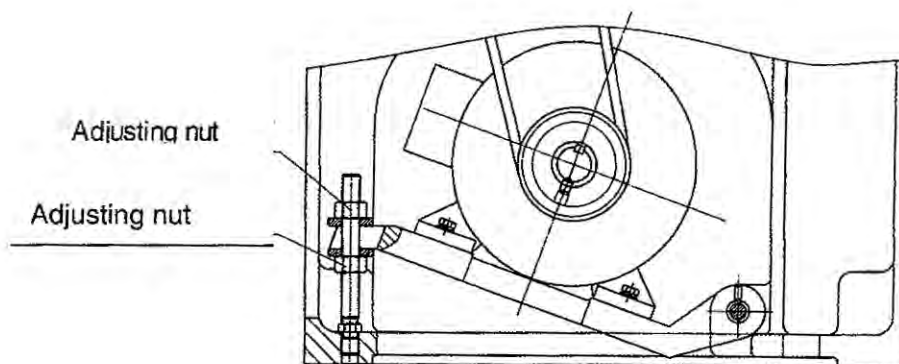


Fig 6 Diagram of adjusting driving belts

6.2 Headstock

The machine adopts gear centralized drive. The power of the main motor is transmitted to axle I through V-belts. Through a multi-disc friction clutch and different

gear pairs, the power is further transmitted to the spindle. The spindle's forward or reverse motion is also controlled by the clutch. To ensure normal working of the spindle, the clutch must be suitably adjusted. If the clutch is too loose, it outputs less power and is easy to get slip and hot. If it is too tight, it becomes difficult to operate and loses the function of protection (See Fig 7).

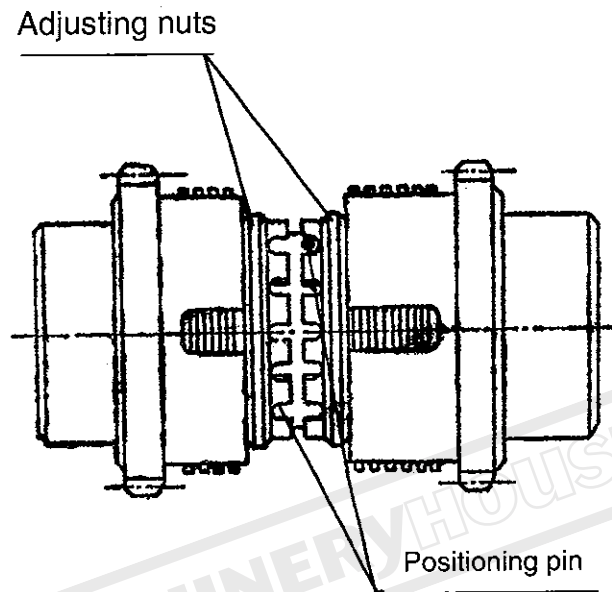


Fig 7 Diagram of adjusting friction clutch

After the clutch is disengaged, the main drive can be stopped by the brake. If the spindle could not be stopped in a short period, the braking strap of the brake should be adjusted through adjusting nuts. Be sure not to distort the strap (See Fig 8).

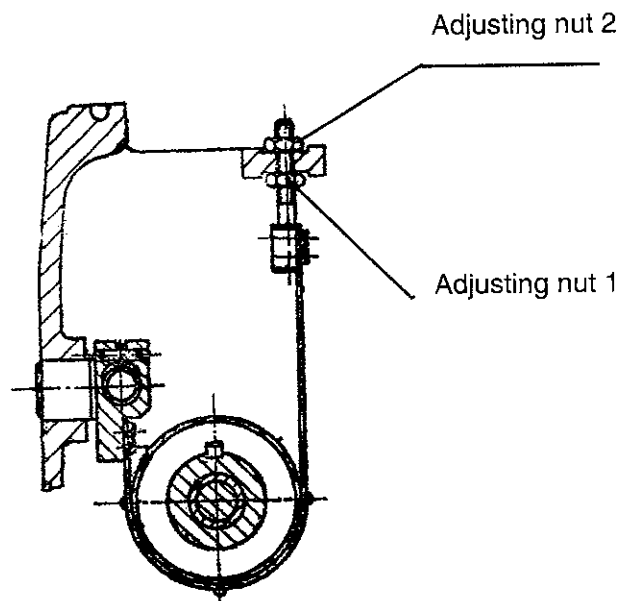


Fig 8 Diagram of adjusting braking strap

The spindle system is supported by three bearings with the rear bearing serving as an auxiliary support (See Fig 9).

To ensure the machining precision and cutting function of the spindle, the play of the spindle bearings should be carefully adjusted so that the radial and axial run-out of the spindle meets the requirement of the machine standard.

If the spindle precision can not meet the above requirement, first loosen nuts 1 and 2. Loosen lock ring before loosening nut 2. Adjust the play of the front and middle bearings through nuts 3 and 4. After the adjustment tighten the loosened nuts one by one.

After the adjustment, make an idle running of the machine at the highest speed for more than two hours. When the temperature rise is stable it should not exceeds 70°C , otherwise the machine must be adjusted again.

To avoid machine rocking during idle running, gears 5 and 6 are attached with balance blocks. The spindle system has been balanced before delivery of the machine. (If it is already balanced by itself, there will be no such block.)

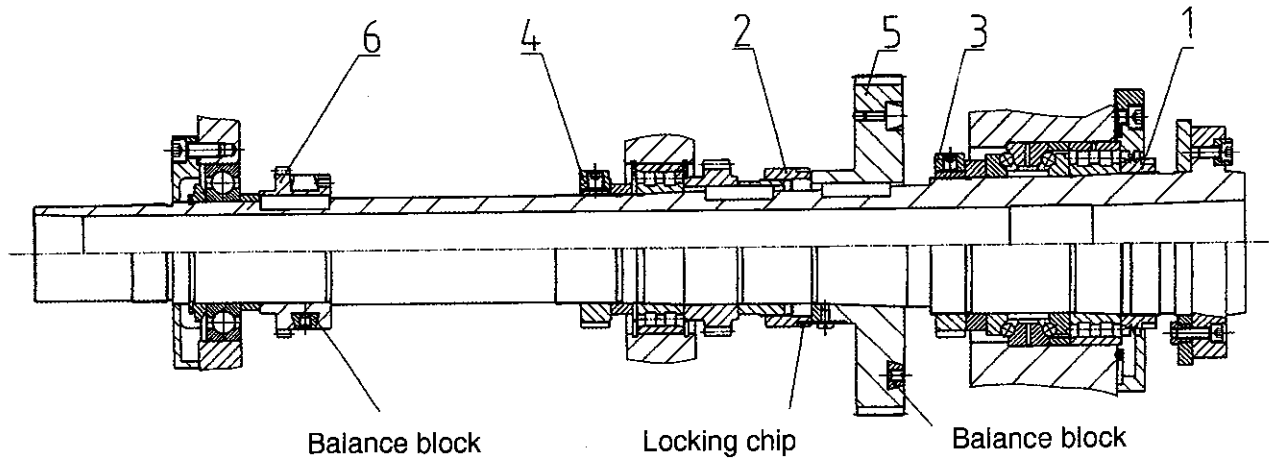


Fig 9 Diagram of adjusting spindle bearings

The speed control mechanism of the basic group of the main drive adopts chain connection. After the chain becomes elongated and loose, the position of the speed label may become inaccurate, so just tighten the chain by means of the adjusting screw (See Fig 10).

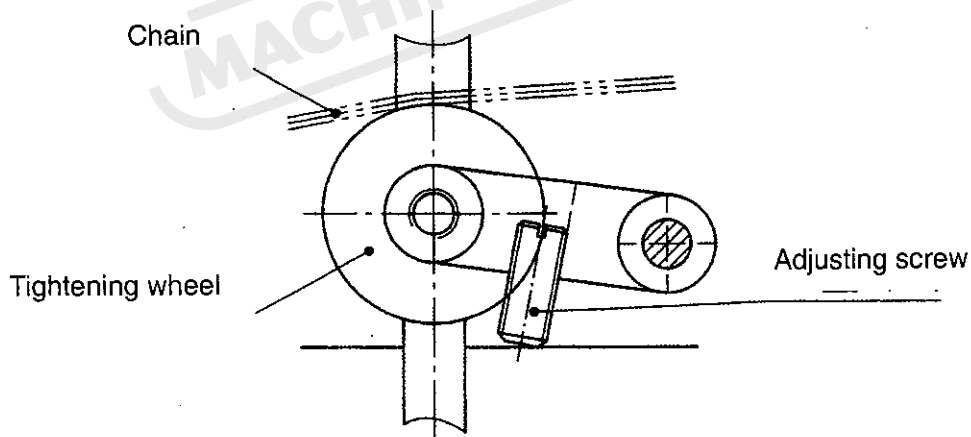


Fig 10 Diagram of chain tightening mechanism

6.3 Feedbox

This machine adopts “three axle sliding” common gear mechanism together with thread variety change mechanism and double mechanism, which enable it to cut common threads without the need for change gears.

In order to ensure the pitch accuracy in cutting threads, the axial run-out of the lead screw must be eliminated. This can be realized by adjusting thrust bearings 2 and

3 through nut 1 (See Fig 11).

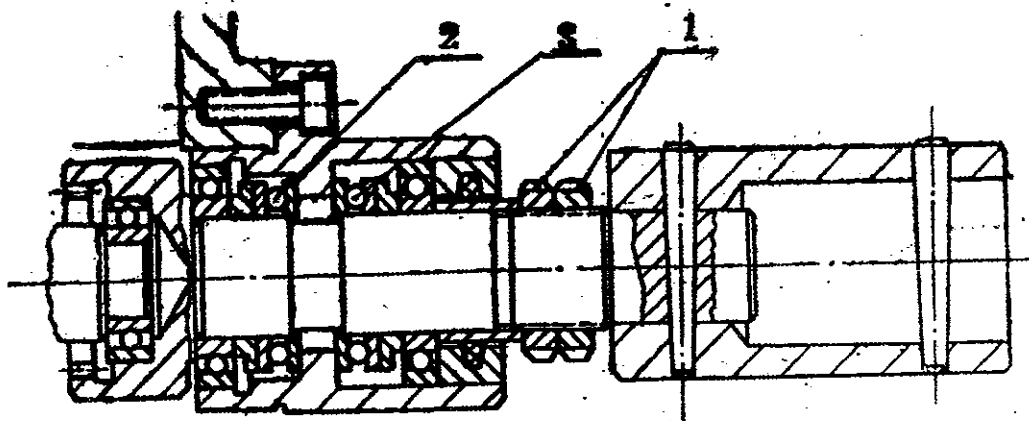


Fig 11 Diagram of adjusting thrust bearings on lead screw

6.4 Apron

Feed drive route is from feed rod to apron, through safety clutch to worm, through gear drives to longitudinal or cross movement of the tool post.

To realize rapid feed of the tool post at any time, an overstep clutch is equipped on the worm axle. When the rapid feed motor drives the worm axle, it oversteps the feed rod in one direction.

To ensure operation safety, longitudinal feed hand wheel can be automatically disengaged when the tool post is under rapid feed or longitudinal automatic feed. When the above movements have stopped, it is automatically engaged again.

When the cutting force cannot reach the rated max. value, juts remove cover 1, adjust the safety clutch through adjusting screw 2 (See Fig 12). Be sure not to set it too tight, otherwise there would be no protection function and the machine may be damaged.

To avoid feed rod and lead screw being engaged at the same time, there is an interlocking mechanism between longitudinal feed operation axle and half nut operation axle.

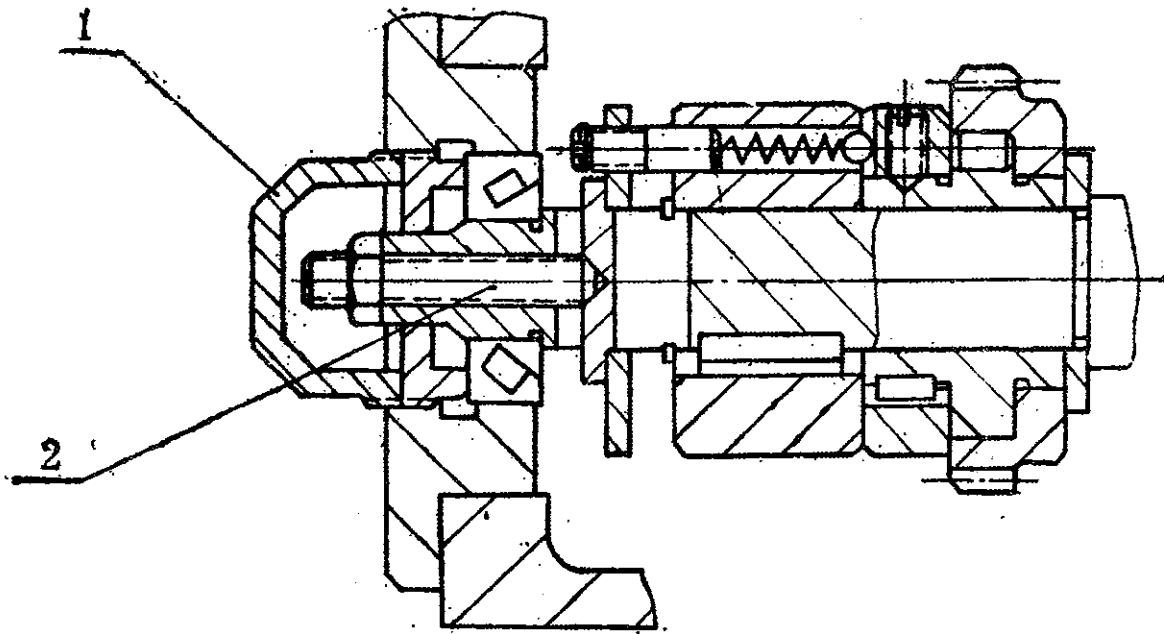


Fig 12 Diagram of adjusting safety clutch

6.5 Tool post

Tool change can be realized by a one way tooth jacking up a cam and pin which raises the upper tool post together with a positioning pin (See Fig 13). During tool change, the tool rest is just slightly raised. After repeated tool changes, the raised distance remains the same. In any case, to clamp the tool rest, just turn the lever clockwise less than a complete round and it can be tightly clamped.

During tool change, if the tool rest cannot reach the desired position, just loosen the spring and steel ball. If it over travels, just tighten the spring and steel ball.

Remove screw 1 and 2, take out spring 3 and steel ball 4, then the lever and the tool rest can be removed. When reassemble the tool rest, do it as the section drawing shown in Fig 13.

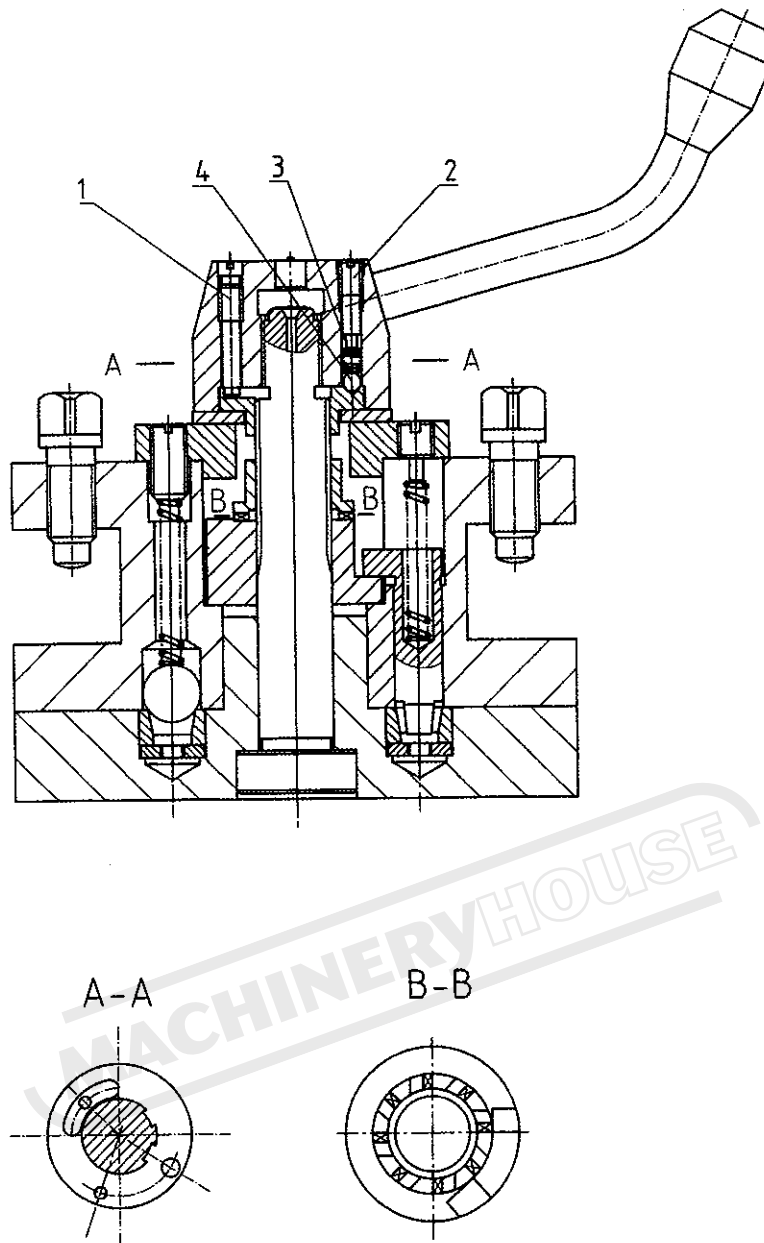


Fig 13 Diagram of tool post structure

The movement of bottom tool post is realized by a lead screw driving a nut on it. The nut is a half split whole nut. In this way driving clearance can be adjusted. First loosen screw 1, then set screw 2 until the clearance is eliminated. Finally tighten screw 1 again. When the adjustment is finished, put on the dust cover 3 (See Fig 14). When the guide ways between upper and bottom tool post have too much clearance, or slide not smoothly, the adjusting screws on both ends of the gib can be adjusted.

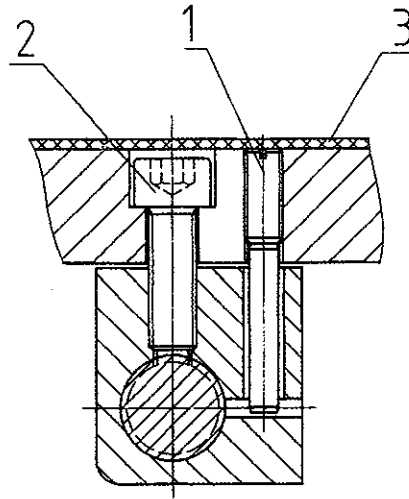


Fig 14 Diagram of adjusting lead screw and nut for bottom tool post

6.6 Tailstock

At the bottom of the tailstock sleeve taper hole, there is a block 4 to prevent the tool from turning. Cross displacement of the tailstock can be realized by adjusting screw 1. Before adjusting, loosen set screw 2. After adjusting, tighten it (See Fig 15). After longitudinal movement of the tailstock, it can be clamped by an eccentric shaft. The clamping force can be adjusted by nut 3. On releasing clamping shaft, the tailstock floats 0.05-0.15 mm up the guide ways of the bed through four elastically supported bearings so that the tailstock is easy to move. The float amount can be adjusted by screw 5. Since the adjusted amount is very little, to ensure contact rigidity between bed and tailstock and prevent the bearings from being crashed, the adjustment should be carried out when the tailstock is clamped.

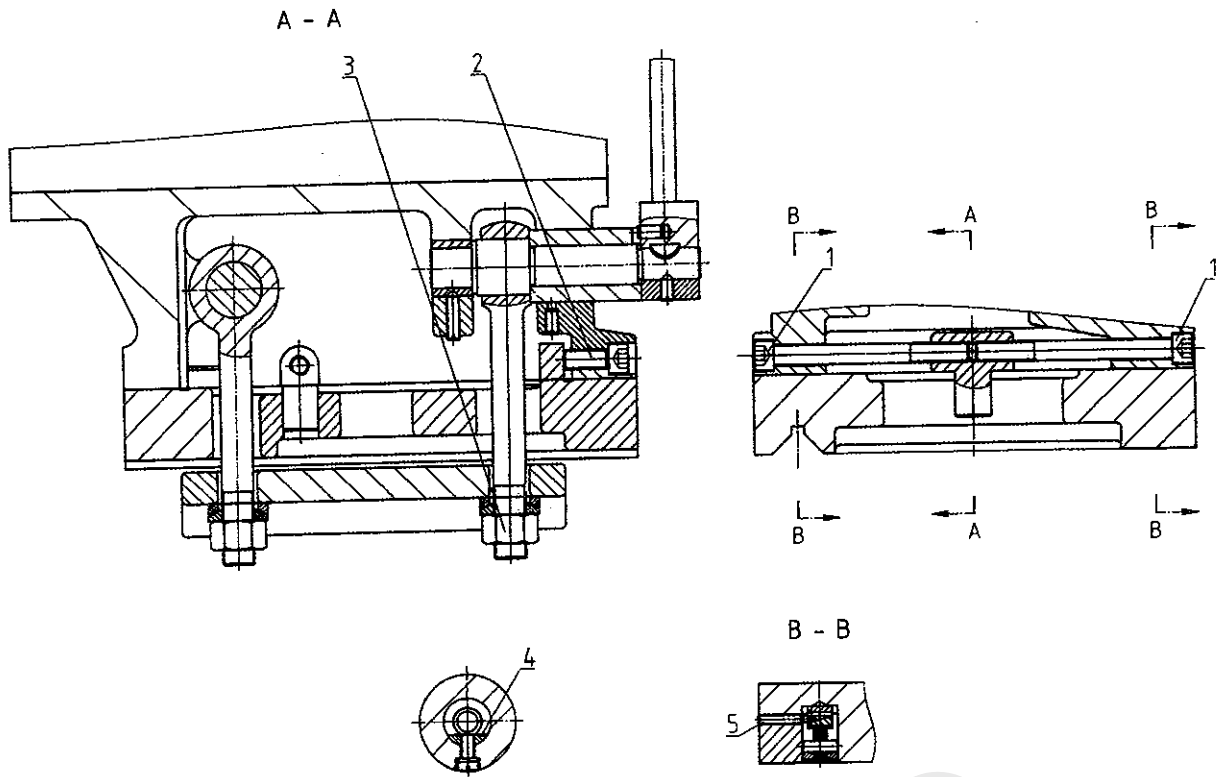


Fig 15 Diagram of adjusting tailstock

6.7 Change gear bracket

The driving gear on the change gear bracket has 60 teeth. It is ready to cut by separated threading multi-head threads with head number of 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60. Under normal conditions, there is no need for change gears, only when 19 or $11\frac{1}{2}$ TPI thread is to be cut, does the change gears need be exchanged, as shown in Fig 15.

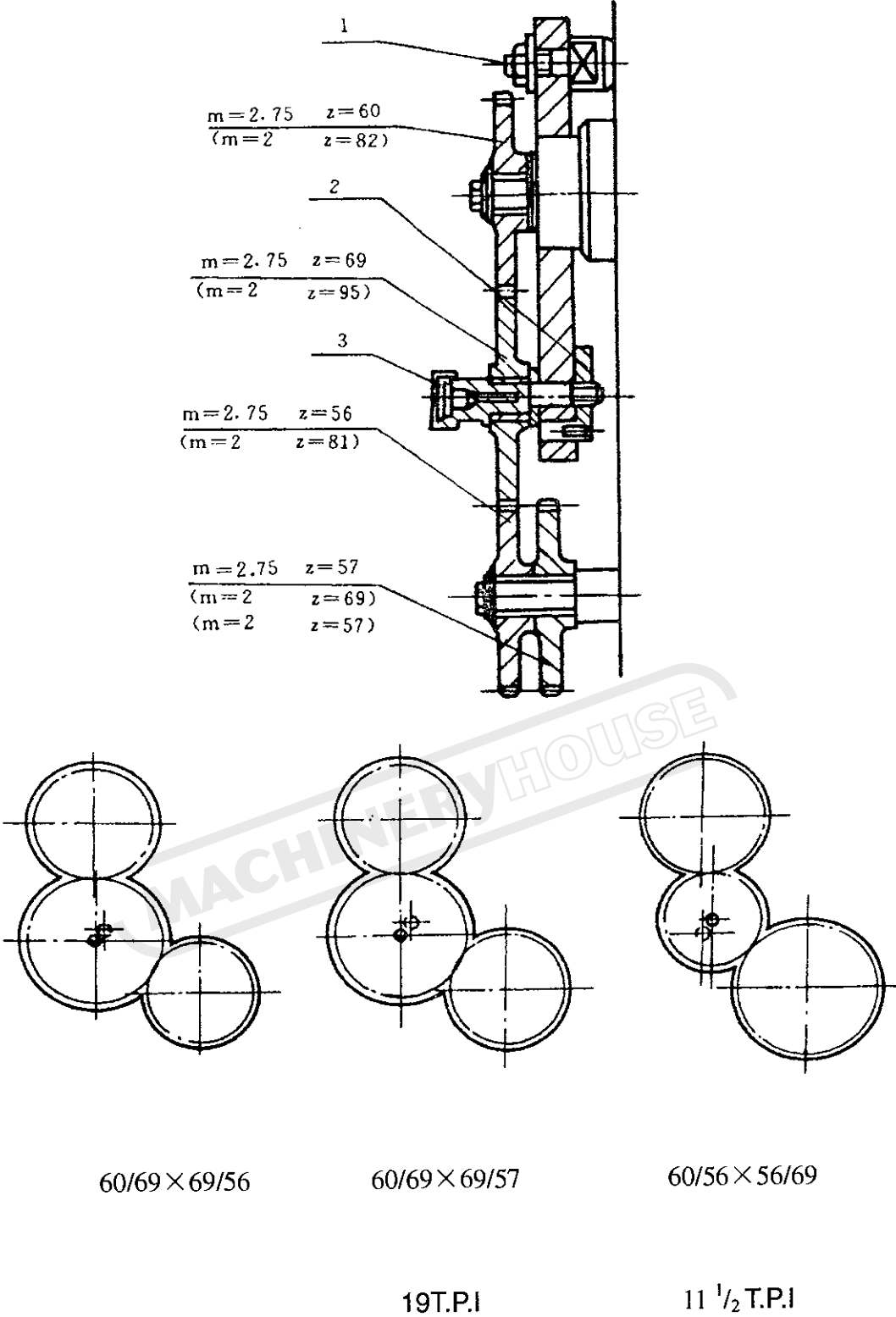


Fig 16 Diagram of changing gears

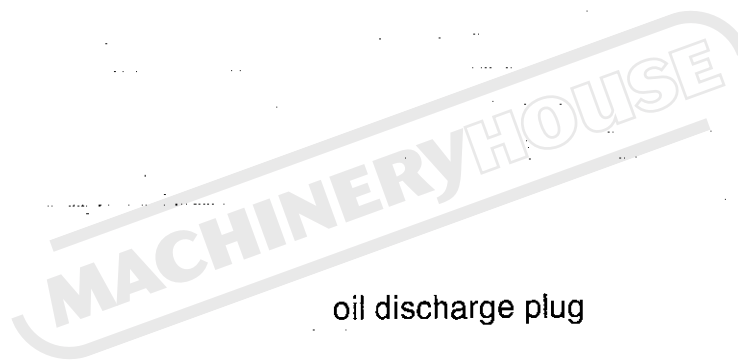
7. LUBRICATION SYSTEM OF THE MACHINE

As for the requirement of the machine lubrication, please refer to Diagram of machine lubrication (Fig 17).

To ensure normal working and long service life of the machine, it is necessary to keep each moving part of the machine well lubricated.

Purified machine oil N32 should be used for the lubrication of the machine, with its viscosity being 28.8 ~ 35.2 Cst (40°C). This may vary a bit according to the working conditions.

Add oil every 50 days
Turn a round every shift
Add oil every shift



30# machine oil
2# grease
30# machine oil

Fig 17 Diagram of machine lubrication

7.1 Headstock: An oil pump is driven by axle I to supply oil to the headstock case (Fig.18). The oil from the pump goes through a filter and then gets to oil pan and oil pool to lubricate gears, axes and bearings inside the headstock in circulation (Fig 19).

The working condition of the oil pump can be observed through the oil glass in the front of the headstock. The oil level can be observed from the oil indicator behind the headstock.

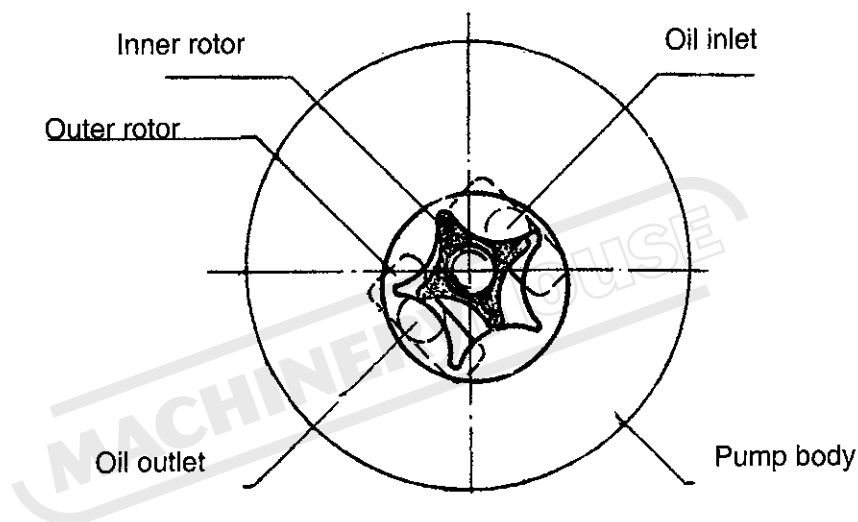


Fig 18 Diagram of oil pump working

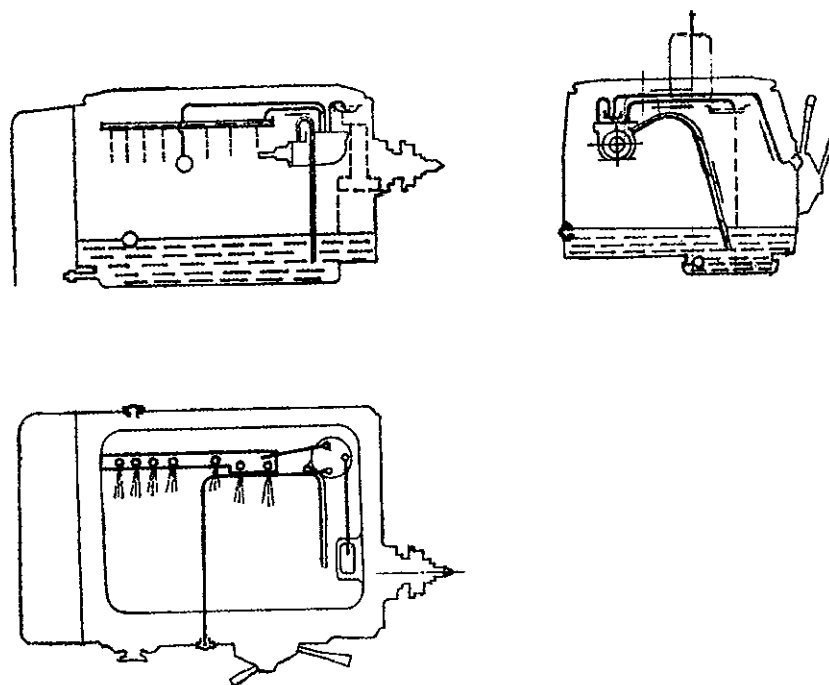


Fig 19 Diagram of headstock lubrication

7.2 Feedbox: Oil is stored in an oil pool and led through woolen lines for drop lubrication (Fig 20). After a period of working, used oil should be discharged according to the oil indicator.

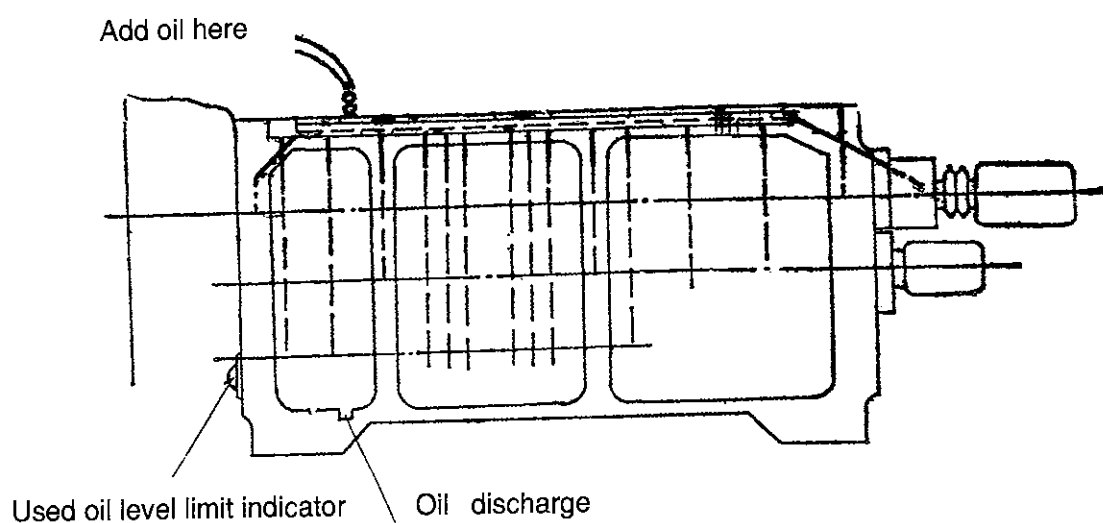


Fig 20 Diagram of feedbox lubrication

7.3 Apron: An oil pool in the apron casting is used for lubrication. During rapid feed, the stirring blade splashes oil for lubrication of the driving parts in apron. The bearings are lubricated by the ball oilers on the saddle. Use an oil gun to inject oil into the ball oilers. They can also be lubricated by splashed oil or drops from woolen lines (Fig 21).

The oil level can be observed from the oil indicator in the front of the apron.

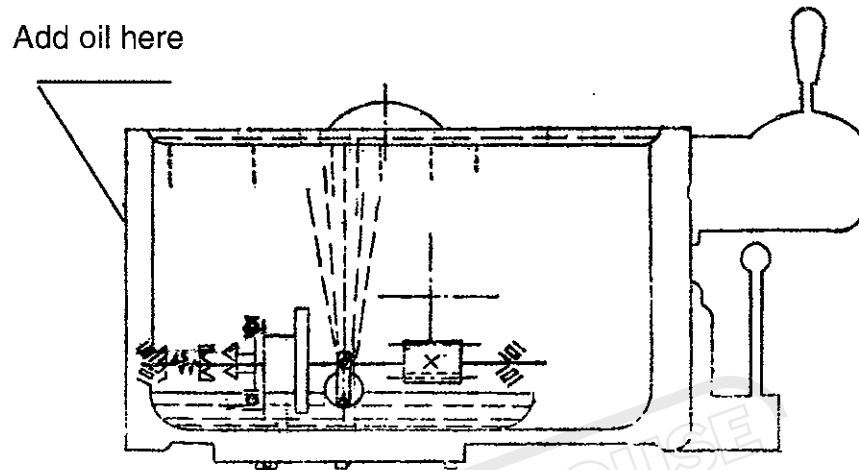


Fig 21 Diagram of apron lubrication

7.4 The guide ways under the saddle are lubricated by two ball oilers. Oil is filtered through felt for lubrication.

7.5 The guide ways on upper part of the saddle, cross lead screw, top slide lead screw, tool rest, tailstock sleeve and lead crew are all lubricated by an oil gun.

7.6 The lead screw, feed rod, forward/reverse control axle neck are all lubricated from the oil pool on the rear bracket through woolen lines.

7.7 The idle gear axle and its sleeve are lubricated with grease pressed into the axle end plug.

8. COOLANT SYSTEM OF THE MACHINE

The coolant of the machine is stored in the rear bed stand. AOB-25 three phase motor is used to supply coolant. The flow of coolant can be adjusted by a tap on the coolant hose.

9. ELECTRIC SYSTEM OF THE MACHINE (see electrical manual)

10. MAINTENANCE OF THE MACHINE

10.1 Lubrication

To ensure normal working of the machine and reduce parts wear, all friction surfaces of the machine parts should be properly lubricated. Attentions must be paid to the following points:

- (a) Each part must be lubricated according to the diagram of machine lubrication. The oil added must be clean.
- (b) The oil level of each case should not be less than middle of the oil indicator to ensure full lubrication. It should not be too high either. Otherwise there may be leakage. Therefore, be sure to check oil level often.
- (c) The oil in the headstock and apron should be changed every 2 ~ 3 months. Since the parts of a new machine wear more, the first and second oil change should be made after 10 and 20 days respectively to clean dirt in time. After discharge of the used oil, rinse the casting case with kerosene.
- (d) The filter in the headstock, woolen lines and filtering felt should be cleaned every month. The anti-dust felt on both ends of the guide ways of the underside of the saddle and that on left side of tailstock base should be cleaned with kerosene every week. If the felt is damaged, be sure to change it.
- (e) For the spindle front bearing lubrication .there are two types-oil tubes or grease. Grease can last 3 years. If the spindle works abnormal because of inadequate lubrication, be sure to add grease. Clean the spindle and bearing. Add 300 gram grease. Run-in before operation.

10.2 Operation

During operation, attentions should be paid to the following points:

- (a) On starting the main motor, check the oil glass on the headstock if the oil pump works normally. Only when oil is observed from the oil glass can the spindle be started.
- (b) When the spindle runs at a high speed, never turn any handle or lever. Spindle speeds can be changed only when the main motor stops. Feed rate can be changed only when the spindle runs at a low speed or stops.
- (c) Before starting the spindle, check if each handle or lever is at a correct position to ensure normal engagement of driving gears.

- (d) When the brake becomes ineffective, adjust it right away. Never reverse the friction clutch for braking.
- (e) When operating forward/reverse control lever, be sure to turn it to the right position. Never use "pre-position" for cutting at a reduced speed.

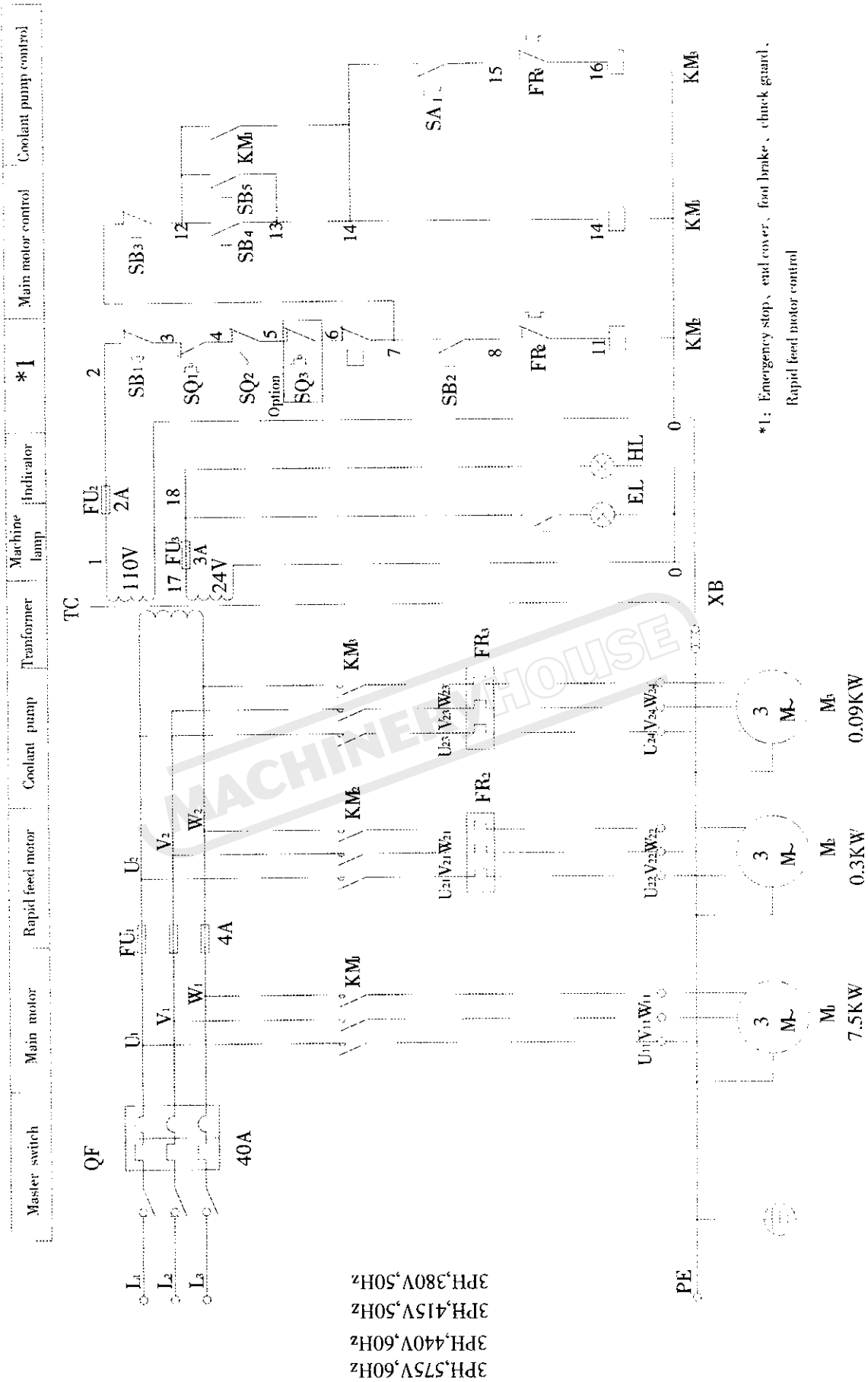
10.3 Application of the machine

To keep the machine accuracy and prolong service life of the machine parts, please pay the following attentions:

- (a) Regularly check and adjust the tightness of V-belts to prolong the service life of them.
- (b) Regularly clean the dirt and coolant round the tool post to keep its re-positioning accuracy.
- (c) Lead screw is used only for threading instead of longitudinal feeding so that its accuracy can be maintained and service life prolonged.

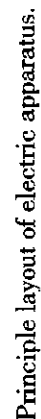
In threading, the lead screw drives the apron directly and the safety clutch of the apron has lost its protection function. To avoid the machine parts being damaged, be sure to select suitable cutting depth so that P_x will not be too big.

- (d) When loading or unloading the workpiece or getting away from the machine, the operator must stop the main motor.



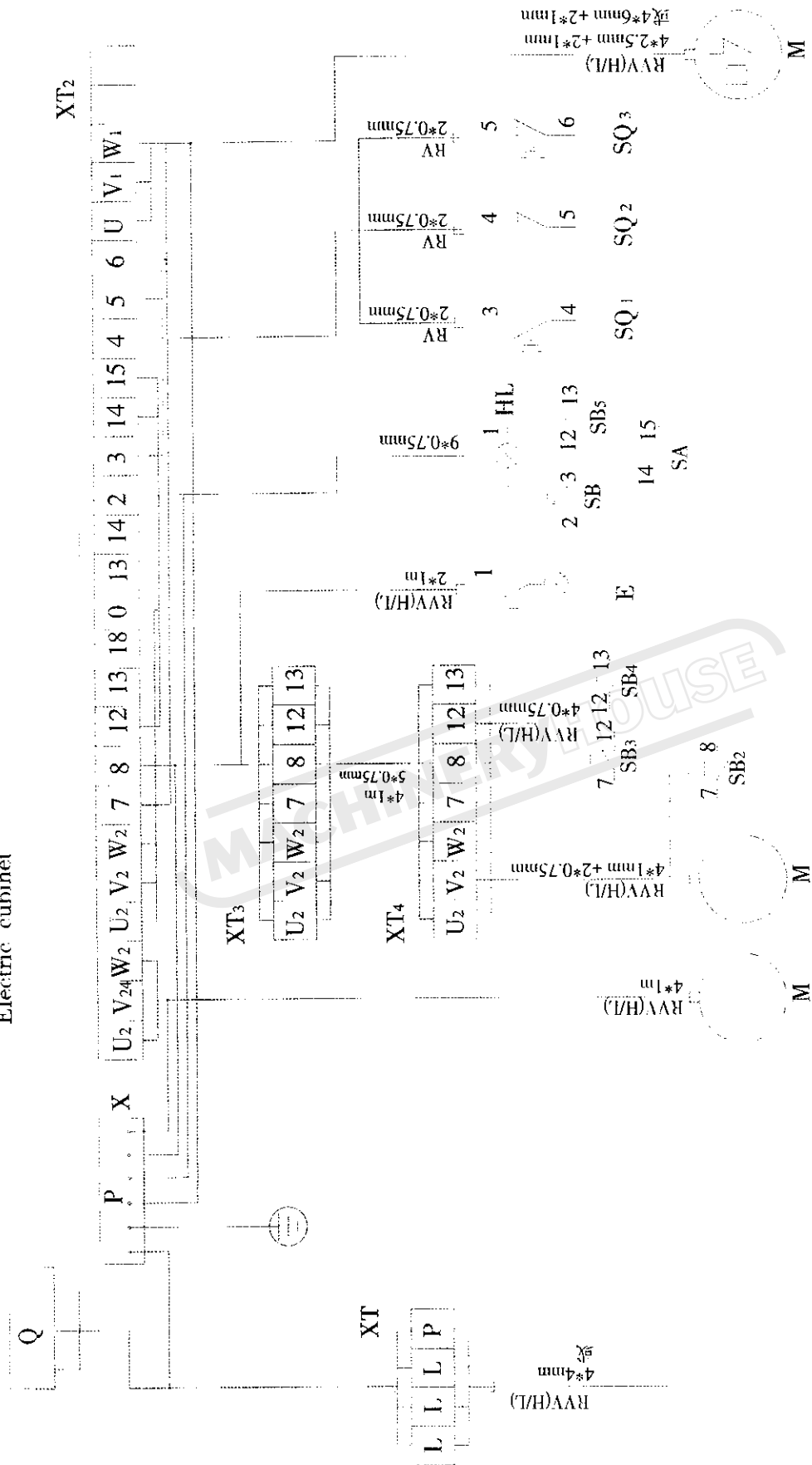
*1: Emergency stop, end cover, foot brake, chuck guard,
Rapid feed motor control

Principle layout of electric apparatus.



*1: Emergency stop, end cover, foot brake, chuck guard,
Rapid feed motor control

Electric cabinet



[illegible]

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CK-100 ENGINE LATHE

PARTS LIST

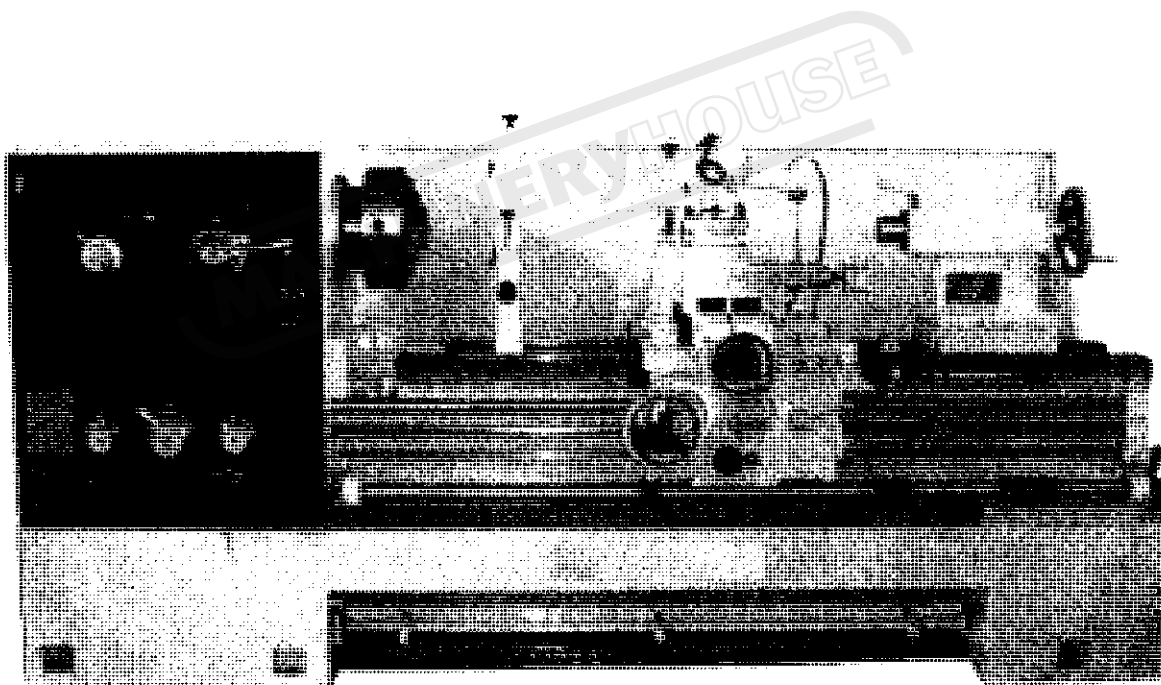


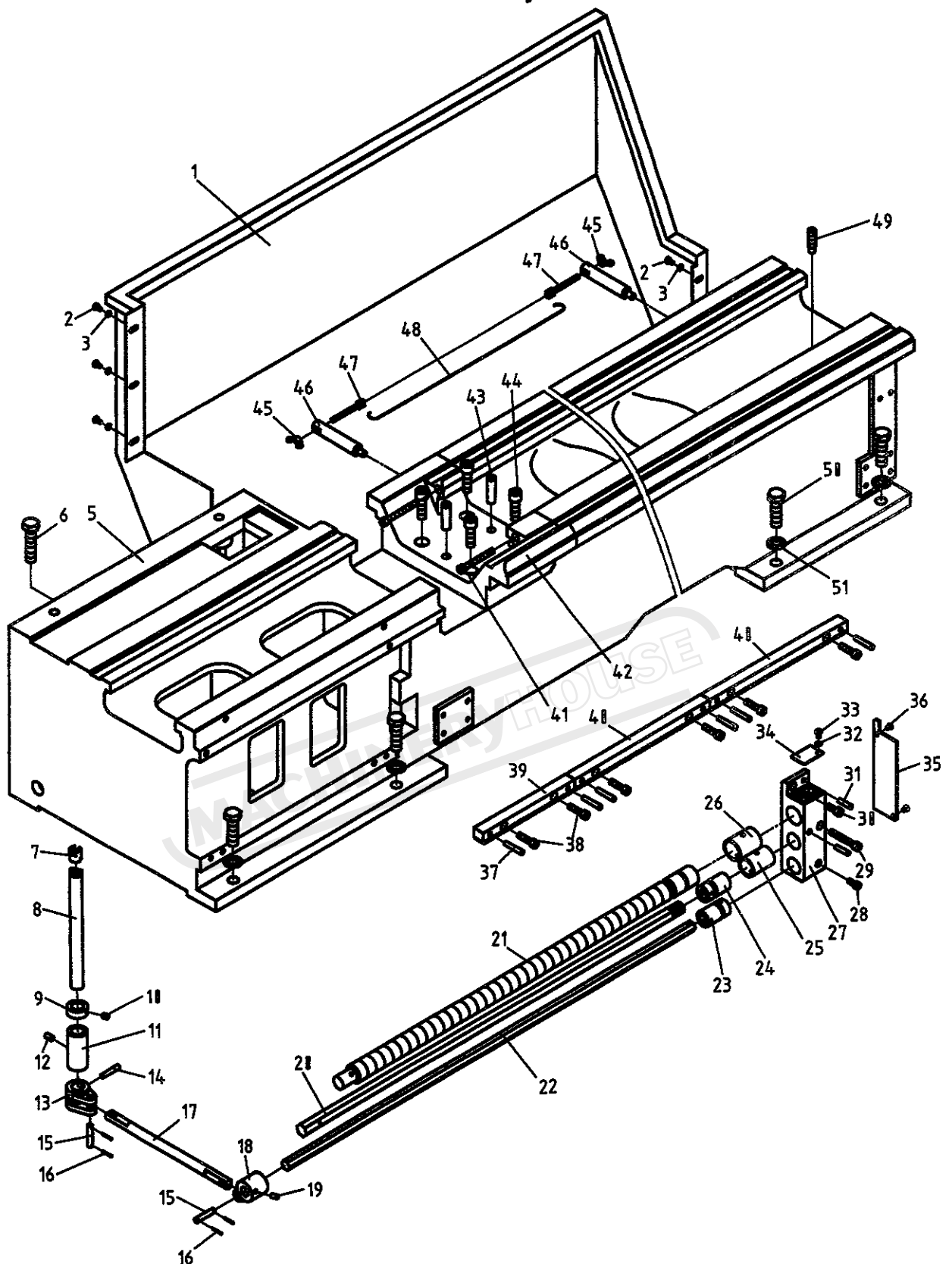
Table of Contents	Page
Table of Contents	1
Bed Assembly I	2-4
Bed Assembly II	5-6
Headstock Assembly I	7-9
Headstock Assembly II	10-12
Headstock Assembly IV	13-15
Headstock Assembly V	16-18
Headstock Assembly III	19-20
Gear Assembly	21-22
Gear Box Assembly I	23-24
Gear Box Assembly II	25-27
Gear Box Assembly III	28-30
Taper Assembly	31-32
Micro Carriage Stop Assembly	33-34
Brake Assembly	35-36
Tool Post Assembly I	37-39
Tool Post Assembly II	40-42
Apron Assembly I	43-46
Apron Assembly II	47-49
Apron Assembly III	50-52
Tailstock Assembly I	53-54
Tailstock Assembly II	55-56
Steady Rest Assembly	57-58
Follow Rest Assembly	59-60

MACHINERYHOUSE

Bed Assembly I

Index No.	Part No.	Description	Size	Qty.
1	C6266C-12701A	Splash Guard (for 1000 models)		1
	C6266C-12701B	Splash Guard (for 1500 models)		1
	C6266C-12701C	Splash Guard (for 2000 models)		1
	C6266C-12701CN	Splash Guard (for 2200 models)		1
	C6266C-12701D	Splash Guard (for 3000 models)		1
2	GB70	Hex Socket Cap Screw	M6x8	8
3	GB97	Flat Washer	6	8
5	C6266C-01101A	Bed (for 1000 models)		1
	C6266C-01101B	Bed (for 1500 models)		1
	C6266C-01101C	Bed (for 2000 models)		1
	C6266C-01101CN	Bed (for 2200 models)		1
	C6266C-01101D	Bed (for 3000 models)		1
6	GB5782	Hex Cap Bolt	M20x60	4
7	C6140W-01705	Crossed Head		1
8	C6140W-01706	Screw		1
9	C6140W-01707	Sleeve		1
10	GB71	Slotted Set Screw	M10x12	1
11	C6140W-01709	Sleeve		1
12	GB71	Slotted Set Screw	M10x20	1
13	C6140W-01104	Fork		1
14	GB118	Taper Pin	8x50	1
15	GB71	Slotted Set Screw	M10x14	2
16	GB91	Split Pin	2x16	4
17	C6140W-01711	Pulling Rod		1
18	C6266C-01106	Sleeve		1
19	GB71	Slotted Set Screw	M8x16	1
20	C6140W-01703	Hex Feed Rod (for 1000 models)		1
	C6266C-01703B	Hex Feed Rod (for 1500 models)		1
	C6266C-01703C	Hex Feed Rod (for 2000 models)		1
	C6266C-01703CN	Hex Feed Rod (for 2200 models)		1
	C6266C-01703D	Hex Feed Rod (for 3000 models)		1
21	C6140W-01702	Lead Screw (for 1000 models)		1
	C6266C-01702B	Lead Screw (for 1500 models)		1
	C6266C-01702C	Lead Screw (for 2000 models)		1
	C6266C-01702CN	Lead Screw (for 2200 models)		1
	C6266C-01702D	Lead Screw (for 3000 models)		1
22	C6140W-01705	Hex Control Rod (for 1000 models)		1
	C6266C-01705B	Hex Control Rod (for 1500 models)		1
	C6266C-01705C	Hex Control Rod (for 2000 models)		1
	C6266C-01705CN	Hex Control Rod (for 2200 models)		1
	C6266C-01705D	Hex Control Rod (for 3000 models)		1
23	C6140W-01724	Sleeve		1
24	C6140W-01725	Sleeve		1
25	C6140W-01302	Copper Sleeve		1
26	C6140W-01301	Copper Sleeve		1
27	C6140W-01109	Bracket		1
28	GB70	Hex Socket Cap Screw	M8x20	1
29	GB70	Hex Socket Cap Screw	M10x70	1
30	GB70	Hex Socket Cap Screw	M10x25	1
31	GB118	Taper Pin	8x35	2

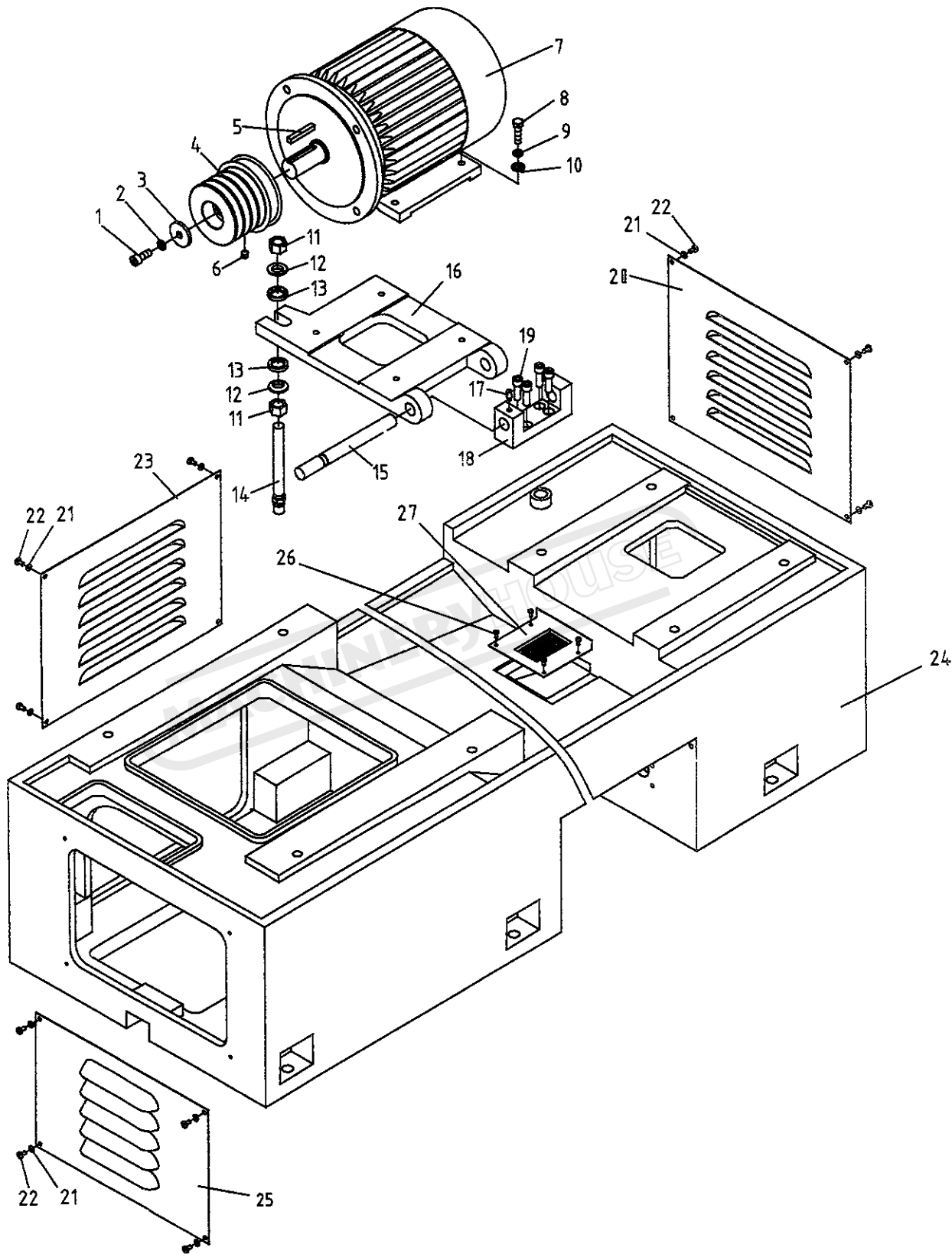
32	GB97	Flat Washer	6	8
33	GB70	Hex Socket Cap Screw	M6x8	8
34	C6140W-01726	Cover		1
35	C6140W-01732	Cover		1
36	GB818	Cross Head Screw	M6x8	2
37	GB118	Taper Pin	8x45	6
38	GB70	Hex Socket Cap Screw	M10x35	6
39	C6266C-01704	Rack (for 1000 models)		2
	C6266C-01704	Rack (for 1500 models)		1
	C6266C-01704	Rack (for 2000 models)		1
	C6266C-01704	Rack (for 2200 models)		2
	C6266C-01704	Rack (for 3000 models)		1
40	C6140W-01719	Rack (for 1000 models)		2
	C6140W-01719	Rack (for 1500 models)		4
	C6140W-01719	Rack (for 2000 models)		5
	C6140W-01719	Rack (for 2200 models)		5
	C6140W-01719	Rack (for 3000 models)		8
41	GB70	Hex Socket Cap Screw	M10x85	2
42	C6266C-01103	Gap		1
43	GB118	Taper Pin	16x60	2
44	GB70	Hex Socket Cap Screw	M16x50	4
45	GB62	Alary Nut A	M8	2
46	C6266C-01709	Screw		2
47	C6266C-01708	Screw		2
48	C6266C-HA048	Steel Wire	Φ 1.5	1
49	C6140W-01733	Pin		1
50	GB5782	Hex Bolt	M20x80	4
51	GB97.2	Flat Washer	20	8

Bed Assembly I

Bed Assembly II

Index	Part			
No.	No.	Description	Size	Qty.
1	GB70	Hex Socket Cap Screw	M12x30	
2	GB93	Spring Washer	12	
3	C6266C-01706	Washer		1
4	C6266C-01105	Pulley		1
5	GB1096	Flat Key		1
6	GB71	Slotted Set Screw	M12x16	1
7	Y132M-4TH/B3	Motor	7.5W	1
8	GB5782	Hex Bolt	M10x40	4
9	GB93	Spring Washer	10	4
10	GB97.2	Flat Washer	10	4
11	GB6170	Hex Nut	M20	2
12	GB850	Taper Waher		2
13	GB849	Ball Washer		2
14	C6140W-01714	Double Bolt		1
15	C6266C-01711	Shaft		1
16	C6266C-01104	Motor Mounting Plate		1
17	GB75	Slotted Set Screws	M10x14	1
18	C6266C-01107	Support		1
19	GB70	Hex Socket Cap Screw	M12x35	4
20	C6266C-01701	Cover		1
21	GB97	Flat Washer	6	12
22	GB818	Cross Head Screw	M6x5	12
23	C6266C-01710	Cover		1
24	C6266C-01102A	Bed Stand (for 1000 models)		1
	C6266C-01102B	Bed Stand (for 1500 models)		1
	C6266C-01102C	Bed Stand (for 2000 models)		1
	C6266C-01102CN	Bed Stand (for 2200 models)		1
	C6266C-01108	Front Bed Stand (for 3000 models not show)		1
	C6266C-01109	Middle Bed Stand (for 3000 models not show)		1
	C6266C-01110	Behind Bed Stand (for 3000 models not show)		1
25	C6266C-01707	Cover		1
26	GB818	Cross Head Screw	M5x6	4
27	1440R-01705	Water Leaking Chip Guard		1

Bed Assembly II



Headstock Assembly I

Index	Part			
No.	No.	Description	Size	Qty.
1	C6266C-02502	Headstock Cover		1
2	C6266C-02501	Rubber Gasket		1
3	C6140W-02835	Sunk Screw		1
4	GB70	Hex Socket Cap Screw	M10x35	8
5	GB6172	Hex Flat Screw	M12	2
6	C6266C-02768	Braking Belt Support		1
7	GB65	Slotted Socket Cap Screw	M6x10	4
8	C6266C-02767	Braking Belt		1
9	GB867	Half Circle Rivet	3x10	3
10	C6266C-02503	Braking Friction Disk		1
11	GB119	Pin	6n6x14	1
12	C6266C-02770	Braking Belt Support		1
13	C6266C-02769	Shaft		1
14	GB3452.1	Ring Seal	30x2.65	1
15	R51-2	Oil Glass		2
16	GB818	Cross Recessed Pen Head Screw	M3x4	7
17	C6266C-02306	Sign Plate		1
18	C6266C-02101	Headstock		1
19	GB5782	Hexagon Head Bolt	M20x75	3
20	C6266C-02125	Fork		1
21	GB118	Pin	8x40	1
22	GB71	Slotted Set Screw	M12x30	1
23	Q81-1	Spring	1.6x8x70	1
24	GB308	Boll	10	1
25	C6140W-02105	Bushing		1
26	GB3452.1	Ring Seal	38.7x3.55	1
27	GB818	Cross Head Screw	M6x8	1
28	C6266C-02757	Cover		1
29	GB3452.1	Ring Seal	26.5x2.65	2
30	C6266C-02761	Control Shaft		1
31	C6266C-02128	Fork		1
32	C6266C-02124	Fork		1
33	C6266C-02120	Fork		1
34	C6266C-02762	Control Shaft		1
35	C6140W-02141	Front Cover		1
36	C6140W-02711	Screw		3
37	GB5782	Hexagon Head Bolt	M16x80	2
38	C6140W-02504	Washer		1
39	C6140W-02831	Nut		1
40	C6140W-02832	Drain Pipe		1
41	C6140W-02833	Clamping Plate		1
42	GB5782	Hexagon Head Bolt	M16x60	1
43	C6266C-02303	Sign Plate		1

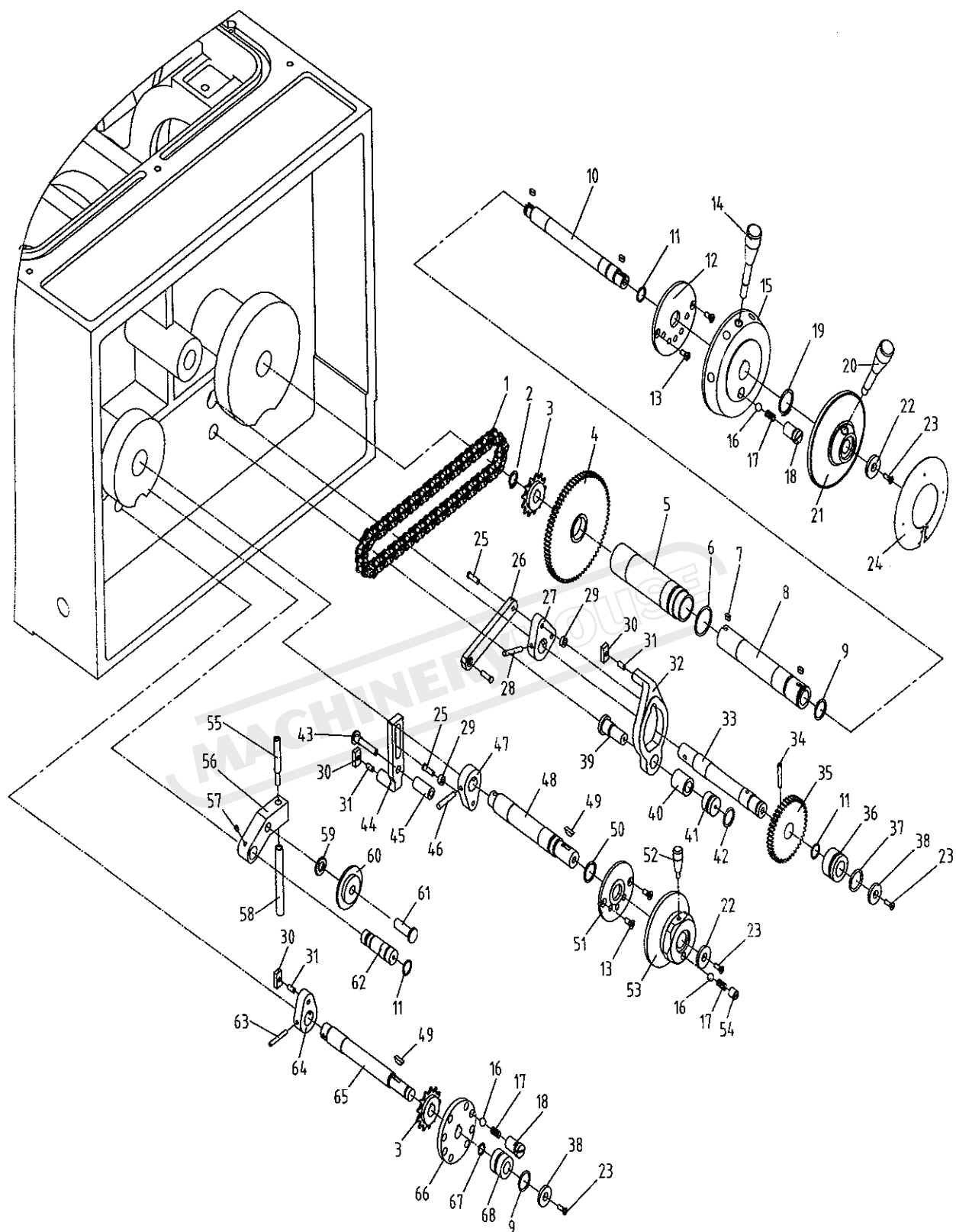
44	C6140W-02143	Slide Block	1
45	GB119	Pin..... n6x20	1
46	C6140W-02129	Rocker	1
47	GB1099	Half Circle Key..... 6x22	1
48	C6266C-02763	Shaft	1
49	G51-2A	Ring Seal..... 25x2.4	2
50	C6140W-02127	Collar	2
51	C6266C-02119	Collar	1
52	C6266C-02305	Label	1
53	GB818	Cross Head Screw..... M3x6	8
54	C6266C-02721	Positioning Shaft	1

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Headstock Assembly II

Index	Part			
No.	No.	Description	Size	Qty.
1		Chain	12.7x58	1
2	GB894.1	Circlip For Shaft	16	1
3	C6140W-02808	Chain wheel		2
4	C6266C-02751	Gear		1
5	C6266C-02780	Sleeve		1
6	GB3452.1	Ring Seal	34.5x2.65	1
7	GB1096	Key	5x10	3
8	C6266C-02753	Collar		1
9	GB3452.1	Ring Seal	25x2.65	2
10	C6266C-02752	Shaft		1
11	GB3452.1	Ring Seal	17x1.8	3
12	C6266C-02756	Positioning Disc		1
13	GB819	Cross Recessed head Screws	M6x14	4
14	C6140W-02799	Lever		
15	C6266C-02114	Lever Support		1
16	GB308	Bolt	10	3
17	Q81-1	Spring	1.6x8x18	3
18	C6266C-02754	Positioning Screw		2
19	GB894.1	Circlip For Shaft	30	1
20	C6140W-02801	Lever		1
21	C6140W-02123	Lever Support		1
22	C6140W-02821	Washer		2
23	GB819	Cross Recessed Head Screws	M5x16	6
24	C6266C-02304	Speed Label		1
25	C6140W-02813	Pin		2
26	C6266C-02775	Connector		1
27	C6266C-02121	Rocker		1
28	GB117	Taper Pin	6x45	
29	C6140W-02812	Roller		2
30	C6140W-02119	Slide Block		3
31	GB119	Pin	6n6x14	3
32	C6266C-02122	Fork		1
33	C6266C-02765	Axis		1
34	GB117	Taper Pin	6x35	1
35	C6266C-02749	Gear		1
36	C6266C-02112	Collar		1
37	GB3452.1	Ring Seal	30x2.65	
38	C6266C-02750	Washer		2
39	C6266C-02764	Pin		1
40	C6266C-02123	Collar		1
41	C6266C-02111	Plug		1
42	GB3452.1	Ring Seal	20x2.65	1
43	C6266C-02760	Shaft		1
44	C6266C-02118	Fork		1

45	C6266C-02116	Collar	1
46	GB117	Taper Pin..... 6x40	1
47	C6266C-02117	Rocker	1
48	C6266C-02759	Shaft	1
49	GB1099	Key..... 5 x19	2
50	GB3452.1	Ring Seal..... 21.2x2.65	1
51	C6266C-02758	Positioning Disc	1
52	C6140W-02822	Lever	1
53	C6266C-02115	Lever Support	1
54	GB73	Set Screws M12x14	1
55	C6266C-02774	Bolt	1
56	C6266C-02129	Rockerechard	1
57	GB75	Recessed Head Set Screw..... M5 x8	1
58	C6266C-02773	Screw	1
59	GB97.1	Plain washers 12	1
60	C6140W-02826	Tightening Wheel	1
61	C6140W-02825	Pin	1
62	C6266C-02771	Shaft	1
63	GB117	Taper Pin..... 5x40	1
64	C6266C-02127	Rocker	1
65	C6266C-02766	Shaft	1
66	C6266C-02772	Positioning Disc	1
67	GB3452.1	Ring Seal..... 12.5x1.8	1
68	C6266C-02126	Collar	1

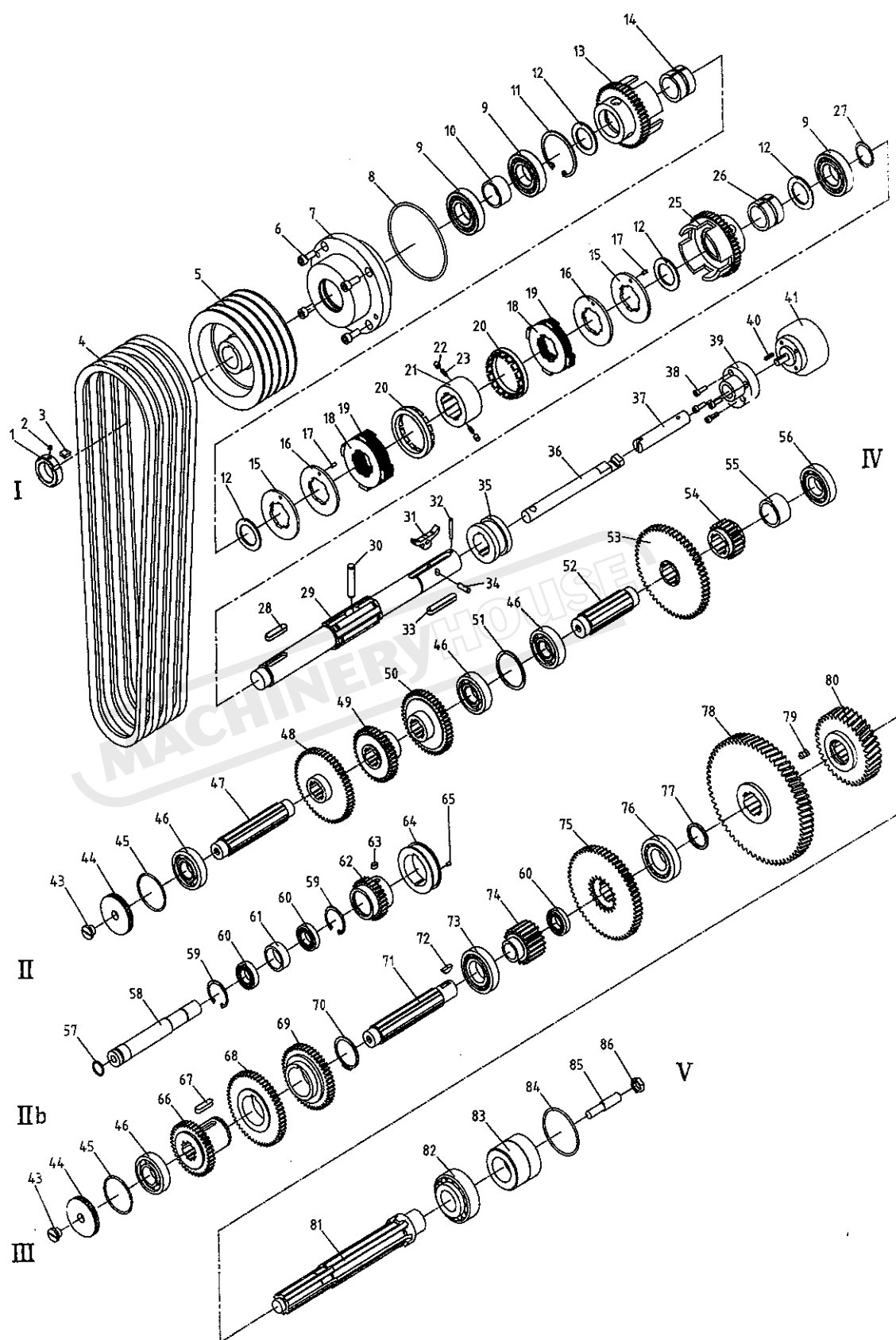
Headstock Assembly II

Headstock Assembly IV

Index	Part			
No.	No.	Description	Size	Qty.
1	C6140W-02752-1/2	Round Nut		1
2	GB77	Hexagon Socket Set Screws	M6x6	1
3	C6140W-02752-2/2	Clamping Plate		1
4	B2464	Belt		4
5	C6266C-02107	Pulley		1
6	GB70	Hex Cap Head Screws	M10x25	4
7	C6266C-02105	Bearing Cover		1
8	GB3452.1	Ring Seal	125x3.55	1
9	6208	Ball Bearing		3
10	C6266C-02106	Sleeve		1
11	GB894.1	Circlip For Shaft	40	1
12	C6266C-02723	Sleeve		3
13	C6140W-02745	Outterfriction Disk		1
14	C6266C-02302	Collar		1
15	C6140W-02748	Washer		2
16	C6140W-02747	Was her		2
17	GB119	Pin	5x10	2
18	C6140W-02746	Inner Friction Disk		1
19	C6140W-02741	Adjust Nut		2
20	C6140W-02741	Adjusting Nut		2
21	C6266C-02727	Sleeve Nut		1
22	C6140W-02744	Stop Pin		1
23	Q81-1	Spring	0.8x5x16	2
25	C6266C-02724	Clutch Right Housing		1
26	C6266C-02301	Collar		
27	GB894.1	Circlip For Shaft	40	1
28	GB1096	Key	12x50	1
29	C6266C-02731	I Shaft		1
30	GB119	Pin	12x70	1
31	C6240W-02732	Lever		1
32	GB119	Pin	5x40	1
33	GB1096	Key	12x70	1
34	GB119	Pin	8x25	1
35	C6140W-02733	Clamping Ring		1
36	C6266C-02728	Shaft		
37	C6266C-02722	Shaft		1
38	GB70	Hex Socket Cap Head Screws	M6x20	3
39	C6140W-02106	Pump Support		1
40	GB1096	Key	4 x 16	1
41	DB-B4			1
43	C6266C-02740	Bolt		2
44	C6266C-02736	Cover		2
45	GB3452.1	Ring Seal	65x3.55	2

46	6306	Bearing	3
47	C6266C-02735	II Shaft	1
48	C6266C-02734	Gear	
49	C6266C-02733	Gear	1
50	C6266C-02732	Gear	2
51	C6266C-02737	Circlip	1
52	C6266C-02718	IV Shaft	1
53	C6266C-02720	Gear	1
54	C6266C-02719	Gear	1
55	C6266C-02103	Sleeve	
56	6207	Bearing	2
57	GB3452.1	Ring Seal	25x2.65
58	C6266C-02729	II b Shaft	
59	GB893.1		47
60	6005	Bearing	2
61	C6266C-02104	Sleeve	1
62	C6266C-02726	Gear	
63	GB1096	Key	8x12
64	C6266C-02725	Braking Wheel	
65	GB73	Set Screws	M5x8
66	C6266C-02741	Gear	
67	GB1096	Key	10x40
68	C6266C-02738	Gear	
69	C6266C-02742	Gear	
70	GB894.1	Circlip For Shaft	55
71	C6266C-02739	III Shaft	
72	GB1099	Half Circle Key	6 x 22
73	6208	Bearing	1
74	C6266C-02717	Gear	
75	C6266C-02716	Gear	
76	32208	Bearing	1
77	GB894.1	Circlip For Shaft	55
78	C6266C-02715	Gear	
79	C6140W-02733	Clamping Sleeve	3
80	C6266C-02714	Gear	
81	C6266C-02713	V Shaft	
82	32308	Bearing	1
83	C6140W-02103	VI Shaft Plug	
84	GB3452.1	Ring Seal	82.5x3.55
85	C6140W-02717	Socket Head Screw	1
86	GB6173	Nut	M16x1.5

Headstock Assembly IV



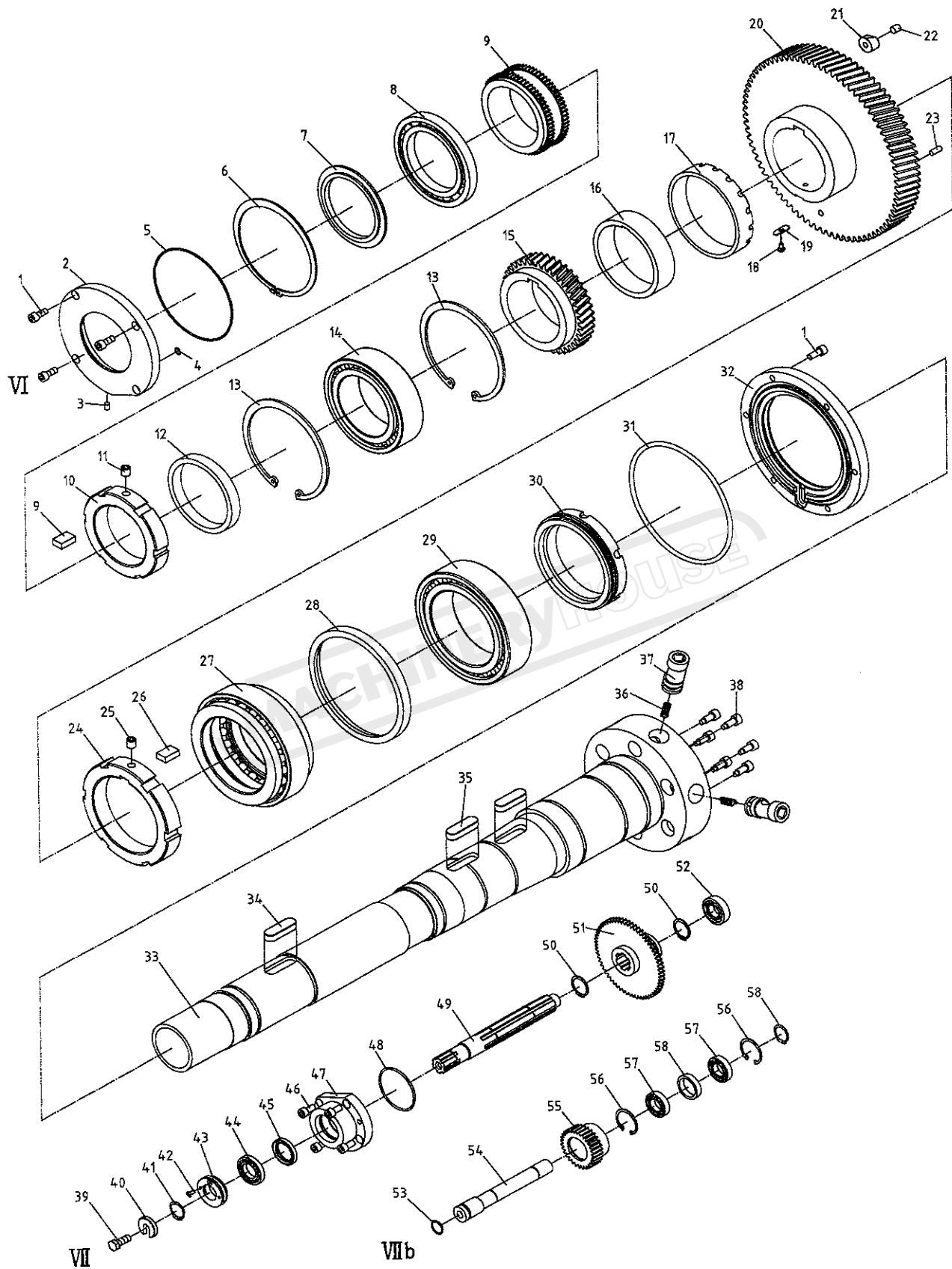
Headstock Assembly V

Index	Part			
No.	No.	Description	Size	Qty.
1	GB70	Hex Socket Cap Head Screws	M10x25	6
2	C6266C-02108	Back Flange Cover	M6x6	1
3	GB119	Pin	6x8	1
4	B2464	Belt		4
5	GB3452.1	Ring Seal	18x2.65	1
6	GB894.1	Circlip For Shaft	120	1
7	C6266C-02744	Bearing Back Circlip		1
8	16024	Bearing		1
9	C6266C-02743	Double Gear		1
10	C6266C-02702	Round Nut		1
11	GB77	Hex Socket Set Screws	M12x12	3
12	C6266C-02703	Circlip		1
13	GB893.1	Circlip For Bore	200	2
14	NN3026K	Bearing		1
15	C6266C-02704	Gear		1
16	C6266C-02705	Thread Sleeve		1
17	C6266C-02706	Nut		1
18	GB67		M6x10	1
19	C6140W-02715	Fixing Plate		2
20	C6266C-02707	Gear		1
21	C6140W-02704	Balance Block		6
22	GB78	Hex Socket Set Screws	M8x12	6
23	GB119	Pin	6x16	1
24	C6266C-02708-1	Round Nut		1
25	GB79	Hex Socket Set Screws	M12x16	3
26	C6266C-02708-2	Pin		3
27	2268930	Bearing		1
28	C6266C-02709	Bearing Circlip		1
29	NN3030K	Bearing		1
30	C6266C-02710	Round Nut		1
31	GB3452.1	Ring Seal	250x5.3	1
32	C6266C-02102	Front Flange Cover		1
33	C6266C-02701	Spindle		1
34	GB1096	Key	10x40	1
35	GB1096	Key	10x50	2
36	Q81-1	Spring	1x8x16	6
37	C6266C-02711	Cam		1
38	C6266C-02712	Positioning Screw		1
39	GB5782	Hex Head Bolts	M12x30	1
40	GB85	Set Screw	12	1
41	GB894.1	Circlip For Shaft	30	1
42	GB68	Slotted Head Screws	M5x12	1
43	C6140W-02776	Adjust Screw		1

44	6006	Bearing	1
45	GB13871	Seal	B-35x51x8 1
46	GB70		M10x20 4
47	C6266C-02110	Bearing Cover	
48	GB13871	Seal	B-35 x51 x8 1
49	C6266C-02747	VII Shaft	
50	GB894.1		35 2
51	C6266C-02746	Gear	1
52	6205	Bearing	1
53	GB3452.1	Ring Seal	10x1.8 1
54	C6266C-02748	VII b Shaft	1
55	C6266C-02745	Gear	1
56	GB893.1	Circlip For Bore	47 2
57	6005	Bearing	2
58	GB894.1	Circlip For Shaft	25 1
59	C6266C-02109	Sleeve	1

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Headstock Assembly V

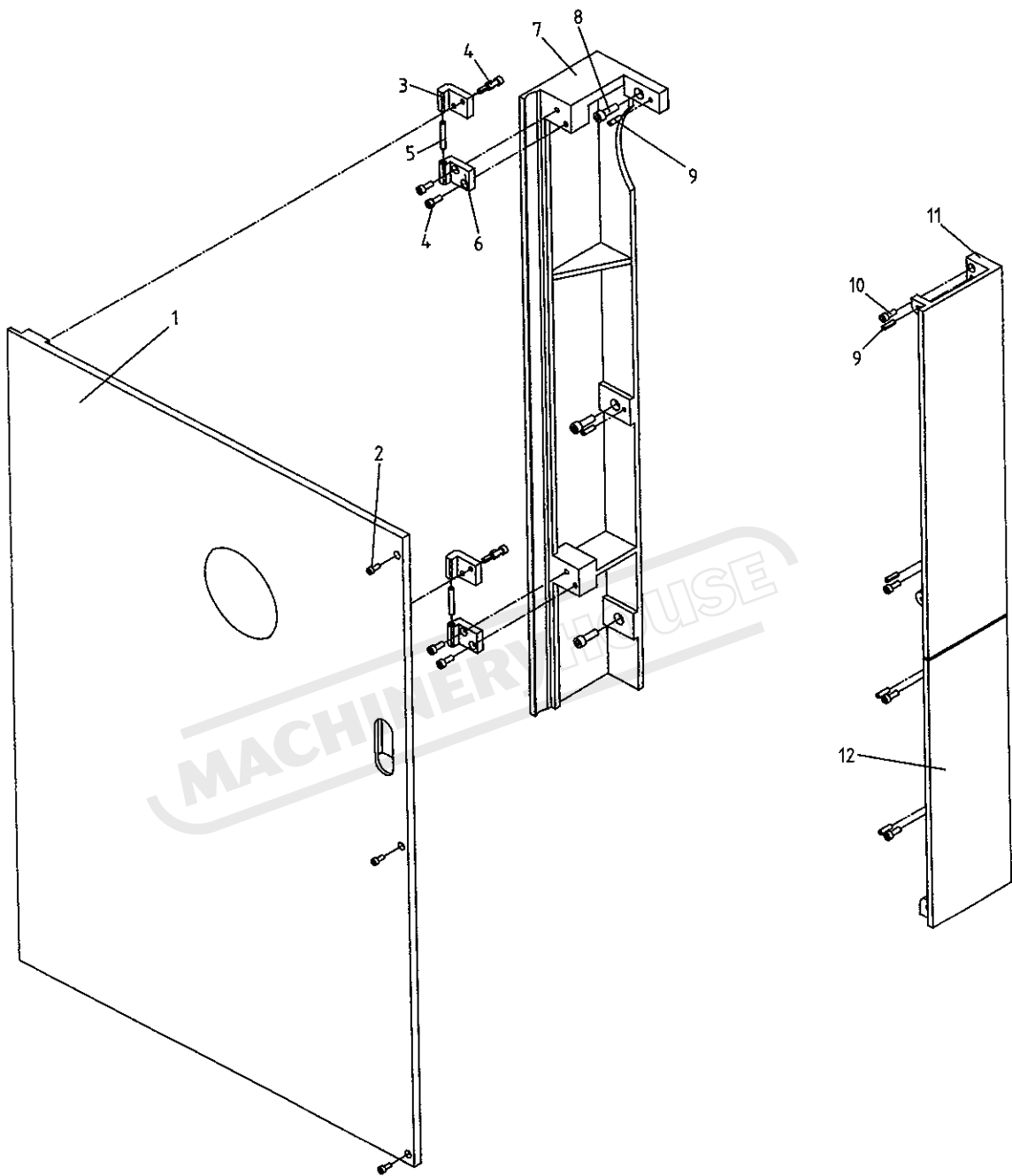


Headstock Assembly III

Index Part				
No.	No.	Description	Size	Qty.
1	C6266C-08501	Back Cover		1
2	GB70	Hex Socket Cap Screw	M5x12	3
3	C6266C-08706	Upper Hinge		2
4	GB879	Straight Pin	5x20	2
5	GB119	Pin	6h8x40	2
6	C6266C-08707	Lower Hinge		2
7	C6266C-08504	Rear Side Plate		1
8	GB70	Hex Socket Cap Screw	M6x16	8
9	GB879	Straight Pin	5x20	4
10	GB70	Hex Socket Cap Screw	M6x14	
11	C6266C-08502	Upper Front Side Plate		1
12	C6266C-08503	Lower Front Side Plate		1

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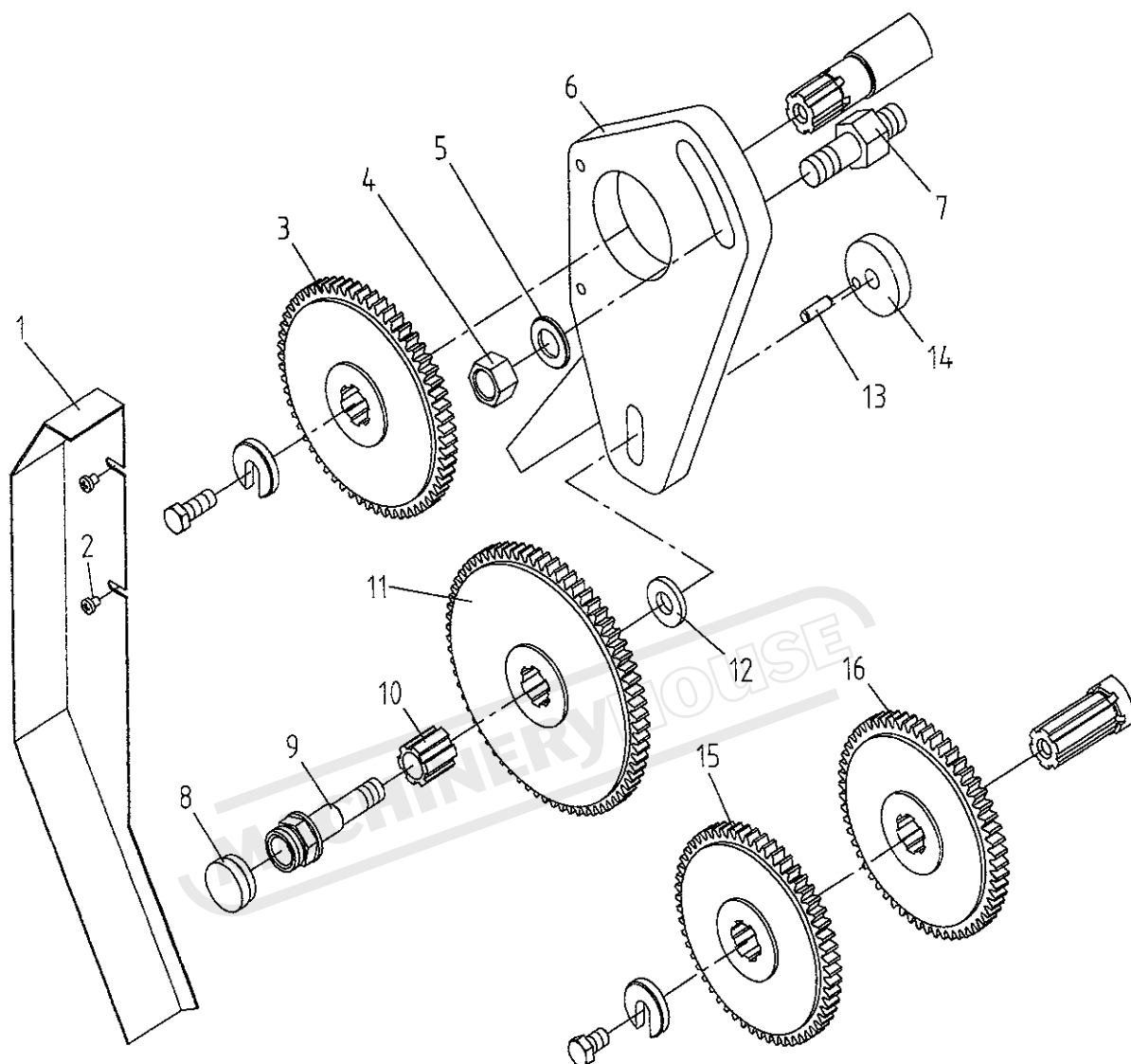
Headstock Assembly III



Gear Assembly

Index No.	Part No.	Description	Size	Qty.
1	C6266C-08708	Splash Guard		1
2	GB818		M6x8	2
3	C6266C-08702 (m)	Gear	2.75m60T	1
	C6266C-08702 (i n)	Gear	2m82T	1
4	GB6172	Nut	M20	1
5	GB97.2	Washer	20	1
6	C6266C-08101	Gear Frame		1
7	C6266C-02776	Bolt		1
8	C6140W-08703	Nut Cover		1
9	C6140W-08702	Gear Shaft		1
10	C6140W-08301	Spline Sleeve		1
11	C6266C-08102 (m)	Gear	2.75m69T	1
	C6266C-08102 (i n)	Gear	2m97T	1
12	C6266C-08701	Washer		1
13	GB119	Pin	8n6x20	1
14	C6140W-08704	Position Nut		1
15	C6266C-08703 (m)	Gear	2.75m56T	1
	C6266C-08703 (i n)	Gear	2m81T	1
16	C6266C-08704 (m)	Gear	2.75m57T	1
	C6266C-08704 (i n)	Gear	2m69T	1

Gear Assembly

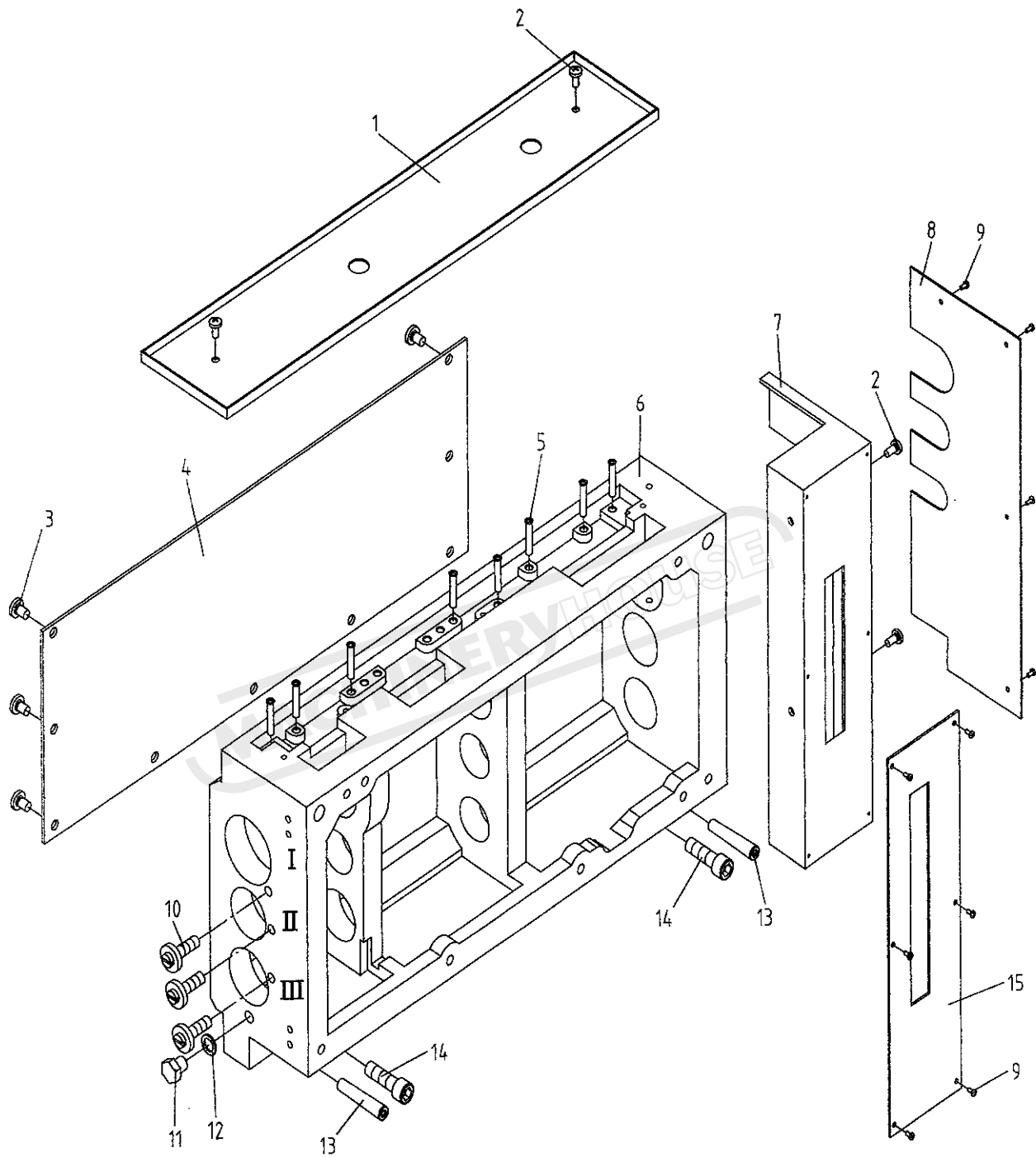


Gear Box Assembly I

Index No.	Part No.	Description	Size	Qty.
1	C6140W-05504	Upper Cover		1
2	GB70	Hex Socket Cap Screw	M6x40	2
3	GB818	Cross Recessed Pan Head Screws	M8x12	9
4	C6140W-05729	Back Cover		1
5	C6140W-05302	Copper Pipe		12
6	C6140W-05101	Feed Box Casting		1
7	C6140W-05766	Casting		1
8	C6140W-05765	Side Splash Guard		1
9	GB818	Cross Recessed Pan Head Screws	M3x6	8
10	C6140W-05728	Bolt With Washer		3
11	G38-2A	Bolt	M12x1.5	1
12	G52-1	Washer	12	1
13	GB118	Taper Pin	10x60	2
14	GB70	Hex Socket Cap Screw	M12x40	2
15	C6140W-05303	Panel		1

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Gear Box Assembly I



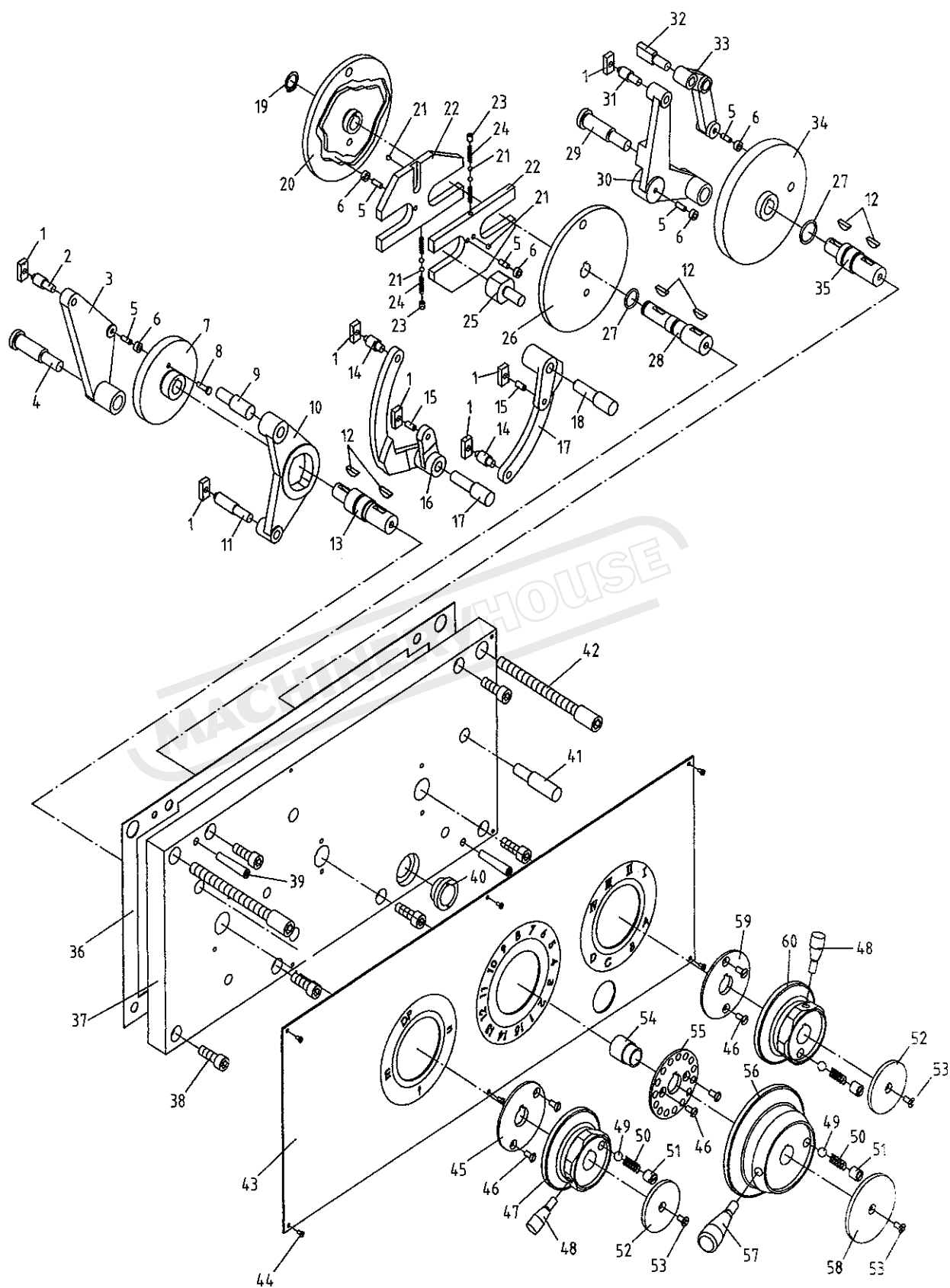
Gear Box Assembly II

Index	Part			
No.	No.	Description	Size	Qty.
1.....	C6140W-05109.....	Sliding Block		7
2.....	C6140W-05701.....	Shaft		2
3.....	C6140W-05105.....	Ratio Change Rocker		1
4.....	C6140W-05709.....	Rocker Shaft.....		2
5.....	GB119.....	P i n	5x14.....	6
6.....	C6140W-05720.....	Roller		6
7.....	C6140W-05708.....	Cam		1
8.....	C6140W-05703.....	Roller Shaft.....		1
9.....	C6140W-05702.....	Shaft		1
10.....	C6140W-05103.....	Rocker		1
11.....	C6140W-05710.....	Shaft		1
12.....	GB1099.....	Key.....	5x19.....	6
13.....	C6140W-05707.....	Shaft		
14.....	C6140W-05711.....	Shaft		
15.....	GB119.....	Pin.....	6x14.....	2
16.....	C6140W-05110.....	Shaft		1
17.....	C6140W-05106.....	Upper Rocker		1
18.....	C6140W-05712.....	Shaft		1
19.....	GB894.1.....	Circlip For Shaft.....	16.....	1
20.....	C6140W-05717.....	Cam		1
21.....	GB308.....	Steel Ball.....	5.....	6
22.....	C6140W-05719.....	Pulley		2
23.....	GB73.....		M6x8.....	2
24.....	Q81-1.....	Spring	0.6x4 x20.....	4
25.....	C6140W-05718.....	Positioning Column.....		1
26.....	C6140W-05109.....	Sliding Block		
27.....	G51-2A	Ring Seal	25 x2.4.....	2
28.....	C6140W-05716.....	Handle Axle		1
30.....	C6140W-05112.....	Rocker		1
31.....	C6140W-05721.....	Shaft		1
32.....	C6140W-05722.....	Shaft		1
33.....	C6140W-05111.....	Rocker		1
34.....	C6140W-05725.....	Cam		1
35.....	C6140W-05723.....	Shaft		1
36.....	C6140W-05501.....	Washer		1
37.....	C6140W-05115.....	Front Cover.....		1
38.....	GB70.....	Hex Socket Cap Screw.....	M10x30.....	6
39.....	GB118.....	Pin.....	8x50.....	2
40.....		Oil Sight Glass.....		1
41.....	C6140W-05721.....	Shaft		1
42.....	C6140W-05727.....	Hex Socket Cap Screw.....		
43.....	C6140W-05301.....	Panel.....		
44.....	GB818.....	Cross Recessed Pan Head Screws	M3x6.....	6

45	C6140W-05704	Positioning Disc		
46	GB68	Slotted Head Screws	 M6x12	6
47	C6140W-05104	Lever Support		
48	C6140W-05705	Lever		2
49	GB308	Steel Ball	 10	3
50	Q81-1	Spring	 1.6x8 x28	3
51	GB73	Slotted Set Screws	 M12x14	3
52	C6140W-05706	Disk		2
53	GB819	Cross Recessed Head Screws	 M5x12	3
54	C6140W-05108	Sleeve		1
55	C6140W-05713	Positioning Disc		1
56	C6140W-05107	Lever Support		1
57	C6140W-05714	Lever		1
58	C6140W-05715	Cover		1
59	C6140W-05724	Positioning Disc		1
60	C6140W-05113	Lever Support		1

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Gear Box Assembly II

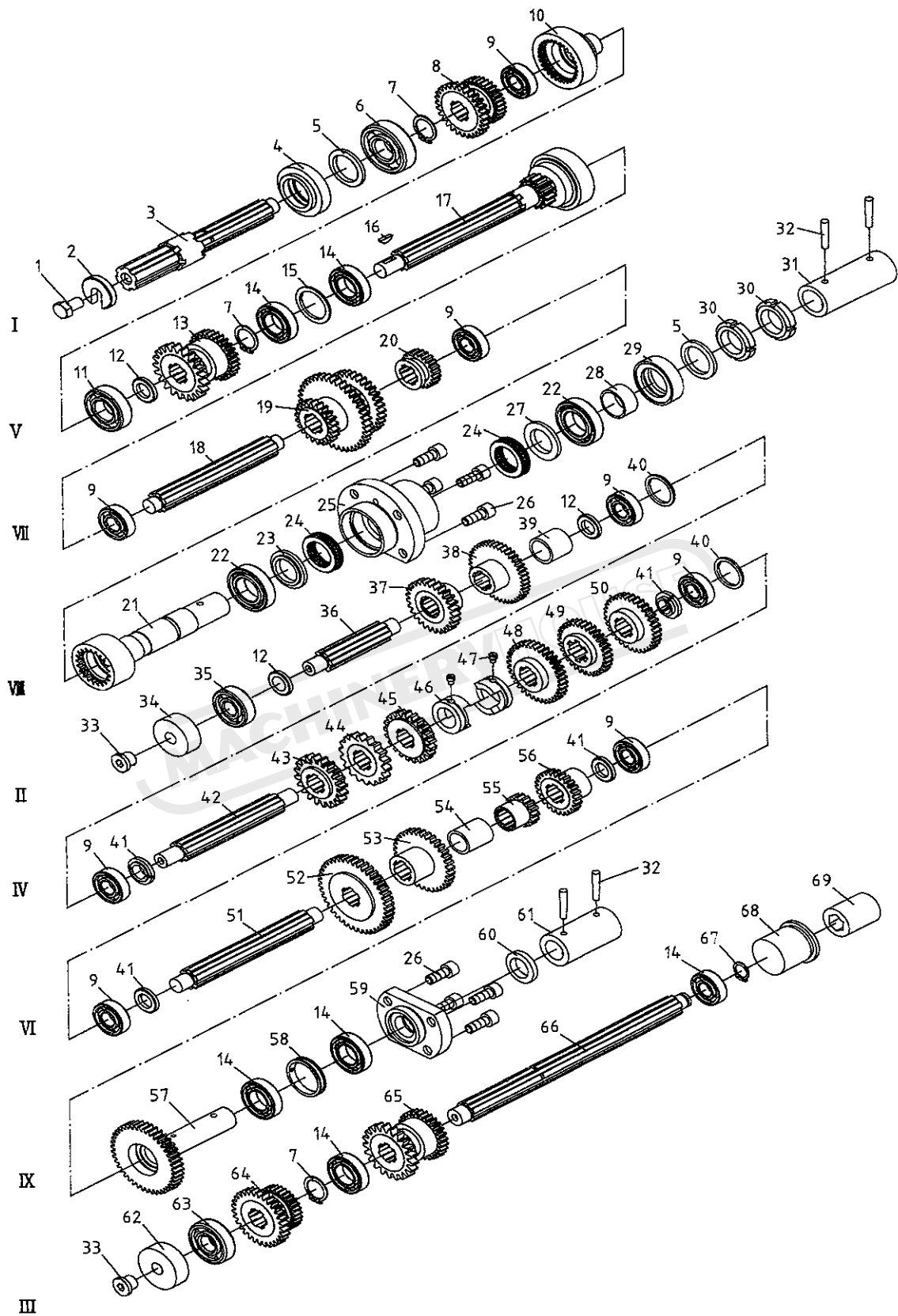


Gear Box Assembly III

Index	Part			
No.	No.	Description	Size	Qty.
1	GB5783	Hexagon Head Bolts	M12x20	1
2	GB851	Washers With Split	A12x40	1
3	C6140W-05730	I Shaft		1
4	C6140W-05116	Bearing Cover		1
5	G51-1	Felt Washer	35	2
6	6305	Bearing	25x62x17	1
7	GB894.1	Circlip For Shaft	25	3
8	C6140W-05731	Double Gear		1
9	6203	Spring	17x40x12	7
10	C6140W-05732	Gear		1
11	6205	Spring	25x52x15	1
12	C6140W-05127	Washer		3
13	C6140W-05733	Double Gear		2
14	6005	Spring	25x47x12	4
15	C6140W-05736	Sleeve		2
16	GB1099	Key	4x16	1
17	C6140W-05735	V Shaft		
18	C6140W-05738	VII Shaft		
19	C6140W-05737	Tripple Gear		
20	C6140W-05739	Gear		
21	C6140W-05743	VIII Shaft		
22	16006	Spring	30x55x9	2
23	C6140W-05740	Sleeve		2
24	51106	Spring	30x47x11	2
25	C6140W-05117	Flange Sleeve		
28	C6140W-05118	Sleeve		
29	C6140W-05741	Bearing Cover		
30	C6140W-05742	Round Nut		2
31	C6140W-05119	Shaft		
32	GB117	Taper Pin	6x40	4
33	G38-4A		M16x1.5	2
34	C6140W-05128	Bearing Cover		
35	6303	Spring	17x47x14	
36	C6140W-05762	II Shaft		
37	C6140W-05763	Gear		
38	C6140W-05764	Gear		
39	C6140W-05125	Sleeve		
40	C6140W-05751	Sleeve		2
41	C6140W-05752	Adjust Washer		4
42	C6140W-05754	IV Shaft		
43	C6140W-05759	Gear		
44	C6140W-05758	Gear		
45	C6140W-05757	Gear		

46	C6140W-05734	Positioning Sleeve	
47	GB75	Slotted Set Screws	M8x10.....2
48	C6140W-05756	Gear	
49	C6140W-05755	Gear	
50	C6140W-05753	Gear	
52	C6140W-05750	Gear	
53	C6140W-05748	Gear	
54	C6140W-05124	Sleeve	
55	C6140W-05747	Gear	
56	C6140W-05746	Gear	
57	C6140W-05745	IX Shaft	
58	C6140W-05744	Sleeve	
59	C6140W-05121	Flange Sleeve	
60	G51-1	Felt Washer	25
61	C6140W-05120	Shaft Connector	
62	C6140W-05126	Bearing Cover	
63	6304	Spring	20x52x15
64	C6140W-05761	Double Gear	
66	C6140W-05760	III Shaft	
67	GB894.1	Circlip For Shaft	17
68	C6140W-05123	Sleeve	
69	C6140W-05122	Sleeve	

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Gear Box Assembly III

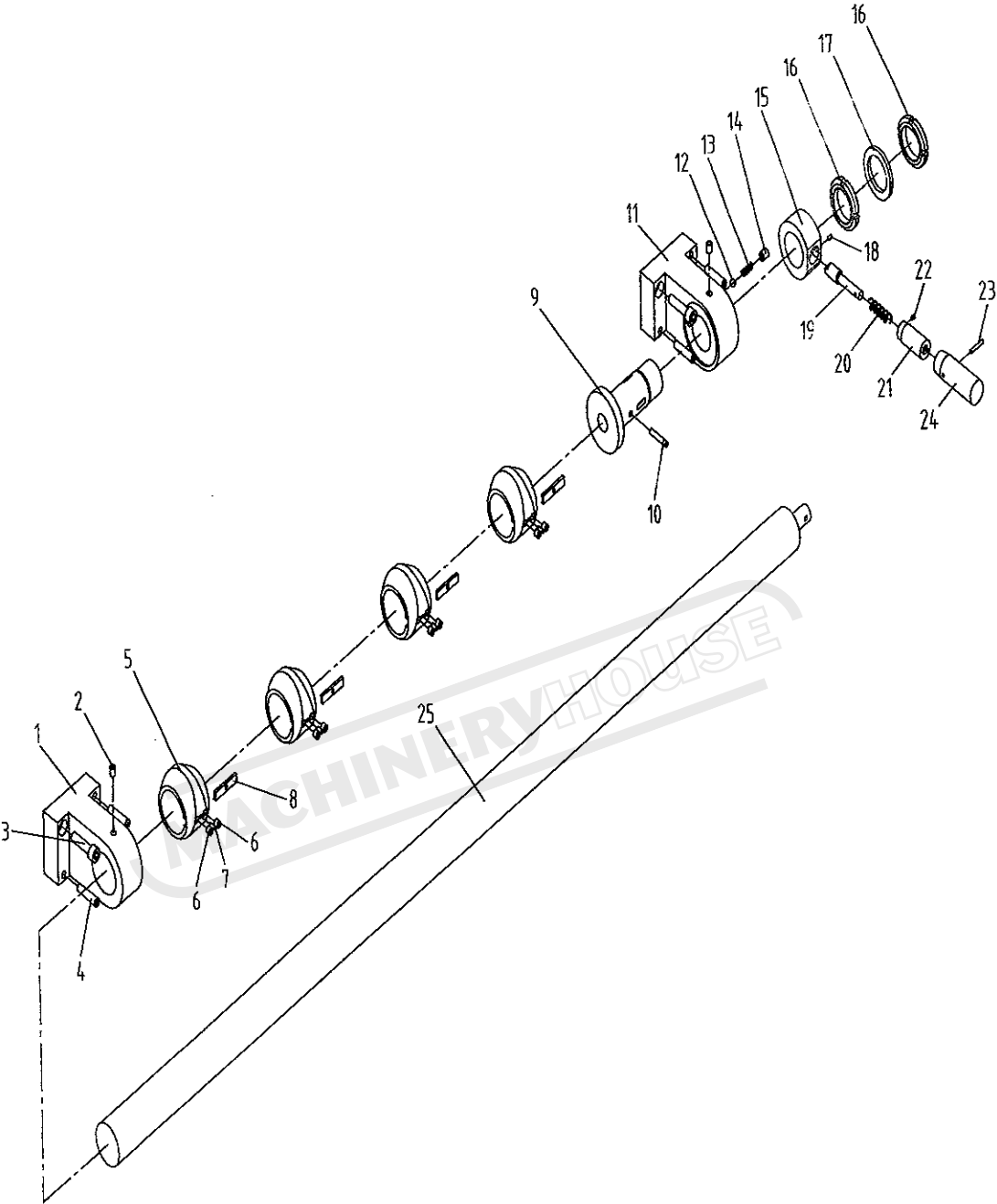
Taper Assembly

Index No.	Part No.	Description	Size	Qty.
1	C6266C-15103	Slide Gib		1
2	GB83	Square Cap Bolt	M10x40	2
3	C6266C-15102	Block		1
4	GB812	Round Nut	M24x1.5	2
5	C6266C-15707	Pulling Rod		1
6	C6266C-15711	Adjust Bolt		2
7	C6266C-15710	Slide Gib		1
8	GB118	Taper Pin	10x40	2
9	GB5781	Hex Bolt	M16x55	2
10	C6266C-15104	Sliding		1
11	C6266C-15106	Bracket		1
12	GB118	Pin	6x40	2
13	GB70	Hex Socket Cap Screw	M10x20	4
14	C6266C-15708	Slide Block		1
15	GB1155	Oil cup	6	3
16	GB77	Hex Socket Set Screws	M10x14	2
17	C6266C-15105	Positioning Block		1
18	GB70	Hex Socket Cap screw	M8x30	1
19	C6266C-15709	Positioning Column		2
20	C6266C-15107	Slide Block		1
21	C6266C-15108	Slide Gib		1
22	GB75	Slotted Cylindrical End Set Screw	M8x30	2
23	GB6170	Hex Nut	M8	4
24	GB97.2	Plain Washers	8	2
25	C6266C-15702	Guiding Plate		1
26	C6266C-15701	T-Bolt		2
27	C6266C-15101	Slide Block		1
28	C6266C-15301	Sign Block		1
29	GB827	Rivet	3x8	2
30	GB71	Slotted Set Screw	M8x18	1
31	GB75		M6x8	1
32	C6266C-15705	Positioning Block		1
33	C6266C-15704	Screw		1
34	GB117	Pin	3x20	1
35	C6266C-15706	Knob		1
36	GB65	Ball End Bolt	M6x16	2
37	C6266C-15703	Guiding Block		1
38	GB97.2		16	2

Micro Carriage Stop Assembly

Index	Part			
No.	No.	Description	Size	Qty.
1	C6266C-26102	Left Support		1
2	GB1155	Oil Cap	8	2
3	GB70	Hex Socket Cap Screw	M10x40	4
4	GB118	Pin	8x40	4
5	C6266C-26712	Eccentric Travel Setting Ring		6
6	GB77	Hex Socket Set Screws	M8x8	12
7	GB119		4x10	6
8	C6266C-26713	Locking Key		6
9	C6266C-26706	Shaft Connector		1
10	GB117	Taper Pin	6x35	1
11	C6266C-26101	Right Support		1
12	GB308	Steel Ball	8	1
13	GB2089	Spring	1.5x8 x20	1
14	GB77	Hex Socket Set Screws	M10x40	1
15	C6266C-26701	Sleeve		1
16	GB812	Round Nut	M39x1.5	2
17	C6266C-26702	Sleeve		1
18	GB71	Slotted Set Screws	M4x8	1
19	C6266C-26704	Sliding Axle		1
20	GB2089	Spring	1.2x13 x40	1
21	C6266C-26703	Sleeve		1
22	GB75	Slotted Set Screws	M4x6	1
23	GB117	Taper Pin	4x25	1
24	C6266C-26705	Handle		1
25	C6266C-26707A (1000 Size)	Travel Setting Rod		1
	C6266C-26707B (1500 Size)			1
	C6266C-26707C (2000 Size)			1
	C6266C-26707CN (2200 Size)			1
	C6266C-26707D (3000 Size)			1

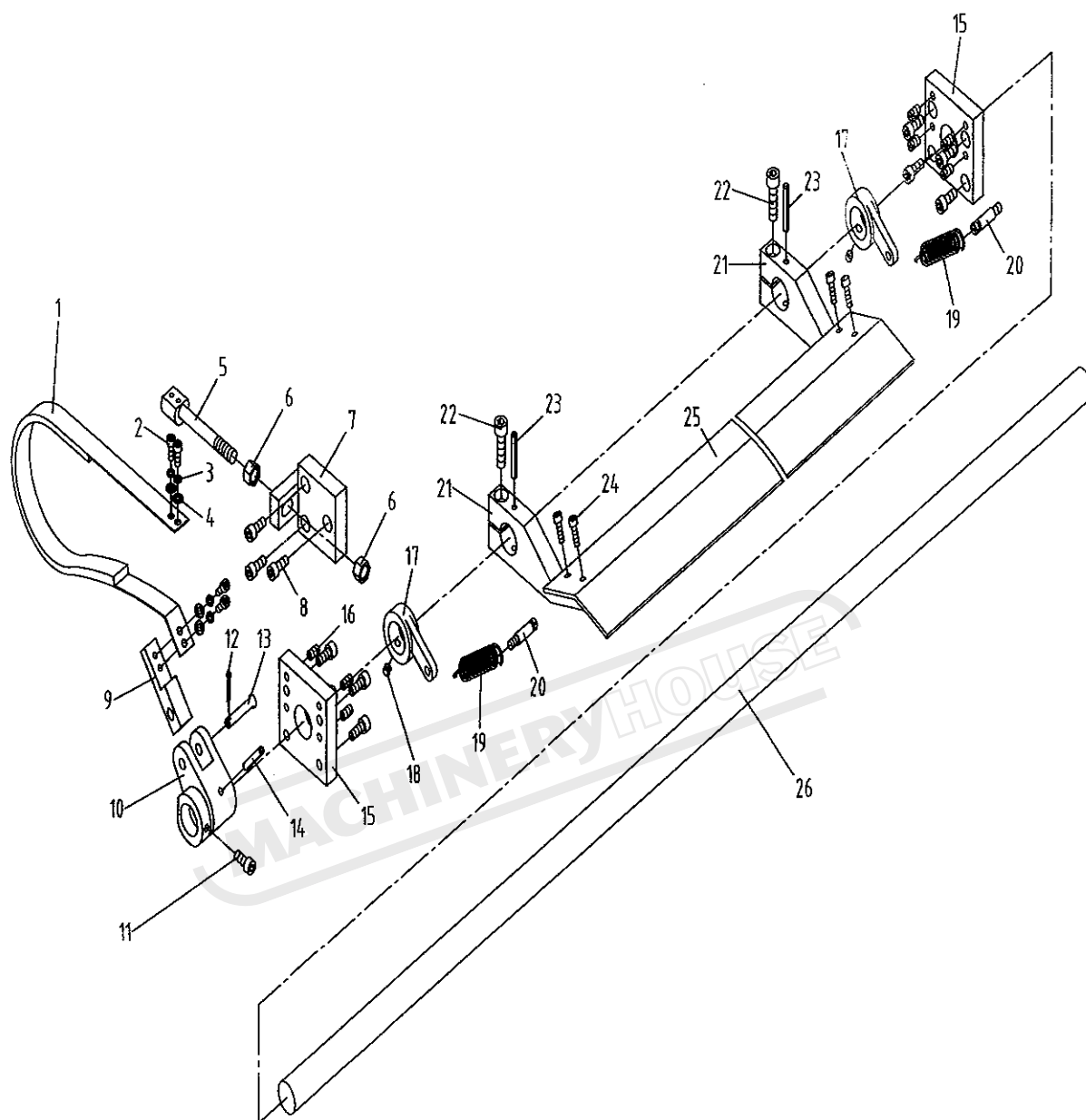
Micro Carriage Stop Assembly



Brake Assembly

Index	Part			
No.	No.	Description	Size	Qty.
1	C6266C-22705	Braking Belt		1
2	GB70	Hex Socket Cap Screw	M6x14	4
3	GB97	Plain Washers	6	4
4	GB93	Spring Lock Washers	6	4
5	C6266C-22704	Bolt		1
6	GB6170		M12	2
7	C6266C-22103	Braking Belt Support		1
8	GB70	Hex Socket Cap Screw	M8x20	3
9	C6266C-22706	Brake Block		1
10	C6266C-22104	Fork		1
11	GB70	Hex Socket Cap Screw	M8x20	1
12	GB91		3x20	1
13	GB73	Slotted set screws	M8x16	3
14	GB879		6x45	1
15	C6266C-22101	Support		2
16	GB73	Slotted Set Screws	M8x16	6
17	C6266C-22102	Brake Support		2
18	GB77	Hex Socket Set Screws	M8x8	2
19	Q81-1	Spring	2.5x18 x80	2
20	C6266C-26702	Screw		2
21	C6266C-22105	Brake Support		2
22	GB70	Hex Socket Cap Screw	M10x35	3
23	GB879		6x45	3
24	GB70	Hex Socket Cap Screw	M6x20	4
25	C6266C-22708A (1000 Size)	Pedal		1
	C6266C-22708B (1500 Size)			1
	C6266C-22708C (2000 Size)			1
	C6266C-22708CN (2200 Size)			1
	C6266C-22708D (3000 Size)			1
26	C6266C-22703A (1000 Size)	Shaft		1
	C6266C-22703B (1500 Size)			1
	C6266C-22703C (2000 Size)			1
	C6266C-22703CN (2200 Size)			1
	C6266C-22703D (3000 Size)			1
27	GB97	Hex Socket Set Screws	12	2
28	C6266C-22107	Side Cut Sleeve		1
29	GB70	Hex Socket Cap Screw	M8x20	12

Brake Assembly

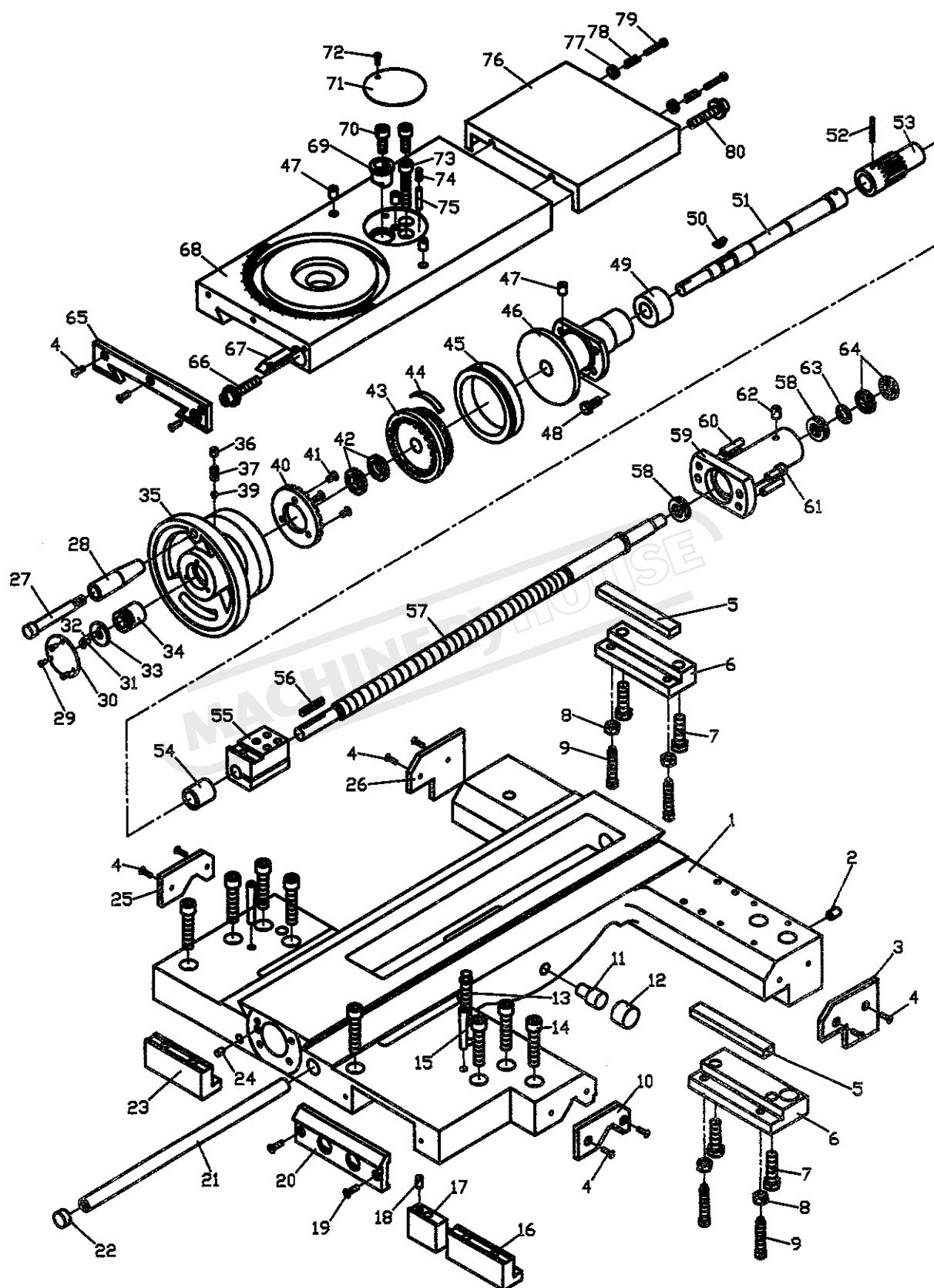


Tool Post Assembly I

Index No.	Part No.	Description	Size	Qty.
1	C6266C-04101	Slide		1
2	GB73	Slotted Set Screw	M10x16	1
3	C6140W-04503	Wipe Plate		1
4	GB819	Cross Recessed Head Screw	M5x16	8
5	C6140W-04107	Lining Plate		1
6	C6140W-04718	Clamping Plate		1
7	GB70	Hex Socket Cap Screw	M12x45	4
8	GB6170	Hex Nut	M12	4
9	GB85	Square Set Screw	M10x35	4
10	C6140W-04501	Wipe Plate		1
11	1440R-04788	Stop Pin		1
12	1440R-04507	Stop Pin Cap		1
13	GB83	Square Cap Bolt	M12x70	1
14	GB70	Hex Socket Cap Screw	M12x55	8
15	GB119	Pin	8x60	2
16	C6140W-04713	Front Clamping Plate		2
17	C6140W-04712	Locking Plate		1
18	GB119	Pin	8n6x20	1
19	GB68	Recessed Sunk Head Screw	M6 x 22	2
20	C6140W-04715	Switch Seat		1
21	C6140W04711	Line Pipe		1
22	C6140W04106	Plug		1
23	C6140W04720	Back Clamping Block		1
24	GB119	Pin	8n6x10	1
31	C6140W-04505	Wipe Plate		1
32	C6140W-04504	Wipe Plate		1
27	C6266C-04721	Lever Shaft		1
28	C6266C-04722	Lever Sleeve		1
29	GB818	Cross Head Screw	M4x8	3
30	C6266C-04306	Panel		1
31	GB819	Cross Recessed Head Screw	M5x12	1
32	GB119	Pin	3n6x10	1
33	C6266C-04725	Cover		1
34	C6266C-04724	Sleeve		1
35	C6266C-04108	Handle		1
36	GB73	Slotted Set Screw	M8x10	1
37	Q81-1	Spring	0.8x6x12	1
39	C6266C-04733	Positioning Pin		1
40	C6266C-04720	Connector		1
41	GB819	Cross Recessed Head Screw	M5x14	3
42	GB812	Round Nut	M18x1.5	2
43	C6266C-04719	Connector		1
44	C6266C-04718	Spring Leaf		1

45	C6140W-04705A(m)	Dial	1
	C6266C-04735A(in)	Dial	1
46	C6140W-04107	Screw Support	1
47	GB1155	Oil Cupt	6
48	GB70	Hex Socket Cap Screw	M8x20
49	C6266C-04109	Sleeve	1
50	GB1099	Half Circle Key	5x7.5x19
51	C6266C-04726	Shaft	1
52	GB117	Taper Pin	4x35
53	C6266C-04705	Shaft	8
54	C6266C-04103	Sleeve	1
55	C6140W-04301(m)	Nut	1
	C6266C-04304YA(in)	Nut	1
56	GB1096	Flat Key	
57	C6266C-04701(m)	Lead Screw	1
	C6266C-04701A(in)	Lead Screw	1
58	51103	Thrust Bearing	17x30x9
59	C6266C-04110	Bracket	1
60	GB117	Taper Pin	8x40
61	GB70	Hex Socket Cap Screw	M8x20
62	GB1155	Oil Cap	6
63	C6266C-04702	Washer	1
64	GB812	Round Nut	M14x1.5
65	C6266C-04501	Wipe Plate	1
66	C6266C-04727	Gib Setting Screw	1
67	C6266C-04728	Cross Slide Gib	1
68	C6266C-04102	Cross Slide	1
69	C6266C-04704	Sleeve	1
70	GB70	Hex Socket Cap Screw	M10x50
71	C6140W-04714	Cover	1
72	GB818	Cross Recessed Pan Head Screw	M5x8
73	GB70	Hex Socket Cap Screw	M10x40
74	GB73	Slotted Set Screw	M8x40
75	GB119	Pin	6x35
76	C6266C-04703	Splash Guard	1
77	C6140W-04722	Clamping Block	1
78	Q81-1	Spring	1.6x10x24
79	GB65	Slotted Socket Cap Screw	M6x50

Tool Post Assembly I



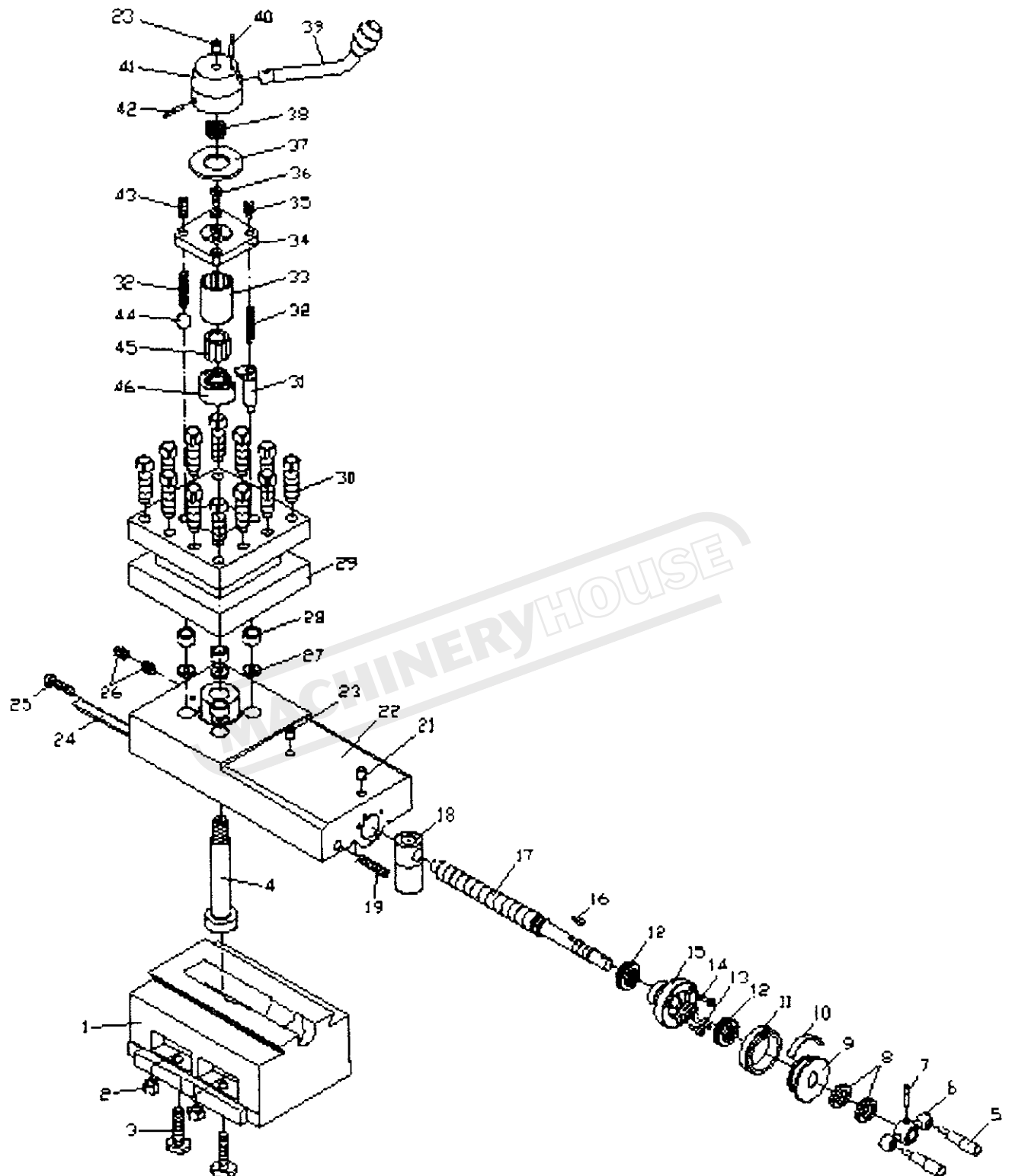
Tool Post Assembly II

Index	Part			
No.	No.	Description	Size	Qty.
1	C6266C-04104	Revolving Plate		1
2	GB6170	Hex Nut	M12	4
3	C6266C-04706	Compound Screw		4
4	C6266C-04707	Shaft		1
5	C6140W-04737	Handle		2
6	C6140W-04738	Lever		1
7	GB117	Taper Pin	5x30	1
8	GB812	Round Nut	M18x1.5	2
9	C6140W-04110	Dial		1
10	C6140W-04739	Spring Leaf		1
11	C6140W-04740(m)	Dial		1
	C6266C-04736A(in)	Dial		1
12	51104	Thrust Bearing	20x35x10	2
13	GB117	Taper Pin	4x25	2
14	GB70	Hex Socket Cap Screw	M5x14	3
15	C6140W-04111	Bearing		1
16	GB1099	Half Circle Key	5x7.5x19	1
17	C6140W-04741(m)	Lead Screw		1
	C6266C-04734A(in)	Lead Screw		1
18	C6266C-04301Y(m)	Nut		1
	C6266C-04301YA(in)	Nut		1
19	GB77	Hexagon Socket Set Screws	M12x70	1
21	GB1155	Oil Cup	10	1
22	C6266C-04105	Longitudinal Slide		1
23	GB1155	Oil Cup	6	3
24	C6266C-04717	Slide Gib		1
25	C6266C-04716	Adjust Screw		1
26	GB73	Slotted Set Screw	M10x20	2
27	C6140W-04727	Washer		4
28	C6140W-04728	Positioning Sleeve		4
29	C6266C-04708	Tool Post		1
30	GB83	Square Cap Bolt	M16x50	12
31	C6266C-04715	Positioning Pin		1
32	Q81-1	Spring	1.6x8x98	2
33	C6266C-04712	Spline		1
34	C6266C-04709	Flange Disc		1
35	C6140W-04732	Bolt		1
36	GB70	Hex Socket Cap Screw	M8x16	2
37	C6266C-04710	Adjust Washer		1
38	Q81-1	Spring	3x32x55	1
39	C6266C-04711	Handle		1
40	GB119	Pin	5n6x32	1
41	C6266C-04106	Lever Support		1

42.....	GB117	Taper Pin.....	4x40.....	1
43.....	GB73.....	Slotted Set Screw	M12x14.....	1
44.....	GB308.....	Boll.....	19.....	1
45.....	C6266C-04713	Connector		1
46.....	C6266C-04714	Connector		1

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Tool Post Assembly II



Apron Assembly 1

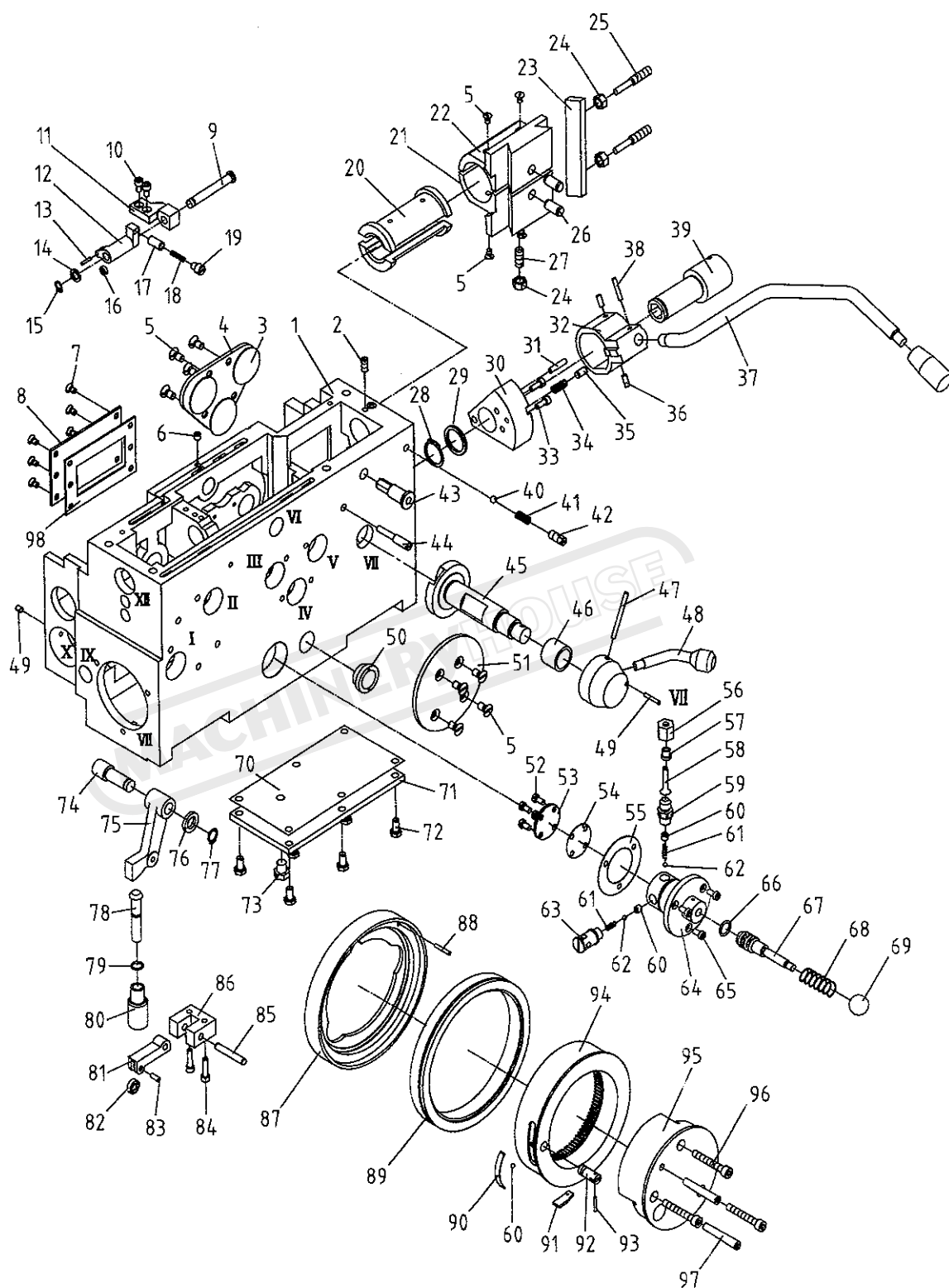
Index	Part			
No.	No.	Description	Size	Qty.
1	C6266C-06101	Apron Casting		1
2	GB71	Set Screw	M8x10	1
3	C6266C-06506	Washer		3
4	C6140W-06750	Back Cover		1
5	GB819	Cross Recessed Head Screw	M8x16	8
6	GB3452.1	Ring Seal	8.75x1.8G	1
7	GB68	Slotted Head Screw	M6x10	1
8	C6140W-06731	Cover		1
9	C6266C-06719	Small Shaft		1
10	GB70	Hex Socket Cap Screw	M6x10	2
11	C6266C-06718	Limiting Support		1
12	C6266C-06108	Rocker		1
13	GB119	Pin	3n6x12	1
14	C6266C-06720	Washer		1
15	GB894.1	Circlip For Shaft	10	1
16	623	Bearing	3x10x4	1
17	C6266C-06729	Pin		1
18	Q81-1	Spring	1.2x6x28	1
19	GB75	Slotted Socket Set Screw	M12x16	1
20	C6140W-06302(m)	Half Nut		1
	C6266C-06306(in)	Half Nut		1
21	C6140W-06107	Upper Nut		1
22	C6140W-06108	Lower Nut		1
23	C6140W-06759	Gib		1
24	GB6170	Hex Nut	M10	2
25	C6140W-06758	Cylindrical End Set Screw		1
26	GB119	Pin	12x25	2
27	GB73	Slotted Set Screw	M10x25	1
28	GB894.1	Circlip For Shaft	30	1
29	C6140W-06755	Washer		1
30	C6266C-06105	Positioning Block		1
31	GB117	Taper Pin	6x35	1
32	C6266C-06106	Lever Support		1
33	GB70	Hex Socket Cap Screw	M6x16	2
34	Q81-1	Spring	1.2x8x22	1
35	GB119	Pin	8x14	1
36	GB119	Pin	6n6x18	2
37	C6266C-06711	Control Handle		1
38	GB117	Taper Pin	5x30	1
39	C6266C-06710	Positioning Sleeve		1
40	GB308	Steel Ball	10	1
41	Q81-1	Spring	1.5x8x35	1
42	GB73	Slotted Set Screw	m12x14	1

43	C6266C-06A780	Positioning Sleeve	1
44	C6140W-06716	Bolt	1
45	C6140W-06725	VII Shaft	1
46	C6140W-06303	Sleeve	1
47	GB119	Pin	5x60
48	C6266C-06716	Handle	1
49	GB119	Pin	5x25
50	R51-2	Oil Sight Glass	20
51	C6140W-06760	Front Cover	1
52	GB65	Slotted Socket Cap Screw	M6x10
53	C6266C-06713	Pump Cover	1
54	C6266C-06505	Washer	1
55	C6266C-06504	Washer	1
56	Y91-1A	Nut	8
57	C6266C-06727	Sleeve	1
58	T3-M	Copper Pipe	Ø6x0.75x450
59	C6266C-06726	Valve	1
60	C6266C-06714	Adjust Bolt	2
61	Q81-1	Spring	0.3x3x12
62	GB308	Steel Ball	5
63	C6266C-06715	Oil Purifier	1
64	C6266C-06107	Pump	1
65	GB65	Slotted Socket Cap Screw	M6x12
66	G51-2A	Ring Seal	20x2.4
67	C6266C-06712	Piston-rod	1
68	Q81-1	Spring	1.2x19x70
69	GB4141.11	Ball	M8x25
70	C6266C-06502	Washer	1
71	C6266C-06103	Bottom Cover	1
72	GB70	Hex Socket Cap Screw	M8x12
73	GB38-2	Drain Plug	M12x1.5
74	C6266C-06725	Shaft	1
75	C6266C-06109	Rocker	1
76	C6266C-06724	Washer	1
77	GB894.1	Circlip For Shaft	15
78	C6266C-06721	Rod	1
79	G51-2A	Ring Seal	12x1.9
80	C6266C-06723	Sleeve	1
81	C6266C-06722	Block	1
82	606	Bearing	6x17x6
83	GB119	Pin	5n6x15
84	GB75	Slotted Socket Set Screw	M5x16
85	GB119	Pin	8n6x45
86	C6266C-06110	Positioning Block	1
87	C6140W-06116(m)	Bracket Disk	1
	C6266C-06116(in)	Bracket Disk	1
88	GB119	Pin	6x25

89.....	C6140W-06761(m)	Dial.....	1
.....	C6266C-06761(in)	Dial.....	1
90.....	C6140W-06769.....	Spring Leaf	1
91.....	C6140W-06767.....	Locked Knob.....	1
92.....	C6140W-06768.....	Eccentric Shaft	1
93.....	GB119	Pin.....	3n6x22.....1
94.....	C6140W-06762(m)	Gear.....	1
.....	C6266C-06762(in)	Gear.....	1
95.....	C6140W-06117(m)	Bracket.....	1
.....	C6266C-06117(in)	Bracket.....	1
96.....	GB70.....	Hex Socket Cap Screw.....	M8x55.....1
97.....	GB119	Pin.....	12n6x40.....1
98.....	C6266C-06501	Washer	1
99.....	GB68.....	Slotted Head Screw.....	M6x12.....4

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Apron Assembly I

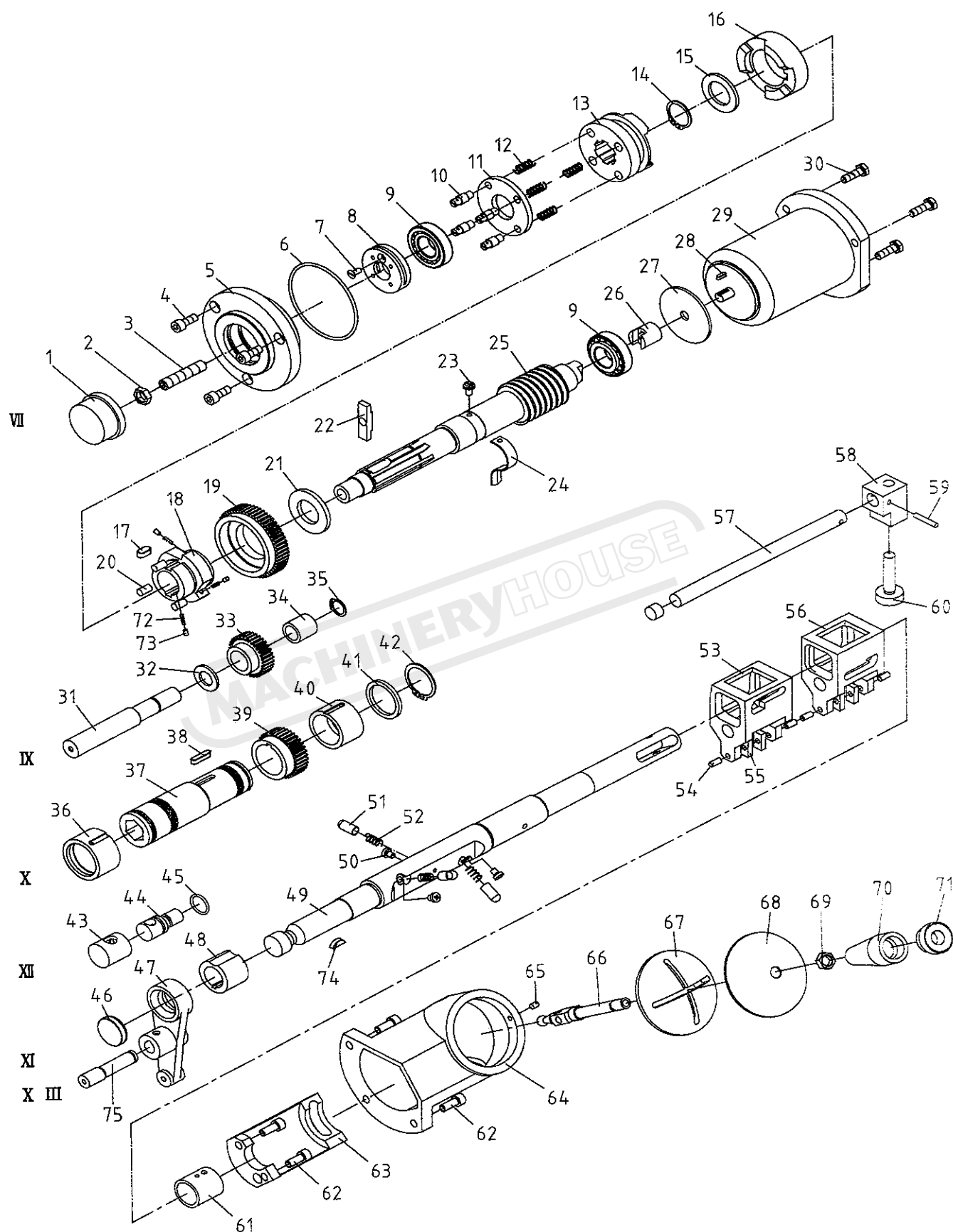


Apron Assembly II

Index	Part			
No.	No.	Description	Size	Qty.
1	C6140W-06738	Adjust Knob		1
2	GB6172	Hex Flat Nut	M12	1
3	GB78	Hex Set Screw	M12x60	1
4	GB70	Hex Socket Cap Screw	M8x20	3
5	C6140W-06111	Flange		1
6	G51-2A	Ring Seal	93x3.1	1
7	GB68	Slotted Head Screw	M5x12	1
8	C6140W-06739	Adjust Circlip		1
9	30502/P6	Bearing	25x52x15	2
10	C6266C-06734	Bolt		4
11	C6140W-06740	Washer		1
12	Q81-1	Spring	1x10x35	4
13	C6266C-06707	Clutch		1
14	GB894.1	Circlip For Shaft	30	1
15	C6266C-06708	Washer		1
16	C6266C-06706	Clutch		1
17	GB1096	Flat Key	8x16	1
18	C6140W-06708	Star Gear		1
19	C6140W-06709	Gear		1
20	C6140W-06726	Pin		3
21	C6140W-06710	Washer		1
22	C6140W-06737	Block		1
23	GB67	Slotted Pan Head Screw	M6x10	1
24	C6140W-06729	Splash Leaf		1
25	C6266C-06209	Worm		1
26	C6140W-06728	Motor Connector		1
27	C6266C-06503	Washer		1
28	YSS56BJ	Motor	300W 1500r/min	1
29	GB1096	Flat Key		1
30	GB5782	Hex Bolt	M8x30	3
31	C6140W-06736	IX Shaft		1
32	C6140W-06735	Washer		2
33	C6140W-06734	Gear		1
34	C6140W-06306	Sleeve		1
35	GB894.1	Circlip For Shaft	16	1
36	C6140W-06305	Sleeve		1
37	C6140W-06733	X Shaft		1
38	GB1096	Flat Key	6x25	1
39	C6140W-06732	Gear		1
40	C6140W-06304	Sleeve		1
41	C6140W-06730	Washer		1
42	GB894.1	Circlip For Shaft	38	1
43	C6266C-6704	Oil Tap Cover		1

44.....	C6266C-06705	Oil tap	35.....	1
45.....	GB895.....	Steel Wire Circlip		1
46.....	C6266C-06102	Plug.....		1
47.....	C6140W-06103.....	Fork.....		1
48.....	C6266C-06703	Limiting Sleeve		1
49.....	C6266C-06701	Control Shaft.....		1
50.....	GB67.....	Slotted Pan Head Screw	M6x8.....	3
51.....	Q81-1.....	Spring.....	1.6x8x22.....	3
52.....	C6140W-06701.....	Pin.....		3
53.....	C6140W-06713.....	Left Fork.....		1
54.....	GB119.....	Pin.....	6n6x14.....	6
55.....	C6140W-06715.....	Sliding Block		6
56.....	C6140W-06714.....	Right Fork		1
57.....	C6140W-06717.....	Shaft		1
58.....	C6140W-06104.....	Inter-locking Block		1
59.....	GB117	Taper Pin.....	5x30.....	1
60.....	C6140W-06718.....	Shaft		1
61.....	C6266C-06304	Sleeve.....		1
62.....	GB70.....	Hex Socket Cap Screw.....	8x20.....	5
63.....	C6140W-06719.....	Bracket.....		1
64.....	C6140W-06105.....	Bracket.....		1
65.....	GB71.....	Slotted Set Screw		1
66.....	C6140W-06722.....	Handle	M6x10.....	1
67.....	C6140W-06106.....	Cross Cover.....		1
68.....	C6140W-06501.....	Washer		1
69.....	GB6173.....	Hex Flat Nut.....	M12x1.25.....	1
70.....	C6140W-06721.....	Handle		1
71.....	C6140W-06720.....	Washer		1
72.....	C6140W-06727.....	Pin.....		3
73.....	Q81-1.....	Spring.....	0.3x3x12	3
74.....	GB1099.....	Half Circle Key.....	5x19.....	1
75.....	C6140W-06704.....	XIII Shaft.....		1

Apron Assembly II



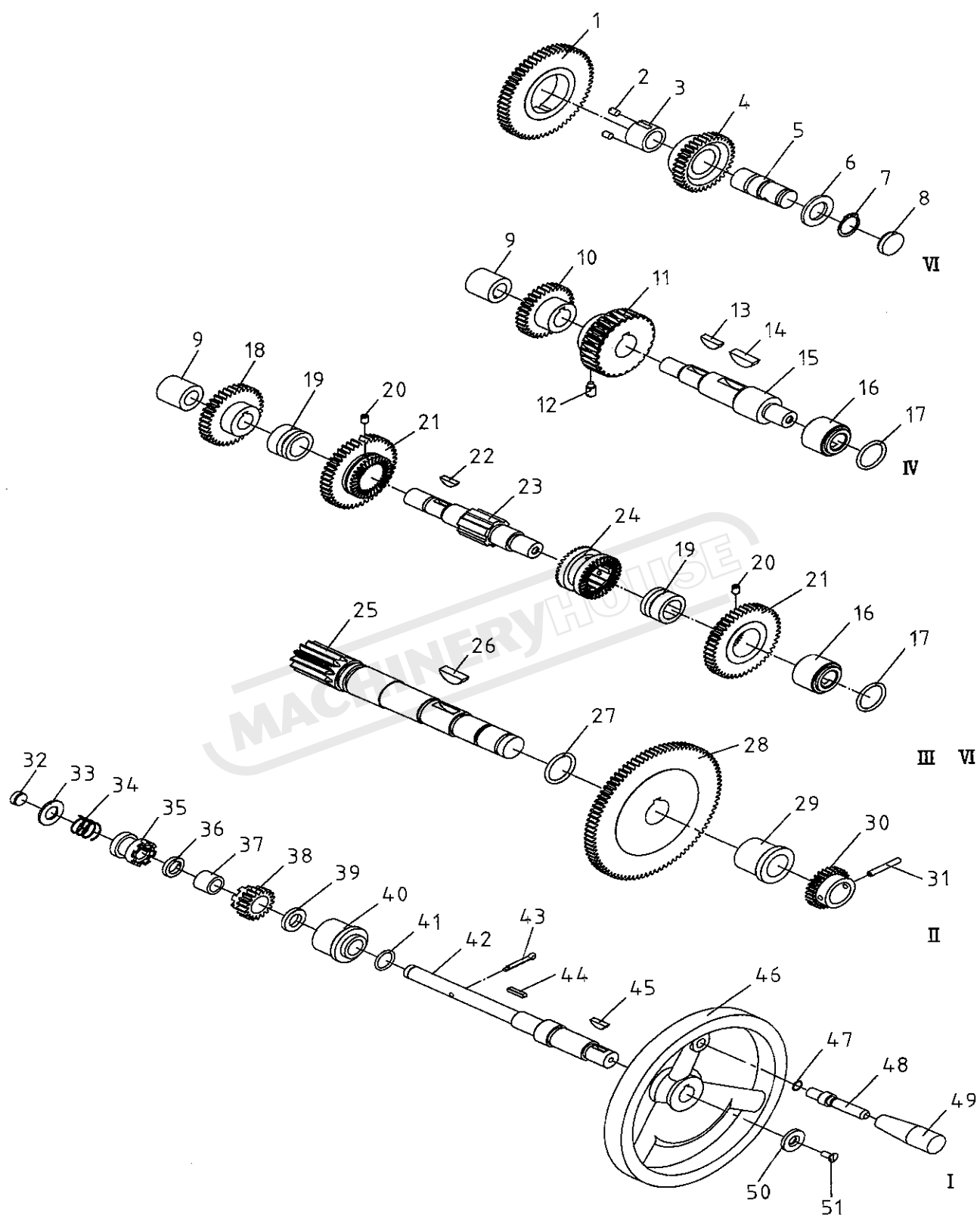
Apron Assembly III

Index	Part			
No.	No.	Description	Size	Qty.
1	C6140W-06751	Gear		1
2	GB71	Slotted Set Screw	M6x8	2
3	C6140W-06309	Sleeve		1
4	C6140W-06752	Gear		1
5	C6266C-06728	VI Shaft		1
6	C6140W-06754	Washer		1
7	GB894.1	Circlip For Shaft	20	1
8	C6140W-06114	Plug		1
9	C6140W-06113	Sleeve		3
10	C6140W-06749	Gear		1
11	C6140W-06308	Worm Wheel		1
12	GB72	Slotted Set Screw	M8x16	1
13	GB1099	Half Circle Key	6x22	1
14	GB1099	Half Circle Key	8x28	1
15	C6140W-06748	IV Shaft		1
16	C6140W-06115	Sleeve		3
17	G51-2A	Ring Seal	35x3.1	3
18	C6140W-06746	Gear		2
19	C6140W-06307	Sleeve		4
20	GB71	Slotted Set Screw	M6x10	4
21	C6140W-06744	Gear		4
22	GB1099	Half Circle Key	5x16	2
23	C6140W-06747	III Shaft		2
24	C6140W-06745	Connector		2
25	C6140W-06743	II Shaft		1
26	GB1099	Half Circle Key	8x28	1
27	G51-2A	Ring Seal	35x3.1	1
28	C6140W-06742	Gear		1
29	C6140W-06118	Sleeve		1
30	C6140W-06764	Gear		1
31	GB117	Taper Pin	5x35	1
32	C6140W-06112	Plug		1
33	C6140W-06774	Washer		1
34	Q81-1	Spring	1.6x18x25	1
35	C6140W-06773	Connector		1
36	C6140W-06772	Washer		1
37	C6140W-06371	Sleeve		1
38	C6140W-06771	Gear		1
39	C6140W-06770	Washer		1
40	C6140W-06120	Sleeve		1
41	G51-2A	Ring Seal	18x2.4	1
42	C6140W-06775	I Shaft		1
43	C6140W-06774	Washer		1

44	GB1096	Flat Key	4x20	1
45	GB1099	Half Circle Key	5x16	1
46	C6266C-06111	Handlewheel		1
47	GB895	Steel Circlip	10	1
48	C6140W-06766	Shaft		1
49	C6140W-06765	Lever Sleeve		1
50	GB891	Circlip	5x12	1
51	GB68	Slotted Head Screw	25	1

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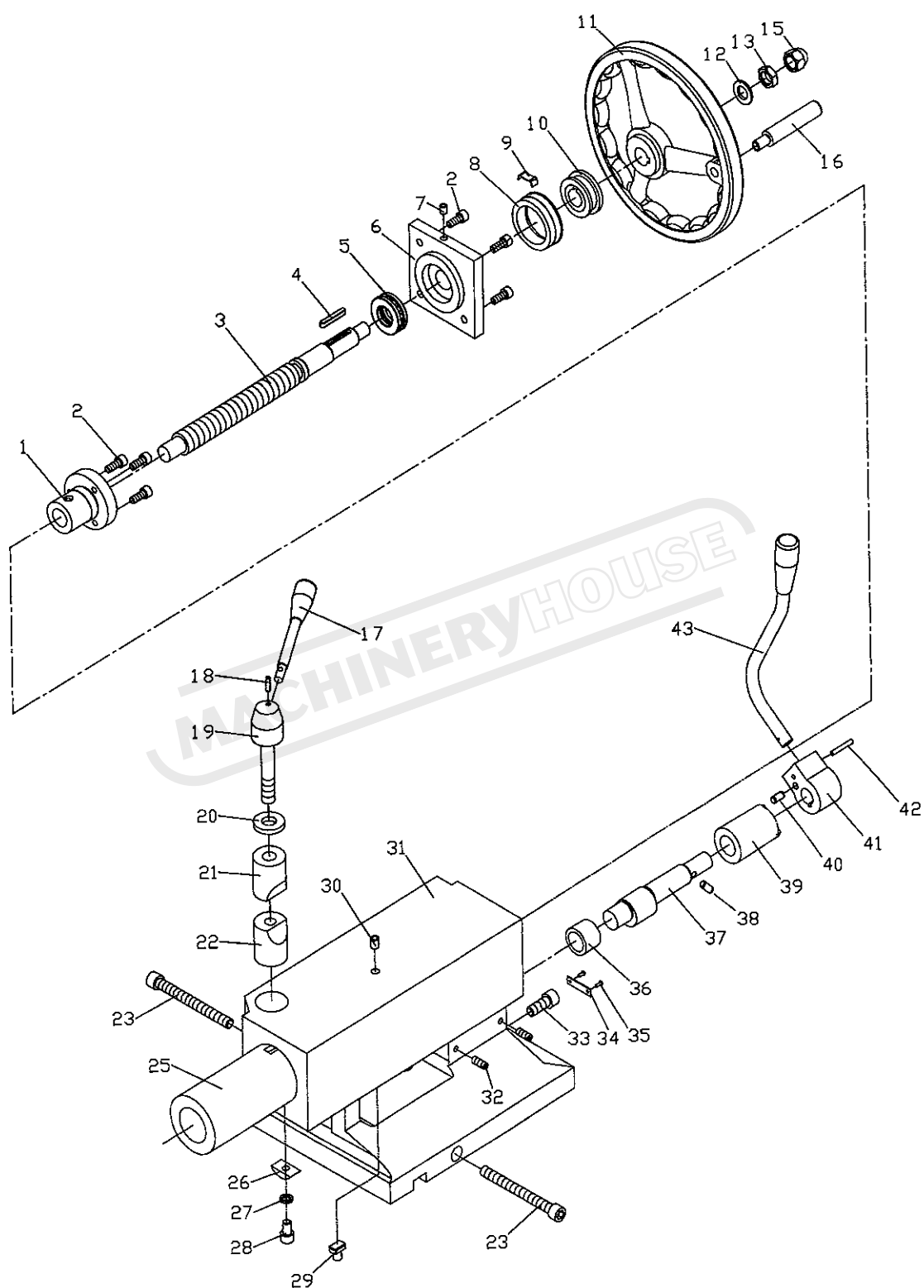
Apron Assembly III



Tailstock Assembly I

Index	Part			
No.	No.	Description	Size	Qty.
1	GH1640ZX-03105	Nut		1
2	GB70	Hex Socket Cap Screw	M8x20	7
3	GH1840ZX-03710	Lead Screw		1
4	GB1096	Plain Key	6x40	1
5	51205	Thrust Bearing	25x47x15	1
6	C6250B-03105	Back Cover		1
7	GB1155	Oil Cup	8	2
8	GH1640ZX-03708G	Dial		1
9	C6132-03711	Spring Leaf		1
10	1440R-03706	Sleeve		1
11	C6140W-03107	Handlewheel		1
12	GB97	Flat Washer	16	1
13	GB6172	Hex Flat Nut	M16	1
15	GB923	Nut	M16	1
16	C6140W-03705	Lever		1
17	C6140W-03710	Lever		1
18	GB117	Straight Pin	5x20	1
19	C6140W-03715	Lever Support		1
20	C6140W-03716	Washer		1
21	C6140W-03717	Clamping Block		1
22	C6140W-03718	Clamping Block		1
23	GB70	Hex Socket Cap Screw	M12x120	2
25	C6140W-03701	Center Sleeve		1
26	C6140W-03702	Clampingblock		1
27	GB93	Spring Washer	10	1
28	GB70	Hex Socket Cap Screw	M10x16	1
29	1440R-03702	Positioning Block		1
30	GB1155	Oil Cup	10	1
31	C6266C-03101	Tailstock Casting		1
32	GB75	Slotted Cylindrical End Set Screw	M8x25	2
33	GB70	Hex Socket Cap Screw	M12x25	1
34	C6132-03303	Panel		1
35	GB867	Half Circle Rivet	3x8	4
36	C6140W-03103	Sleeve		1
37	C6250B-03704	Eccentric Shaft		1
38	GB117	Taper Pin	6x45	1
39	C6250B-03103	Sleeve		1
40	GB119	Pin	8x15	1
41	C6250B-03104	Lever Sleeve		1
42	GB117	Taper Pin	5x40	1
43	C6250B-03705	Lock Handle		1

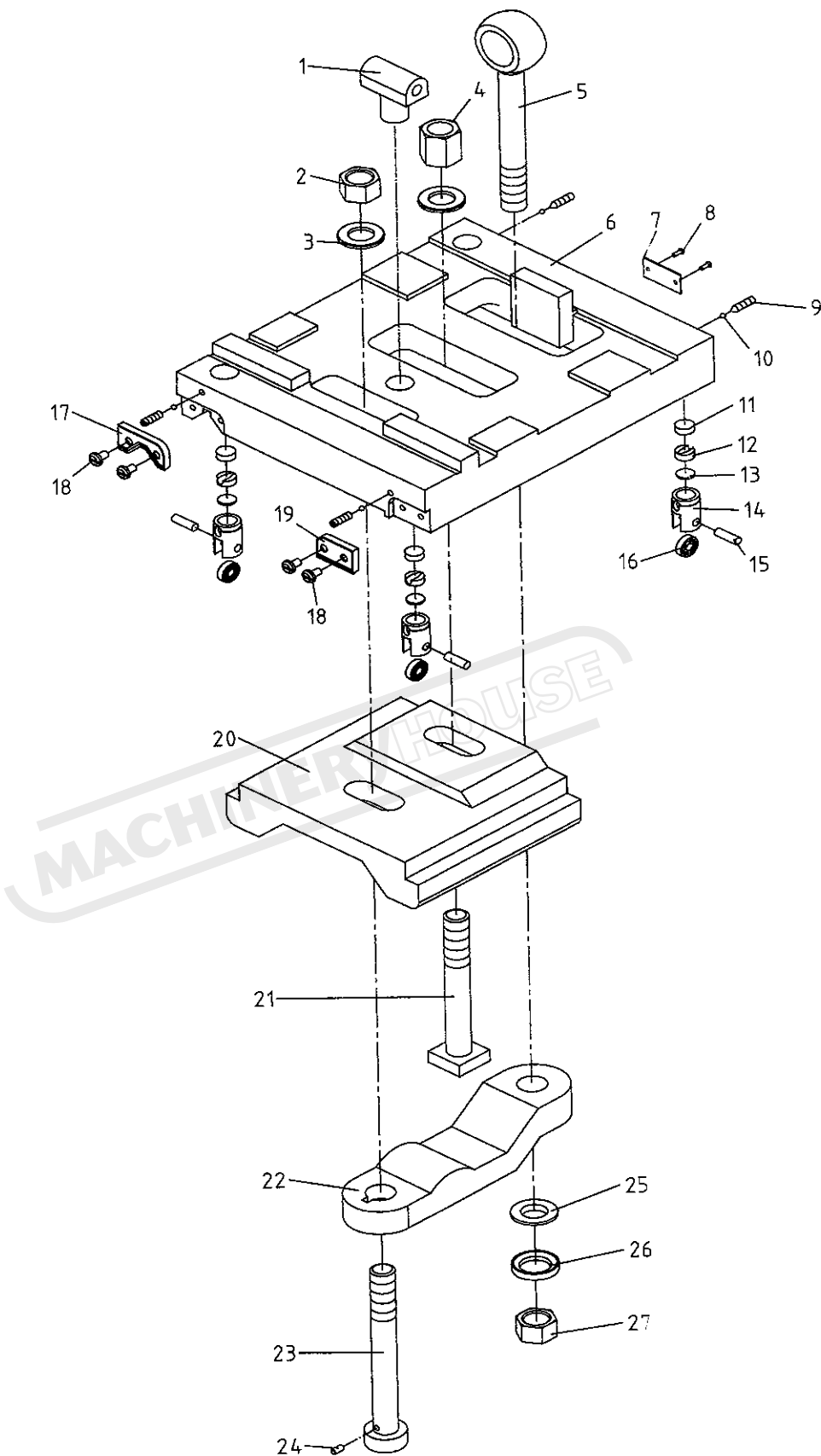
Tailstock Assembly I



Tailstock Assembly II

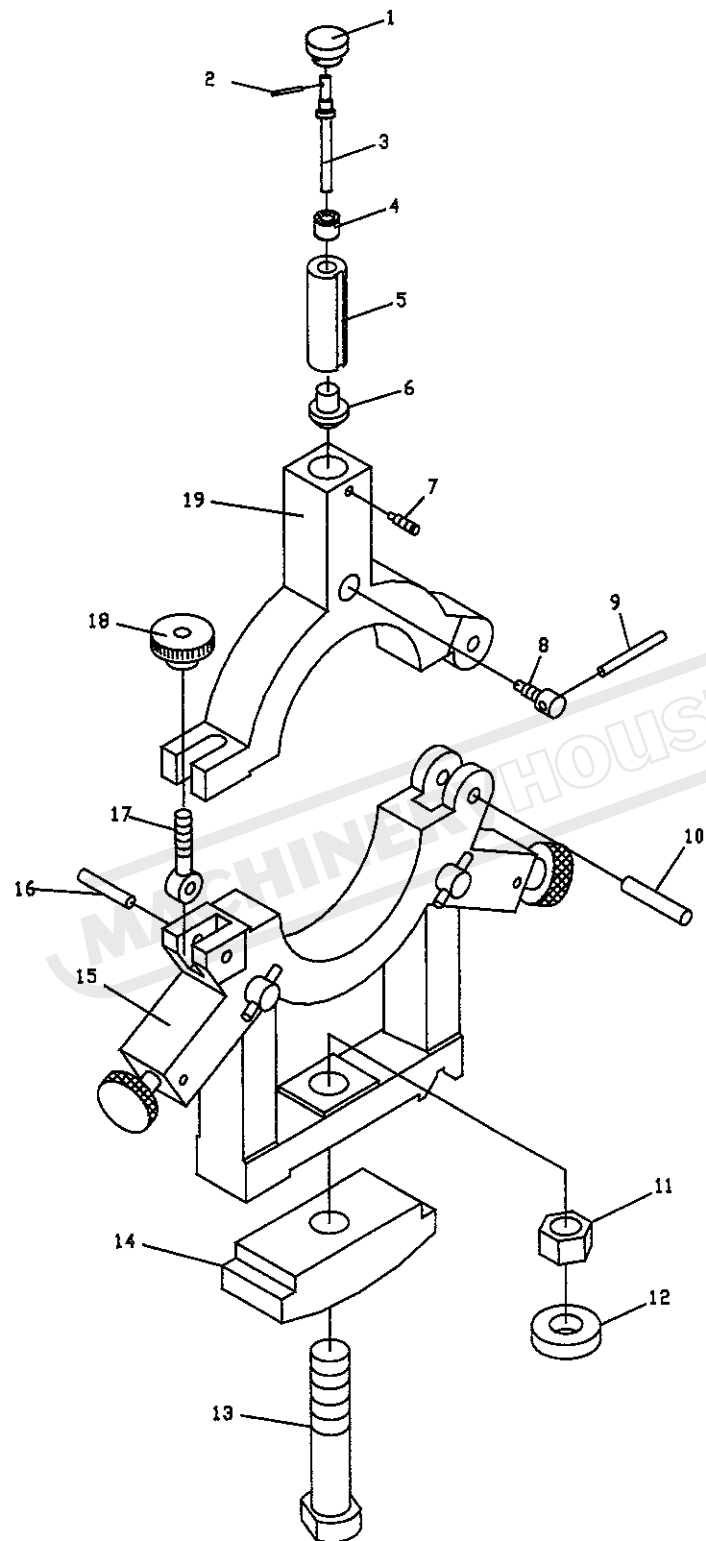
Index	Part			
No.	No.	Description	Size	Qty.
1	C6140W-03110	Nut		1
2	GB6171	Hex Nut	M20x1.5	1
3	GB97	Slotted Pan Head Screw	20	1
4	GB56	Hex Thick Nut	M20	1
5	C6266C-03703	Pulling Rod		1
6	C6266C-03102	Sliding Base		1
7	C6132-03302	Sign Plate		1
8	GB867	Half Circle Rivet	3x8	4
9	GB75	Slotted Cylindrical End Set Screw	M6x16	4
10	GB308	Steel Ball	Φ 4	4
11	C6140W-03711	Washer		4
12	C6140W-03712	Clamping Block		4
13	C6140W-03501	Spring Washer		4
14	C6140W-03713	Bearing Support		4
15	C6140W-03714	Small Axle		4
16	607	Ball Bearing	7x19x6	4
17	C6140W-03502	Wipe Plate		1
18	GB67	Slotted Pan Head Screw	M6x10	4
19	C6140W-03503	Wipe Plate		1
20	C6140W-03104	Clamping Block		1
21	C6266C-03702	Screw		1
22	C6140W-03111	Clamping Block		1
23	C6266C-03701	Screw		1
24	GB119	Straight Pin	5x10	1
25	GB849	Ball Washer	20	1
26	GB850	Taper Washer	20	1
27	GB6173	Hex Nut	M20x1.5	1

Tailstock Assembly II



Steady Rest Assembly

Index	Part			
No.	No.	Description	Size	Qty.
1	GB4141.29	A Type Asterisk Handle	Φ 12	3
2	GB117	Pin	4X25	3
3	C6140W-10702	Screw		1
4	C6140W-10703	Nut		1
5	C6140W-10705	Sliding Sleeve		1
6	C6140W-10301	Block		1
7	GB75	Slotted Set Screw	M10X16	3
8	C6140W-10704	Set Screw		3
9	GB119	Pin	A6X45	3
10	GB119	Pin	A8X55	3
11	GB56	Hex Extra Thick Nut	M20	1
12	GB97.2	Washer	20	1
13	C6140W-10706	Square Head Bolt		1
14	C6140W-10104	Clamping Plate		1
15	C6266C-10A101	Steady Rest Lower Body		1
16	GB119	Pin	A16X55	1
17	C6140W-10701	Screw		1
18	GB4141.29	B Type Asterisk Handle	M12	1
19	C6140W-10102	Steady Rest Upper Body		1

Steady Rest Assembly

Follow Rest Assembly

Index	Part			
No.	No.	Description	Size	Qty.
1	GB4141.29	A Type Asterisk Handle	Φ 12	1
2	GB117	Pin	4X25	1
3	C6266-10705	Screw		1
4	C6266C-10704	Nut		1
5	C6266C-10706	Sliding Sleeve		1
6	C6266C-10302	Block		1
7	GB75	Slotted Set Screw	M10X16	2
8	C6140W-10704	Set Screw		2
9	GB119	Pin	A6X45	2
10	GB70	Hex Socket Cap Screw	M16X55	2
11	C6266C-10103	Follow Rest Casting		1

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Follow Rest Assembly

