



Open Back & Inclinal Press

JB23-25

Operation Manual

Unpacking

The Open Back & Inclined Press is shipped from the manufacture in a carefully packed ply-wood case. Thoroughly inspect the product upon opening the package. After unpacking the unit, carefully inspect for any damage that may have occurred during transit.

How to liftup the punch press from pallet.



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<p style="text-align: center;">Safety operation considerations</p> <ol style="list-style-type: none"> 1. Before operation, please read the instruction manual carefully. 2. The user should set up the circuit breaker as the power converter for machine installation and maintenance and repair. Switch on power of the machine , please use the point dynamic method to start the motor. Check the fly-wheel whether it conforms the standards, if not, must change phase sequence in time, or it will damage the parts of clutch because of reverse operation. 3. To ensure the personal safety, please use the function of manual operation in advance .The safety distance from the button of manual operation to the working dangerous zone is 60cm .The dangerous zone can't be sortened by person, otherwise it may result in an accident. Noting: The dangerous zone refers to the vertical projection range of the stamp die ,after the press slider be set up the punching die (or the puncher pin) 4. When the machine is working, prohibited the hands and fingers and any part of body stretching into the working zone of slider. It is strictly prohibited taking or putting artifacts by hands. Must use hand tools ,which is conformed to the standards. 5. The security performance of the press conforms to all requirements of "GB17120-1997 "forging machinery safety technical conditions" and "JB3350-1993 "mechanical press safety technical requirements". An accident can not be occurred under normal operation, but if the electrical components is aging, damaged or mechanical parts' fatigue defects can cause press stroke happens when continuous stroke in a single work. When any part of body of the operator stretched into the working zone of slider, must be sure all moving parts in a safe state, in order to avoid accidents. 6. The factory should be according to GB/T8176-1997 general principles for the stamping plant safety production, GB13887-92 "safety procedures with cold stamping and AQ7001-2007" mechanical press safety requirements" and in combination with the company specific situation for workshop making safety operation rules. Workers must strictly abide by the safety operation rules . 7. Factories should provide three to six months of training for the new stamping workers, inspection qualified rear can mount guard operation. Workers should be trained safety education and safety training at least once a year.. 8. Before working, you should carefully check whether Location arrangement is in order, and there are foreign matter in working area ,the status of the machine tools and machine ,and so on, In confirmed rear can work or start the machine. 9. Before starting work, machine tool should be idle run for 1-3 minutes, it is forbidden when the machine is faulted. 10. Operating the press is a simple, repetitive, boring work, the operator is easy to appear agitated mood , tired. for habitual action. Stamping workers do not operate the machine under the status of irritability, fatigue. Stamping workers per shift working shall not exceed 4 hours . 11. The die, machine tool repair, to install and require downtime to rule out all kinds of failure, must be hung beside the machine start switch in notice board. Warning signs of color, font must be marked is easy to see. When necessary, they should monitor switch. 12. Regular inspection of press must be held by a special inspection personnel. Cannot be in when the machine is for maintenance and cleaning work, Under the condition of the protective device is removed, it is not allowed to start. 13. The operators should always pay attention to the working state of the machine tool, found abnormal sound and vibration, have to stop and check the machine in time . 		

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Parts of easy to damage diagram

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I.Using of press

The press is the general press sheet metal stamping. Apply to punching, blanking, bending, flanging, light stretching and so on the many kinds of cold working.

Presses body can be inclinable for punching finished or scrap from the die slide easy down. If installing of the automatic feed mechanism, the work can be carried out semi-automatic punching.

According to pressure curve selecting press.when stamping,can't over the range of pressure curve.

Finger 1

Name	Pressure curve																						
250KN Open-double column inclinable press	<div data-bbox="319 817 383 862">PKN</div> <div data-bbox="343 907 375 1254"> </div> <div data-bbox="438 918 1212 1646"> <table border="1"> <caption>Pressure Curve Data (Approximate)</caption> <thead> <tr> <th>Angle α (°)</th> <th>Pressure PKN</th> </tr> </thead> <tbody> <tr><td>0</td><td>260</td></tr> <tr><td>10</td><td>250</td></tr> <tr><td>20</td><td>235</td></tr> <tr><td>30</td><td>215</td></tr> <tr><td>40</td><td>195</td></tr> <tr><td>50</td><td>175</td></tr> <tr><td>60</td><td>155</td></tr> <tr><td>70</td><td>140</td></tr> <tr><td>80</td><td>130</td></tr> <tr><td>90</td><td>125</td></tr> </tbody> </table> </div>	Angle α (°)	Pressure PKN	0	260	10	250	20	235	30	215	40	195	50	175	60	155	70	140	80	130	90	125
Angle α (°)	Pressure PKN																						
0	260																						
10	250																						
20	235																						
30	215																						
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50	175																						
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70	140																						
80	130																						
90	125																						

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II. Technical specification

Main technical Parameter	Unit	Specification
Nominal force	kn	250
Nominal travel	mm	2.5
Slide stroke	mm	70
Number of stroke	times/min	65
Max. die set height	mm	200
Die height adjusting	mm	40
Distance from slide block center to the frame	mm	200
Table size(F\$B*L\$R)	mm	320×500
Dimension of working table hole	mm	Φ200
Worktable thickness	mm	50
Slide area(F\$B*L\$R)	mm	170×230
Shank hole (D*H)	mm	Φ40×60
Distance between columns of body	mm	240
Motor(type*power)	kw	Y100L2-4 (3KW)
Max.inclinable angle of body	(°)	20°
Overall dimension(F\$B*L\$R*H)	mm	1120×860×2200
Weight	Kg	1750

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III. Structure and the transmission device of press

The press is crank rod structure. Mainly by the body, clutch, operation and brakes and other components,. shown in Figure 1.

Flywheel driven by the motor flywheel, crankshaft driven by the clutch, leaving the slider up and down movement.

Shown in Figure 2.

IV. Electrical device of press

The press adopts three-phase asynchronous motor, mainline route controlled by automatic air circuit breakers .There are thermal trip and electromagnetic tripping device in circuit breakers to prevent motor overload or short circuit. When the motor is overloaded, the heat release will automatically cut off the power supply, the motor is stopped, then the operator should stop working, and asked the staff analysis of cause of the overload.

When eliminate the overload factors, lifting down "together" button, turn on the power. The motor starts. If you want the motor to stop working simply flip down "points" button. Electrical schematic diagram shown in Figure 3.

V. Press lubrication

The press adopts decentralized lubrication ,lubrication parts and lubrication requirements see Figure.

The press regularly lubricates crankshaft, connecting rod, slide, rails, bearing etc.with oil pump .Motor shaft, drive shaft, roller bearings and others periodic lubricate by grease gun. In a large gear hole, often injecting clean grease, Inclinable mechanism screw with grease lubrication, a new press at the beginning of the work of fifteen days, particular sufficient lubrication. Should always pay attention to the lubrication of lubrication points, to prevent the friction parts due to lack of sufficient lubrication causing heat bite, causing damage to parts.

Lubricant Oil should adopt Oil Ministry standard provisions SYB1.104-60 40 # -50 # machine oil, lubricating oil is injected clutch using the clutch 30 # machine oil.

Press at the beginning of new work, it should be particularly adequate lubrication. In the press before starting the lubrication points should be fully lubricant to prevent the friction surface due to poor lubrication causing heat bite.

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Lubrication chart

Lubrication parts	Lubrication points	Lubrication oil	Lubrication cycle	Lubrication type
Rail	2	Mechanical oil	4 hours	Manual oil cup drip
Crankshaft bearings	2	Mechanical oil	4 hours	Manual oil cup drip
Connecting rod bearings	1	Mechanical oil	4 hours	Manual oil cup drip
Manipulator shaft seat	2	Mechanical oil	8 hours	Manual filling
Clutch	1	Mechanical oil	8 hours	Manual filling
Camshaft seat	2	Mechanical oil	4 hours	Manual filling
Ball	1	Mechanical oil	8 hours	Manual filling

VI. Press installation

After the press all passing inspection, entire machine packing out factory. Users should be visually inspected after unpacking and according to the packing list integrity check spare parts and accessories.

Before presses installation, anti-rust oil should be clean.

When Installing, using wedge placed press in sound foundation (Figure 4), and applicating level analyzer checks the correctness of installation. After press correction, putting into the bolt, and irrigation cement to the foundation square hole until the cement is completely solidified, and then evenly tighten the foot bolts nuts. Using press must waiting based solidified.

After press installation, you should check the electrical system is wet, the insulation is good and the grounding device is reliable.

Starting the motor, check the rotation direction of the flywheel and the rotational arrow line conformed Finally, by the operating mechanism operating presses and inspecting the smooth of press work.

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VII.Adjustment and starting of the press

Adjusting the press as the order and method described in this article, before starting the press.

1. If punched workpiece or scrap automatically slide down from the worktable by means of its own weight you can use the inclinable mechanism to adjust the required inclinable angle.
2. When debugging the mole, rotating the flywheel up or down.
3. If needing to adjust the slider's position,to change the height of the mold space, firstly you should loosen the scfew of lock sleeve, then turn the screw with a wrench. Adjustment can be red by the scutcheon located on the top left corner of the slider bar.(Drawing 5)
- 4.Adjusting the straight lever ,the pusher action occures at the end of the stroking. Straight lever's position should be adjusted proporly,if not ,when the slider raised up,the machine structure will be damaged.
- 5.After adjusting the mold,the flywheel and the clutch should be disengaged.
- 6.During a single stroke, manipulator rod connected to the indicated round pin of a single stroke.(Drawing 6)
- 7.When adjusting the mold, absolutely prohibiting to start the machine. After adjusting the mold,pressing the automatic air circuit breaker SYNERGY button,the motor will run,otherwise, it will broke manipulator's cam and cause personal injury.
- 8.If the crankshaft in a single stroke,stops over the position of upper dead point, as long as tightening the brake handle (Drawing 7),whereas ,when the crankshaft does not reach the upper dead point,then unscrew the handle,but not too loose,in order to prevent the occurrence severe impact sound.

During operating the press,if the gap between the slider and the guide rail increase for the guide rail's wearing,then needing to adjust the guide rails(adjusting the guide rail screws). If the guide rail wears too much,the guide rail must be re-scrapped,in order to prevent the slider's deflected for the uneven wear, thereby affecting the mold's life.

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VIII.Daily maintenance and security work

(I)Before working

- 1.Checking the lubricant condition of all parts and making all lubricating points got sufficient lubrication oil.
- 2.Checking whether the mold installation is correct and reliable or not.
- 3.Making sure the flywheel and the clutch disengaged ,then starting the motor.
- 4.Paying attention to whether the flywheel rotation direction is the same with the turning remark ,or not. If different, should immediately disconnect the power and re-adjust the power line order.
- 5.Making the press do air travel for several times. Checking the working condition of the brake,clutch and manipulator .

(II)During working

1. Plusing lubricants to the lubrication points in time.
2. Absolutely prohibiting to punch two sheets at the same time.
3. If the press is not working properly(such as slider free falls,the occurrence of abnomal rattle,noise, and glitches on the finished product,etc.)should immediately stop working,and research in time.
4. prohibiting to remove the protective device arbitrarily.

(III) After working

1. Making the flywheel and the clutch disengaged and turning off the power.
2. Wiping clean the press and coating the unpainted surfaces with anti-rust oil.

IX.Accuracy test

When the press leaves factory, according to the accuracy standards of NATIONAL STANDARD ,GBg165-88 (accuracy checking list). After repairing the machine ,must inspect it to ensure the service life and the quality of stamping parts.

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X. Possible faults and eliminating methods

Name	Symptom	Cause	Eliminating methods
Crankshaft	Bearing heating	1.shaft and bearing bush tangled 2. Poor lubrication 3.Too short gap between crankshaft and bearing bush	1. Re-scraping bearing bush 2. Checking lubrication condition and cleaning oil-way 3.Adjusting the gap
Slider	Guide rail heating	1. Too short gap of guide rail 2. Poor lubrication 3. Slider and guide rail tangled,locking mechanism unstuck	1. Loosening guide rail,adjusting the gap 2. Adding to sufficient lubrication 3. Re-scraping bearing bush
Connecting rod	Slider rod automatically loosened ,sound in the slider	1. Round cover plate unstuck 2. Overload fuse is damaged	1. Tightening the cover screw and screw rod pulled by hand to measure the degree of tightness 2.Removing the slider,replacing the fuse.
Clutch	Depressing the pedal,the clutch has no action,and has sever impact	Tension spring of the key handle breaks, the brake is too loose.	Changing the tension spring,tightening the brake
Manipulator	Depressing the pedal,the clutch has no action	Rod's length does not been adjusted well	Adjusting the roa's length
Electrical installation	The motor stops rotating during the operating	Heating power release of the automatic air button falls off	Re-pressing the RUNNING button,makes the motor rotated

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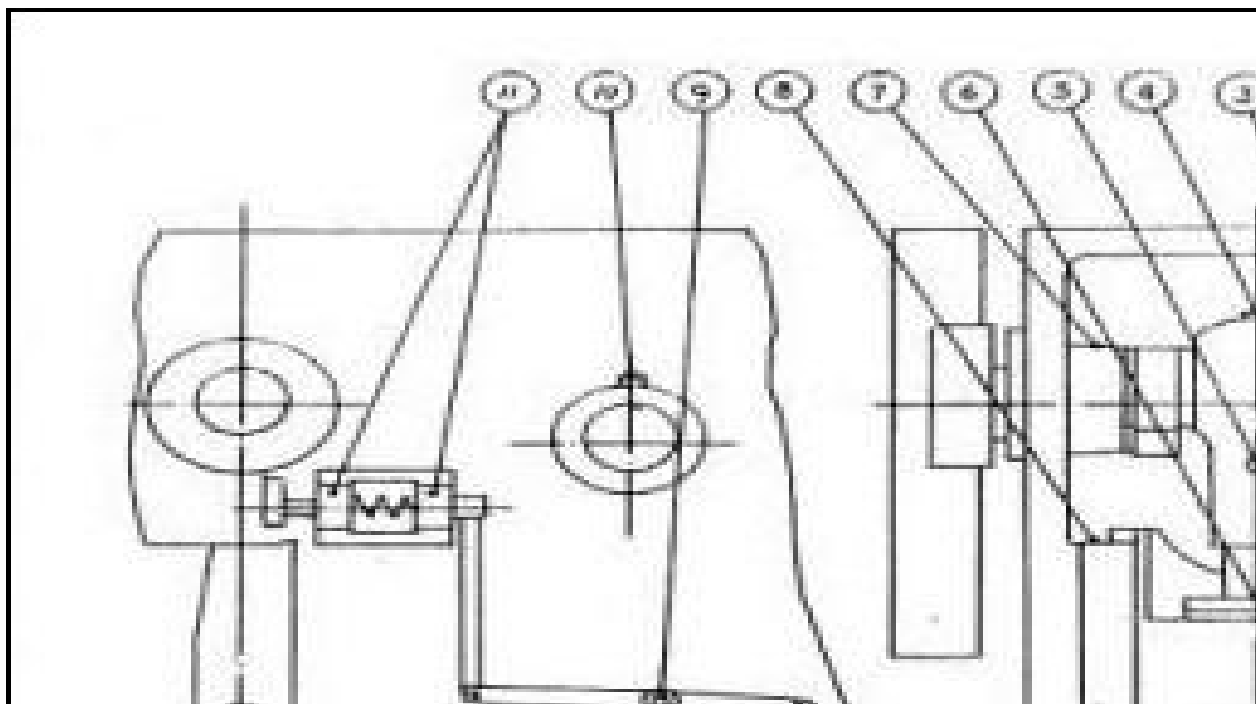
Vi. Accessories and wearing parts

1. wearing parts catalogue

NO.	Drawing NO.	Name	Quantity	Material	Remark
1	3004 3007	Bush	2	ZQSn6 — 3 6	Home-made
2	3010	Turn key	1	ZQSn6 — 3 6	Home-made
3	3019	Crankshaft bearing	2	ZQSn6 — 3 6	Home-made
4	1003	Up bearing	1	ZQSn6 — 3 6	Home-made
5	1004	Under bush	1	ZQSn6 — 3 6	Home-made
6	1016	Insurance sheet	1	45	Random with a piece

2.Basic accessories catalogue.

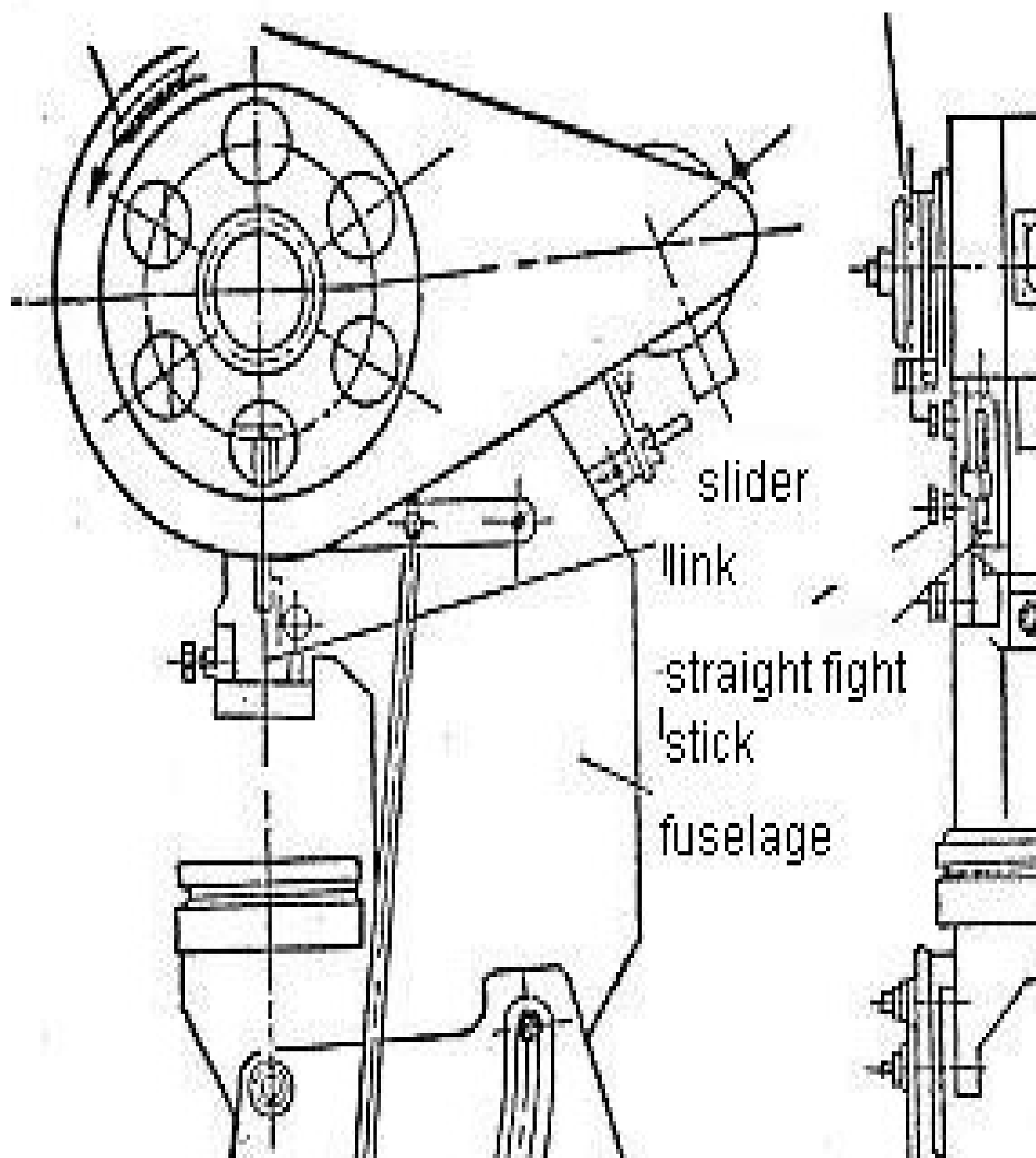
NO.	Drawing NO.	Name	Quantity	Material	Remark
1		Single wrench 42*350	1		

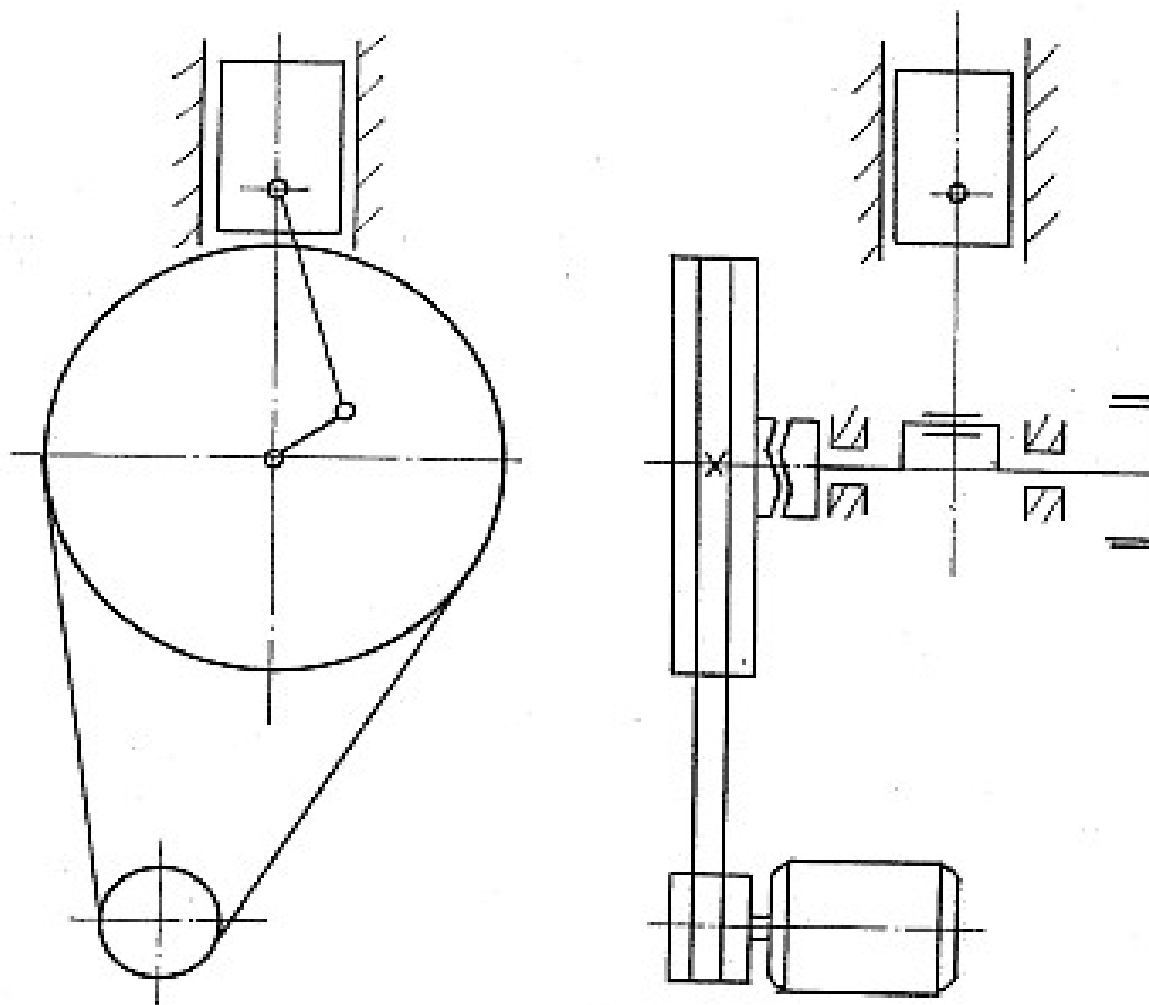


Lubrication point NO.	Lubrication points	Lubrication name	point	Lubrication type	Lubricating oil	Lubrication cycle
1	1	Gear		Hand-painted oil	grease	120 hours
2	1	Crankshaft bearings		Hand pump	Mechanical oil	4 hours
3	1	Right rail		Hand pump	Mechanical oil	4 hours
4	1	Con rod		Hand pump	Mechanical oil	4 hours
5	1	Rod screw		Hand oiling	Mechanical oil	42 hours
6	1	Link ball head		Hand oiling	Mechanical oil	42 hours
7	1	Crankshaft bearings		Hand oiling	Mechanical oil	4 hours
8	1	Left rail		Hand pump	Mechanical oil	4 hours
9	3	Lever pin		Hand oiling	Mechanical oil	8 hours
10	2	Transmission bearing		Hand oiling	Mechanical oil	42 hours
11	2	Shaft seat		Hand oiling	Mechanical oil	8 hours

rotary mark

brake



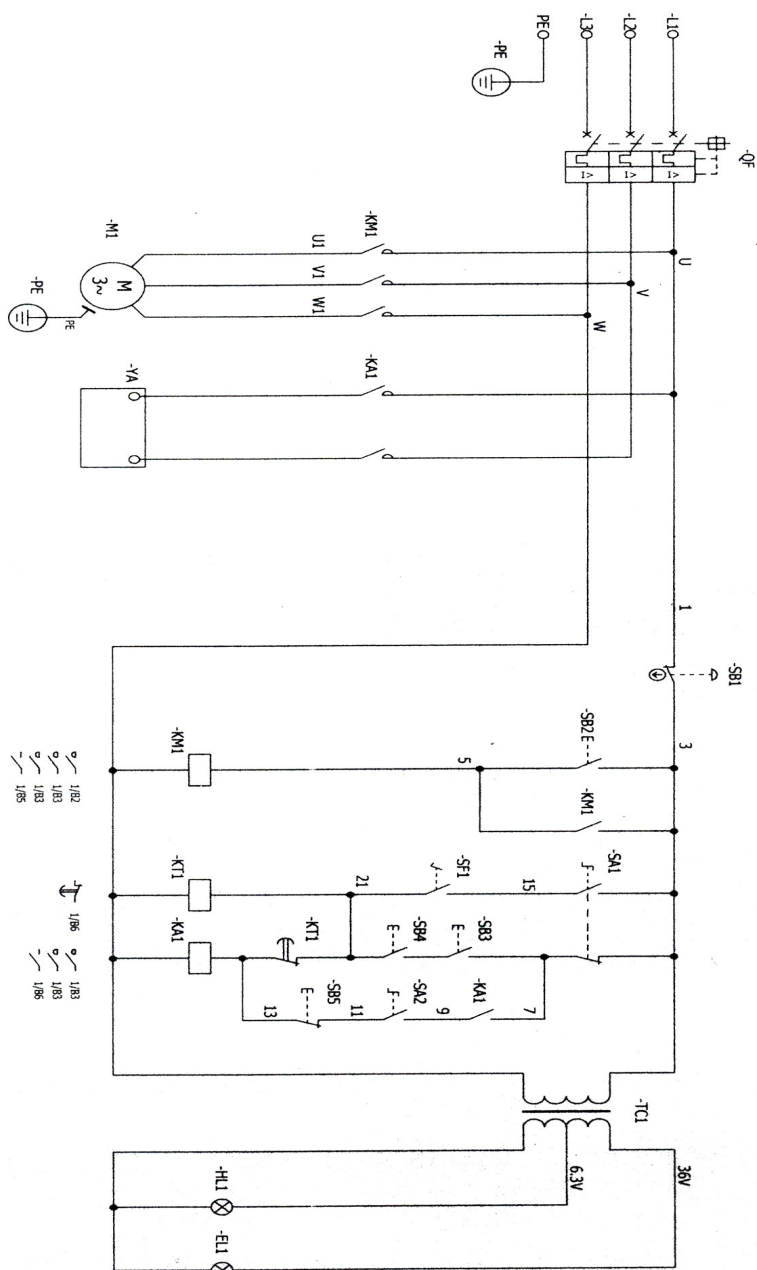


Drawing	Name
Finger 2	Transmission device chart

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1	2	3	4	5	6	7
power supply	air switch	Main motor	Electromagnet	Emergency stop	The main motor starts	continuous Foot Hands transformer working lamp indicator

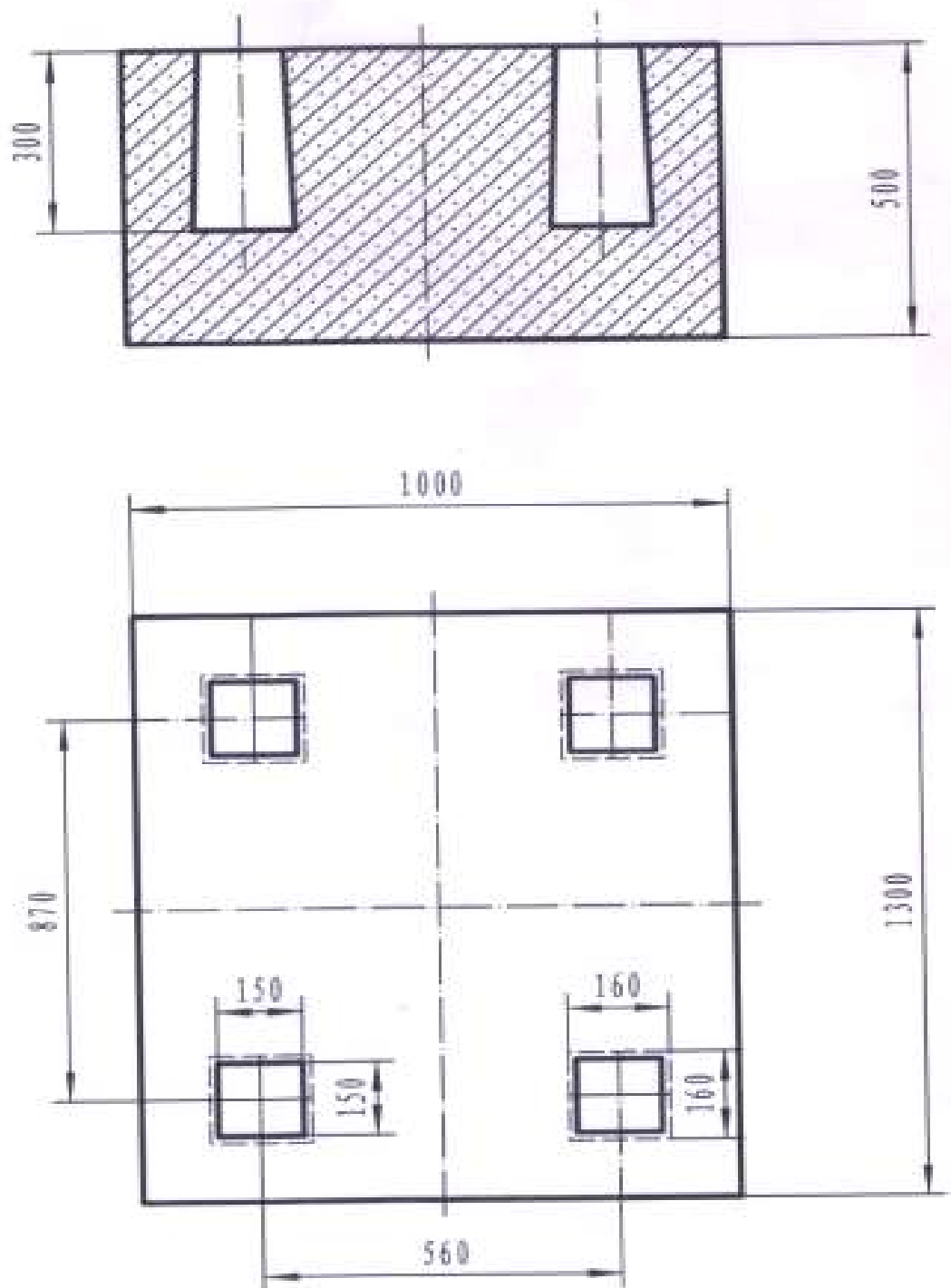


Drawing	Name
Finger 3	Electrical schematics chart

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Electrical components list

Symbol	Name	Type	Quantity	Remark
ZK	Breaker	DZ12-2013	1	
JC	AC contactor	CJ10-10	1	
BK	Control transformer	BK-50	1	
1RD,2RD	Fuse	RLI-15	1	2A
TA	Button	LA19-11	1	Red
QA	Button	LA19-11	1	Green
ZM	Work lights	JC4-1	1	
SD	Indicator	XD-11	1	6.3V
ID	Motor		1	

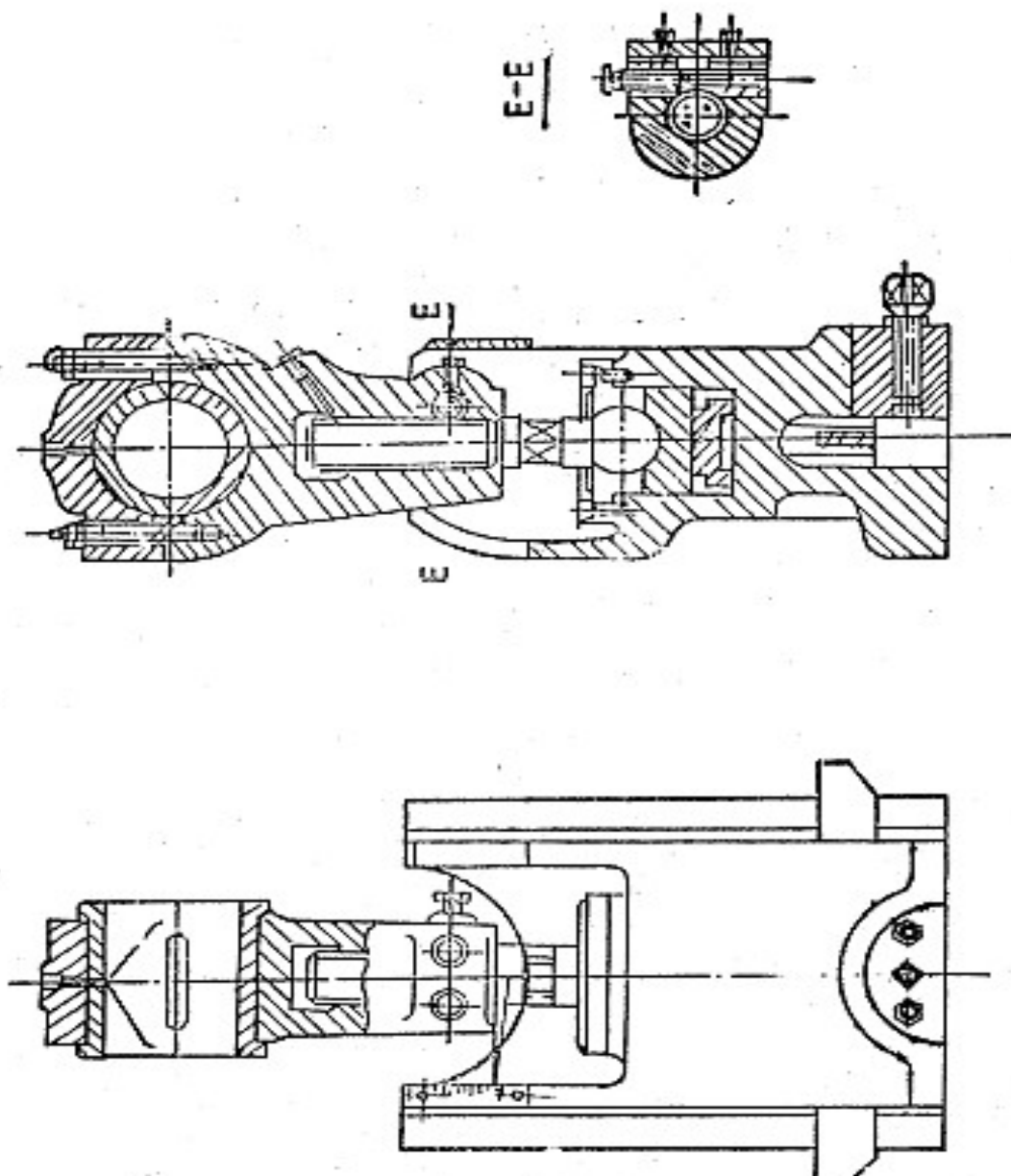


Drawing

Name

Finger 4

Foundation chart

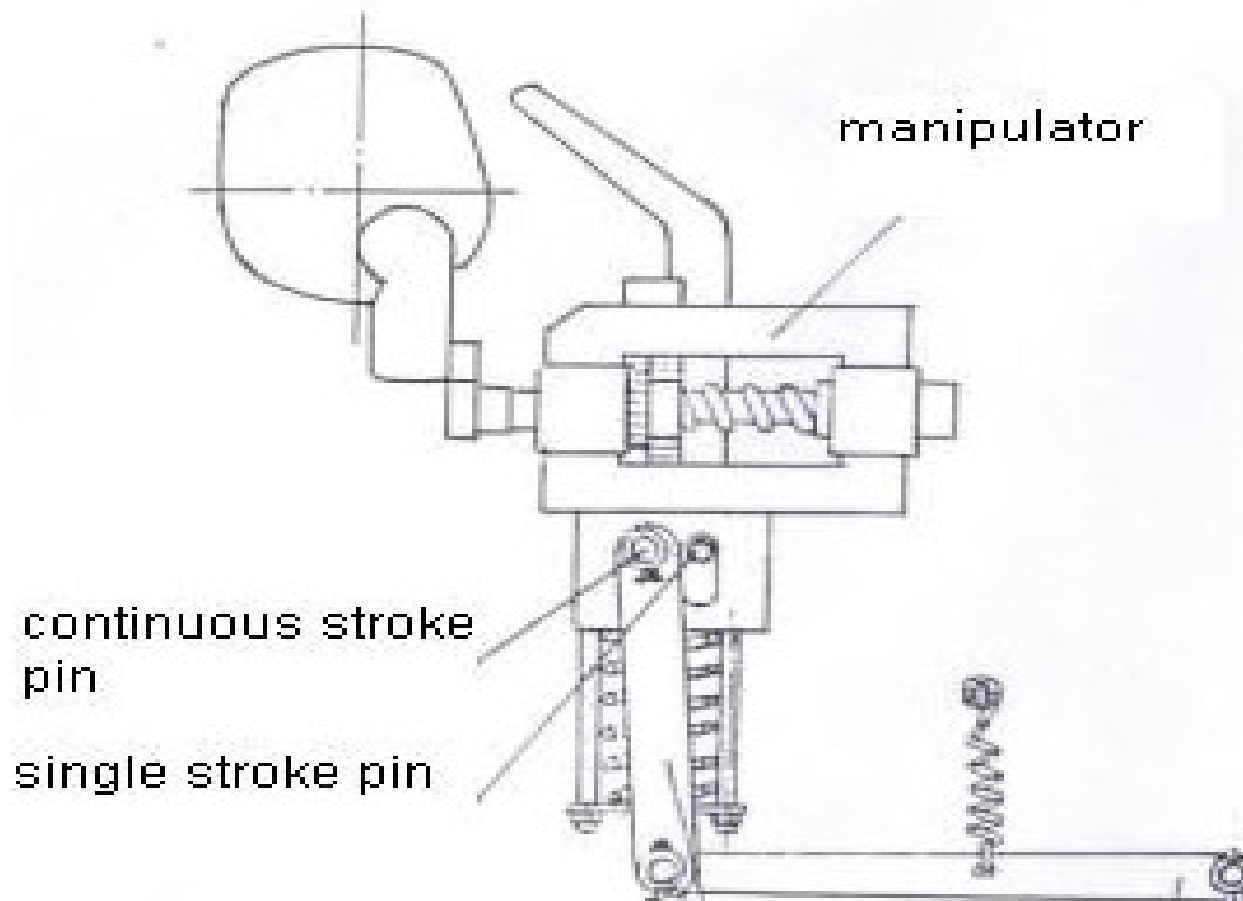


Drawing

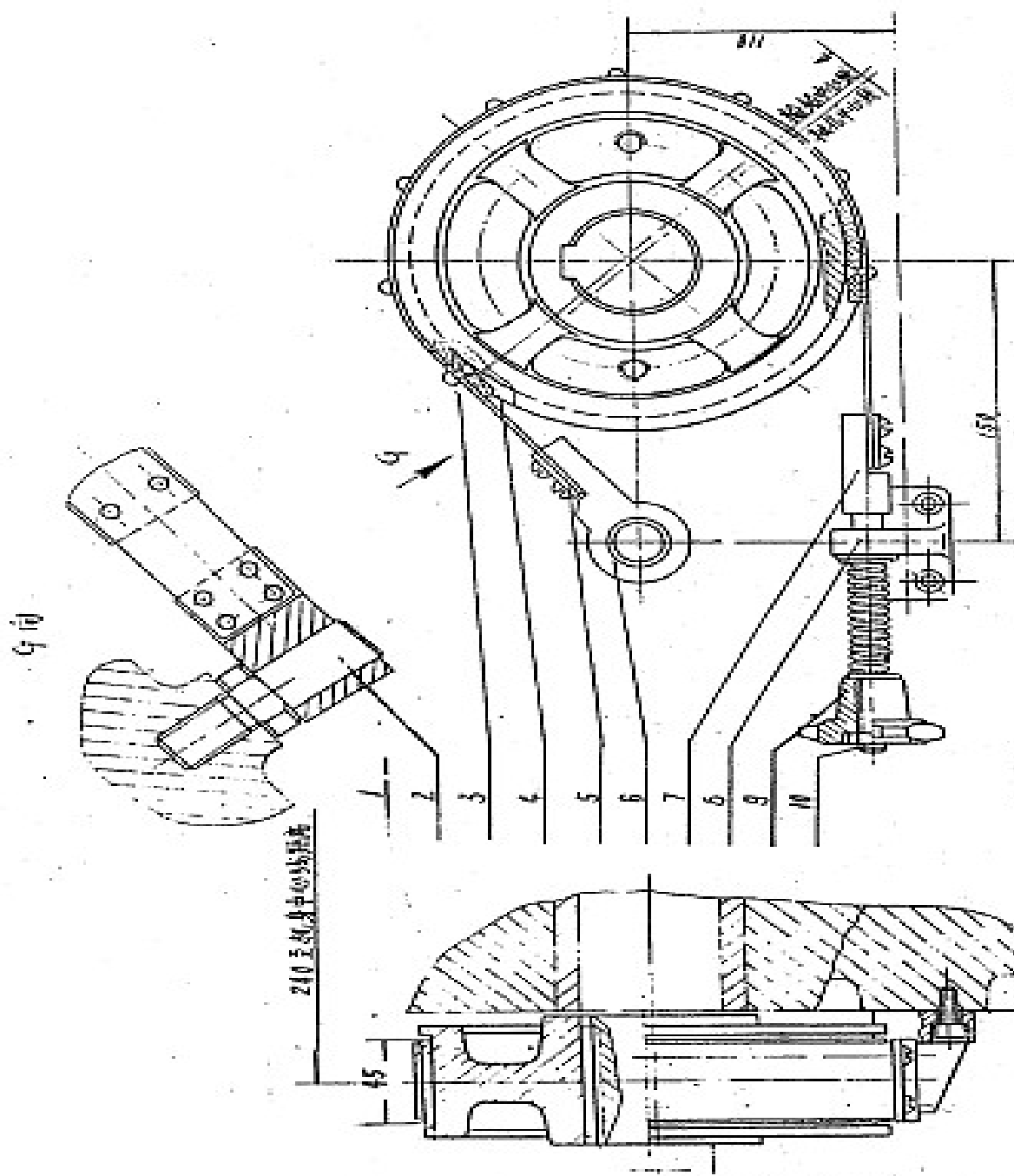
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Finger 5

Slider chart



Drawing	Name
Finger 6	Operator chart

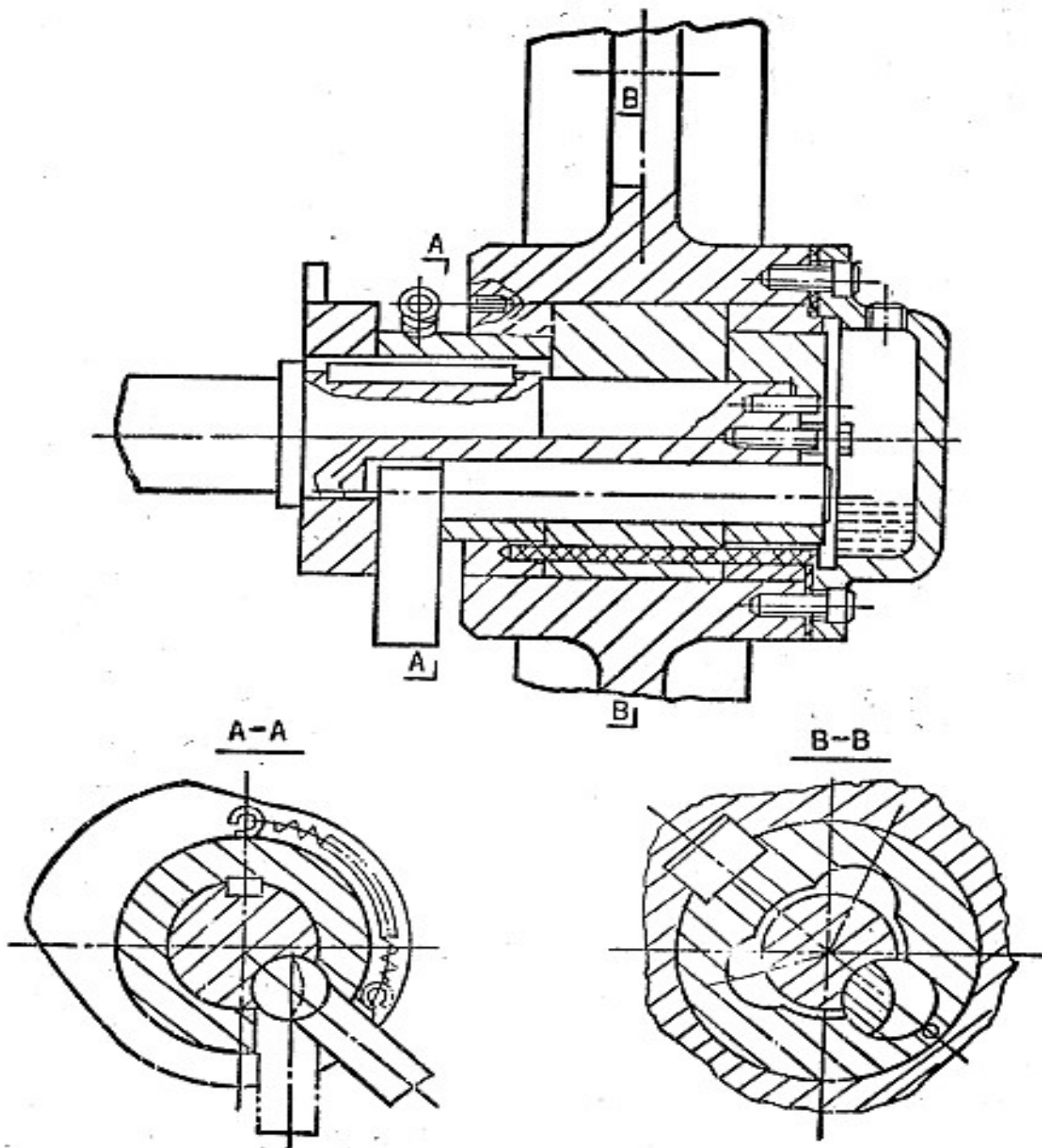


Drawing

Name

Finger 7

Brake chart

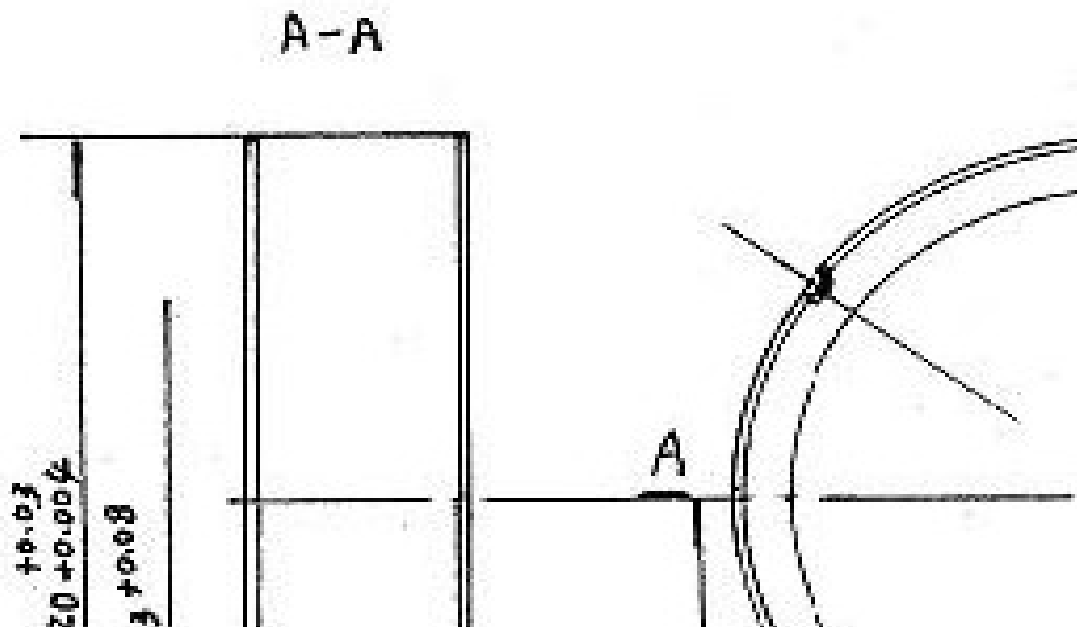


Drawing

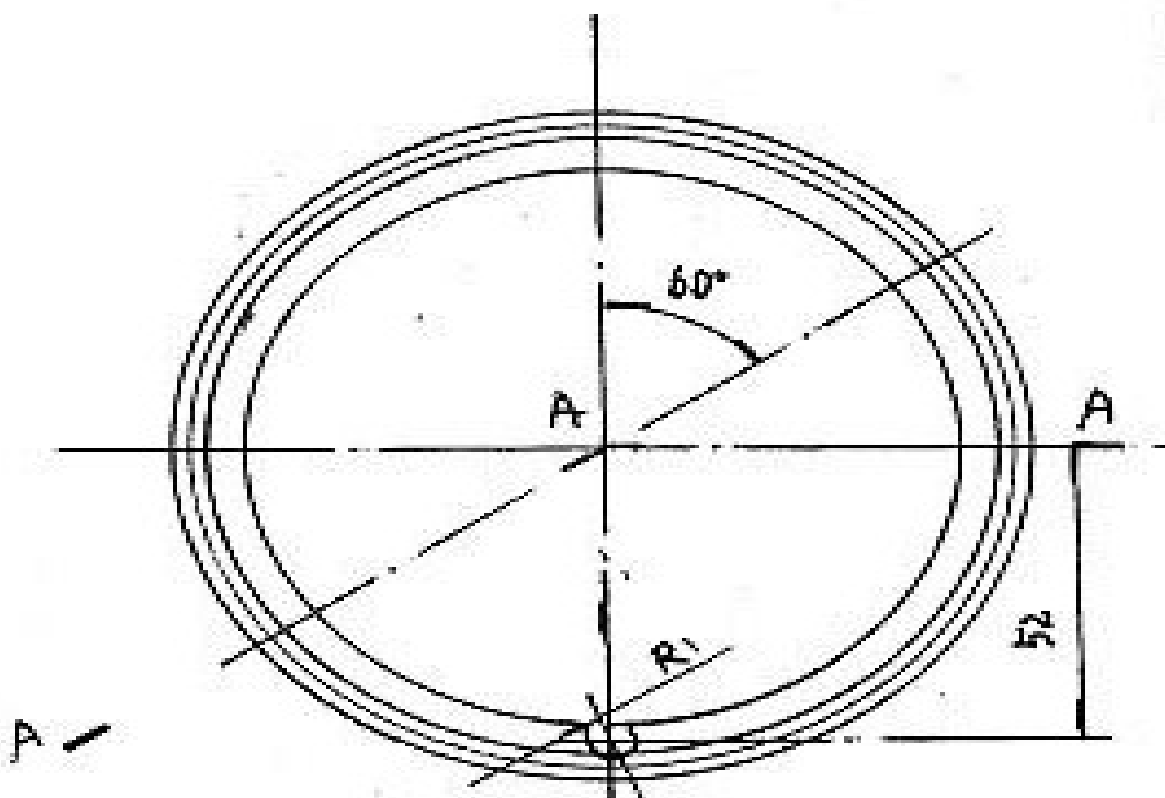
Name

Finger 8

Clutch chart

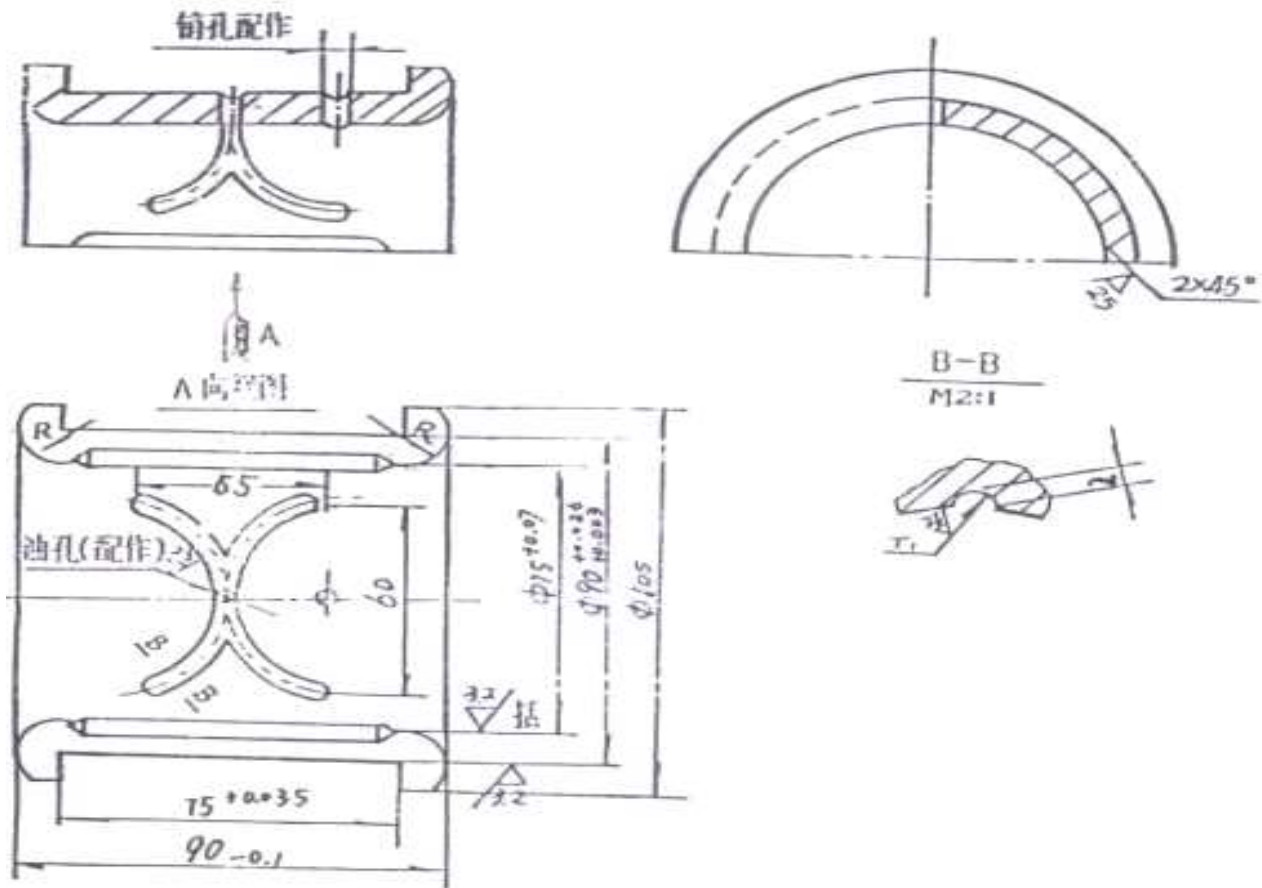


Proportion	Weight	Quantity	Material	Name	NO.
		1	ZQSn6-6-3	Inner liner	3004

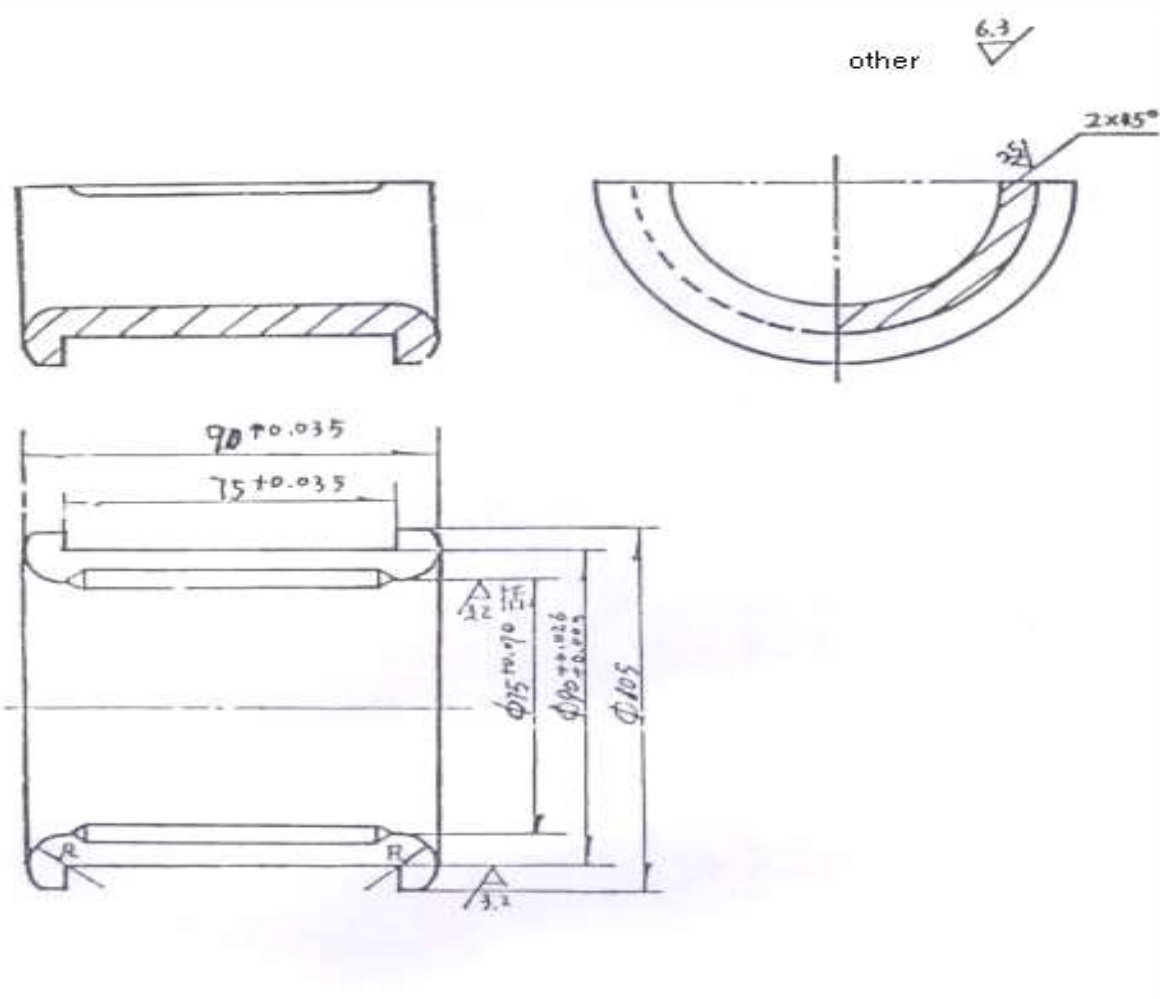


Proportion	Weight	Quantity	Material	Name	NO.
		1	ZQSn6-6-3	Outer liner	3007

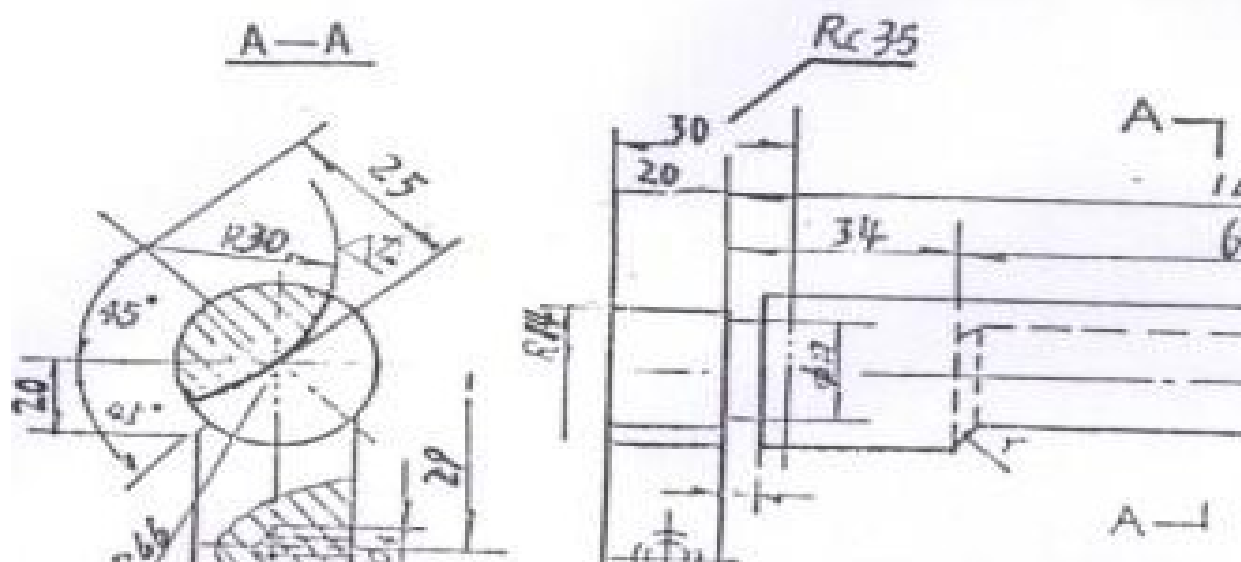
other $\frac{63}{\nabla}$



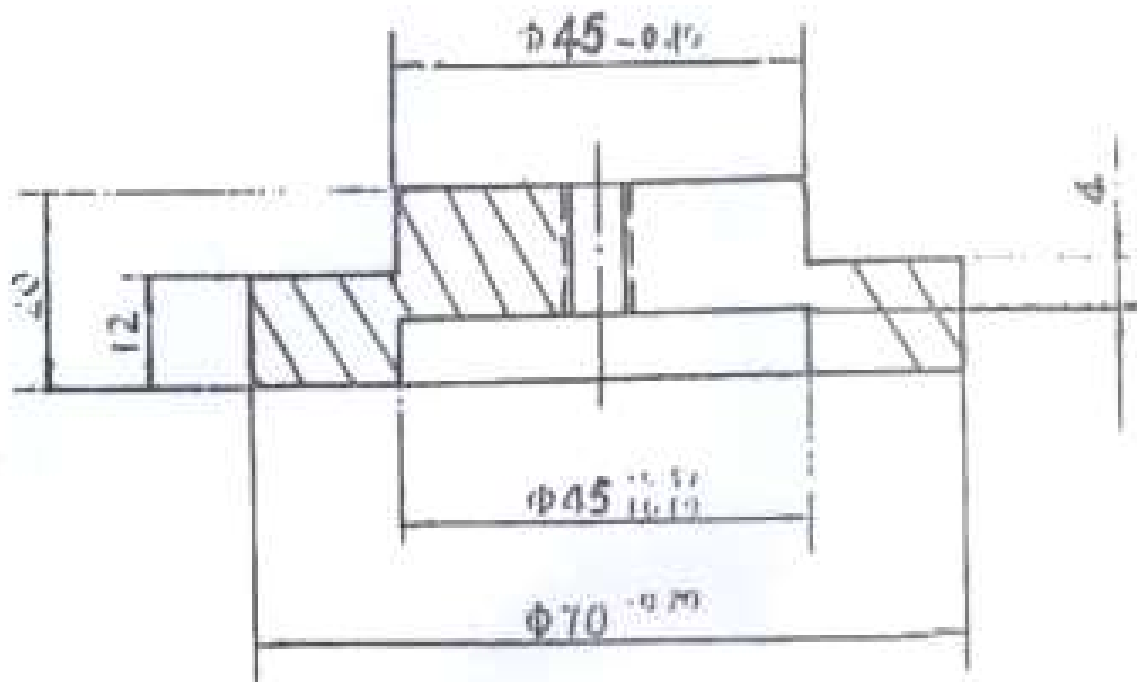
Proportion	Weight	Quantity	Material	Name	NO.
		1	ZQSn6-6-3	Up bearing	1003



Proportion	Weight	Quantity	Material	Name	NO.
		1	ZQSn6-6-3	Under bearing	1004



Proportion	Weight	Quantity	Material	Name	NO.
		1	40cr	Working key	3010



materials tensile strength is
440Mpa

Proportion	Weight	Quantity	Material	Name	NO.
		1	45	Fuse	1016