CAUTION

1. WHEN UNPACKING, LATHE ACCESSORIES SHOULD CORRESPOND TO THE ITEM OF PACKING LIST. IF NOT, PLEASE MAKE CONTACT WITH YOUR DEALER.
2. NEVER USING THE MACHINE WITHOUT FIRST READING THE OPERATING INSTRUCTION AND UNDERSTANDING IT'S REQUIREMENTS OF INSTALLING, OPERATING AND ADJUSTING ETC.
3. IF THE MACHINE OPERATING IS NOT ABLE TO BE SATISFIED IN USUAL OPERATING, MAINTENANCE AND WITHIN THE FIXED TIME, PLEASE MAKE CONTACT WITH YOUR DEALER.

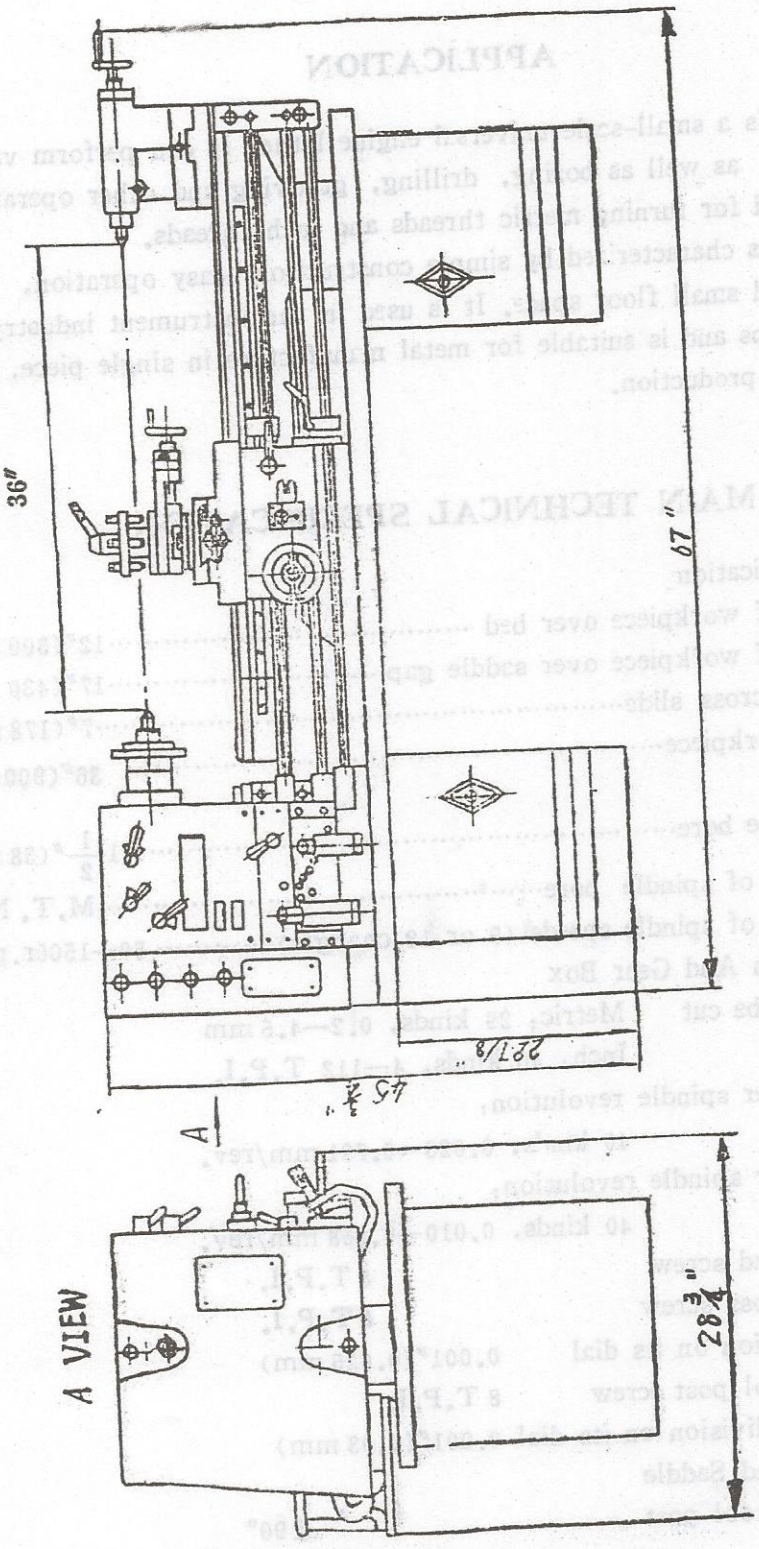


Fig. 1 Outside Diagram

Cross slide travel	$5\frac{1}{8}$"(130 mm)
Saddle travel	30"(760 mm)
5. Tailstock	
Dia. of tailstock quill	$1\frac{1}{4}$"(32 mm)
Taper of tailstock quill bore	M.T.No.3
Max. travel of tailstock quill	4"(100 mm)
6. Motor	
Motor frequency	60 Hz or 50 Hz
Motor horse power	1.5 HP(1.1 kW)
Motor rotational speed	1720 R.P.M. or 1420 R.P.M.
Motor voltage	220 V/380 V 3 phase or 110 V/220 V 1 phase
7. Lathe size and weight	
Overall dimensions(L×W×H)	$67" \times 28\frac{3}{4}" \times 22\frac{7}{8}"$(1700×730×580 mm)
	[With stands: $67" \times 28\frac{3}{4}" \times 45\frac{3}{4}"$(1700×730×1160 mm)]
Net weight	400 kg
Gross weight	480 kg

HOISTING AND INSTALLATION

1. After unpacking, count the lathe accessories according to packing list.

2. Remove the paper which covered the unpainted surfaces and using a non-volatile solvent and brush, thoroughly clean grease which covered surfaces.

3. Sling the machine as shown in the hoisting chart Fig. 2 when it is transporting.

4. The fixed dimension of this machine are shown in the Fig. 3. The machine should be firmly attached to the floor by lathe stands. If you purchases a bench lathe, place the chip tray on top of the bench; mark off the location of the bed mounting holes using a pencil. Then drill the six bolt holes.

5. To maintain accuracy, it is important to keep the bed way leveled. Please use the following procedure: Move the carriage to the headstock end of the bedway. Place the level in a 90 degree position on top of the cross slide. Loosen the mounting bolts and jack up the base stand (or bed) with adjusting washer to center the bubble in the level. Retighten the mounting bolts. Move the carriage to tailstock end of the bed way and repeat that procedure. After doing that please recheck the headstock end and continue the procedure until both ends of

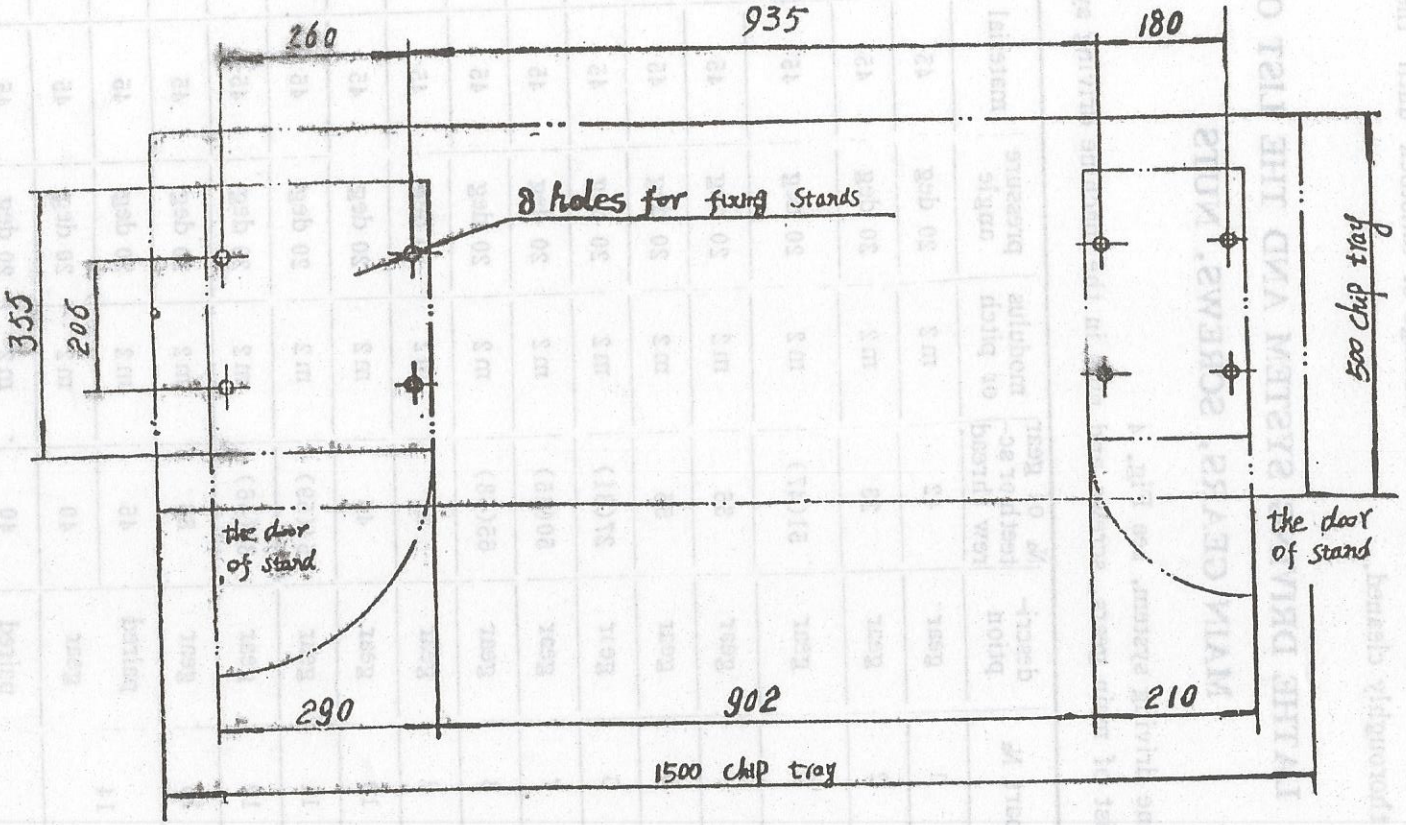


FIG. 3 Fixing dimensions for lathe stand cabinets

续表

parts	part No	description	No of teeth or thread	modulus or pitch	pressure angle	material	notes
gear-box	16	paired	32	m1.75	20 deg	45	
		gear	16	m1.75	20 deg	45	
	17	paired	32	m1.75	20 deg	45	
		gear	16	m1.75	20 deg	45	
	18	gear	16	m1.75	20 deg	45	
	19	gear	32	m1.75	20 deg	45	
	20	gear	16	m1.75	20 deg	45	
	21	gear	16	m1.75	20 deg	45	
	22	gear	18	m1.75	20 deg	45	
	23	gear	19	m1.75	20 deg	45	
	24	gear	20	m1.75	20 deg	45	
	25	gear	22	m1.75	20 deg	45	
	26	gear	24	m1.75	20 deg	45	
	27	gear	26	m1.75	20 deg	45	
	28	gear	28	m1.75	20 deg	45	
	29	gear	24	m1.75	20 deg	45	
	30	gear	24	m1.75	20 deg	45	
	31	gear	15	m1.75	20 deg	45	
	32	gear	16	m1.75	20 deg	45	
	33	gear	32	m1.75	20 deg	45	
	34	gear	24	m1.75	20 deg	45	
apron	35	gear	11	m2	20 deg	45	
	36	rack		m2	20 deg	45	
	37	lead screw	single thread	8 teeth per inch		ZQ 45	
	38	half nuts	single thread			ZQSn 6—6—3	

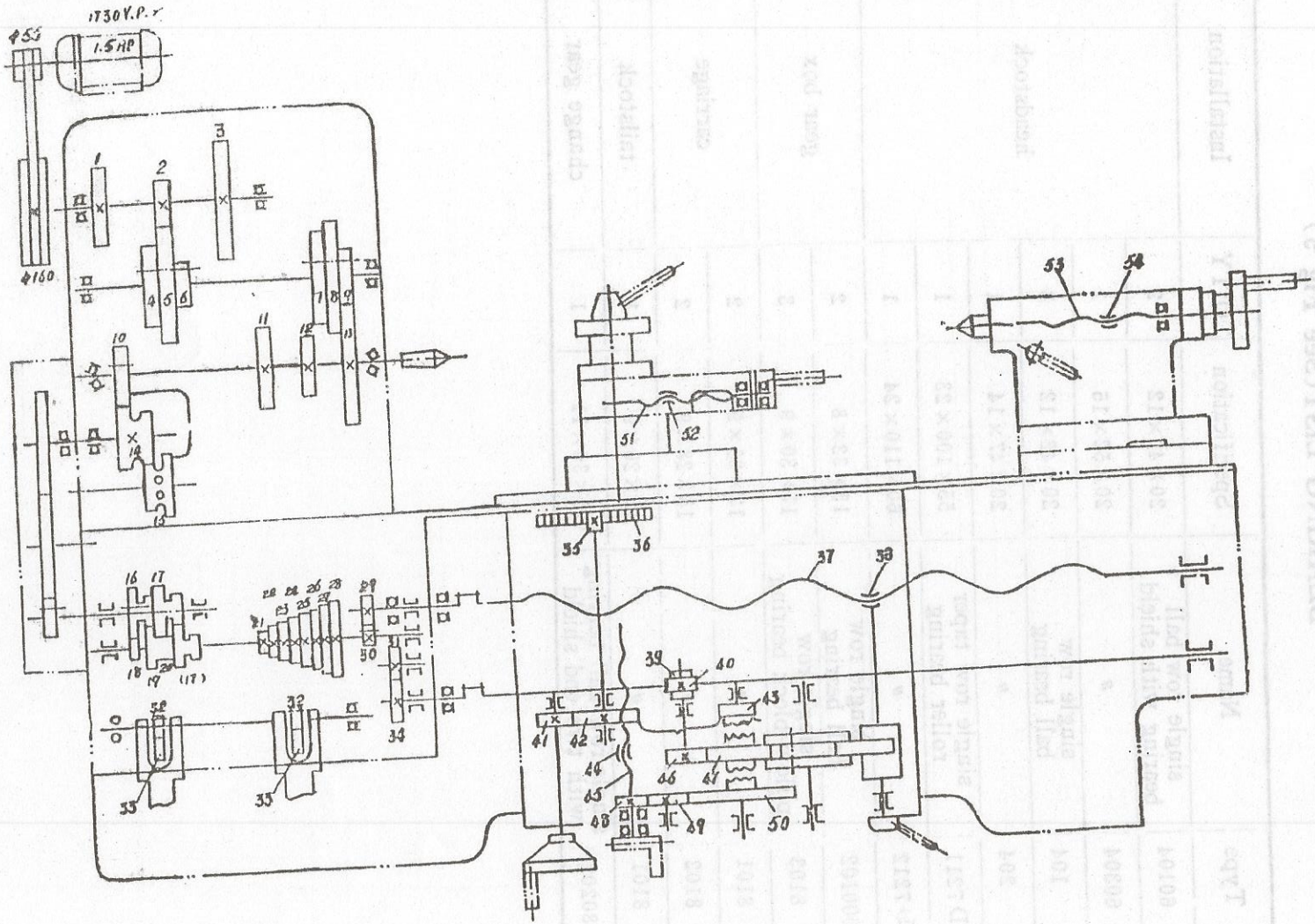


Fig. 4 Driving System

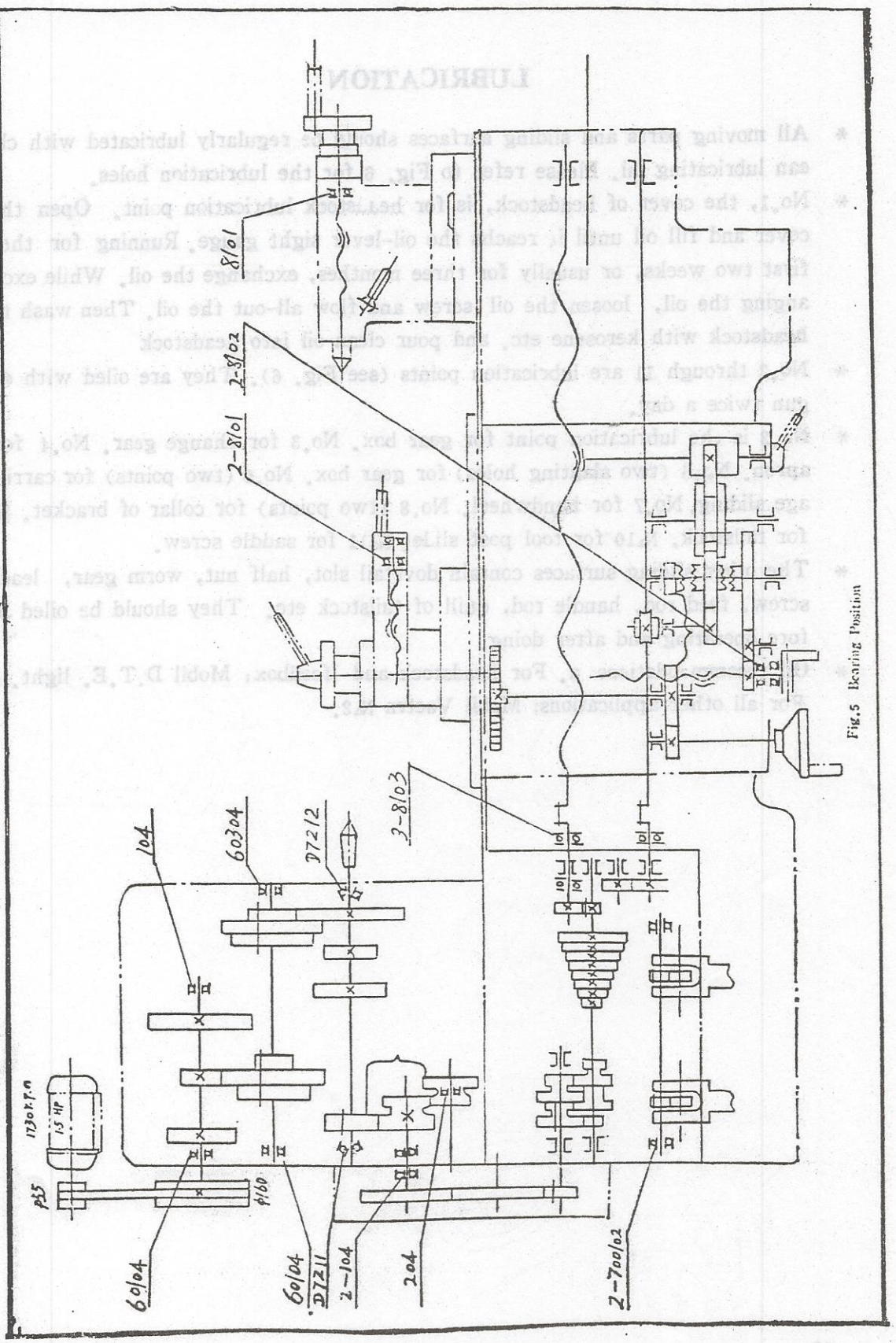


Fig.5 Bearing Position

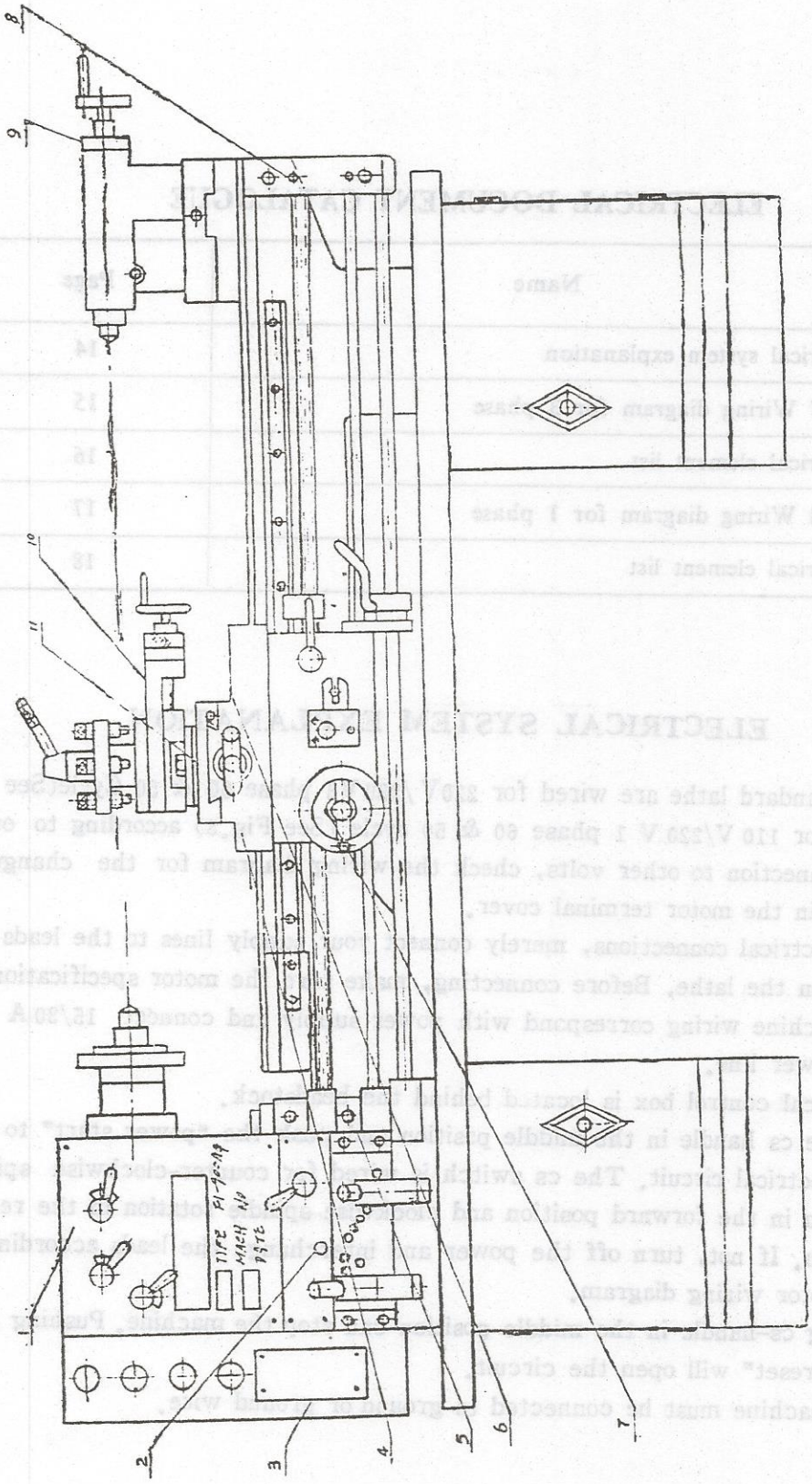


Fig 6 Lubrication Chart

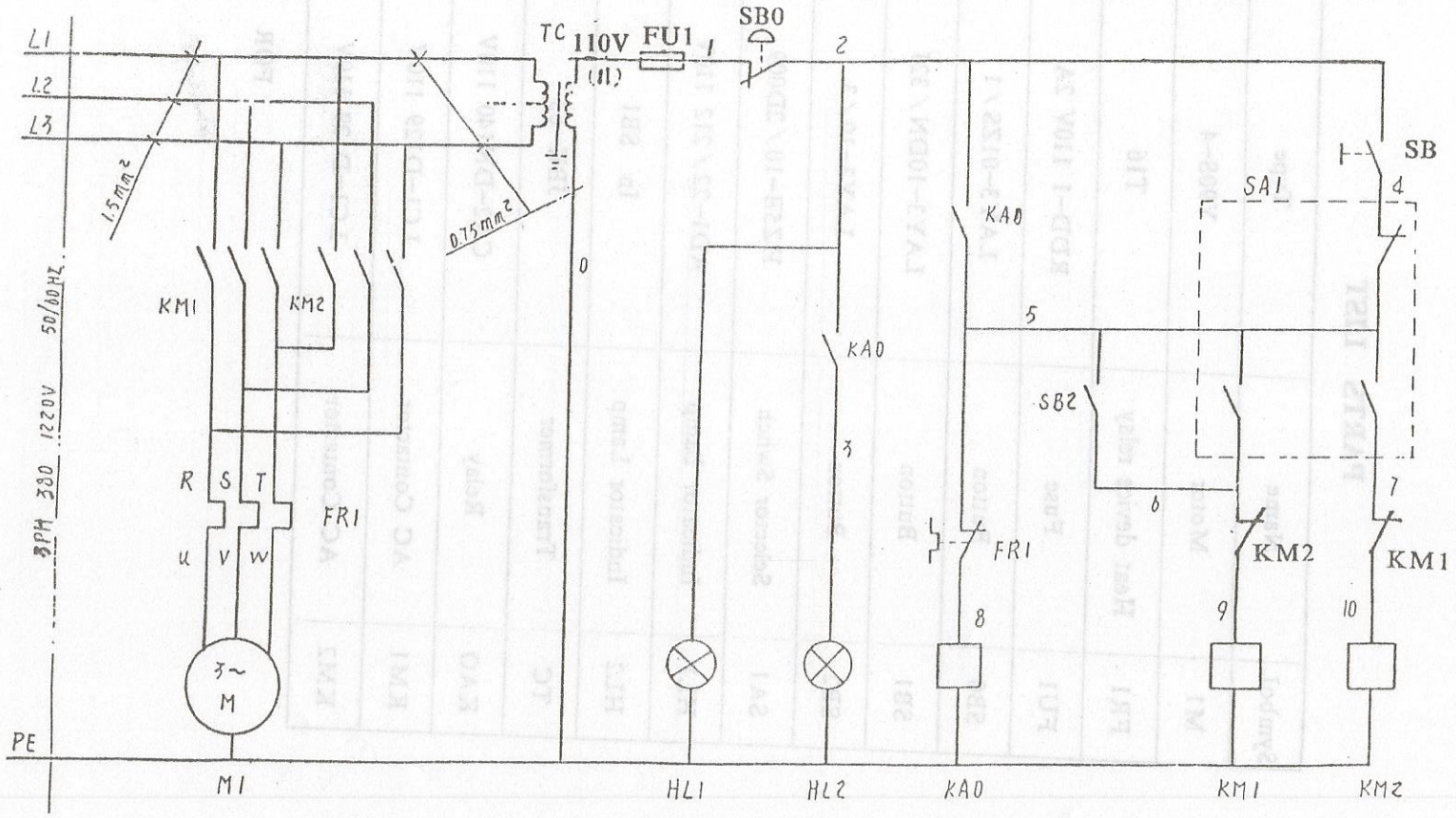


Fig 7 WIRING DIAGRAM FOR 3 PHASE

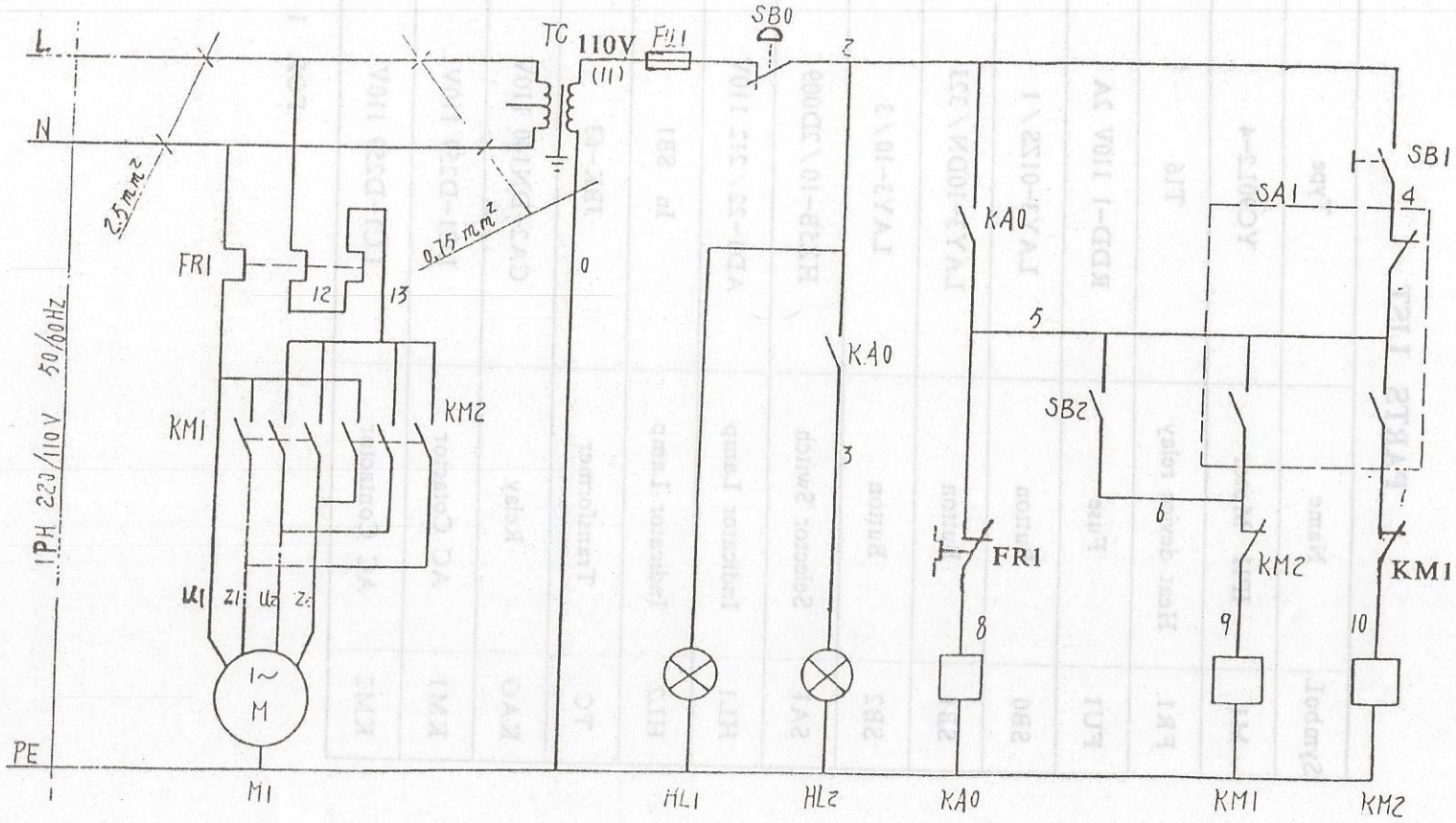


Fig 8 WIRING DIAGRAM FOR 1 PHASE

TRIAL DRIVE, ADJUSTING AND OPERATING INSTRUCTION

1. Before operating the machine, read this operating instruction and understand it's requirement of adjusting, operating, maintenance and lubrication etc.
2. The machine is equipped with 1 or 2 V-belts from the motor to the low rear pulley. It is advisable to check the tension before starting the machine. The belts should be depressed about 1/2 inch by normal finger pressure. Tight belt will ruin the bearing. Adjust the tension, if necessary.
3. When trial driving, set changing lever on the Lowest speed and let the machine operate for 20 minutes. If functioning normally, increase the spindle speed step by step until the highest speed (then the feed lever in the middle rate) each step operating for over 5 minutes.
   Caution: Speed changing can be made when motor is completely stopped.
4. Machine Operating Lever. See Fig. 13

Headstock

* With the help of lever (1), (2) and v-belts the headstock can provide 18 or 9 step speeds from 60 to 1500 r.p.m as shown in "spindle speed chart" located on the front side of headstock (see Fig. 14)

* Starting & stopping of spindle can be made merely by the starting lever(11). Moving the lever (11) up, the spindle will be counter-clockwise rotation; starting lever (11) down, the spindle will be reverse rotation.

Quick Change Gear Box.

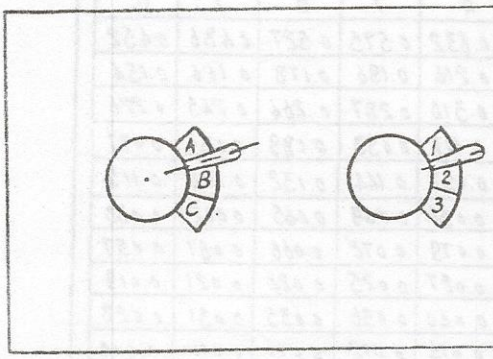
* Lever (4) is a selecting lever of threading or turning. Left position is for feed shaft. Center position is neutral. Right position is for lead screw.

* Lever (5) & (6) can control the feed gear box. Lever (5) has five positions. Lever (6) has eight positions. Moving the two tumbler levers can provide all kinds of feed rates positioned on left side of headstock (See Fig .15) and inch thread pitches positioned on the front of headstock (See Fig .16) With the help of metric change gears, the two tumbler lever can also provide metric threads in the "change gear chart for m/m size" located on the front side of headstock. (see Fig. 17)

Caution. Always stop the spindle before engaging any of above 3 levers.

Carriage Assembly

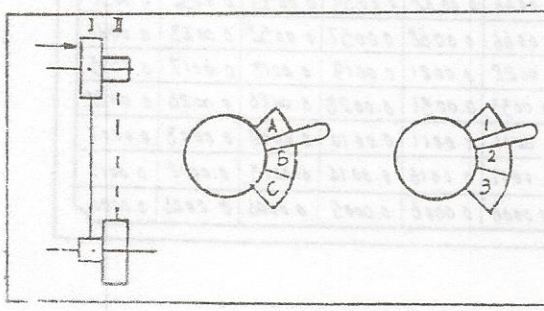
List 1: 9 step spindle speed



Spindle Speed Chart

		A	B	C
1	60Hz	270	1400	800
	50Hz	250	1500	850
2	60Hz	75	360	220
	50Hz	50	325	200
3	60Hz	200	1000	600
	50Hz	150	950	540

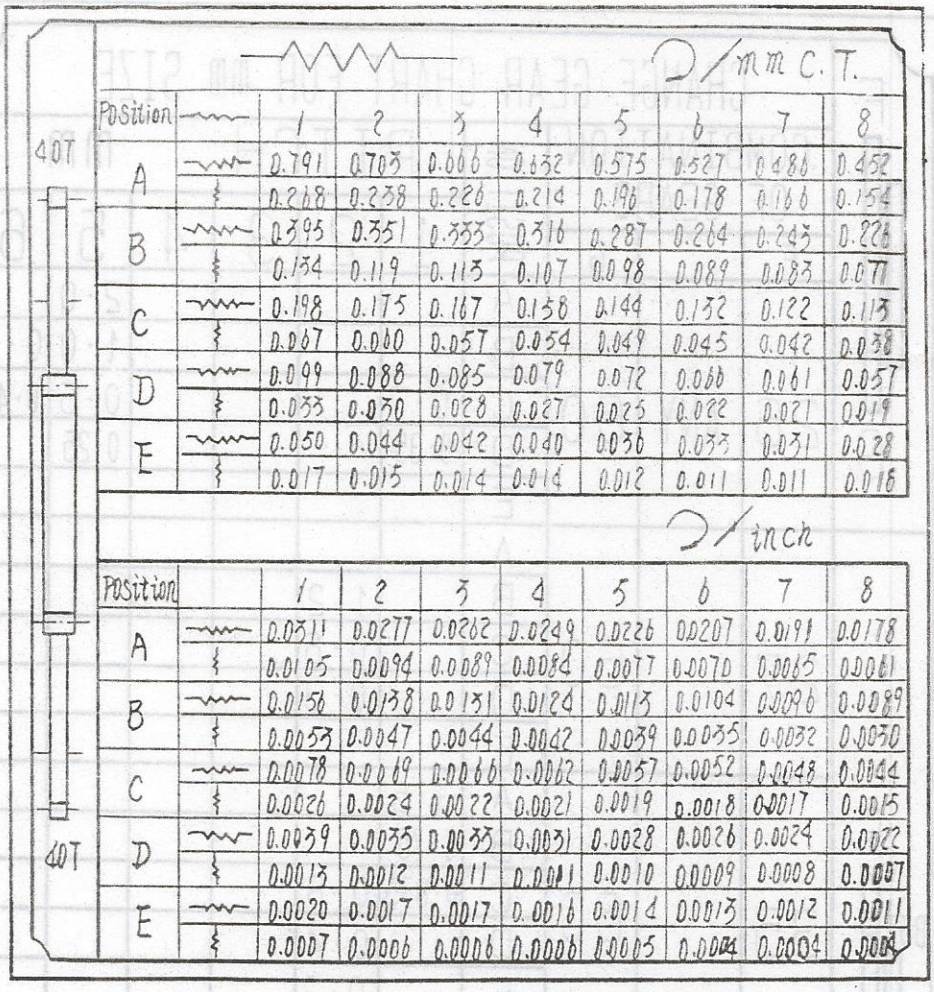
List 2: 18 step spindle speed



Spindle Speed Chart

60Hz	I			II		
	1	2	3	1	2	3
A	320	1550	950	220	1150	700
B	90	430	260	60	300	200
C	240	1200	725	180	890	525

Fig. 14 Spindle Speed Chart



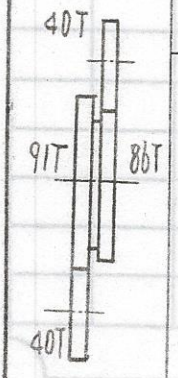
D/mm C.T.

Position		1	2	3	4	5	6	7	8
A	~	0.791	0.703	0.666	0.632	0.575	0.527	0.486	0.452
	≀	0.268	0.238	0.226	0.214	0.196	0.178	0.166	0.154
B	~	0.395	0.351	0.333	0.316	0.287	0.264	0.243	0.226
	≀	0.134	0.119	0.113	0.107	0.098	0.089	0.083	0.077
C	~	0.198	0.175	0.167	0.158	0.144	0.132	0.122	0.113
	≀	0.067	0.060	0.057	0.054	0.049	0.045	0.042	0.038
D	~	0.099	0.088	0.085	0.079	0.072	0.066	0.061	0.057
	≀	0.033	0.030	0.028	0.027	0.025	0.022	0.021	0.019
E	~	0.050	0.044	0.042	0.040	0.036	0.033	0.031	0.028
	≀	0.017	0.015	0.014	0.014	0.012	0.011	0.011	0.010

D/inch

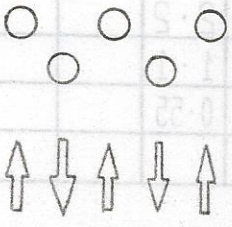
Position		1	2	3	4	5	6	7	8
A	~	0.0311	0.0277	0.0262	0.0249	0.0226	0.0207	0.0191	0.0178
	≀	0.0105	0.0094	0.0089	0.0084	0.0077	0.0070	0.0065	0.0061
B	~	0.0156	0.0138	0.0131	0.0124	0.0113	0.0104	0.0096	0.0089
	≀	0.0053	0.0047	0.0044	0.0042	0.0039	0.0035	0.0032	0.0030
C	~	0.0078	0.0069	0.0066	0.0062	0.0057	0.0052	0.0048	0.0044
	≀	0.0026	0.0024	0.0022	0.0021	0.0019	0.0018	0.0017	0.0015
D	~	0.0039	0.0035	0.0033	0.0031	0.0028	0.0026	0.0024	0.0022
	≀	0.0013	0.0012	0.0011	0.0011	0.0010	0.0009	0.0008	0.0007
E	~	0.0020	0.0017	0.0017	0.0016	0.0014	0.0013	0.0012	0.0011
	≀	0.0007	0.0006	0.0006	0.0006	0.0005	0.0004	0.0004	0.0004

Fig. 15a Feed Rate list



POSITION

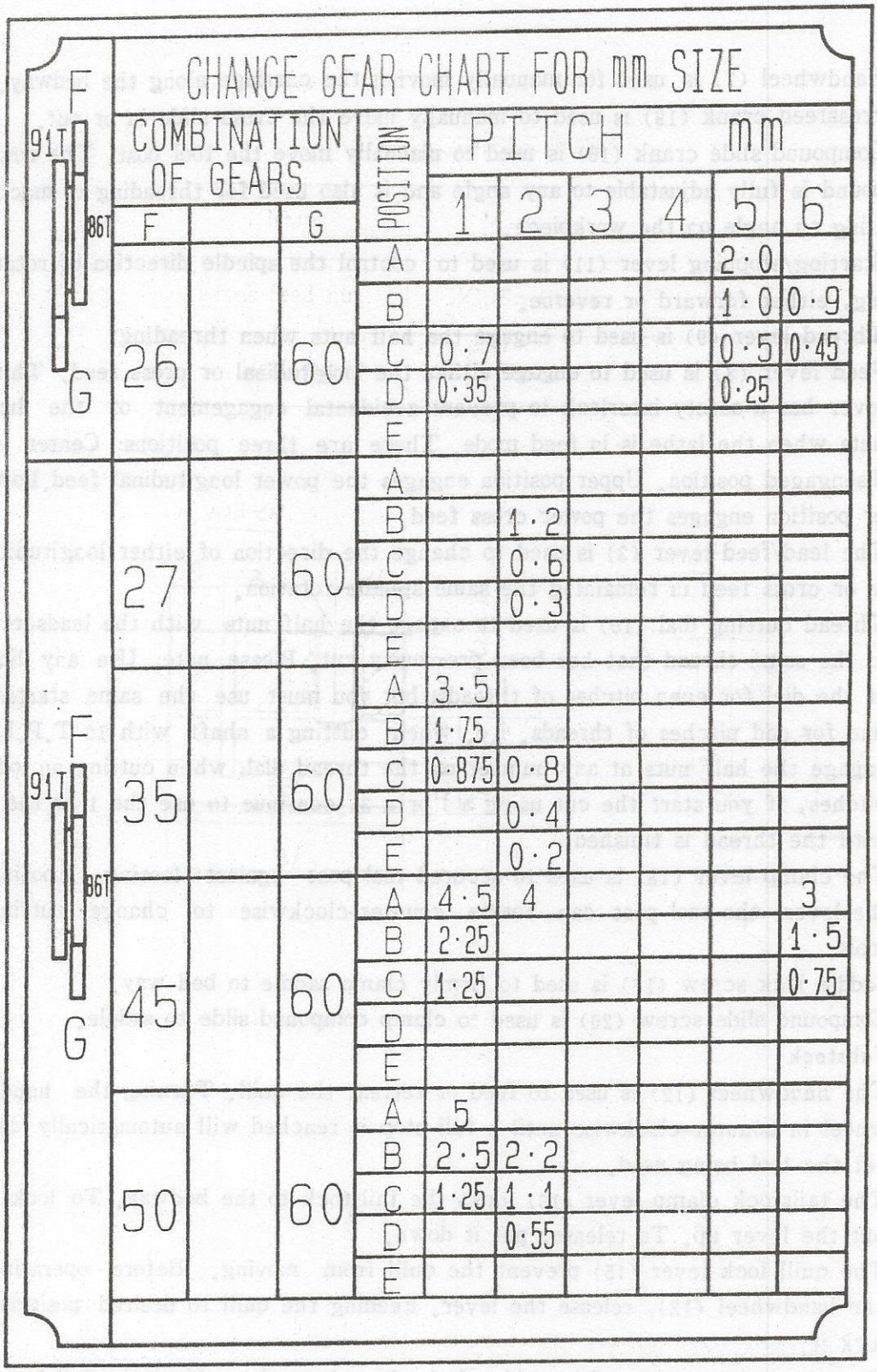
A B C D E



THREADS PER INCH

	1	2	3	4	5	6	7	8
A	4	4½	4¾	5	5½	6	6½	7
B	8	9	9½	10	11	12	13	14
C	16	18	19	20	22	24	26	28
D	32	36	38	40	44	48	52	56
E	64	72	76	80	88	96	104	112

Fig. 16a Inch Thread Pitch list (Metric leadscrew)



CHANGE GEAR CHART FOR mm SIZE

COMBINATION OF GEARS F		G	POSITION	PITCH mm 1	2	3	4	5	6
26		60	A					2·0	
			B					1·0	0·9
			C	0·7				0·5	0·45
			D	0·35				0·25	
			E						
27		60	A						
			B		1·2				
			C		0·6				
			D		0·3				
			E						
35		60	A	3·5					
			B	1·75					
			C	0·875	0·8				
			D		0·4				
			E		0·2				
45		60	A	4·5	4				3
			B	2·25					1·5
			C	1·25					0·75
			D						
			E						
50		60	A	5					
			B	2·5	2·2				
			C	1·25	1·1				
			D		0·55				
			E						

Fig.17a Metric Thread pitch list(Metric leadscrew)

following

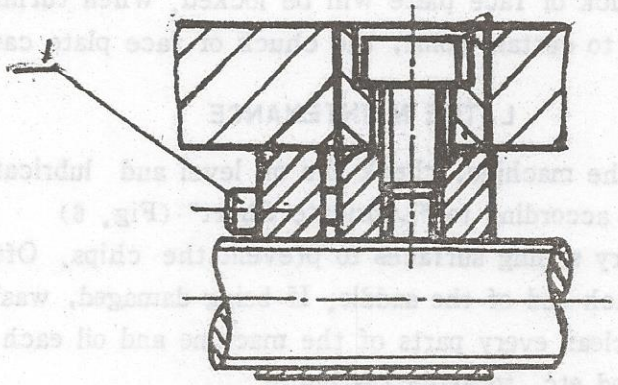


Fig. 18 Adjust the clearance of cross feed nut

rotate the screw (1) until the slide moves with a slight drag.

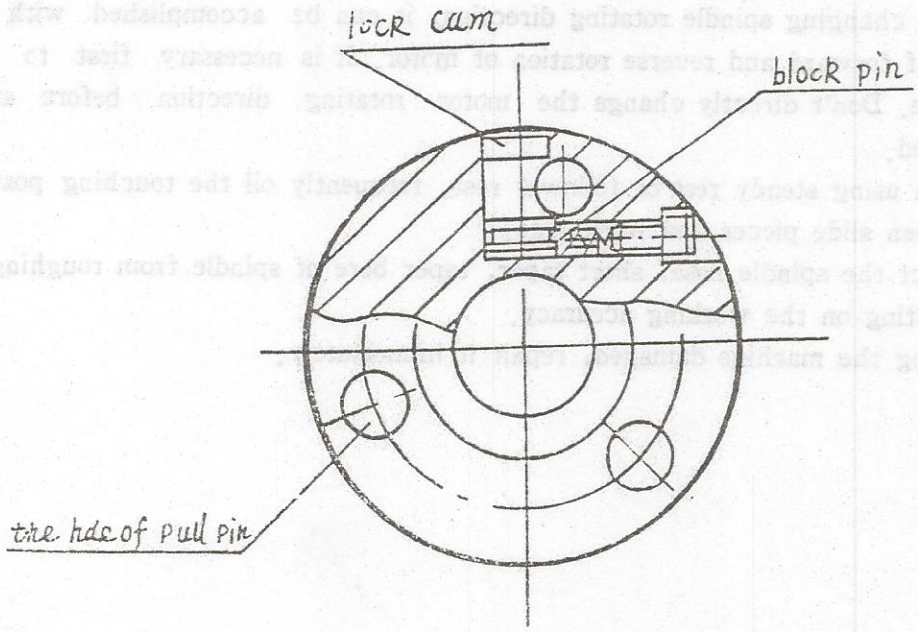


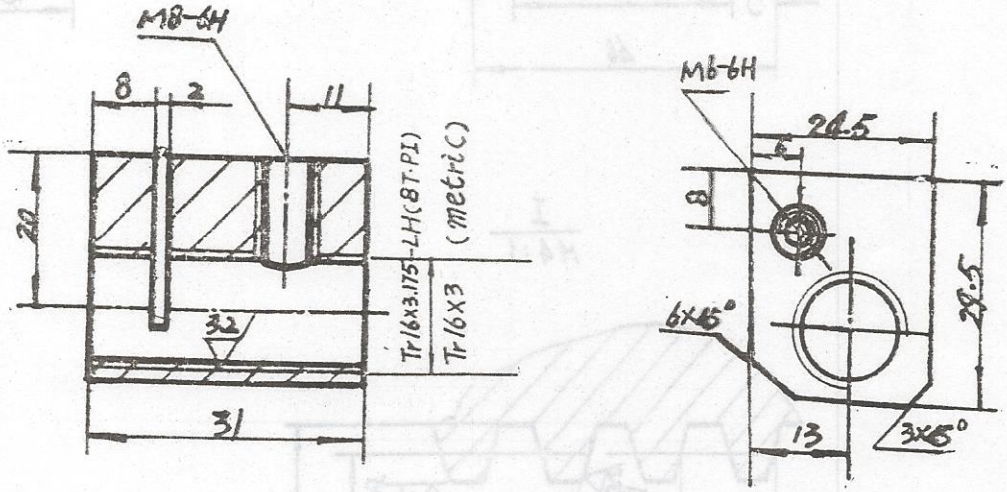
Fig. 19 chuch or face plate lock structure

6. See the Fig. 19, the Mounting and detaching of chuck or face plate. The connection between spindle and chuck or face plate is made by type D cam lock structure according to china national Standard GB5900.3-86 (similar to

DAMAGEABLE PARTS

№	Name	Material	Q'ty	Notes
1	Cross feed nut	$ZCuSn_5Pb_5Zn_5$	1	CQ6230-07-33
2	Half nut	$ZCuSn_5Pb_5Zn_5$	1	CQ6230-06-03

the rest 6.3



AppendixFig.1 cross feed nut
Material $ZCuSn_5Pb_5Zn_5$