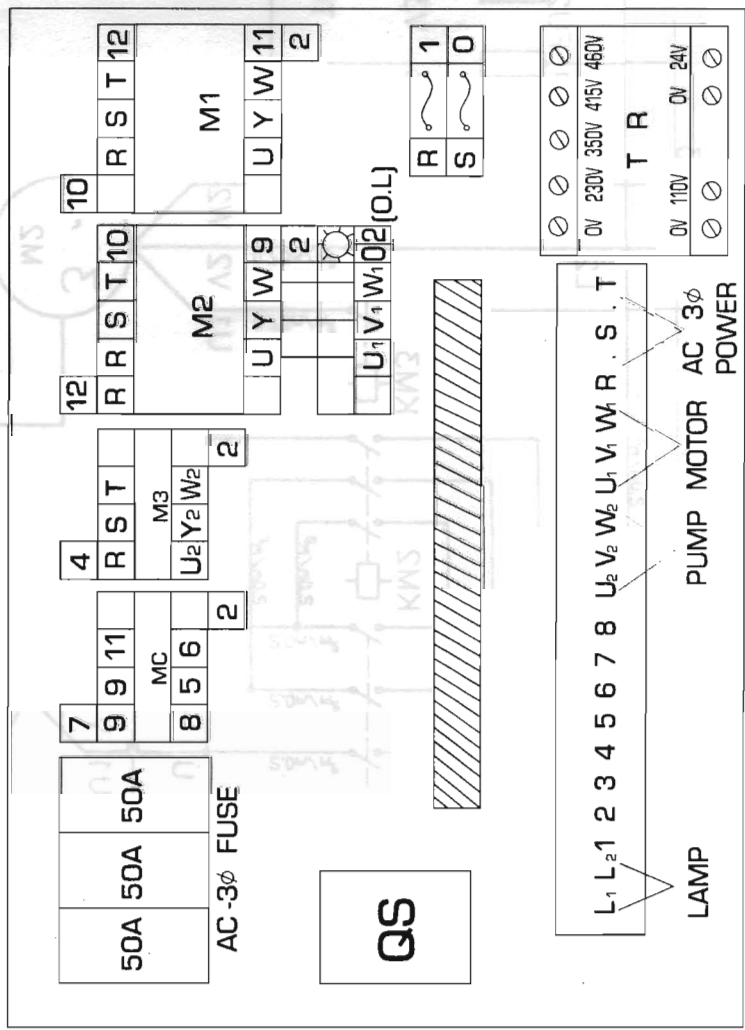
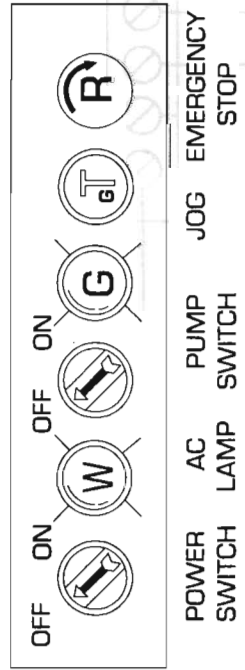


ELECTRICAL DIAGRAM & PARTS LIST

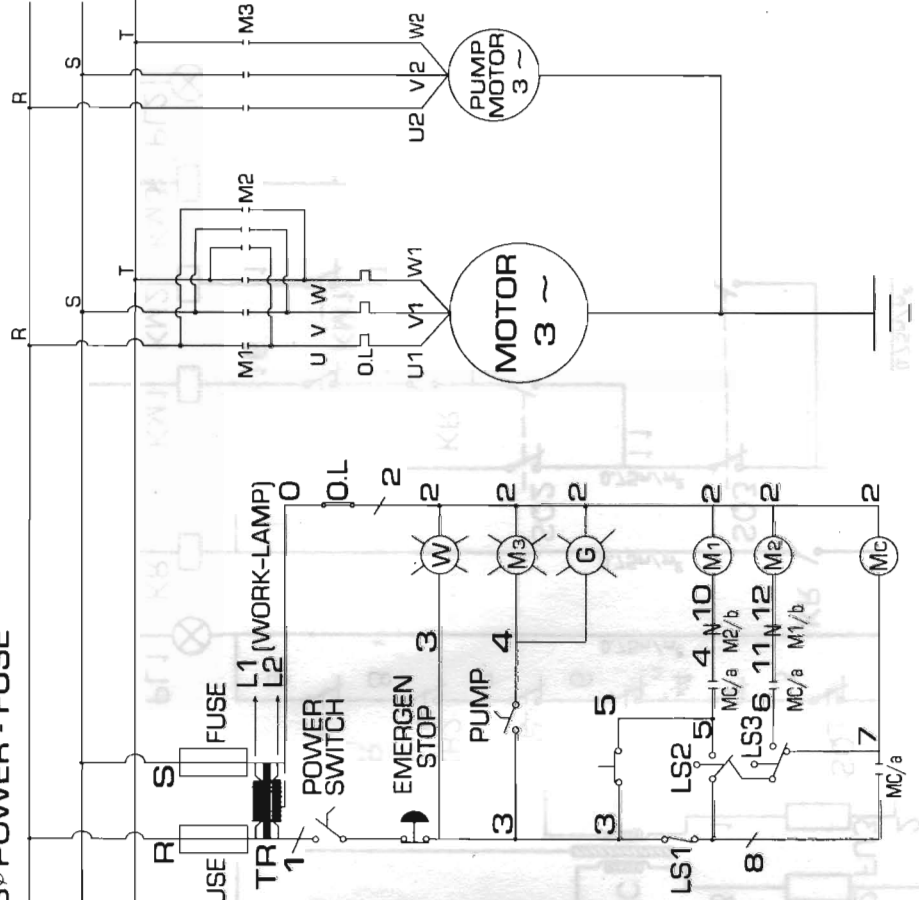
QS

LOCK - SWITCH



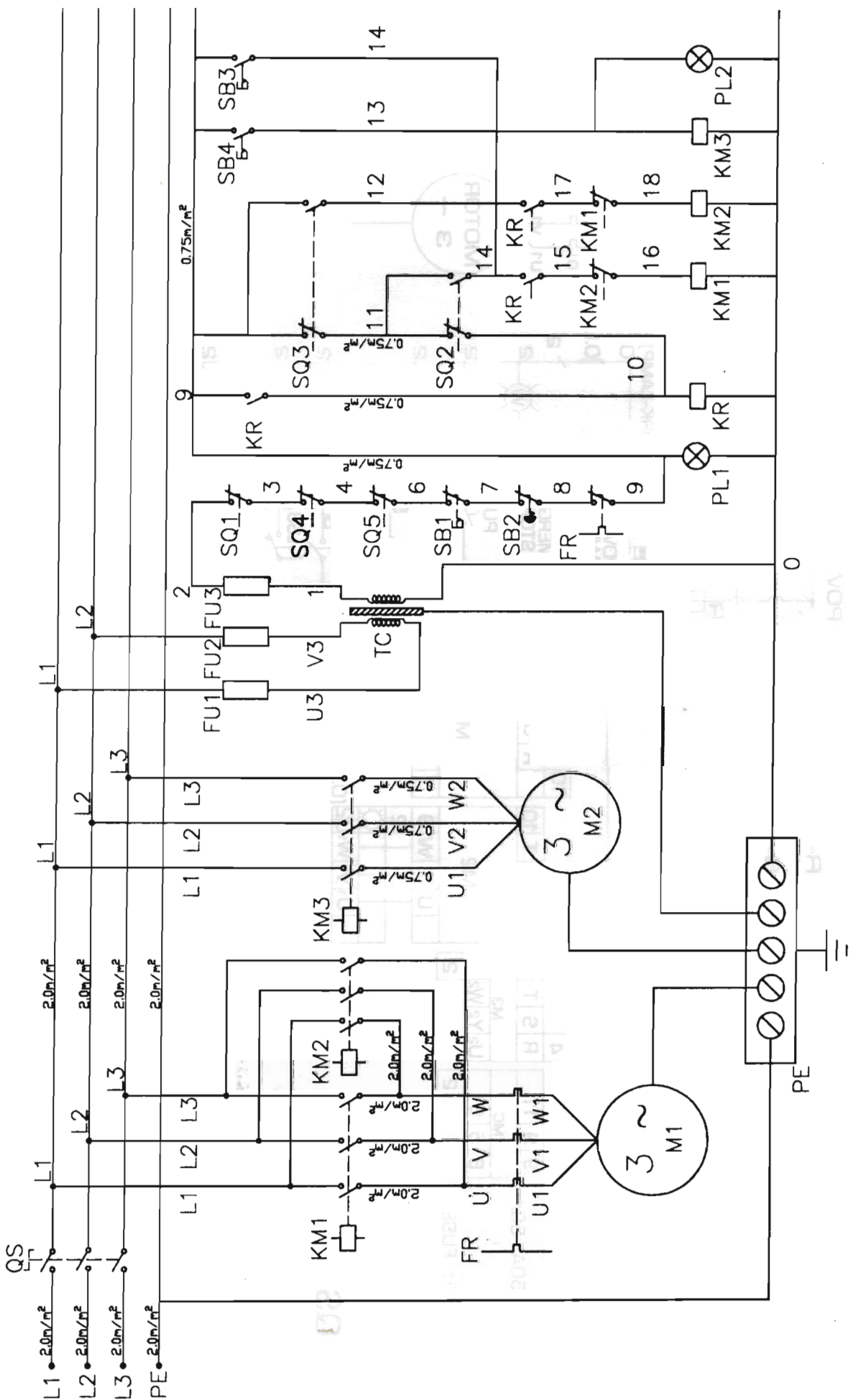
- LS 1=MAIN MOTOR BRAKE STOP (3.8)
- LS 2=SPINDLE FORWARD PUNNING (5.8)
- LS 3=SPINDEL REVERSE RUNNING (6.7)

AC - 3Φ POWER - FUSE



ACER (LATHE MACHINE)

CE Standard



Manufacturer: ACER		SCHEDULE OF ELECTRICAL EQUIPMENT			sheet	
Order						
TYPE: LATHE MACHINE		See also list			Drawn	
					Checked	
Item designation	Description and function	Technical data	Quantity	Supplier	Suppliers reference	Remarks
QS	Main Power(Door lock) Switch	AC 500V/50HZ 3P 16A	1	MACK	MK-316	IEC 408 IP 65
FU1	AC Fuse	AC 600V	1	SHINING	FS-011	CSA. C22.2 NO. 59.2
FU2	To Transformer	30 MM 2A	1			
FU3	Ac Low Voltage To Transformer	AC 600V 30 MM 3A	1	SHINING	FS 011	CSA. C22.2 NO. 59.2
KM1	Contactors	3P1a Ri=AC 660V	1	N.H.D.	C-09D10 (4a)	IEC 158-1
KM2		Rt= 25A	1	HUH-DIAN		VDE 0660
KM3		AC3 220V 2.2KW 380V 4.0KW	1			BS 5424-1 JIS 8325
FR	Over-Load (Relays)	5 ~ 8A 6.5A Ui=AC 600V Ith= 10A	1	N.H.D. HGH-DIAN	BTH-12 (1NO+1NC)	IEC 202-1 VDE 0660 JIS 8325 BS 5434-1
KR	Contactors-Relay	Coil=AC 24V AV 240V 5A DC 30V 5A	1	IDEC- IZUMI	RY4S-U	UL E55906 CSA LR35144
TC	Transformer	AC Hi=380V(220V) LO=24V TR-72VA	1	SUENN - LIANG	SP-TBS	IEC 75-5 EX 60742 IEC 1P-2
TB	Casset Terminal-Block	AC 600V MAX.20A MAX.10A	3 16	SHINING	TA-020 TA-010	JL B:2:562
PL1	Piolt-Lamps Ac Power Lamp	AC 24V 1.5W	1	MACK	MK/L-22	IEC-144
PL2	Piolt-Lamps Pump Lamp	220φ	1			IP 65.
SB1	Power Selector Switch	AC 250V 10A MAX.600V	1	MACK	MK/CF-22	IEC-144
SB2	Emergency-Stop	380V 7.5A	1		MK/B -22	IP 65
SB3	Jogging-Botton	1NO+1NC	1		MK/BF-22	
SB4	Pump-Seclector	22φ	1		MK/C-22	
SQ1	Safe-Cover (Limit.Switch)	AC 400V 15.2A MAX.600V 1NO+1NC 22φ	1	ORMON	D4D-1520X	IEC 947-5-1 EX 60947-5-1 EX 50047 IP 65
SQ2	For-Limit.Switch	AC 125V 10A MAX.600V	1	MOUJEN	MJ-1704	UL E100183
SQ3	Rev-Limit.Switch	250V 10A	1			HL 56C7
SQ4	Foot-Cut(L.S)	DC 115V 0.4A	1			
CABLE-LOCK	Cable-Glands		1	AVG	M-16	IF 68
LINE	Control-Line	0.75 m ² MAX.300V (30/0.18)-7A Ambient Temp (35°C~60°C)	1	TONG-WU		CXS 679 JIS C3307
CABLE	PVC Cable-Wire	2.0 m ² *4c(37/0.26)/16A 1.25m ² *4c(50/0.18)/11A Ambient Temp (35°C~60°C) MAX.600V	1	TONG-WU		CXC 3301.4398 JIS C3342.3401
M1	Main-Motor		1			
M2	Pump-Motor		1			

TROUBLE SHOOTING & REMEDY

TROUBLE CAUSE & TROUBLE SHOOTING

TROUBLE ITEM	CAUSE	REMEDY
Vibration	Loose levelling screws Torn or mismatched Vee belts Work or chuck out of balance operating at high spindle speed. Motor out of balance	Set all screws so they bear evenly on leveling plates. Replace vee belts with matched set, or adjust roll. Balance chuck or reduce spindle speed. Contact local representative or motor manufacturer.
Chatter	Tool bit improperly ground or not on center Tool overhang too great Using improper surface feet Feed rate too high or too low Gibs of cross slide or pound rest loose Spindle bearings worn	Regrind tool bit or adjust tool holder so that area of contact between tool bit and work is decreased. Avoid extreme negative rake angle. Keep point of tool bit as close as possible to tool holder. Reduce or increase spindle speed. Reduce or increase feed. adjust gibs. Adjust spindle bearings.
Chatter (cont'd)	Work Improperly supported Vibration Spindle bearing loose	Adjust tailstock center. Use steady rest or follow rest on long slender shafts. Minimize tailstock barrel extension. See "Vibration" trouble above. Adjust spindle bearings.
Work not turned straight	Headstock and tailstock centers not aligned Work improperly supported Bed not level Tool not on center when using taper attachment	Align tailstock center. Use steady rest or follow rest. Reduce overhang from chuck. Relevel bed, using precision level. Put tool on center.
Work out or round	Work loose between centers or centers are excessively worn--work centers out of round Loose headstock spindle bearings	Adjust tailstock center. regrind centers. Lap work centers. Adjust headstock spindle bearings.
Cross slide or compound rest movement does not coincide with dial movement of respective adjusting screw.	Gib setting too tight or too loose Workpiece is too long and slender	Adjust gibs. Use steady rest or follow rest.

MECHANICAL PART LIST & PART NUMBERS

**NOTE: WHEN ORDERING PARTS, PLEASE SPECIFY MODEL,
SERIAL NUMBER, PART NUMBER, AND YEAR OF
PRODUCTION.**

HEADSTOCK (WITH CLUTCH SYSTEM)

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20HA-001	Headstock	1
2	20HA-002	Cover	1
3	20HA-003	Cover	1
4	20HA-004	Spindle	1
5	20HA-005	Shaft	1
6	20HA-006	V-Pulley	1
7	20HA-007	Spur Gear	1
8	20HA-008	Spur Gear	1
9	20HA-009	Spur Gear	1
10	20HA-010	Shaft	1
11	20HA-011	Spur Gear	1
12	20HA-012	Spur Gear	1
13	20HA-013	Spur Gear	1
14	20HA-014	Spur Gear	1
15	20HA-015	Spur Gear	1
16	20HA-016	Spur Gear	1
17	20HA-017	Shaft	1
18	20HA-018	Spur Gear	1
19	20HA-019	Spur Gear	1
20	20HA-020	Spur Gear	1
21	20HA-021	Shaft	1
22	20HA-022	Spur Gear	1
23	20HA-023	Spur Gear	1
24	20HA-024	Spur Gear	1
25	20HA-025	Spur Gear	1
26	20HA-026	Spur Gear	1
27	20HA-027	Shaft	1
28	20HA-028	Spur Gear	1
29	20HA-029	Shaft	1
30	20HA-030	Spur Gear	1
31	20HA-031	Spur Gear	1
32	20HA-032	Spur Gear	1
33	20HA-033	Shaft	1
34	20HA-034	Spur Gear	1
35	20HA-035	Spur Gear	1
36	20HA-036	Cover	1
37	20HA-037	Cover	1
38	20HA-038	Cover	1

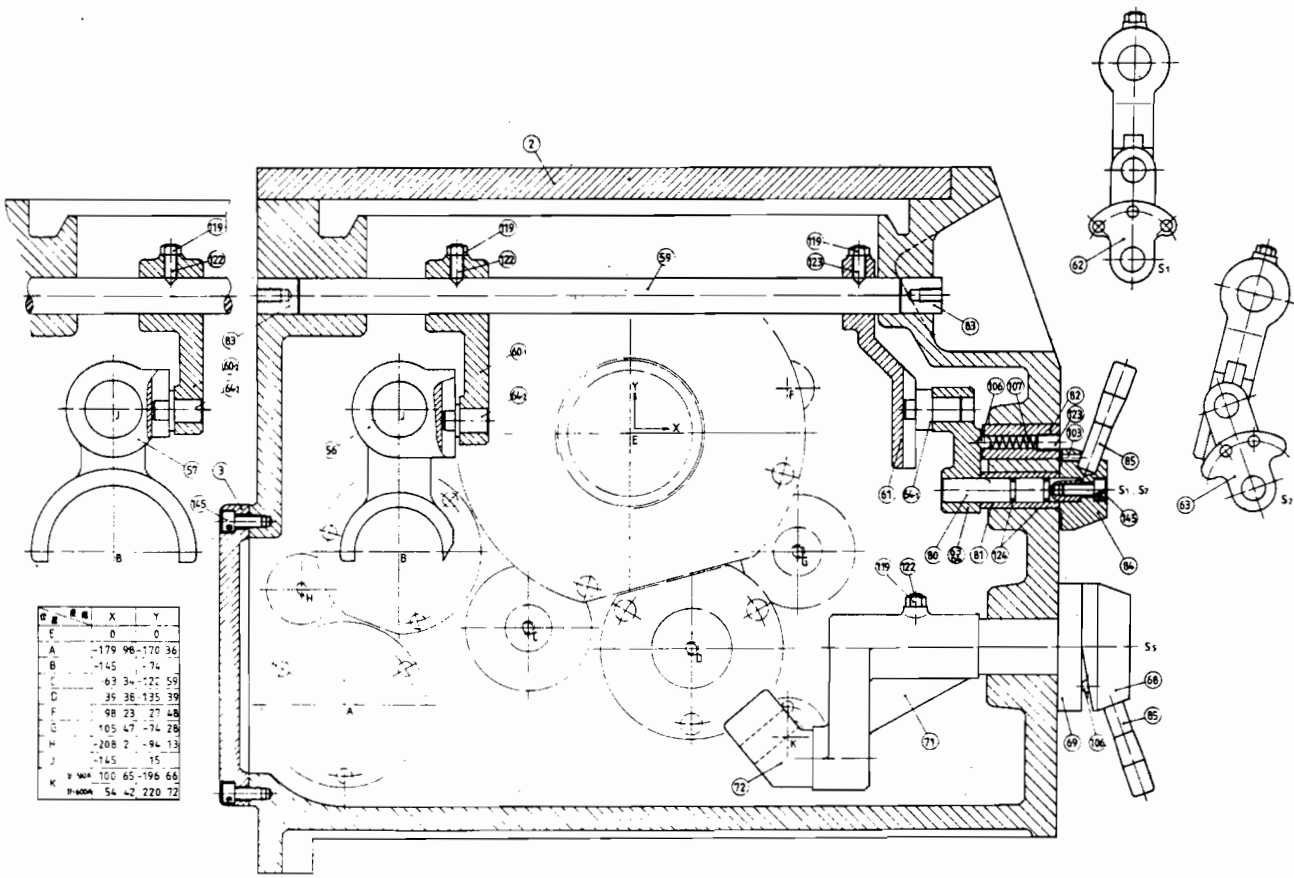
ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
39	20HA-039	Cover	1
40	20HA-040	Cover	1
41	20HA-041	Front Bearing Cover	1
42	20HA-042	Plug	1
43	20HA-043	Space Collar	1
44	20HA-044	Space Collar	1
45	20HA-045	Space Collar	1
46			
47			
48	20HA-048	Washer	2
49	20HA-049	Space Coolar	1
50	20HA-050	Cap	1
51	20HA-051	Nut	1
52	20HA-052	Plug	1
53	20HA-053	Shaft	1
54	20HA-054	Spur Gear	1
55	20HA-055	Shaft	1
56	20HA-056	Change Speed Fork	1
57	20HA-057	Change Speed Fork	1
58			
59	20HA-059	Shaft	2
60	20HA-060	Rocker Arm	1EQ
61	20HA-061	Rocker Arm	2
62	20HA-062	Rocker Arm	1
63	20HA-063	Rocker Arm	1
64	20HA-064	Shaft	4
65	20HA-065	Cover	2
66	20HA-066	Rocker Arm	2
67	20HA-067	Change Speed Block	1
68	20HA-068	Lever Boss	1
69	20HA-069	Sleeve	1
70	20HA-070	Shaft	1
71	20HA-071	Rocker	1
72	20HA-072	Change Speed Block	1
73			
74	20HA-074	Idle Gear	1
75	20HA-075	Idle Gear	1
76	20HA-076	1.75M X 44 T Gear	1
77	20HA-077	1.75M X 28 T Geadr	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
78	20HA-078	Idle Shaft	1
79	20HA-079	Change Speed Block	1
80	20HA-080	Shaft	4
81	20HA-081	Sleeve	4
82	20HA-082	Sleeve	4
83	20HA-083	Plug	4
84	20HA-084	Lever Boss	4
85	20HA-085	Lever	5
86	20HA-086	Pump	1 AM A
87	20HA-087	Magnetic Clutch	2 OGURA MWC 5
88	20HA-088	Electromagnetic Brake	1 OGURA MWB 2.5
89	20HA-089	Bearing 6006	5
91	20HA-091	Bearing 6008	2
92	20HA-092	Bearing 6019	2
93	20HA-093	Bearing 6206	2
94	20HA-094	Bearing 6207	6
95	20HA-095	Bearing 6306	1
96	20HA-096	Bearing 6307	4
97	20HA-097	Bearing RNA 6903	1
98	20HA-098	Taper Roller Bearing 32021X	1
99	20HA-099	Taper Roller Bearing 32022X	1
100	20HA-100	Oil Seal 22X38X8	1
101	20HA-101	Oil Seal 30X55X12	1
102	20HA-102	Oil Seal 34X50X10	1
103	20HA-103	Spring Pin 4	4
104	20HA-104	Spring Pin 6X601	1
105	20HA-105	Straight Pin 5X181	1
106	20HA-106	Steel Ball 5/10"	5
107	20HA-107	Spring 5/10"	5
108	20HA-108	Key 16X10X100	1
109	20HA-109	Key 16X10X 70	1
110	20HA-110	Key 8X 7X130	1
111	20HA-111	Key 8X 7X120	2
112	20HA-112	Key 8X 7X 45	4
113	20HA-113	Key 8X 7X 30	2
114	20HA-114	Key 8X 7X 28	1
115	20HA-115	Key 8X 7X 25	3
116	20HA-116	Key 8X 7X 20	2
117	20HA-117	Key 8X 7X 16	2

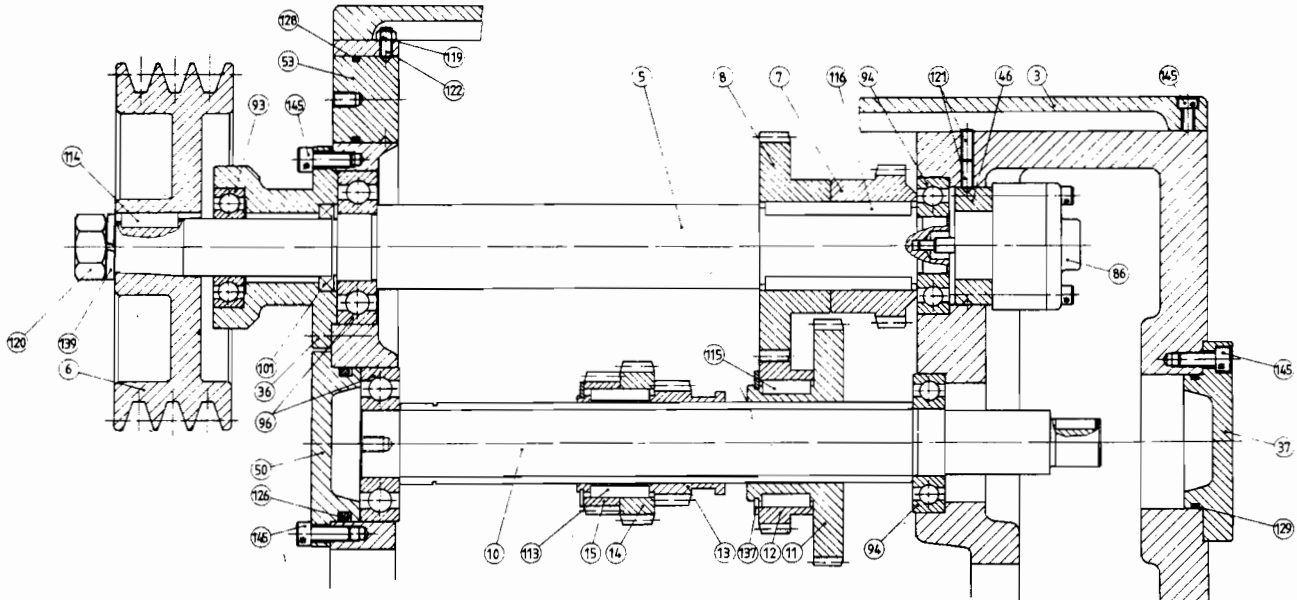
ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
118	20HA-118	Key 6X 6X 28	1
119	20HA-119	Nut M8X1.25	10
120	20HA-120	Nut M20Xp1.5	1
121	20HA-121	Set Serew M 8X1.25X151	2
122	20HA-122	Set Serew M 8X1.25X201	14
123	20HA-123	Set Serew M10X1.5 X101	4
124	20HA-124	"0" Ring P11	8
125	20HA-125	"0" Ring P62	1
126	20HA-126	"0" Ring P70	2
127	20HA-127	"0" Ring P30	3
128	20HA-128	"0" Ring P40	2
129	20HA-129	"0" Ring P65	1
130	20HA-130	"0" Ring P175	1
131	20HA-131	"0" Ring P210	1
132	20HA-132	Snap Ring RTW55	2
133	20HA-133	Snap Ring RTW68	1
134	20HA-134	Snap Ring RTW42	5
135	20HA-135	Snap Ring RTW50	1
136	20HA-136	Snap Ring RTW52	2
137	20HA-137	Snap Ring RTW60	2
138	20HA-138	Washer AW20	1
139	20HA-139	Spring Washer 20	1
140	20HA-140	Cap Screw M6X1X201	2
141	20HA-141	Cap Screw M6X1X301	4
142	20HA-142	Cap Screw M6X1X401	4
143	20HA-143	Cap Screw M6X1X651	4
144	20HA-144	Cap Screw M8X1.25X151	1
145	20HA-145	Cap Screw M8X1.25X201	14
146	20HA-146	Cap Screw M8X1.25X401	8
147	20HA-147	Washer 40X 70X 1	1
148	20HA-148	"0" Ring G85	1
149	20HA-149	Snap Ring STW15	4

Headstock part II

(WITHOUT CLUTCH SYSTEM)

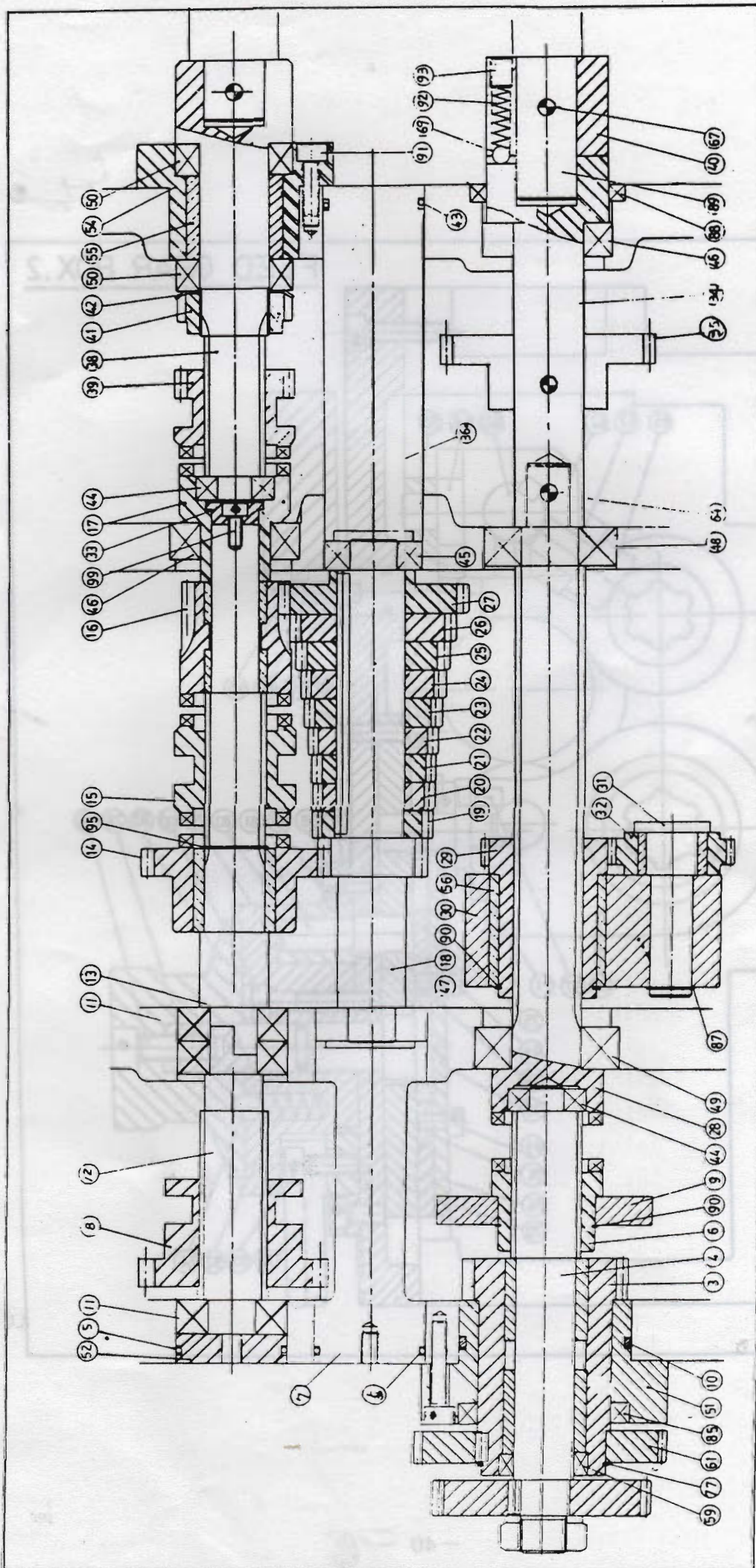


HEADSTOCK. (WITHOUT CLUTCH SYSTEM)



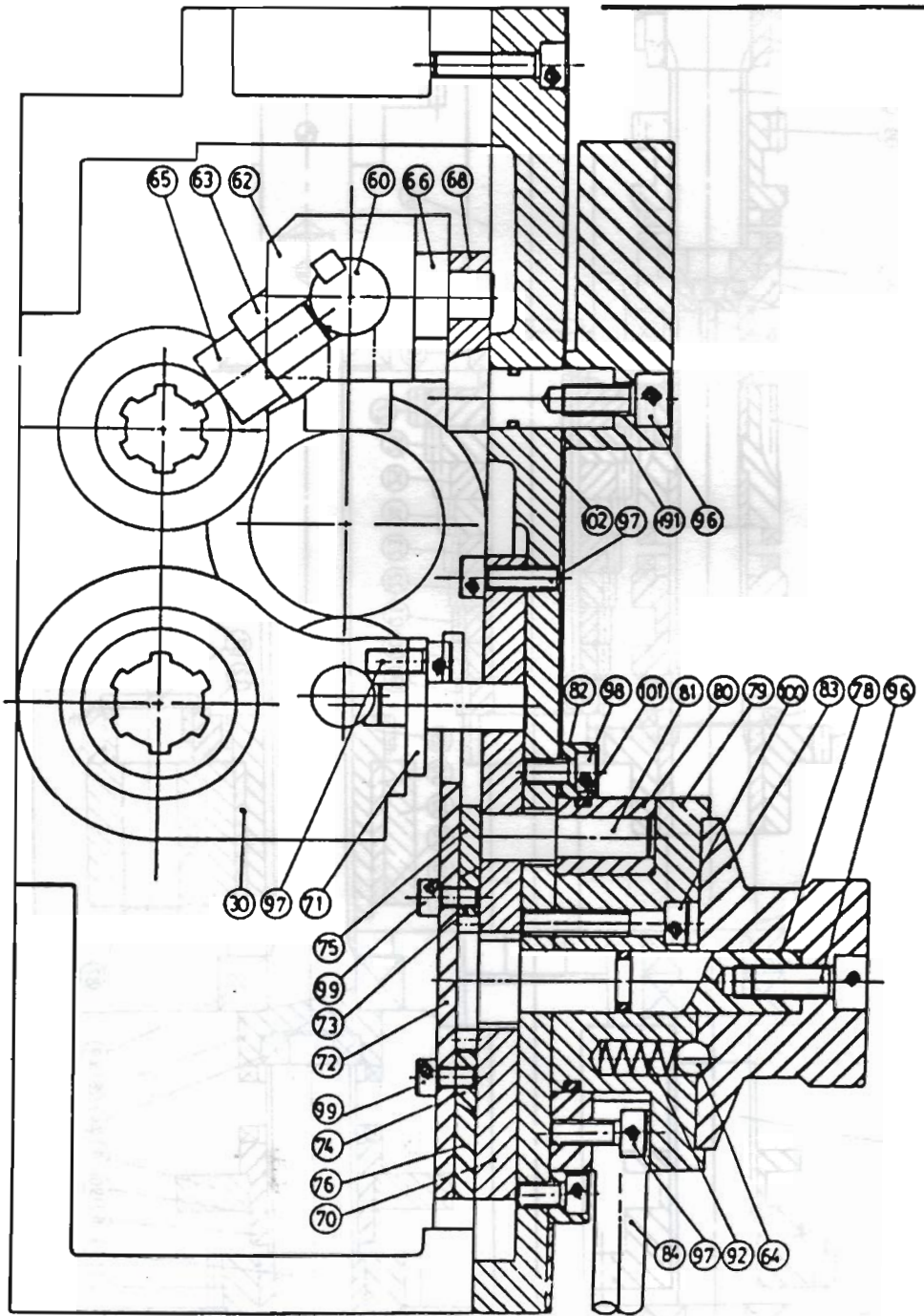
HEADSTOCK (WITHOUT CLUTCH SYSTEM)

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
3	20HA-003	Cover	1
5	20HA-005	Shaft	1
6	20HA-006	V-Pulley	1
7	20HA-007	Spur Gear	1
8	20HA-008	Spur Gear	1
10	20HA-010	Shaft	1
11	20HA-011	Spur Gear	1
12	20HA-012	Spur Gear	1
13	20HA-013	Spur Gear	1
14	20HA-014	Spur Gear	1
15	20HA-015	Spur Gear	1
36	20HA-036	Cover	1
37	20HA-037	Cover	1
46	20HA-046	Space Collar	1
50	20HA-050	Cap	1
53	20HA-053	Shaft	1
86	20HA-086	Pump	1 AM A
93	20HA-093	Bearing 6206	2
94	20HA-094	Bearing 6207	6
101	20HA-101	Oil Seal 30X55X12	1
113	20HA-113	Key 8X7X30	2
114	20HA-114	Key 8X7X28	1
116	20HA-116	Key 8X7X20	2
119	20HA-119	Nut M8X1.25	10
120	20HA-120	Nut M20Xp1.5	1
121	20HA-121	Set Serew M8X1.25X151	2
122	20HA-122	Set Screw M8X1.25X201	14
126	20HA-126	"0" Ring P70	2
129	20HA-129	"0" Ring G65	1
139	20HA-139	Spring Washer 20	1
145	20HA-145	Cap Screw M8X1.25X201	14



FEED GEAR BOX.1

FEED GEAR BOX.2



FEED GEAR BOX

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20G-001	Gear Box Body	1
2	20G-002	Front Cover	1
3	20G-003	Spur Gear	1
4	20G-004	Shaft	1
5	20G-005	"0"Ring G-35	2
6	20G-006	Gear	1
7	20G-007	Shaft	1
8	20G-008	Spur Gear	1
9	20G-009	Collar	1
10	20G-010	"0" Ring G-55	1
11	20G-011	Bearing 6004	3
12	20G-012	Spur Gear	1
13	20G-013	Shaft	1
14	20G-014	Spur Gear	1
15	20G-015	Gear	1
16	20G-016	Spur Gear	1
17	20G-017	Gear	1
18	20G-018	Shaft	1
19	20G-019	Spur Gear	1
20	20G-020	Spur Gear	1
21	20G-021	Spur Gear	1
22	20G-022	Spur Gear	1
23	20G-023	Spur Gear	1
24	20G-024	Spur Gear	1
25	20G-025	Spur Gear	1
26	20G-026	Spur Gear	1
27	20G-027	Spur Gear	1
28	20G-028	Shaft	1
29	20G-029	Spur Gear	1
30	20G-030	Housing	1
31	20G-031	Shaft	1
32	20G-032	Spur Gear	1
33	20G-033	Washer	1
34	20G-034	Shaft	1
35	20G-035	Spur Gear	1
36	20G-036	Shaft	1
38	20G-038	Shaft	1
39	20G-039	Spur Gear	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
40	20G-040	Coupling Socket	1
41	20G-041	Nut	1
42	20G-042	Washer	1
43	20G-043	"0" Ring G-30	1
44	20G-044	Bearings 6001	2
45	20G-045	Bearings 6003	1
46	20G-046	Bearings 6005	2
47	20G-047	Bearings 6203	1
48	20G-048	Bearings 6204	1
49	20G-049	Bearings 6205	1
50	20G-050	Bearings 6905ZZ	1
51	20G-051	Cover	1
52	20G-052	Cover	2
54	20G-054	Cover	1
55	20G-055	Bearings 51105	1
56	20G-056	Bearings NK 3530	1
59	20G-059	Oils Seal (22 × 32 × 7)	1
60	20G-060	Shaft	1
61	20G-061	Spur Gear	1
63	20G-063	Guide Block	3
64	20G-064	Spring Pin ϕ 6 × 45	2
65	20G-065	Copper Block	3
66	20G-066	Change Speed Block	3
67	20G-067	Taper Pin #5 × 45	2
68	20G-068	Sector	3
69	20G-069	Steel Ball ϕ 1/4"	6
70	20G-070	Setting Plate	1
71	20G-071	Shaft	1
72	20G-072	Plate	1
73	20G-073	Rack	1
74	20G-074	Slide Wedge	1
75	20G-075	Slide Wedge	1
76	20G-076	Slide Wedge	1
77	20G-077	Snap Ring S-45	1
78	20G-078	Gear	1
79	20G-079	Housing	1
80	20G-080	Rocking Ring	1
81	20G-081	Shaft	1
82	20G-082	Cover	1

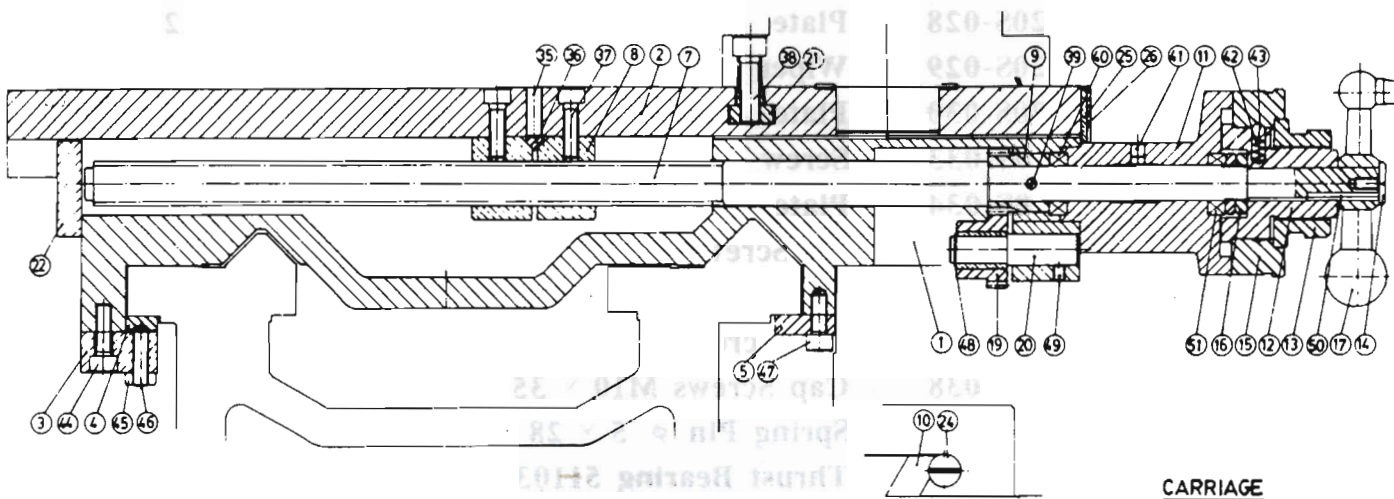
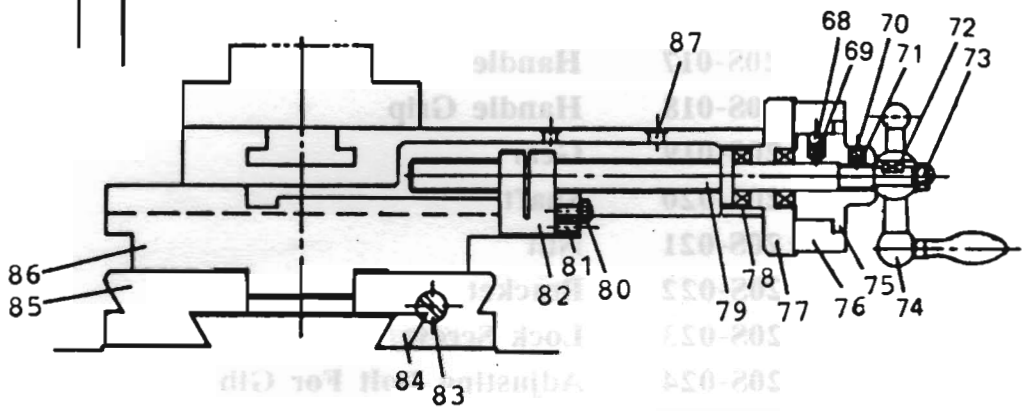
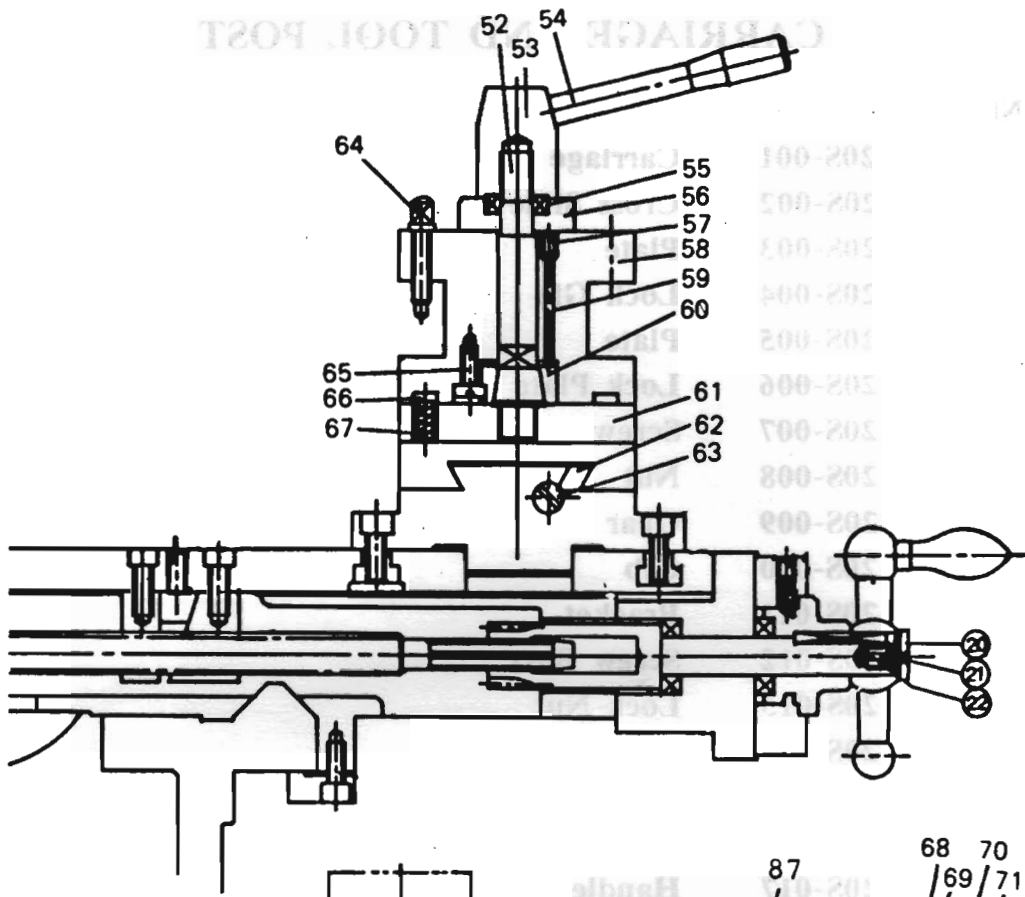
ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
83	20G-083	Change Speed Disc	1
84	20G-084	Rocking Lever	1
85	20G-085	Oil Seal (48 × 62 × 7)	1
86	20G-086	Snap Ring (S-17)	1
87	20G-087	Snap Ring (S-15)	1
88	20G-088	Oil Seal (40 × 50 × 8)	
89	20G-089	Feed Shaft 20B-010	1
90	20G-090	Snap Ring S-35	2
91	20G-091	Cap Screws M6 × 20	14
92	20G-092	Spring ϕ 1/4"	3
93	20G-093	Set Screws M8 × 8	5
95	20G-095	Snap Ring S-22	2
96	20G-096	Cap Screws M8 × 16	4
97	20G-097	Cap Screws M6 × 16	5
98	20G-098	Cap Screws M6 × 12	3
99	20G-099	Cap Screws M5 × 10	4
100	20G-100	Cap Screws M6 × 35	3
101	20G-101	O Ring G-85	1
102	20G-102	O Ring P-18	3

APRON

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20A-001	Apron Body	1
2	20A-002	Cover	1
3	20A-003	Cover	1
4	20A-004	Shaft	1
5	20A-005	Graduated Collar	1
6	20A-006	Housing	1
7	20A-007	Pinion Shaft	1
8	20A-008	Spur Gear	1
9	20A-009	Housing	1
10	20A-010	Handwheel	1
11	20A-011	Handle Grip	2
12	20A-012	Lever Boss	2
13	20A-013	Shaft	2
15	20A-015	Gear	1
16	20A-016	Shaft	1
17	20A-017	Shaft	1
18	20A-018	Housing	1
19	20A-019	Housing	1
20	20A-020	Worm Gear	1
21	20A-021	Gear	1
22	20A-022	Shaft	1
23	20A-023	Shaft	1
24	20A-024	Shaft	1
25	20A-025	Half Nut Support	1
26	20A-026	Half Nut	1
27	20A-027	Gib	1
28	20A-028	Gear	1
29	20A-029	Axle	1
30	20A-030	Bush	1
31	20A-031	Bush	1
32	20A-032	Gear	1
33	20A-033	Worm Box	1
34	20A-034	Buffle	1
35	20A-035	Shaft Gear	1
36	20A-036	Collar	1
37	20A-037	Housing	1
38	20A-038	Shaft	1
39	20A-039	Rocking Arm	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
40	20A-040	Safety Block	1
41	20A-041	Stick Bar	1
42	20A-042	Housing	1
43	20A-043	Shaft	1
45	20A-045	Hand Knob	1
48		Bearing 51104	1
49	20A-049	Lock Nut	1
54	20A-054	Oil Seal (30 × 40 × 5)	1
55	20A-055	Thrust Bearing 51103	2
56	20A-056	Bearing 6005	1
58	20A-058	Bearing 6004	2

Carriage and tool Post



CARRIAGE

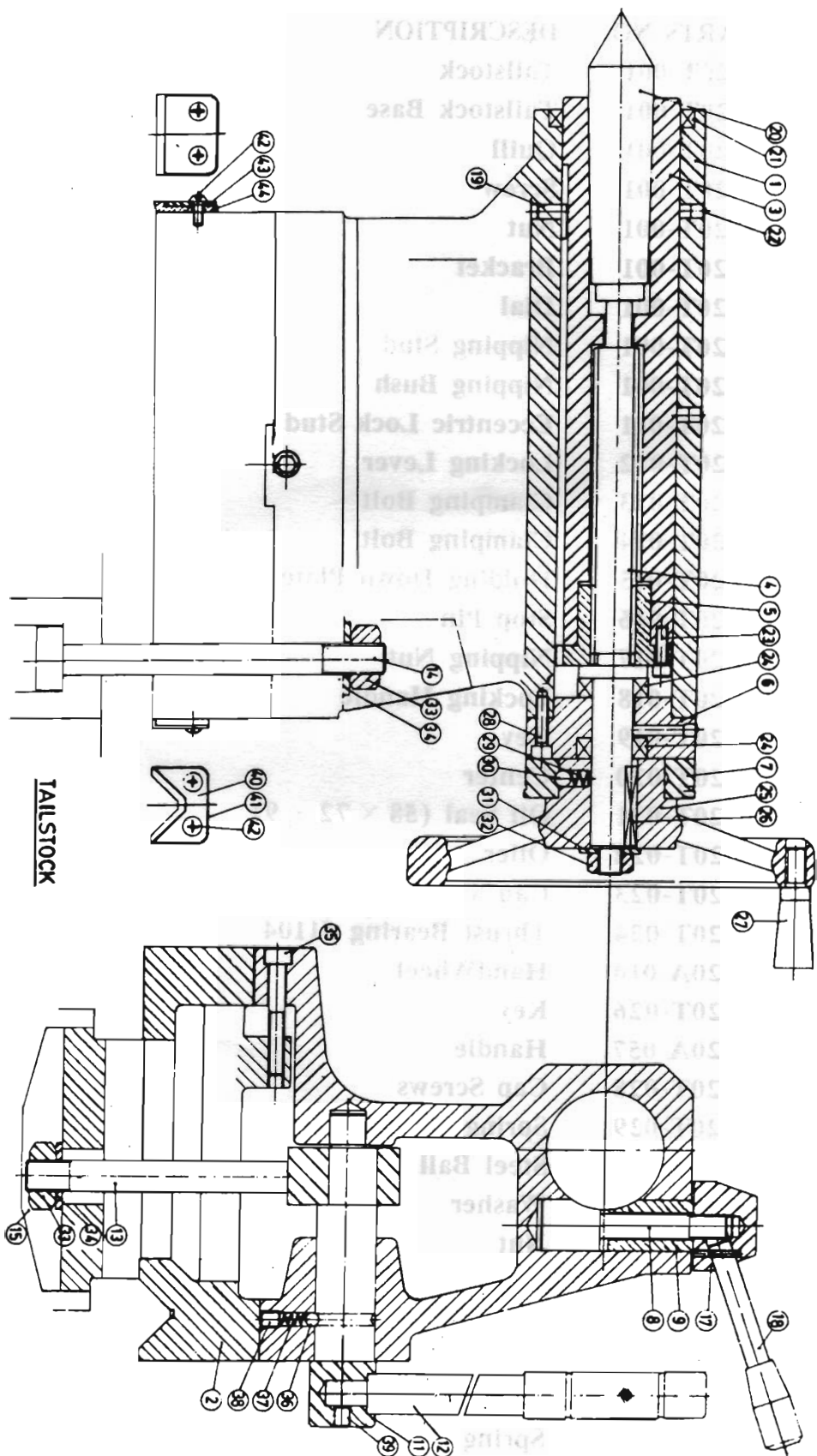
CARRIAGE AND TOOL POST

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20S-001	Carriage	1
2	20S-002	Cross Slide	1
3	20S-003	Plate	1
4	20S-004	Lock Gib	1
5	20S-005	Plate	2
6	20S-006	Lock Plate	1
7	20S-007	Screw	1
8	20S-008	Nut	1
9	20S-009	Gear	1
10	20S-010	Gib	1
11	20S-011	Bracket	1
12	20S-012	Screw Boss	1
13	20S-013	Lock Nut	1
14	20S-014	Screw	1
15	20S-015	Graduated Collar	1
16	20S-016	Nut	2
17	20S-017	Handle	1
18	20S-018	Handle Grip	1
19	20S-019	Gear	1
20	20S-020	Shaft	1
21	20S-021	Nut	2
22	20S-022	Bracket	1
23	20S-023	Lock Screw	1
24	20S-024	Adjusting Bolt For Gib	2
25	20S-025	Wiper	1
26	20S-026	Plate	1
27	20S-027	Wiper	2
28	20S-028	Plate	2
29	20S-029	Wiper	2
30	20S-030	Plate	2
33	20S-033	Screw	1
34	20S-034	Plate	1
35	20S-035	Set Screw M8 × 25	1
36	20S-036	Key	1
37	20S-037	Cap Screws M8 × 25	3
38	20S-038	Cap Screws M10 × 35	2
39	20S-039	Spring Pin ϕ 5 × 28	1
40	20S-040	Thrust Bearing 51103	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
41	20S-041	Oiler ϕ 1/4"	1
42	20S-042	Spring ϕ 1/4"	2
43	20S-043	Steel Ball ϕ 1/4"	2
44	20S-044	Cap Screws M8 \times 20	5
45	20S-045	Nuts M8	5
46	20S-046	Set Screws M8 \times 30	5
47	20S-047	Cap Screws M8 \times 16	4
48	20S-048	Snap Screws S13	1
49	20S-049	Set Screws M6 \times 6	1
50	20S-050	Key 4 \times 4 \times 25	1
51	20S-051	Thrust Bearing 51103	1
52	20S-052	Clamping Bolt	1
53	20S-053	Handle Boss	1
54	20S-054	Handle	1
55	20S-055	Thrust Bearing 51104	1
56	20S-056	Washer	1
57	20S-057	Hex. Set Screw	3
58	20S-058	Turret Tool Post	1
59	20S-059	Pin	3
60	20S-060	Sleeve	1
61	20S-061	Locking Block	1
62	20S-062	Gib	1
63	20S-063	Cam Screw	1
64	20S-064	Locking Screw	12
65	20S-065	Screw	3
66	20S-066	Pin	1
67	20S-067	Spring ϕ 5/12	1
68	20S-068	Steel Ball ϕ 3/16"	1
69	20S-069	Spring ϕ 1/16"	1
70	20S-070	Hex. Set Screw M6 \times 91 \times 61	1
71	20S-071	Washer	1
72	20S-072	Key	1
73	20S-073	Nut	1
74	20S-074	Lever	1
75	20S-075	Indexing Base	1
76	20S-076	Indexing Ring	1
77	20S-077	Bracket	1
78	20S-078	Thrust Bearing 51102	2
79	20S-079	Locking Screw 20S-079	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
80	20S-080	Nut M6 × P1	1
81	20S-081	Hex. Set Screw M6 × P1 × 201	
82	20S-082	Screw Nut	1
83	20S-083	Adjusting Screw	1
84	20S-084	Gib	1
85	20S-085	Cover	1
86	20S-086	Tool Slide	1
87	20S-087	Oiler	2

Tailstock

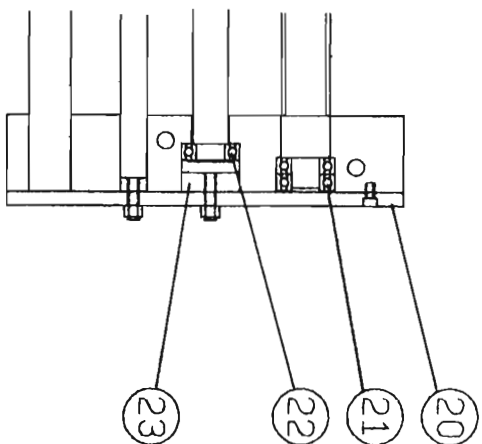
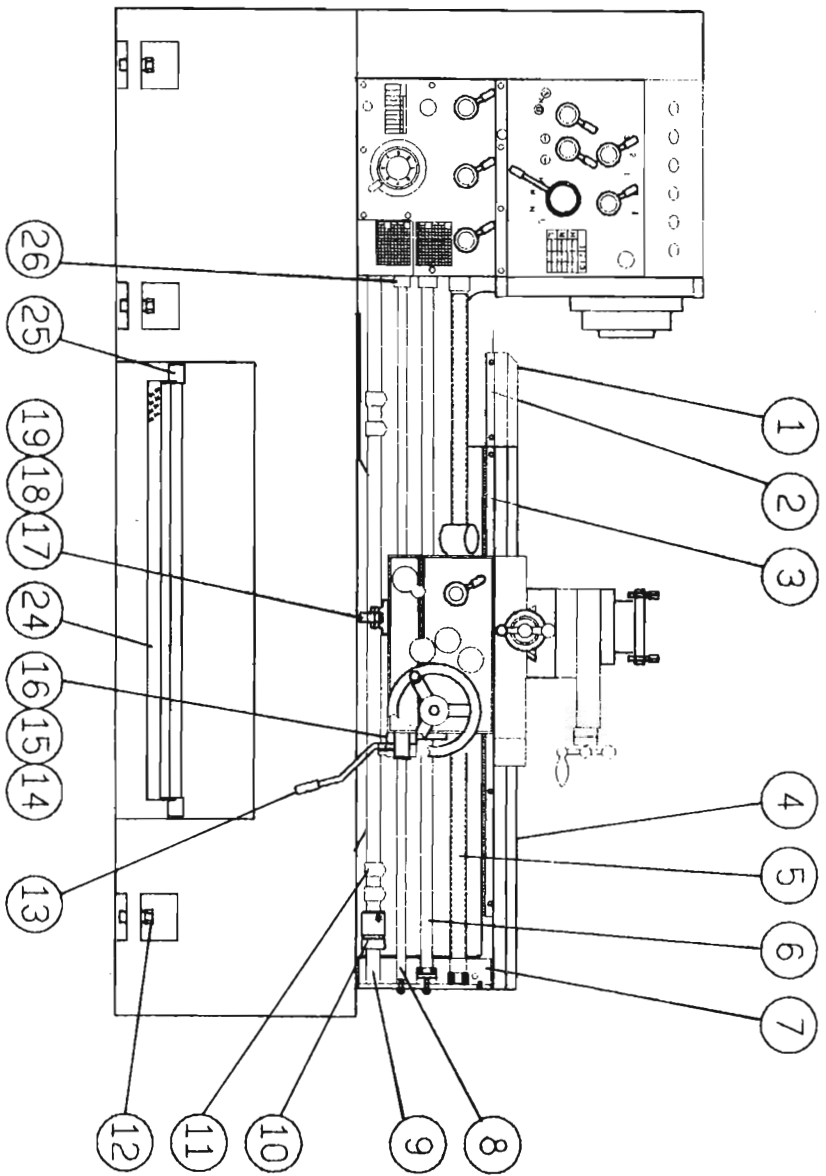


TAILSTOCK

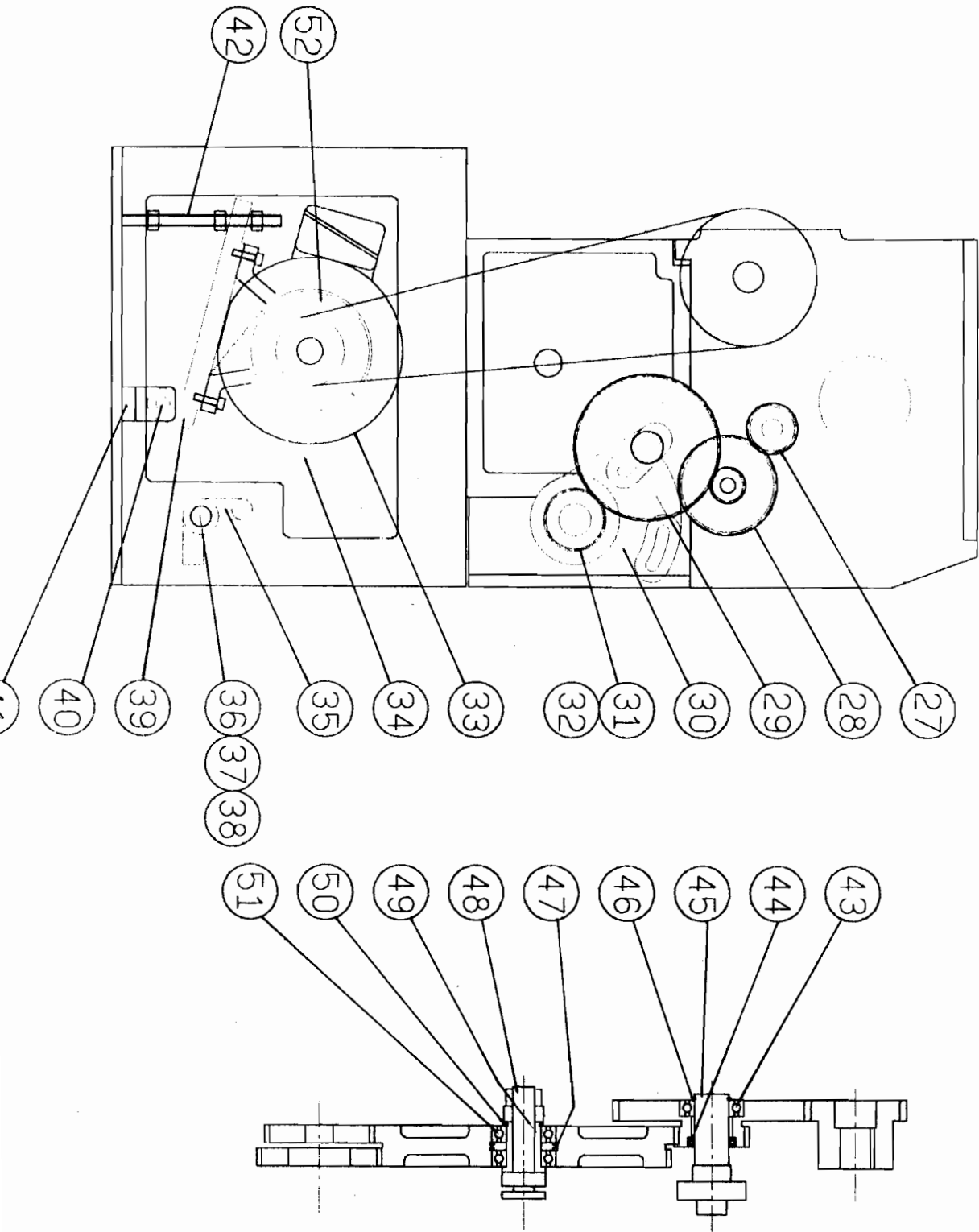
ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20T-001	Tailstock	1
2	20T-001	Tailstock Base	1
3	20T-001	Quill	1
4	20T-001	Screw	1
5	20T-001	Nut	1
6	20T-001	Bracket	1
7	20T-001	Dial	1
8	20T-001	Nipping Stud	1
9	20T-001	Nipping Bush	1
11	20T-011	Eccentric Lock Stud	1
12	20T-012	Locking Lever	1
13	20T-013	Clamping Bolt	1
14	20T-014	Clamping Bolt	1
15	20T-015	Holding Down Plate	1
16	20T-016	Stop Pin	1
17	20T-017	Nipping Nut	1
18	20T-018	Locking Handle	1
19	20T-019	Key	1
20	20T-020	Center	1
21	20T-021	Oil Seal (58 × 72 × 9)	1
22	20T-022	Oiler	1
23	20T-023	Cap Screws	3
24	20T-024	Thrust Bearing 51104	2
25	20A-010	HandWheel	1
26	20T-026	Key	1
27	20A-057	Handle	1
28	20T-028	Cap Screws	4
29	20T-029	Spring	1
30	20T-030	Steel Ball	1
31	20T-031	Washer	1
32	20T-032	Nut	1
33	20T-033	Nut	1
34	20T-034	Washer	1
35	20T-035	Cap Screw	2
36	20T-036	Steel Ball	1
37	20T-037	Spring	1
38	20T-038	Set Screw	1
39	20T-039	Set Screw	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
40	20T-040	Plate	2
41	20T-041	Wiper	2
42	20T-042	Screw	8
43	20T-043	Plate	2
44	20T-044	Wiper	2

Assembly of Bed and Machine Casting



Assembly of Bed and Machine Casting

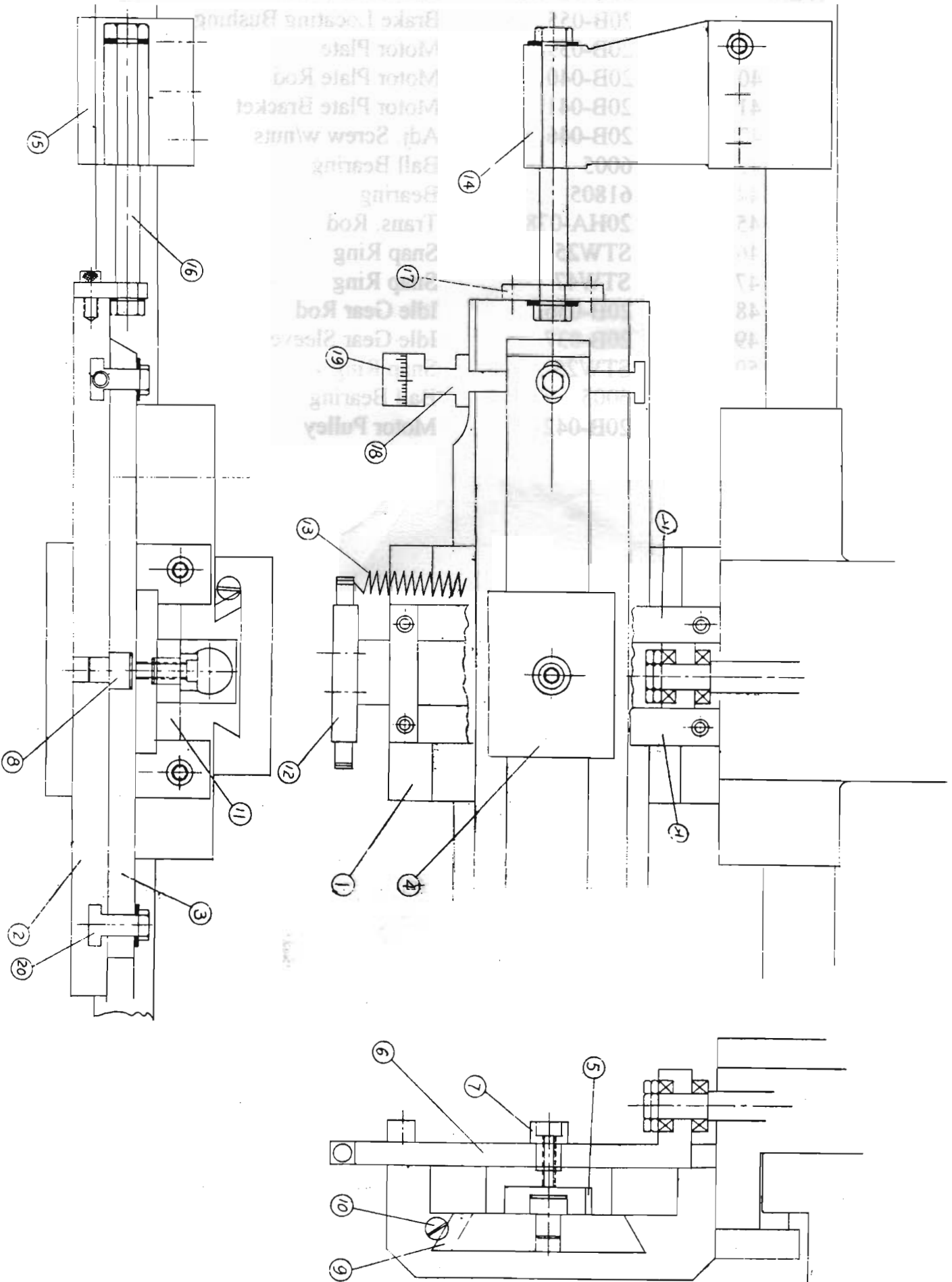


ASSEMBLY OF BED AND MACHINE CASTING

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20B-001-2	Gap bed	1
2	20B-024A	Gear Rack	1
3	20B-024C	Gear Rack	1
4	20B-001	Machine Bed	1
5	20B-007	Long. Leadscrew	1
6	20B-010	Feed Rod	1
7	20B-005	Holding Bracket	1
8	20B-009	Starting Rod	1
9	20B-008	Stopping Rod	1
10	20B-011	Rotation Sleeve	1
11	20B-012	Stopping Block	4
12	20B-050	Leveling Screw	6
13	20B-021	Starting Lever w/Handle	1
14	20B-019	Lever Bracket	1
15	20B-018	Rocker Arm	1
16	20B-020	Starter Sleeve	1
17	20B-014	Stopping Bracket	1
18	20B-013	Perpen. Rocker Arm	1
19	20B-015	Bracket Rod	1
20	20B-006	Bracket Cover	1
21	6004	Ball Bearing	2
22	6004	Ball Bearing	1
23	20B-023	Adjusting Bushing	1
24	20B-045	Foot Brake Plate	1
25	20B-048	Brake Plate Rod	1
26	20B-017	Short Starter Rod	1
27	20HA-150	Gear,	1
28	20HA-151I	Gear,	1
29	20B-033	Idle Gear,	1
30	20B-066	Quadrant Bracket	1
31	20B-034	Spur Gear,	1
32	20B-035	Spur Gear,	1
33	20B-067	Spindle Motor, 10 HP	1
34	20B-044	Brake Shoe Assembly	1
35	20B-043	Brake Rocking Arm	1
36	20B-068	Micro-limiting Switch	1
37	20B-056	Switch Contacting Block	1

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
38	20B-055	Brake Locating Bushing	1
39	20B-039	Motor Plate	1
40	20B-040	Motor Plate Rod	1
41	20B-041	Motor Plate Bracket	1
42	20B-046	Adj. Screw w/nuts	2
43	6005	Ball Bearing	1
44	61805	Bearing	1
45	20HA-078	Trans. Rod	1
46	STW25	Snap Ring	1
47	STW47	Snap Ring	2
48	20B-036	Idle Gear Rod	1
49	20B-037	Idle Gear Sleeve	1
50	STW25	Snap Ring	1
51	6005	Ball Bearing	2
52	20B-042	Motor Pulley	1

TAPER TURNING ATTACHMENT



ITEM NO.	PARTS NO.	DESCRIPTION
40	20B-04	Motor Plate
41	20B-04	Motor Plate Rod
42	20B-04	Motor Plate Bracket
43	20B-04	Adj. Screw Worm
44	20B-04	Ball Bearing
45	61802	Bearing
46	20HA-07	Trans. Rod
47	20B-04	Snap Ring
48	20B-04	Idle Gear Rod
49	20B-04	Idle Gear Sleeve
50	20B-04	Motor Pulley

TAPER TURNING ATTACHMENT

ITEM NO.	PARTS NO.	DESCRIPTION	Q'TY
1	20TA-001	Casting Body	1
2	20TA-002	Sliding Plate	1
3	20TA-003	Taper Sliding Plate	1
4	20TA-004	Locating Bracket	1
5	20TA-005	Locating Block	1
6	20TA-006	Pulling Plate	1
7	20TA-007	Screw Sleeve	1
8	20TA-008	Center Rod	1
9	20TA-009	Gib	1
10	20TA-010	Gib Screw	2
11	20TA-011	Bushing Plate	1
12	20TA-012	End Rod	1
13	20TA-013	Pulling Spring	1
14	20TA-014	End Locating Set	1
15	20TA-015	Locating Plate	1
16	20TA-016	Straight Rod	1
17	20TA-017	Plate Bushing	1
18	20TA-018	Adjusting Screw	1
19	20TA-019	Dial	1
20	20TA-020	Fixing Screw w/nut	2
21	20TA-021	Bushing Plate	2

STEADY REST

