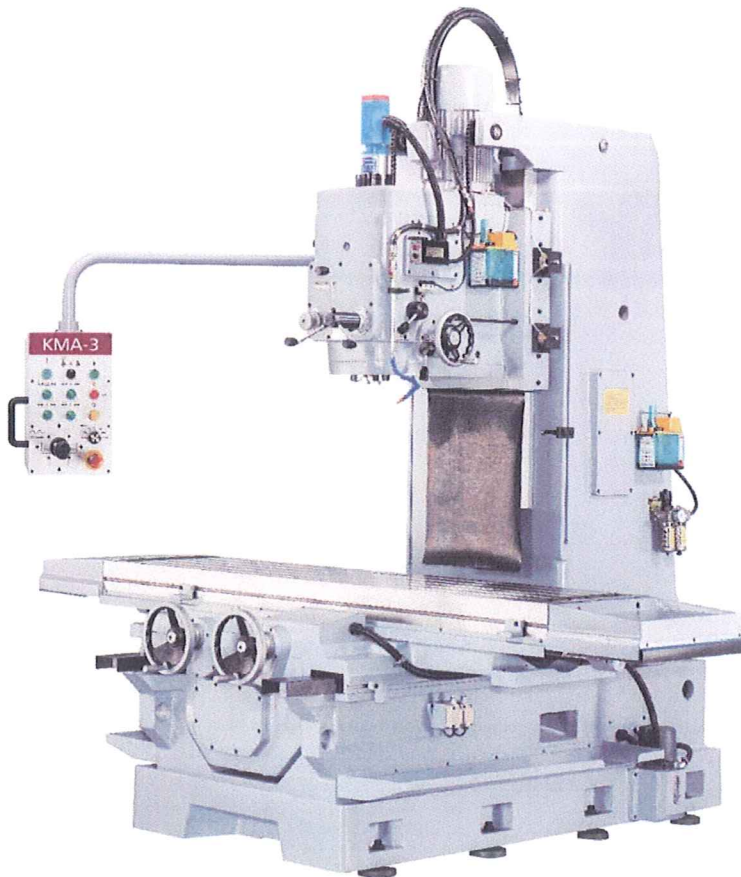


# SHARP

## VERTICAL BED TYPE MILLING & BORING MACHINE

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KMA-1, KMA-2, KMA-3, KMA-3H  
PARTS LIST



Model KMA-3

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SPINDLE HEAD (1)

Item	Parts No.	Parts Name	Q'ty	Remark
1	H-445	Nut	1	
2		Spring pin	1	$\varphi$ 5x30L
3	H-443	Draw bar	1	INCH
4	H-1167	Draw bar	1	MM
5	H-444	Nut	1	
6	H-780	Nut	1	
7	H-442	Pulley	1	
8	C-56	Lock nut	1	AN09
9		Lock washer	1	AW09
10		Parallel key	1	7x7x20
11	C-53	Lock nut	2	AN10
12	H-441	Collar	1	
13	H-440	Bearing cover	1	
14		Hex. socket screw	4	M8x1Px25L
15		Roller bearing	1	N210
16	H-469	Spur gear	1	
17	H-468	Spur gear	1	
18	H-439	Collar	1	
19		Steel ball	6	$\varphi$ 8
20	H-438	Spur gear	1	
21		C snap ring	1	S42
22		Parallel key	1	10x8x100
23	H-472	Spur gear	1	
24		Parallel key	2	10x8x16
25	H-437	Spur gear	1	
26		Hex. socket set screw	1	M16x2Px16L
27	H-471	Spur gear	1	
28		Taper roller bearing	1	32213

SPINDLE HEAD (1)

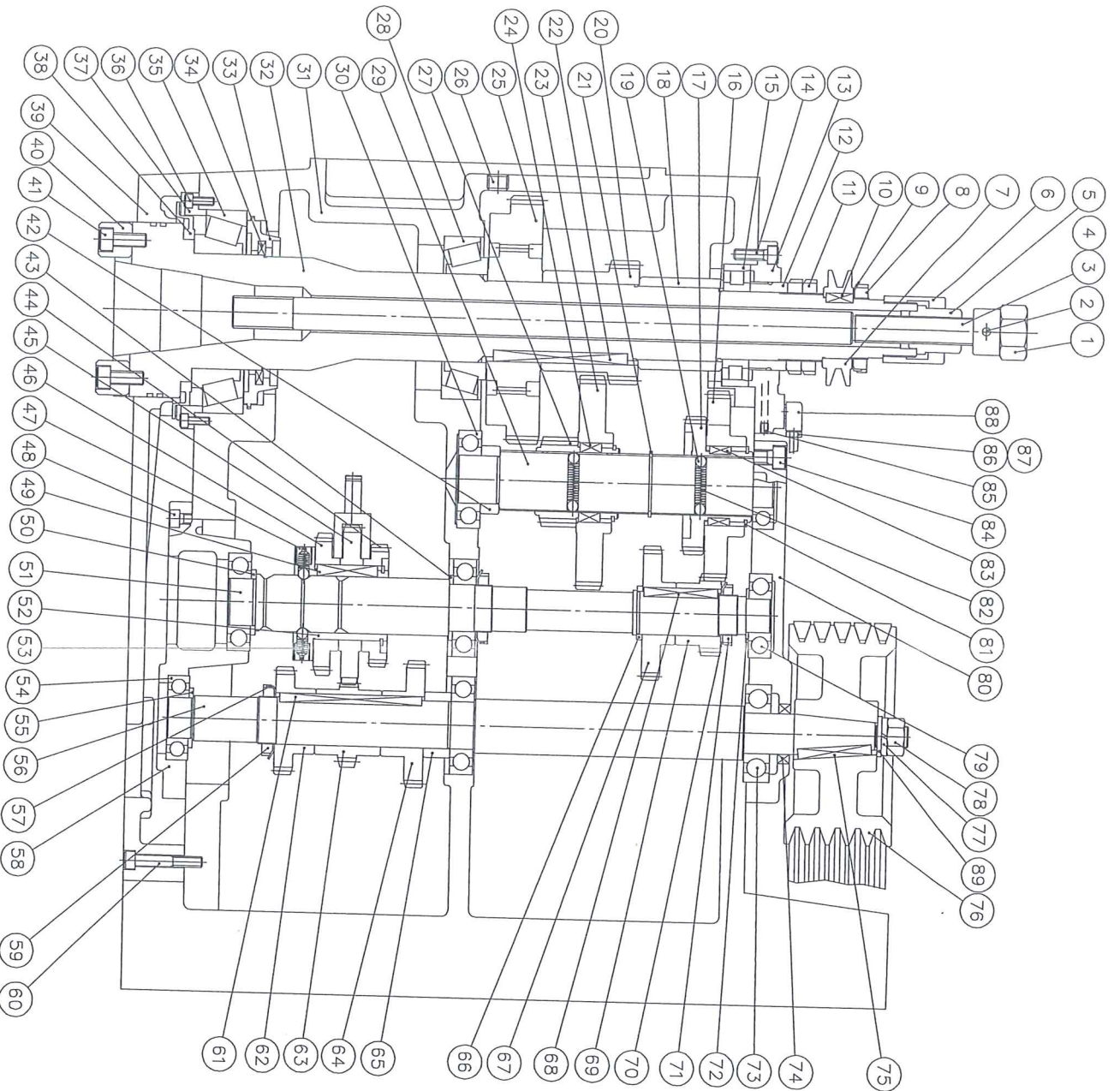
Item	Parts No.	Parts Name	Q'ty	Remark
29	H-467	Third shaft	1	
30		Ball bearing	4	6207
31	H-430	Spindle head	1	
32	H-431	Vertical spindle	1	
33				
34				
35		Taper roller bearing	1	32217
36		Hex. socket screw	6	M6x1Px16L
37	H-434	Bearing cover	1	
38	H-433	Washer	1	
39	H-493	Cover	1	
40	H-432	Drive key	2	
41		Hex. socket screw	2	M10x1.5Px25L
42	H-473	Spacing ring	1	
43	H-454	Washer	1	
44	H-458	Spur gear	1	
45	H-457	Spur gear	1	
46	H-456	Spur gear	1	
47	H-460	Bolt	2	
48		Hex. socket screw	6	M8x1.25Px25L
49		Parallel key	1	10x8x45
50	H-464	Washer	1	
51	H-453	2nd shaft	1	
52	H-455	Sleeve	1	
53	H-459	Spring	2	
54		Ball bearing	2	6206
55	H-451	Washer	1	
56	H-446	1st shaft	1	



SPINDLE HEAD (1)

Item	Parts No.	Parts Name	Q'ty	Remark
57		Lock washer	2	AW07
58	H-465	Bearing housing	1	
59	C-35	Lock nut	2	AN07
60		Hex. socket screw	31	M8x1.25Px50L
61		Parallel key	1	7x7x106
62	H-450	Spur gear	1	
63	H-449	Spur gear	1	
64	H-448	Spur gear	1	
65	H-447	Collar	1	
66	H-461	Washer	1	
67	H-462	Spur gear	1	
68		Parallel key	1	7x7x55
69	H-463	Spur gear	1	
70		Lock washer	1	AW06
71	K-144	Lock nut	1	AN06
72	H-466	Washer	1	
73		Ball bearing	1	6306
74		Oil seal	1	SC30449
75		Parallel key	1	7x7x55
76	H-452	Pulley	1	
77		Spring washer	1	M16
78		Hex. nut	1	M16x1.5P
79		Ball bearing	1	6305
80	H-474	Top cover	1	
81		C snap ring	3	S52
82	H-470	Spring	2	
83		Parallel key	2	10x5x16
84		Hex. socket screw	6	M10x1.5Px30L





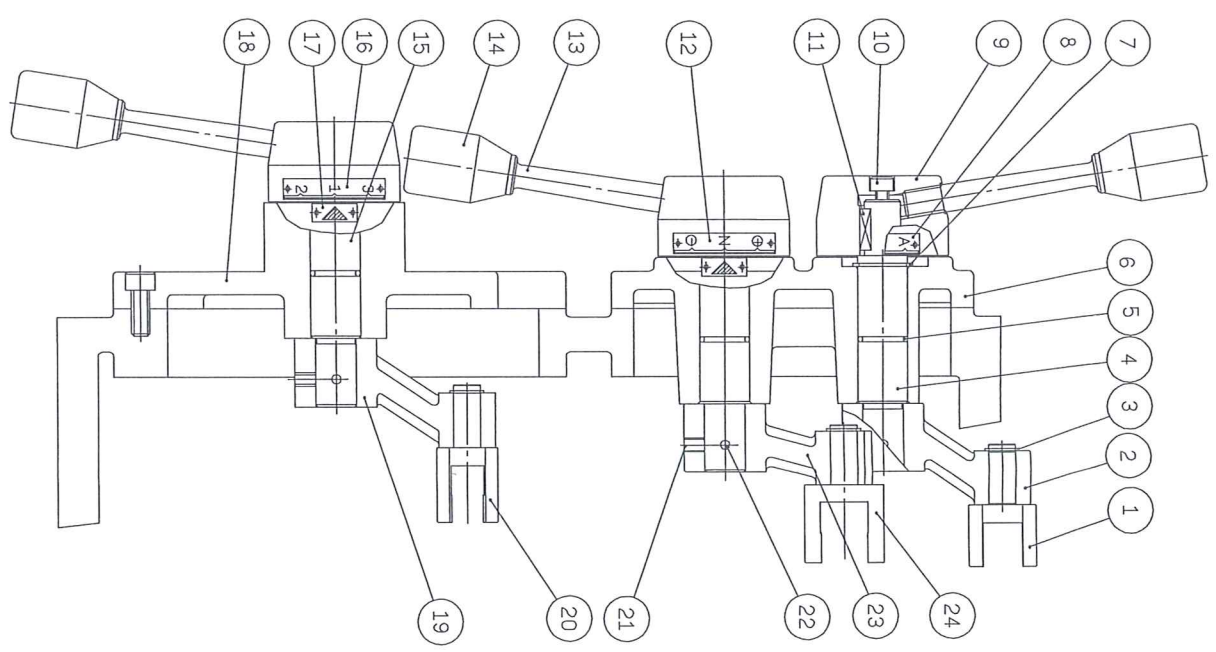
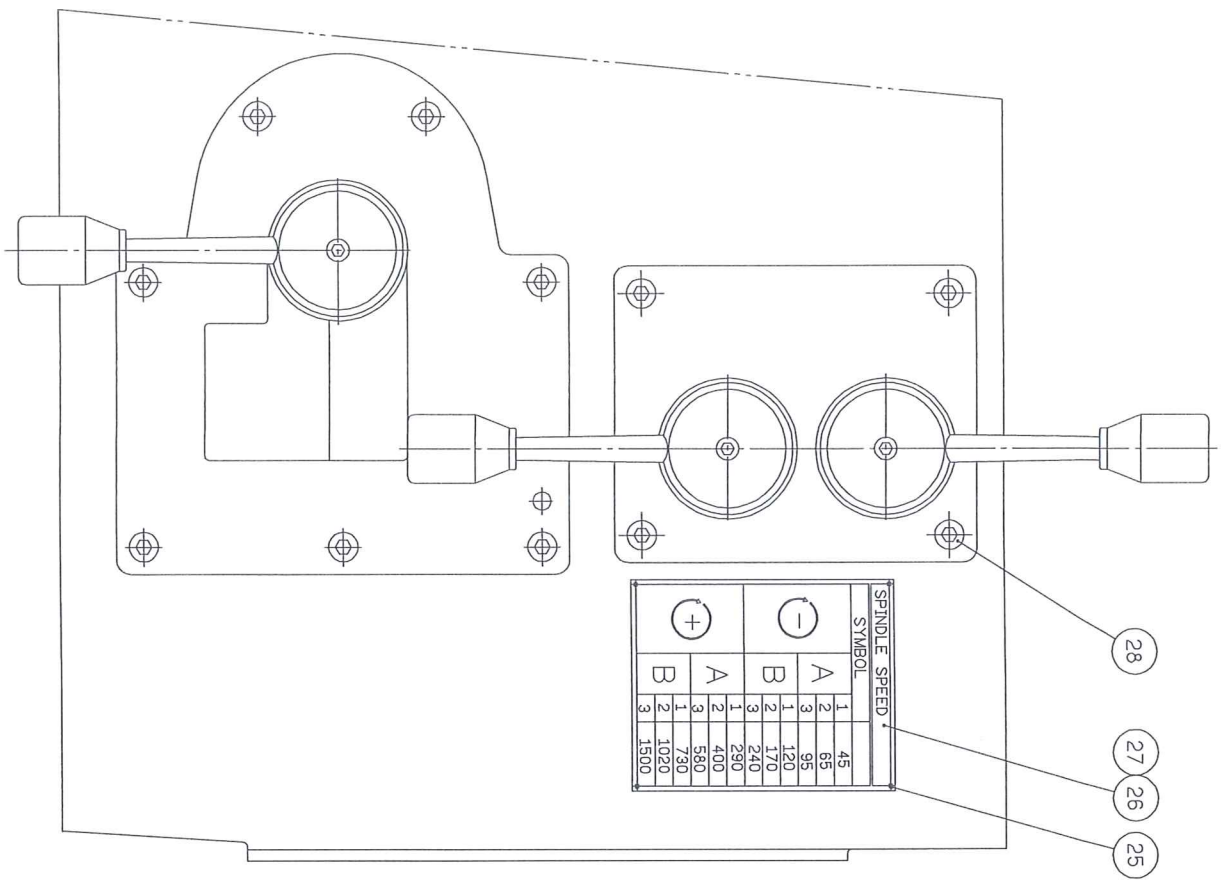
SPINDLE (1)

5 VERSION: 2

SPINDLE HEAD (2)

Item	Parts No.	Parts Name	Q'ty	Remark
1	H-488	Variable speed fork	1	
2	H-487	Variable seat	1	
3		C snap ring	3	S12
4	H-486	Variable speed shaft	2	
5		O ring	3	P18
6	H-485	Cover	1	
7		C snap ring	3	S22
8	H-491	Name plate	1	
9	H-479	Handle seat	3	
10		Hex. socket screw	3	M6x1Px16L
11		Parallel key	3	5x5x18
12	H-492	Name plate	1	
13	C-287	Handle lever	3	
14	H-149	Handle	3	
15	H-476	Variable speed shaft	1	
16	H-482	Name plate	1	
17	H-483	Name plate	3	
18	H-475	Bearing cover	1	
19	H-477	Variable seat	1	
20	H-478	Variable speed fork	1	
21		Hex. socket set screw	3	M6x1Px8L
22		Spring pin	3	$\phi$ 5x30L
23	H-489	Variable seat	1	
24	H-490	Variable speed fork	1	
25		Rivet	16	$\phi$ 2x5L
26	H-786	Name plate	1	60c/s
27	H-981	Name plate	1	50c/s
28		Hex. socket screw	11	M8x1.25Px25L





SPINDLE HEAD (3)

Item	Parts No.	Parts Name	Q'ty	Remark
1		Hex. socket screw	6	M8x1.25Px35L
2	H-667	Oil relief seat	1	
3	H-662	Oil pipe	1	
4		Reducing elbow	1	PT1/2"xPT3/4"
5	H-663	Hose connection	1	
6	H-4241	Wiper	1	
7	H-4249	Wiper	2	
8		Round head screw	28	M4x0.7Px12L
9	H-4242	Wiper	1	
10	H-4243	Wiper	2	
11	H-4244	Wiper	1	
12	H-4245	Wiper	2	
13	H-4270	Wiper	2	
14	H-653	Left fixed plate	1	
15		Hex. socket screw	12	M12x1.75Px40L
16	S-198	Adjust bolt	4	
17	H-638	Gib	2	
18	H-4271	Wiper	1	
19	H-629	Separating oil seat	1	
20		Oil pipe	1	$\phi$ 6x50L
21		Elbow joint	4	PH601
22	H-4269	Wiper	1	
23	H-4268	Wiper	1	
24	H-637	Right fixed plate	1	
25	H-640	Gib	1	
26	H-645	Washer	2	
27	H-644	Spring	2	
28		Hex. socket screw	4	M8x1.25Px20L

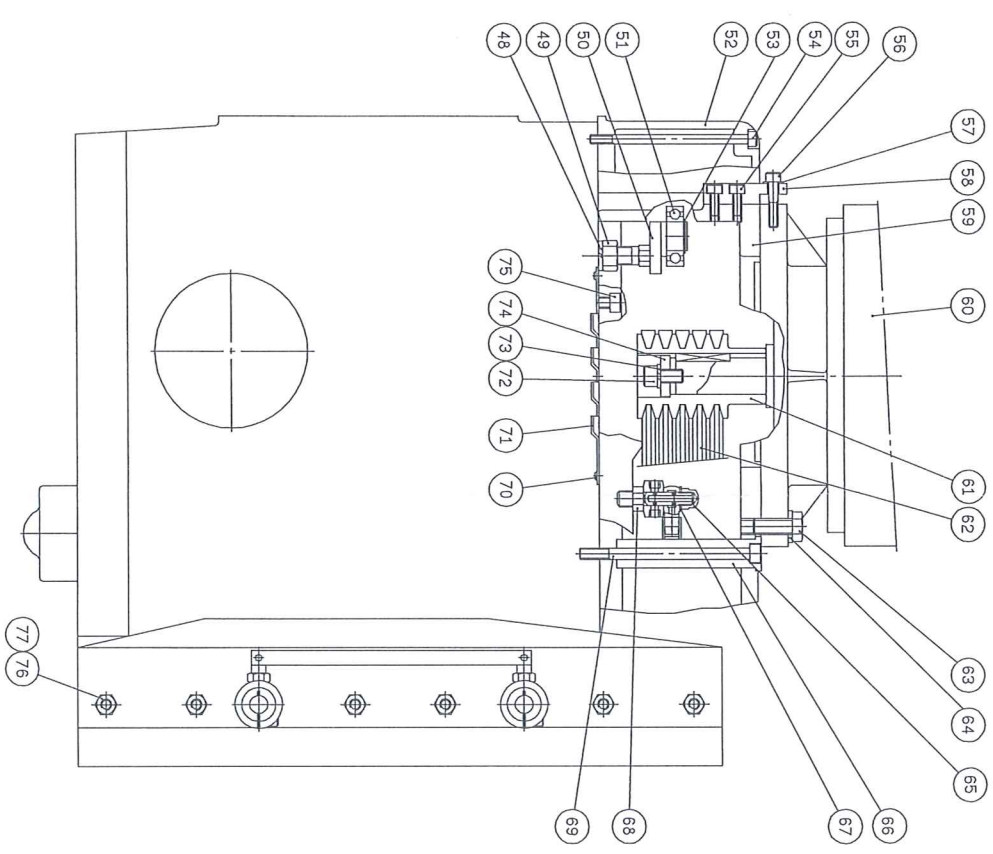
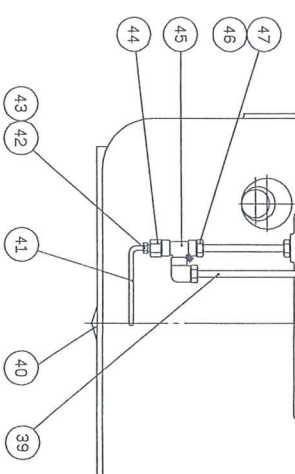
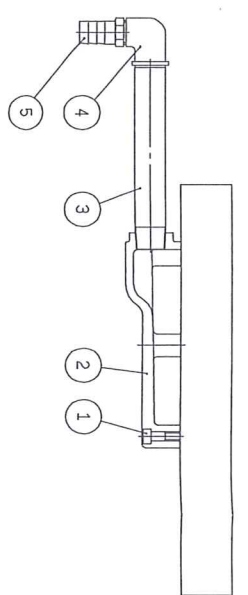
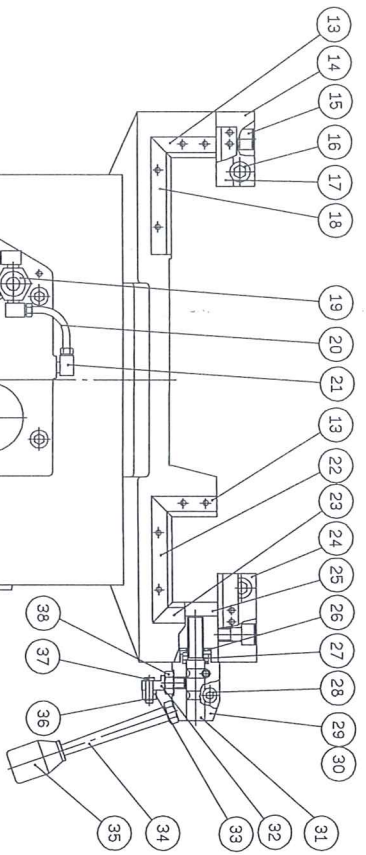
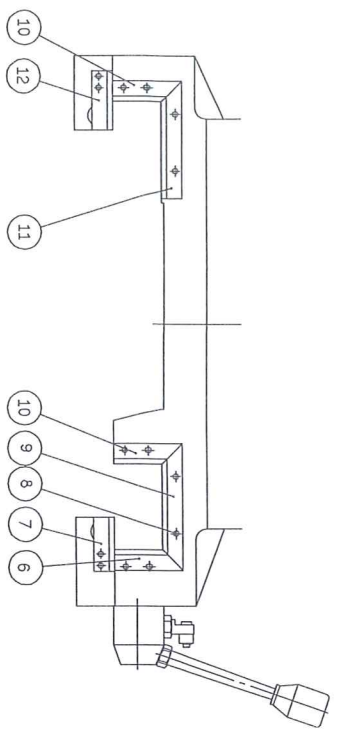
SPINDLE HEAD (3)

Item	Parts No.	Parts Name	Q'ty	Remark
29	H-3057	Handle seat	1	
30	H-3056	Handle seat	1	
31	H-642	Lock bolt	2	
32	H-3061	Bolt	2	
33	H-3059	Connected rod	1	
34	C-287	Handle lever	1	
35	H-147	Handle	1	
36		E snap ring	1	E4
37	H-3060	Joint pin	2	
38		Hex. nut	3	M10x1.5P
39		Oil pipe	1	$\varphi 6$
40		Oil gauge	1	$\varphi 26 \times \varphi 30$
41		Oil pipe	1	$\varphi 4$
42		Thimble	1	PB4
43		Thimble nut	1	PA4
44		Straight joint	1	PD601
45		T-joint	1	PKD6
46		Thimble	7	PB6
47		Thimble nut	7	PA6
48		Spring washer	1	M16
49		Nut	1	M16x2P
50	H-654	Eccentric shaft	1	
51		Ball bearing	1	6205ZZ
52	H-659	Cover	1	
53		C snap ring	1	S25
54		Hex. socket screw	4	M8x1.25Px150L
55		Hex. socket screw	2	M8x1.25Px20L
56		Hex. socket screw	1	M8x1.25Px45L

SPINDLE HEAD (3)

Item	Parts No.	Parts Name	Q'ty	Remark
57		Washer	1	
58	H-658	Belt adjusted block	1	
59	H-660	Motor bracket	1	
60		Motor	1	7.5HP-4P
61	H-656	Pulley	1	
62		V-belt	5	A33
63		Hex. bolt	4	M14x2Px35L
64		Washer	4	M14
65	H-634	Nut	1	
66	H-792	Sleeve	2	
67	H-630	Washer	2	
68	H-631	Separating oil pipe	1	
69		Hex. socket screw	9	M10x1.5Px150L
70		Round head screw	3	M4x0.7Px8L
71	H-665	Cover	1	
72		Hex. socket screw	1	M12x1.75Px20L
73		Spring washer	1	M12
74	H-657	Washer	1	
75		Hex. socket screw	2	M10x1.5Px25L
76	H-641	Adjust bolt	6	
77		Hex. nut	6	M10x1.5P





## SPINDLE HEAD (4)

Item	Parts No.	Parts Name	Q'ty	Remark
1		Rivet	9	$\phi$ 2x5L
2	H-620	Name plate	1	
3	H-2348	Name plate	1	MM, Chinese
4	H-801	Name plate	1	INCH, English
5	H-619	Name plate	1	MM, English
6	H-483	Name plate	1	
7		Parallel key	1	5x5x12L
8		Hex. socket screw	1	M6x1Px20L
9	H-616	Handle seat	1	
10	H-480	Handle lever	1	
11	H-149	Handle	4	
12		Hex. socket screw	4	M6x1Px16L
13	H-789	Name plate	1	
14	H-3336	Name plate	1	
15	H-614	Control lever sleeve	1	
16	H-613	Control lever	1	
17	H-571	Spring	1	
18		Steel ball	2	$\phi$ 8
19	H-570	Clutch	1	
20	H-615	Spur gear	1	
21		C snap ring	1	S15
22		Parallel key	1	5x5x20L
23	H-592	Graduation ring	1	MM
24	H-798	Graduation ring	1	INCH
25	H-591	Indicating ring	1	MM
26	H-4277	Indicating ring	1	INCH
27	H-1074	Cover	1	
28	K-144	Lock nut	2	AN06

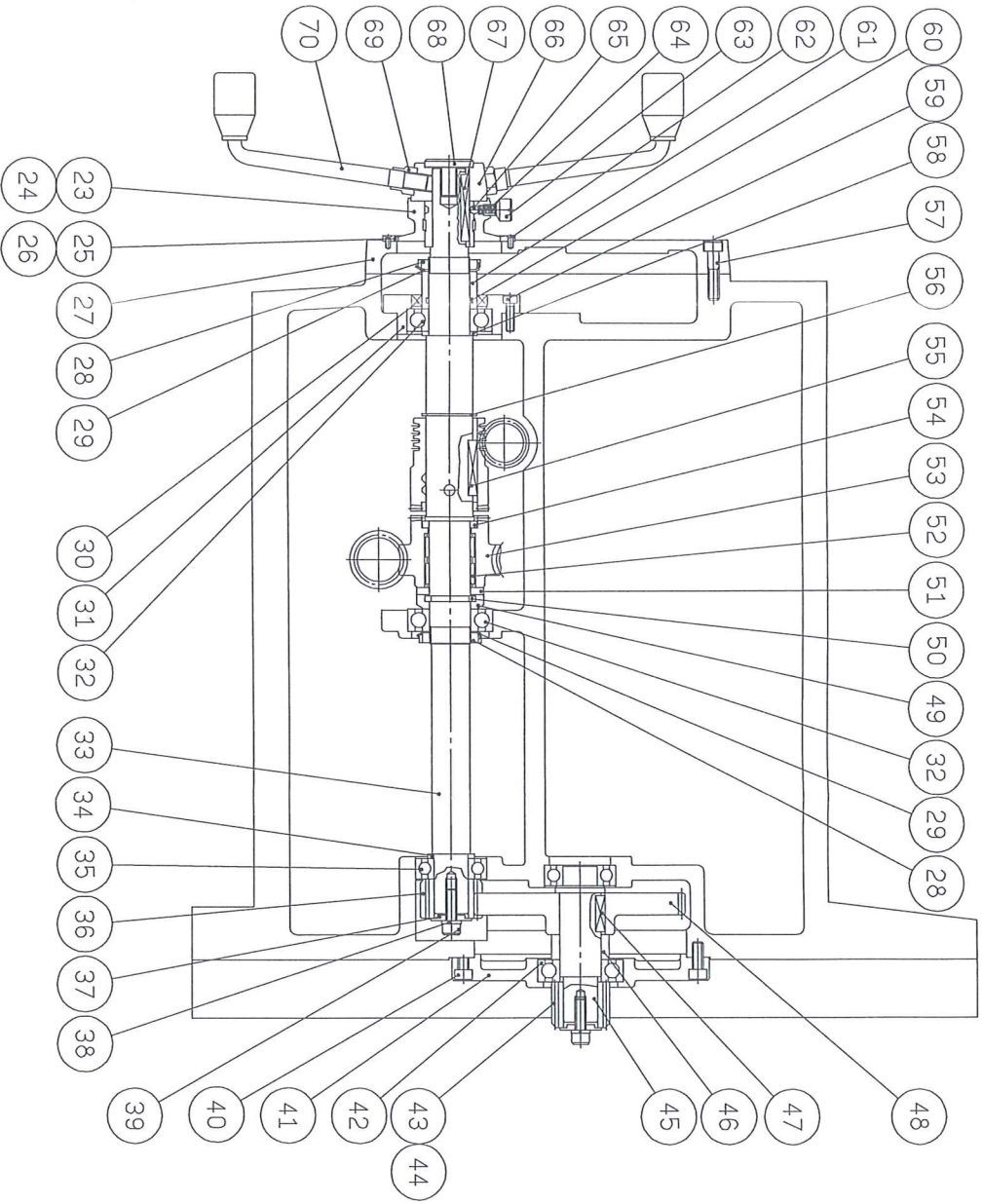
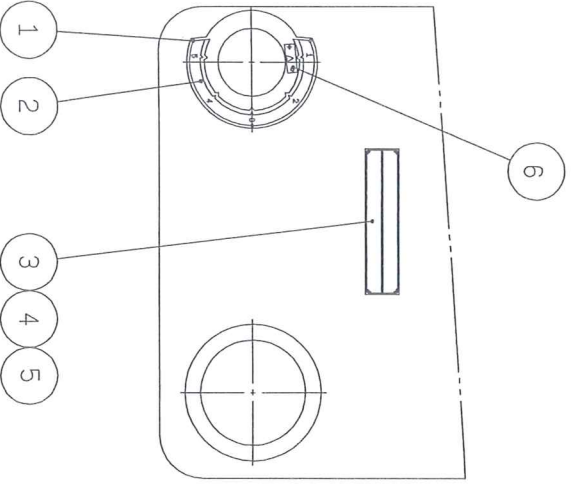
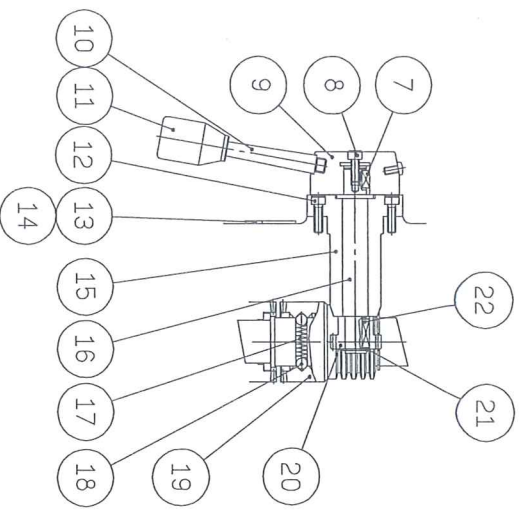
## SPINDLE HEAD (4)

Item	Parts No.	Parts Name	Q'ty	Remark
29		Lock washer	2	AW06
30		Oil seal	1	TC40558
31	H-581	Cover	1	
32		Ball bearing	2	6206
33	H-564	Shaft	1	
34	H-572	Washer	1	
35		Ball bearing	2	6205
36	H-573	Spur gear	1	
37	H-574	Washer	2	
38		Spring washer	2	M8
39		Hex. socket screw	2	M8x1.25Px25L
40		Hex. socket screw	6	M8x1.25Px20L
41	H-579	Bearing housing	1	
42		Ball bearing	1	6206LLU
43	H-578	Spur gear	1	MM
44	H-797	Spur gear	1	INCH
45	H-575	Gear shaft	1	
46	H-577	Washer	1	
47		Parallel key	1	7x7x26
48	H-576	Spur gear	1	
49	H-569	Washer	1	
50	H-568	Spacing ring	2	
51	H-567	Washer	1	
52		Needle bearing	1	TLAW3038Z
53	H-565	Clutch	1	
54	H-566	Washer	1	
55		Parallel key	1	7x7x40L
56		C snap ring	1	S34

SPINDLE HEAD (4)

Item	Parts No.	Parts Name	Q'ty	Remark
57		Hex. socket screw	7	M8x1.25Px30L
58	H-580	Washer	1	
59		Hex. socket screw	4	M6x1Px16L
60		O ring	1	G30
61	H-582	Sleeve	1	
62		Machine screw	4	M3x0.5Px8L
63	H-594	Set screw	1	
64	H-593	Spring	1	
65		Steel ball	1	$\varphi 6$
66	H-595	Handle seat	1	
67		Parallel key	1	7x5x48
68	H-596	Set screw	1	
69	H-598	Hex. nut	3	
70	H-597	Handle lever	3	





SPINDLE HEAD (5)

Item	Parts No.	Parts Name	Q'ty	Remark
1	H-519	Washer	1	
2	H-518	Washer	1	
3	H-509	6th shaft	1	
4	H-517	Spur gear	1	
5	H-516	Spur gear	1	
6	H-513	Washer	4	
7	H-515	Spur gear	1	
8	H-523	Spring	1	
9	H-514	Spur gear	1	
10	H-522	Fork pin	2	
11	H-512	Spur gear	1	
12	H-521	Fork sleeve	1	
13		Ball bearing	1	6208
14		C snap ring	1	S25
15	H-532	Bevel gear	1	
16	H-533	Washer	2	
17		Ball bearing	1	5205
18		C snap ring	1	R50
19	H-535	Bevel gear	1	
20	H-536	Variable direction rod	1	
21	H-534	7th shaft	1	
22		Ball bearing	1	5206
23	H-539	Bearing cover	1	
24		Hex. socket screw	4	M6x1Px16L
25		Hex. socket screw	4	M8x1.25Px20L
26	H-546	Variable seat	1	
27	H-543	Bolt	2	
28	H-544	Hex. nut	2	

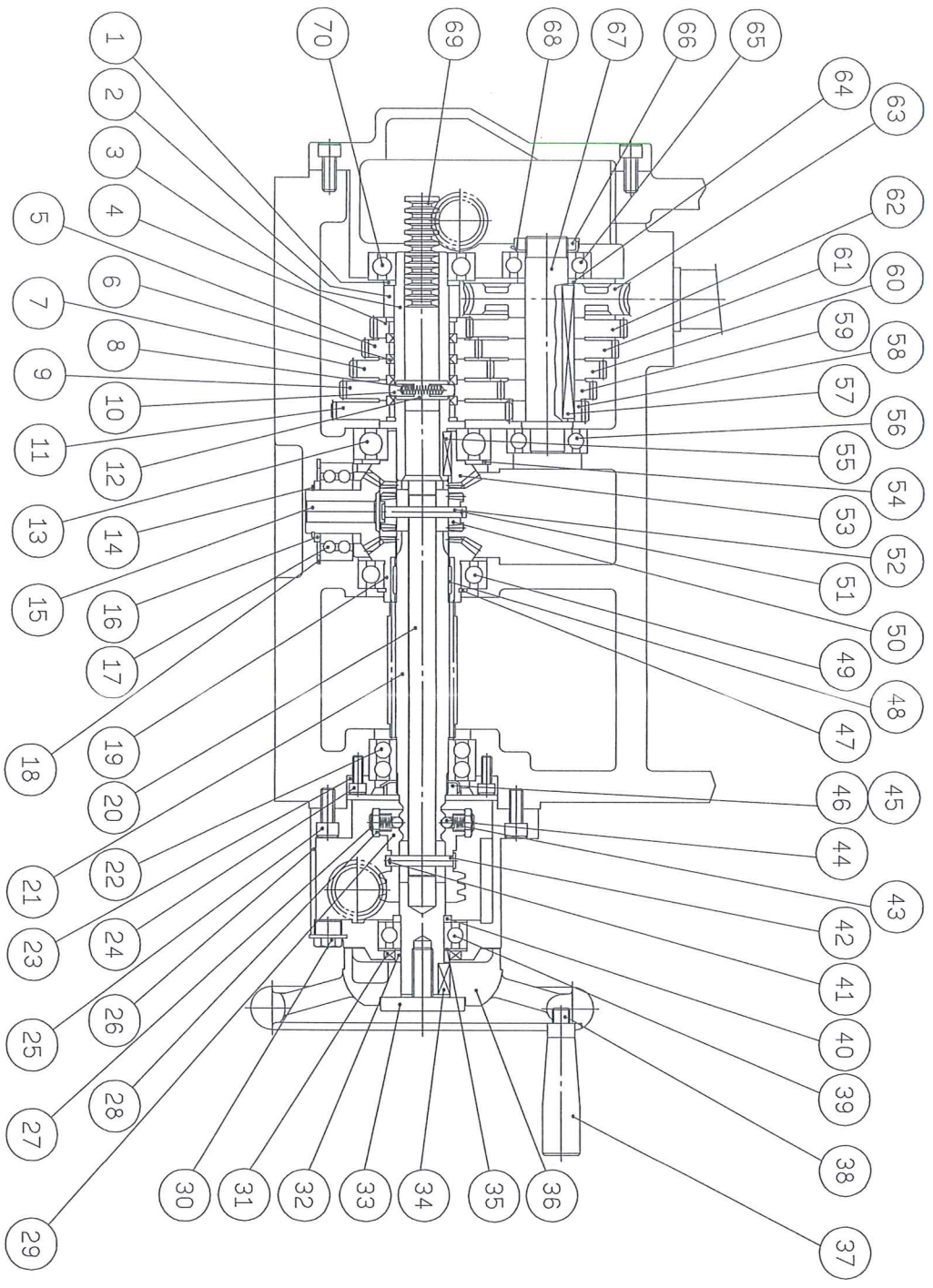
SPINDLE HEAD (5)

Item	Parts No.	Parts Name	Q'ty	Remark
29	H-540	Direction sleeve	1	
30	H-548	Hex. head bolt	2	
31		Oil seal	1	VC32458
32	H-549	Washer	1	
33	H-551	Fixing screw	1	
34		Parallel key	1	7x7x16L
35		O ring	1	P20
36	H-550	Handle wheel	1	
37	T-14	Handle	1	
38	T-15	Handle bolt	1	
39		Ball bearing	1	6205LLU
40	H-545	Washer	1	
41		Dowel pin	1	1/16"x3/4"
42	H-541	Pin	1	
43	H-609	Spring	2	
44		Steel ball	2	$\phi$ 6
45		Lock washer	1	AW06
46	K-144	Lock nut	1	AN06
47		C snap ring	1	S45
48		Needle bearing	1	TLA3026Z
49		Ball bearing	1	6009
50	H-537	Clutch	1	
51		Dowel pin	1	1/16"x3/4"
52	H-538	Pin	1	
53	H-510	Bevel gear	1	
54	H-511	Washer	1	
55		Parallel key	1	7x5x25L
56		Ball bearing	1	6204

SPINDLE HEAD (5)

Item	Parts No.	Parts Name	Q'ty	Remark
57		Parallel key	1	7x6x77L
58	H-502	Spur gear	1	
59	H-503	Spur gear	1	
60	H-504	Spur gear	1	
61	H-505	Spur gear	1	
62	H-506	Spur gear	1	
63	H-507	Worm gear	1	
64	H-508	Washer	1	
65		Ball bearing	1	6205
66	K-105	Lock nut	1	AN05
67	H-501	5th shaft	1	
68		Lock washer	1	AW05
69	H-520	Speed change lever	1	
70		Ball bearing	1	6206





SPINDLE HEAD (5)

SPINDLE HEAD (6)

Item	Parts No.	Parts Name	Q'ty	Remark
1		Hex. socket screw	1	M6x1Px20L
2	H-531	Handle	1	
3		Parallel key	1	5x5x25L
4	H-528	Speed change control	1	
5		Spring pin	1	$\varphi$ 5x25L
6	H-529	Spur gear	1	
7	H-526	Gear shaft	1	
8	H-527	Spur gear	1	
9	H-524	Gear shaft	1	
10		Ball bearing	1	6202Z
11		C snap ring	1	R35
12	H-525	Spur gear	1	
13		Parallel key	1	5x5x12L
14		C snap ring	1	S15
15		E snap ring	1	E8
16		Hex. socket screw	3	M6x1Px16L
17	H-530	Control rod cover	1	
18		O ring	1	P20
19		Ball bearing	1	6206
20		C snap ring	1	S30
21	H-494	4th shaft worm	1	
22	H-497	Copper bushing	1	
23	H-499	Spacing ring	1	
24		Hex. socket screw	4	M6x1Px16L
25	H-500	Pulley	1	
26		V-belt	1	A25
27		Parallel key	1	5x5x20L
28		Lock washer	1	AW05

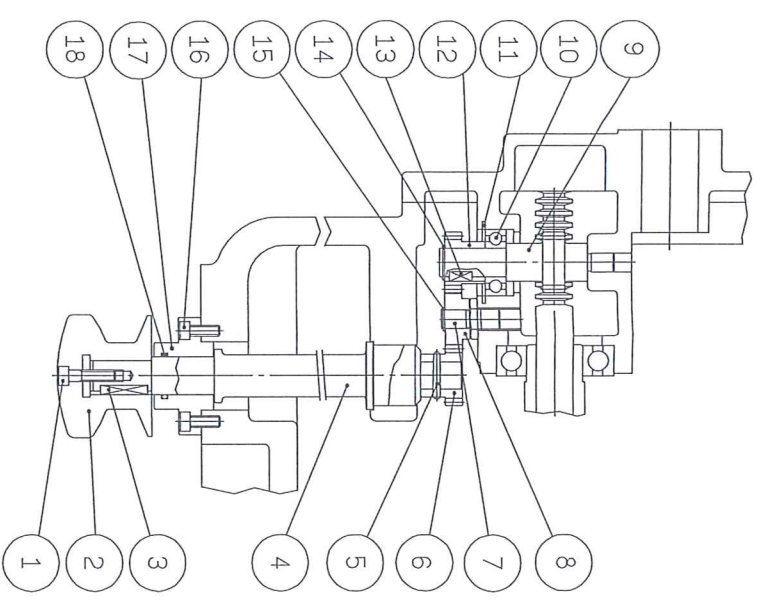
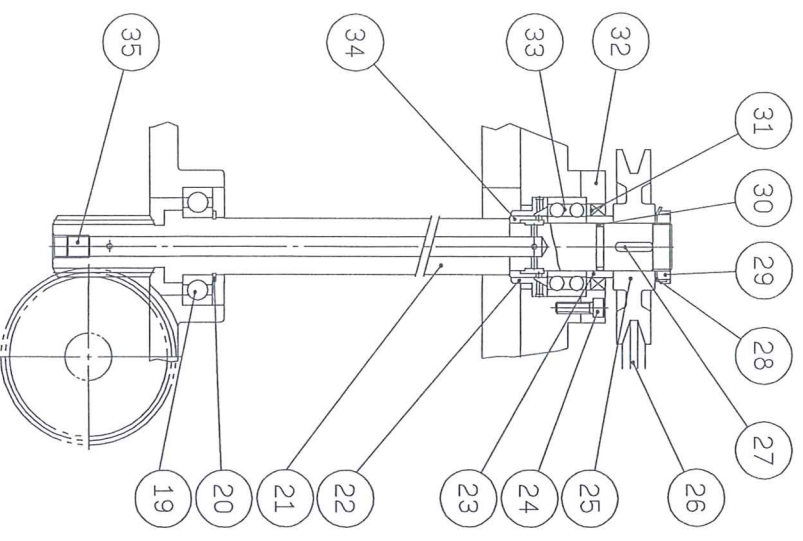
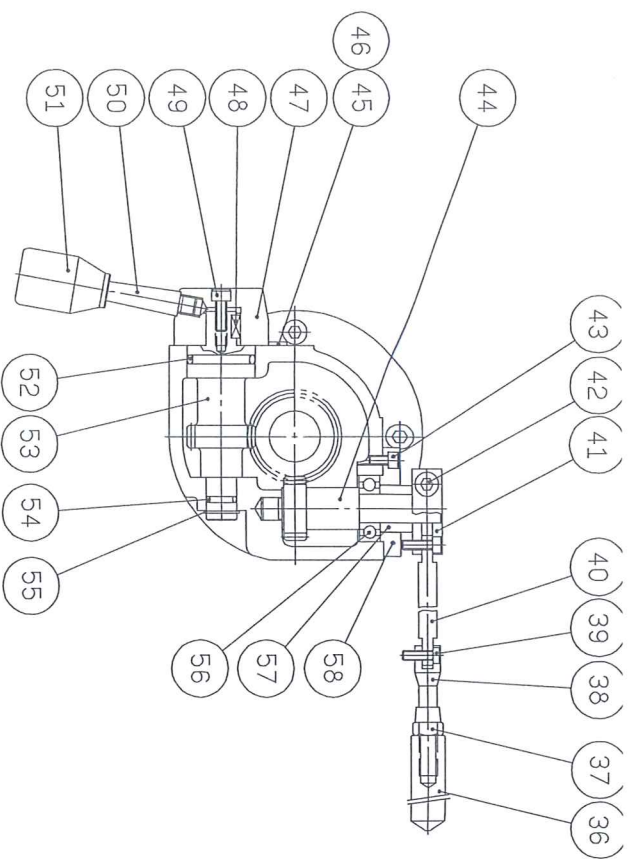
SPINDLE HEAD (6)

Item	Parts No.	Parts Name	Q'ty	Remark
29	K-105	Lock nut	1	AN05
30		O ring	1	P20
31		Oil seal	1	VC32458
32	H-498	Bearing cover	1	
33		Ball bearing	1	5205
34	H-496	Spacing ring	1	
35		Hex. socket set screw	1	M12x1.75Px12L
36	H-562	Control rod	1	
37	H-561	Hex. nut	1	
38	H-560	Link connection	1	
39		Hex. socket screw	2	M5x0.8Px16L
40	H-559	Link	1	
41	H-558	Link connection	1	
42		Hex. socket screw	1	M8x1.25Px20L
43		Hex. socket screw	4	M5x0.8Px10L
44	H-555	Gear shaft	1	
45	H-563	Name plate	1	English
46	H-3354	Name plate	1	Chinese
47	H-553	Handle seat	1	
48		Parallel key	1	5x5x12L
49		Hex. socket screw	1	M6x1Px16L
50	H-554	Handle lever	1	
51	H-149	Handle	1	
52		O ring	1	P30
53	H-552	Gear lever	1	
54		O ring	1	P12
55		C snap ring	1	S16
56		Ball bearing	1	6202Z

SPINDLE HEAD (6)

Item	Parts No.	Parts Name	Q'ty	Remark
57	H-557	Spacing ring	1	
58	H-556	Bearing cover	1	





SPINDLE HEAD (6)

TABLE UNITS

Item	Parts No.	Parts Name	Q'ty	Remark
1		Grease nipple	2	PT1/8
2	T-83	Bearing cover	2	
3	K-105	Lock nut	2	AN05
4		Lock washer	2	AW05
5		Taper roller bearing	2	30205
6	T-754	Spacing ring	1	
7	S-313	Spacing ring	1	
8	T-80	Bearing housing	1	
9	T-75	Nut	1	MM
10	T-143	Nut	1	INCH
11		Needle bearing	2	TA4525Z
12		Thrust bearing	2	51109
13		Parallel key	1	7x7x60L
14	T-73	Gear seat	1	
15	T-74	Helical gear	1	
16	T-76	Nut	1	MM
17	T-142	Nut	1	INCH
18	T-79	Longitudinal screw	1	MM
19	T-141	Longitudinal screw	1	INCH
20	T-85	Cover	1	
21		Ball bearing	2	6205ZZ
22	T-84	Bearing housing	1	
23		Hex. nut	4	M8x1.25P
24		Spring washer	4	M8
25	T-89	Taper pin	2	
26		Hex. socket screw	4	M10x1.5Px50L
27	T-96	Stroke adjusting block	1	
28		Hex. socket screw	3	M8x1.25Px25L

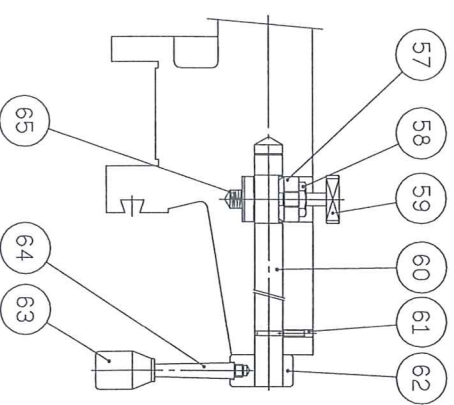
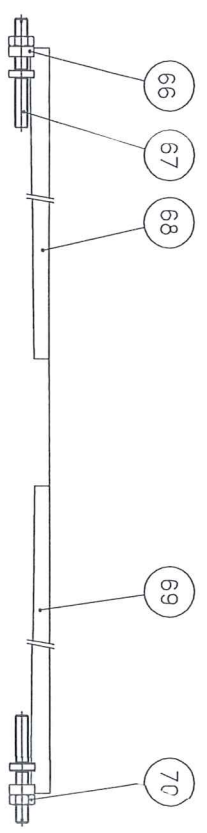
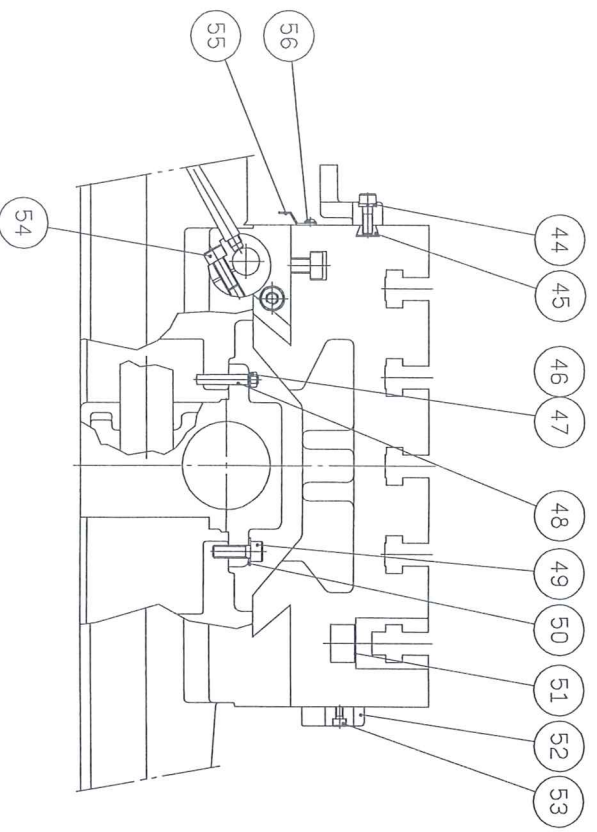
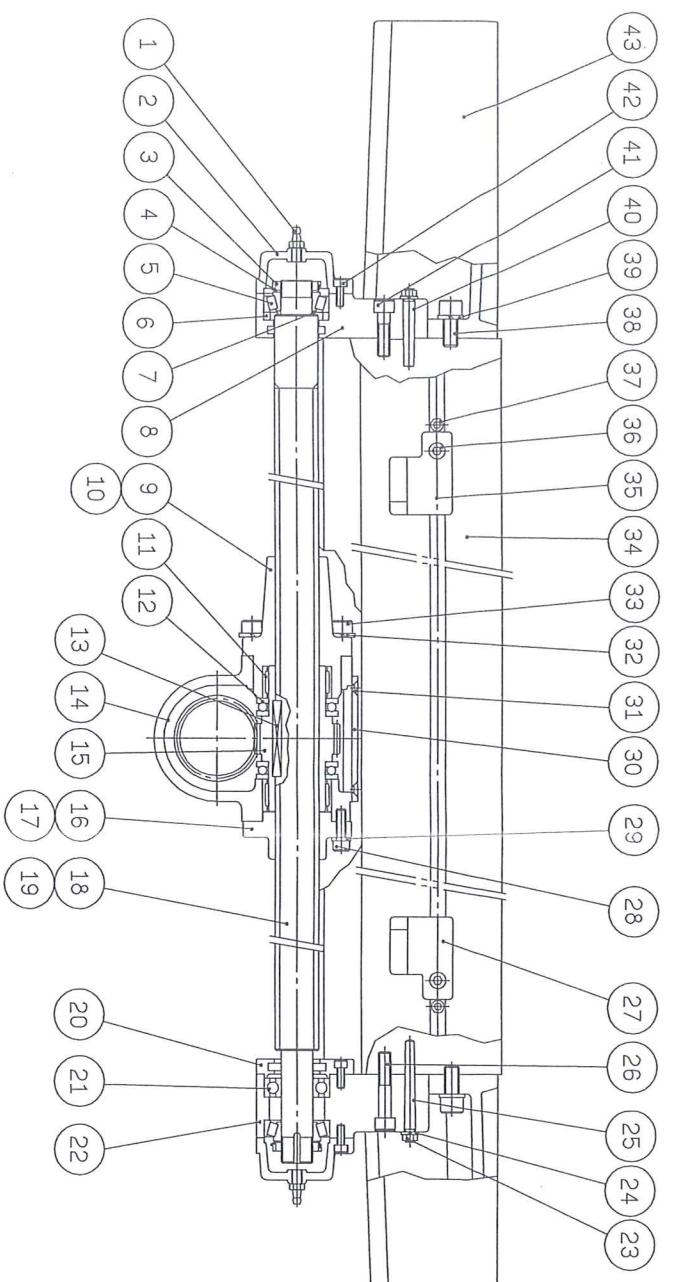
TABLE UNITS

Item	Parts No.	Parts Name	Q'ty	Remark
29		Washer	3	
30	T-77	Cover	1	
31		Machine screw	4	M6x1Px8L
32		Spring washer	4	M10
33		Hex. socket screw	4	M10x1.5Px35L
34	T-72	Table	1	
35	T-90	Stroke adjusting block	1	
36		Hex. socket screw	2	M8x1.25Px25L
37		Hex. socket screw	2	M6x1Px8L
38		Hex. socket screw	4	M12x1.75Px30L
39		Spring washer	4	M12
40	T-82	Taper pin	2	
41		Hex. socket screw	4	M10x1.5Px35L
42		Hex. socket screw	6	M6x1Px16L
43	T-98	Table side cover	2	
44		Spring washer	2	M8
45	T-91	T block	2	
46		Hex. nut	2	M6x1P
47		Spring washer	2	M6
48	T-78	Taper pin	2	
49		Hex. socket screw	4	M10x1.5Px30L
50		Flat washer	4	M10
51	T-109	Filter net	1	
52	T5-1014	Cover	1	
53		Hex. socket screw	2	M6x1Px20L
54		Hex. socket screw	2	M10x1.5Px25L
55	T-1061	Cover	1	
56		Round head screw	5	M5x0.8Px8L

SPINDLE HEAD (6)

Item	Parts No.	Parts Name	Q'ty	Remark
57	H-557	Spacing ring	1	
58	H-556	Bearing cover	1	

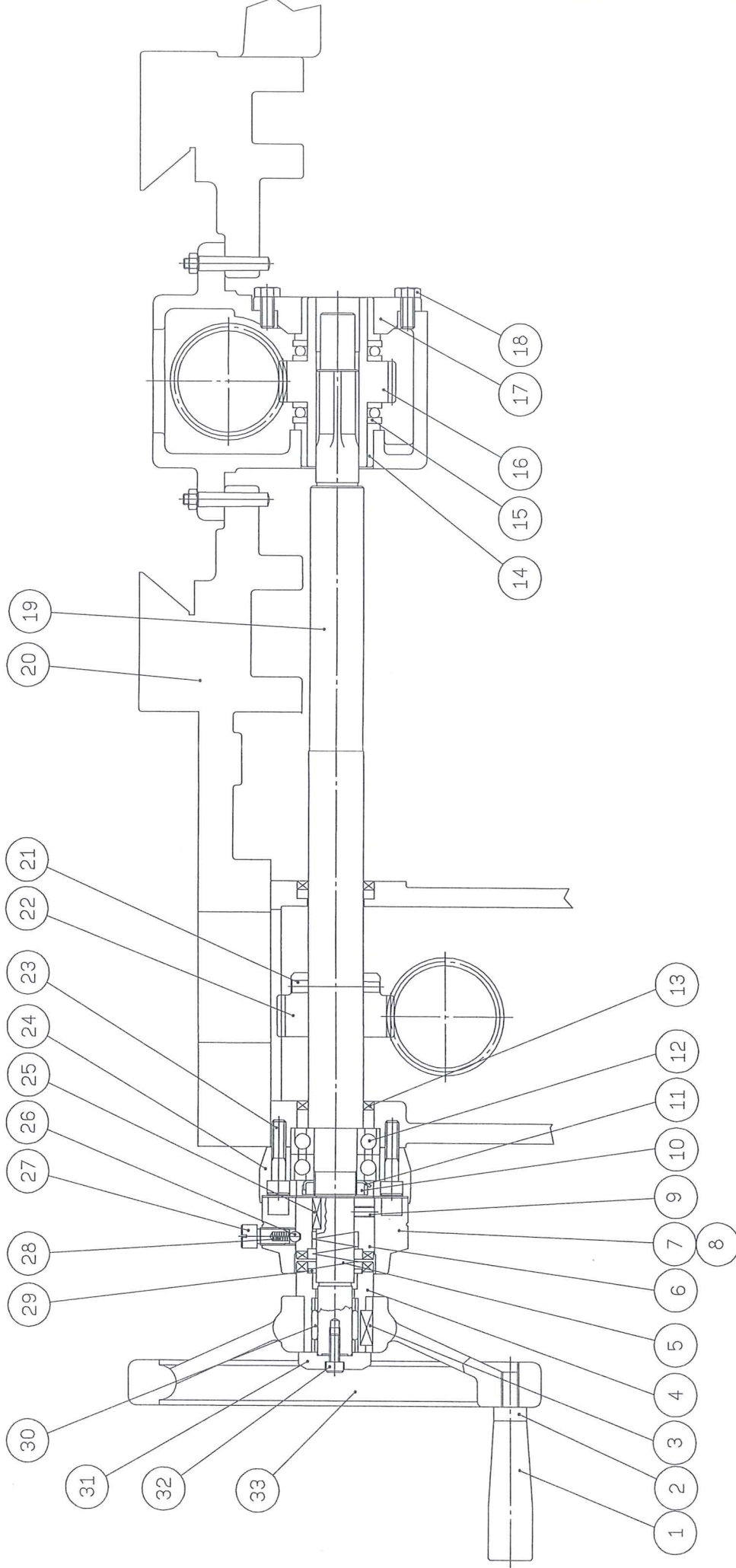




SADDLE UNITS (1)

Item	Parts No.	Parts Name	Q'ty	Remark
1	S-105	Handle	1	
2	S-104	Handle bolt	1	
3		Parallel key	1	7x5x20L
4	S-101	Handle wheel clutch	1	
5	S-95	Spring	1	
6	S-94	Clutch	1	
7	S-97	Graduation ring	1	MM
8	S-187	Graduation ring	1	INCH
9		Hex. socket set screw	1	M6x1Px10L
10	K-105	Lock nut	1	AN05
11		Lock washer	1	AW05
12		Angular ball bearing	2	7205B
13		Oil seal	1	VC32458
14	S-90	Brass bushing	2	
15		Thrust bearing	2	51107
16	S-89	Helical gear	1	
17	S-91	Brass bushing seat	1	
18		Hex. bolt	4	M8x1.25Px20L
19	S-88	Transmission shaft	1	
20	S-87	Saddle	1	
21	S-499	Taper pin	1	
22	S-92	Helical gear	1	
23		Hex. socket screw	4	M8x1.25Px35L
24	S-93	Bearing housing	1	
25		Parallel key	1	5x5x18L
26		Steel ball	1	$\varphi$ 8
27	S-100	Fixed screw	1	
28	H-593	Spring	1	





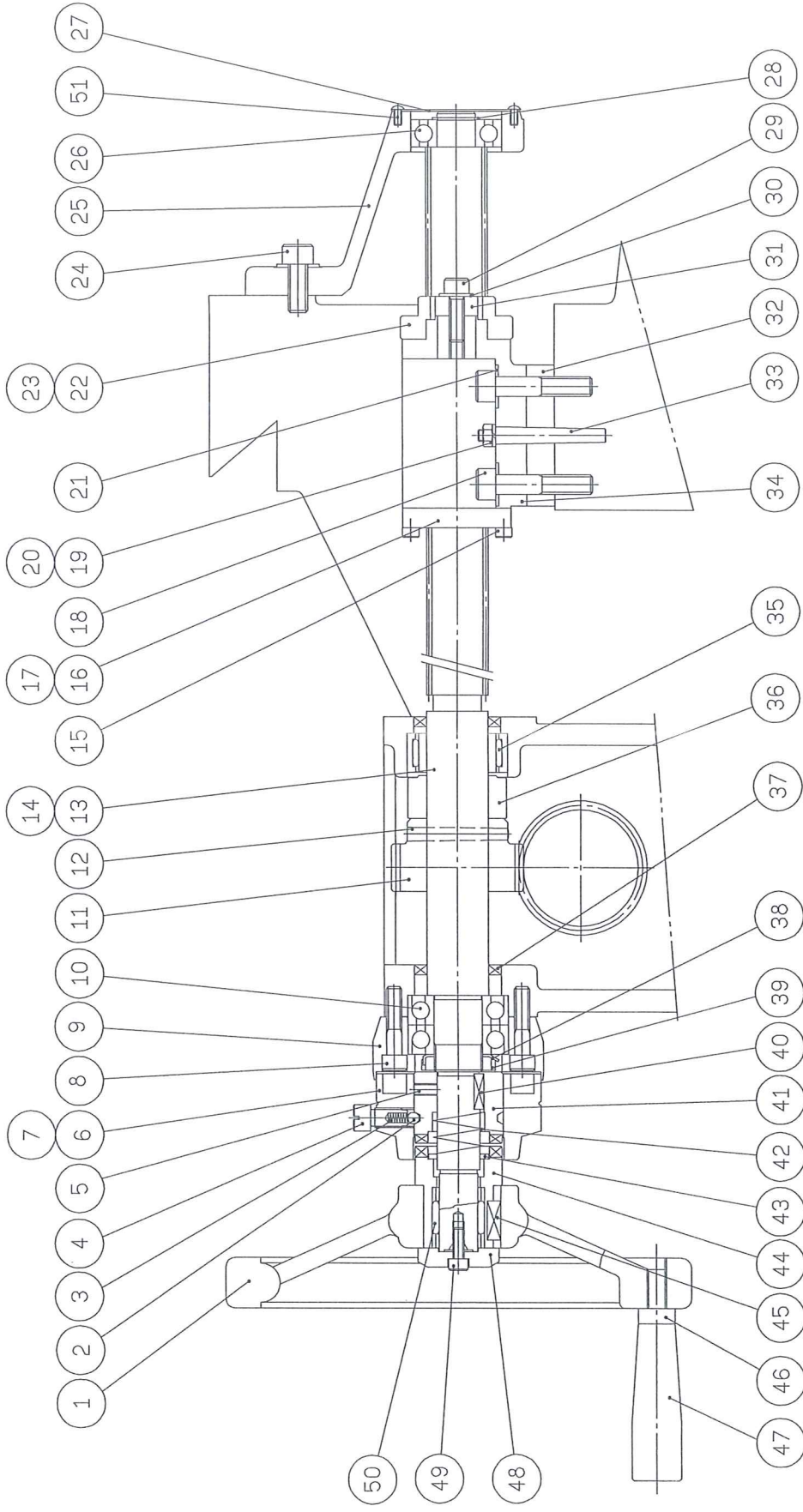


SADDLE UNITS (2)

Item	Parts No.	Parts Name	Q'ty	Remark
1	S-288	Handle wheel	1	
2		Steel ball	1	$\varphi 8$
3	H-593	Spring	1	
4	S-100	Fixed screw	1	
5		Hex. socket set screw	1	M6x1Px10L
6	S-97	Graduation ring	1	MM
7	S-187	Graduation ring	1	INCH
8		Hex. socket screw	4	M8x1.25Px3 5L
9	S-93	Bearing seat	1	
10		Angular ball bearing	2	7205B
11	S-92	Helical gear	1	
12	S-499	Taper pin	1	#6x50L
13	S-106	Cross feed screw	1	MM
14	S-188	Cross feed screw	1	INCH
15		Hex. socket screw	4	M5x0.8Px25L
16	S-643	Adjustable nut	1	MM
17	S-609	Adjustable nut	1	INCH
18		Hex. socket screw	4	M10x1.5Px50L
19		Hex. nut	2	M6x1P
20		Spring washer	2	M6
21		Washer	6	M10
22	S-328	Adjustable nut	1	MM
23	S-190	Adjustable nut	1	INCH
24		Hex. socket screw	2	M10x1.5Px25L
25	S-115	Bearing seat	1	
26		Ball bearing	1	6204ZZ
27	S-116	Bearing cover	1	
28		C snap ring	1	S20

SADDLE UNITS (2)

Item	Parts No.	Parts Name	Q'ty	Remark
29		Hex. socket screw	2	M8x1.25Px25L
30		Washer	2	M8
31	S-110	Fixed block	2	
32	S-112	Adjustable plate	1	
33	S-114	Taper pin	2	
34	S-608	Lead screw nut seat	1	
35		Needle bearing	1	NA49/32
36	S-107	Washer	1	
37		Oil seal	2	VC32458
38		Lock washer	1	AW05
39	K-105	Lock nut	1	AN05
40		Parallel key	1	5x5x18
41	S-94	Clutch	1	
42	S-95	Spring	1	
43	S-96	Washer	1	
44	S-101	Handle wheel clutch	1	
45		Parallel key	1	7x5x20L
46	S-104	Handle bolt	1	
47	S-105	Handle	1	
48	S-103	Adjustable plate	1	
49		Hex. socket screw	1	M6x1Px16L
50		Needle bearing	1	TA2030Z



## COLUMN &amp; ACCESSORIES (1)

Item	Parts No.	Parts Name	Q'ty	Remark
1	B-47	Base	1	
2		Washer	8	M24
3		Hex. socket screw	8	M24x3Px90L
4		Round head screw	16	M4x0.7Px10L
5	S-129	Wiper	4	
6	S-118	Saddle fixing block	1	
7		Hex. socket screw	2	M5x0.8Px8L
8		Hex. socket screw	2	M8x1.25Px25L
9		Spring washer	2	M8
10	S-1217	Leader adjustable seat	1	
11	S-333	Cooling guide plate	1	
12	S-119	Saddle fixing block	1	
13	S-120	Adjusting nut	1	
14		Hex. socket screw	4	M6x1Px25L
15		Washer	4	M6
16	S-121	Fixing bolt	1	
17		Taper pin	2	#3x32L
18	S-155	Handle seat	1	
19	S-339	Handle lever	2	
20		Hex. socket set screw	2	M6x1Px12L
21	S-150	Spring	2	
22	S-149	Switch touch lever	2	
23		Hex. nut	4	M6x1P
24		Hex. head bolt	2	M6x1Px25L
25		Round head screw	4	M4x0.7Px25L
26		Micro switch	2	TM1306
27	E-16	Cover	1	
28		Round head screw	10	M4x0.7Px12L

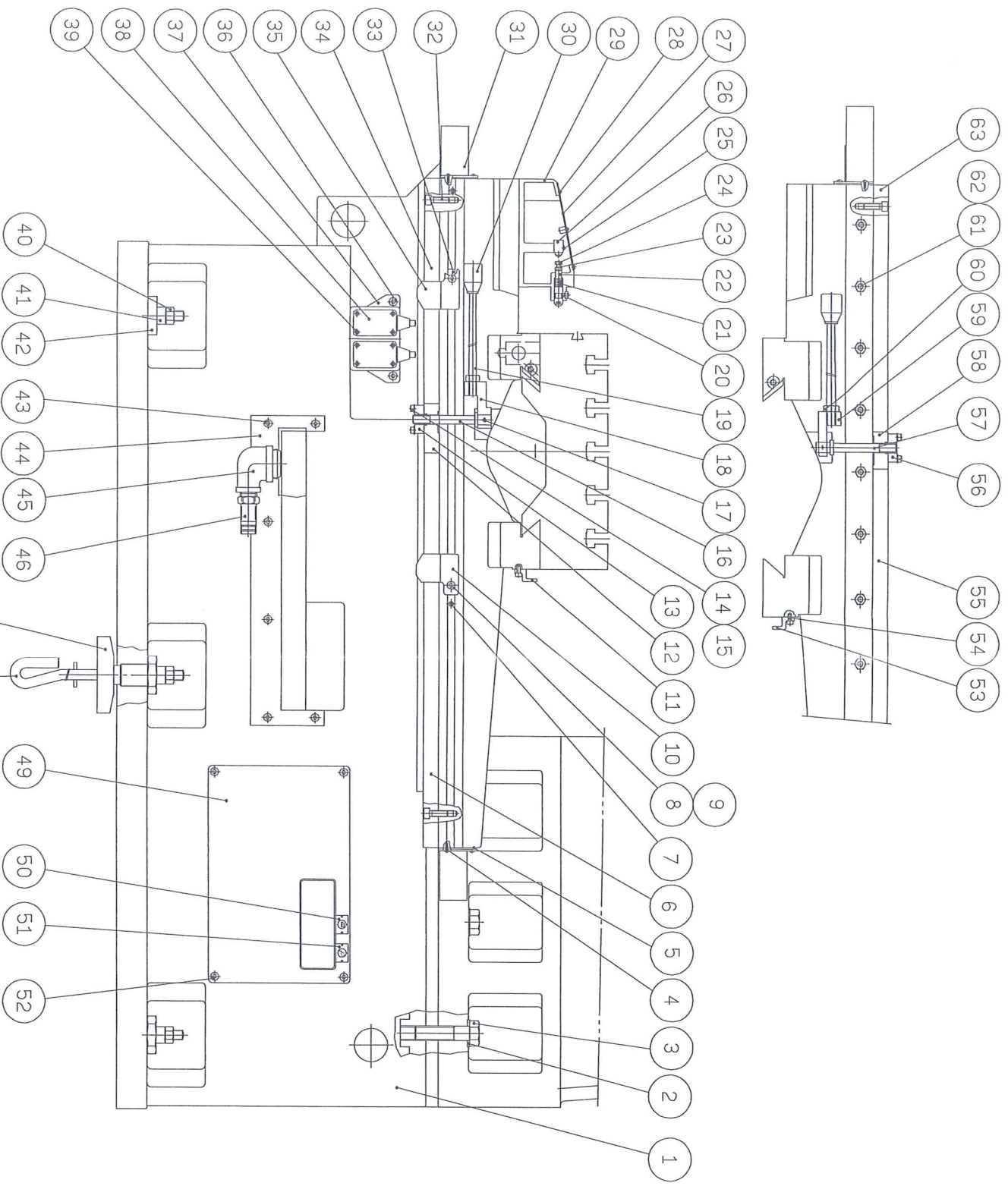


## COLUMN &amp; ACCESSORIES (1)

Item	Parts No.	Parts Name	Q'ty	Remark
29	E-15	Switch seat	1	
30	H-149	Handle	2	
31	S-1223	Cover	4	
32		Hex. socket screw	20	M10x1.5Px30L
33	T-91	T block	2	
34	S-117	Saddle fixing block	1	
35	S-1216	Leader adjustable seat	1	
36		Hex. socket screw	2	M8x1.25Px16L
37	B-14	Switch seat	1	
38		Micro switch	2	WLD2-O
39		Round head screw	8	M5x0.8Px40L
40		Hex. nut	6	M16x2P
41	B-11	Adjusting bolt	6	
42	B-230	Hex. nut	6	
43		Hex. socket screw	6	M8x1.25Px16L
44	B-13	Oil trough	1	
45		Elbow	1	PT1 1/2xPT3/4
46	L-3	Joint	1	
47	B-16	Foundation washer	6	
48	B-10	Foundation bolt	6	
49	B-9	Side cover	1	
50	B-18	Name plate	1	
51	B-17	Name plate	1	
52		Hex. socket screw	4	M8x1.25Px35L
53	S-342	Cooling guide plate	1	
54		Hex. socket screw	4	M6x1Px12L
55	S-125	Saddle fixing block	1	
56	S-127	Adjusting nut	1	

COLUMN & ACCESSORIES (1)

Item	Parts No.	Parts Name	Q'ty	Remark
57	S-154	Setting bolt	1	
58	S-126	Saddle fixing block	1	
59	S-122	Handle seat	1	
60		Hex. nut	2	M12x1.75P
61	H-641	Hex. head bolt	10	M10x1.5Px50L
62		Hex. nut	10	M10x1.5P
63	S-124	Saddle fixing block	1	



COLUMN & ACCESSORIES (1)

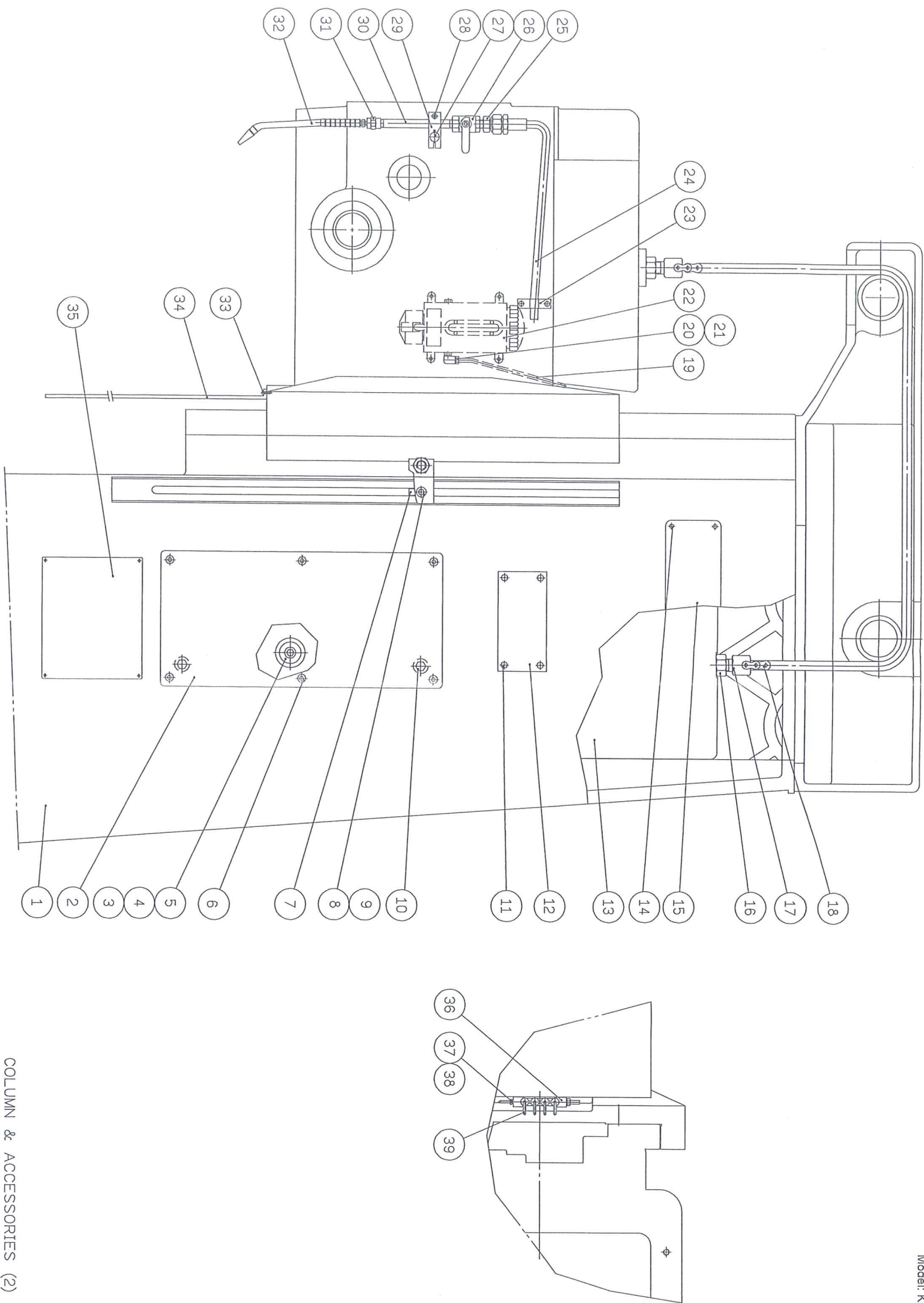
## COLUMN &amp; ACCESSORIES (2)

Item	Parts No.	Parts Name	Q'ty	Remark
1	C-372	Column	1	
2	C-85	Cover	1	
3	C-384	Fixed shaft	1	
4	C-385	Washer	1	
5		Hex. socket screw	1	M12x1.75Px30L
6		Hex. socket screw	6	M8x1.25Px25L
7	C-87	Lock block	1	
8		Hex. socket screw	1	M10x1.5Px30L
9		Spring washer	1	M10
10		Hex. socket screw	21	M16x2Px90L
11		Rivet	8	$\phi$ 2x5L
12		Name plate	1	
13	C-189	Counter balance weight	1	
14		Round head screw	8	M4x0.7Px10L
15	C-1197	Name plate	2	
16		Hex. nut	2	M20x2.5P
17	C-179	Hex. head bolt	2	
18		Chain	1	RS50-2x79P
19		Oil pipe	1	$\phi$ 6
20		Thimble	2	PB6
21		Thimble nut	2	PA6
22		Hand oiler	1	YML-8
23		Pipe clamping	1	3/8"
24		Oil pipe	1	3/8"x2800L
25		Straight joint	1	PS3/8xPT1/4
26		Cock	1	PT1/4
27	H-315	Shaft	1	
28		Hex. socket screw	2	M5x0.8Px12L



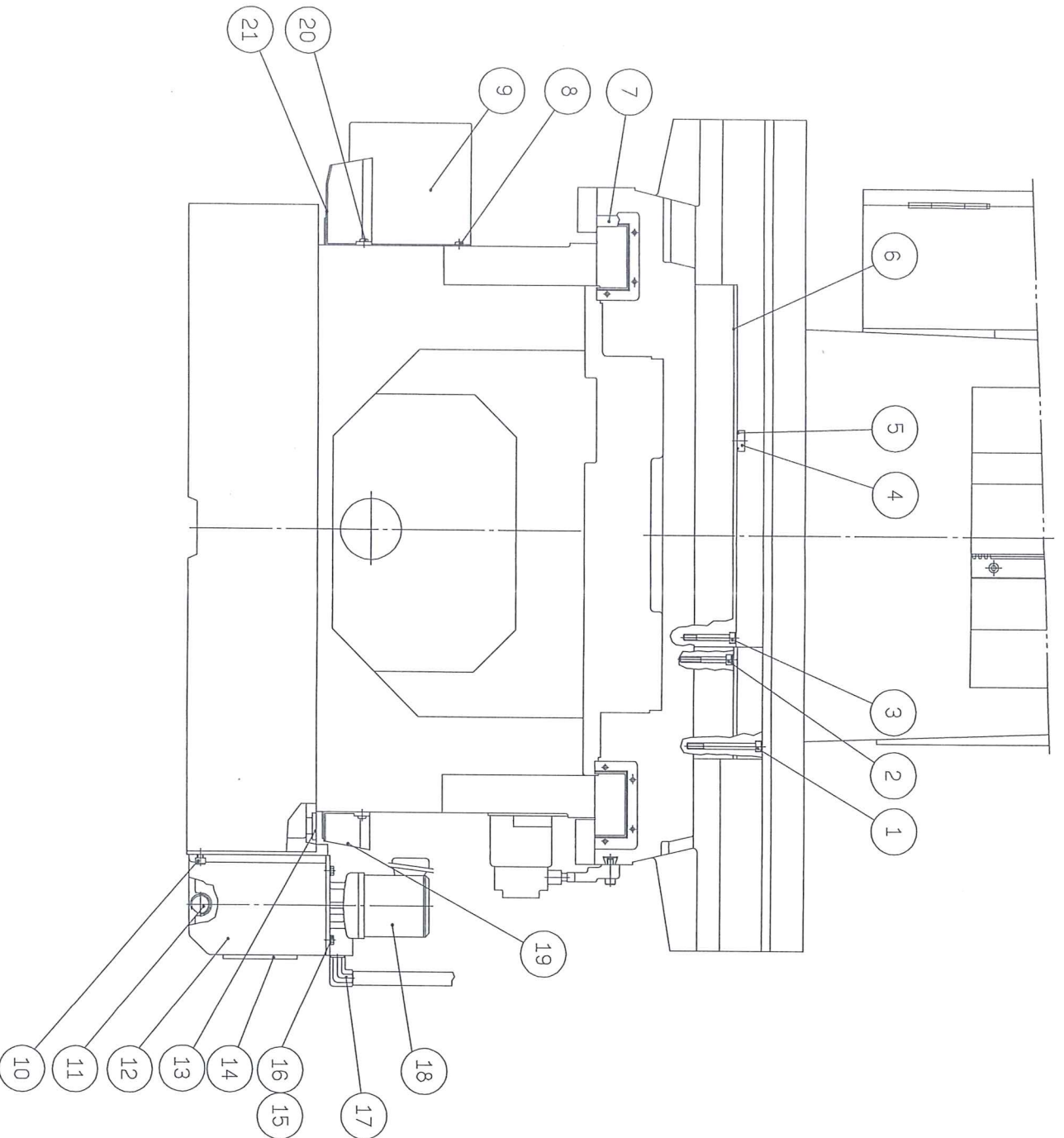
## COLUMN &amp; ACCESSORIES (2)

Item	Parts No.	Parts Name	Q'ty	Remark
29	H-2805	Fixing block	1	
30	C-11	Hose connector	1	
31		Joint	1	1/4"
32		Nozzle pipe	1	1/4"x10"L
33		Round head screw	2	M6x1Px12L
34	C-1092	Rubber guard	1	
35	C-109	Name plate	1	
36		A type distributor	1	DB6
37		Thimble	5	PB4
38		Thimble nut	5	PA4
39		Oil pipe	1	$\varphi$ 4



## COLUMN &amp; ACCESSORIES (3)

Item	Parts No.	Name	Q'ty	Remark
1		Hex. socket screw	2	M8x1.25Px90L
2		Hex. socket screw	2	M8x1.25Px60L
3		Hex. socket screw	10	M8x1.25Px60L
4	S-143	Bolt	1	
5		O ring	1	P18
6	S-307	Control seat	1	
7	S-128	Gib	1	
8		Round head screw	4	M6x1Px10L
9	B-288	Terminal box	1	
10		Hex. socket screw	4	M8x1.25Px25L
11		Plug	1	PT3/4
12	B-289	Motor frame	1	
13	B-284	Fluid filter	2	
14		Oil gauge	1	CLA
15		Spring washer	4	M6
16		Hex. socket screw	4	M6x1Px20L
17		Elbow joint	1	PT1/2
18		Pump	1	1/6HPx150L
19	B-1119	Chip pan	1	
20		Round head screw	8	M6x1Px12L
21	B-1120	Chip pan	1	



COLUMN & ACCESSORIES (3)

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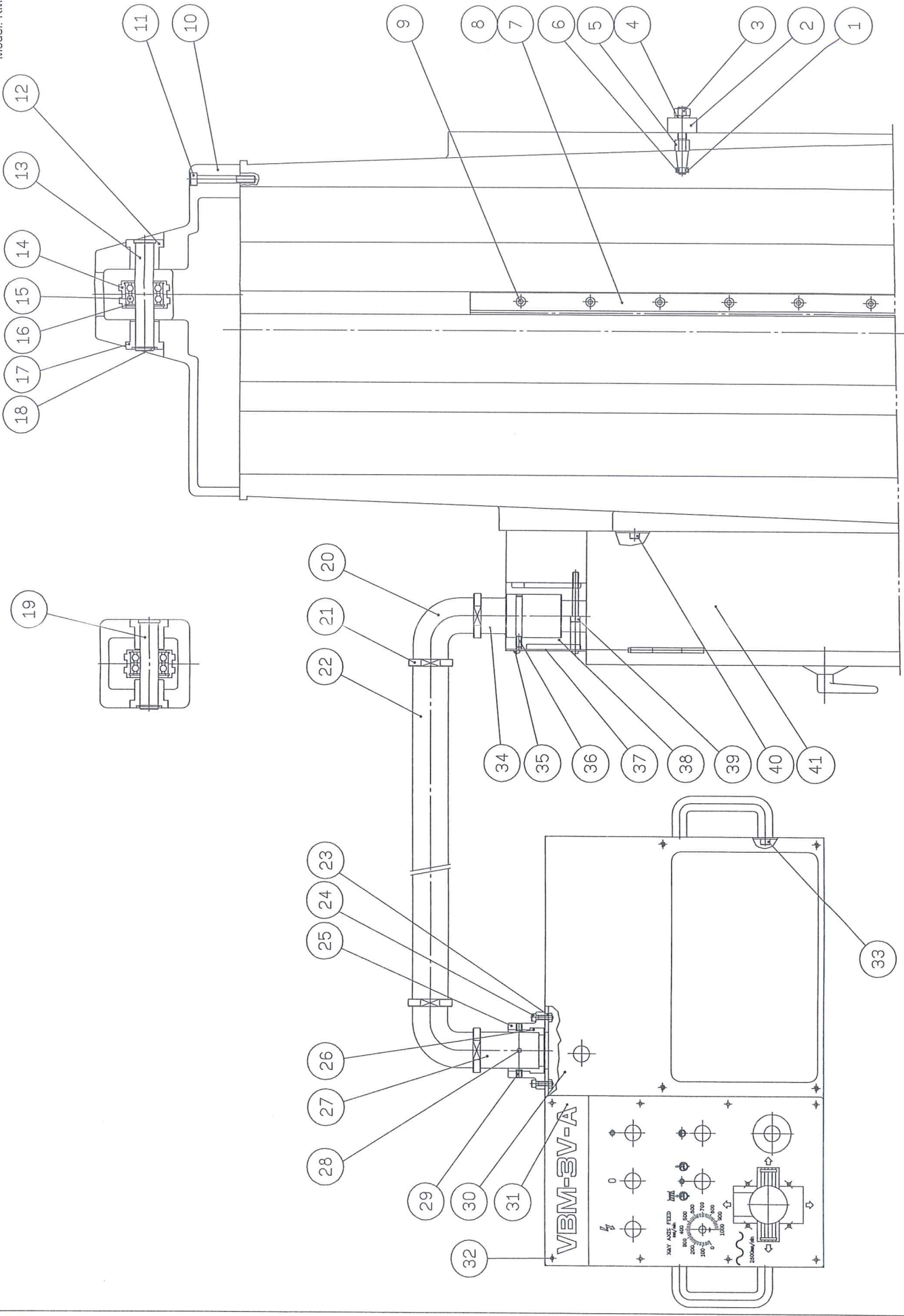


## COLUMN &amp; ACCESSORIES (4)

Item	Parts No.	Parts Name	Q'ty	Remark
1		E snap ring	1	E6
2	C-90	Adjust plate	1	
3		Hex. nut	1	M12x1.75P
4		Spring washer	1	M12
5	C-91	Bearing shaft	1	
6		Ball bearing	1	608ZZ
7	C-414	Rack	1	MM
8	C-415	Rack	1	INCH
9		Hex. socket screw	7	M8x1.25Px35L
10	C-92	Top cover	1	
11		Hex. socket screw	6	M10x1.5Px80L
12	C-972	Collar	2	
13	C-975	Sprocket shaft	1	
14	C-175	Sprocket	2	
15		Ball bearing	4	6205ZZ
16		C snap ring	2	R52
17	C-973	Collar	2	
18		C snap ring	2	S26
19	C-974	Sprocket shaft	1	
20		Elbow	2	PF1 1/2
21	R-100	Nut	4	
22	E-9	Link	1	
23		Hex. nut	2	M6x1P
24		Hex. socket screw	2	M6x1P x20L
25	E-11	Sleeve	1	
26	E-10	Sleeve	1	
27	E-32	Link	1	
28		Spring pin	1	$\phi$ 5x55L

## COLUMN &amp; ACCESSORIES (4)

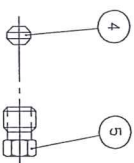
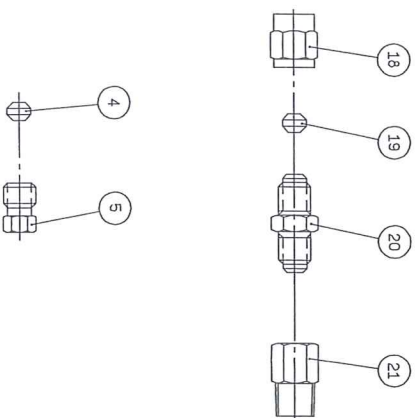
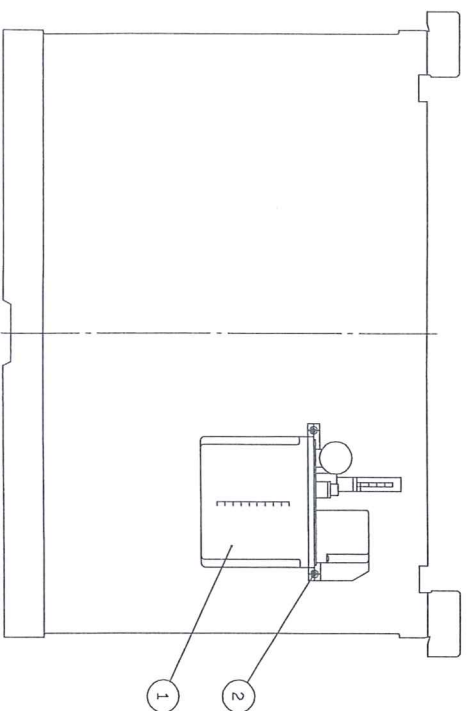
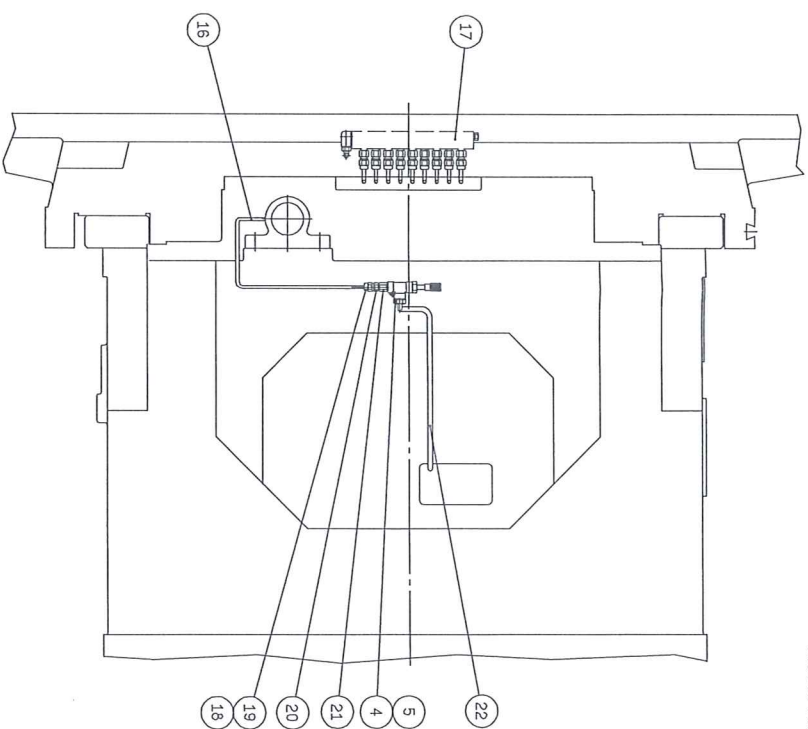
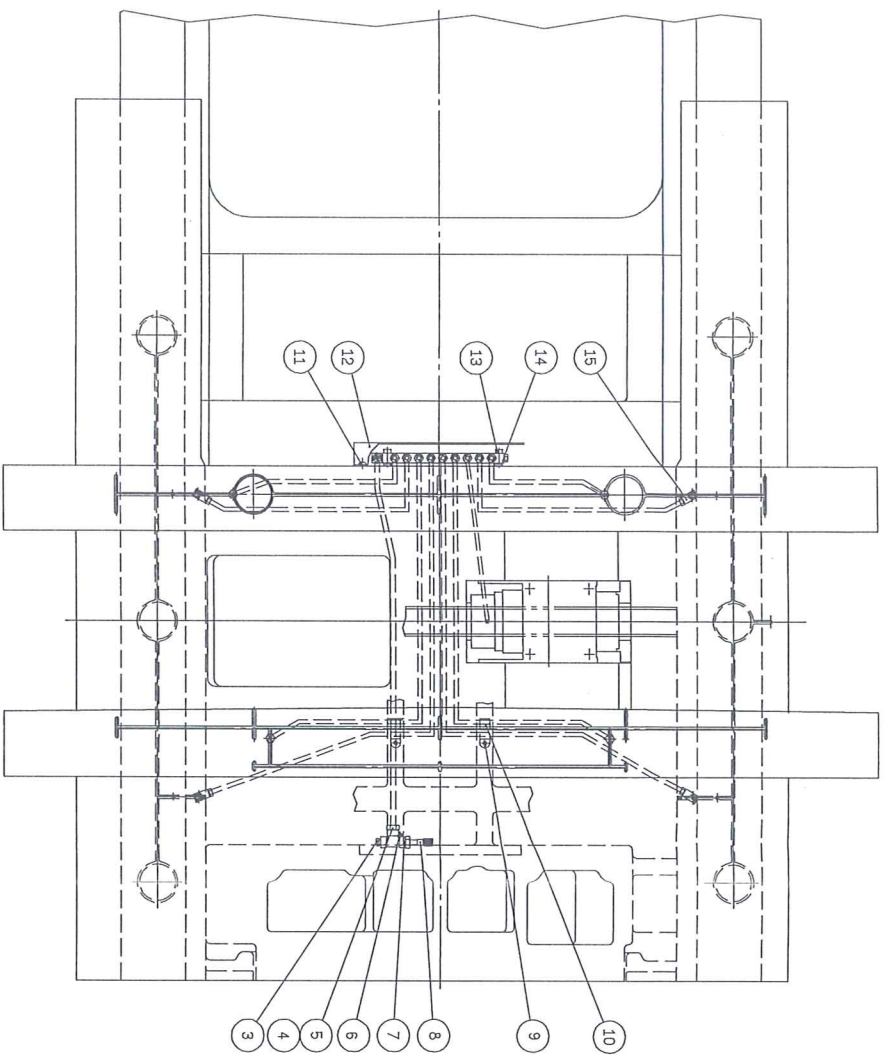
Item	Parts No.	Parts Name	Q'ty	Remark
29		Hex. socket set screw	2	M8x1.25Px1 2L
30	E-517a	Operation box	1	
31	E-1047	Name plate	1	
32		Round head screw	12	M4x0.7Px8L
33		Hex. socket screw	4	M8x1.25Px1 5L
34	E-34	Link connector	1	
35		Round head screw	2	M6x1Px8L
36		Hex. socket set screw	1	M8x1.25Px1 2L
37	E-515	Cover	1	
38	E-514	Bracket	1	
39		Hex. socket screw	2	M8x1.25Px60L
40		Hex. socket screw	4	M8x1.25Px1 2L
41	E-1119	Electric box	1	



SADDLE LUBBRICATION

Item	Parts No.	Parts Name	Q'ty	Remark
1		Pump	1	CESA-10
2		Hex. socket screw	2	M6x1Px16L
3		Union	1	PG-006
4		Thimble	3	PB6
5		Thimble nut	3	PA6
6		Hex. socket screw	2	M6x1Px16L
7		T-joint	2	PKD-6
8		Wire soft tube	1	$\varphi$ 6x600L
9		Round head screw	10	M5x0.8Px8L
10		Pipe clamping	10	$\varphi$ 4
11		Round head screw	3	M6x1Px8L
12	S-1226	Cover	1	
13		Hex. socket screw	2	M5x0.8Px20L
14		Hex. nut	2	M5x0.8P
15		Elbow joint	4	PH401
16		Aluminum pipe	1	$\varphi$ 4
17		A type distributor	1	A10
18		Thimble nut	9	PA4
19		Thimble	9	PB4
20		Joint	1	CPB3
21		Straight joint	5	PD401
22		Aluminum pipe	1	$\varphi$ 6

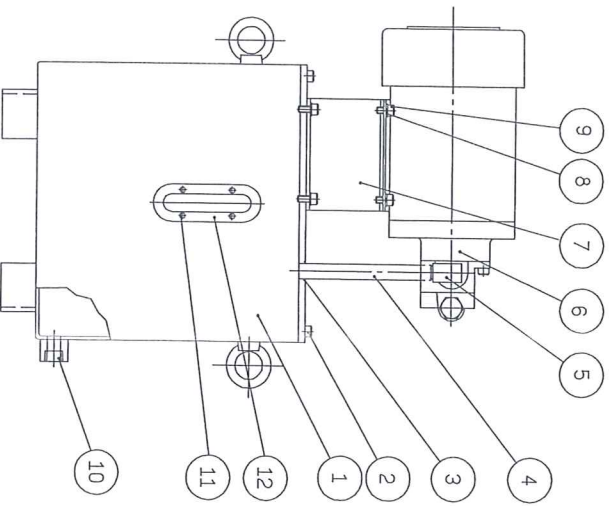
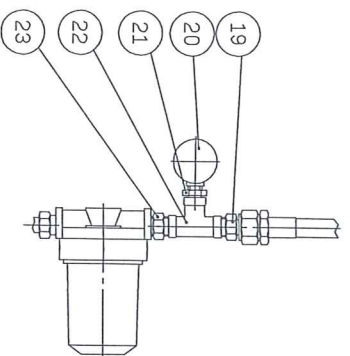
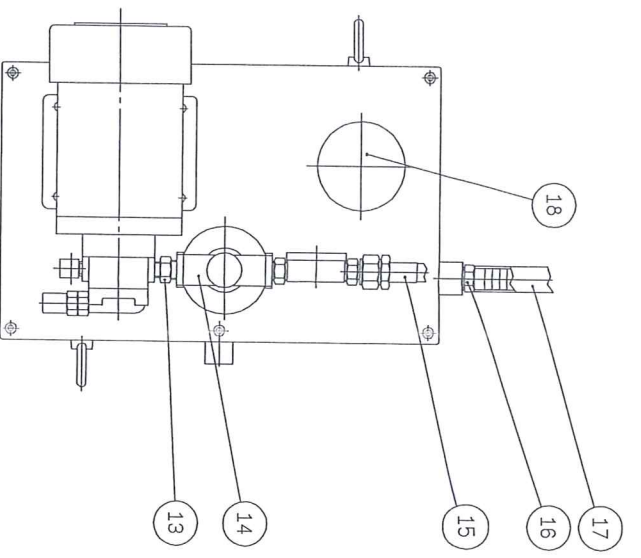




SADDLE LUBRICATION

## OIL TANK (1)

Item	Parts No.	Parts Name	Q'ty	Remark
1	L-1	Oil tank	1	
2		Hex. socket screw	4	M6x1Px16L
3		O ring	1	P14
4	L-7	Oil pipe	1	
5		Elbow joint	1	PH802
6		Lubricating oil pump	1	AM5A-1/4HP
7	L-137	Fixed plate	1	
8		Spring washer	8	M6
9		Hex. socket screw	8	M6x1Px8L
10		Plug	1	PT3/8
11		Machine screw	4	M3x0.5Px12L
12		Oil gauge	1	CLA
13	L-11	Reducing elbow	1	
14		Filter	1	
15		Oil pipe	1	1/2"x3800L
16	H-663	Joint	1	
17		Oil pipe	1	$\phi$ 19x $\phi$ 26x3000L
18		Filter screen	1	SY-08
19		Joint	1	PT3/8x1/2H
20		Pressure gauge	1	5kg
21		Joint	1	PT3/8xPT1/4
22		Tee joint	1	PT3/8
23	L-12	Joint	1	
24				
25				
26				
27				
28				



OIL TANK

## GEAR BOX

Item	Parts No.	Parts Name	Q'ty	Remark
1	G-685	Gear box	1	
2		Ball bearing	1	6204
3		Hex. socket screw	6	M10x1.5Px3 5L
4	G-122	Washer	1	
5	G-686	1st shaft	1	
6	K-105	Lock nut	2	AN05
7		Lock washer	2	AW05
8	G-121	Worm gear	1	
9		Parallel key	2	7x7x16L
10	G-691	Compound gear	1	
11	G5-1009	Spur gear	1	
12		Parallel key	1	7x7x18L
13		Ball bearing	1	6205
14	G-698	Bearing cover	1	
15	G-690	2nd shaft	1	
16	T-1121	Washer	1	
17	G-844	Bearing housing	2	
18	G-659	Washer	2	
19	G-168	Bearing adjusting shim	2	
20		Hex. nut	2	M10x1.5P
21		Hex. socket set screw	2	M10x1.5Px25L
22		Angular ball bearing	2	7205B
23		Hex. socket screw	8	M8x1.25Px20L
24		Needle bearing	4	NAFW304526
25	G-371	Helical gear	2	
26	G-370	Spacing ring	2	
27		Parallel key	2	8x7x50L
28		Magnetic clutch	2	ESG115FW

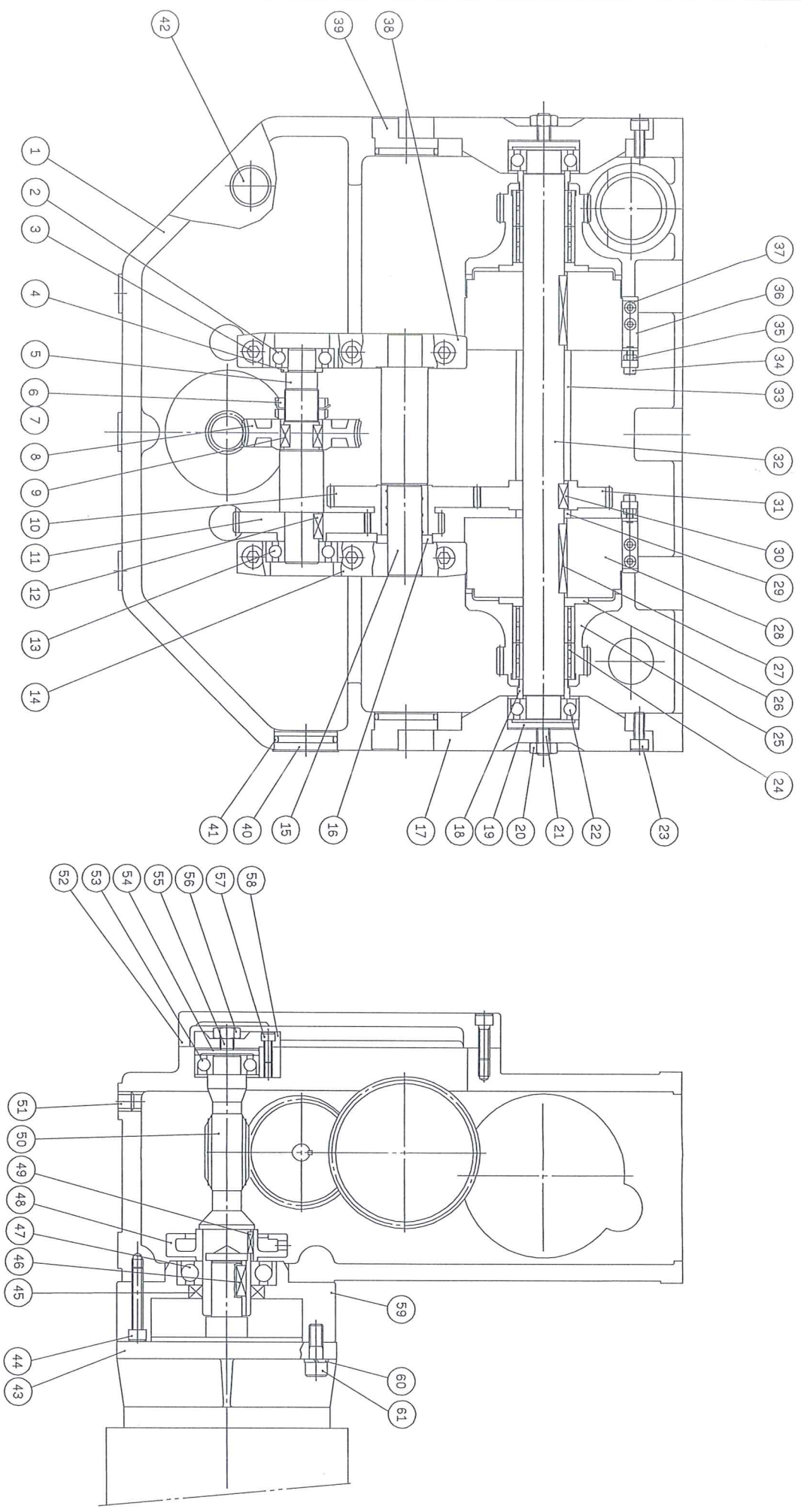


## GEAR BOX

Item	Parts No.	Parts Name	Q'ty	Remark
29	G5-1021-1	Washer	1	
30		Parallel key	1	7x7x18L
31	G-687	Spur gear	1	
32	G-694	3rd shaft	1	
33	G-666	Spacing ring	1	
34		Hex. socket screw	2	M5x0.8Px16L
35		Hex. nut	2	M5x0.8P
36	G5-1017-1	Set block	2	
37		Hex. socket screw	4	M5x0.8Px20L
38	G-699	Bearing cover	1	
39	G-391	Plug	1	
40	G-155	Plug	1	
41		O ring	2	P40
42		Oil gage	1	$\varphi$ 26x $\varphi$ 30
43		Servo motor	1	SGMGH-13A
44		Hex. socket screw	4	M8x1.25Px45L
45		Oil seal	1	TC35558
46		Parallel key	1	6x6x25L
47		Angular ball bearing	1	7207B
48	G-394	Oil splasher	1	
49		Parallel key	1	4x4x16L
50	G-816	Motor shaft	1	
51		Plug	1	PT3/8
52	G-140	Cover	1	
53		Angular ball bearing	1	7204
54	G-111	Washer	1	
55		Hex. socket set screw	1	M10x1.5Px16L
56		Hex. nut	1	M10x1.5P

GEAR BOX

Item	Parts No.	Parts Name	Q'ty	Remark
57		Hex. socket screw	4	M6x1Px16L
58	G-112	Bearing cover	1	
59	G-683	Bearing cover	1	
60		Spring washer	4	M8
61		Hex. socket screw	4	M8x1.25Px3 5L



GEAR BOX



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