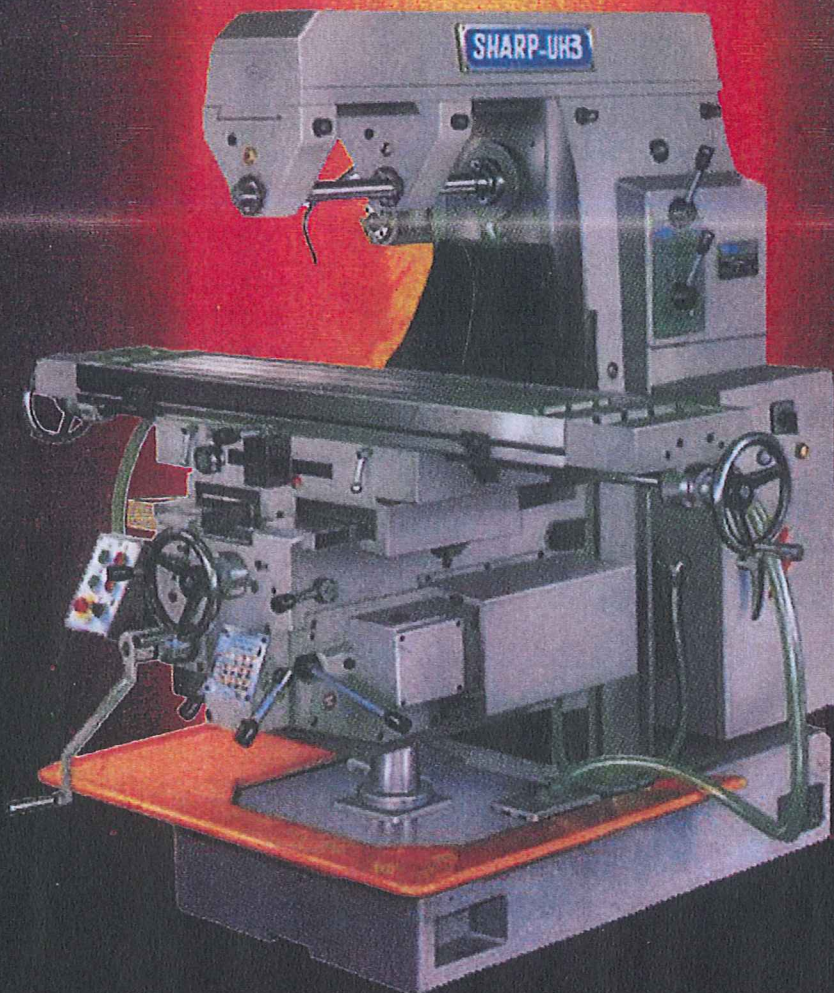


SHARP
PRECISION MACHINE TOOLS

HORIZONTAL MILLING MACHINE

OPERATIONS/ PARTS LIST MANUAL **UH3** MILL



Column Base (1)

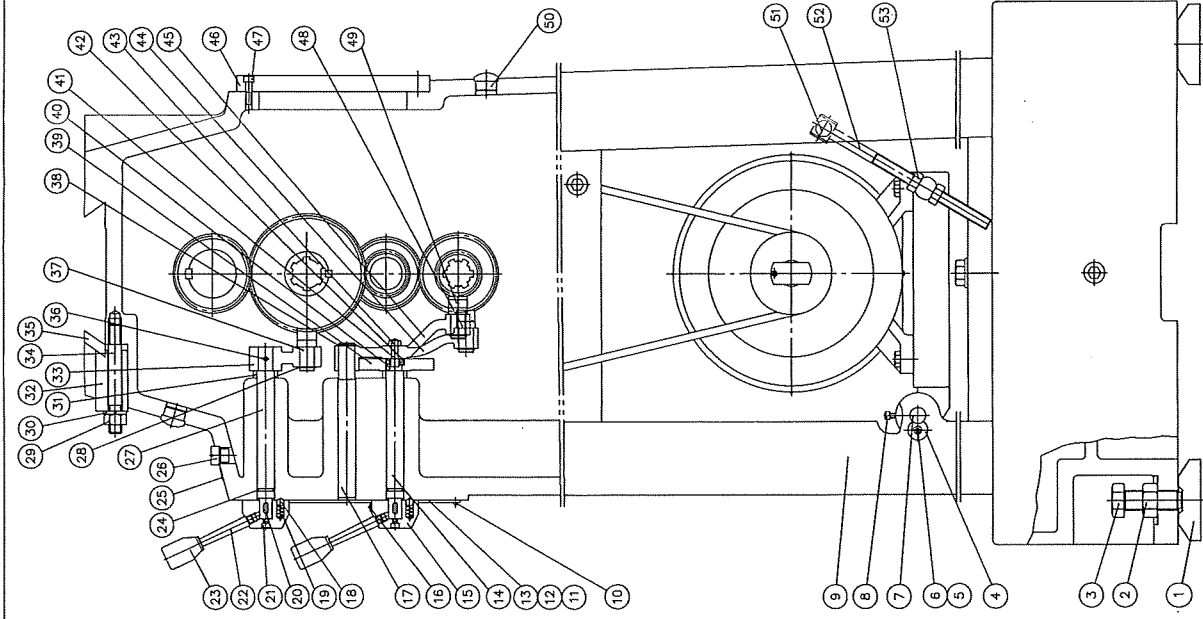
Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
1	B-51	Foot pad	4	
2	B-94	Hex. nut	4	
3	B-145	Level bolt	4	
4	C-509	Washer	1	
5		Spring washer	1	M6
6		Hex. socket screw	1	M6x1Px16L
7	C-508	Fixed shaft	1	
8		Hex. socket screw	2	M6x1Px25L
9	C-971	Column	1	
10		Rivet	4	ϕ 2x5L
11	C-781	Name plate	1	60HZ
12	C-780	Name plate	1	50HZ
13	C-677	Name plate	1	SHARP
14	C-543	Cam shaft	1	
15	C-556	Handle seat	2	
16	H-483	Name plate	1	
17	C-545	Shaft	2	
18		Steel ball	4	ϕ 8
19	C-552	Spring	4	
20		Parallel key	2	5x5x14L
21		Hex. socket screw	2	M6x1Px20L
22	H-480	Handle rod	2	
23	H-149	Handle	2	
24		O ring	2	P18
25	C-526	Name plate	1	
26	C-529	Cock	1	
27	C-544	Shift shaft	1	
28		C-Snap ring	3	S18

Column Base (1)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
29		Nut	1	M16
30		Spring washer	2	M16
31	C-553	Spacing ring	2	
32	C-1067	Lock block	2	
33	C-550	Rocking arm	1	
34	C-1068	Set bolt	2	
35	C-1069	Gib	1	
36		Spring pin	1	φ 5x40L
37	C-547	Shift fork	1	
38		C-Snap ring	2	S20
39	C-540	Cam	1	
40		Parallel key	1	5x5x12L
41	C-546	Clutch pin	2	
42		Hex. socket set screw	1	M5x0.8Px8L
43		Hexagon nut	2	M8x1.25P
44	C-542	Rocking arm	1	
45	C-541	Rocking arm	1	
46	C-558	Cover	1	
47		Hex. socket screw	6	M8x1.25Px25L
48	C-548	Shift fork	1	
49	C-549	Shift fork	1	
50		Oil level gage	2	φ 26x φ 30
51	C-511	Shaft	1	
52	C-512	Adjusting bolt	1	
53		Nut	2	M14x2P



COLUMN, BASE (1)

COLUMN, BASE (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
1	B-89	Oil dish	1	
2	B-73	Oil filter	2	
3	B-72	Hose connector	2	
4		Hex. socket screw	2	M5x0.8Px6L
5	B-74	Cover	2	
6		Hex. socket screw	4	M6x1Px16L
7	C-532	Stop block	1	
8	C-533	T-nut	2	
9		Hex. socket screw	2	M6x1Px20L
10	C-531	Stop block	1	
11		Hex. socket screw	2	M6x1Px16L
12	C-670	Gear	1	
13		Hex. socket set screw	3	M6x1Px10L
14		Hex. socket set screw	3	M6x1Px10L
15	C-476	Gear	1	
16		Ball bearing	3	6306
17	C-479	Shaft	1	
18	C-520	Oil seal cover	1	
19		Parallel key	1	10x8x20L
20	C-475	Gear	1	
21	C-477	Shaft	1	
22		Parallel key	4	8x8x35L
23	C-555	Spacing ring	1	
24	C-560	Sleeve	1	
25	C-520	Oil seal cover	2	
26		Hex. socket set screw	2	M6x1Px8L
27		Lock washer	2	AW08
28		O ring	3	P62

COLUMN, BASE (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
29	C-473	Gear	1	
30	C-472	Gear	1	
31		Hex. socket screw	2	M6x1Px20L
32	H-277	Drive key	2	NT40
33		C-Snap ring	4	R72
34	C-489	Main shaft cover	1	
35		Taper roller bearing	1	HR32215J (NT40)
36	C-484	Spacing ring	1	
37	C-485	Spacing ring	1	
38		Roller bearing	1	NU2215 (NT40)
39	C-466	Gear	1	
40	C-467	Gear	1	
41	C-492	Spacing ring	1	
42	C-468	Gear	1	
43		Parallel key	1	12x8x160L
44	C-465	Gear	1	
45	C-469	Gear	1	
46	C-483	Nut	2	
47		Parallel key	1	8x8x45L
48		Lock washer	1	AW12
49	C-51	Lock Nut	1	AN12
50	C-478	Shaft	1	
51	C-730	Draw bar	1	MM
52	C-501	Draw bar	1	INCH
53	C-487	Spacing ring	1	
54	C-519	Spacing ring	2	
55	C-488	Sleeve	1	
56		Taper roller bearing	1	HR30211J

COLUMN, BASE (2)

Model: CS-U450

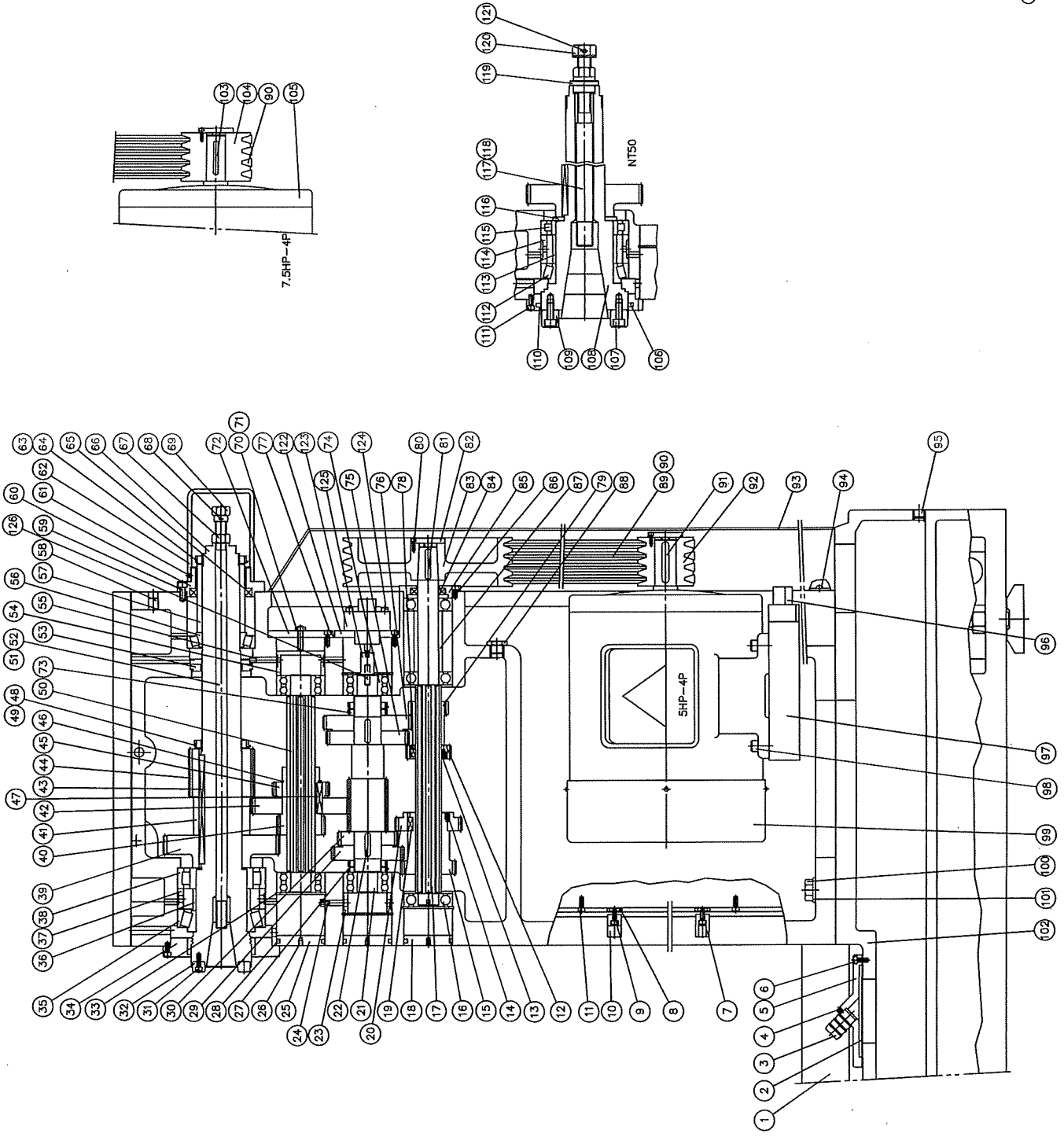
Item	Parts No.	Parts Name	Q'ty	Remark
57	C-554	Spacing sleeve	1	
58	C-683	Plug	2	
59		Hex. socket screw	3	M8x1.25Px20L
60	C-491	Cover	1	
61		Hex. socket set screw	2	M5x1.25Px8L
62	C-490	Cover	1	
63		Lock washer	1	AW11
64	H-1087	Lock nut	1	
65		Oil seal	1	709212
66	C-480	Main shaft	1	NT40
67		Nut	1	5/8"
68		Spring pin	1	5x14L
69	C-535	Nut	1	
70		Nut	1	M8x1.25P
71		Hex. socket set screw	1	M8x1.25Px35L
72	C-518	Cover	1	
73	H-377	Lock nut	4	AN08
74		Ball bearing	4	5306
75	C-471	Gear	1	
76	C-470	Gear	1	
77		Hex. socket screw	6	M6x1Px12L
78		Parallel key	1	8x8x16L
79	C-669	Gear	1	
80		Flat head screw	2	M4x0.7Px12L
81		Parallel key	1	8x8x45L
82	C-572	Fixing bolt	2	
83	C-537	Pulley	1	
84		Oil seal	1	SC30528

COLUMN, BASE (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
85	C-503	Oil seal cover	1	
86		Hex. socket screw	3	M6x1Px12L
87	C-481	Spacing ring	1	
88		Plug	1	PT3/4
89		Belt	4	A46
90		Belt	4	A45
91		Parallel key	1	10x8x60L
92	C-678	Pulley	1	
93	C-539	Column cover	1	
94		Round head screw	6	M6x1Px12L
95		Cock	1	PT3/4
96	C-510	Set shaft	1	
97	C-1038	Motor bracket	1	
98		Hex. head screw	4	M10x1.5Px35L
99		Motor	1	7.5HP-4P(NT50)
100		Hexagon bolt	7	M18x2.5Px65L
101		Washer	7	M18
102	B-310	Base	1	
103		Parallel key	1	7x7x40L
104	C-576	Pulley	1	5HP (NT40)
105		Motor	1	5HP-4P (NT40)
106	C-583a	Felt	1	NT50
107		Hex. socket set screw	2	M10x1.5Px25L
108	C-582	Main shaft	1	NT50
109	H-432	Drive key	2	NT50
110	C-583	Main shaft cover	1	NT50
111		Hex. socket screw	3	M6x1Px16L
112		Taper roller bearing	1	HR32017J (NT50)

Model: CS-U450



COLUMN, BASE (2)

Table, Saddle

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
1	S-105	Handle sleeve	2	
2	S-104	Handle screw	2	
3	T-688	Handle wheel	2	
4		C-Snap ring	2	S19
5		Needle bearing	2	TA1920
6	K-623	Hand wheel clutch	2	
7	T-145	Spring	2	
8	T-129	Graduation ring	2	
9	T-12	Locating screw	2	
10		Parallel key	2	6x6x25L
11	T-130	Hand wheel clutch	2	
12		Hex. socket screw	4	M6x1Px20L
13	K-506	Graduation ring	2	
14		Hex. socket screw	3	M6x1Px16L
15	T-408	Lock bolt	4	
16		Hex. socket screw	10	M12x1.75Px25L
17	S-565	Copper block	2	10m/m
18	S-597	Fixed plate	1	
19		Round head screw	16	M6x1Px12L
20	S-581	Wiper	1	
21		Hex. socket screw	4	M10x1.5Px35L
22		Ball bearing	1	6205zz
23	S-563	Washer	1	
24		Ball bearing	1	6005zz
25		Parallel key	1	6x6x12L
26	S-556	Bevel gear shaft	1	
27	S-566	Nut seat	1	
28		C-Snap ring	1	S24

Table, Saddle

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
29	S-569	Bevel gear	1	
30	S-574	Bearing housing	1	
31		Hex. socket screw	4	M10x1.25Px35L
32	S-543	Spacing ring	1	
33	R-158	Adjusting bolt	2	
34	S-542	Gib	1	
35		C-Snap ring	1	R52
36	S-570	Adjusting block	1	
37	S-596	Fixed plate	1	
38	S-571	Adjusting block	1	
39		Hex. socket screw	2	M6x1Px25L
40	S-579	Wiper	1	
41	S-539	Saddle	1	
42	S-540	Swivel base	1	
43	T-63	Spacing ring	1	
44		Ball bearing	1	6205
45	T-494	Table side cover	1	
46		Hex. socket screw	6	M10x1.5Px25L
47		Hex. socket screw	2	M10x1.5Px65L
48		Hex. socket screw	2	M6x1Px10L
49	T-476	Stop block	2	
50	T-485	Set bolt	4	
51		Hex. nut	4	M8x1.25P
52	T-477	Locating block	2	
53	T-493	Lead screw	1	
54	T-463	Table	1	
55	T-483	Sleeve	1	
56		Hex. socket set screw	2	M6x1Px10L

Table, Saddle

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
57		Taper pin	4	#3x25L
58		Hex. socket set screw	8	M5x0.8Px20L
59		Parallel key	2	5x5x20L
60	T-488	Bevel gear	1	
61	T-478	Bush	1	
62	T-486	Clutch	1	
63		Hex. socket set screw	1	M5x0.8Px12L
64	T-490	Key	1	
65	S-555	Bolt	1	
66		Parallel key	1	6x6x12L
67		Spring pin	2	ϕ 2x12L
68	T-487	Clutch	2	
69	T-489	Bevel gear	2	
70	T-479	Nut	3	
71	S-595	Gear cover	2	
72	T-481	Nut	1	
73		Spring pin	2	ϕ 5x20L
74	T-480	Nut	1	
75	T-501	Name plate	1	
76	T-482	Adjusting nut	1	
77		Taper pin	4	#4x32L
78	T-491	Table side cover	1	
79	T-57	Spacing ring	1	
80		Angular ball bearing	2	7205B
81		Lock washer	2	AW05
82	K-105	Lock nut	2	AN05
83		Hex. socket set screw	2	M6x1Px6L
84	T-784	Rubber sheet	1	

Table, Saddle

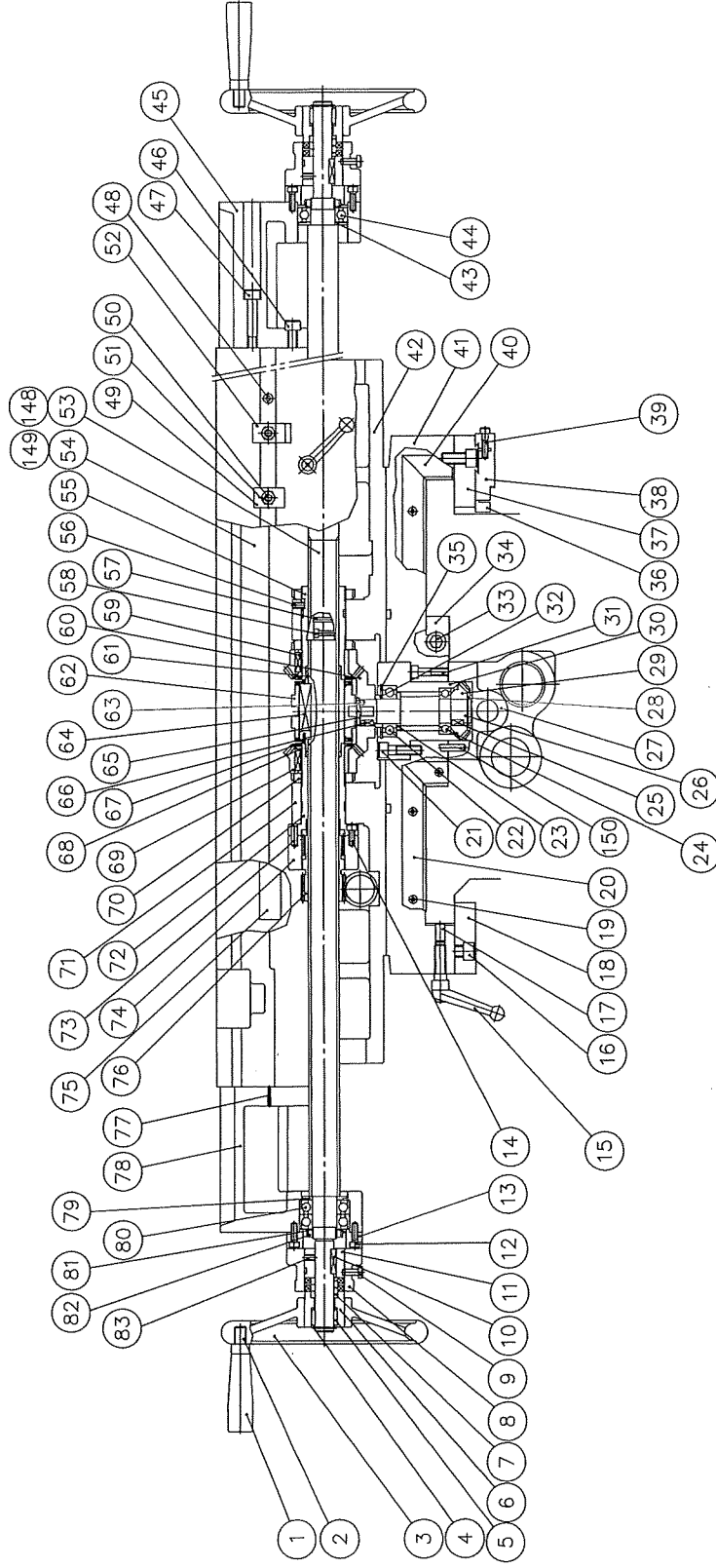
Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
85		Round head screw	5	M6x1Px10L
86	S-541	T bolt	4	
87		Spring washer	4	M14
88		Hex. nut	4	M14
89	S-987	Cover	1	
90	S-544	Plug ring	1	
91		Hex. socket screw	3	M8x1.25Px60L
92	S-546	Spacing ring	1	
93	S-547	Gear shaft	1	
94	S-554	Gear seat	1	
95	H-149	Handle	1	
96	S-549	Handle rod	1	
97	S-552	Steering seat	1	
98		Round head screw	2	M4x0.7Px10L
99	S-550	Name plate	1	
100		Steel ball	2	φ 8 m/m
101	S-548	Spring	2	
102	S-545	Bevel gear	2	
103		Parallel key	2	5x5x10L
104	S-576	Washer	1	
105	T-484	Copper block	1	
106	T-572	Copper block	1	
107	S-551	Steering shaft	1	
108	T-467	Gib	1	
109	S-553	Steering fork	1	
110	T-465	Oil filter	2	
111	T-464	Connector seat	2	
112	S-561	Gear	1	

Table, Saddle

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
113		Needle bearing	1	TLA3512
114		Oil seal	1	S35477
115		Needle bearing	2	KT202612
116	S-564	Gear shaft	1	
117	S-558	Washer	1	
118	S-568	Gear	1	
119	H-377	Lock nut	1	AN08
120		Lock washer	1	AW08
121		Hex. socket screw	3	M5x0.8Px25L
122	S-797	Nut	1	
123		Hex. socket screw	1	M6x1Px20L
124	S-557	Washer	1	
125	S-559	Bearing cover	1	
126	S-562	Key	1	
127		C-Snap ring	1	S35
128		Ball bearing	1	6007
129		Hex. bolt	3	M6x1Px25L
130		Hex. socket screw	2	M6x1Px16L
131	T-470	Spacing ring	2	
132	T-473	Shaft sleeve	1	
133		Taper pin	1	#3x25L
134	T-474	Name plate	1	
135	T-475	Adjusting shaft seat	1	
136		Hex. socket screw	2	M6x1Px16L
137	T-468	Screw seat	1	
138	T-472	Adjusting screw	1	
139	T-471	Rack	1	
140	T-466	Spring	2	



TABLE, SADDLE

Knee, Gear box (1)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
1		Hex.socket set screw	1	M12x1.75Px20L
2		Hex.socket screw	3	M10x1.5Px35L
3	B-84	Nut seat	1	
4	K-513	Lead screw	1	
5	K-514	Nut	1	
6		Hex.socket screw	7	M8x1.25Px25L
7		C-snap ring	1	S70
8		Ball bearing	1	6014z
9	K-793	Gear seat bush	1	
10		Parallel key	1	6x6x12L
11	K-452	Bevel gear	1	
12		Thrust bearing	1	51114
13	K-440	Collar	1	
14		Ball bearing	1	6008zz
15	K-494	Nut	1	
16		Parallel key	1	6x6x18L
17		Hex.socket set screw	1	M6x1Px20L
18	G-479	Pump	1	
19		Straight joint	1	PD601
20		Thimble nut	1	PA6
21		Thimble	1	PB6
22	C-514a	Filter	1	
23	T-408	Lock bolt	2	
24	K-482	Plug	1	
25	S-565	Copper block	2	
26	K-478	Connecting rod	1	
27	K-501	Steering shaft	1	
28	K-470	Shaft	1	

Knee, Gear box (1)

Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
29	K-472	Lead screw	1	
30		Machine screw	2	M6x1Px12L
31	K-499	Spacing ring	1	
32	K-500	Steering seat	1	
33		Parallel key	1	6x6x10L
34	K-502	Washer	1	
35		Hex. bolt	1	M8x1.25Px25L
36	G-486	Name plate	1	
37	K-526	Cover	1	
38	K-477	Connecting rod	1	
39	K-504	Stroke control lever	1	
40		Hex.socket set screw	2	M5x0.8Px25L
41	K-527	Stop block	1	
42	K-486	Washer	1	
43		Hex.socket screw	6	M6x1Px20L
44		C-snap ring	4	S10
45	K-479	Pin	2	
46	K-505	Collar	1	
47	K-466	Washer	1	
48	K-475	Connecting rod fork	2	
49		Hex.nut	2	M10x1.5P
50		Thrust bearing	2	51105
51		Oil seal	2	SC25359
52	K-465	Cover	1	
53		Needle bearing	1	TLA2512
54	K-445	Gear	2	
55		Steel ball	4	φ8
56	K-523	Spring	4	

Knee, Gear box (1)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
57	K-519	Name plate	1	
58		Machine screw	4	M4x0.7Px16L
59		Taper pin	2	#3x38L
60	K-491	Steering shaft	1	
61	K-492	Sleeve	1	
62	K-489	Steering fork pin	2	
63	K-508	Steering fork	1	
64		Hex.socket set screw	2	M6x1Px20L
65		Taper pin	3	#5x45L
66	K-443	Clutch	2	
67		Hex.socket set screw	2	M4x0.7Px5L
68		Hex.socket set screw	2	M6x1Px6L
69		Parallel key	3	6x6x30L
70	K-444	Gear	1	
71	T-12	Set screw	1	
72	S-105	Handle sleeve	1	
73	S-104	Bolt	1	
74		Hex.socket set screw	1	M6x1Px10L
75		Parallel key	1	6x6x25L
76		Needle bearing	1	TA1920
77		C-snap ring	1	S19
78	T-145	Spring	1	
79	K-623	Clutch	1	
80	T-129	Graduated ring	1	
81	T-688	Handle wheel	1	
82	T-130	Clutch	1	
83	K-105	Lock nut	1	AN05
84		Lock washer	1	AW05

Knee, Gear box (1)

Model: CS-U450

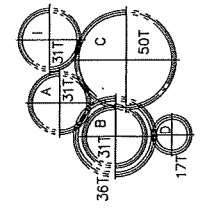
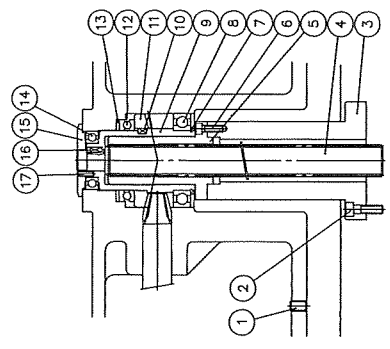
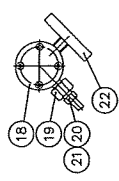
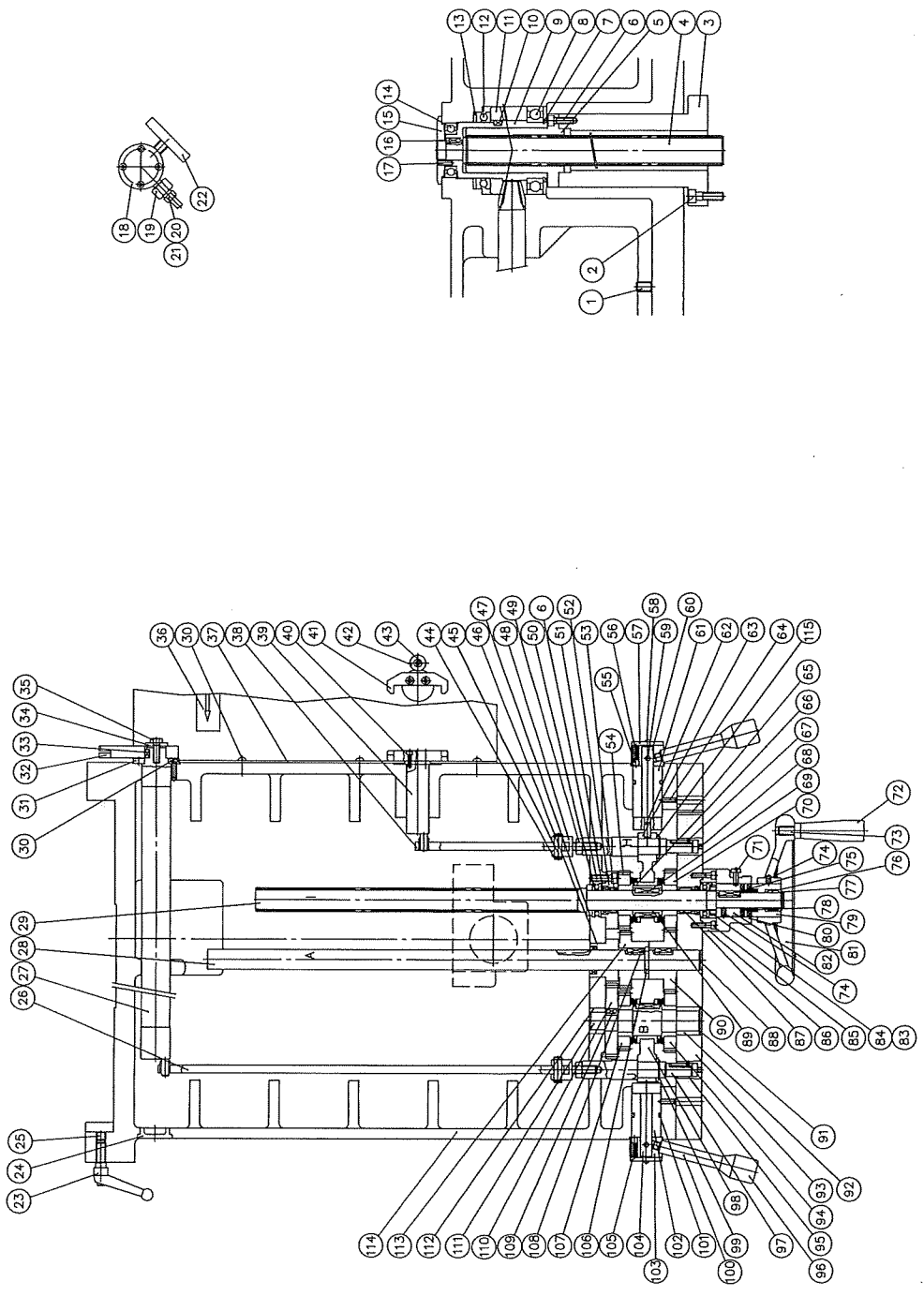
Item	Parts No.	Parts Name	Q' ty	Remark
85		Hex.socket screw	2	M6x1Px25L
86	K-506	Graduated ring	1	
87		Needle bearing	1	TLA2520
88	K-460	Plug	1	
89	K-463	Collar	2	
90	K-448	Gear	1	
91	K-461	Plug	1	
92	K-432b	Bush	1	
93	K-432a	Cover	1	
94	K-578	Gear	1	
95	K-462	Collar	2	
96	H-149	Handle knob	2	
97	K-456	Steering shaft	2	
98	K-774	Steering fork	1	
99		C-snap ring	2	S20
100	K-480	Handle rod	2	
101		O ring	2	P31
102	K-488	Sleeve	1	
103	K-490	Set seat	2	
104	K-487	Steering shaft	1	
105	S-550	Name plate	1	
106	K-560	Retainer ring	2	
107	K-577	Gear	1	
108		Parallel key	2	6x6x20L
109		Parallel key	1	6x6x12L
110	K-446	Gear	1	
111	K-471	Shaft	1	
112	K-525	Bush	1	

Knee, Gear box (1)

Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
113	K-447	Gear	1	
114	K-792	Knee	1	
115	K-457	Washer	2	

Model: CS-U450



KNEE, GEAR BOX (1)

Knee, Gear box (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
1	K-555	Wiper	1	
2	K-509	Wiper	2	
3	K-510	Wiper	2	
4	K-531	Set screw	2	
5	K-795	Wiper	1	
6	R-158	Adjust bolt	2	
7		Hex.socket screw	10	M16x2Px40L
8	K-770	Gib	1	
9	K-776	Wiper	1	
10	K-778	Fixed block	1	
11	S-198	Adjust bolt	4	
12	K-771	Gib	2	
13	K-511	Chip guard	1	
14	K-779	Fixed block	1	
15	K-772	Wiper	1	
16		Machine screw	12	M5x0.8Px10L
17	K-794	Wiper	1	
18	K-775	Wiper	1	
19		Parallel key	1	5x5x10L
20	K-561	Bevel gear	1	
21	G-437	Gear	1	
22		Ball bearing	1	6006
23		C-snap ring	1	R55
24	G-459	Washer	1	
25	G-455	Washer	2	
26		C-snap ring	1	S30
27	G-429	Gear	1	
28	G-465	Bearing seat	1	

Knee, Gear box (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
29		Parallel key	2	6x6x10L
30	G-427	Gear	1	
31	G-488	Gear	1	
32	G-428	Gear	2	
33		Ball bearing	1	6304
34	G-426	Helical gear	1	
35	G-467	Washer	1	
36		Parallel key	1	6x6x16L
37	G-466	Bearing seat	1	
38		Hex.socket screw	6	M6x1Px20L
39		Thrust bearing	1	51110
40	G-423	Helical gear	1	
41		Ball bearing	2	6205
42	G-422	Helical gear	1	
43		Ball bearing	1	6204
44		Hex.socket screw	1	M10x1.5Px20L
45		Motor	1	3HP-4P
46		Parallel key	1	6x6x30L
47		C-snap ring	2	S20
48	G-450	Bearing seat	1	
49		C-snap ring	1	R47
50		Hex.socket set screw	1	M8x1.25Px10L
51		Oil seal	1	SC30428
52	G-469	Spacing ring	1	
53		Spring washer	1	M10
54		Hex.socket screw	1	M10x1.5Px25L
55		Parallel key	1	8x7x45L
56	G-421	Helical gear	1	

Knee, Gear box (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
57	G-470	Washer	1	
58	G-483	Motor connect seat	1	
59		Hex.socket screw	4	M6x1Px20L
60		Spring washer	3	M12
61		Hex.bolt	3	M12x1.75Px30L
62		Taper pin	2	#5x64L
63		Hex.socket screw	2	M10x1.5Px75L
64	G-447	Spacing ring	1	
65	G-425	Helical gear	1	
66		Ball bearing	1	6905
67	G-438	Gear	1	
68	G-487	Spacing ring	1	
69	C-526	Name plate	1	
70	K-105	Lock nut	2	AN05
71		Lock washer	2	AW05
72	G-471	Spring	1	
73	C-530	Plug	1	
74	G-440	Clutch	1	
75	G-445	Nut	1	
76		Parallel key	1	6x6x9L
77	G-478	Bearing seat	1	
78		Thrust bearing	1	51106
79	K-484	Cover	1	
80		Hex.socket screw	4	M8x1.25Px90L
81	G-442	Collar	1	
82	G-443	Bush	1	
83		Hex.socket set screw	1	M5x0.8Px12L
84		Hex.socket screw	4	M10x1.5Px55L

Knee, Gear box (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
85		Oil level gage	1	φ 26x φ 30
86	G-448	Handle lever	1	
87		Hex.nut	1	M12x1.75P
88	G-468	Set screw	1	
89	G-433	Spur gear	1	
90	G-439	Shaft	1	
91	K-431	Gear box	1	
92	G-477	Clutch	1	
93		Parallel key	1	6x6x12L
94	G-451	Spacing ring	1	
95		Hex.socket set screw	1	M6x1Px16L
96		Hex.nut	1	M10x1.5P
97		Hex.socket set screw	1	M10x1.5Px35L
98	G-461	Idle gear	1	
99	G-462	Washer	1	
100		C-snap ring	1	S18
101	G-464	Shaft	1	
102	G-475	Spring	3	
103	G-476	Roller	3	
104	G-463	Bearing seat	1	
105	G-452	gear	1	
106	G-473	Spring	1	
107	G-472	Nut	1	
108		Round head screw	1	M4x0.7Px30L
109	G-453	Clutch	1	
110	G-449	Shaft	1	
111	K-434	Rack	1	
112		Gasket	1	

Knee, Gear box (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
113		Machine screw	9	M6x1Px8L
114		Hex.socket set screw	2	M6x1Px10L
115	G-458	Slide bush	2	
116	G-460	Shaft	1	
117	K-453	Fork	2	
118	G-492	Spring	2	
119	K-439	Set screw	2	
120	K-433	Rack	1	
121	K-533	Name plate	1	MM 60HZ
122	K-604	Name plate	1	MM 50HZ
123	K-568	Name plate	1	INCH
124	K-435	Shaft	2	
125	H-149	Handle knob	3	
126	K-436	Handle lever	2	
127	K-438	Locating pin	2	
128		Taper pin	2	#3x32L
129	K-437	Spring	2	
130	K-449	Spur gear	1	
131		C-snap ring	1	S22
132		Parallel key	1	6x6x14L
133		Hex.socket screw	5	M6x1Px30L
134	T-12	Set screw	1	
135		Hex.socket set screw	2	M6x1Px10L
136	K-549	Graduated ring	1	
137		C-snap ring	1	S19
138		Parallel key	2	6x6x25L
139		Needle bearing	1	TA1920
140	K-623	Clutch	1	

Knee, Gear box (2)

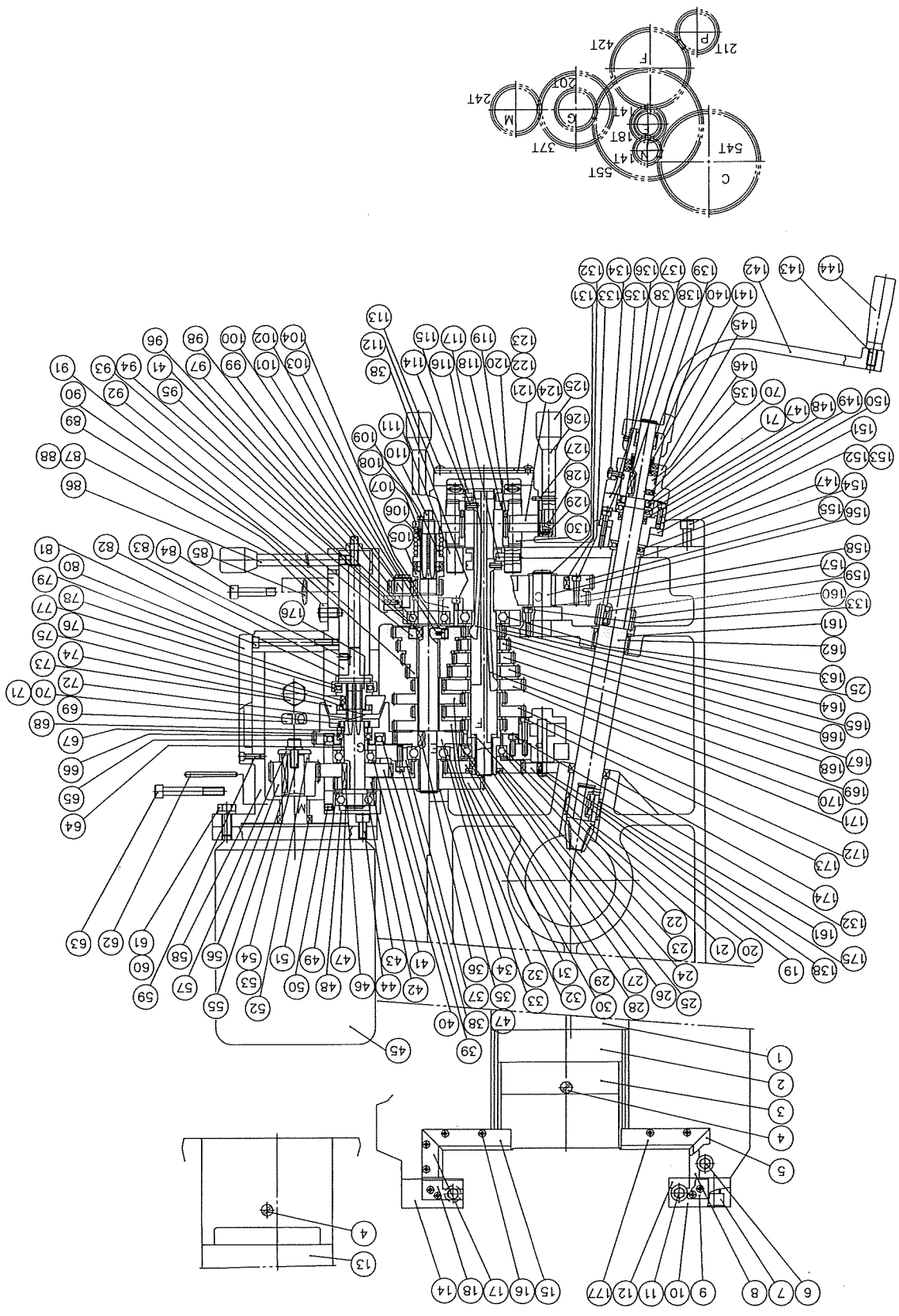
Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
141	K-656	Spring	1	
142	K-516	Rocking arm	1	
143	S-104	Handle bolt	1	
144	S-105	Handle sleeve	1	
145	K-547	Graduated ring	1	
146	T-130	Clutch	1	
147		Thrust bearing	2	51105
148		Oil seal	1	SC25359
149		Hex.socket screw	2	M6x1Px20L
150	K-469	Graduated ring seat	1	
151	K-455	Spacing ring	1	
152		Hex.socket screw	6	M10x1.5Px45L
153		Hex.socket screw	2	M10x1.5Px90L
154	K-455	Spacing ring	1	
155	K-442	Spur gear	1	
156	K-468	Shaft	1	
157	K-467	Washer	2	
158	K-565	Spur gear	1	
159		Parallel key	1	6x6x20L
160	K-450	Helical gear	1	
161		Needle bearing	2	TA3525
162	K-473	Shaft	1	
163		Ball bearing	1	6206
164	G-436	Spur gear	1	
165	G-457	Spring lever	1	
166	G-454	Spacing ring	6	
167	G-435	Spur gear	1	
168	G-434	Spur gear	1	

Knee, Gear box (2)

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
169	G-432	Spur gear	1	
170	G-456	Spring lever	1	
171	G-431	Spur gear	1	
172	G-430	Spur gear	1	
173		Hex.socket screw	2	M6x1Px40L
174		Oil seal	1	TC355011
175		C-snap ring	1	S10
176	G-441	Transmission sleeve	1	
177	K-773	Wiper	1	



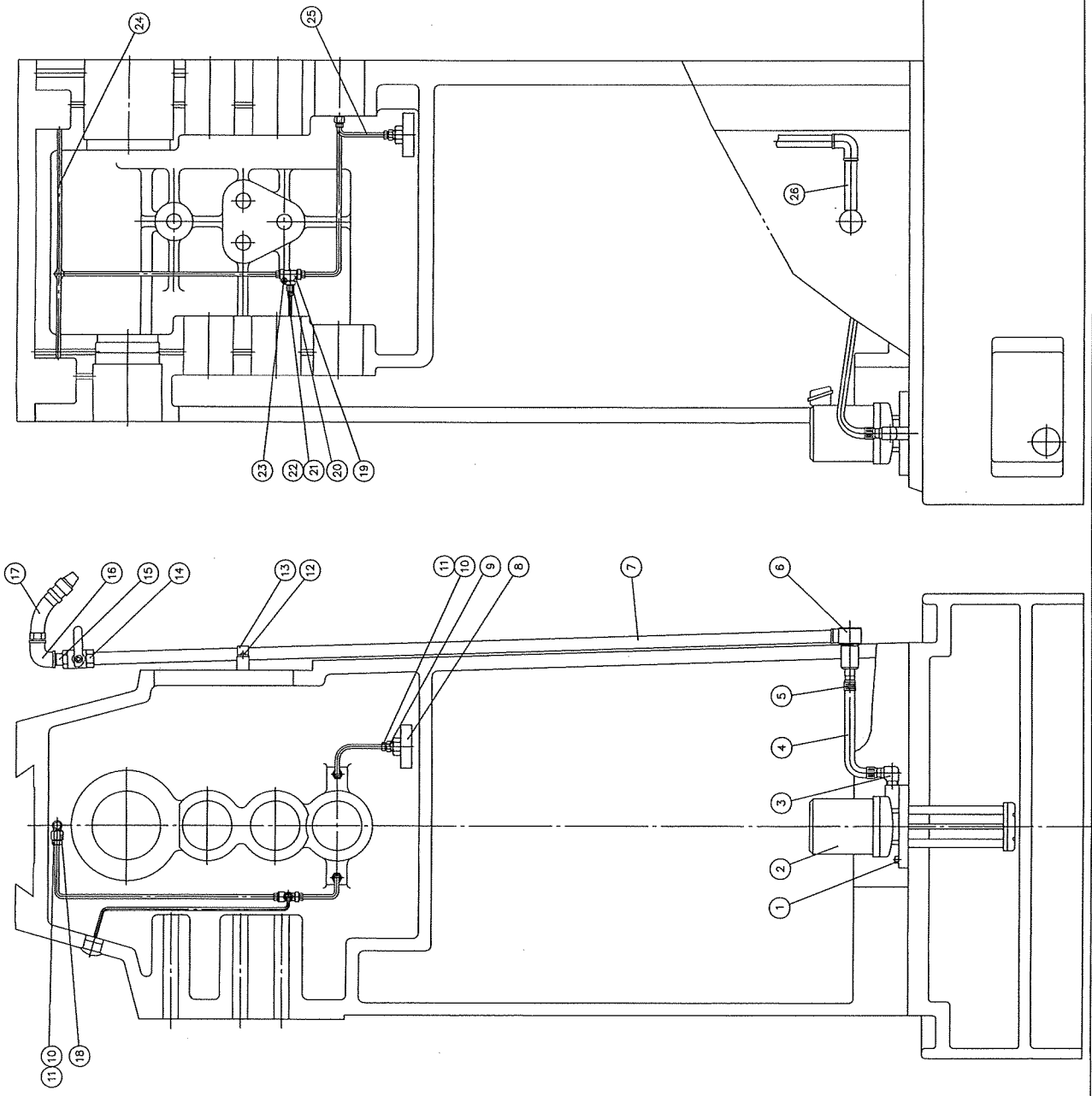
KNEE, GEAR BOX (2)

Lubrication

Model: CS-U450

Item	Parts No.	Parts Name	Q'ty	Remark
1		Hex. socket screw	4	M6x1Px20L
2		Pump	1	1/8HP-2Px150L
3		Hose	1	3/8PTx1/2E
4		Hose	1	1/2"x500m/m
5		Tube clips	2	5/8"
6	C-435	Hose connector	1	
7	C-368	Pipe connector	1	
8	C-514	Oil filter	1	
9		Straight joint	3	PD602
10		Thimble nut	6	PA6
11		Thimble	6	PB6
12		Round head screw	2	M4x0.7Px8L
13		Pipe clips	1	3/8"
14		Cock	1	3/8"
15		Nipple	1	3/8"x2
16		Elbow(90°)	2	PT3/8"xPT3/8"
17		Nozzle pipe	1	3/8"x24"L
18		Straight joint	6	PD601
19		T-Joint	1	PKD6
20		Straight Joint	1	PD401
21		Thimble nut	1	PA4
22		Thimble	1	PB4
23		Hex. socket screw	1	M5x0.8Px20L
24	C-571a	Oil pipe	1	
25		Aluminium pipe	3	φ6
26		Nipple	1	3/8"x3"

Model: CS-U450



LUBRICATION

Overarm

Model: CS-U450

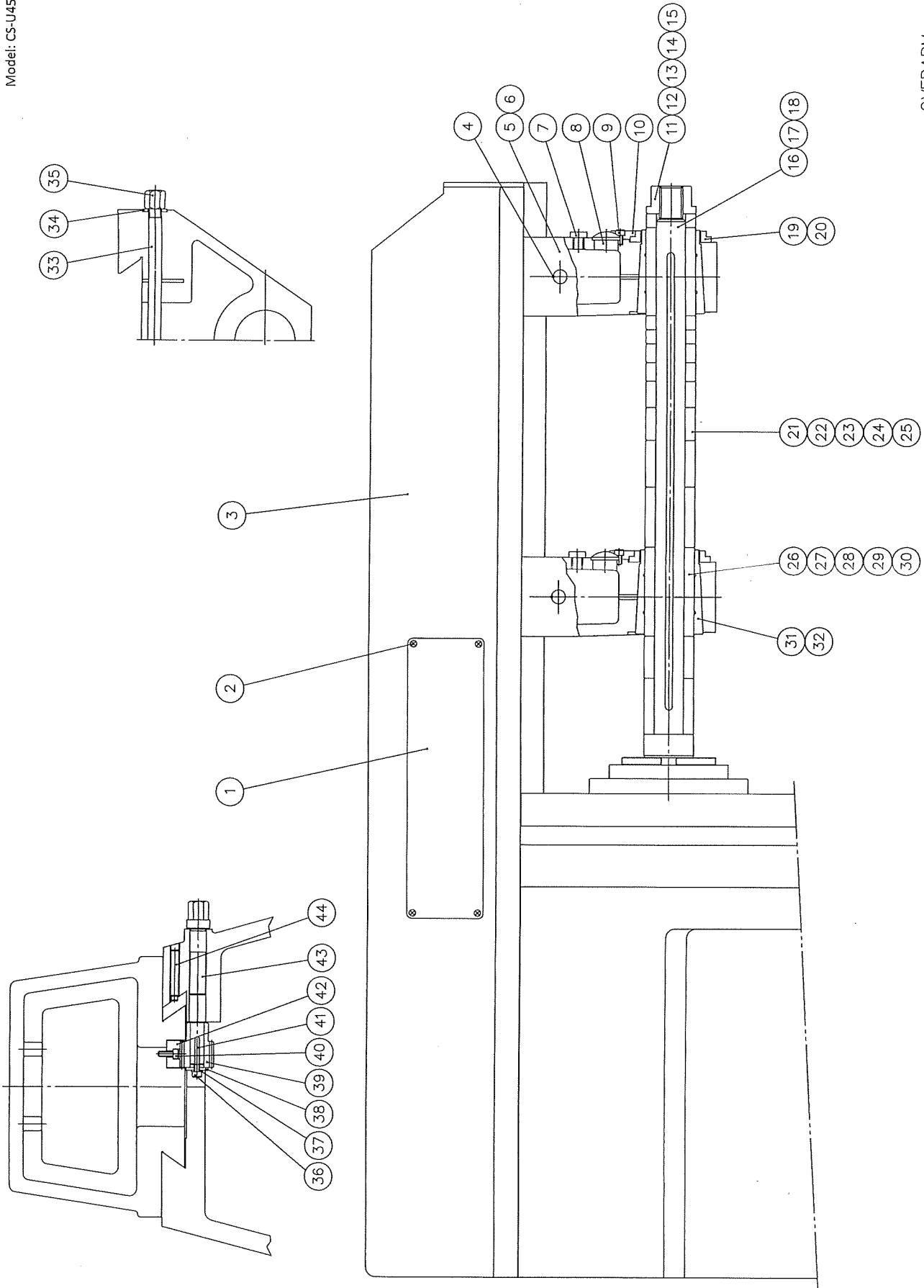
Item	Parts No.	Parts Name	Q'ty	Remark
1	C-1197	Name plate	2	
2		Round head screw	8	M4x0.7Px12L
3	R-368	Overarm	1	
4		Spring pin	2	φ 5x14L
5	R-370	Arbor bracket	2	NT40
6	R-410	Arbor bracket	2	NT50
7		Oil plug	2	W1/2"
8		Oil level gage	2	φ 26x φ 30
9		Hex. socket screw	2	M6x1Px10L
10	R-411	Clamping block	2	
11	C-254	Set nut	1	INCH(NT40)
12	R-408	Set nut	1	INCH(NT50)
13	R-483	Set nut	1	MM(NT40)
14	R-487	Set nut	1	MM(NT50)
15	R-590	Set nut	1	38.1MM(NT50)
16	R-371	Milling arbor	1	25.4MM(NT40)
17	R-409	Milling arbor	1	31.75MM(NT50)
18	R-484	Milling arbor	1	27MM(NT40)
19	R-397	Lock nut	2	NT40
20	R-406	Lock nut	2	NT50
21	C-250	Spacing collars	1set	25.4MM(NT40)
22	R-404	Spacing collars	1set	31.75MM(NT50)
23	R-481	Spacing collars	1set	27MM(NT40)
24	R-485	Spacing collars	1set	32MM(NT50)
25	R-591	Spacing collars	1set	38.1MM(NT50)
26	C-422	Spacing collars	2	25.4MM(NT40)
27	R-407	Spacing collars	2	31.75MM(NT50)
28	R-482	Spacing collars	2	27MM(NT40)

Overarm

Model: CS-U450

Item	Parts No.	Parts Name	Q' ty	Remark
29	R-486	Spacing collars	2	32MM(NT50)
30	R-592	Spacing collars	2	38.1MM(NT50)
31	C-252	Brass bush	2	NT40
32	R-405	Brass bush	2	NT50
33	R-378	Bolt	2	
34	R-380	Washer	2	
35	R-379	Nut	2	
36		Hex. socket screw	1	M6x1Px12L
37		Spring washer	1	M6
38	R-562	Washer	1	
39	R-489	Spur gear	1	
40		Hex. socket screw	5	M6x1Px16L
41		Parallel key	1	5x5x30L
42	R-491	Rack	1	
43	R-490	Gear shaft	1	
44	H-641	Adjust bolt	3	

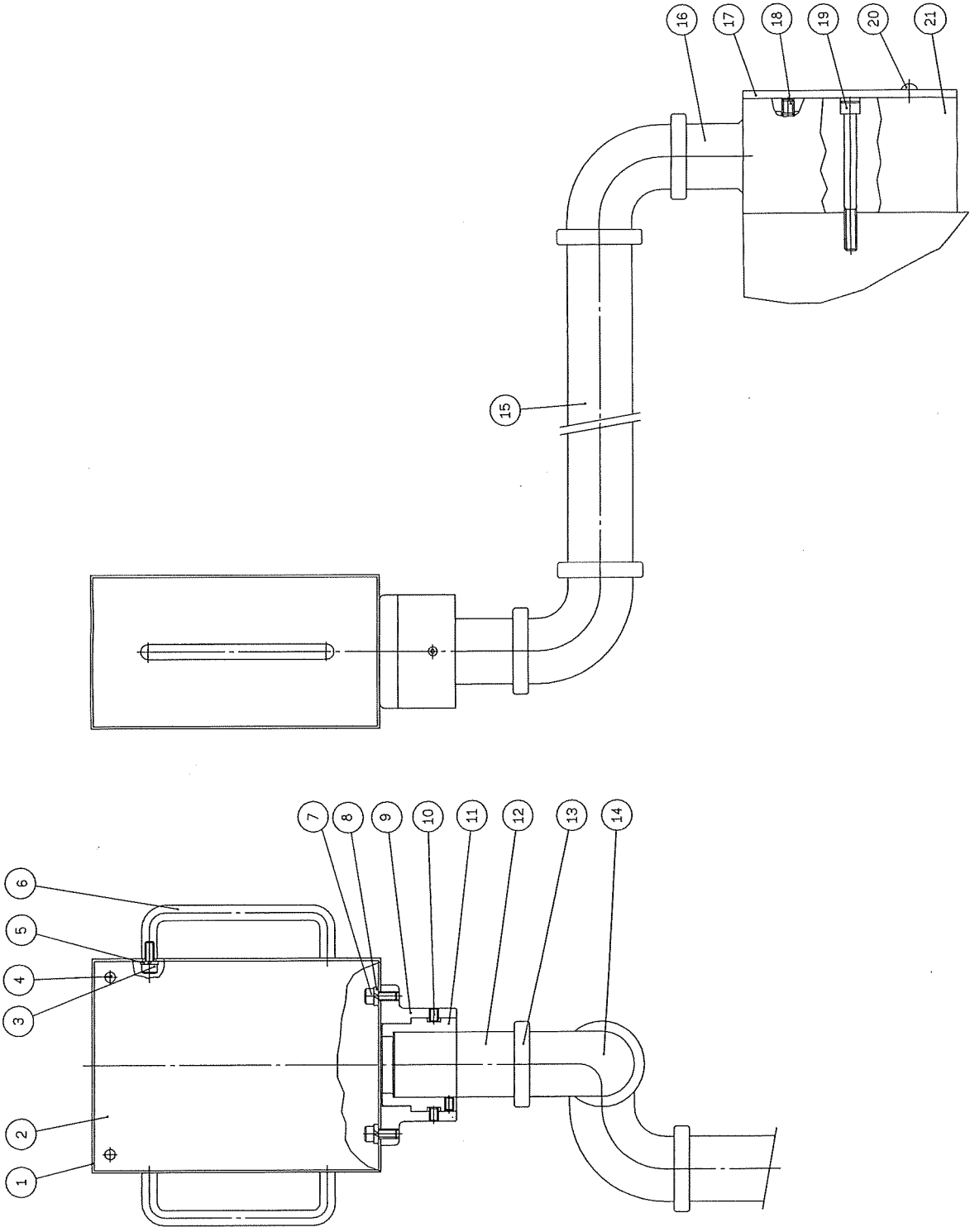
Model: CS-U450



OVERARM

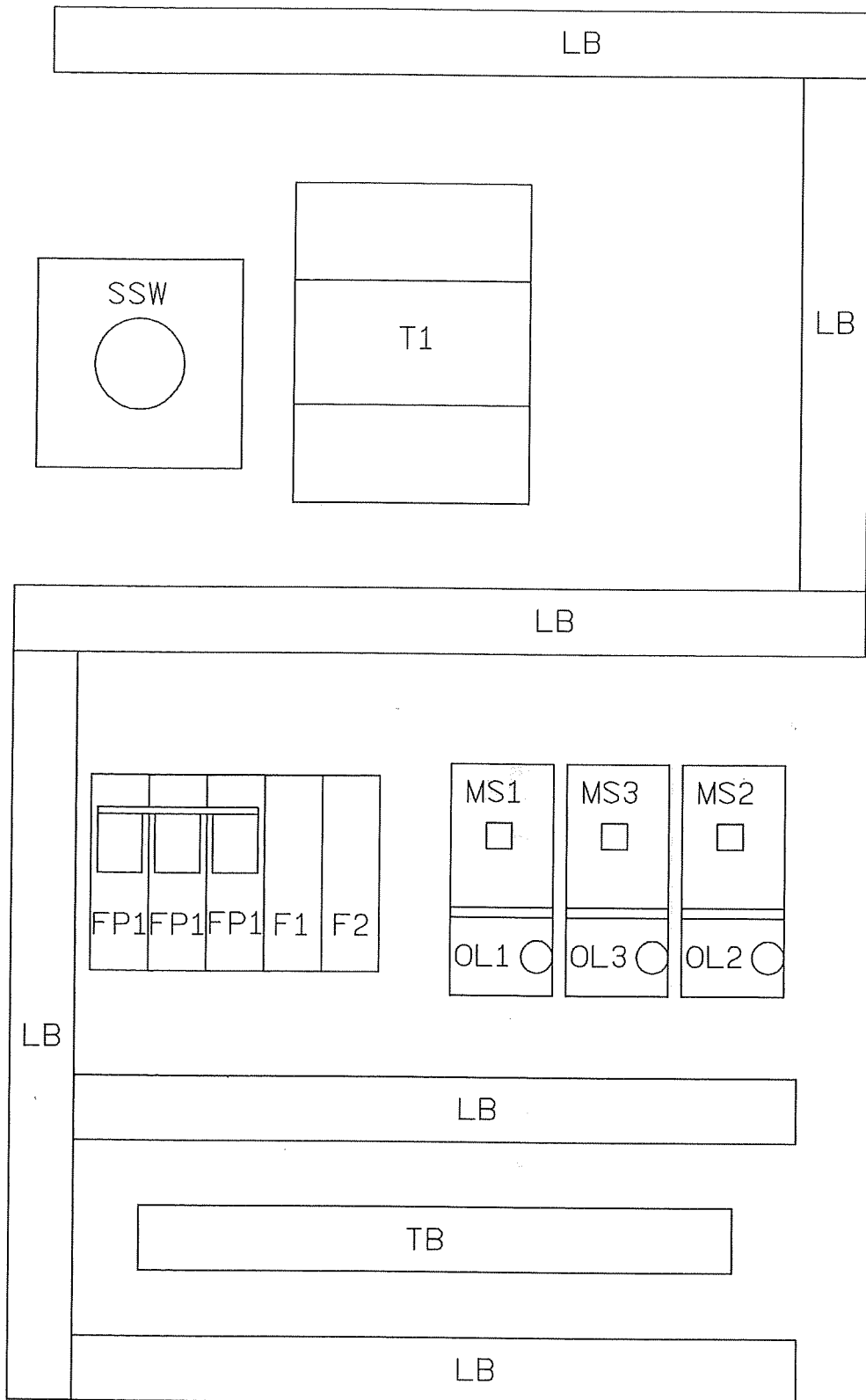
Control box

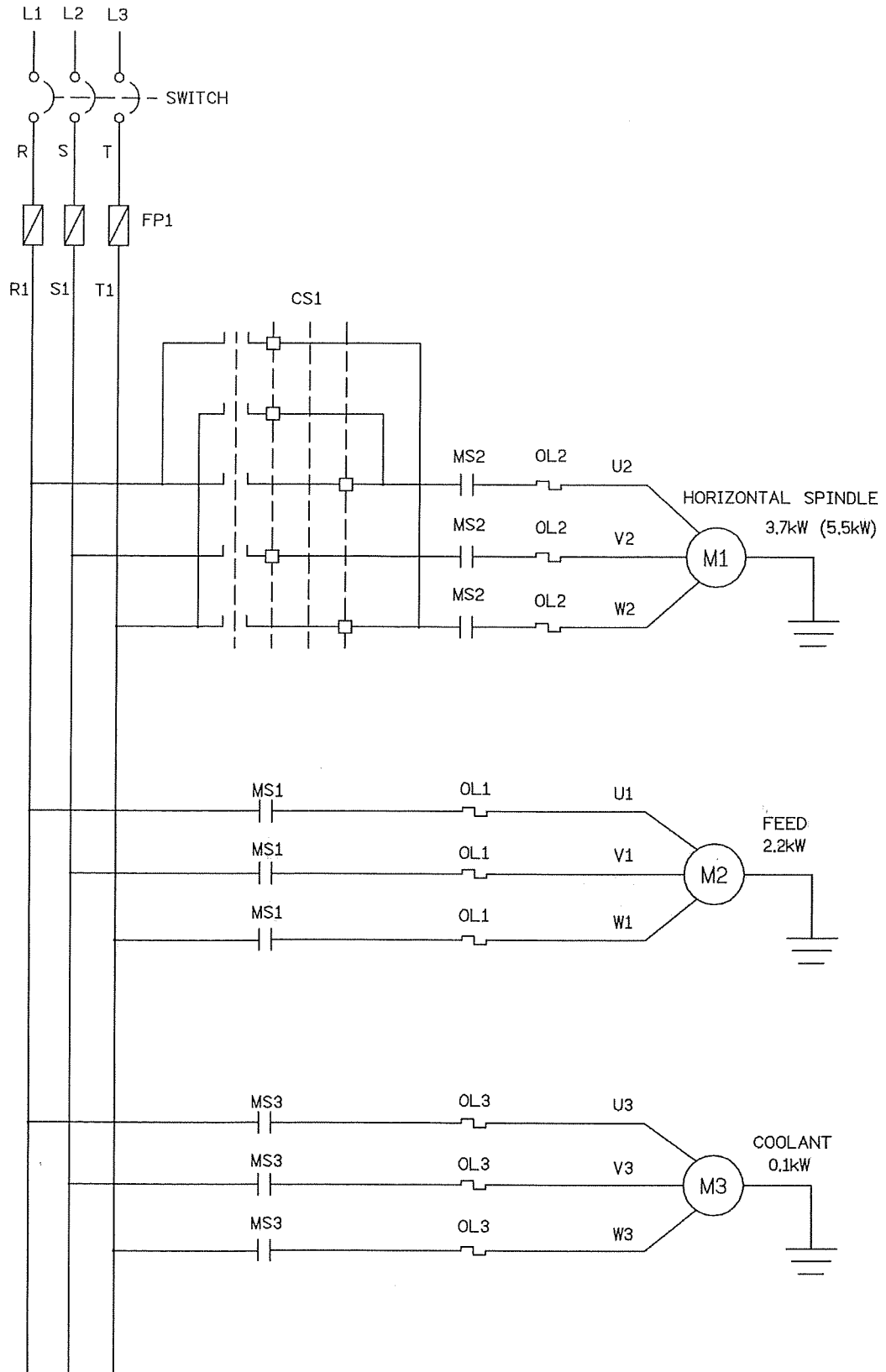
Item	Parts No.	Parts Name	Q'ty	Remark
1	E-264	Control box	1	
2	E-78	Name plate	1	
3		Hex. socket screw	4	M6x1Px10L
4		Round head screw	4	M5x0.8Px10L
5		Spring washer	4	M6
6	C-664	Handle	2	
7		Hex. socket screw	2	M6x1Px16L
8		Spring washer	2	M6
9	E-105	Sleeve	1	
10		Hex. socket set screw	3	M6x1Px8L
11	E-104	Sleeve	1	
12	E-107	Connector pipe	1	
13	E-108	Connector	4	
14		Elbow	2	PT1/2"
15	C-666	Pipe	1	
16	E-106	Connector pipe	1	
17	C-676	Cover	1	
18		Hex. socket se screw	1	M8x1.25Px10L
19		Hex. socket screw	3	M8x1.25Px80L
20		Round head screw	2	M6x1Px8L
21	C-667	Connector seat	1	

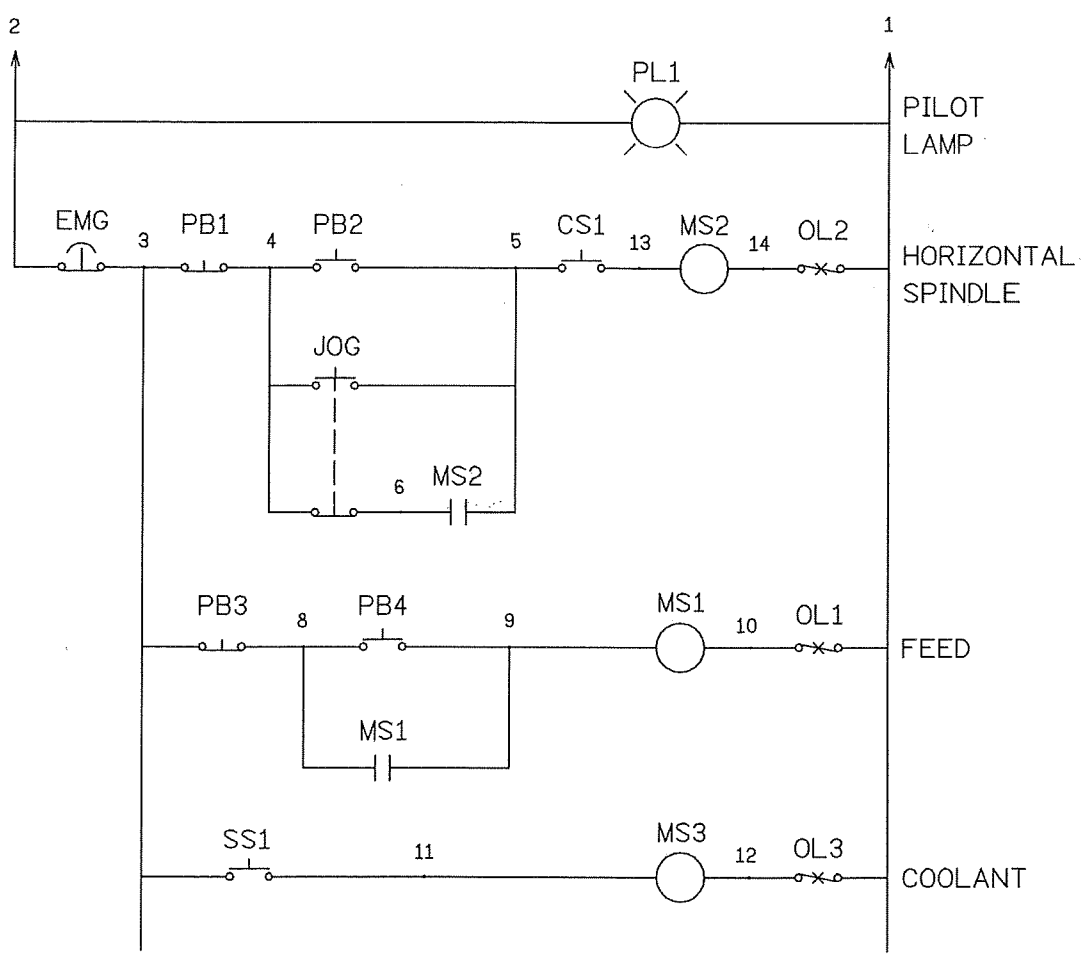
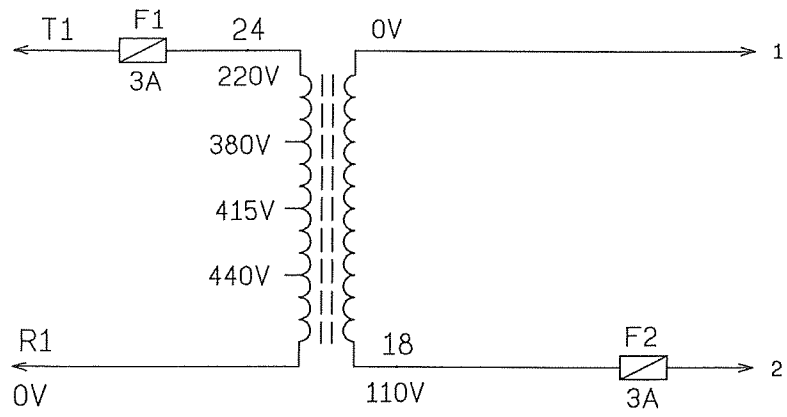


CONTROL BOX

INSTALLATION DIAGRAM FOR CONTROL CABINET







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