

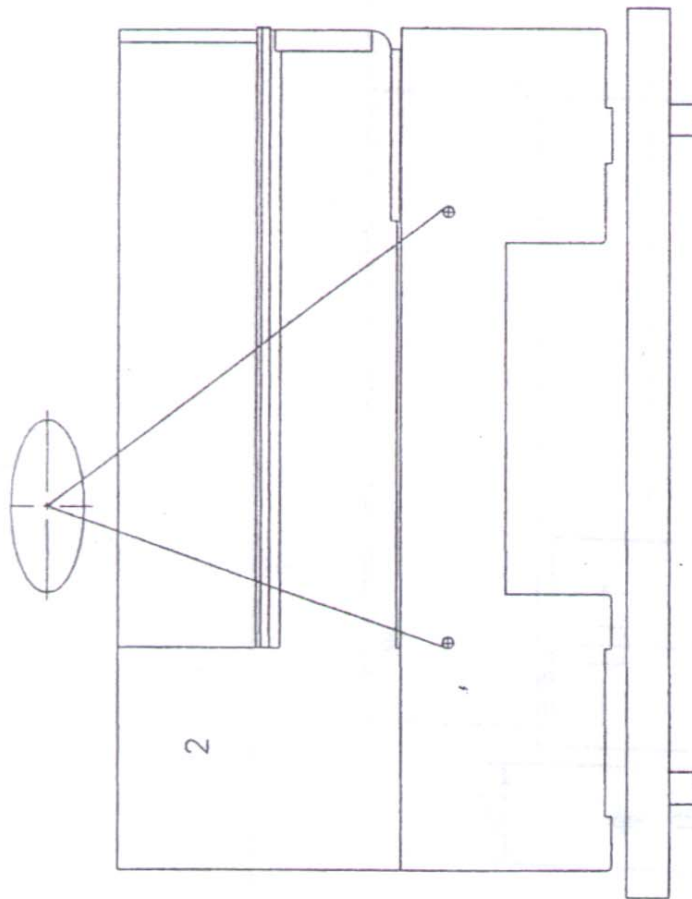
LUX-MATTER

1640G/1660G

INSTRUCTION MANUAL

AND

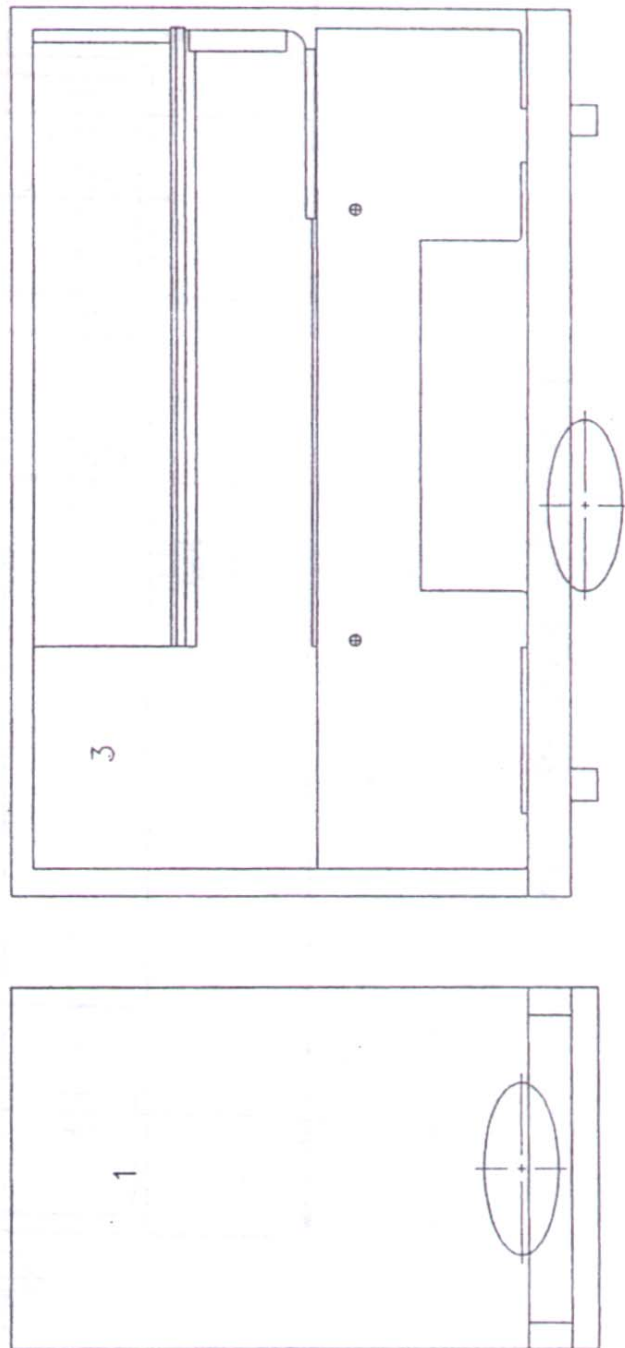
PARTS LISTS



1 : CENTER OF GRAVITY AT THE SIDE

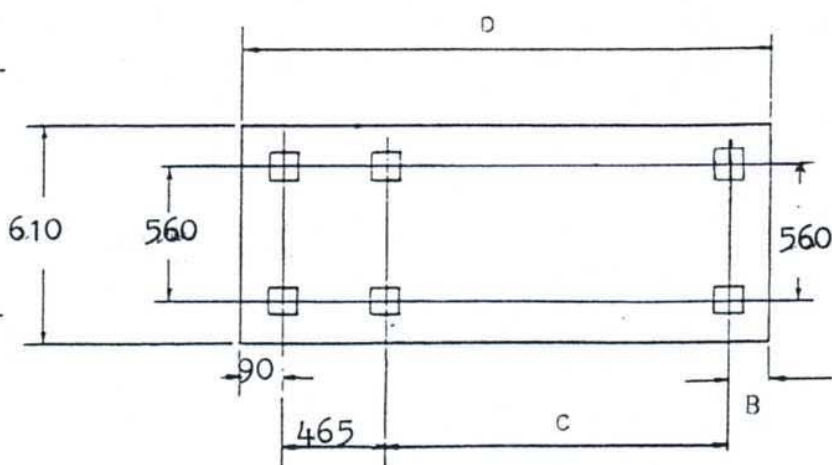
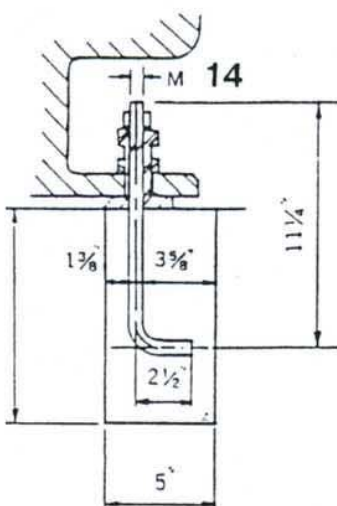
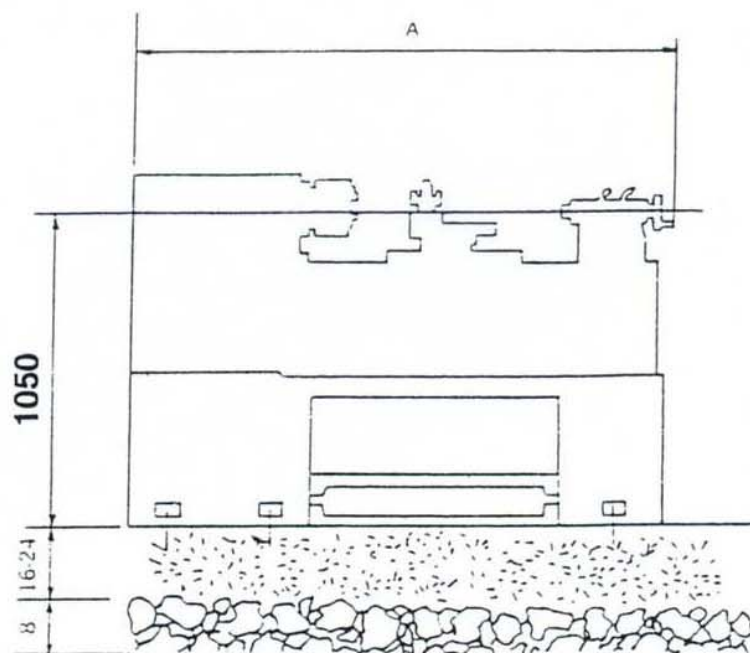
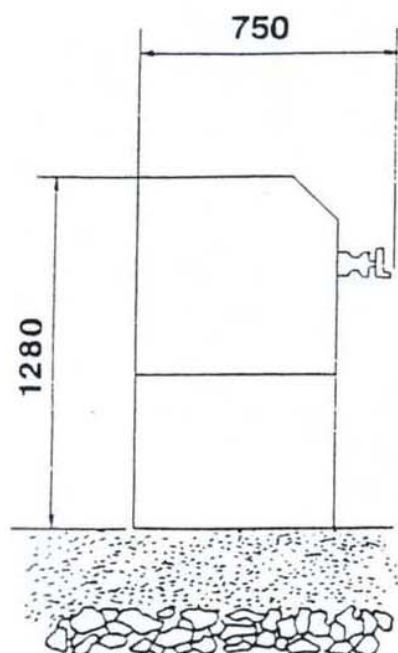
2 : CENTER OF GRAVITY AT THE FRONT

3 : HANG AND INSTALLATION WAY



Installation

FOUNDATION DIAGRAM



unit:mm

ITEM TYPE	A	B	C	D
1640G	2000	675	740	1970
1660G	2508	675	1248	2478

Installation

2-4 LEVEL OF LATHE

Anchor bolts and installation blocks must be fixed steadily to the cement

For Alignment of the machine ,spirit level which has sensitivity Better than 0.02mm/1000mm, on guideways of bed,adjust the level of the bed-way from left to right,then adjust the level of saddle, both front and rear,make sure the sensitivity is within 0.04mm/1000mm

After the adjustment of level, fasten the nuts, if flatness is deviated by fastening nuts, adjust it again untill no deviation is found.

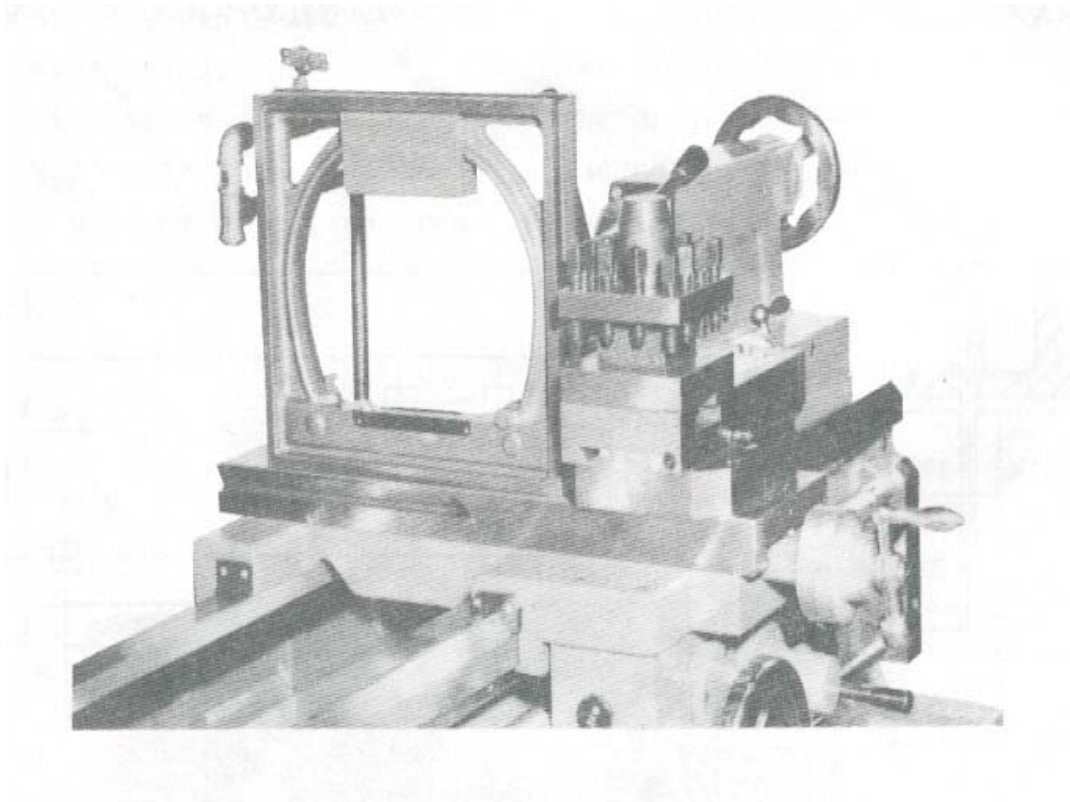


Fig 3

Power Security Control

3-1 POWER SOURCE WIRING



Fig 4

3-2 ELECTRICAL SAFETY FEATURES

- 1) The control panel of this machine is equipped with magnetic contactor and overload thermal relay.
- 2) Forward/reverse level and limited microswitch are connected.
- 3) Pedal brake device is connected to limited microswitch.
- 4) There is a jogging switch push button in the higher right hand side of norton feed gear box.

3-3 CAUTION

After wiring, check the spindle rotating direction.

Turn on the power source switch and push the jogging switch button

If it rotates counterclockwise, it is the correct wiring. If not, replace two of the three wires (r.s.t). Then check the rotation again.

The overload thermal relay is connected to the magnetic contactor to protect from motor overload. If during normal operation, but the pilot light is still on, it indicates that the overload thermal relay is working. Please turn off the main power switch, reset the thermal overload relay and restart the machine.

Prepaatiion for opertion

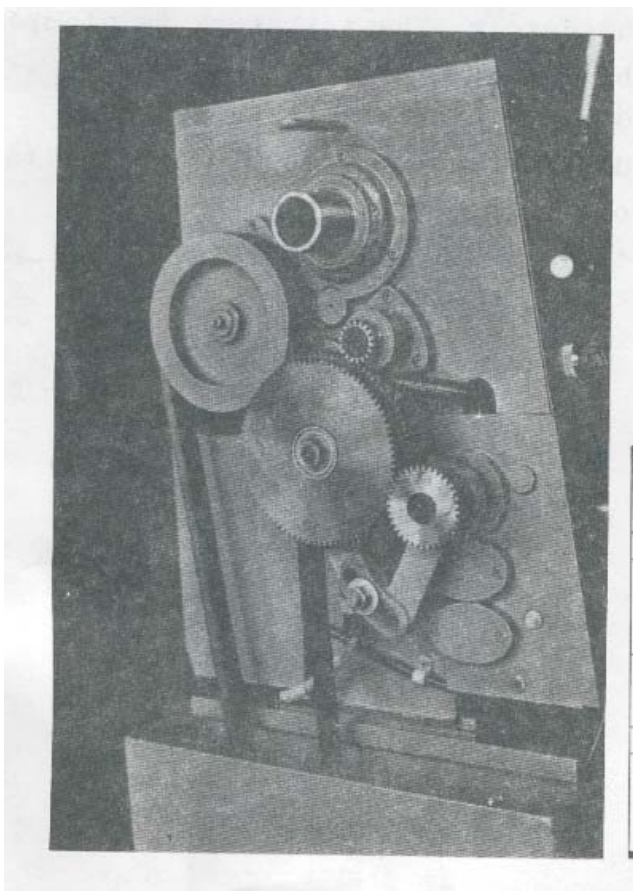
4-2 OPERATION OF JOGGING SWITCH PUSH BOTTON

There is a push botton 23 in the higher portion of norton feed gear box (see Fig 7). Push it slightly. The spindle will run positively and Stop automatically. This is for changing speed easier And adjusting the center for raw ,material when a 4-jaw chuck is used.

4-3 CHANGE GEAR SYSYTEM

the change gear ssystem is located at the left side of the Headstock.Please refer to thread cutting chart, table 2, Be sure that the gears are aligned after you have changed them.

Caution Don't attempt to change gears while spindle is rotating.



Don't change speed while rotation

PITCH
6mm

C

X

0.2	LT7Y	3	LR4Z	72	LA4R	12	LB4T
0.225	LT3Y	3.5	HT2Z	60	LA1R	11 ½	LB8T
0.25	LT1Y	4	HS7Z	56	LB2R	11	LB5T
0.3	LT4Y	4.5	HS3Z	54	LA3R	10	LB1T
0.35	LT2Y	5	HS1Z	48	LB4R	9	LB3T
0.4	LS7Y	5.5	HS5Z	44	LB5R	8	LB7T
0.45	LS3Y	6	HS4Z	40	LB1R	7 ½	HA1S
0.5	LS1Y	6.5	HS6Z	36	LB3R	7	HB2S
0.6	LS4Y	7	HS2Z	32	LB7R	6	HB4S
0.7	LS2Y	8	HR7Z	30	LA1S	5	HB1S
0.75	LT4Z	9	HR3Z	28	LB2S	4 ½	HB3S
0.8	LR7Y	10	HR1Z	27	LA3S	4	HB7S
.9	LR3Y	11	HR5Z	26	LB6S	3 ¾	HA1T
1	LS7Z	12	HR4Z	24	LB4S	3 ½	HB2T
1.1	LR5Y	13	HR6Z	23	LB8S	3 ¼	HB6T
1.2	LR4Y	14	HR2Z	22	LB5S	3	HB4T
1.25	LS1Z			20	LB1S	2 ¾	HB8T
1.3	LR6Y			19	LC1S	2 ¾	HB5T
1.4	LR2Y			18	LB3S	2 ½	HB1T
1.5	LS4Z			16	LB7S	2 ¼	HB3T
1.75	LS2Z			15	LA1T	2	HB7T
2	LR7Z			14	LB2T		
2.5	LR1Z			13 ½	LA3T		
2.75	LR5Z			13	LB6T		

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4 T.P.I.

C

X

0.2	LT7Y	3	LR4Z	72	LA4R	12	LB4T
0.225	LT3Y	3.5	HT2Z	60	LA1R	11 ½	LB8T
0.25	LT1Y	4	HS7Z	56	LB2R	11	LB5T
0.3	LT4Y	4.5	HS3Z	54	LA3R	10	LB1T
0.35	LT2Y	5	HS1Z	48	LB4R	9	LB3T
0.4	LS7Y	5.5	HS5Z	44	LB5R	8	LB7T
0.45	LS3Y	6	HS4Z	40	LB1R	7 ½	HA1S
0.5	LS1Y	6.5	HS6Z	36	LB3R	7	HB2S
0.6	LS4Y	7	HS2Z	32	LB7R	6	HB4S
0.7	LS2Y	8	HR7Z	30	LA1S	5	HB1S
0.75	LT4Z	9	HR3Z	28	LB2S	4 ½	HB3S
0.8	LR7Y	10	HR1Z	27	LA3S	4	HB7S
.9	LR3Y	11	HR5Z	26	LB6S	3 ¾	HA1T
1	LS7Z	12	HR4Z	24	LB4S	3 ½	HB2T
1.1	LR5Y	13	HR6Z	23	LB8S	3 ¼	HB6T
1.2	LR4Y	14	HR2Z	22	LB5S	3	HB4T
1.25	LS1Z			20	LB1S	2 ¾	HB8T
1.3	LR6Y			19	LC1S	2 ¾	HB5T
1.4	LR2Y			18	LB3S	2 ½	HB1T
1.5	LS4Z			16	LB7S	2 ¼	HB3T
1.75	LS2Z			15	LA1T	2	HB7T
2	LR7Z			14	LB2T		
2.5	LR1Z			13 ½	LA3T		
2.75	LR5Z			13	LB6T		

20-1012 O

④

PITCH

6mm

22
55 54
64

mod. d.p.
C X

0.3	HT4Y	44	HB5R
0.4	HS7Y	40	HB1R
0.5	HS1Y	36	HB3R
0.6	HS4Y	32	HB7R
0.7	HS2Y	30	HA1S
0.8	HR7Y	28	HB2S
0.9	HR3Y	26	HB6S
1	HS7Z	24	HB4S
1.25	HS1Z	22	HB5S
1.5	HS4Z	20	HB1S
1.75	HS2Z	19	HC1T
2	HR7Z	18	HB3S
2.25	HR3Z	16	HB7S
2.5	HR1Z	15	HA1T
2.75	HR5Z	14	HB2T
3	HR4Z	13	HB6T
3.25	HR6Z	12	HB4T
3.5	HR2Z	11	HB5T
		10	HB1T
		9	HB3T
		8	HB7T

④

22
55 54
64

mm W ins

0.05	LCT7	0.002
0.06	LCT1	0.0025
0.08	LCT4	0.003
0.10	LCT2	0.004
0.12	LCS1	0.005
0.15	LCS4	0.006
0.2	LCS2	0.008
0.25	LCR1	0.01
0.3	LCR8	0.012
0.35	LCR6	0.014
0.4	HCT4	0.016
0.45	HCT2	0.018
0.5	HCS7	0.02
0.6	HCS3	0.024
0.7	HCS5	0.029
0.8	HCS4	0.032
1.0	HCS2	0.04
1.2	HCR3	0.047

22
55 54
64

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⊕

24

4 T.P.I.

44

56

57

mod. d.p.

C X

0.3	HT4Y	44	HB5R
0.4	HS7Y	40	HB1R
0.5	HS1Y	36	HB3R
0.6	HS4Y	32	HB7R
0.7	HS2Y	30	HA1S
0.8	HR7Y	28	HB2S
0.9	HR3Y	26	HB6S
1	HS7Z	24	HB4S
1.25	HS1Z	22	HB5S
1.5	HS4Z	20	HB1S
1.75	HS2Z	19	HC1T
2	HR7Z	18	HB3S
2.25	HR3Z	16	HB7S
2.5	HR1Z	15	HA1T
2.75	HR5Z	14	HB2T
3	HR4Z	13	HB6T
3.25	HR6Z	12	HB4T
3.5	HR2Z	11	HB5T
		10	HB1T
		9	HB3T
		8	HB7T

⊕

mm

W

ins

0.05	LCT7	0.002
0.06	LCT1	0.0025
0.08	LCT4	0.003
0.10	LCT2	0.004
0.12	LCS1	0.005
0.15	LCS4	0.006
0.2	LCS2	0.008
0.25	LCR1	0.01
0.3	LCR8	0.012
0.35	LCR6	0.014
0.4	HCT4	0.016
0.45	HCT2	0.018
0.5	HCS7	0.02
0.6	HCS3	0.024
0.7	HCS5	0.029
0.8	HCS4	0.032
1.0	HCS2	0.04
1.2	HCR3	0.047

20-1012

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Preparation for operation

For longitudinal feed, push down lever 13. For Cross Feed, pull up lever 13. Please refer to Table 2.

4-4 MANUAL FEED

Carriage moves longitudinally by turning hand wheel 11 (Be sure to set lever 7 and 13 at neutral position, and pull levers 14 up). One division of hand wheel dial is corresponding to 0.006" and its one turn corresponds to 0.72" travel of carriage.

4-5 AUTOMATIC FEED

automatic feed is operated as follows:

- 1) Choose feed direction by lever 7.
- 2) Set change gears and shift levels 8 & 9 & 31 to desired feed value.
- 3) Shift lever 10 to feed position.
- 4) Pull lever 14 up.
- 5) Feed Selector 13 to select either longitudinal feed or cross feed.
- 6) Shift lever 19 to select direction of spindle rotation.
- 7) Automatic feed starts when 32 lever is operated and stops when it is pulled up to neutral position.

4-6 SWIVEL SLIDE

Loose two capscrews before swiveling it. (As shown Fig 8)



Fig 8

4-7 TAILSTOCK

Tailstock spindle moves out by turning hand wheel 29. Either the arbor of drill chuck or tailstock spindle center comes out by excess returning of tailstock spindle.

Tailstock Spindle is clamped by pushing lever 20 reverse to headstock. The tailstock is clamped by pulling lever 21 upward. One division of its hand wheel dial corresponds to 0.125" travel of tailstock spindle.



Thread cutting

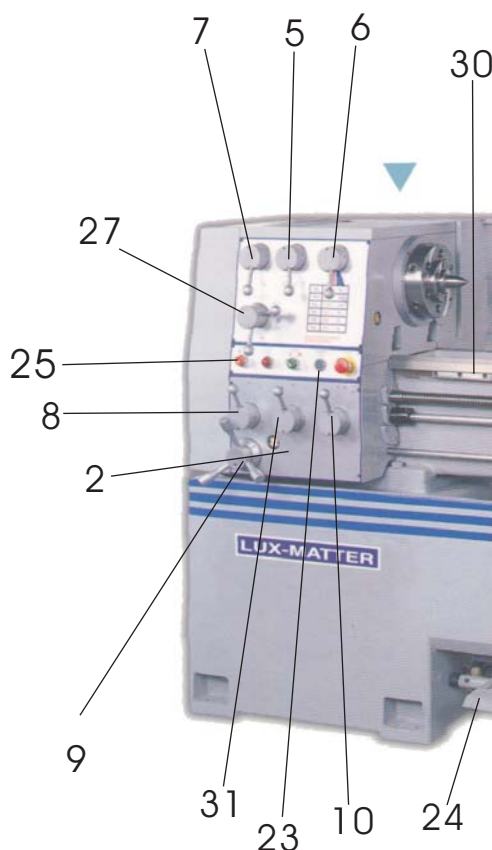
5-1 LEADSCREW OPERATION

Shift the level 7 to the right or left, the leadscrew run forward or reverse rotation respectively.

5-2 INCH THREAD SYSTEM

The inch thread cutting is operated as follow:

- 1) The change gears are aligned according to the Table 3.
- 2) Then according to Table 4.
Shift levels 8 & 10 & 31 to the desired position. Put level 9 to one of 8 positions.
- 3) Shift level 19 to select direction of spindle rotation.
- 4) Push lever 14 down (half nut engaged) to start threading.



5-3 THREAD CUTTING INDICATOR

The thread cutting indicator installed on the headstock tag which has eight graduations. For cutting inch thread, the thread cutting indicator is prepared for correct position of half nut engaging conveniently and quickly.

As to metric thread cutting, half nut should be engaged with lead-screw completely(when leadscrew is inch). Let tool post back up to starting position by reversing spindle rotation, then again.

INDICATOR TABLE							
T. P. I.	SCALE	T. P. I.	SCALE	T. P. I.	SCALE	T. P. I.	SCALE
4	1-4	12	1-4	38	$\frac{13}{24}$		
4 $\frac{1}{2}$		13	1	40	1-8		
4 $\frac{3}{4}$		14	$\frac{13}{24}$	44	1-4		
5	1	16	1-8	48	1-8		
5 $\frac{1}{2}$		18	$\frac{13}{24}$	52	1-4		
6	$\frac{13}{24}$	19	1	56	1-8		
6 $\frac{1}{2}$		20	1-4	64	1-8		
7	1-4	22	$\frac{13}{24}$	72	1-8		
8	1-8	24	1-8	76	1-4		
9	1	26	$\frac{13}{24}$	80	1-8		
9 $\frac{1}{2}$		28	1-4	96	1-8		
10	$\frac{13}{24}$	32	1-8	104	1-8		
11	1	36	$\frac{13}{24}$	112	1-8		

INCH

PITCH			WORM	
0.5	1.25	2.5	20T	
4.0	5.0			
0.75	1.0	1.5	21T	
1.75	2.0	3.0		
3.5	6.0	7.0		

METRIC

Table 3

MAINTENANCE

LUBRICATIONS

LUBRICATION IN HEADSTOCK & NORTON FEED GEAR BOX

Oil-bathed lubrication for both gear boxes. Please be sure the oil no lower than min.

Level of oil window

Lubrication in Change gears (Transmission gears) Open the V-belt cover. Lubricating with oil for daily maintenance.

LUBRICATION IN CARRIAGE

Carriage Slides and Cross Screw to be oiled by Hand PUMP.

LUBRICATION IN APRON

The oil cap in the right hand side of apron are for oiling .Be sure oil on proper height of oil window.

To change the oil on apron the oil can be removed by taking off the drain plug at bottom of apron.

LUBRICATION IN BEDWAYS, LEADSCREW

And Leadscrew Bracket Hand oiling is required from time to time

Coolant for Cutting

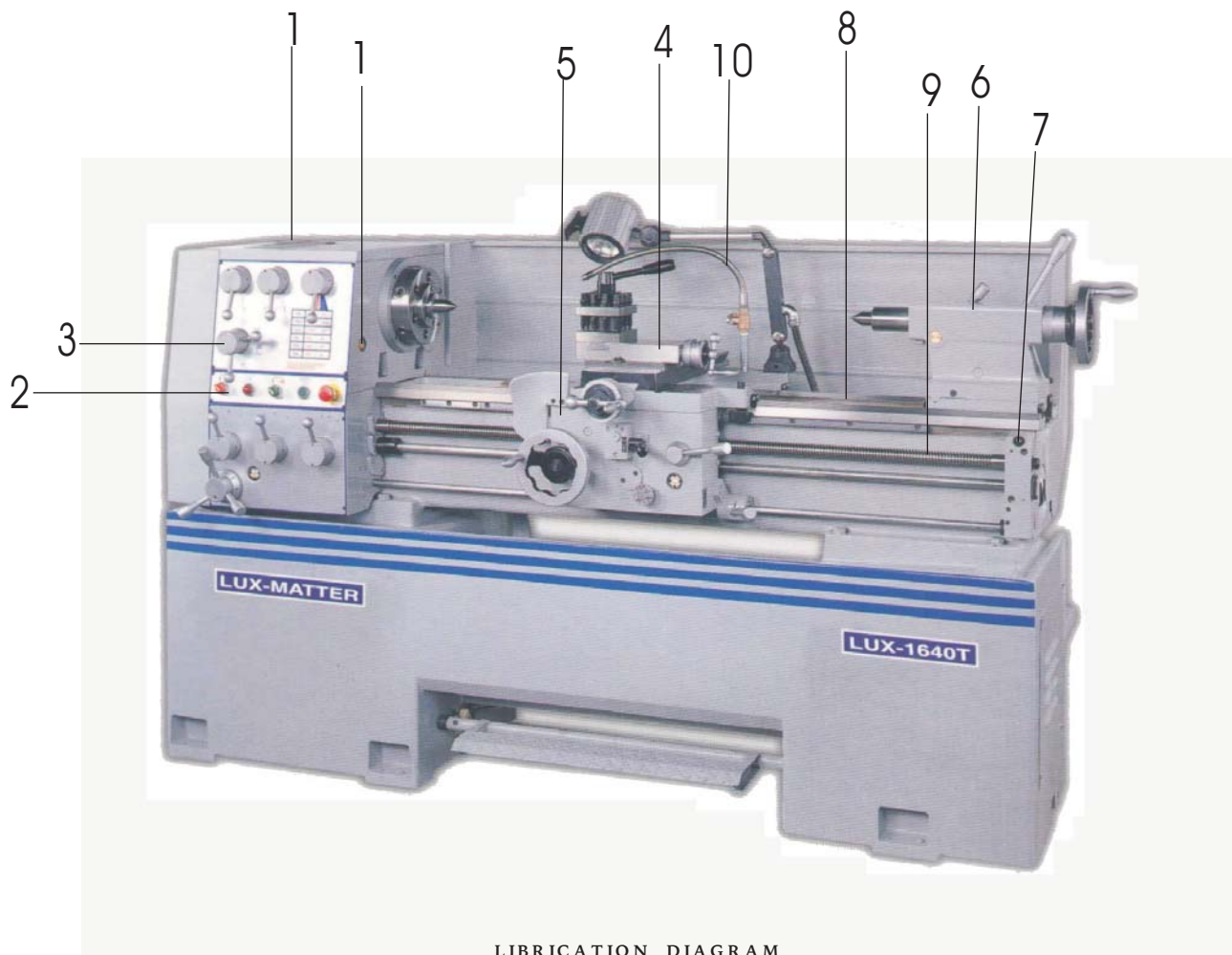
The coolant pump control switch is located top of Norton Feed gear box The pump works while turn on.

MAINTENANCE

TROUBLE SHOOTING CHART		
TROUBLE	PROBABLE CAUSE	CORRECTION
Vibration	Loose leveling screws Torn or mismatched vee belts Work or chuck out of balance Operating at high spindle Speed Motor out of balance	Set all screw so nthey bear evenly on leveling plates Replace vee belts with matchedset or adjust roll Balance chuck or reduce spindle speed Contact local representative of 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 Gibbs of cross slide or pound rest loose Spindle bearings worn	Regried 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 Recuece or increase feed adjust gibs adjustspindle bearings
Chatter (cont'd)	Work Improperly supported Vibration Spindle bearing loose	Adjust tailstock center Use steady rest of follow rest. On long slender shafts Minimize tailstock barrel extension 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 strady rest of follow rest Reduce overhang from chuck Relevel bed using precision level Put tool on center
Work out of 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 bearing

MAINTENANCE

TROUBLE SHOOTING CHART		
TROUBLE	PROBABLE CAUSE	
Cross slide or compound rest movement does not coincide with dial movement of respective adjusting screw	Gib setting too tight or too loose Eork is too long and slender	Adjust gibs Use steady rest or follow rest



LIBRICATION DIAGRAM

NO	Inlet	Methods	Q ty.	Oil no.	Schedle	Oil change
1.	Headstock	Open oil tank cover		1	Gauge once a month of oil tank in left stand.	New machine once a manth, later every other Month.
2.	Feed Gear Box.		few	2		
3.	Change Gears	Open the V-pully cover.	few	2	Daily	
4.	Compound	Use gun oiler	few	2	Daily	
5.	Apron	Open the cup, Fill by gun oiler	few	2	Daily	
6.	Tailstock	Use Gun Oiler	few	2	Daily	
7.	Leadscrew	Fill with gun Oiler	few	2	Daily	
8.	Bed way	Fill with Hand Pump	few	2	Daily	
9.	Leadscrew	Fill with gun Oiler	few	2	Daily	
10.	Carriagescrew	Fill with Hand Pump	few	2	Daily	

OIL NO.	MOBIL	ESSO	SHELL
1	D.T.E. Heavy Medium	Tellesso 52	Fellus 33
2	Vactra No.2	Febis K-53	Tonna Oil 27

HEAD STOCK

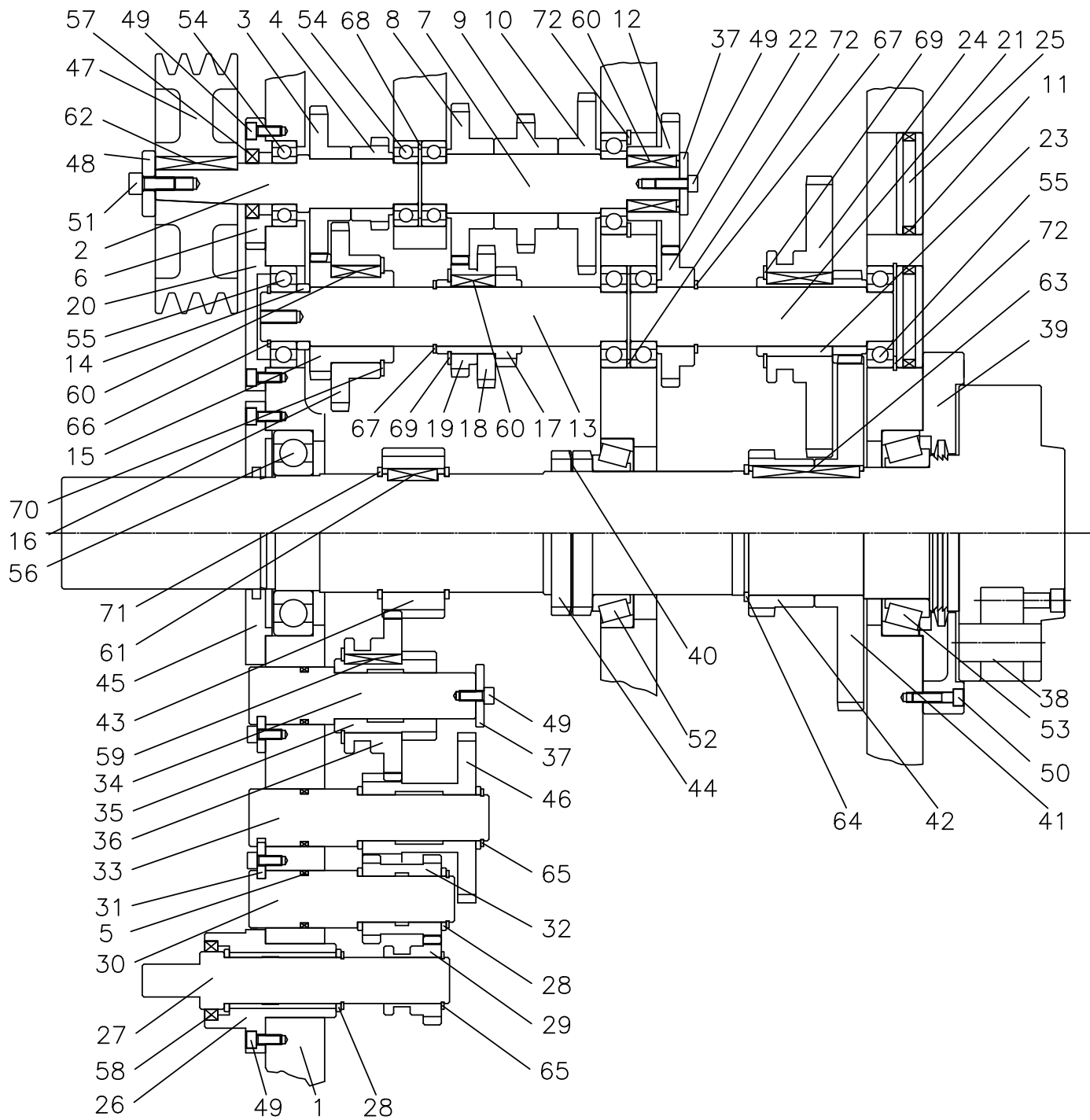
ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	CASTING	8101	1	
2	A SHAFT	8102	1	
3	GEAR	8103	1	
4	GEAR	8104	1	
5	“O” RING	P30	3	
6	COVER	8106	1	
7	SHAFT	8107	1	
8	GEAR	8108	1	
9	GEAR	8109	1	
10	GEAR	8110	1	
11	“O” RING	P52	2	
12	GEAR	8112	1	
13	SHAFT	8113	1	
14	WASHER	8114	1	
15	GEAR	8115	1	
16	GEAR	8116	1	
17	GEAR	8117	1	
18	GEAR	8118	1	
19	GEAR	8119	1	
20	COVER	8120	1	
21	SHAFT	8121	1	
22	GEAR	8122	1	
23	GEAR	8123	1	
24	GEAR	8124	1	
25	COVER	8125	2	
26	BUSH	8126	1	
27	SHAFT	8127	1	
28	COLLAR	8128	6	
29	GEAR	8129	1	
30	SHAFT	8130	1	
31	WASHER	8131	3	7154
32	GEAR	8132	1	
33	SHAFT	8133	1	
34	SHAFT	8134	1	
35	GEAR	8135	1	
36	GEAR	8136	1	

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HEAD STOCK

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	WASHER	8137	2	
38	SPINDLE	8138	1	
39	COVER	8139	1	
40	WASHER	8181	1	
41	GEAR	8141	1	
42	GEAR	8142	1	
43	GEAR	8143	1	
44	NUT	8144	2	
45	COVER	8145	1	
46	GEAR	8146	1	
47	PULLEY	8147	1	
48	WASHER	8148	1	
49	SOCKET SCREW	M6*20	16	
50	SOCKET SCREW	M6*30	4	
51	SOCKET SCREW	M8*25	1	
52	BEARING	32015	1	
53	BEARING	32016	1	
54	BEARING	6205	3	
55	BEARING	6206	5	
56	BEARING	6214	1	
57	OIL SEAL	TC25*45*8	1	
58	OIL SEAL	TC35*48*8	1	
59	PARALLEY KEY	6*6*35	1	
60	PARALLEY KEY	8*7*30	3	
61	PARALLEY KEY	8*7*35	2	
62	PARALLEY KEY	8*7*50	1	
63	PARALLEY KEY	8*7*65	1	
64	CIRCLIP	S75	1	
65	CIRCLIP	S28	7	
66	CIRCLIP	S30	1	
67	CIRCLIP	S36	2	
68	CIRCLIP	R52	1	
69	CIRCLIP	S45	2	
70	CIRCLIP	S56	1	
71	CIRCLIP	S72	2	
72	CIRCLIP	R62	3	

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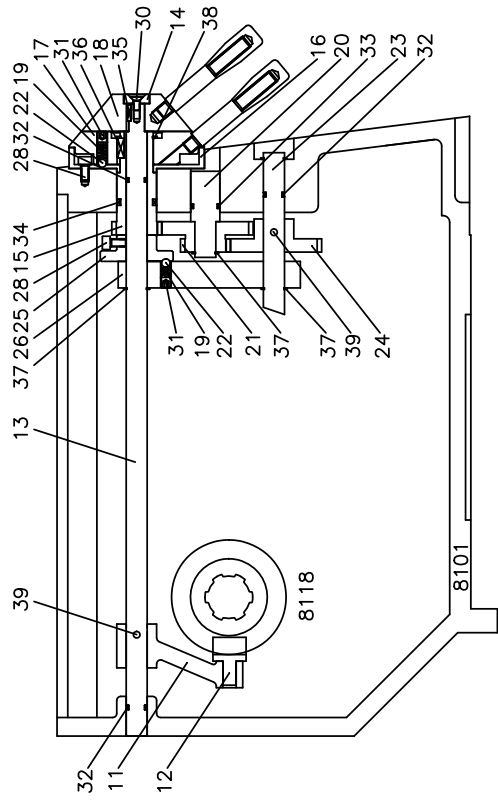
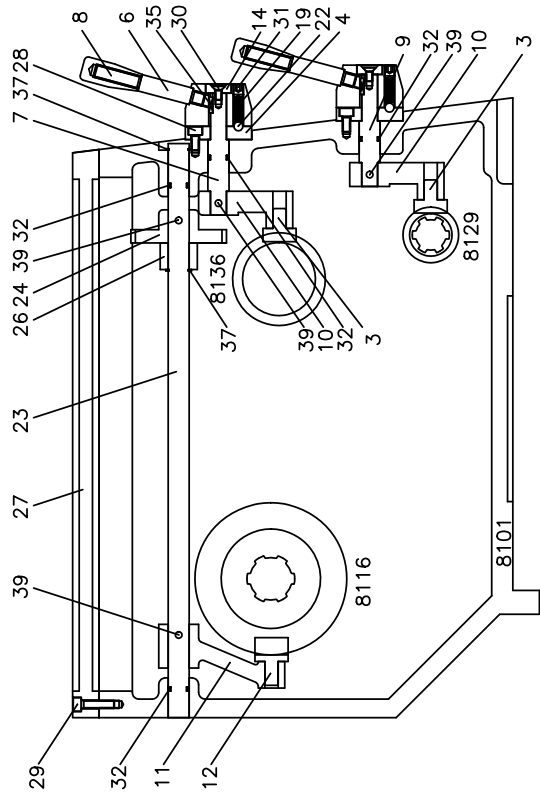
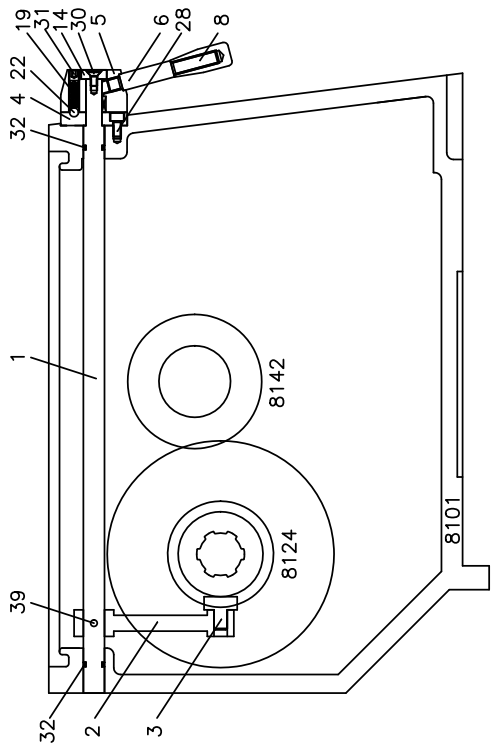


HEAD STOCK

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	SHAFT	8151	1	
2	LEVER	8152	1	
3	FORK	7152	3	
4	WASHER	8154	3	
5	AXLE CAP	8155	3	
6	HANDLE	8156	5	7246
7	SHAFT	8157	1	
8	HANDLE	7263	5	
9	SHAFT	8159	1	
10	LEVER	8160	2	
11	LEVER	8161	2	
12	FORK	8162	2	
13	SHAFT	8163	1	
14	WASHER	1002062	4	
15	GEAR	8165	1	
16	AXLE CAP	8166	1	
17	KEEP ASSY	8167D	1	
18	KEEP ASSY	8167C	1	
19	SPRING	ψ6.0*d1.0	5	
20	SHAFT	8170	1	
21	GEAR	8171	1	
22	STEEL BALL	1/4"	5	
23	SHAFT	8173	1	
24	GEAR	8174	1	
25	BLOCK	8175	1	
26	BRACKET	8176	1	
27	COVER	8177	1	
28	SOCKET SCREW	M6*12	9	
29	SOCKET SCREW	M6*25	10	
30	SCREW	M5*8	4	
31	SET SCREW	M8*6	5	
32	“O” RING	P12	8	
33	“O” RING	P18	1	
34	“O” RING	P24	1	
35	PARALLEL KEY	3*3*12	3	
36	PARALLEL KEY	5*5*15	1	

HEAD STOCK

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	CIRCLIP		S16 5	
38	CIRCLIP		S25 1	
39	SPRING PIN		ψ5*30 7	



GEAR BOX

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	CASTING	1002001	1	
2	A SHAFT	1002002	1	
3	COLLAR	1002003	2	7135
4	GEAR	1002004	1	
5	WASHER	1002005	1	
6	COVER	1002006	2	ψ47
7	GEAR	1002007	1	
8	GEAR	1002008	1	
9	GEAR	1002009	1	
10	GEAR	1002010	1	
11	GEAR	1002011	1	
12	GEAR	1002012	1	
13	GEAR	1002013	1	
14	GEAR	1002014	1	
15	GEAR	1002015	1	
16	GEAR	1002016	1	
17	COLLAR	1002017	2	
18	B SHAFT	1002018	1	
19	GEAR	1002019	1	
20	GEAR	1002020	1	
21	GEAR	1002021	1	
22	CLUCTH	1002022	1	
23	C SHAFT	1002023	1	
24	GEAR	1002024	1	
25	GEAR	1002025	1	
26	GEAR	1002026	1	
27	GEAR	1002027	1	
28	GEAR	1002028	1	
29	GEAR	1002029	1	
30	COVER	1002030	1	ψ42
31	COVER	1002031	2	ψ47
32	D SHAFT	1002032	1	
33	COVER	1002033	1	
34	GEAR	1002034	1	
35	E SHAFT	1002035	1	
36	GEAR	1002036	1	

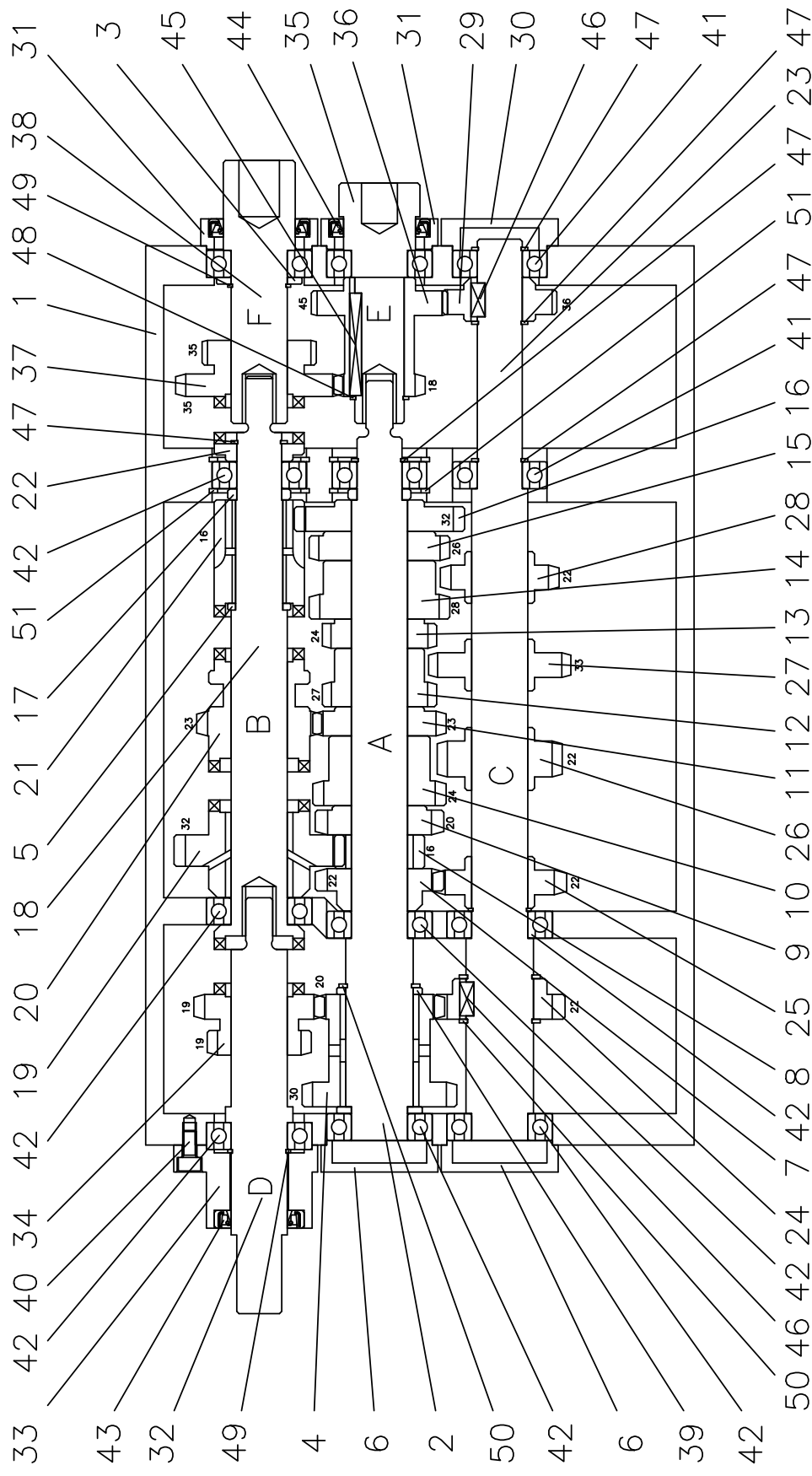
GEAR BOX

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	GEAR	1002037	1	
38	F SHAFT	1002038	1	
39	COLLAR	1002039	1	8618,9132
40	SOCKET SCREW	M6*16	13	
41	BEARING	6004	4	
42	BEARING	6005	8	
43	OIL SEAL	TC25*40*8	1	
44	OIL SEAL	TC32*45*8	2	
45	PARALLEL KEY	5*5*45	1	
46	PARALLEL KEY	6*6*15	2	
47	CIRCLIP	S20	5	
48	CIRCLIP	S22	1	
49	CIRCLIP	S25	3	
50	CIRCLIP	S30	3	
51	CIRCLIP	R42	4	

x,w,y,z

r,s,t

a,b,c



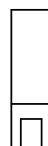
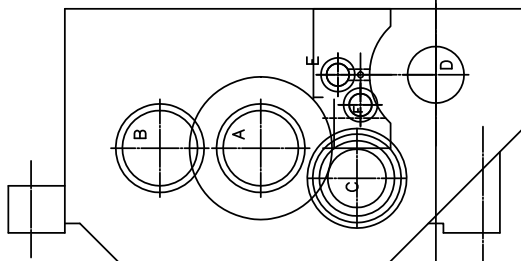
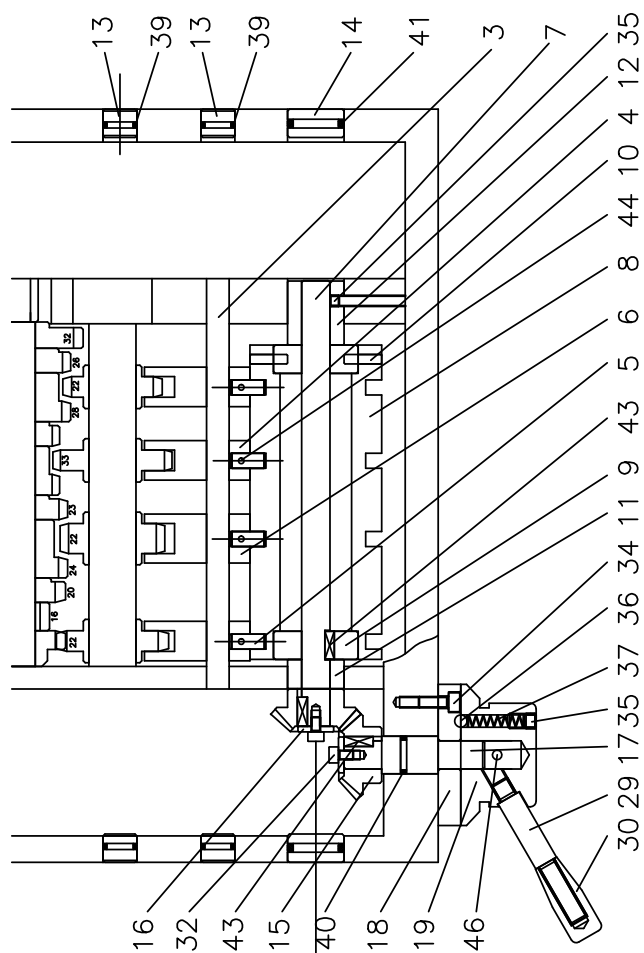
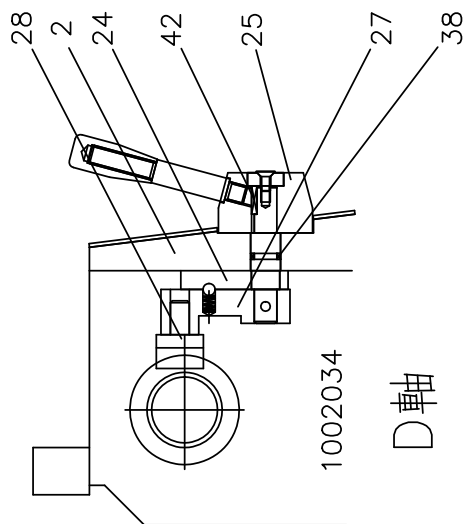
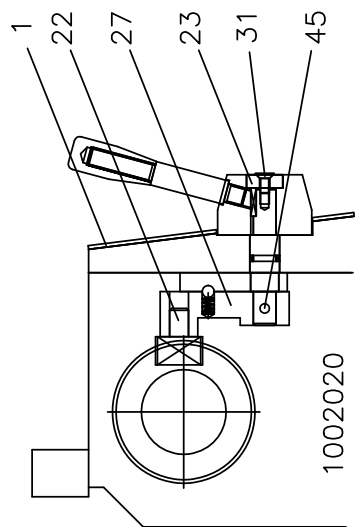
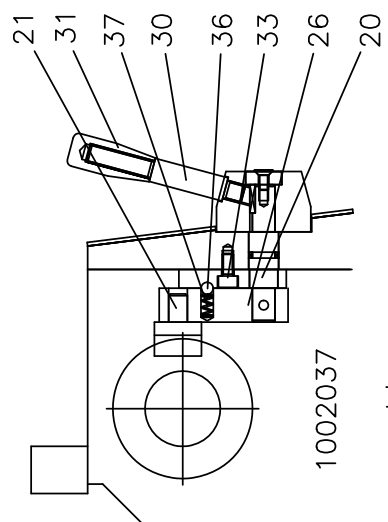
5,1,4,8,3,7,2,6

GEAR BOX

ITEM NO.	DESCRIPTION	PART NO.		NO.OFF	REMARK
1	PLATE	1002040		1	
2	COVER	1002041		1	
3	SHAFT	1002042		2	
4	FORK	1002043		3	
5	SHAFT	1002044		4	
6	FORK	1002045		1	
7	SHAFT	1002046		1	
8	SHAFT	1002047		1	
9	PLUG	1002048		2	
10	SPRING PIN	1002049	5X25	4	
11	COLLAR	1002050		1	
12	COLLAR	1002051		1	
13	PLUG	1002052		4	
14	PLUG	1002053		2	
15	GEAR	1002054		2	
16	WASHER	1002055		2	
17	SHAFT	1002056		1	
18	BLOCK	1002057		1	
19	DIAL	1002058		1	
20	SHAFT	1002059		3	
21	FORK	1002060		1	
22	FORK	1002061		1	
23	WASHER	1002062		3	
24	BLOCK	1002063		1	
25	AXLE CAP	1002064		3	
26	LEVER	1002065		1	
27	LEVER	1002066		2	
28	FORK	1002068		1	
29	HANDLE	7246		6	
30	HANDLE	7263		6	
31	SCREW		M5*12	3	
32	SOCKET SCREW		M5*12	2	
33	SOCKET SCREW		M6*12	6	
34	SOCKET SCREW		M6*16	2	
35	SET SCREW		M8*8	2	
36	STEEL BALL		1/4"	4	

GEAR BOX

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
38	“O” RING	P11	3	
39	“O” RING	P14	1	
40	“O” RING	P16	1	
41	“O” RING	P24	2	
42	PARALLEL KEY	3*3*12	3	
43	PARALLEL KEY	5*5*15	3	
44	SPRING PIN	ψ3*20	3	
45	SPRING PIN	ψ5*25	3	
46	SPRING PIN	ψ5*40	1	
48	SPRING	ψ6*ψ1.0	4	



APRON

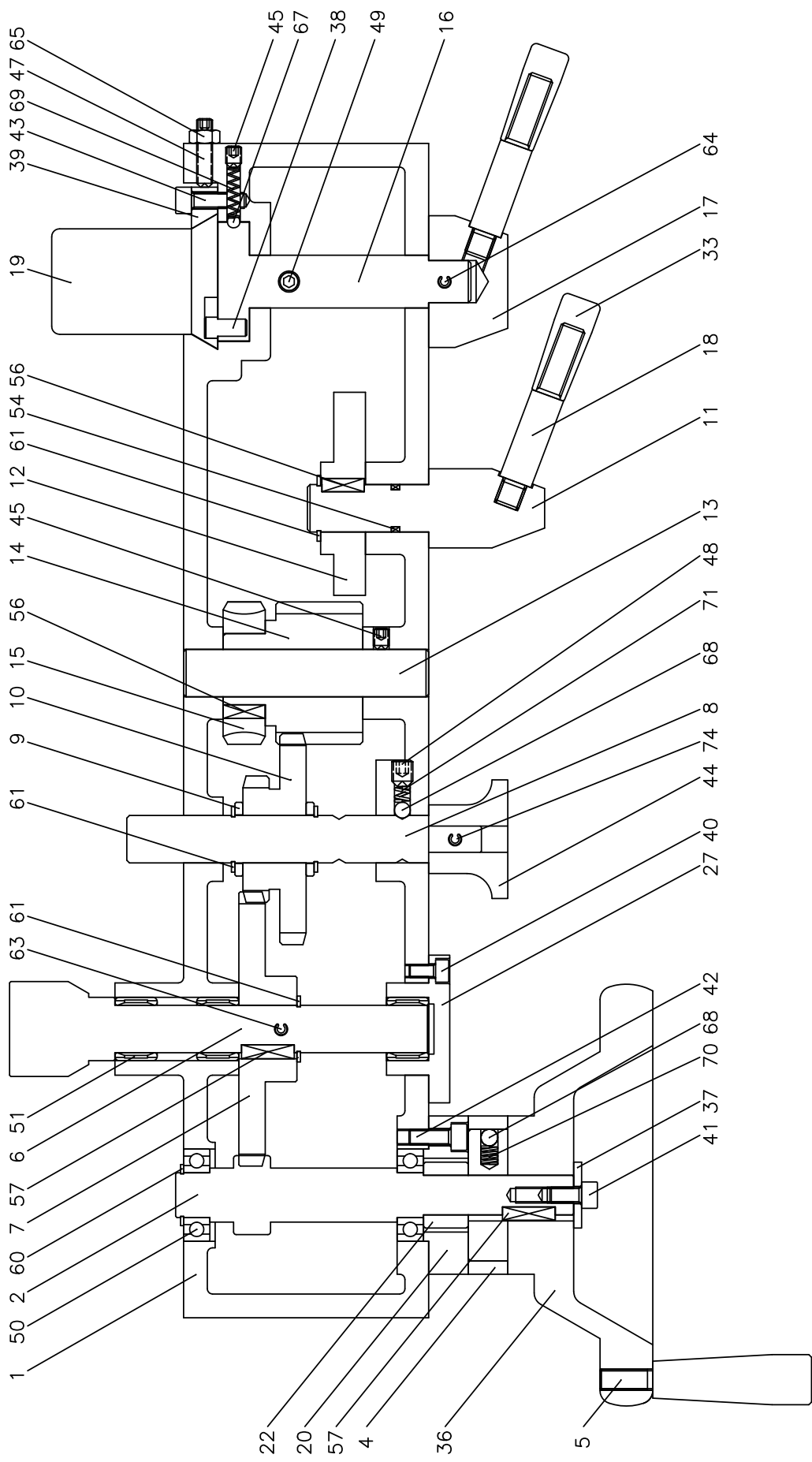
ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	CASTING	10301	1	
2	PINION	10302-1	1	
3	KEEP ASSY	9343	1	
4	DIAL	10304	1	
5	HANDLE	9306	1	
6	PINION	10306	1	
7	GEAR	10307	1	
8	SHAFT	10308	1	
9	WASHER	10309	2	
10	GEAR	10310	1	
11	SHAFT	10311	1	
12	LATCH	10312-1	1	
13	SHAFT	10313	1	
14	GEAR	10314	1	
15	GEAR	10315	1	
16	SHAFT	10316	1	
17	AXLE CAP	10317	1	
18	HANDLE	10318	2	514
19	NUT	10319	1	
20	KEEP ASSY	10302-2	1	
21	SAFTY PIN	10321	1	
22	COLLAR	10303-1	1	
23	SHAFT	10323	1	
24	WORM	10324	1	
25	GEAR	10325	1	
26	PINION	10326	1	
27	KEEP ASSY	10306-1	1	
28	COVER	10328	2	
29	SCREW	10329	1	
30	SHAFT	10330	1	
31	SHAFT	10312-2	1	
32	KEEP ASSY	10332	1	
33	HANDLE	7263	2	3/8"-16NC
34	COVER	10334	1	
35	SCREW	10335	1	
36	HANDLE WHEEL	10336	1	158807

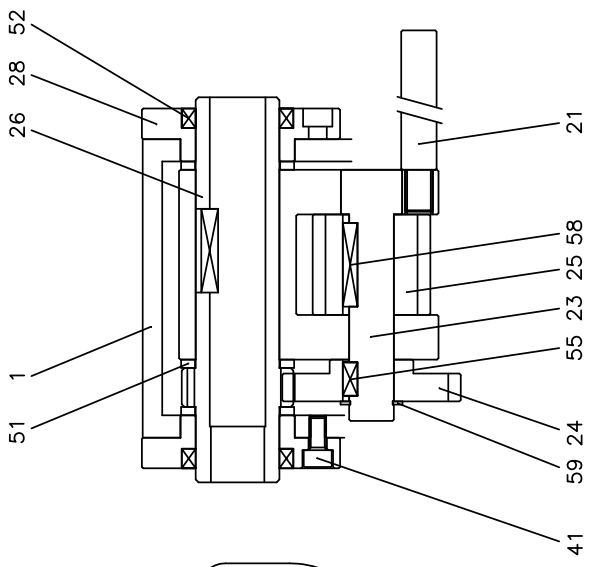
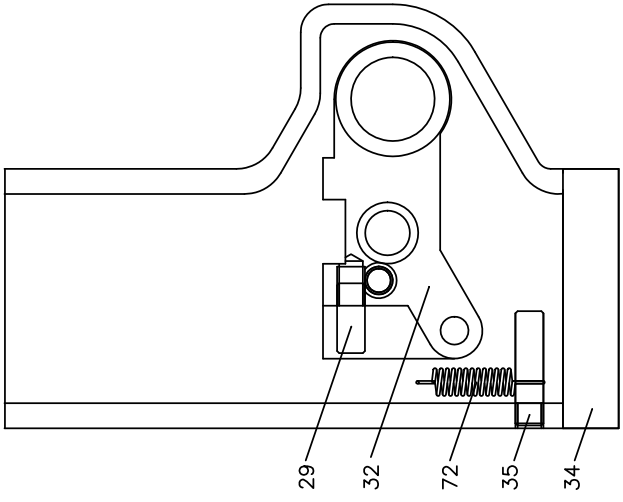
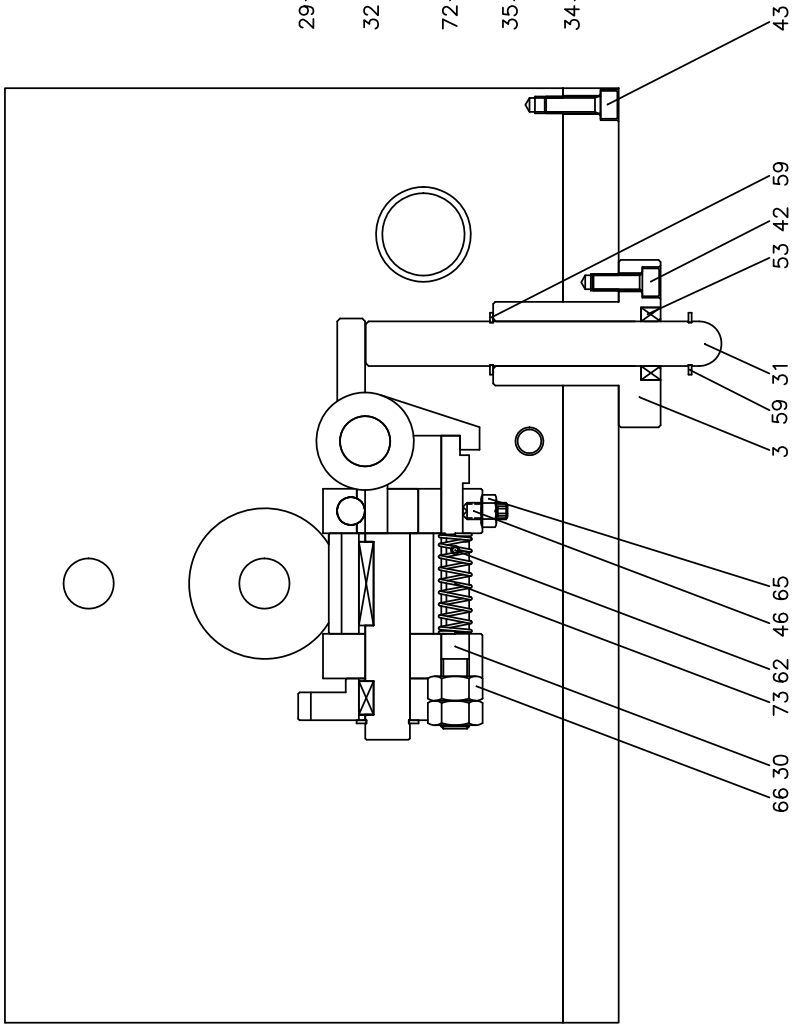
APRON

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	WASHER	7610	1	
38	PILLAR	7324	2	
39	GIB	7326	1	
40	SOCKET SCREW		M5*12	2
41	SOCKET SCREW		M6*12	5
42	SOCKET SCREW		M6*16	4
43	SOCKET SCREW		M6*20	10
44	HANDLE	9315	1	
45	SET SCREW		M6*6	2
46	SET SCREW		M6*16	1
47	SET SCREW		M6*25	2
48	SET SCREW		M8*6	1
49	SET SCREW		M8*40	1
50	BEARING		6003ZZ	2
51	BEARING		TLA1816	3
52	OIL SEAL		TC30*40*7	2
53	OIL SEAL		TC16*26*27	1
54	“O” RING		P14	1
55	PARALLEL KEY		5*5*12L	1
56	PARALLEL KEY		5*5*15L	1
57	PARALLEL KEY		5*5*20L	2
58	PARALLEL KEY		5*5*30L	1
59	CIRCLIP		S16	3
60	CIRCLIP		S17	1
61	CIRCLIP		S18	4
62	SPRING PIN		ψ3*15L	1
63	SPRING PIN		ψ5*40L	1
64	SPRING PIN		ψ5*50L	1
65	NUT		M6	3
66	NUT		M10	2
67	STEEL BALL		3/16”	1
68	STEEL BALL		1/4”	2
69	SPRING		ψ4.2*ψ1.0*20L	1
70	SPRING		ψ6*ψ1.0*6L	1
71	SPRING		ψ6*ψ1.0*16L	1
72	SPRING		ψ12*ψ1.5*35L	1

APRON

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
73	SPRING	ψ14*ψ2.0*35L	1	
74	SPRING PIN	ψ5*25L	1	





SADDLE AND TOP-SLIDE

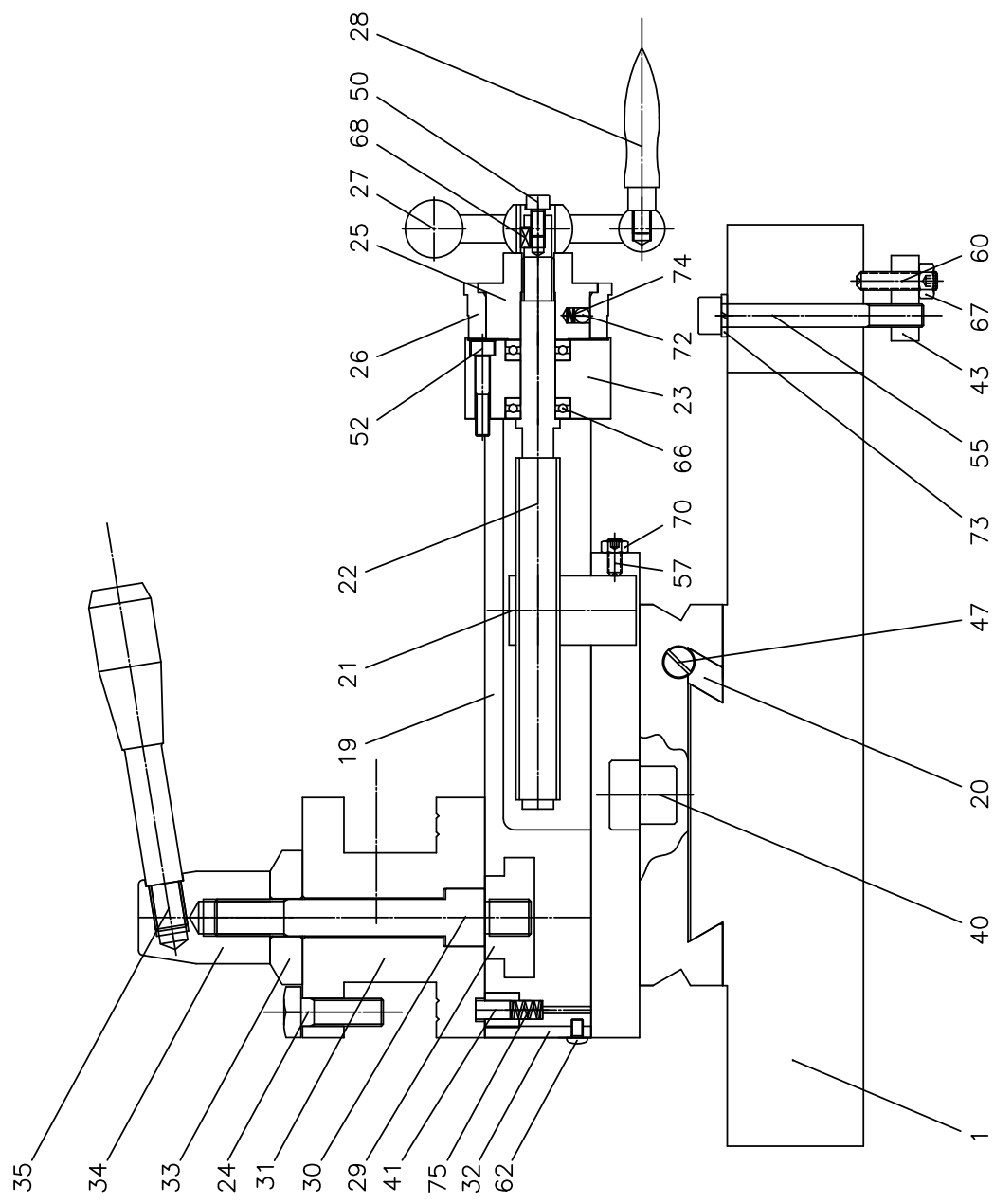
ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	CASTING	8401	1	
2	GEAR	8402-1	1	
3	KEY	8403	1	
4	KEEP ASSY	8404-1	1	
5	KEEP ASSY	8405-1	1	
6	DIAL	8406	1	
7	HAND WHEEL	8407	1	9407
8	HANDLE	8408	1	
9	STRIP	8409	2	
10	CROSS SLIDE	8410	1	
11	NUT	8411A	1	
12	SCREW	8412	1	
13	OIL BALL		1/4"	
14	KEEP ASSY	8414	1	
15	WIPER	8415	1	
16	NUT	8416	2	
17	SWIVEL SLIDE	8417	1	
18	GIB	8418	1	
19	TOP-SLIDE	8419	1	
20	GIB	8420	1	
21	NUT	8421	1	
22	SCREW	8422	1	
23	KEEP ASSY	8423	1	
24	SCREW	8424	M12	12
25	BRACKET	8425	1	
26	DIAL	8426	1	
27	HAND WHEEL	8427	1	
28	HANDLE	8428	2	
29	T-SLOTTED	8429	1	
30	SHAFT	8430	1	
31	TURRET BODY	8431	1	
32	WIPER	8432	1	
33	WASHER	8433	1	
34	NUT	8434	1	
35	HANDLE	8435	1	
36	GEAR	8436	1	

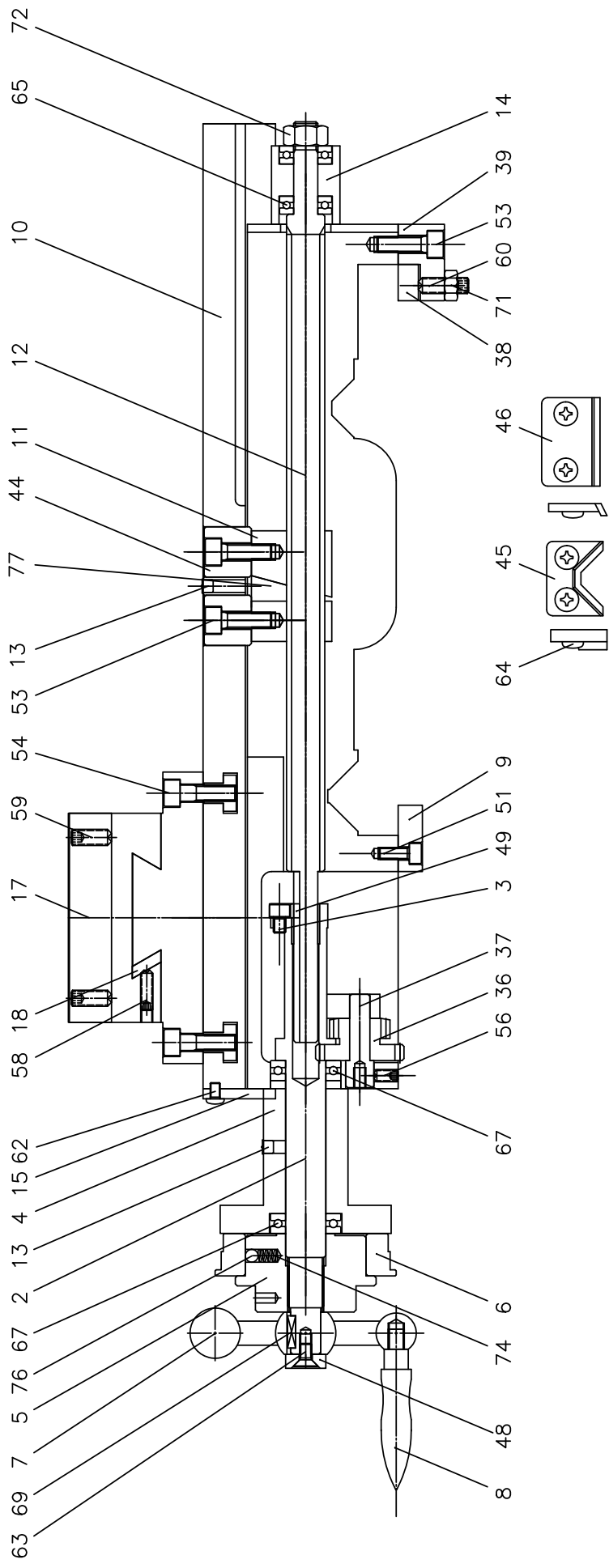
SADDLE AND TOP-SLIDE

ITEM NO.	DESCRIPTION	PART NO.		NO.OFF	REMARK
37	SHAFT	8437		1	
38	GIB	8438		1	
39	STRIP	8439		1	
40	NUT ASSY	8440		1	
41	BUSH	8441		1	
42	PILLAR	8442		1	
43	BLOCK	8443		1	
44	STUD	8444		2	
45	WIPER		7033	2	
46	WIPER		7053	2	
47	SCREW	7416	ψ16	2	
48	WASHER	1002062		1	
49	SOCKET SCREW		M6*8	1	
50	SOCKET SCREW		M6*12	1	
51	SOCKET SCREW		M6*16	4	
52	SOCKET SCREW		M6*40	2	
53	SOCKET SCREW		M8*25	6	
54	SOCKET SCREW		M10*25	2	
55	SOCKET SCREW		M10*90	1	
56	SET SCREW		M6*10	1	
57	SET SCREW		M6*16	1	
58	SET SCREW		M6*20	1	
59	SET SCREW		M8*20	2	
60	SET SCREW		M8*25	4	
61	SET SCREW		M8*16	1	
62	SCREW		M5*12	10	
63	SCREW		M6*12	1	
64	COUNTERSUNK SCREW		M6*12	8	
65	BEARING		51101	2	
66	BEARING		51102	2	
67	BEARING		51104	2	
68	PARALLEL KEY		3*3*10	1	
69	PARALLEL KEY		3*3*15	1	
70	NUT		M6	1	
71	NUT		M8	5	
72	NUT		M12	1	

SADDLE AND TOP-SLIDE

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
73	SPRING WASHER		ψ10 1	
74	SPRING		ψ6.0*d1.0 2	
75	SPRING		ψ8.0*d1.0 1	
76	STEEL BALL		1/4" 2	
77	GIB	9433	1	



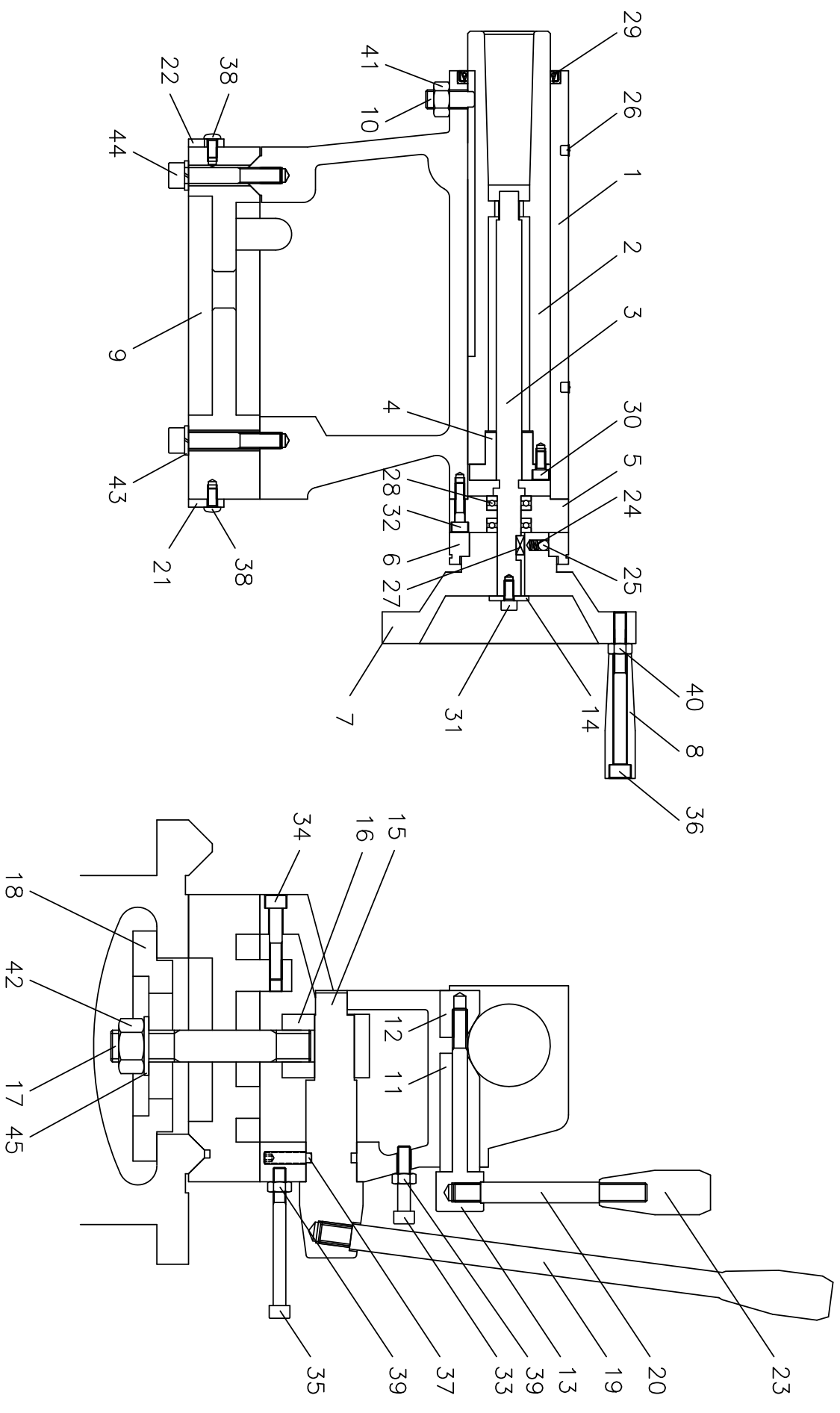


TAIL STOCK

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	CASTING	158801	1	
2	BARREL	158802	1	
3	SCREW	158803S	1	
4	NUT	158804	1	
5	KEEY ASSY	158805	1	
6	DIAL	158806	1	
7	HANDLE WHEEL	158807	1	10336
8	HANDLE	9306	1	
9	BASE	158809	1	
10	SCREW	158810	1	M12*P1.75*25L
11	NUT	158811	1	
12	NUT	158812	1	
13	BOLT	158813	1	
14	WASHER	7610	1	
15	SHAFT	158815	1	
16	PIVOT BLOCK	158816	1	9516
17	BOLT	158817	1	
18	CLAMP PLATE	158818	1	
19	HANDLE	158819	1	9514
20	HANDLE	158820	1	7514
21	WIPER		7033 2	
22	WIPER		7053 2	
23	HANDLE	7263	2	1
24	COMPRESSION SCREW		ψ6.0*d1.0 1	
25	STEEL BALL		1/4" 1	
26	OIL BALL		1/4" 2	
27	PARALLEL KEY		5*5*15 1	
28	BEARING		51102 2	
29	OIL SEAL		TC52*65*9 1	
30	SOCKET SCREW		M6*20 3	
31	SOCKET SCREW		M6*12 1	
32	SOCKET SCREW		M6*25 2	
33	SOCKET SCREW		M8*30 1	
34	SOCKET SCREW		M8*50 2	
35	SOCKET SCREW		M8*80 1	
36	SOCKET SCREW		M10*95 1	

TAIL STOCK

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	SET SCREW	M8*30	1	
38	COUNTERSUNK SCREW	M6*12	8	
39	NUT	M8	2	
40	NUT	M10	1	
41	NUT	M12	1	
42	NUT	M20	1	
43	WASHER	ψ10	2	
44	HEX SCREW	M10*65	2	
45	WASHER	ψ20	1	

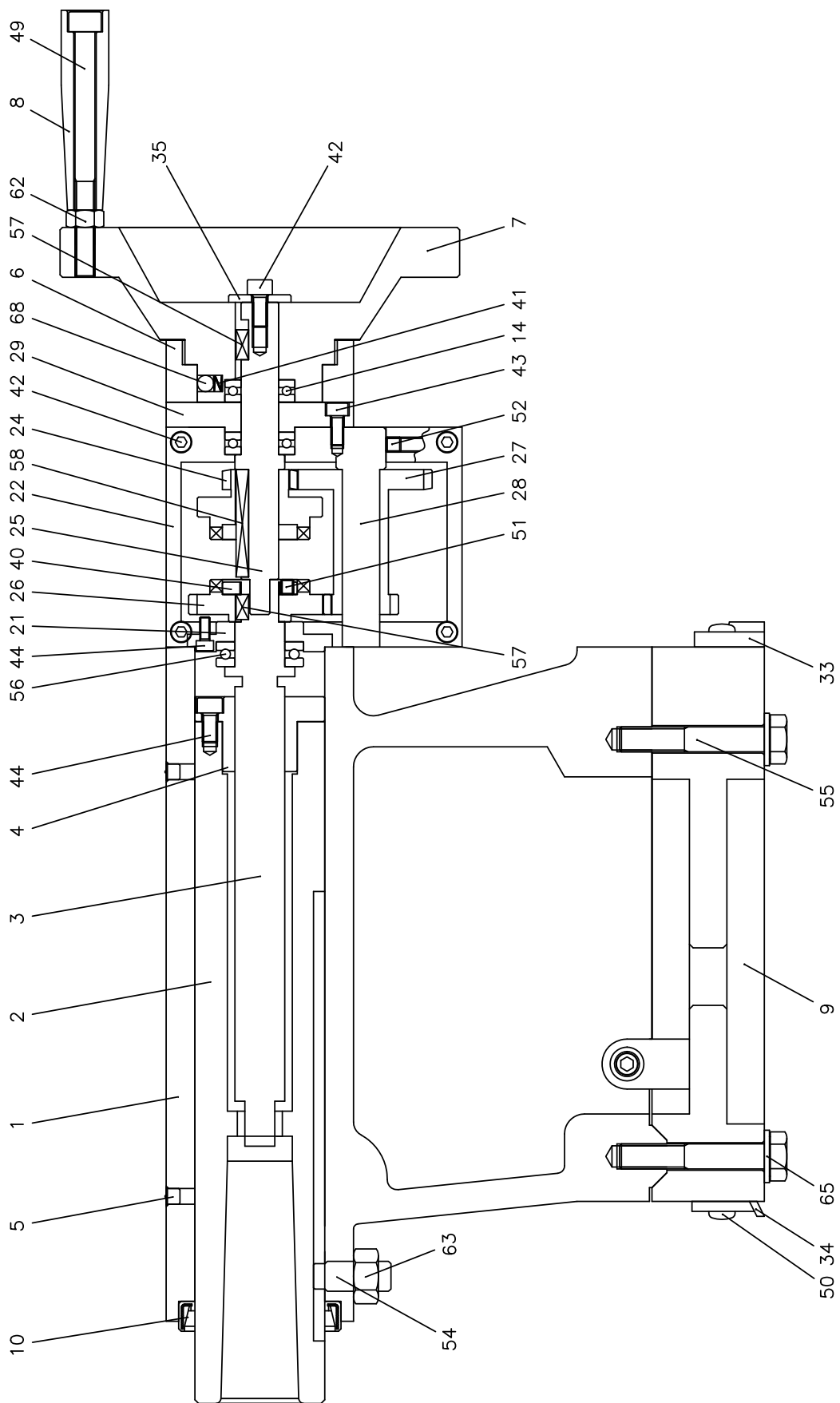


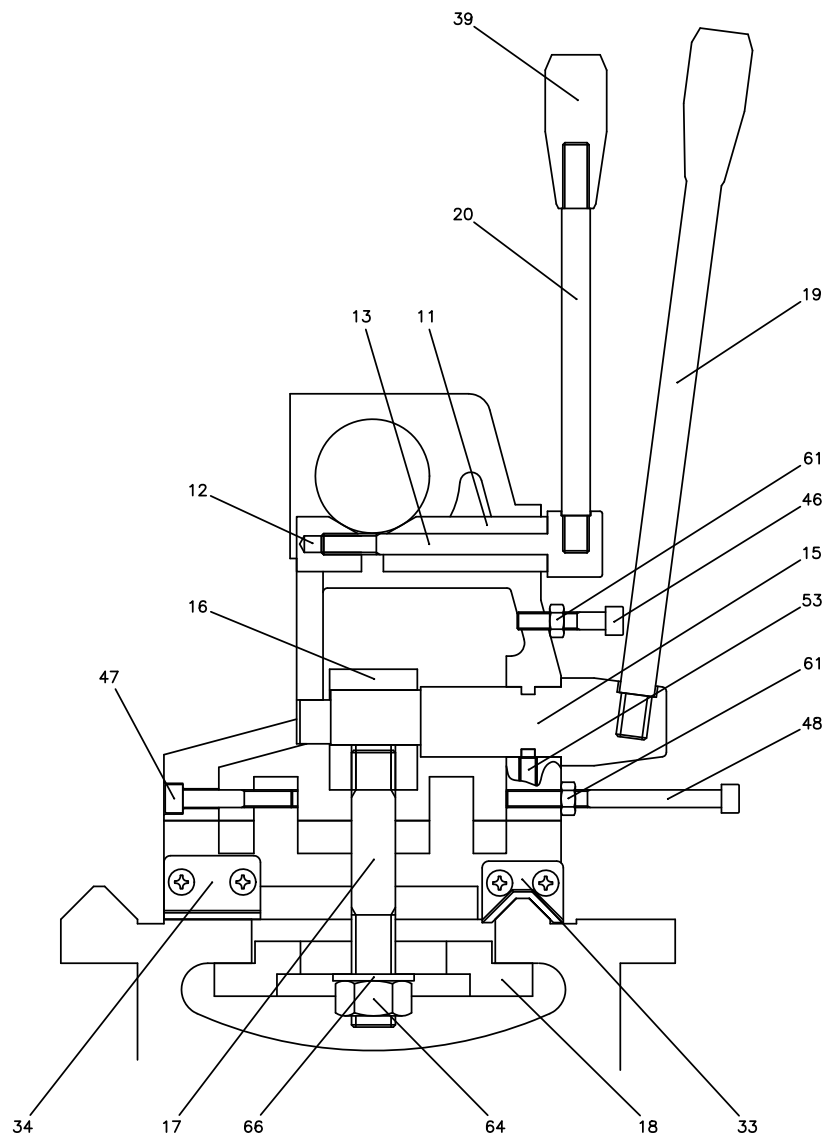
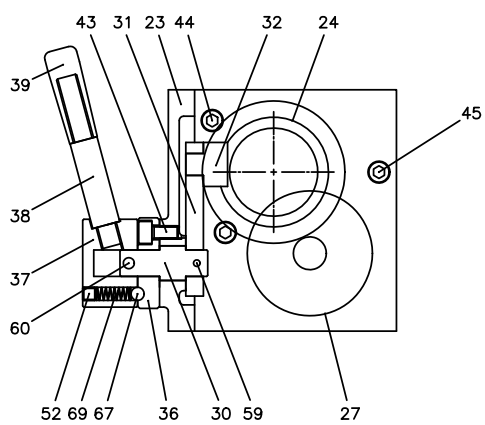
TWO SPEED TAIL STOCK

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	CASTING	158801	1	
2	BARREL	158802	1	
3	SCREW	158803-1	1	
4	NUT	158804	1	
5	OIL BALL		1/4"	
6	DIAL	158806	2	
7	HANDLE WHEEL	158807	1	10336
8	HANDLE	9306	1	
9	BASE	158809	1	
10	OIL SEAL		52*65*9	
11	NUT	158811	1	
12	NUT	158812	1	
13	BOLT	158813	1	
14	BEARING		51102	
15	SHAFT	158815	1	
16	PIVOT BLOCK	158816	1	
17	BOLT	158817	1	
18	CLAMP PLATE	158818	1	
19	HANDLE	158819	1	9514
20	HANDLE	158820	1	514
21	KEEP ASSY	158821	1	
22	GEAR BOX	158822	1	
23	COVER	158823	1	
24	GEAR	158824	1	
25	A SHAFT	158825	1	
26	GEAR	158826	1	
27	GEAR	158827	1	
28	B SHAFT	158828	1	
29	KEEP ASSY	158829	1	
30	SHAFT	158830	1	
31	LEVER	158831	1	
32	FORK	158832	1	
33	WIPER		7033	
34	WIPER		7053	
35	WASHER	7610	1	
36	WASHER	7244	1	

TWO SPEED TAIL STOCK

ITEM NO.	DESCRIPTION	PART NO.		NO.OFF	REMARK
37	AXLE CAP	7245		1	
38	HANDLE	7246		1	
39	HANDLE	7263		2	
40	NUT	9523	M17*P1.0	1	
41	SPRING		ψ6*ψ1*5L	1	
42	SOCKET SCREW		M5*12	4	
43	SOCKET SCREW		M6*12	6	
44	SOCKET SCREW		M6*20	4	
45	SOCKET SCREW		M6*80	1	
46	SOCKET SCREW		M8*45	1	
47	SOCKET SCREW		M8*50	2	
48	SOCKET SCREW		M8*80	1	
49	SOCKET SCREW		M10*95	1	
50	COUNTERSUNK SCREW		M6*12	8	
51	SET SCREW		M5*6	2	
52	SET SCREW		M6*6	2	
53	SET SCREW		M8*16	2	
54	SET SCREW		M12*25	1	
55	HEX SCREW		M10*60	2	
56	BEARING		51104	1	
57	PARALLEL KEY		5*5*15	1	
58	PARALLEL KEY		5*5*40	1	
59	SPRING PIN		3*20	1	
60	SPRING PIN		5*40	1	
61	NUT		M8	2	
62	NUT		M10	1	
63	NUT		M12	1	
64	NUT		M20	1	
65	WASHER		ψ10	2	
66	WASHER		ψ20	1	
67	STEEL BALL		3/16"	1	
68	STEEL BALL		1/4"	1	
69	SPRING		ψ4.6*ψ1*16L	1	





BED

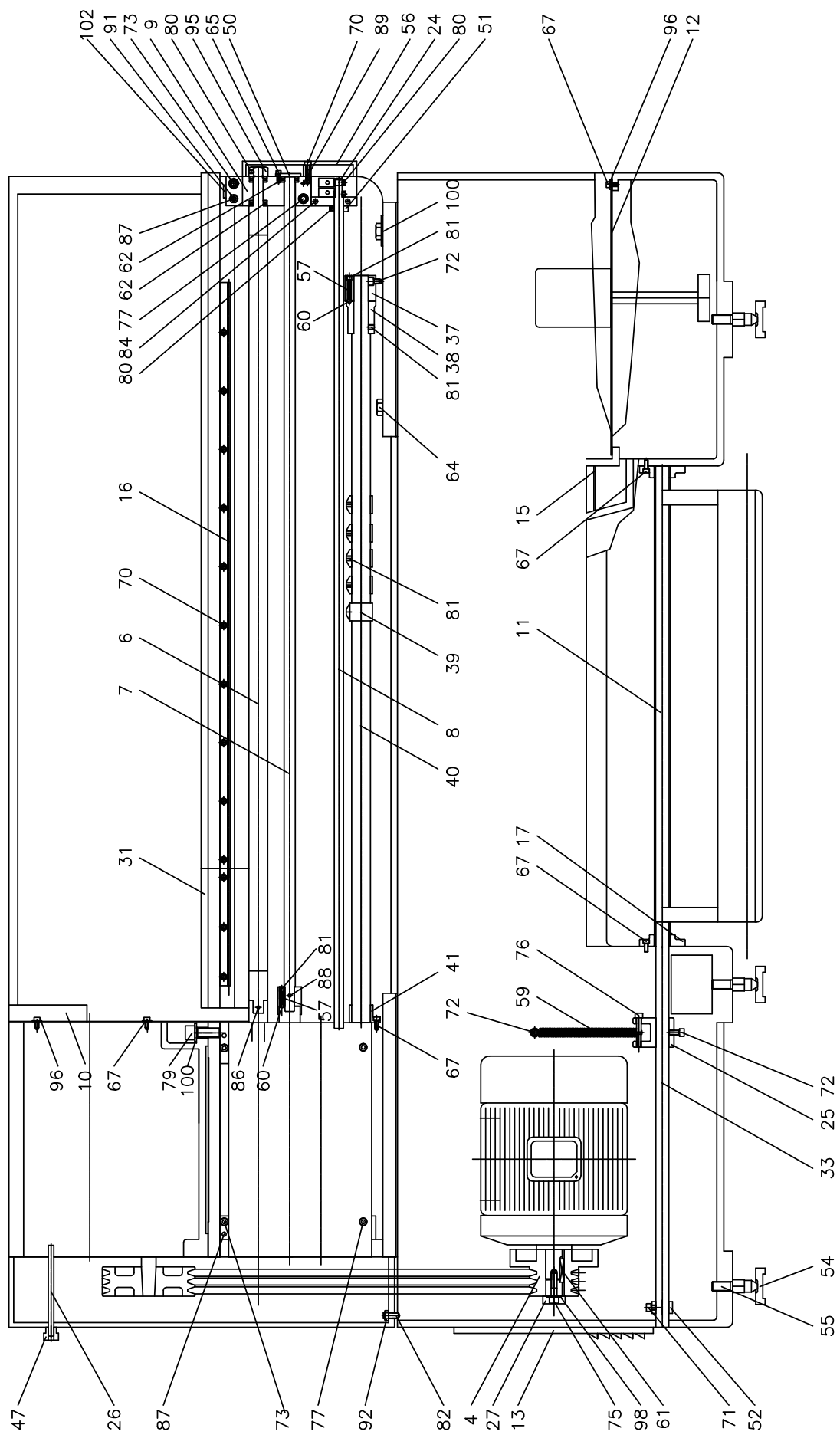
ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	BED	8601	1	
2	FLOOR	8602	1	
3	END COVER	8603	1	
4	PULLEY	8604	1	
5	MOTOR PLATE	9611	1	
6	LEAD SCREW	8606	1	
7	FEED ROD	8607	1	
8	THIRD-ROD	8608	1	
9	BRACKET	8609	1	
10	SPLASH GUARD	8610	1	
11	FOOT BRAKE	8611	1	
12	POMPU COVER	8612	1	
13	COVER	8613	3	
14	COVER	8614	1	
15	OIL NET	8615	1	
16	ROCK	8616	1	
17	BRACKET	8617	1	
18	WASHER	8618	1	
19	BUSH	8619	1	
20	KEEP ASSY	8620	1	
21	BRACKET	8621	1	
22	PLUG	8622	2	
23	HANDLE	8623	1	
24	BLOCK	8624	2	
25	LEVER	8625	1	
26	BOLT	8626	1	
27	WASHER	8148	1	
28	ELECTRICAL BOX	8628	1	
29	COVER	8629	1	
30	COVER	8630	1	
31	GAP	8631	1	
32	LEVER	9625	1	
33	SHAFT	8633	1	ψ3/4”*750L
34	KEEP ASSY	8634	1	
35	SHAFT	9627-1	1	
36	SHAFT	8636	1	ψ12*45L

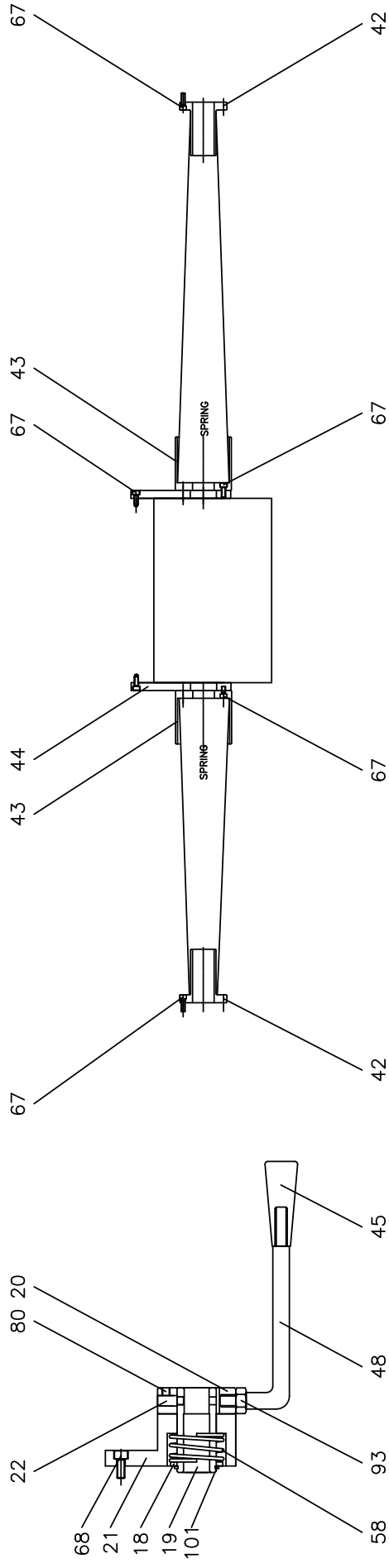
BED

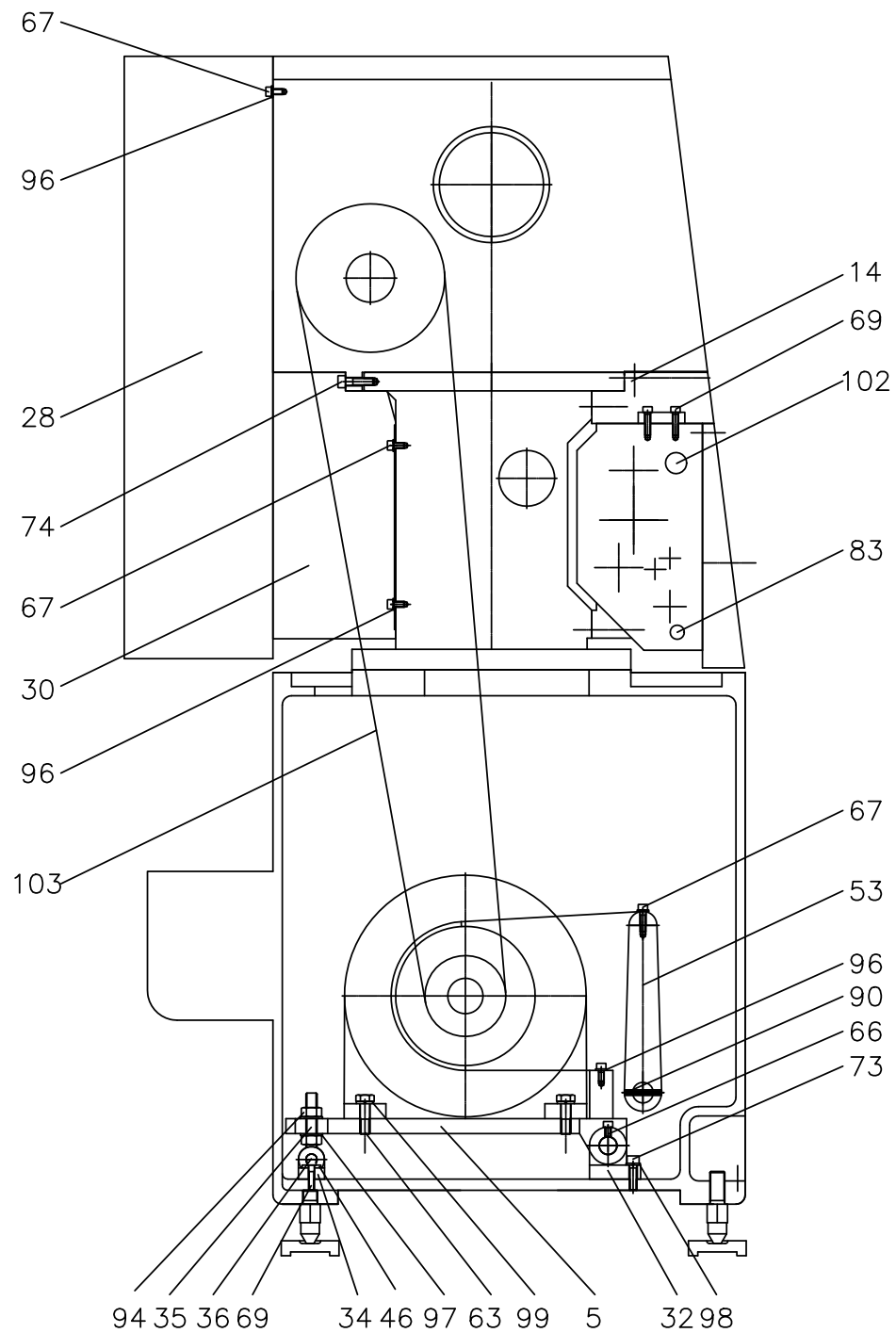
ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	BLOCK	8637	1	
38	KEEP ASSY	8638	1	
39	RING	8639	4	
40	SHAFT	8640	1	
41	KEEP ASSY	8641	1	
42	KEEP ASSY	8642	2	
43	KEEP ASSY	8643	2	
44	BLOCK	8644	2	
45	HANDLE	7263	1	3/8"-16NC
46	V-BELT	A76	3	
47	NUT	7612	2	
48	BRAKE LINING		1	
49	SAFETY ASSY	7624	1	
50	COVER	7625	1	
51	BUSH	7626	1	
52	BUSH	7627	1	
53	LEVER	9626	1	
54	BLOCK	7633	6	
55	SCREW	7658	6	
56	COVER	9620	1	
57	COMPRESSION SPRING	ψ6.0*d1.0	5	
58	COMPRESSION SPRING	ψ40*d5.0	1	
59	SPRING	ψ14*d2.0	1	
60	STEEL BALL	1/4"	5	
61	PARALLEL KEY	7*7*40	1	
62	THRUST BEARING	51103	3	
63	HEX SCREW	M10*30	1	
64	HEX SCREW	M16*50	8	
65	SOCKET SCREW	M5*12	2	
66	SHAFT	9627	1	
67	SOCKET SCREW	M6*12	23	
68	SOCKET SCREW	M6*16	6	
69	SOCKET SCREW	M6*25	15	
70	SOCKET SCREW	M6*30	3	
71	OIL SET	5/8"-18NF	3	
72	SOCKET SCREW	M8*20	4	

BED

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
73	SOCKET SCREW	M8*25	5	
74	SOCKET SCREW	M8*30	4	
75	SOCKET SCREW	M8*35	1	
76	SOCKET SCREW	M8*50	1	
77	SOCKET SCREW	M8*65	2	
78	SPRING WASHER	ψ16	12	
79	SOCKET SCREW	M16*45	4	
80	SET SCREW	M6*6	8	
81	SET SCREW	M8*6	10	
82	SET SCREW	M10*55	2	
83	SET SCREW	PT1/2"	4	
84	SOCKET BUT.	M5*8	2	
85	COUNTERSUNK SCREW	5/32"*2"	2	
86	TAPER PIN	3#*38	1	
87	TAPER PIN	7#*40	3	
88	SPRING PIN	ψ5*40	1	
89	SPRING PIN	ψ5*75	1	
90	CIRCLP	S30	1	
91	NUT	M8	3	
92	NUT	M10	2	
93	NUT	3/8"-16NC	1	
94	NUT	1/2"-12NC	1	
95	NUT	M16*P2.0	1	
96	WASHER	M6	16	
97	BOX	7644	1	
98	COUNTERSUNK BOLT	3/16"*3/8"	1	
99	COUNTERSUNK BOLT	3/16"*1/4"	2	
100	COUNTERSUNK BOLT	3/16"*1/2"	2	
101	SPRING WASHER	ψ3/16"	2	
102	SPRING WASHER	ψ10	9	

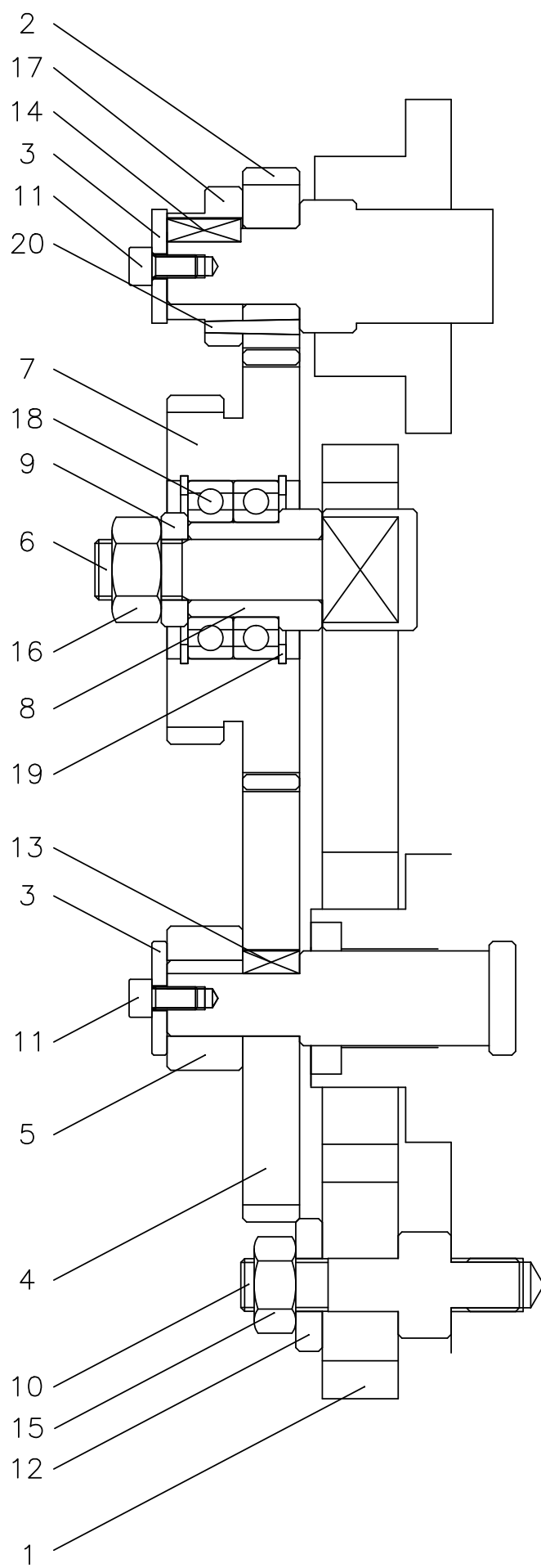






GEAR TRAIN

ITEM NO.	DESCRIPTION	PART NO.		NO.OFF	REMARK
1	KEEP ASSY	8501		1	
2	GEAR	8502		1	
3	WASHER	8503		2	
4	GEAR	8504		1	
5	COLLAR	8505		1	
6	SHAFT	8506		1	
7	GEAR	8507		1	
8	SLEEVE	8508		1	
9	COLLAR	8509		1	
10	SHAFT	8510		1	
11	SOCKET SCREW		M6*16	2	
12	WASHER	8512		1	
13	PARALLEL KEY		6*6*15	1	
14	PARALLEL KEY		6*6*20	1	
15	NUT		M14	1	
16	NUT		M16	1	
17	SAFETY STUD	8517		1	
18	BEARING		6005ZZ	2	
19	CIRCLIP		R47	2	
20	SPRING PIN		ψ3*32L	1	

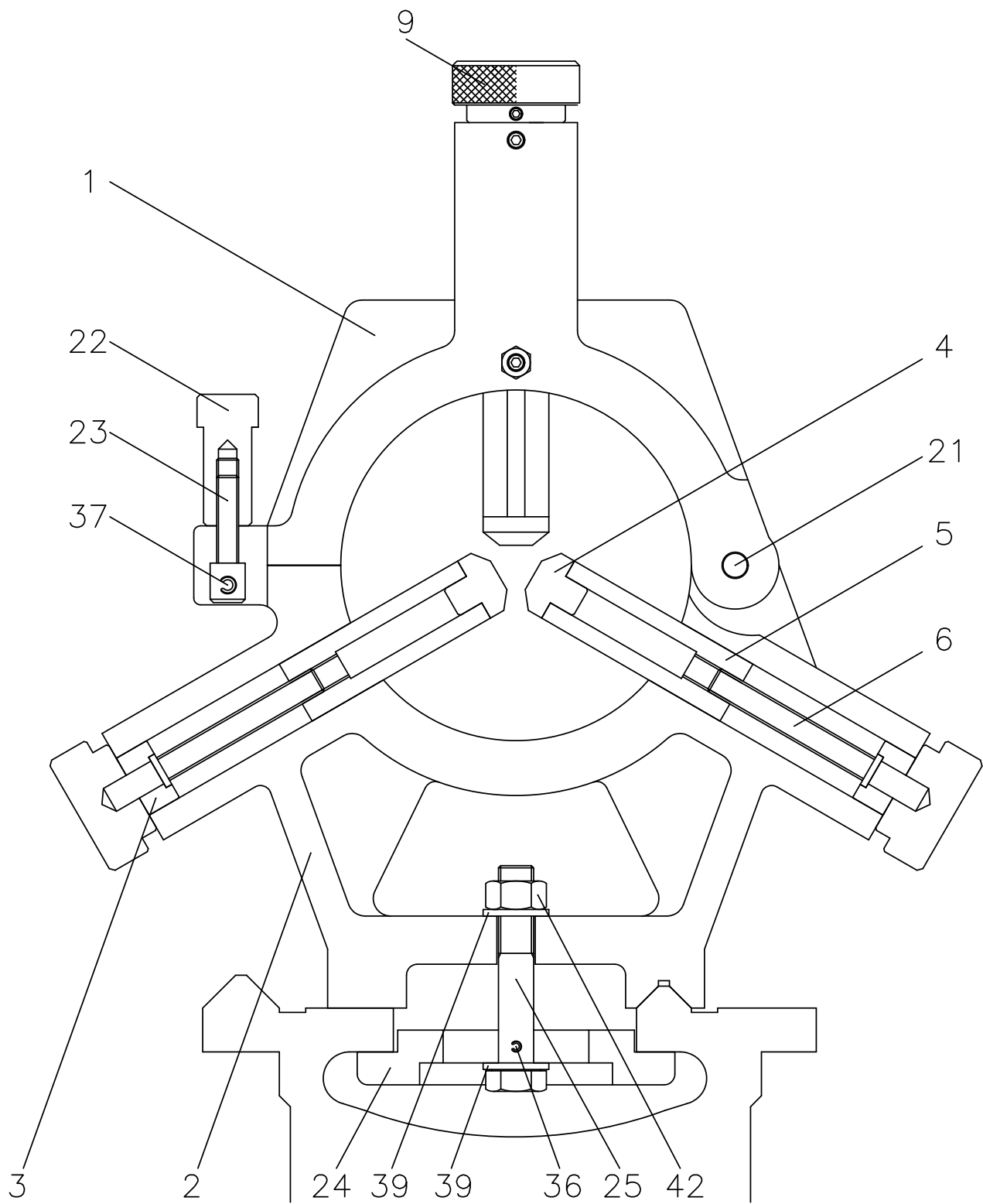


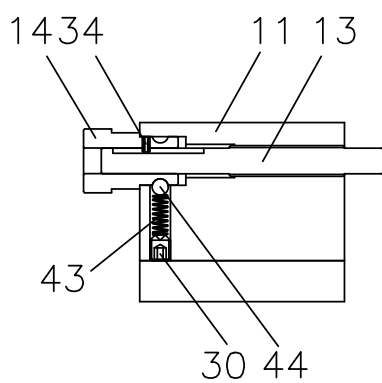
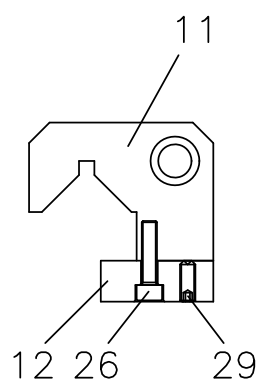
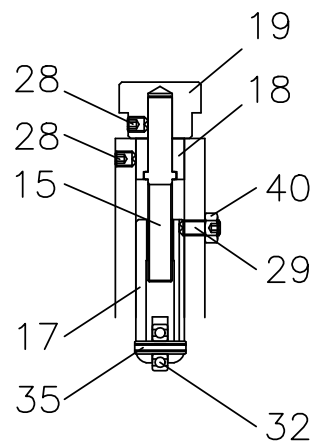
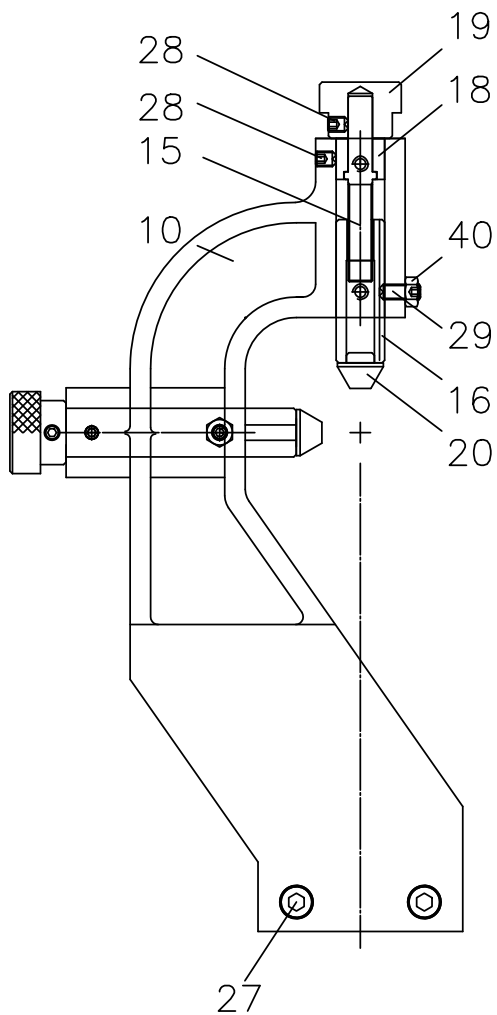
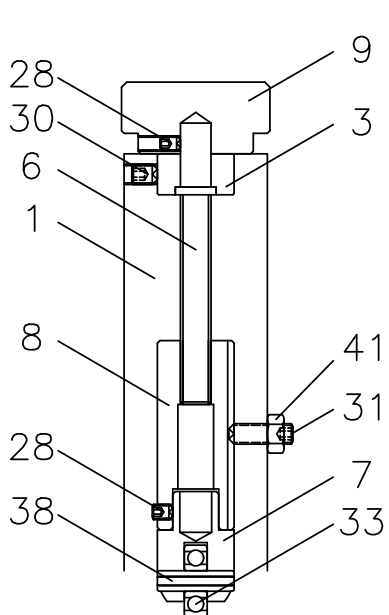
STEADY/FOLLOW REST AND BED MICRO STOP SET

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
1	STEADYREST TOP CASTING	8701	1	
2	STEADYREST SET CASTING	8702	1	
3	SLEEV	8703	3	
4	BUSH	8704	3	
5	SHAFT	8705	3	
6	BOLT	8706	3	
7	BUSH	8707	3	
8	SHAFT	8708	3	
9	HANDLE	8709	3	
10	FOLLOW REST CASTING	8713	1	
11	BED MICRO STOP CASTING	8715	1	
12	PLANK	8716	1	
13	SCREW	7703	1	
14	DIAL	7704	1	
15	SCREW	7708	2	
16	SHAFT	7709	2	
17	SHAFT	8714	2	
18	BUSH	7710	2	
19	HANDLE	7711	2	
20	PACKING	7712	2	
21	PILLAR	8712	1	
22	NUT	8710	1	
23	BOLT	8711	1	
24	KEEP ASSY	158818	1	
25	HEX SCREW	M16*90	1	
26	SOCKET SCREW	M6*25	2	
27	SOCKET SCREW	M8*35	2	
28	SET SCREW	M6*6	7	
29	SET SCREW	M6*16	4	
30	SET SCREW	M8*6	6	
31	SET SCREW	M8*25	3	
32	BEARING	635ZZ	2	
33	BEARING	638ZZ	3	
34	SPRING PIN	ψ3*6	1	
35	SPRING PIN	ψ5*20	2	
36	SPRING PIN	ψ5*30	1	

STEADY/FOLLOW REST AND BED MICRO STOP SET

ITEM NO.	DESCRIPTION	PART NO.	NO.OFF	REMARK
37	SPRING PIN	ψ8*40	1	
38	SPRING PIN	ψ8*30	3	
39	WASHER	ψ16	2	
40	NUT	M6	2	
41	NUT	M8	3	
42	NUT	M16	1	
43	SPRING	ψ6.0*d0.5	1	
44	STEEL BALL	1/4"	1	





1640G/1660G TOOL BOX DETAILED LIST

CONFIRMATION	DISCRIPTION	NO. OFF	REMARK
	HEXAGON SPANNER	1	六角板手
	SCREWDRIVER ⊕	1	螺絲起子 +
	SCREWDRIVER ⊖	1	螺絲起子 -
	FIXED SPANNER 17-19	1	固定板手
	OIL CAN	1	油壺
	SWITCH HANDLE	1	開關把手
	M.T.#4 CENTER	2	固定頂針 M.T.#4
	REDUCING SLEEVE	1	4*6 套筒
	TOOL SPANNER	1	刀架板手
	SPINDLE SPANNER	1	T 型板手
	CHANGE GEAR 22T	1	22T 公制齒輪
	CHANGE GEAR 21T	1	21T 公制齒輪
	PACKING-UP BLOCK	6	7633 墊塊
	FOUNDATION BOLT	6	地基螺栓
	WHEEL HANDLE	1	手輪把手
	OIL PAINT JUG	1	小油漆罐
	INSTRUCTION MANUAL AND PARTS LIST	1	操作手冊

INSPECTOR
