

# Barudan

HIGH SPEED AUTOMATIC EMBROIDERY MACHINE

MODEL **BEMRH-YN**  
**BEMSH-YN**  
**BEMXH-YN**

## PARTS LIST (YN-II)

**BARUDAN CO., LTD.**

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# HIGH SPEED AUTOMATIC EMBROIDERY

BEMRH-YN • BEMSH-YN • BEMXH-YN

## MACHINE PARTS LIST

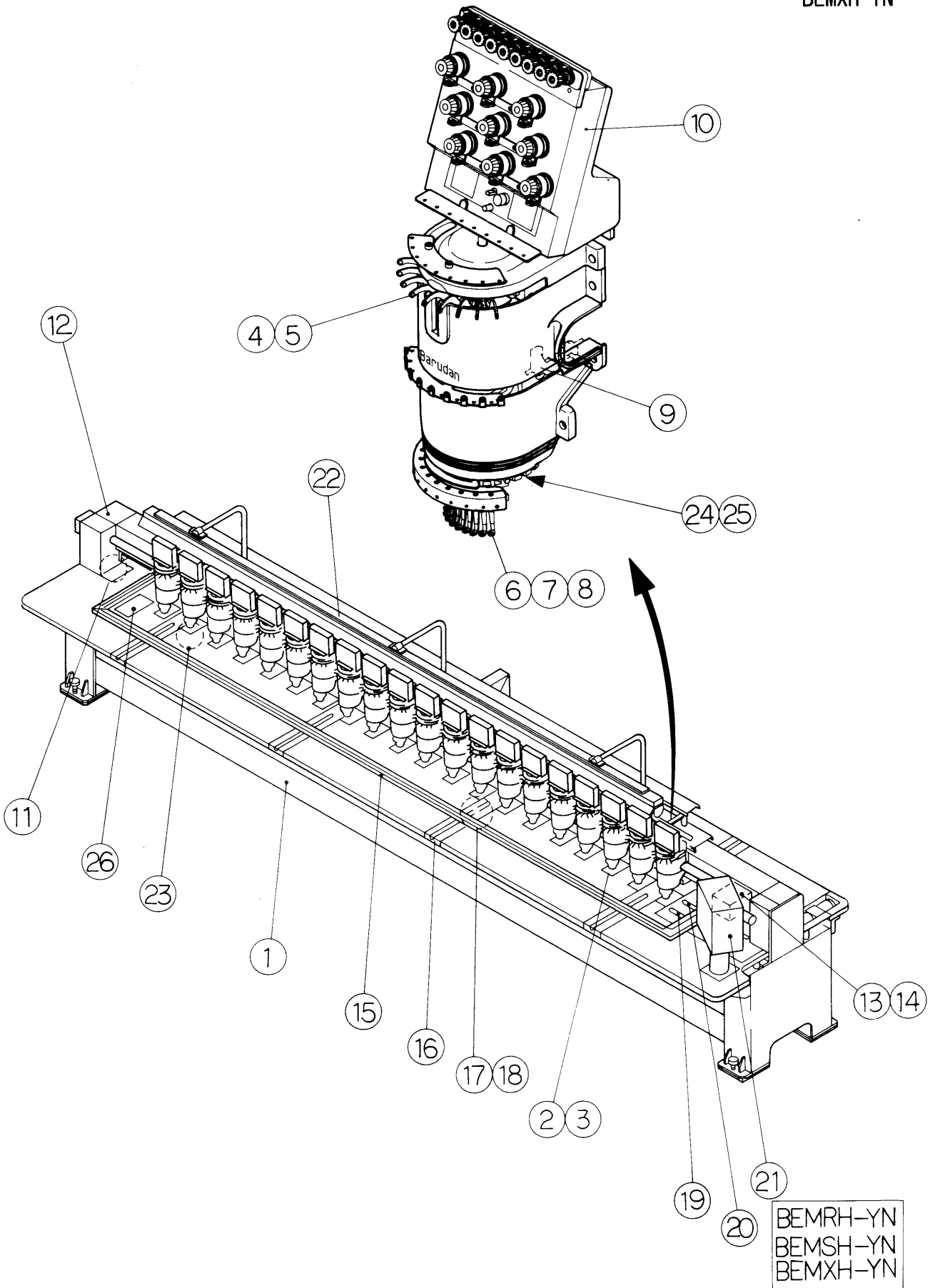
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Barudan

Machine layout

BEMRH-YN  
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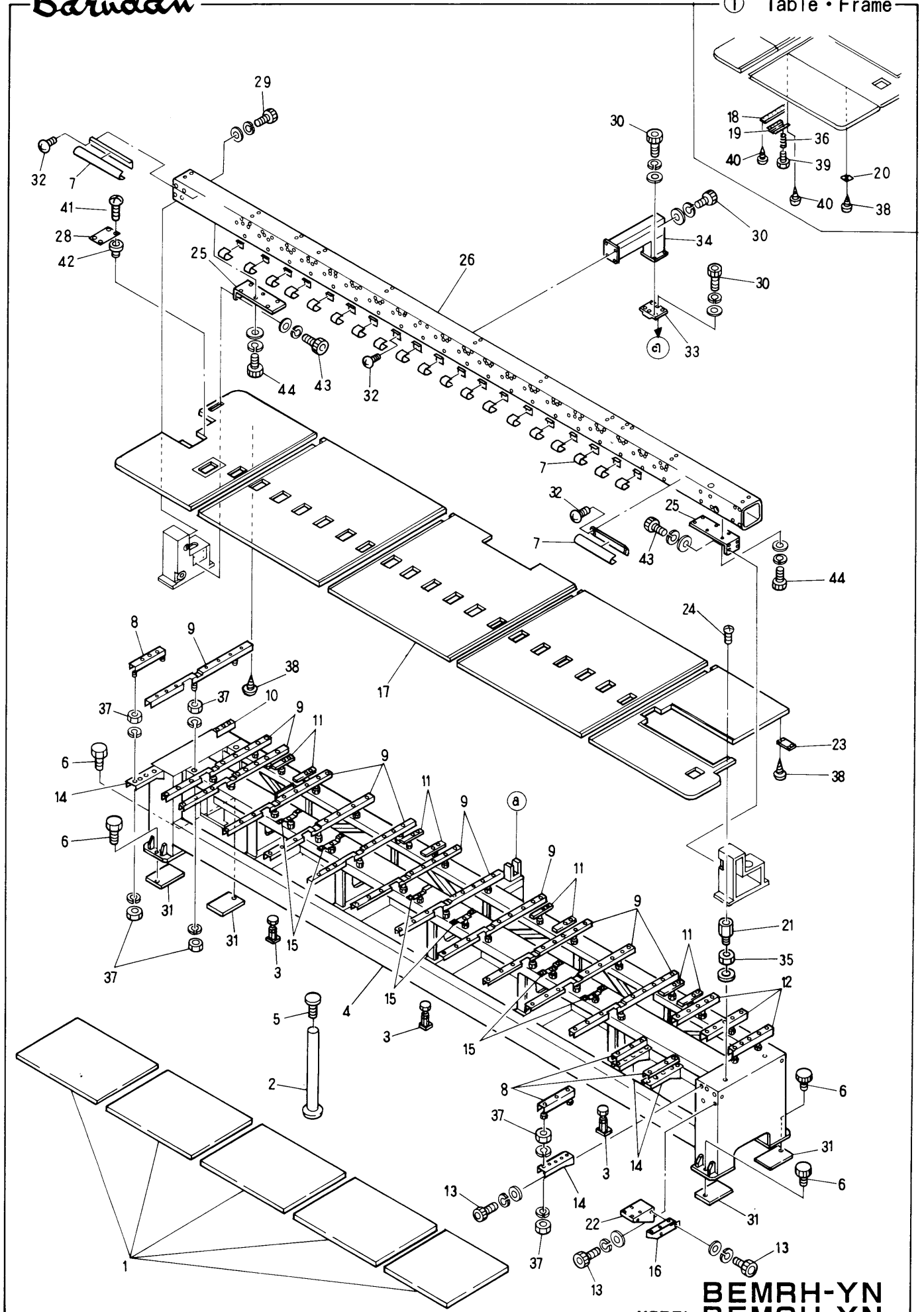


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① Table • Frame

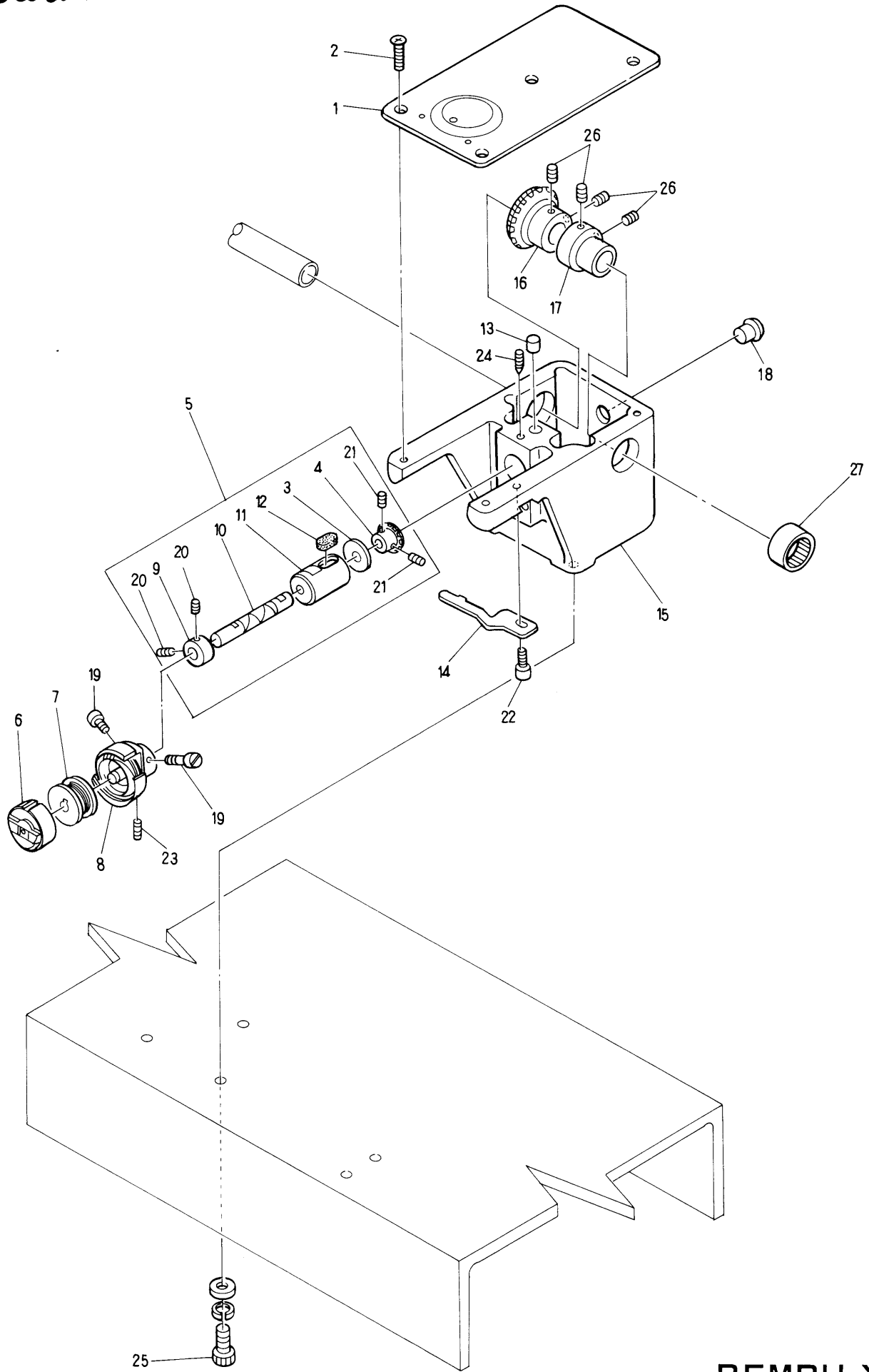


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## ① Table・Frame

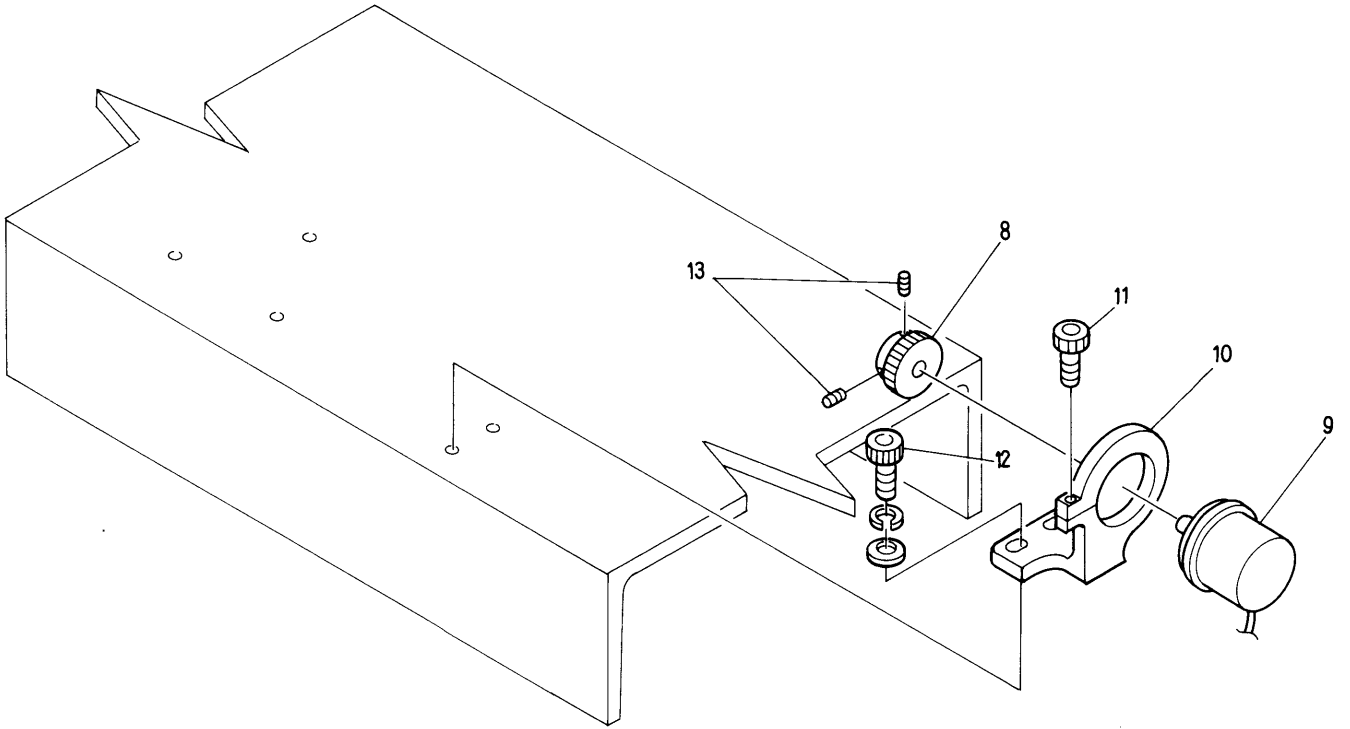
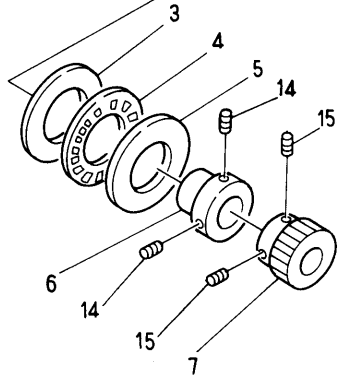
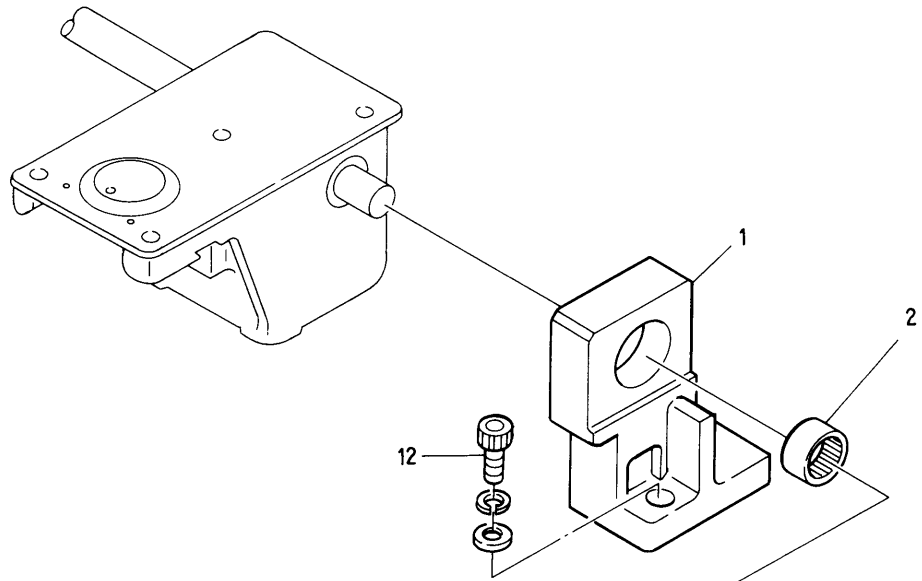
(※Change the LIST No. by machine type)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	1KHB2024053045G	Shelf board (MSH-Y S-20 450×240/530)	1	※
2	WW140070	Table holder	5	
3	HP120020	M16 Mid jack bolt	6	
4	1AHB2024053045G	Frame (MSH-Y S-20 450×240/530)	1	※
5	A9012213	Level adjuster (C-1275-A-4)	5	
6		Hex, bolt M20×65	4	
7	1SHB20240530J	Shaft cover YS-20 P=240/530	1	※
8	HP140111	Table support (310L)	4	
9	HP141450	Table support (1160L) With notch	12	※
10	HH140260	Table support (215L)	1	※
11	HP140841	Table support (215L)	8	
12	HP140490	Table support (480L)	3	※
13		Hex, bolt M8×20		
14	HP1:0120	Table support bracket (TDH)	4	
15	HP141080	Table support (230L)	6	
16	HP14013045	Table support (R) Front (360L) (TDH)	1	※
17	1BHB2024053045G	Table (MSH-Y S-20 450×240/530)	1	※
18	HP14010085	Table support (for H stroke 850)	1	※
19	HP140090	Table support		
20	HP141090	Movable table support		
21	HP140170	Table support bolt	1	
22	HP512320	Controller fixing stay	1	
23	KC140121	Table reinforcement plate	1	
24		Truss screw M6×35		
25	HP130021	Bridge support	2	
26	1EHB20240530N	Bridge (MSH-Y S-20 P=240/530)	1	※
27		Hex, socket bolt M6×15		
28	HP321110	Lower shaft connecting coupling cover	1	
29		Hex, socket bolt M12×40		
30		Hex, socket bolt M8×25		
31	HP120030	Base plate (200×200×t1)	5	
32		Truss screw M5×10		
33	HB130040	Bridge support base (Center)	1	
34	HB13001145	Bridge support (Center) H-Stroke 450	1	※
35		Hex, nut M8		
36	HH140940	Spring		
37		Hex, nut 3/8		
38		Pias biss 5×23		
39		Hex, bolt M8×25		
40		Wood screw 5.1×25		
41		Truss screw M4×8 (Undercut)		
42		Nut (C) M4		
43		Hex, socket bolt M10×40		
44		Hex, socket bolt M10×30		



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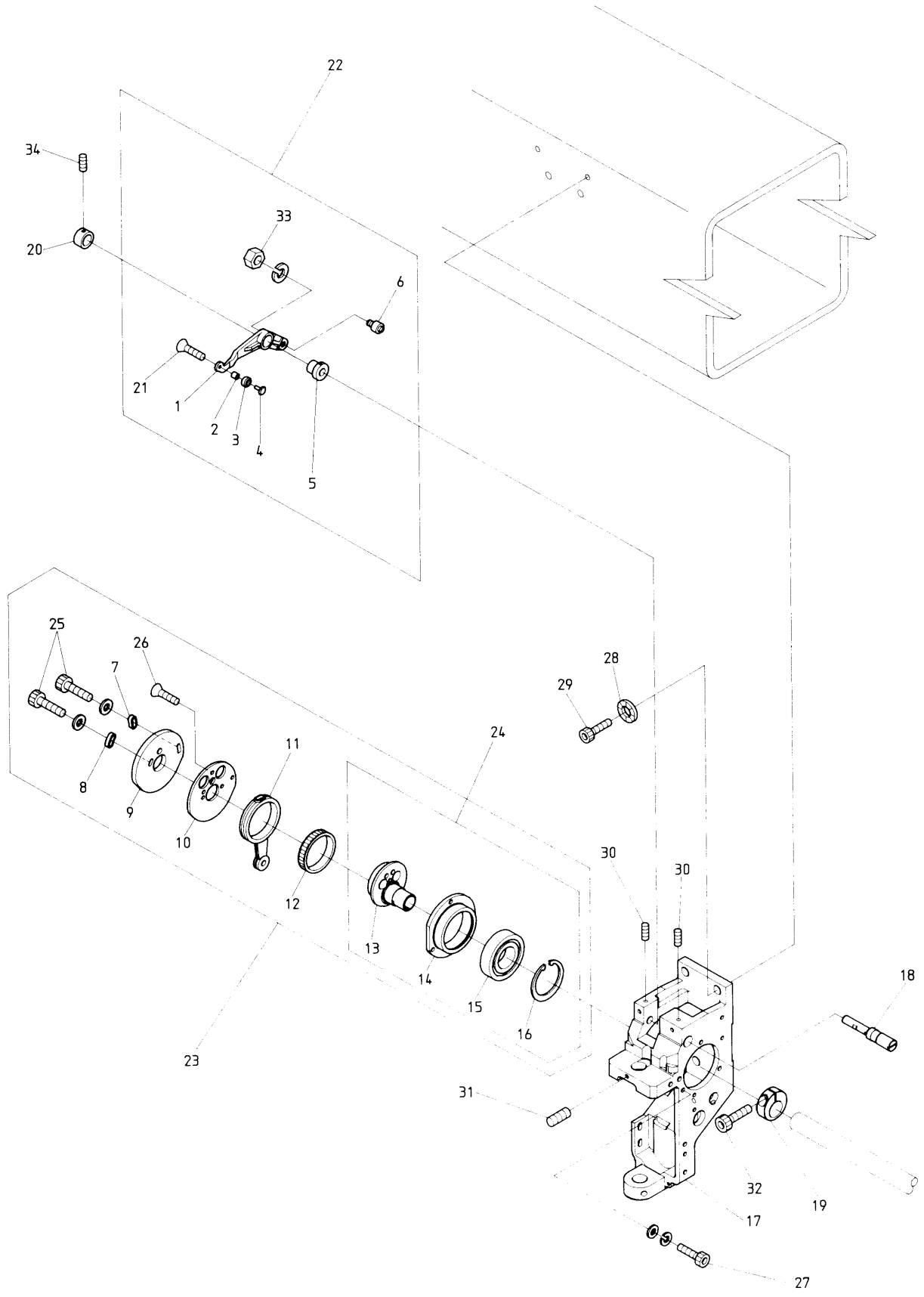




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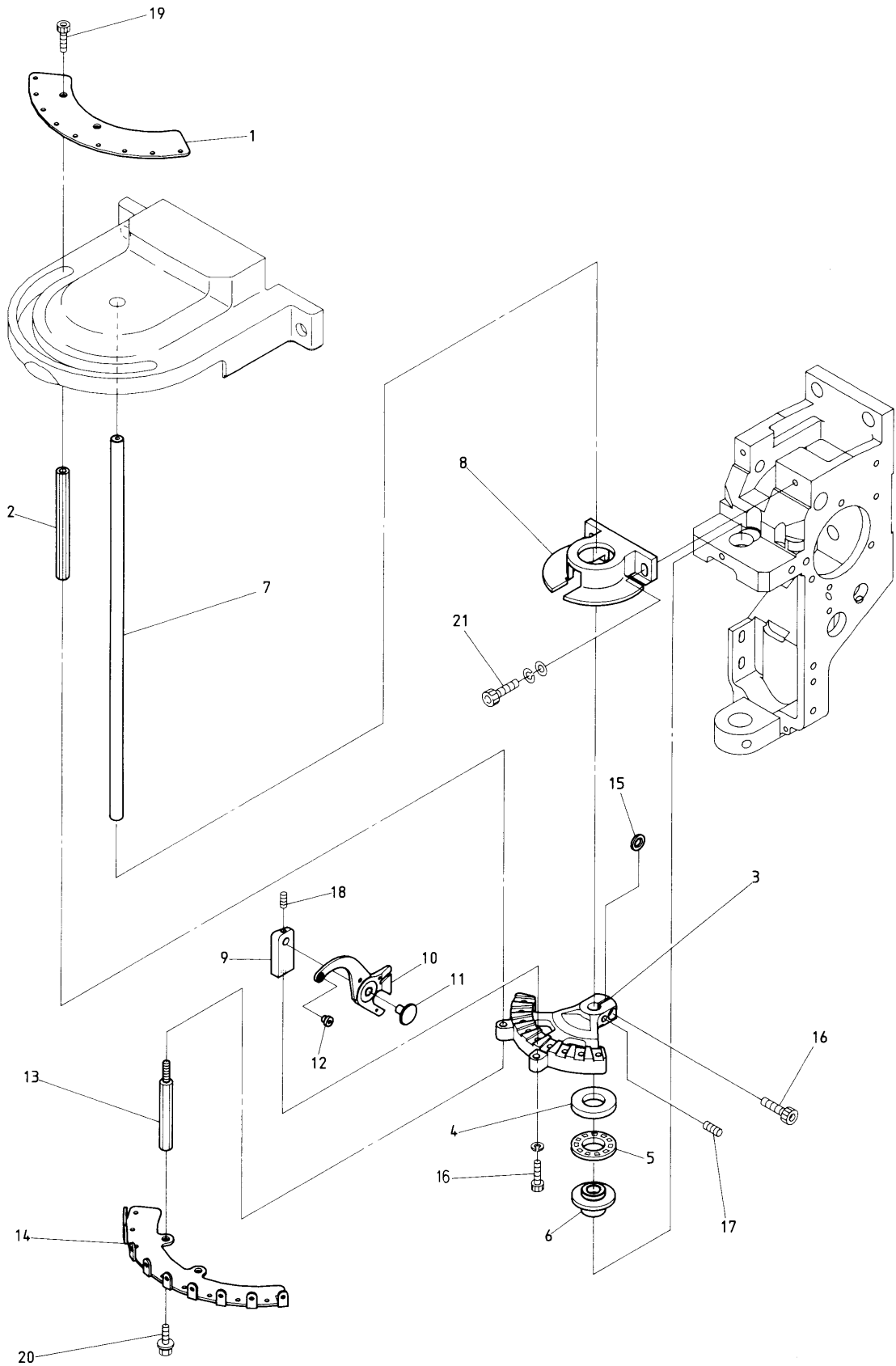


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## ④ Take up lever a'ssy I

(H=Head Q'TY)

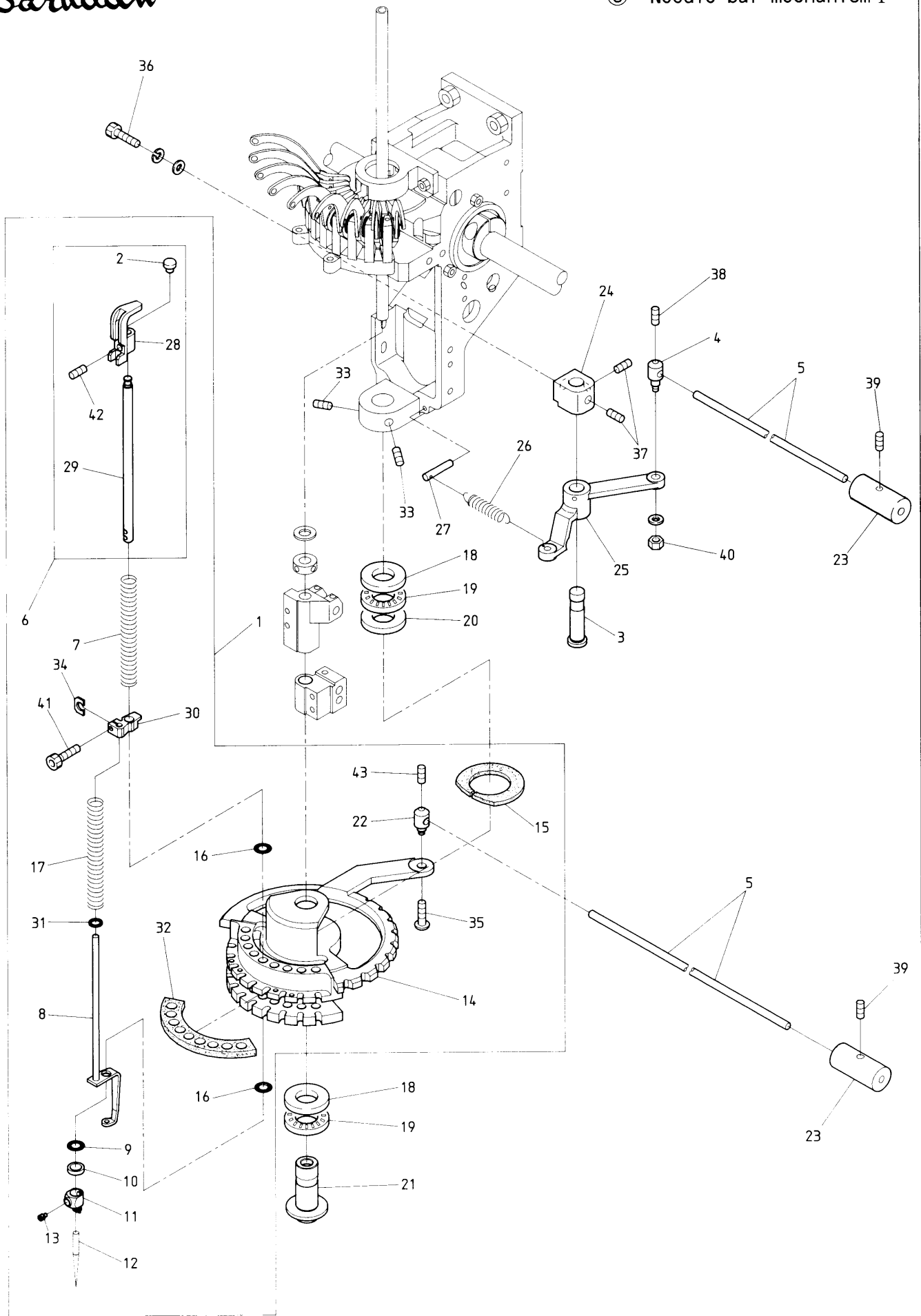
ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HT230010	Take up lever driving lever	H×1	
2	HB230330-2	Take up lever driving roller bush	H×1	
3	HB230320	Take up lever driving roller	H×1	
4	HB230330-1	Take up lever driving roller shaft	H×1	
5	HB230111	Take up lever driving lever metal	H×1	
6	KF230500	Take up lever roller a'ssy	H×1	
7	HB230080	Washer for cam (2)	H×1	
8	HB230070	Washer for cam (1)	H×1	
9	HB230062	Take up lever cam H6	H×1	For small bobbin
	HB230493	Take up lever cam J1B	H×1	For middle bobbin
10	HB230051	Take up lever cam base	H×1	
11	HB230020	Needle bar crank rod	H×1	
12	HB230341	Needle roller (HL-8Q-K38×41×8.8)	H×1	
13	HB230011	Needle bar driving cam (Eccentric 9.2)	H×1	
14	HB230030	Bearing case	H×1	
15	A9010017	Ball Bearing case (6004ZZ)	H×1	
16	A9012163	C-Ring φ42	H×1	
17	HT230580	Arm	H×1	
18	HT230660	Take up lever driving lever fixed pin	H×1	
19	HB230040	Needle bar driving cam set collar	H×1	
20	HB230800	Take up lever driving lever fixed pin set collar	H×1	
21	HB230650	Flush screw (With adhesion)	H×1	
22	HT230210	Take up lever driving lever a'ssy	H×1	
23	HB230681	Take up lever · Needle bar drive a'ssy (small bobbin)	H×1	
	HB230691	Take up lever · Needle bar drive a'ssy (middle bobbin)	H×1	
24	HB230710	Take up lever driving cam a'ssy	H×1	
25		Hex, socket bolt M4×8		
26		Flush screw	H×3	
27		Hex, socket bolt M4×15		
28		Disk spring 8		
29		Hex, socket bolt M8×25		
30		Hex, socket set screw M5×10		
31		Hex, socket set screw M4×8		
32		Hex, socket bolt M5×18		
33		Hex, nut 7/32		
34		Hex, socket set screw M4×4 (With adhesion)	H×1	



⑤ Take up lever a'ssy II

(H=Head Q'TY)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HT 2 4 0 0 0 0	Thread guide plate	H×1	
2	HB 2 4 0 1 5 1	Thread guide fixing shaft (Upper)	H×1	
3	HT 2 3 0 0 2 0	Take up fixing bracket	H×1	
4	A 9 0 1 1 1 5 2	Thrust needle bearing inter (WS1528)	H×1	
5	A 9 0 1 1 0 2 1	Thrust bearing (NTB-1528)	H×1	
6	HT 2 3 0 3 0 0	Driving shaft upper metal	H×1	
7	HT 2 3 0 5 4 0	Driving shaft	H×1	
8	HT 2 3 0 0 3 0	Take up lever guide	H×1	
9	HT 2 3 0 0 7 0	Take up lever base	H×9	
1 0	HT 2 3 0 1 7 0	Take up lever (a'ssy) Bridge	H×9	
1 1	HT 2 3 0 0 8 0	Take up lever shaft	H×9	
1 2	HB 2 3 0 7 5 0	Take up lever thread guide	H×9	
1 3	HB 2 4 0 1 6 1	Thread shaft fixing shaft (Lower)	H×2	
1 4	HT 2 4 0 0 1 0	Thread hanger	H×1	
1 5	HT 2 3 0 2 7 0	Washer (For take up lever fixing bracket)		
1 6		Hex, socket bolt M4×14		
1 7		Hex, socket set screw M4×5 (C. P)		
1 8		Hex, socket set screw M3×4 (With adhesion)		
1 9		Hex, socket bolt M4×6		
2 0		Hex, socket bolt M4×6 (With washer)		
2 1		Hex, socket bolt M4×12		

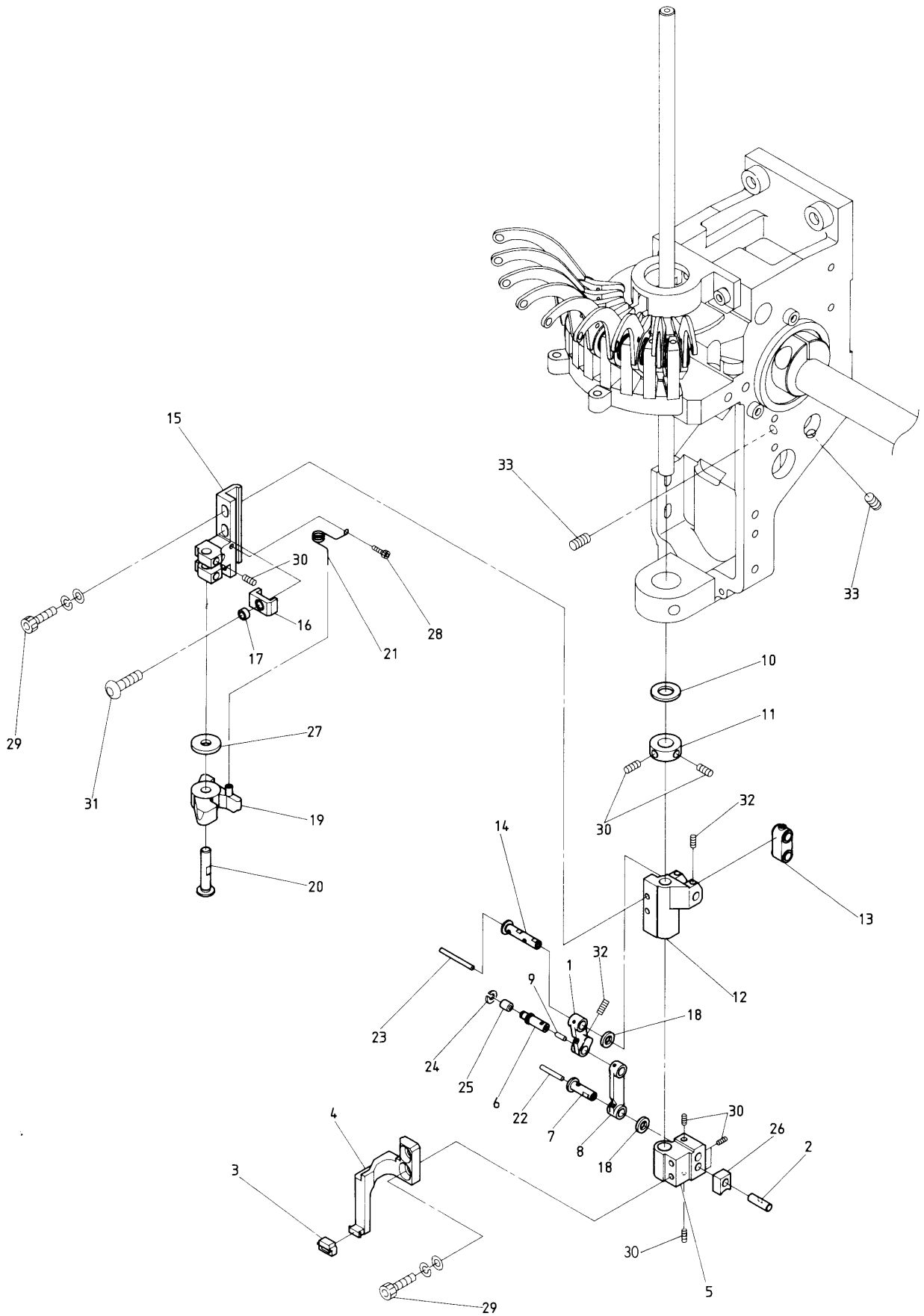


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## ⑥ Needle bar mechanism I

(H=Head Q'TY)

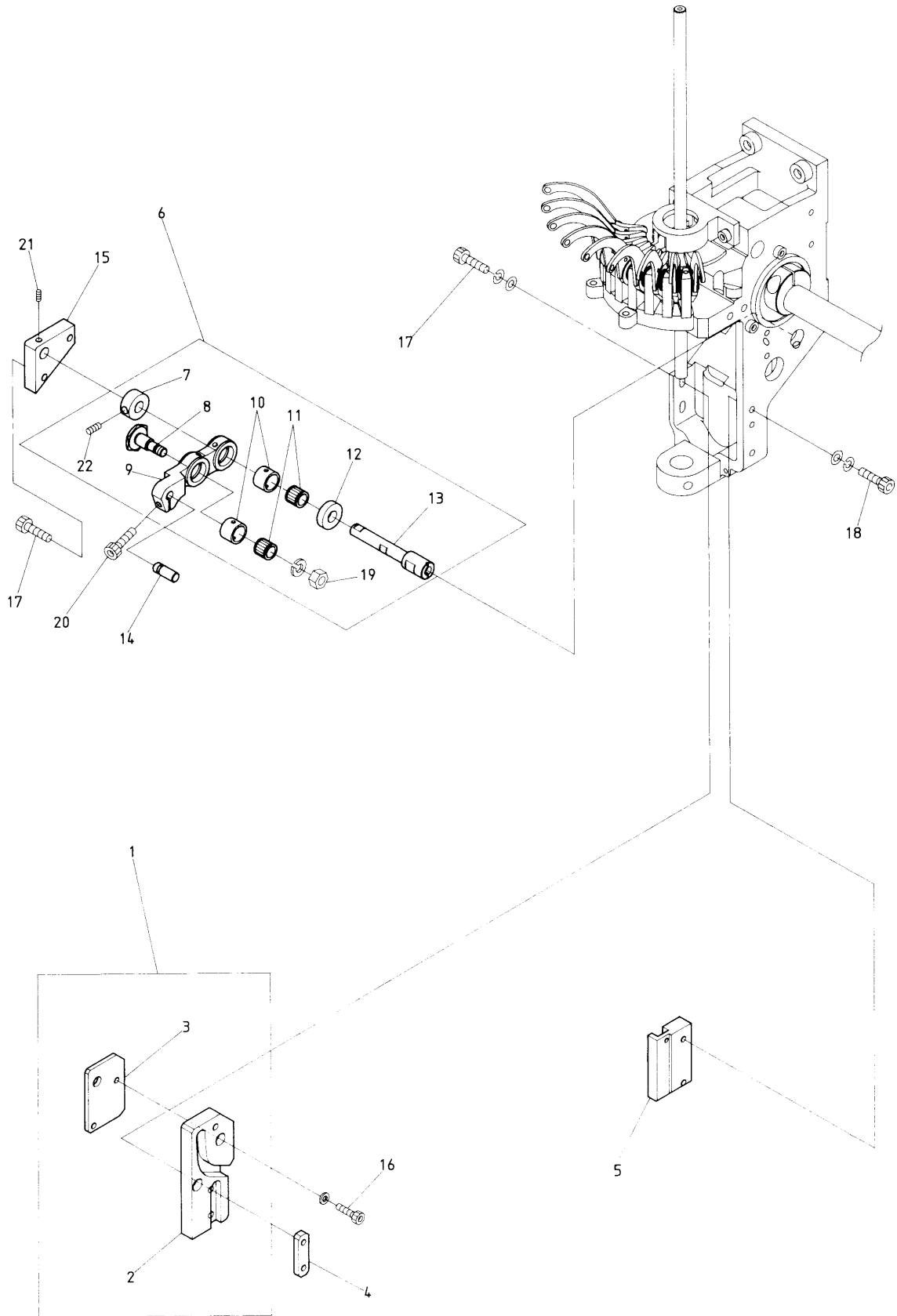
ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1		Turning plate a'ssy	H×1	
2	HT230130	Needle bar cap	H×9	
3	HB230190	Lock lever shaft	H×1	
4	KF230640	Lock connecting clamp	H×1	
5	KC330410	Lock connecting rod (L=2000)	6	
6	HT230810	Needle bar a'ssy	H×9	
7	HB230791	Needle bar spring (Upper) small bobbin	H×9	
	HT230700	Needle bar spring (Upper) middle bobbin	H×9	
8	HT230141	Pressure foot	H×9	
9	KF230910	O-Ring (Small) P-6	H×9	
10	HT230120	Washer 2.4	H×9	
11	HT230670	Needle clamp (With hook)	H×9	
12	KF230250	Needle (BK-11)	H×9	
13	KF230240	Needle clamp screw (SM9/64)	H×9	
14	HT230570M	Turret plate	H×1	
15	HT230690	Turret plate felt (Upper)	H×1	
16	A9014055	O-Ring (IAS-7) S-7	H×1	
17	HT230061	Needle bar spring (Under)	H×18	
18	A9011023	Thrust bearing outer (GS1528)	H×2	
19	A9011021	Thrust bearing (NTB-1528)	H×2	
20	A9011022	Thrust washer (AS-1528)	H×1	
21	HT230550	Driving shaft lower metal	H×1	
22	HT230180	Turret plate joint pin	H×1	
23	KF330180	Lock bar hand grip	4	
24	HB230180	Lock lever bracket	H×1	
25	KL230180	Lock lever	H×1	
26	KF230661	Lock lever spring	H×1	
27	KF230670	Lock lever spring pin	H×1	
28	HT230151	Needle bar guide	H×1	
29	HT230041	Needle bar	H×1	
30	HT230330	Cloth winder stop latch set clamp	H×1	
31	HT230650	Washer (D6, d4.3, t0.5)	H×9	
32	HT230110	Turret felt	H×1	
33	A9012053	Hex. socket set screw (With steel ball) M6×0.7×8	H×2	
34	HT230261	Washer (For set clamp)	H×9	
35		Hex. socket button bolt M4×5		
36		Hex. socket bolt M8×18		
37		Hex. socket set screw M6×6		
38		Hex. socket set screw M4×6		
39		Hex. socket set screw M5×5		
40		Hex. nut M4(II)		
41		Hex. socket bolt M3×8	H×9	
42		Hex. socket set screw M1×1 (With adhesion)		
43		Hex. socket set screw M1×1	H×1	



MODEL BEMRH-YN  
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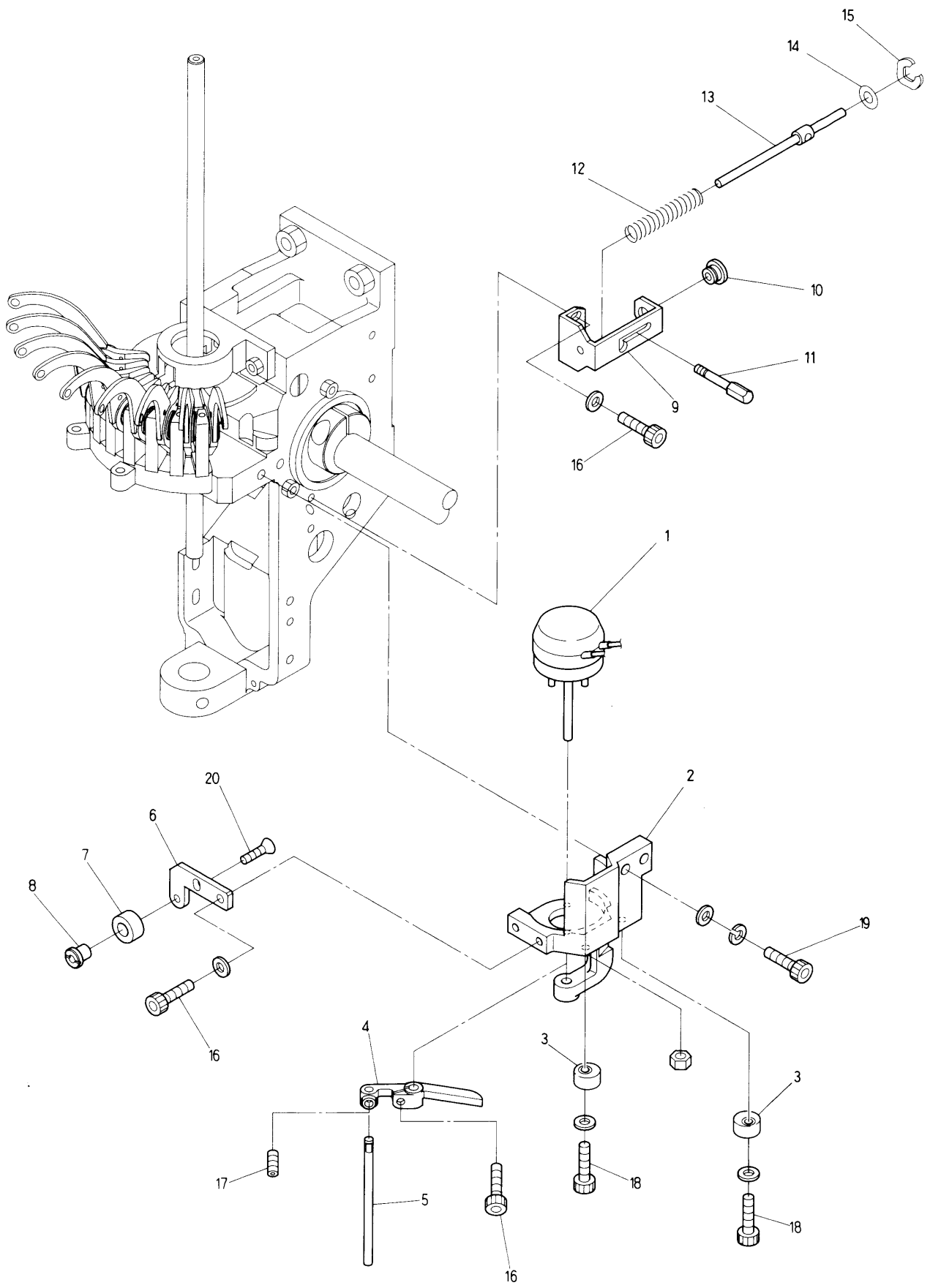




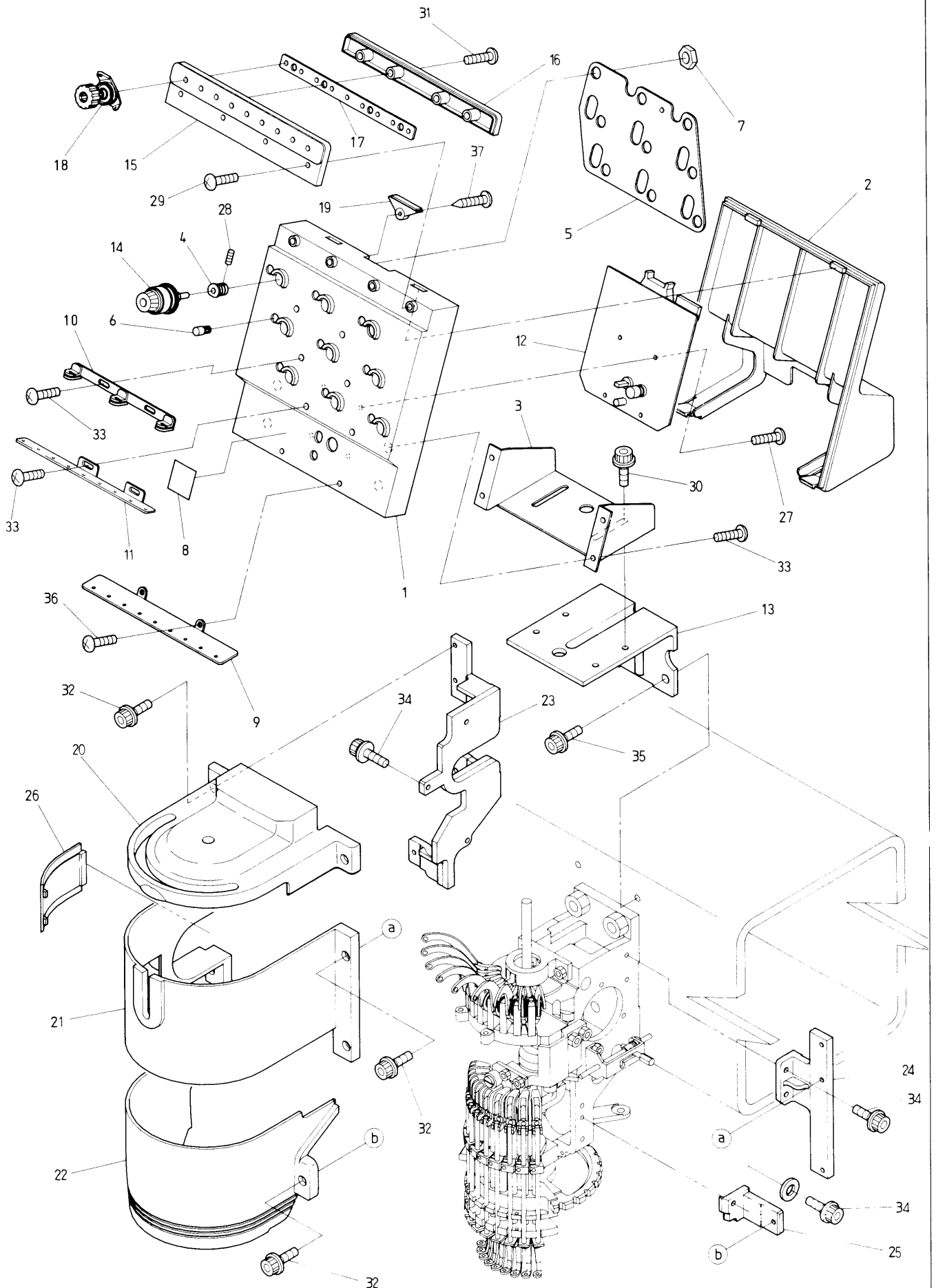


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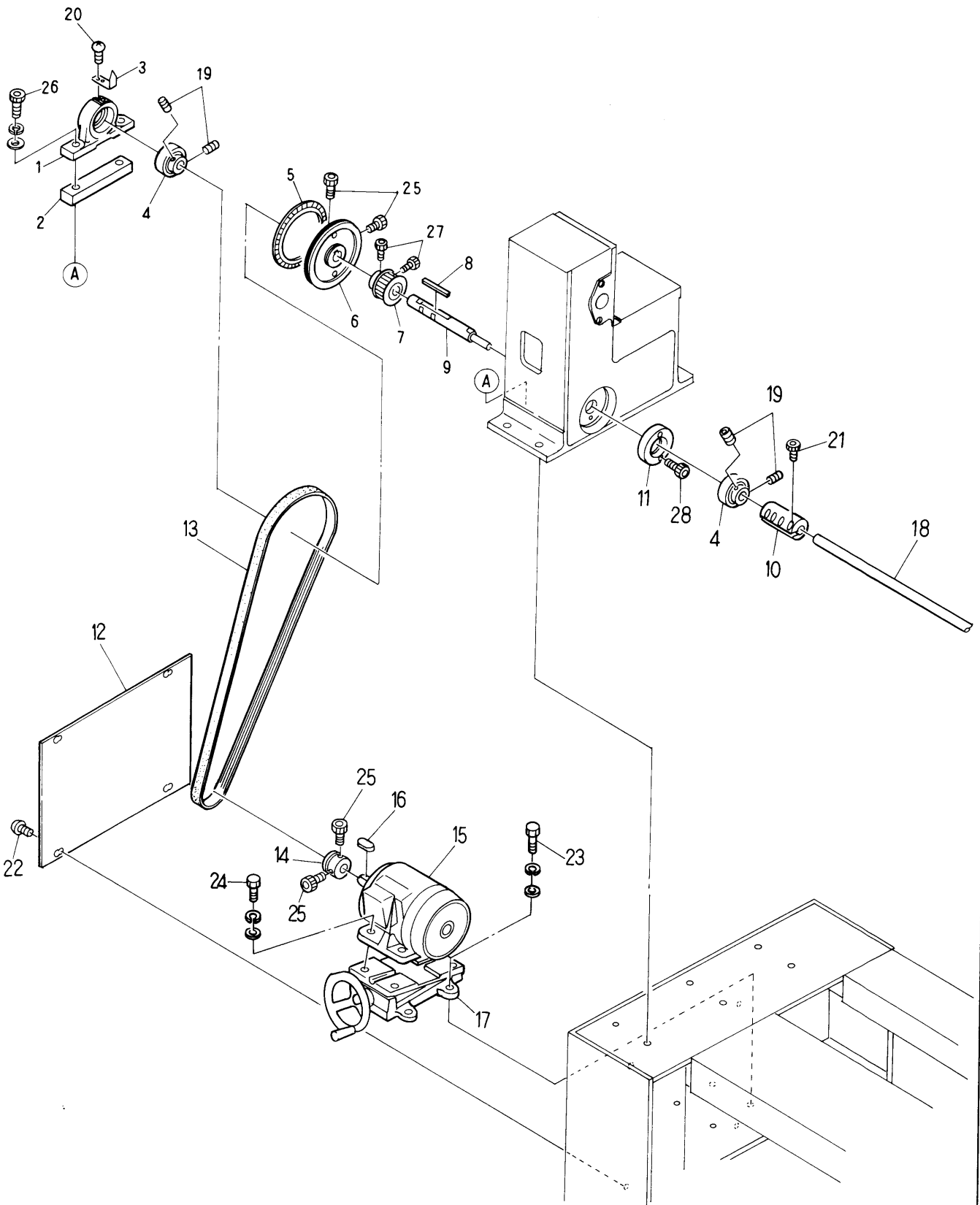


MODEL  
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## ⑩ Thread guide mechanism

(H=Head Q'TY)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HT240120	Tension base case	H×1	
2	HT240130	Tension base cover	H×1	
3	HT240140	Tension base	H×1	
4	HT240150	Base	H×9	
5	HT240160	Tension earth plate	H×1	
6	HT240170	Upper thread detection pin	H×9	
7	HT240180	SM-Nut	H×9	
8		No. Label	H×1	
9	HT240020	Second thread guide plate	H×1	
10	HT240061	First thread guide	H×2	
11	HT240390	Thread guide plate	H×1	
12	EBY01110	4619 Head board	H×1	
13	HB240300	Tension base bracket {Bridge (MSH)}	H×1	
14	HT240320	Dial type tension unit complete (YN)	H×9	
15	HT240211	Upper thread guide fixing case	H×1	
16	HT240220	Upper thread guide fixing cover	H×1	
17	HT240230	Upper thread guide fixing base	H×1	
18	HT240331	Thread guide for second tension (Pinless)		
19	HT240240	Blind cap	H×1	
20	HB240200	Sewing head cover (A)	H×1	
21	HT240460	Sewing head cover (B) (YN-2)	H×1	
22	HT240220	Sewing head cover (C)	H×1	
23	HT240430	Sewing head cover fixing bracket (A)	H×1	
24	HB240240	Sewing head cover fixing bracket (B)	H×1	
25	HT240440	Sewing head cover fixing bracket (C)	H×1	
26	HT240470	Supply of oil cover	H×1	
27		Pan screw B	M3×8	
28		Hex. socket set screw	M4×12	
29		Pan screw	M3×6	
30		Hex. socket bolt with washer	M5×10	
31		Tapping screw (Ⅱ)	M3×12	
32		Hex. socket bolt	M4×6 (With washer)	
33		Truss screw	M4×10	
34		Hex. socket bolt (With flange)	M4×12	
35		Hex. socket bolt (With flange)	M6×20	
36		Tapping truss screw	M4×10	
37		Tapping screw	M3×12	



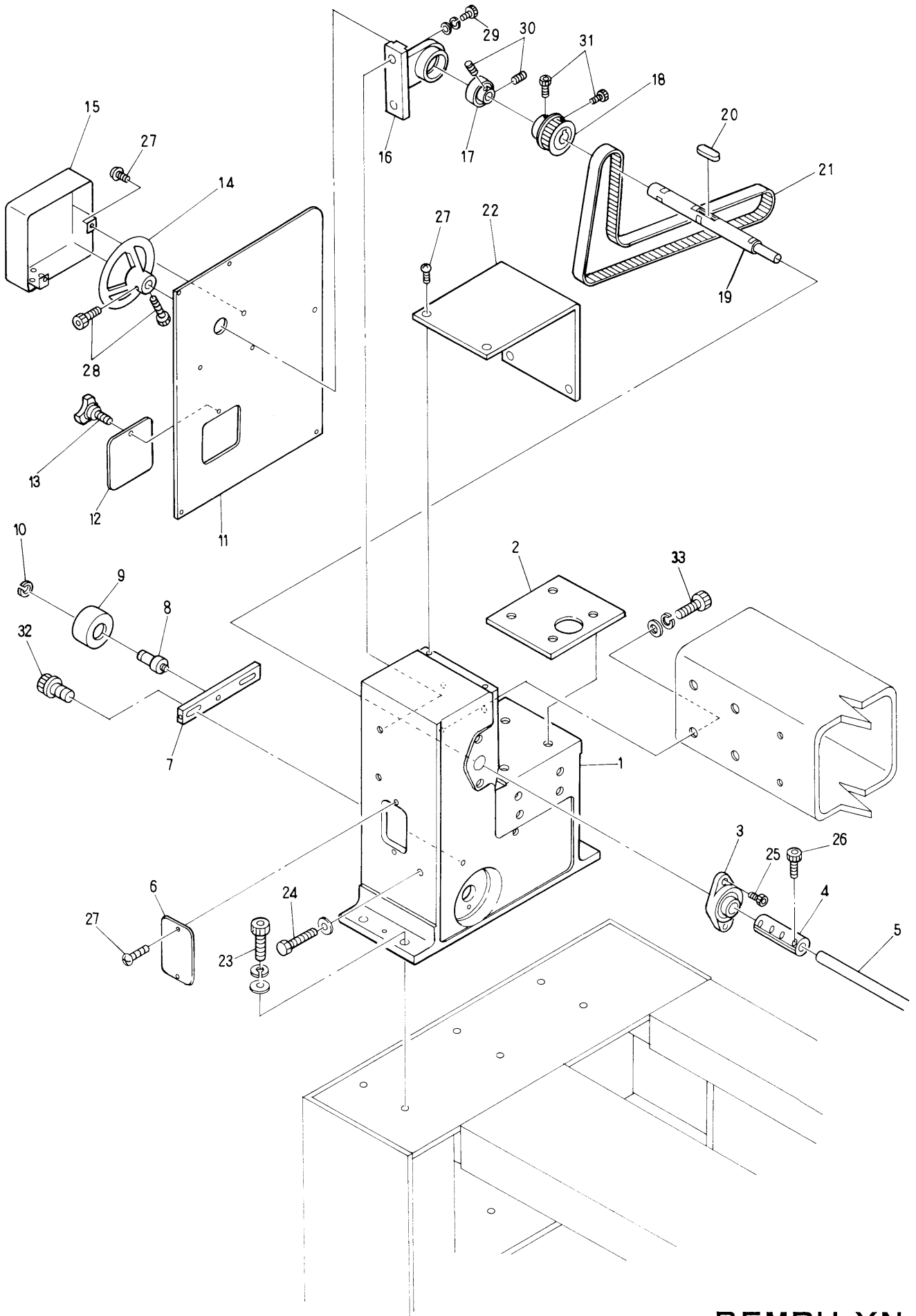
MODEL

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⑪ Drive mechanism I

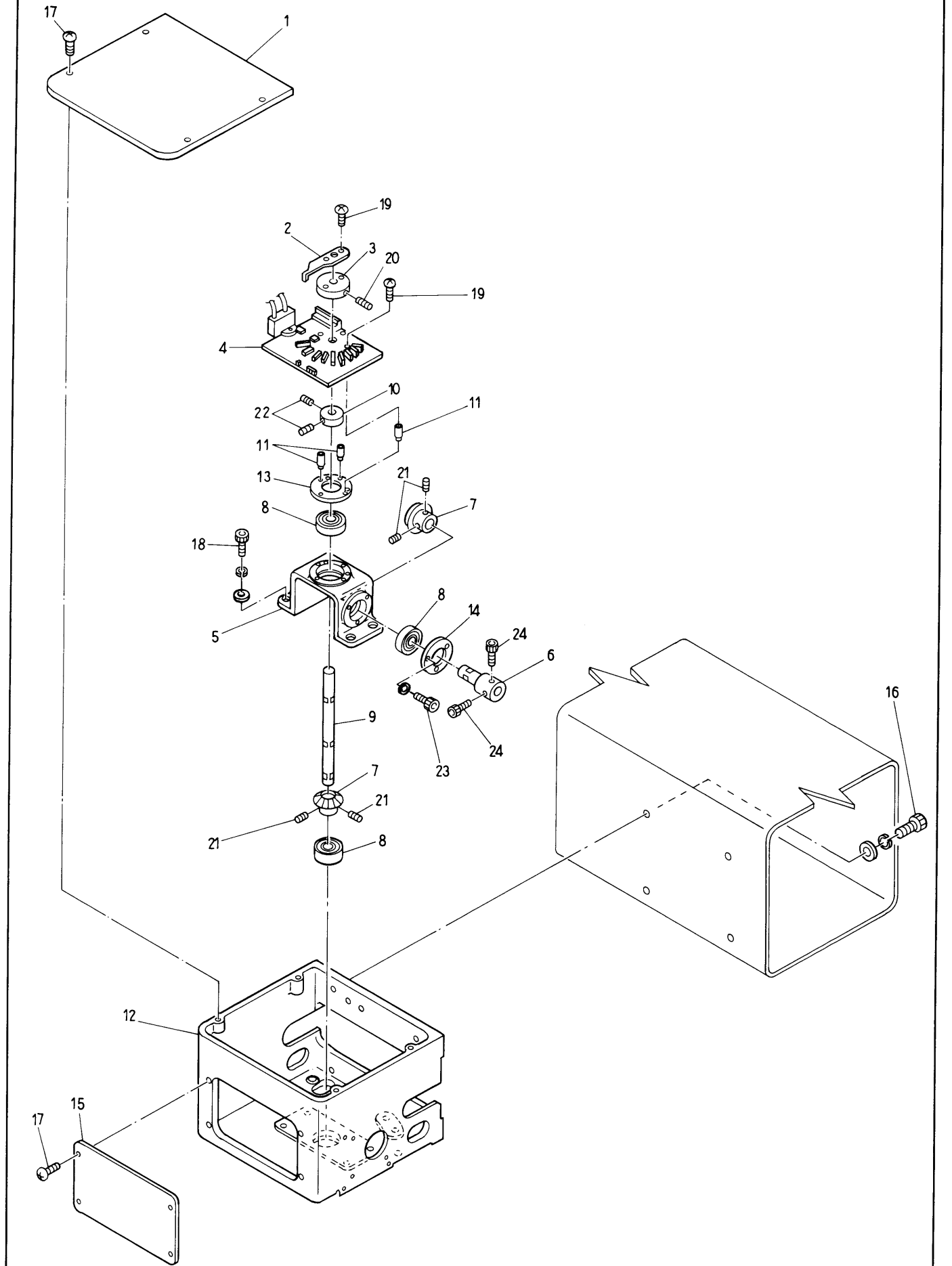
ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HB310120	Bearing unit (Lower shaft)	1	
2	HB310130	Shim (For bearing unit lower shaft)	1	For small bobbin
3	HB310150	Angle gauge	1	
4	A9011040	Bearing (RB-204)	2	
5	KN313670	Angle label (A)	1	
6	KN310000	Driving pulley $\phi 152.2$	1	
7	HB310070	Timing pulley (8M-23)	1	
8	HB310220	Key $6 \times 6 \times 83$	1	
9	HB310060	Lower shaft (Gear box L)	1	
10	HP321100	Lower shaft connecting coupling	1	
11	HB310140	Housing (For lower shaft)	1	
12	HB310210	Cover (Motor section)	1	
13	A9020203	Belt (4PK 1160)	1	
14	KN310010	Motor pulley $\phi 48.6$	1	
15	KN315110	Motor (IK-FBKB-4P-0.55KW VF3200V)	1	
16	HU315290	Key $6 \times 6 \times 32$	1	
17	HP310220	Motor base (R-05)	1	
18	KC320820	Upper shaft connecting shaft $15 \times 5700$	1	
19		Hex, socket set screw $M6 \times 6$		
20		Truss screw $M4 \times 6$		
21		Hex, socket bolt $M6 \times 20$		
22		Truss screw $M6 \times 8$		
23		Hex, bolt $M8 \times 30$		
24		Hex, bolt $M8 \times 25$		
25		Hex, socket bolt $M6 \times 15$		Key side
		Hex, socket bolt $M6 \times 18$		
26		Hex, socket bolt $M10 \times 35$		
27		Hex, socket bolt $M6 \times 12$		Key side
		Hex, socket bolt $M6 \times 15$		
28		Hex, bolt $M6 \times 25$		



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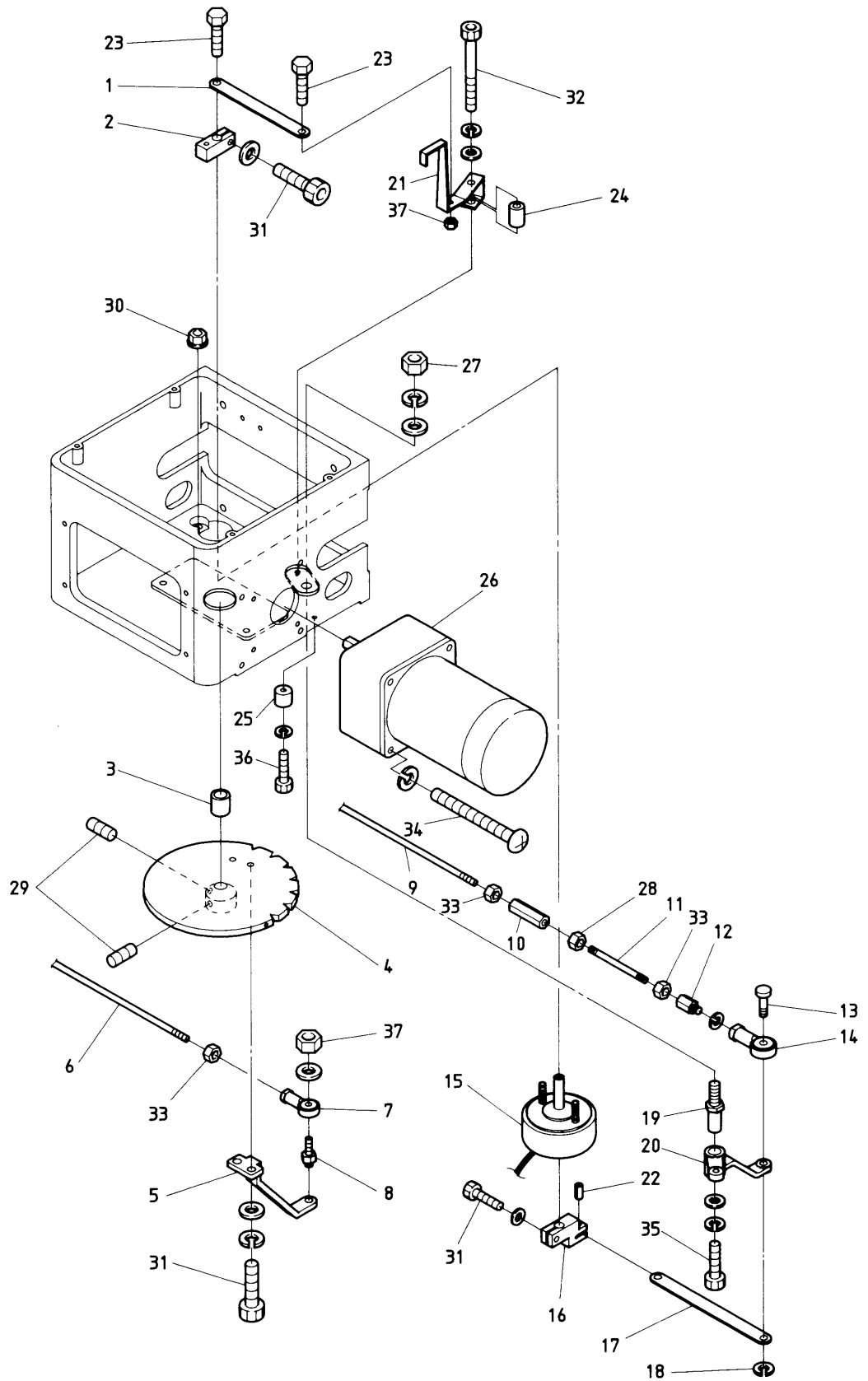
⑫ Drive mechanism II

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HB310020	Gear box (L)	1	
2	HB130020	Bridge fixing spacer T=1	1	
	HB130030	Bridge fixing spacer T=0.5	1	
3	A9011035	Bearing unit (UCFL204)	1	
4	HH320550	Upper shaft connecting coupling	1	
5	KC320820	Upper shaft connecting shaft 15×5700	1	
6	HB310160	Gear box front cover	1	
7	HB310100	Idler pulley bracket	1	
8	HP310150	Idler shaft	1	
9	HB310080	Idler pulley φ65	1	
10	A9012068	C-Ring (φ15)	1	
11	HB310040	Gear box cover (L)	1	
12	HB310170	Gear box cover (L) service cover	1	
13	A9012166	Knob bolt (KT-B) M5×10	1	
14	HB310200	Handle PH140	1	
15	HB310191	Handle cover	1	
16	HB310110	Bearing unit (For upper shaft)	1	
17	A9011040	Bearing (RB-204)	1	
18	HB310070	Timing pulley (8M-23)	1	
19	HB310051	Upper shaft (Gear box L)	1	
20	HB310260	Key 6×6×30	1	
21	A9020131	Timing belt (250S8M760)	1	
22	HB310180	Bridge cover	1	
23		Hex. socket bolt M12×45	1	
24		Hex. bolt M5×50		For small bobbin
		Hex. bolt M5×60		For middle bobbin
25		Hex. socket bolt M10×35		
26		Hex. socket bolt M6×20		
27		Truss screw M5×10		
28		Hex. socket bolt M5×10		
29		Hex. socket bolt M10×45		
30		Hex. socket set screw M6×6		
31		Hex. socket bolt M6×12		Key side
		Hex. socket bolt M6×15		
32		Hex. socket flange bolt M8×25		
33		Hex. socket bolt M12×40		



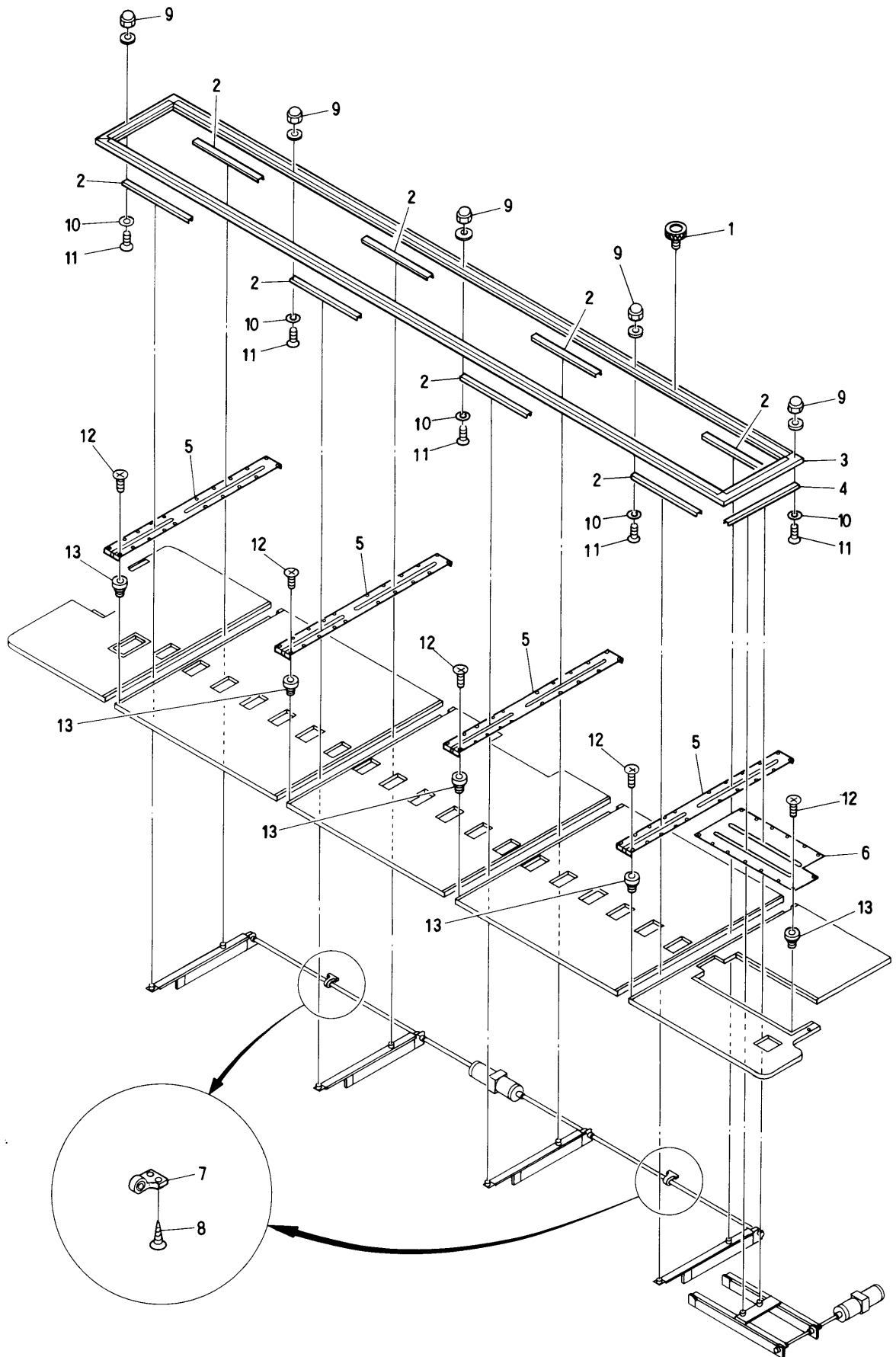
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MODEL  
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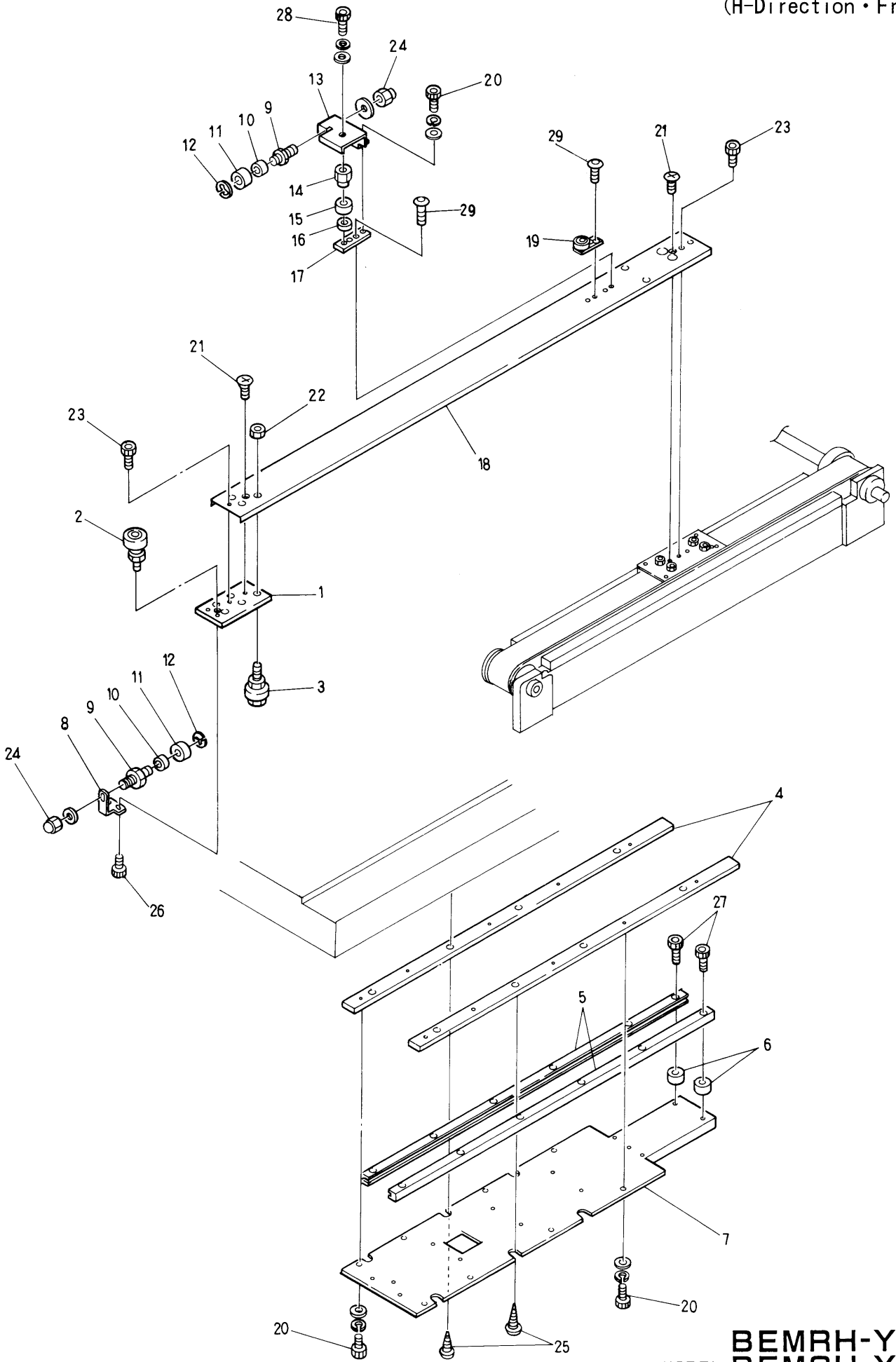




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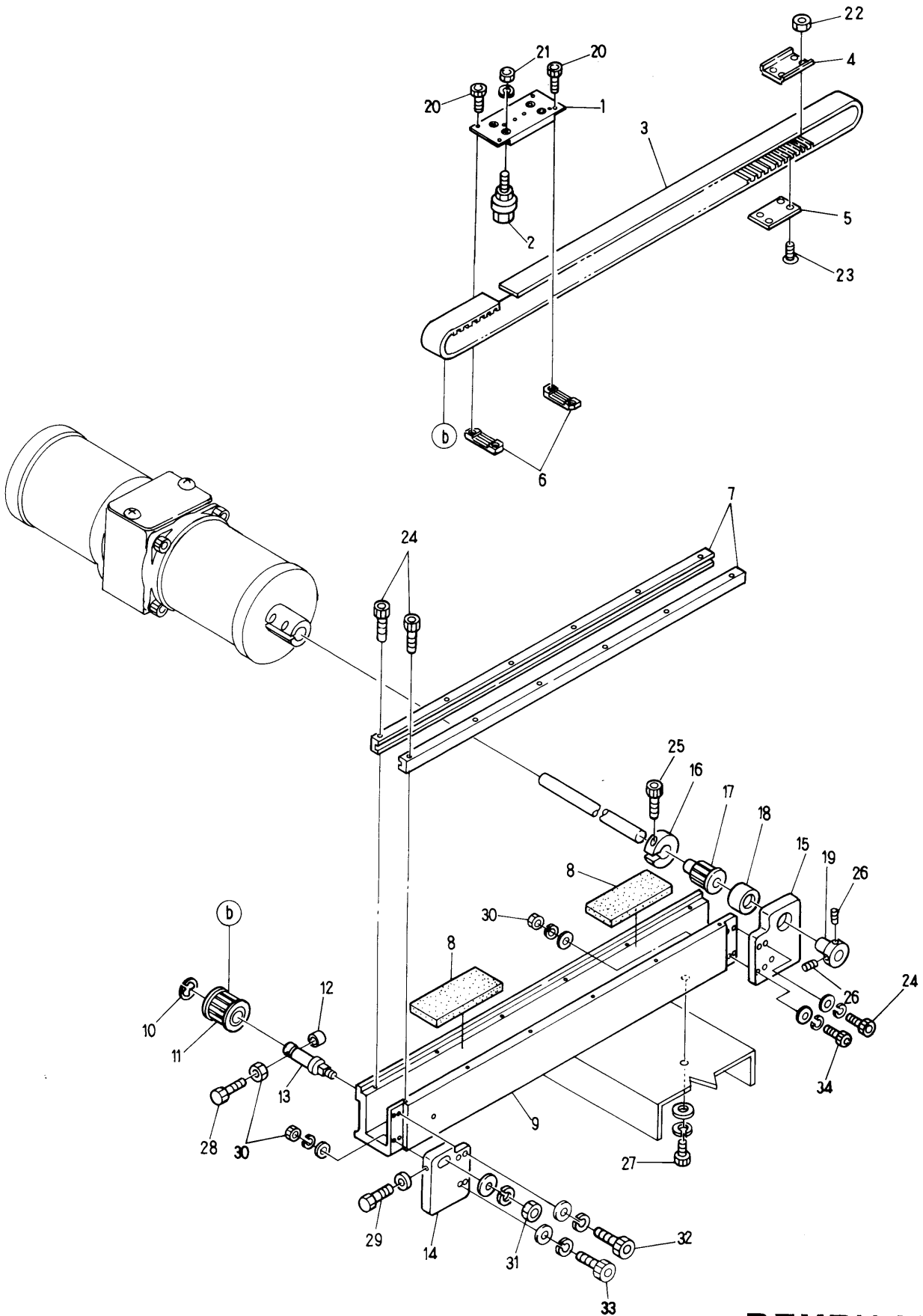


MODEL  
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16 Pantograph drive mechanism II (H-Direction · Front)

(※Change the LIST No. by machine type)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HP482881	H-Roller base (Front)	R × 1	
2	HP483370	Slide bearing pin a'ssy	R × 1	
3	HP482950	Roller pin a'ssy A	R × 3	
4	HP48282045	H-Guide rail base fixing plate (450)	R × 2	※
5	HP482910	V-Guide rail (L=1060)	R × 2	
6	HP482921	Rail spacer (Front)	R × 16	
7	HP48281A45	H-Center guide rail base (H450)	R × 1	※
8	HP460121	H-Pantograph stopper (Front)	R × 1	
9	HP460170	Pantograph stop pin	R × 2	
10	A9012126	KB-Bush (KBB-0406-D)	R × 2	
11	HP460160	Pantograph stop collar	R × 2	
12	A9012127	E-Ring (3)	R × 2	
13	HP482250	H-Auxiliary roller fixing bracket	R × 1	
14	HP482270	H-Auxiliary roller adjusting collar	R × 1	
15	HP482590	H-Auxiliary roller	R × 1	
16	HP482260	H-Auxiliary roller fixing collar	R × 1	
17	HP482280	H-Auxiliary roller fixing base	R × 1	
18	HP48313G45	H-Member connecting channel (H450)	R × 1	※
19	HP483391	Slide bearing pin a'ssy (H)	R × 1	
20		Hex. socket bolt M5 × 10		
21		Flush screw M4 × 8 (Undercut)		
22		Hex. nut M5		
23		Hex. socket bolt M4 × 8		
24		Hex. cap nut M4		
25		Wood screw 5.1 × 25		
26		Hex. socket bolt M4 × 8		
27		Hex. socket bolt M4 × 15		
28		Hex. socket bolt M5 × 30		
29		Hex. socket button bolt M4 × 6		



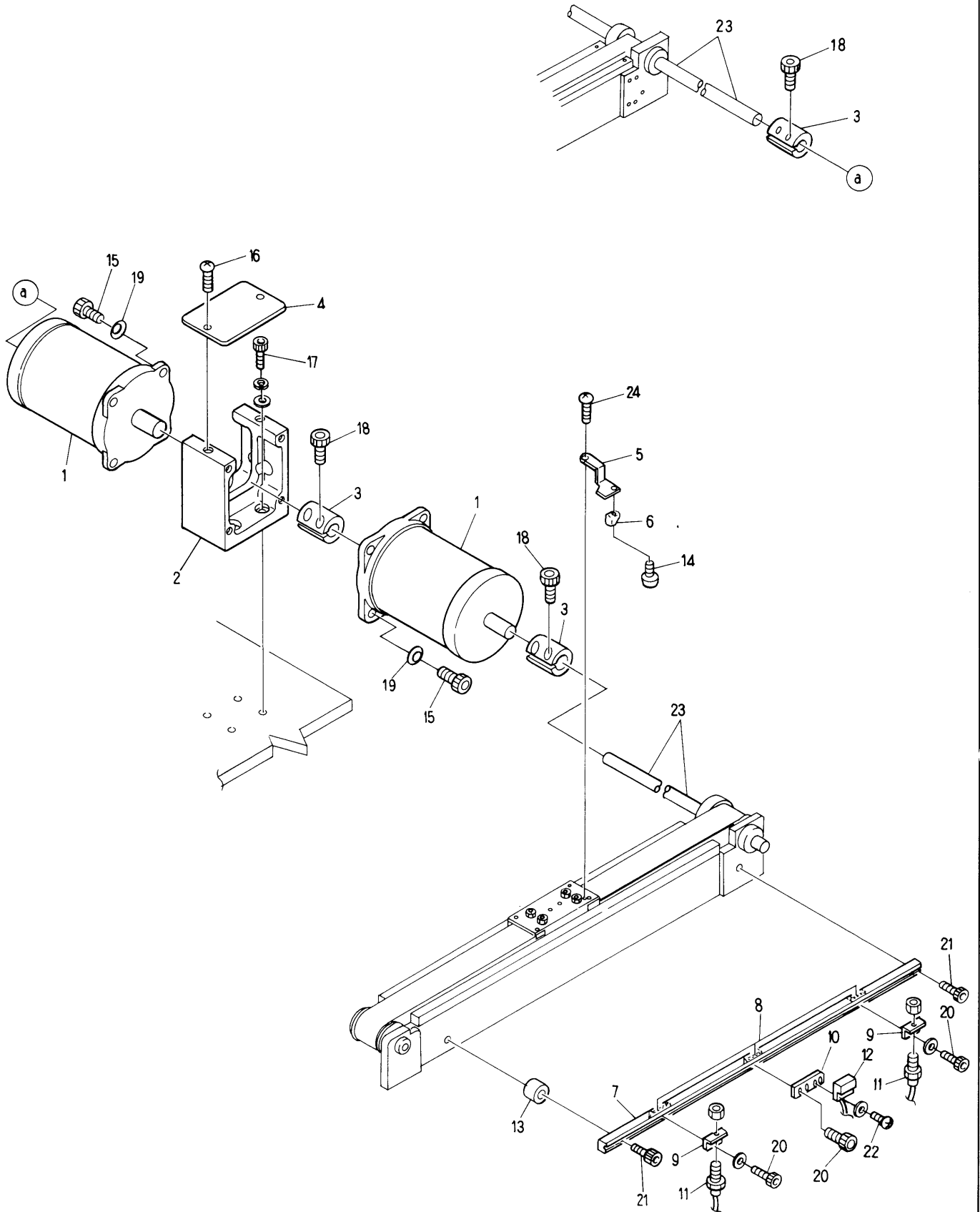
MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

## ⑰ Pantograph drive mechanismⅢ (H-Direction・Rear)

(R=H-Rail Q'TY)

(\*Change the LIST No. by machine type)

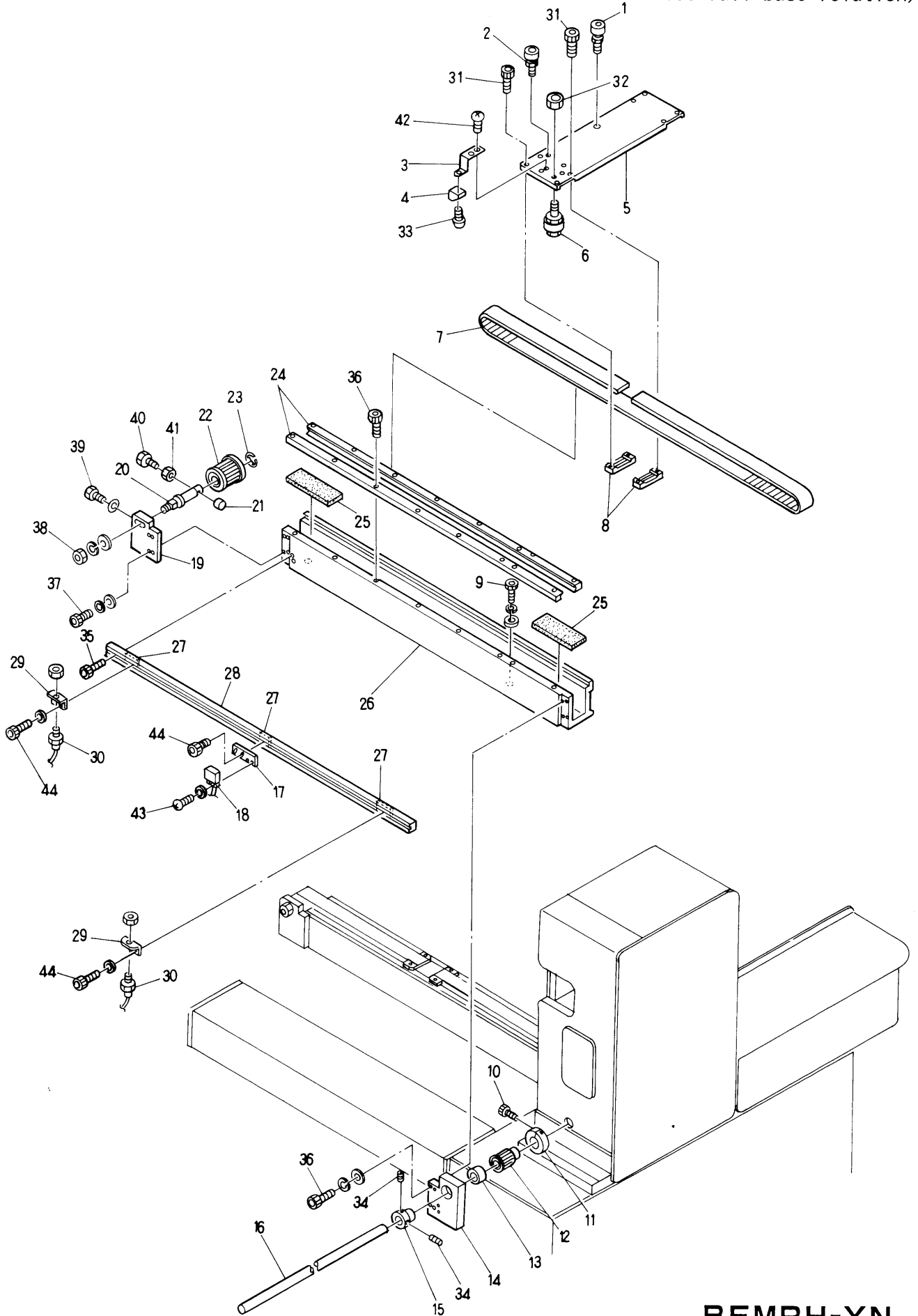
ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HP 482871	H-Roller base (Rear)	R×1	
2	HP 482950	Roller pin a'ssy A	R×4	
3	A 9020098	Timing belt (300S5M2000)	R×1	
4	HH 482031	Belt connecting plate No.1	R×1	H-Stroke 850 over
5	HH 482041	Belt connecting plate No.2	R×1	H-Stroke 850 over
6	HP 482940	Timing belt set rack (5 M)	R×2	
7	HP 482910	V-Guide rail (L=1060)	R×2	
8	KN 480061	Rail base felt (100×38×6)	R×2	
9	HH 48209G45	H-Guide rail base (Stroke 450)	R×1	*
10	A 9012052	E-Ring φ10	R×1	
11	HP 482980	Pantograph driving pulley (Front) S 5 M	R×1	
12	HH 482110	Pulley shaft bolt cap	R×1	
13	HH 481991	Timing pulley shaft	R×1	
14	HH 482000	H-Guide front pulley bracket	R×1	
15	HH 482011	H-Guide rear pulley bracket	R×1	
16	HH 481980	Clamping φ19	R×1	
17	HP 482990	Pantograph driving pulley (Rear) S 5 M	R×1	
18	A 9011063	Needle bearing (TL A2016)	R×1	
19	HH 481970	Pulse motor connecting shaft collar	R×1	
20		Hex, socket bolt M3×6		
21		Hex, nut M5		
22		Hex, nut M3		
23		Flush screw M3×10		
24		Hex, socket bolt M4×15		
25		Hex, socket bolt M5×18		
26		Hex, socket set screw M5×8		
27		Hex, socket bolt M8×25		
28		Hex, bolt M4×35		
29		Hex, bolt M4×25		
30		Hex, nut M4		
31		Hex, nut M8		
32		Hex, socket bolt M4×18		
33		Hex, socket bolt M4×22		
34		Hex, socket bolt M4×20		



MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN



①9 Pantograph drive mechanism V  
(V-Direction • Guide rail base relation)



MODEL

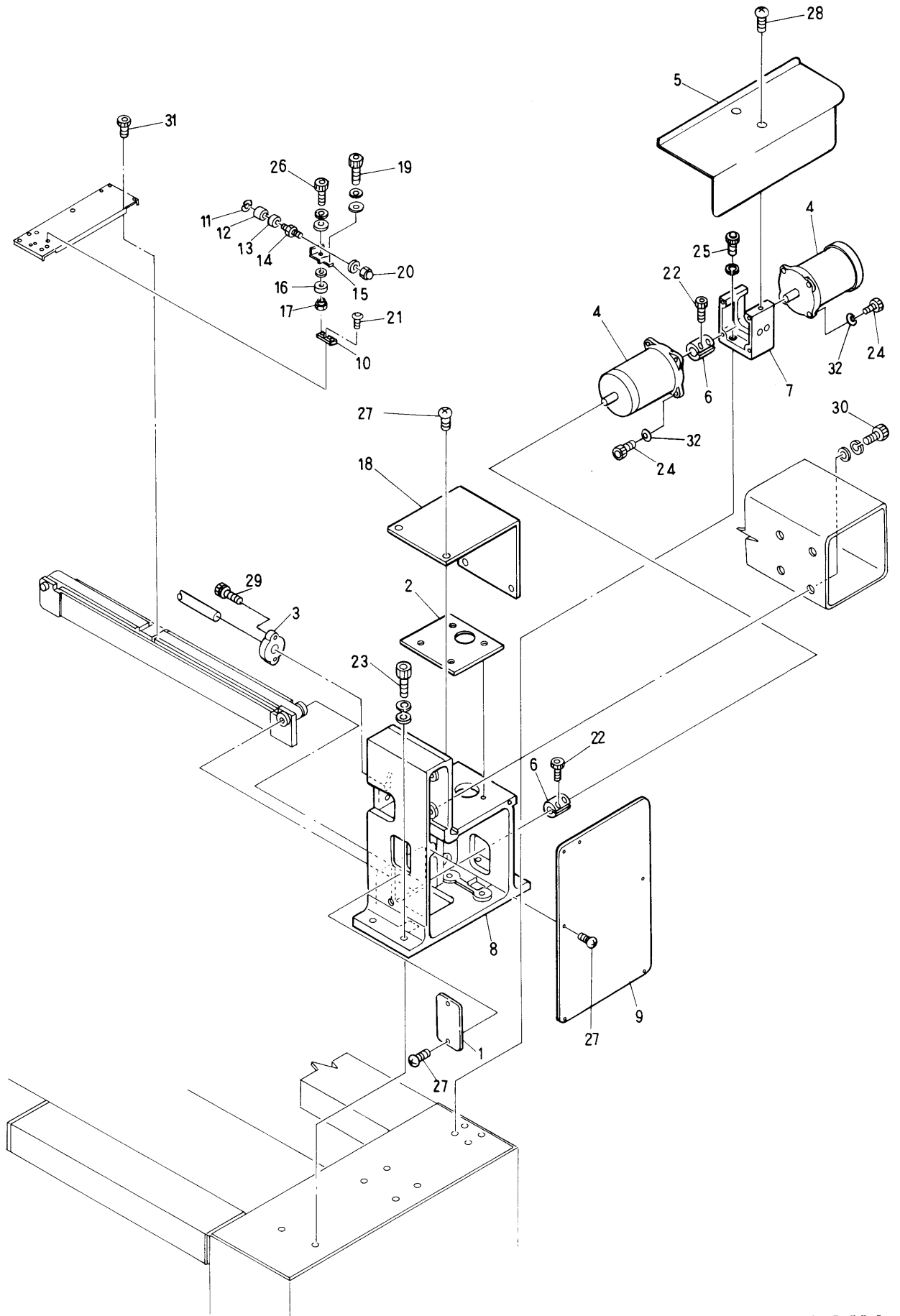
BEMRH-YN  
BEMSH-YN  
BEMXH-YN



⑱ Pantograph drive mechanism V (V-Direction · Guide rail base relation)

(※Change the LIST No. by machine type)

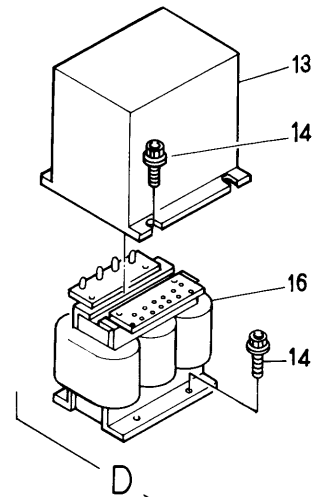
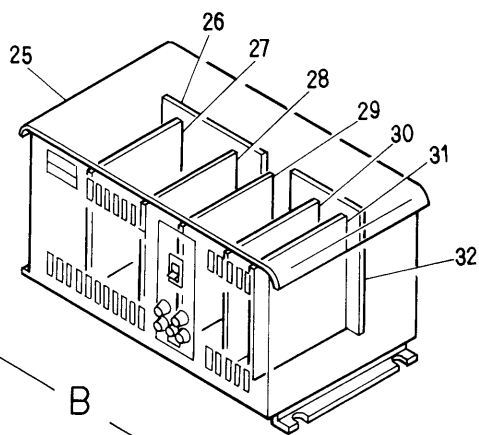
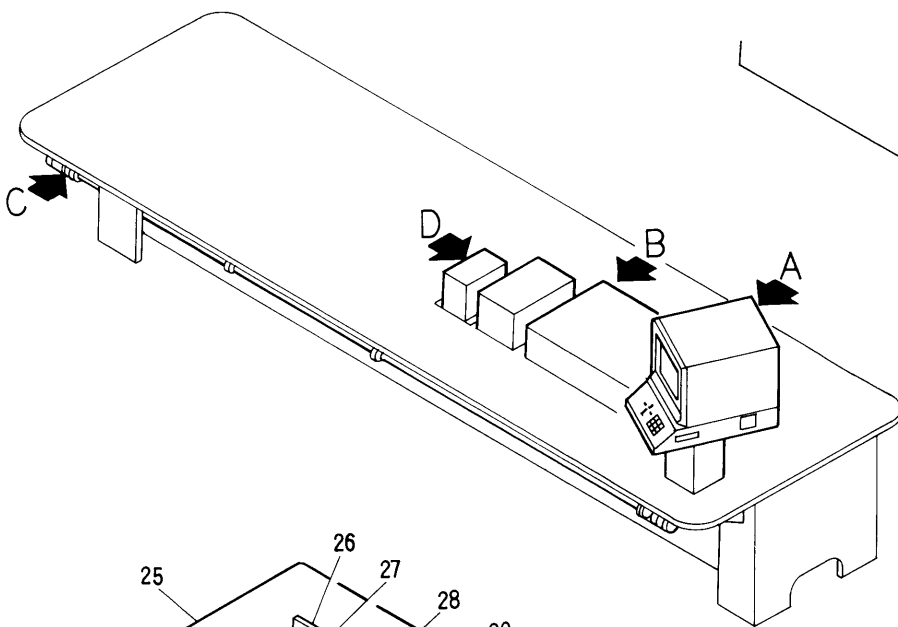
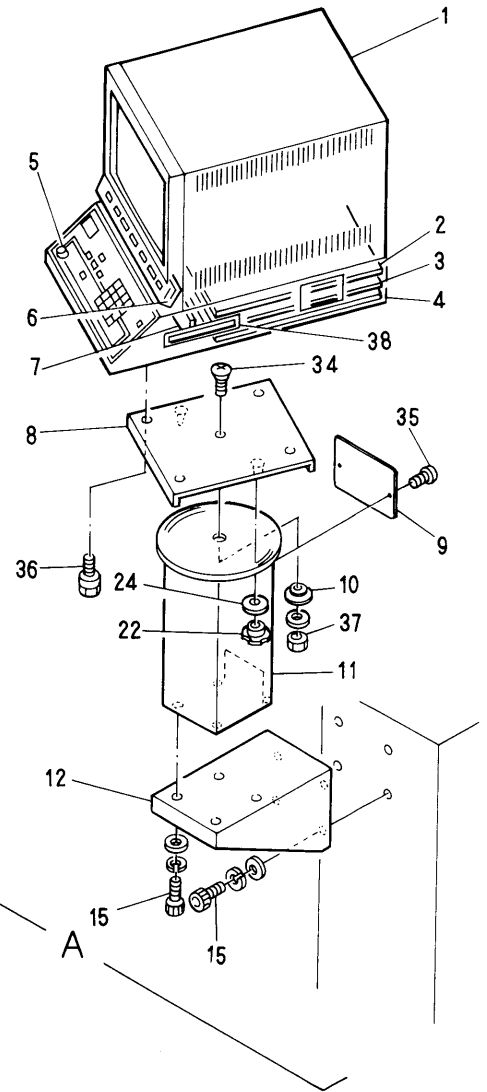
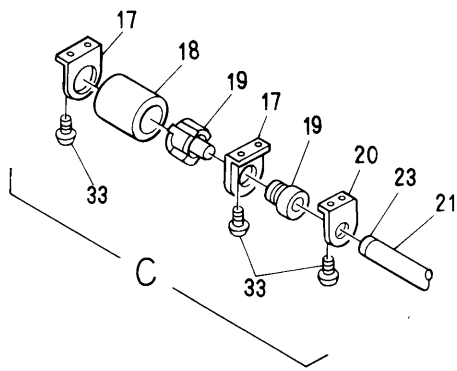
ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HP483111	Slide bearing pin a'ssy (B)	1	
2	HP483370	Slide bearing pin a'ssy	1	
3	HP451100	V-Pantograph origin point magnet bracket	1	
4	A9052030	Magnet (M-102A-02)	1	
5	HP482892	V-Roller base	1	
6	HP482950	Roller pin a'ssy A	8	
7	A9020098	Timing belt (300S5M2000)	2	
8	HP482940	Timing belt set rack (5M)	4	
9	HH482031	Belt connecting plate No.1	2	
10	HH482041	Belt connecting plate No.2	2	
11	HH481980	Clamping $\phi 19$	2	
12	HP482990	Pantograph driving pulley (Rear) (S5M)	2	
13	A9011063	Needle bearing (TLA2016)	2	
14	HH482011	H-Guide rear pulley bracket	2	
15	HH481970	Pulse motor connecting shaft collar	2	
16		V-Pulsre motor connecting shaft	1	
17	KN450300	MH-601A Proximity switch fixing bracket	1	
18	A9052031	Magnetic proximity switch (MH-601A)	1	
19	HH482000	H-Guide front pulley bracket	2	
20	HH481991	Timing pulley shaft	2	
21	HH482110	Pulley shaft bolt cap	2	
22	HP482980	Pantograph driving pulley (Front) (S5M)	2	
23	A9012052	E-Ring ( $\phi 10$ )	2	
24	HP482910	V-Guide rail (L=1060)	4	
25	KN480061	Rail base felt (100×38×6)	4	
26	HP48217G530	V-Guide rail base (Stroke 530)	2	※
27	KU460270	Plate nut (M3)	3	
28	HP45112G530	V-Pantograph origin point rail (V530)	1	※
29	MT460240	RS-001 Bracket (V)	2	
30	A9052024	Switch (RS-001)	2	
31		Hex, socket bolt M3×6		
32		Hex, nut M5		
33		Truss screw M3×6		
34		Hex, nut M3		
35		Hex, socket bolt M4×8		
36		Hex, socket bolt M4×15		
37		Hex, socket bolt M4×18		
38		Hex, nut M8		
39		Hex, bolt M4×25		
40		Hex, bolt M4×35		
41		Hex, nut M4		
42		Flush screw M4×8 (Undercut)		
43		Truss screw M3×10		
44		Hex, socket bolt M3×8		



MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

⑳ Pantograph drive mechanism VI (V-Direction · Drive)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HB 3 1 0 1 6 0	Gear box front cover	1	
2	HB 1 3 0 0 2 0	Bridge fixing spacer T=1	1	
	HB 1 3 0 0 3 0	Bridge fixing spacer T=0.5	1	
3	HP 3 2 1 1 4 0	Upper shaft connecting bearing (SBFLN02)	1	
4	HH 4 8 1 9 0 0	Pulse motor (4M)	2	
5	HB 3 1 0 2 3 0	Cover (Table R, Rear)	1	
6	HH 4 8 1 9 3 1	Pulse motor coupling	2	
7	HH 4 8 1 9 1 1	H-Pulse motor bracket	1	
8	HB 3 1 0 0 1 0	Gear box (R)	1	
9	HB 3 1 0 0 3 0	Gear box cover (R)	1	
10	HP 4 8 2 5 7 0	V-Auxiliary roller fixing base	1	
11	A 9 0 1 2 1 2 7	E-Ring (3)	1	
12	HP 4 6 0 1 6 0	Pantograph stop roller	1	
13	A 9 0 1 2 1 2 6	KB-Bush (KBB-0406-D)	1	
14	HP 4 6 0 1 7 0	Pantograph stop pin	1	
15	HP 4 8 2 5 8 0	V-Auxiliary roller fixing bracket	1	
16	HP 4 8 2 2 9 0	V-Auxiliary roller (28-2280)	1	
17	HP 4 8 2 5 6 0	V-Auxiliary roller adjusting collar	1	
18	HB 3 1 0 1 8 0	Bridge cover	1	
19		Hex. socket bolt M5×10		
20		Hex. cap nut M4		
21		Hex. socket button bolt M4×6		
22		Hex. socket bolt M5×18		
23		Hex. socket bolt M12×45		
24		Hex. socket bolt M6×22		
25		Hex. socket bolt M8×30		
26		Hex. socket bolt M5×22		
27		Truss screw M5×10		
28		Truss screw M8×12		
29		Hex. socket bolt M6×25 (With spring washer)		
30		Hex. socket bolt M12×40		
31		Hex. socket bolt M3×8		
32		Disc spring 6		

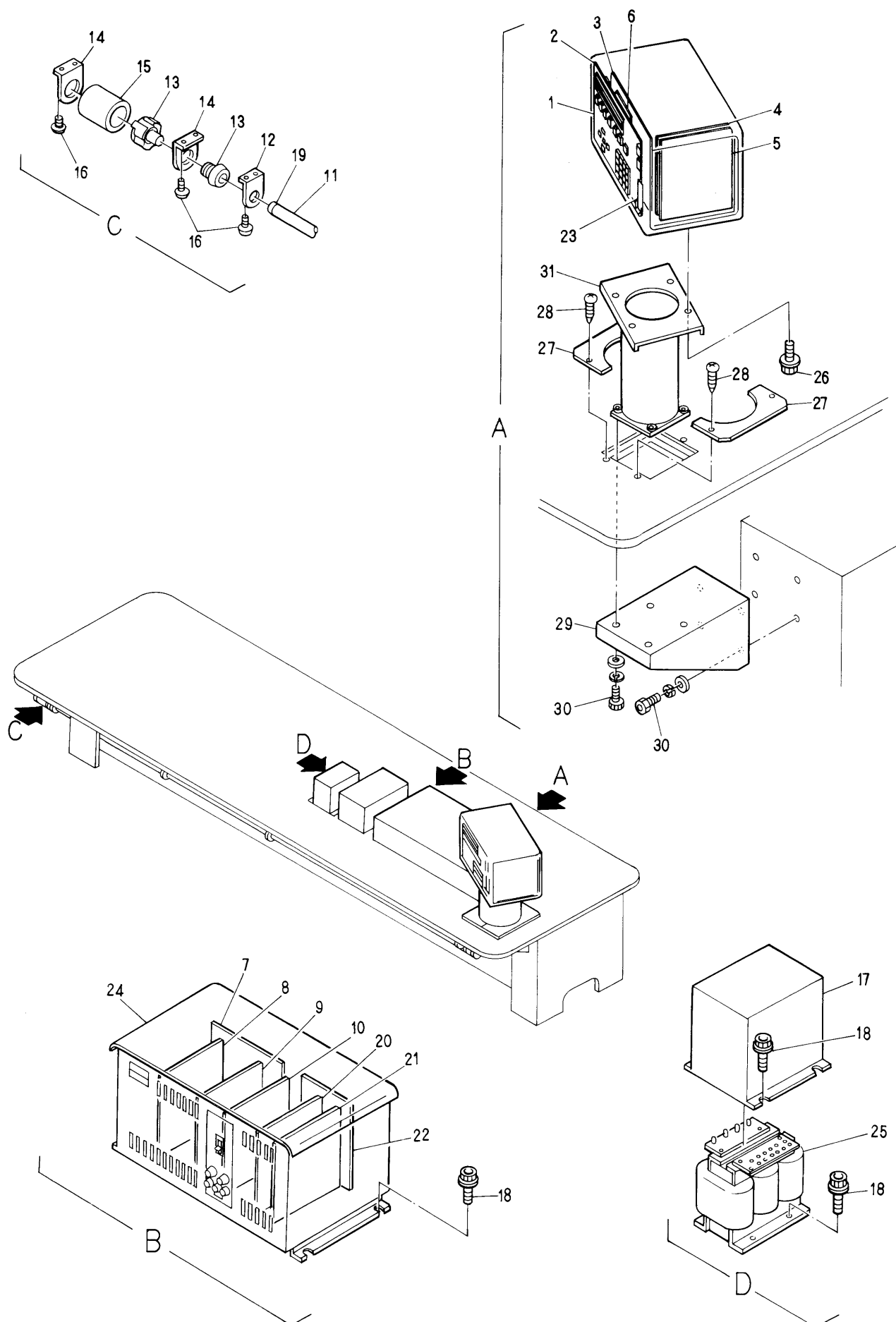


N MODEL

**BEMRH-YN**  
**BEMSH-YN**  
**BEMXH-YN**

② Control system < BEMRH-YN >

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	EAY017A1	Automat controller (BEMR)	1	
2	EBY00450	4410 CPU board	1	
3	EBY00460	4420 Memory board	1	
4	EBY00470	4430 FDSP board	1	
5	EBY00490	4450 Buzzer board	1	
6	EBY00500	4460 Switch board	1	
7	EBY00480	4440 B/B board	1	
8	HP512350	Controller rotary base	1	
9	HP512341	Controller stand rear cover	1	
10	HP512330	Controller rotary shaft	1	
11	HP512310	Controller stand	1	
12	HP512320	Controller stand fixing stay	1	
13	KC520020	Transformer cover set	1	
14		Hex. socket flange bolt M6×12		
15		Hex. socket bolt M8×20		
16	EAY018A3	Automat transformer 1P (BEMR)	1	
	EAY017A3	Automat transformer 3P (BEMR)	1	
17	KC530230	Bar switch bracket (L)	4	
18	KF530150	Push button switch cap	2	
19	KF530111	Push button switch MS319 (Red)	1	
	KF530120	Push button switch MS319 (Green)	1	
20	KC530240	Bar switch bracket (S)	5	
21	KF530160	Bar switch	1	
22		Knob M6		
23	KF530170	Bar switch cap	2	
24		Washer 6		
25	EAY017A2	Automat driver (BEMR)	1	
26	EBY00570	4590 B/B·L board	1	
27	EBY00540	4540 Pulse motor controller board	1	
28	EBY00530	4530 Inverter board	1	
29	EBY00550	4560 Power control board	1	
30	EBY00520	4520 Solenoid board	1	
31	EBY00510	4510 Inter face board	1	
32	EBY00560	4580 B/B·R board	1	
33		Pan tapping screw M4×20		
34		Flush screw M8×25		
35		Truss screw M4×6		
36		Hex. socket bolt M6×12 (With spring washer)		
37		Hex. nut M8		
38	EBY00630	Floppy disk drive (FD-1137C)	1	



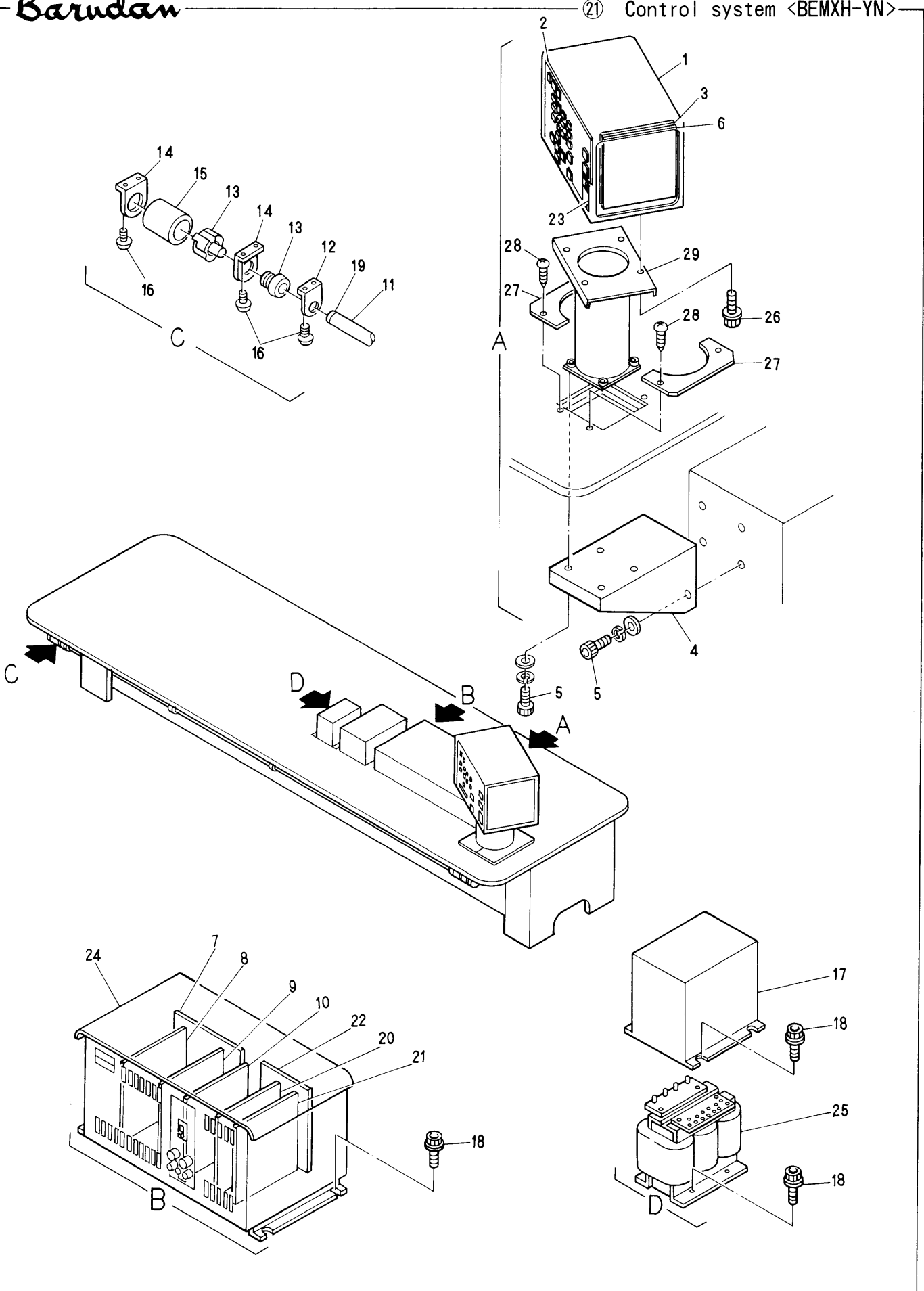
MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

②① Control system < B E M S H - Y N >

ITEM	L I S T No.	D E S C R I P T I O N	Q ' T Y	R E M A R K
1	EAY021A1	Automat controller (BEMSH)	1	
2	EBY00990	7030 ON/OFF board	1	
3	EBY00970	7010 CPU board	1	
4	EBY00940	4920 Memory board (174000 Needles)	1	
5	EBY00950	4930 FD control board	1	
6	EBY00980	7020 Display/Switch board	1	
7	EBY00570	4590 B/B·L board	1	
8	EBY00540	4540 Pulse moter controller board	1	
9	EBY00530	4530 Inverter board	1	
10	EBY00550	4560 Power control board	1	
11	KF530160	Bar switch	1	
12	KC530240	Bar switch bracket (S)	5	
13	KF530111	Push button switch MS319 (Red)	1	
	KF530120	Push button switch MS319 (Green)	1	
14	KC530230	Bar switch bracket (L)	4	
15	KF530150	Bar switch cap	2	
16		Pan tapping screw 4×20		
17	KC520020	Transformer cover set	1	
18		Hex. socket flange bolt M6×12		
19	KF530170	Bar switch cap	1	
20	EBY00520	4520 Solenoid board	1	
21	EBY00510	4510 Inter face board	1	
22	EBY00560	4580 B/B·R board	1	
23	EBY00630	Floppy disk drive (FD-1137C)	1	
24	EBY021A2	Automat driver (MSH)	1	
25	EAY021A3	Automat transformer 3 P (MSH)	1	
	EAY022A3	Automat transformer 1 P (MSH)	1	
26		Hex. socket flange bolt M6×20		
27	HP512370	Controller stand under cover	2	
28		Truss tapping screw 3.5×8		
29	HP512320	Controller stand fixing stay	1	
30		Hex. socket bolt M8×20		
31	HP512360	Controller stand	1	

Barudan

②① Control system <BEMXH-YN>



MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

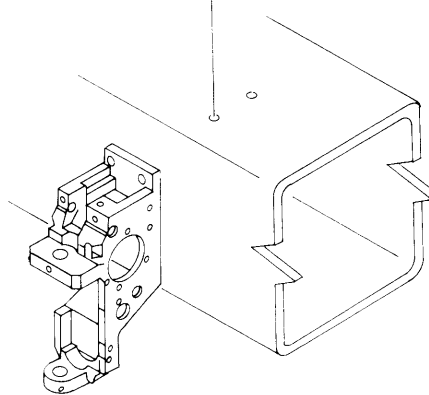
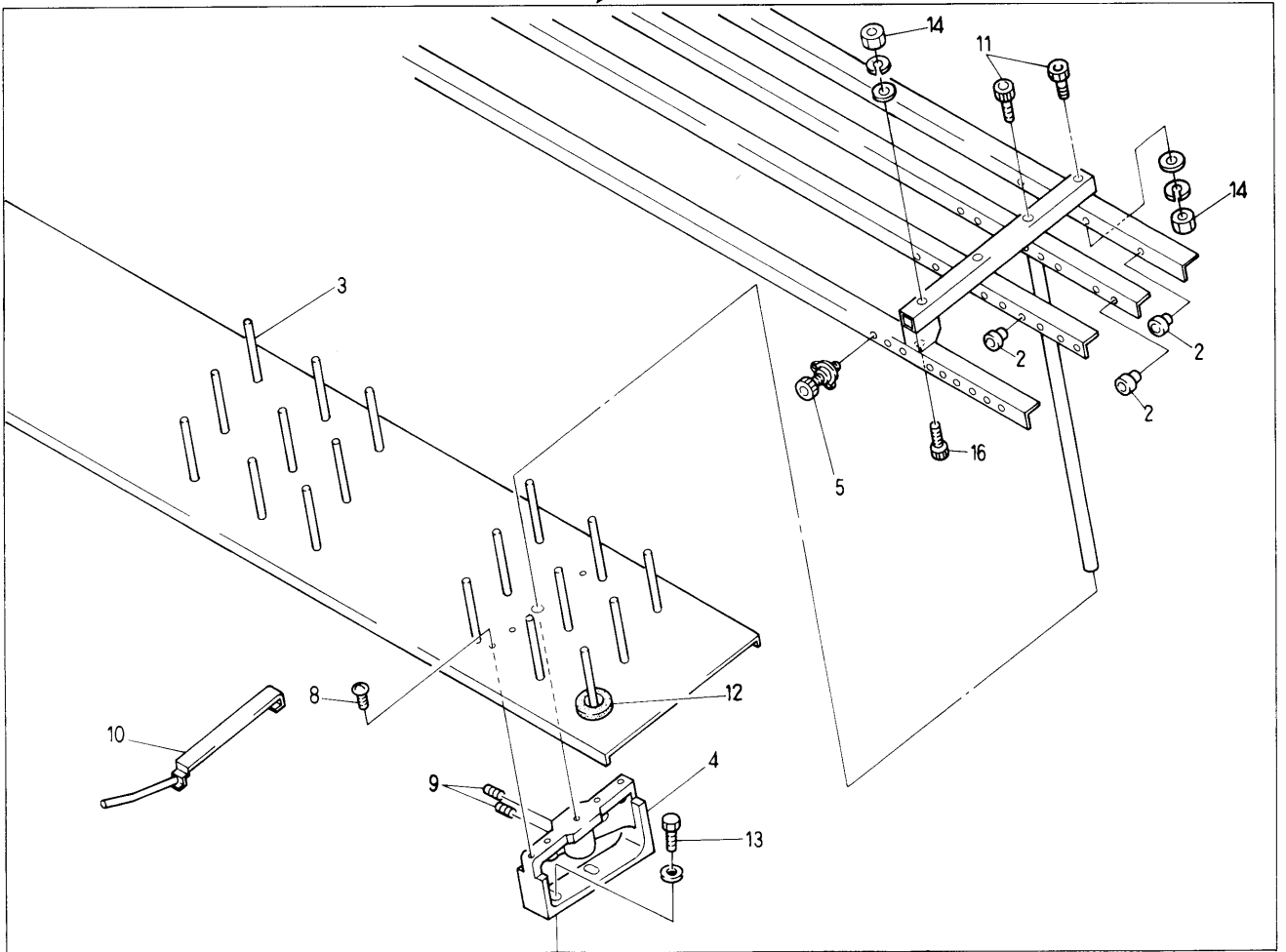
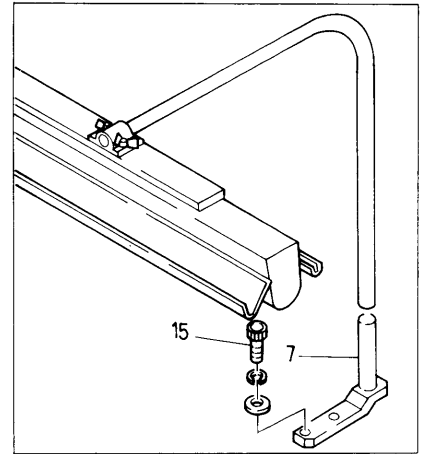
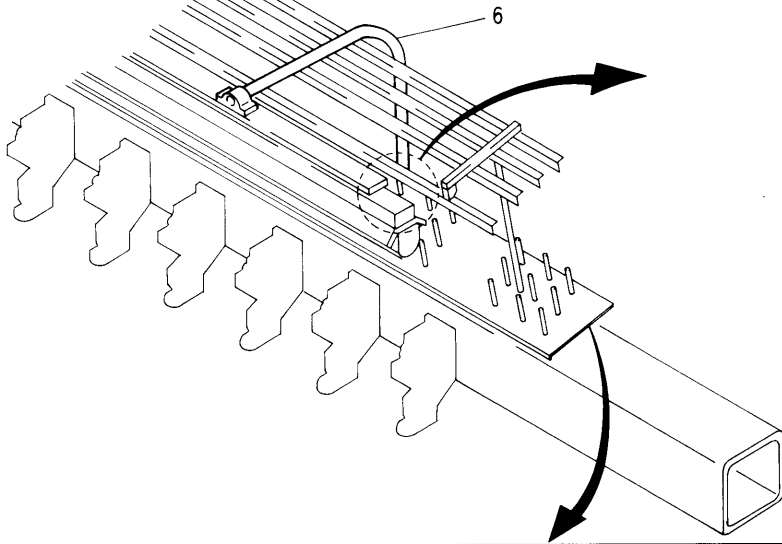


② Control system < BEMXH - YN >

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	EAY023A1	Automat controller (BEMXH)	1	
2	EBY00930	4910 CPU board	1	
3	EBY00940	4920 Memory board	1	
4	HP512320	Controller stand fixing stay	1	
5		Hex. socket bolt M8×20		
6	EBY00950	4930 FD control board	1	
7	EBY00570	4590 B/B·L board	1	
8	EBY00540	4540 Pulse moter controller board	1	
9	EBY00530	4530 Inverter board	1	
10	EBY00550	4560 Power control board	1	
11	KF530160	Bar switch	1	
12	KC530240	Bar switch bracket (S)	5	
13	KF530111	Push button switch MS319 (Red)	1	
	KF530120	Push button switch MS319 (Green)	1	
14	KC530230	Bar switch bracket (L)	4	
15	KF530150	Bar switch cap	2	
16		Pan tapping screw 4×20		
17	KC520020	Transformer cover set	1	
18		Hex. socket flange bolt M6×18		
19	KF530170	Bar switch cap	1	
20	EBY00520	4520 Solenoid board	1	
21	EBY00510	4510 Inter face board	1	
22	EBY00560	4580 B/B·R board	1	
23	EBY00630	Floppy disk drive (FD-1137C)	1	
24	EBY021A2	Automat driver (MXH)	1	
25	EAY021A3	Automat transformer 3P (MXH)	1	
	EAY022A3	Automat transformer 1P (MXH)	1	
26		Hex. socket flange bolt M6×20		
27	HP512370	Controller stand under cover	2	
28		Truss tapping screw 3.5×8		
29	HP512360	Controller stand	1	

Barudan

②② Option



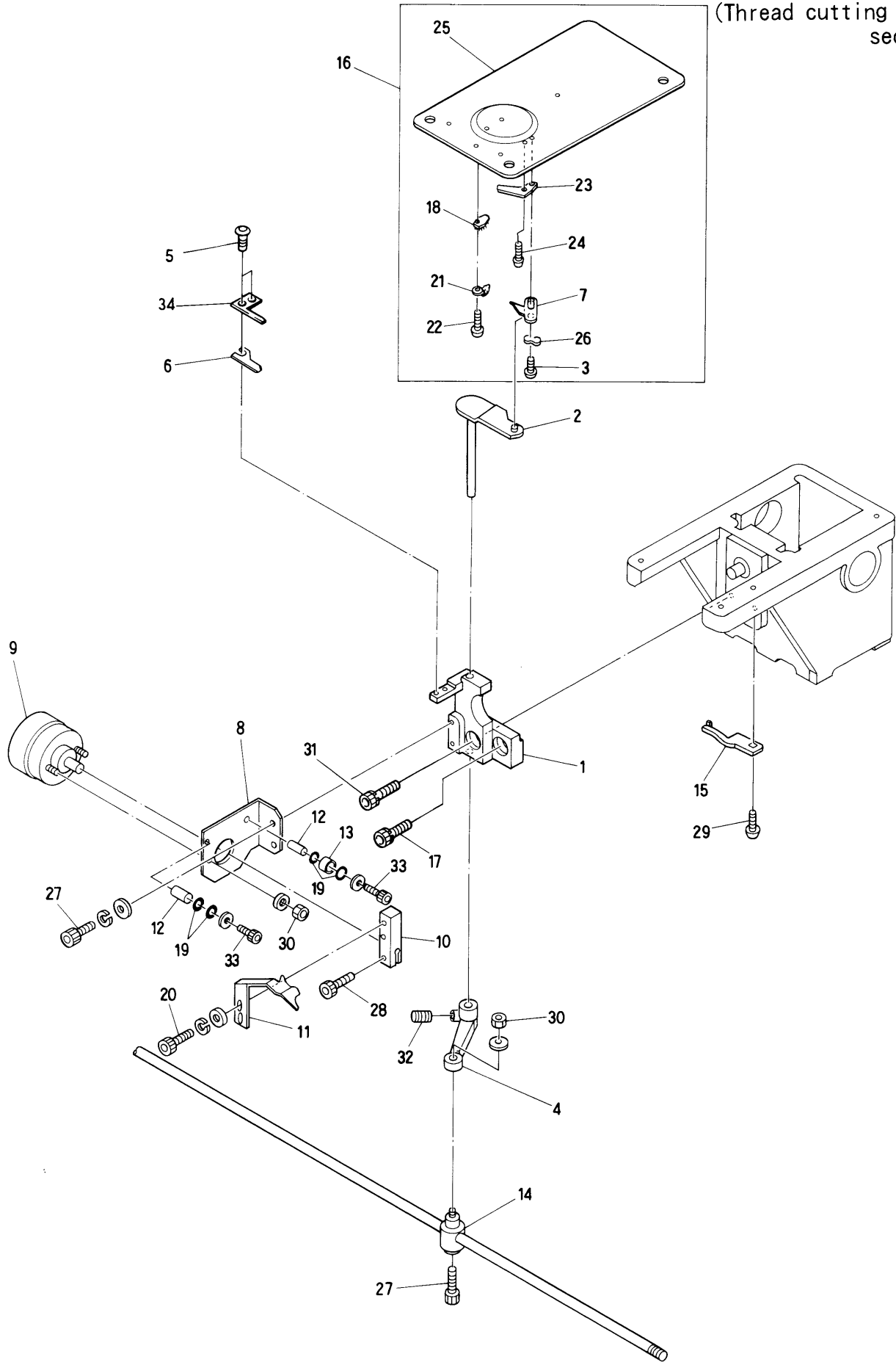
MODEL

BEMRH-YN  
BEMSH-YN  
BEMXH-YN



Barudan

②③ Thread cutting mechanism I  
(Thread cutting section)

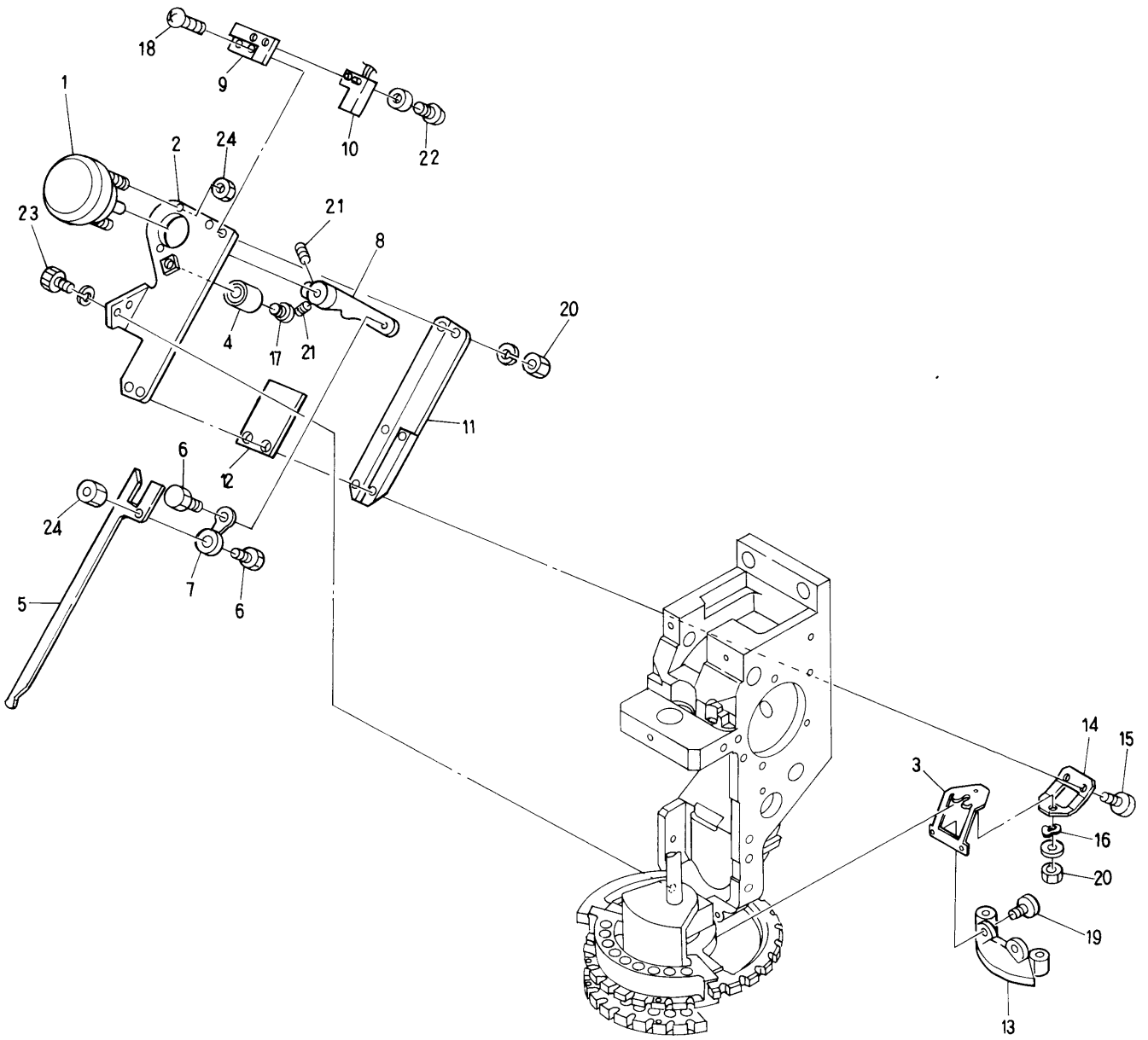


MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

② Thread cutting mechanism I (Thread cutting section)

(H=Head Q'TY)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	KN 2 7 1 5 2 1	Thread cutter knife bracket	H×1	For small bobbin
	HP 2 7 2 5 5 0	Thread cutter knife bracket (Middle bobbin)	H×1	For middle bobbin
2	KN 2 7 1 9 8 0	Lower knife driving lever	H×1	For small bobbin
	HP 2 7 2 5 6 0	Lower knife driving lever (Middle bobbin)	H×1	For middle bobbin
3	KC 2 7 0 9 7 0	Lower knife turning shaft	H×1	
4	KN 2 7 1 5 6 0	Knife lever	H×1	
5		Round screw M3×6	H×2	
6	KB 2 7 0 0 1 2	Upper thread knife	H×1	
7	KN 2 7 0 9 5 1	Lower knife	H×1	
8	KN 2 7 1 6 2 0	Solenoid bracket	H×1	For small bobbin
	HP 2 7 2 5 7 0	Solenoid bracket (Middle bobbin)	H×1	For middle bobbin
9	A 9 0 5 6 0 1 0	Rotary solenoid (4EL25-33×3×8×9)	H×1	
10	KN 2 7 1 6 3 0	Solenoid lever	H×1	
11	KN 2 7 1 6 4 4	Upper thread hook	H×1	
12	KN 2 7 1 6 5 1	Eccentric stopper	H×2	
13	KN 2 7 1 6 6 2	Eccentric cover	H×1	
14	KF 2 3 0 6 4 0	Lock connecting bar clamp	H×1	
15	KN 2 7 1 6 7 1	張り	H×1	
16	HP 2 7 2 0 0 2	Throat plate CMP (for thread cutter knife)	H×1	
17		Hex. socket bolt M6×20 (With spring washer)		
18	KN 2 7 1 2 2 0	Lower thread support stay (Upper) CMP	H×1	
19	KN 2 7 2 5 4 0	O-Ring (1AP8)	H×4	
20		Hex. socket bolt M3×10	H×1	
21	KN 2 7 1 1 9 0	Lower thread support stay (Lower) CMP	H×1	
22		Round screw M3×3		
23	KN 2 7 0 9 6 0	Fixed knife	H×1	
24	KC 2 7 0 9 8 0	Set screw (fixed knife)	H×1	
25	HP 2 5 0 7 6 3	Throat plate	H×1	
26	A 9 0 1 3 0 4 5	Weve washer (WW-5)	1	
27		Hex. socket bolt M4×8		
28		Hex. socket bolt M4×10		
29		Screw (SM11/64 40×10)		
30		Hex. nut M4		
31		Hex. socket bolt M6×35 (With spring washer)		
32		Hex. socket set screw M5×6		
33		Hex. socket bolt M4×20		
34	KN 2 7 1 6 1 0	Upper thread knife set plate	H×1	

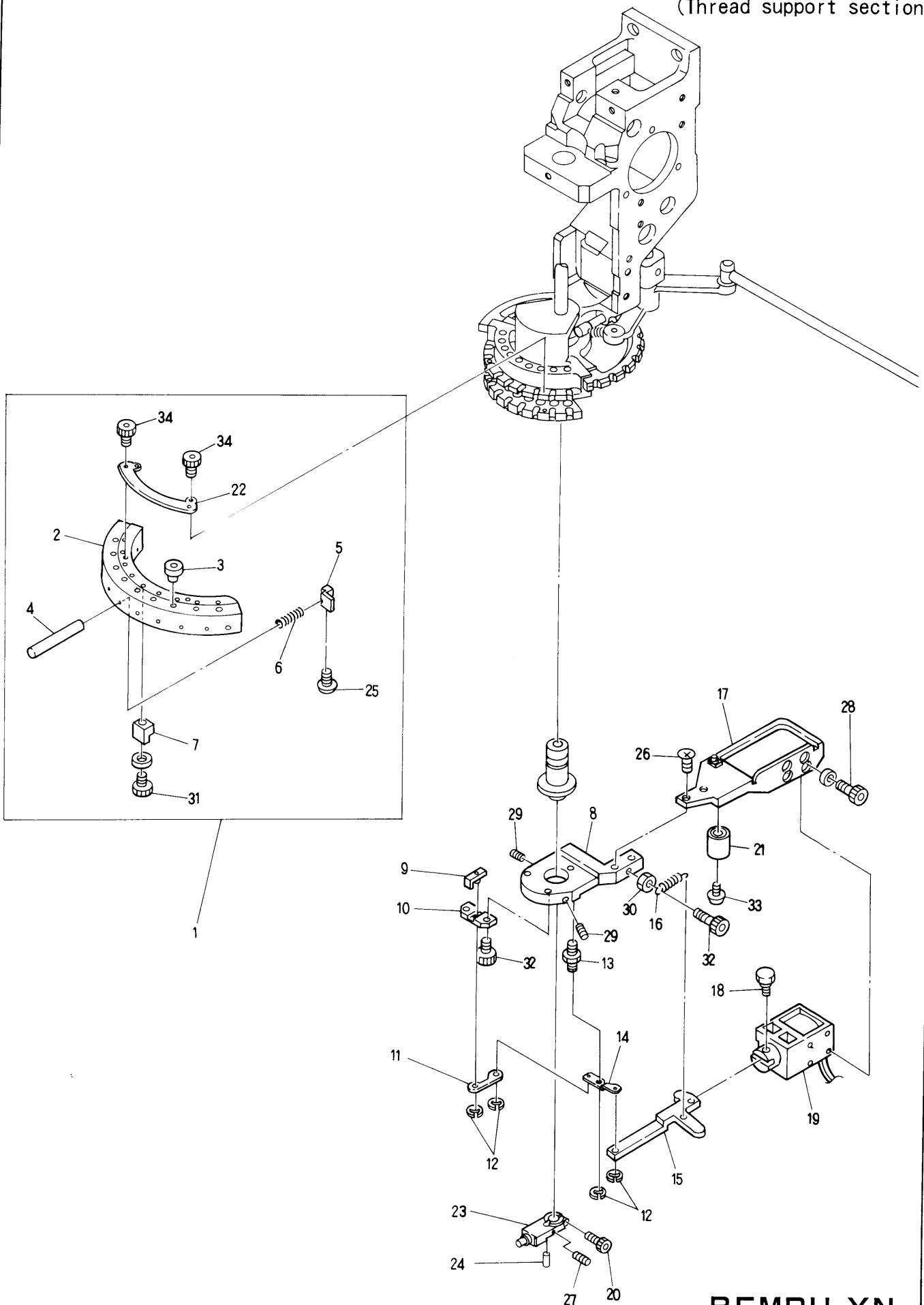


MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

②4 Thread cutting mechanism II (Thread away section)

(H=Head Q'TY)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	A 9 0 5 6 0 1 8	Rotary solenoid (4ER67.5 -31×8×9) orange	H×1	
2	KL 2 7 0 0 8 1	Thread support base	H×1	
3	HT 2 7 0 0 7 0	Thread hook disk fixed stay	H×1	
4	KN 2 7 2 4 0 0	Eccentric stopper	H×1	
5	KL 2 7 0 1 0 1	Thread support hook	H×1	
6	KL 2 7 0 1 3 0	Lever connecting pin	H×1	
7	KL 2 7 0 1 2 0	Connecting plate	H×1	
8	KL 2 7 0 1 1 0	Thread support solenoid lever	H×1	
9	KL 2 7 0 2 6 0	Switch stay	H×1	
10	A 9 0 5 2 0 2 8	Proximity switch (RS-603)	H×1	
11	KL 2 7 0 0 9 1	Thread support hook guide	H×1	
12	KL 2 7 0 4 5 0	Hook guide plate	H×1	
13	KL 2 7 0 4 4 0	Thread hook disc CMP	H×1	
14	HT 2 7 0 1 1 0	Rotary shaft fixed stay	H×1	
15		Truss screw M3×7		
16		Wave washer (For M5)	H×1	
17		Truss screw M4×16		
18		Truss screw M3×10		
19		Truss screw M3×4		
20		Hex, nut M3		
21		Hex, socket set screw M4×8		
22		Truss screw M3×6		
23		Hex, socket bolt M4×12		
24		Hex, nut M4		



MODEL  
BEMRH-YN  
BEMSH-YN  
BEMXH-YN



②5 Thread cutting mechanismⅢ (Thread support section)

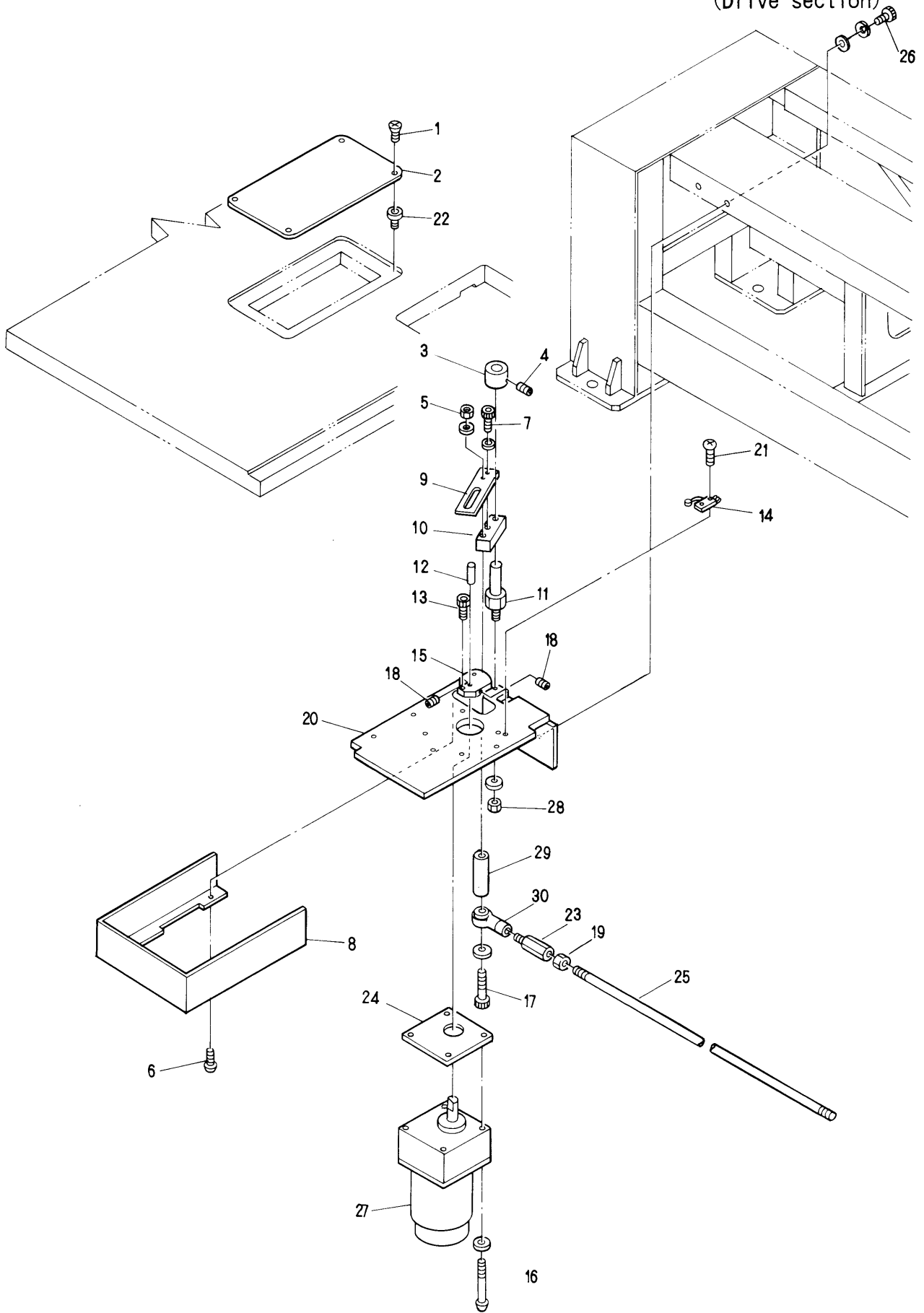
(H=Head Q'TY)

ITEM	LIST No.	DESCRIPTION	Q'TY	REMARK
1	HT270030	Thread support apron a'ssy	H×1	
2	HT270001	Thread support apron	H×1	
3	KF230580	Take up lever ceramic	H×9	
4	HT270040	Thread support shaft	H×9	
5	HT270021	Thread support clamp	H×9	
6	KC270271	Support spring	H×9	
7	KC270292	Thread support block	H×9	
8	KL270000	Fixing base φ3	H×1	
9	HT270120	Thread support slider	H×1	
10	HT270100	Slide base	H×1	
11	KT270080	Driving plate	H×1	
12	A9012056	E-Ring φ3	H×4	
13	KL270040	Lever rotary shaft	H×1	
14	KL270090	Solenoid lever	H×1	
15	KL270060	Lever connecting plate	H×1	
16	KL270520	Return spring	H×1	
17	KL270070	Solenoid stay	H×1	
18	KC270101	Solenoid pin	H×1	
19	A9056013	Keep solenoid (TDS-K10SL)	H×1	
20	HT270640	Driving shaft set bolt	H×1	
21	KN272400	Eccentric stopper	H×1	
22	HT270010	Thread support apron fixing stay	H×1	
23	HT230361	Driving shaft fixed plate	H×1	
24	HT270350	Thread hook disk driving pin	H×1	
25	HT270062	Set screw for thread support clamp	H3×4	
26		Flush screw M4×8		
27		Set screw M3×5		
28		Hex, socket bolt M6×3		
29		Hex, socket set screw M4×8		
30		Hex, nut M4		
31		Hex, socket bolt M3×10		
32		Hex, socket bolt M4×8		
33		Truss screw M4×16		
34		Hex, socket bolt (Plating) M3×6	H×4	

Barudan

②⑥ Thread cutting mechanism IV

(Drive section)



MODEL

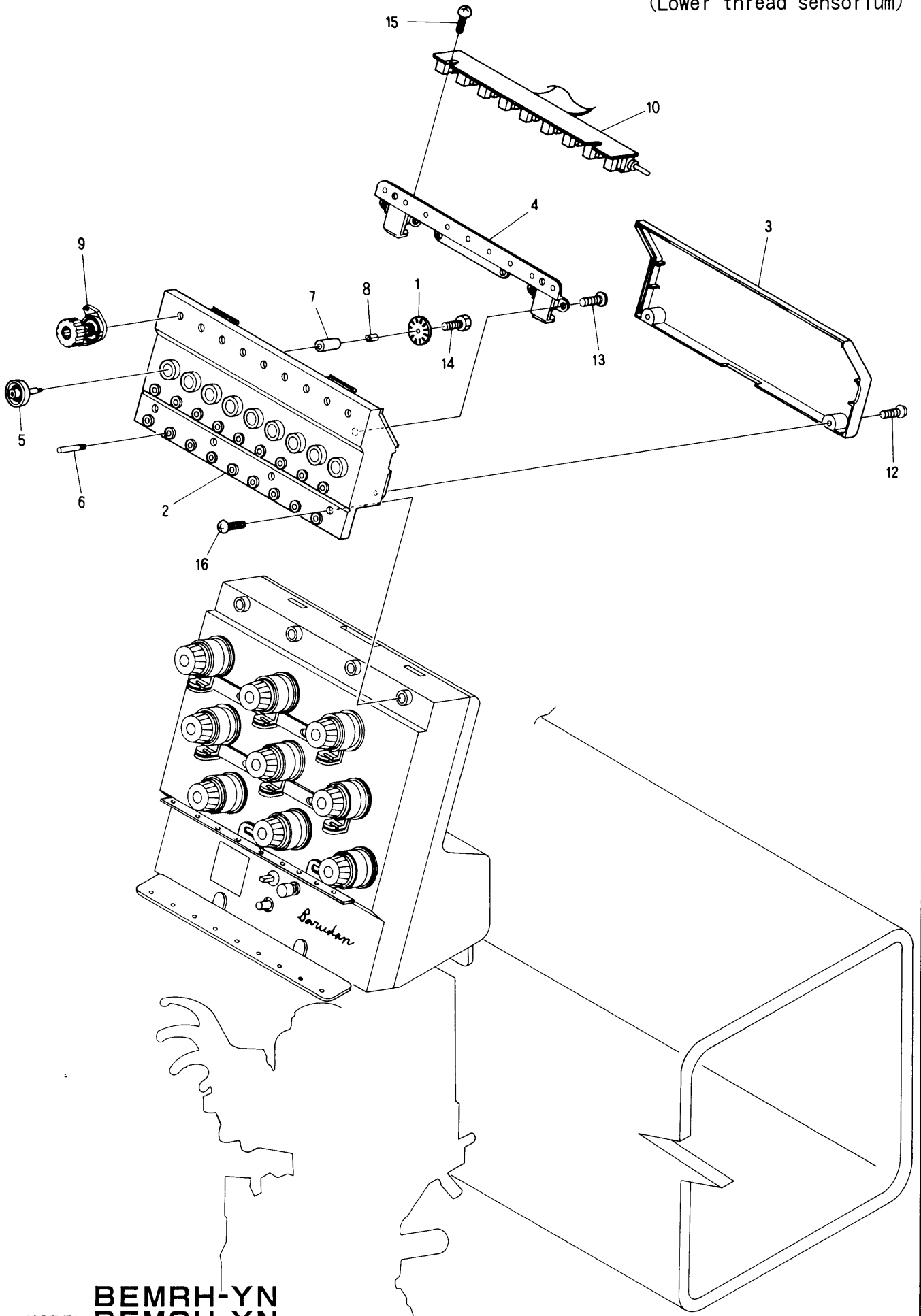
BEMRH-YN  
BEMSH-YN  
BEMXH-YN

②⑥ Thread cutting mechanismIV (Drive section)

ITEM	LIST No	DESCRIPTION	Q'TY	REMARK
1		Flush screw M4 × 8 (Undercut)		
2	KC 2 7 1 4 4 0	Driving service cover	1	
3	KC 3 3 0 1 8 0	Collar φ10	1	
4		Hex. socket set screw M5 × 6		
5		Hex. nut M6		
6		Truss screw M3 × 6		
7		Hex. socket bolt M6 × 12		
8	KN 2 7 1 7 1 2	Motor bracket cover	1	
9	KN 2 7 1 9 9 0	Motor lever	1	
10	KN 2 7 1 7 8 1	Driving lever	1	
11	KN 2 7 1 7 5 0	Motor lever turret shaft	1	
12	KN 2 7 2 3 5 0	Parallel pin	1	
13		Hex. socket bolt M4 × 10		
14	A 9 0 5 2 0 0 5	Micro switch (V - 01G L 2255)	1	
15	KN 2 7 1 7 3 1	Driving cam		
16		Pan screw M4 × 60		
17		Hex. socket bolt M6 × 55		
18		Hex. socket bolt M5 × 8		
19		Hex. nut M5		
20	HP 2 7 1 7 0 0	Motor bracket	1	
21		Truss screw M3 × 15		
22		Nut (C) M4		
23	HH 3 3 0 7 6 0	Hex. connecting bar	1	
24	KN 2 7 1 7 2 0	Motor spacer	1	
25	KC 3 3 0 4 1 0	Lock connecting rod (2M)	2	
26		Hex. socket bolt M8 × 25		
27	A 9 0 6 5 0 2 8	Reversible motor (RM-F7A12PEAA) (7RHD30)	1	
28		Hex. nut M8		
29	KN 2 7 1 8 0 0	Driving lever collar	1	
30	A 9 0 1 2 0 0 2	Uniball joint (PR - 6)	1	

Barudan

②⑦ Thread guide mechanism  
(Lower thread sensorium)



MODEL

BEMRH-YN  
BEMSH-YN  
BEMXH-YN





I N D E X

L I S T	No.	P A G E No.	ITEM	L I S T	No.	P A G E No.	ITEM
1AHB2024053045G		3	4	A 9 0 1 2 3 6 7		1 5	2 7
1BHB2024053045G		3	1 7	A 9 0 1 2 3 6 8		1 5	1 7
1EHB20240530N		3	2 6	A 9 0 1 3 0 4 5		5 1	2 6
1FM2024053045G		3 1	3	A 9 0 1 4 0 2 2		5	1 8
1 J P 2 0 2 4 0		4 9	1	A 9 0 1 4 0 5 1		1 9	1 4
1KHB2024053045G		3	1	A 9 0 1 4 0 5 5		1 3	1 6
1SHB20240530J		3	7	A 9 0 2 0 0 9 8		3 5	3
A 9 0 1 0 0 0 1		2 7	8	A 9 0 2 0 0 9 8		3 9	7
A 9 0 1 0 0 1 7		9	1 5	A 9 0 2 0 1 3 1		2 5	2 1
A 9 0 1 0 1 0 0		7	4	A 9 0 2 0 2 0 3		2 3	1 3
A 9 0 1 0 1 0 1		7	3	A 9 0 5 2 0 0 5		5 7	1 4
A 9 0 1 0 1 0 2		7	5	A 9 0 5 2 0 2 4		3 7	1 1
A 9 0 1 1 0 2 1		1 1	5	A 9 0 5 2 0 2 4		3 9	3 0
A 9 0 1 1 0 2 1		1 3	1 9	A 9 0 5 2 0 2 8		5 3	1 0
A 9 0 1 1 0 2 2		1 3	2 0	A 9 0 5 2 0 3 0		3 7	6
A 9 0 1 1 0 2 3		1 3	1 8	A 9 0 5 2 0 3 0		3 9	4
A 9 0 1 1 0 3 5		2 5	3	A 9 0 5 2 0 3 1		3 7	1 2
A 9 0 1 1 0 4 0		2 3	4	A 9 0 5 2 0 3 1		3 9	1 8
A 9 0 1 1 0 4 0		2 5	1 7	A 9 0 5 6 0 1 0		5 1	9
A 9 0 1 1 0 6 3		3 5	1 8	A 9 0 5 6 0 1 1		2 9	1 5
A 9 0 1 1 0 6 3		3 9	1 3	A 9 0 5 6 0 1 3		5 5	1 9
A 9 0 1 1 1 1 1		5	2 7	A 9 0 5 6 0 1 8		5 3	1
A 9 0 1 1 1 1 1		7	2	A 9 0 5 6 0 2 0		1 9	1
A 9 0 1 1 1 5 2		1 1	4	A 9 0 6 5 0 2 8		5 7	2 7
A 9 0 1 2 0 0 1		2 9	7	E A Y 0 1 7 A 1		4 3	1
A 9 0 1 2 0 0 2		2 9	1 4	E A Y 0 1 7 A 2		4 3	2 5
A 9 0 1 2 0 0 2		5 7	3 0	E A Y 0 1 7 A 3		4 3	1 6
A 9 0 1 2 0 5 1		1 9	1 5	E A Y 0 1 8 A 3		4 3	1 6
A 9 0 1 2 0 5 2		3 5	1 0	E A Y 0 2 1 A 1		4 5	1
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A 9 0 1 2 0 5 3		1 3	3 3	E A Y 0 2 1 A 3		4 7	2 5
A 9 0 1 2 0 5 5		2 9	1 8	E A Y 0 2 2 A 3		4 5	2 5
A 9 0 1 2 0 5 6		5 5	1 2	E A Y 0 2 2 A 3		4 7	2 5
A 9 0 1 2 0 6 8		2 5	1 0	E A Y 0 2 3 A 1		4 7	1
A 9 0 1 2 1 2 6		3 3	1 0	E B Y 0 0 4 5 0		4 3	2
A 9 0 1 2 1 2 6		4 1	1 3	E B Y 0 0 4 6 0		4 3	3
A 9 0 1 2 1 2 7		3 3	1 2	E B Y 0 0 4 7 0		4 3	4
A 9 0 1 2 1 2 7		4 1	1 1	E B Y 0 0 4 8 0		4 3	7
A 9 0 1 2 1 4 3		2 9	2 2	E B Y 0 0 4 9 0		4 3	5
A 9 0 1 2 1 5 4		5	3	E B Y 0 0 5 0 0		4 3	6
A 9 0 1 2 1 6 3		9	1 6	E B Y 0 0 5 1 0		4 3	3 1
A 9 0 1 2 1 6 4		1 5	1 0	E B Y 0 0 5 1 0		4 5	2 1
A 9 0 1 2 1 6 6		2 5	1 3	E B Y 0 0 5 1 0		4 7	2 1
A 9 0 1 2 2 1 3		3	5	E B Y 0 0 5 2 0		4 3	3 0
A 9 0 1 2 2 1 9		3 7	1 3	E B Y 0 0 5 2 0		4 5	2 0

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E B Y 0 0 5 3 0		4 5	9	H B 2 3 0 0 8 0		9	7
E B Y 0 0 5 3 0		4 7	9	H B 2 3 0 1 1 1		9	5
E B Y 0 0 5 4 0		4 3	2 7	H B 2 3 0 1 6 0		1 5	1 1
E B Y 0 0 5 4 0		4 5	8	H B 2 3 0 1 8 0		1 3	2 4
E B Y 0 0 5 4 0		4 7	8	H B 2 3 0 1 9 0		1 3	3
E B Y 0 0 5 5 0		4 3	2 9	H B 2 3 0 2 2 0		1 7	1 4
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E B Y 0 0 5 5 0		4 7	1 0	H B 2 3 0 2 6 1		1 7	8
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E B Y 0 0 6 3 0		4 3	3 8	H B 2 3 0 3 5 0		1 7	1 0
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H B 2 2 0 0 1 0		5	8	H B 2 4 0 2 4 0		2 1	2 4
H B 2 3 0 0 1 1		9	1 3	H B 2 4 0 3 0 0		2 1	1 3
H B 2 3 0 0 2 0		9	1 1	H B 3 1 0 0 1 0		4 1	8
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H B 2 3 0 0 5 1		9	1 0	H B 3 1 0 0 4 0		2 5	1 1



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HB 3 1 0 1 0 0		2 5	7	HH 3 3 0 8 1 0		2 9	2 6
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HB 3 1 0 1 7 0		2 5	1 2	HH 4 8 1 9 7 0		7	6
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HB 3 1 0 2 0 0		2 5	1 4	HH 4 8 1 9 8 0		3 9	1 1
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HB 3 3 0 2 1 1		2 7	1 1	HP 1 4 1 0 8 0		3	1 5
HB 3 3 0 2 2 1		2 7	1 0	HP 1 4 1 0 9 0		3	2 0
HH 1 4 0 2 6 0		3	1 0	HP 1 4 1 4 5 0		3	9
HH 1 4 0 9 4 0		3	3 6	HP 2 1 0 3 4 1		5	1 5

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HP 2 2 0 7 3 0		5	1 0	HP 4 8 2 5 9 0		3 3	1 5
HP 2 3 1 3 7 0		1 5	2 6	HP 4 8 2 8 1 A 4 5		3 3	7
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HP 2 5 0 7 6 3		5	1	HP 4 8 2 8 7 1		3 5	1
HP 2 5 0 7 6 3		5 1	2 5	HP 4 8 2 8 8 1		3 3	1
HP 2 7 1 7 0 0		5 7	2 0	HP 4 8 2 8 9 2		3 9	5
HP 2 7 2 0 0 2		5 1	1 6	HP 4 8 2 9 0 G 4 5		3 1	5
HP 2 7 2 5 5 0		5 1	1	HP 4 8 2 9 1 0		3 3	5
HP 2 7 2 5 6 0		5 1	2	HP 4 8 2 9 1 0		3 5	7
HP 2 7 2 5 7 0		5 1	8	HP 4 8 2 9 1 0		3 9	2 4
HP 3 1 0 1 5 0		2 5	8	HP 4 8 2 9 2 1		3 3	6
HP 3 1 0 2 2 0		2 3	1 7	HP 4 8 2 9 4 0		3 5	6
HP 3 2 1 0 8 2		5	1 6	HP 4 8 2 9 4 0		3 9	8
HP 3 2 1 0 9 0		5	1 7	HP 4 8 2 9 5 0		3 3	3
HP 3 2 1 1 0 0		2 3	1 0	HP 4 8 2 9 5 0		3 5	2
HP 3 2 1 1 1 0		3	2 8	HP 4 8 2 9 5 0		3 9	6
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HP 3 2 1 7 1 0		7	7	HP 4 8 2 9 8 0		3 9	2 2
HP 3 2 1 7 2 0		7	8	HP 4 8 2 9 9 0		3 5	1 7
HP 3 3 1 5 6 0		2 9	1 3	HP 4 8 2 9 9 0		3 9	1 2
HP 3 3 1 6 1 0		2 9	1 2	HP 4 8 3 1 1 1		3 9	1
HP 3 3 1 6 6 0		2 9	8	HP 4 8 3 1 3 G 4 5		3 3	1 8
HP 3 3 1 7 0 0		2 9	2 3	HP 4 8 3 3 7 0		3 3	2
HP 3 3 1 9 2 2		7	1 0	HP 4 8 3 3 7 0		3 9	2
HP 3 3 1 9 5 0		2 9	2 4	HP 4 8 3 3 9 1		3 3	1 9
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HP 4 5 1 1 0 0		3 9	3	HP 5 1 2 3 2 0		3	2 2
HP 4 5 1 1 1 G 4 5		3 7	7	HP 5 1 2 3 2 0		4 3	1 2
HP 4 5 1 1 2 G 5 3 0		3 9	2 8	HP 5 1 2 3 2 0		4 5	2 9
HP 4 6 0 1 2 1		3 3	8	HP 5 1 2 3 2 0		4 7	4
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HT 2 3 0 0 6 1		1 3	1 7	HT 2 3 0 6 2 0		1 9	8
HT 2 3 0 0 7 0		1 1	9	HT 2 3 0 6 3 0		1 9	6
HT 2 3 0 0 8 0		1 1	1 1	HT 2 3 0 6 5 0		1 3	3 1
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HT 2 3 0 1 7 0		1 1	1 0	HT 2 3 0 7 6 0		1 5	9
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HT 2 3 0 2 0 0		1 5	1 3	HT 2 3 0 8 1 0		1 3	6
HT 2 3 0 2 1 0		9	2 2	HT 2 4 0 0 0 0		1 1	1
HT 2 3 0 2 2 0		1 9	7	HT 2 4 0 0 1 0		1 1	1 4
HT 2 3 0 2 6 1		1 3	3 4	HT 2 4 0 0 2 0		2 1	9
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HT 2 3 0 2 9 0		1 5	1 5	HT 2 4 0 1 3 0		2 1	2
HT 2 3 0 3 0 0		1 1	6	HT 2 4 0 1 4 0		2 1	3
HT 2 3 0 3 1 0		1 7	2	HT 2 4 0 1 5 0		2 1	4
HT 2 3 0 3 2 0		1 5	2	HT 2 4 0 1 6 0		2 1	5
HT 2 3 0 3 3 0		1 3	3 0	HT 2 4 0 1 7 0		2 1	6
HT 2 3 0 3 4 0		1 5	3	HT 2 4 0 1 8 0		2 1	7
HT 2 3 0 3 6 1		5 5	2 3	HT 2 4 0 2 1 1		2 1	1 5
HT 2 3 0 3 7 0		1 5	4	HT 2 4 0 2 2 0		2 1	1 6
HT 2 3 0 3 8 0		1 7	4	HT 2 4 0 2 2 0		2 1	2 2
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HT 2 3 0 5 3 0		1 5	1 9	HT 2 4 0 3 4 0		5 9	9
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HT 2 3 0 5 6 0		1 5	2 1	HT 2 4 0 4 4 0		2 1	2 5
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I N D E X

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HT 2 7 0 0 7 0		5 3	3	K F 2 3 0 5 0 0		9	6
HT 2 7 0 0 8 0		5 5	1 1	K F 2 3 0 5 3 0		1 5	2 5
HT 2 7 0 0 9 0		5 5	1 4	K F 2 3 0 5 8 0		5 5	3
HT 2 7 0 1 0 0		5 5	1 0	K F 2 3 0 6 3 0		2 9	1 9
HT 2 7 0 1 1 0		5 3	1 4	K F 2 3 0 6 4 0		1 3	4
HT 2 7 0 1 2 0		5 5	9	K F 2 3 0 6 4 0		5 1	1 4
HT 2 7 0 3 5 0		5 5	2 4	K F 2 3 0 6 6 1		1 3	2 6
HT 2 7 0 6 4 0		5 5	2 0	K F 2 3 0 6 7 0		1 3	2 7
HT 3 3 0 0 0 0		2 9	4	K F 2 3 0 9 1 0		1 3	9
HT 7 1 0 0 0 0		4 9	3	K F 2 4 0 9 0 0		4 9	2
HU 3 1 5 2 9 0		2 3	1 6	K F 2 5 0 9 0 0		5	2
KB 2 7 0 0 1 2		5 1	6	K F 3 3 0 1 8 0		1 3	2 3
KC 1 4 0 1 2 1		3	2 3	K F 5 3 0 1 1 1		4 3	1 9
KC 2 7 0 2 7 1		5 5	6	K F 5 3 0 1 1 1		4 5	1 3
KC 2 7 0 2 9 2		5 5	7	K F 5 3 0 1 1 1		4 7	1 3
KC 2 7 0 9 7 0		5 1	3	K F 5 3 0 1 2 0		4 3	1 9
KC 2 7 0 9 8 0		5 1	2 4	K F 5 3 0 1 2 0		4 5	1 3
KC 2 7 1 4 4 0		5 7	2	K F 5 3 0 1 2 0		4 7	1 3
KC 3 2 0 8 2 0		2 3	1 8	K F 5 3 0 1 5 0		4 3	1 8
KC 3 2 0 8 2 0		2 5	5	K F 5 3 0 1 5 0		4 5	1 5
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KC 3 3 0 1 8 0		5 7	3	K F 5 3 0 1 6 0		4 3	2 1
KC 3 3 0 2 8 0		2 7	2	K F 5 3 0 1 6 0		4 5	1 1
KC 3 3 0 3 1 0 3 0 0		2 9	6	K F 5 3 0 1 6 0		4 7	1 1
KC 3 3 0 4 1 0		1 3	5	K F 5 3 0 1 7 0		4 3	2 3
KC 3 3 0 4 1 0		2 9	9	K F 5 3 0 1 7 0		4 5	1 9
KC 3 3 0 4 1 0		5 7	2 5	K F 5 3 0 1 7 0		4 7	1 9
KC 3 3 0 4 2 0		2 9	1 1	K F 7 1 0 3 9 0		4 9	1 2
KC 5 2 0 0 2 0		4 3	1 3	K F 7 3 0 7 9 0		3 1	1
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KC 5 3 0 2 4 0		4 5	1 2	K L 2 7 0 0 7 0		5 5	1 7
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# I N D E X

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KL 2 7 0 1 1 0		5 3	8	MT 4 6 0 2 4 0		3 9	2 9
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KU 4 6 0 2 7 0		3 7	8				

