

PARTS CATALOGUE AND
SERVICE MANUAL FOR
KH-965 KNITTING MACHINE

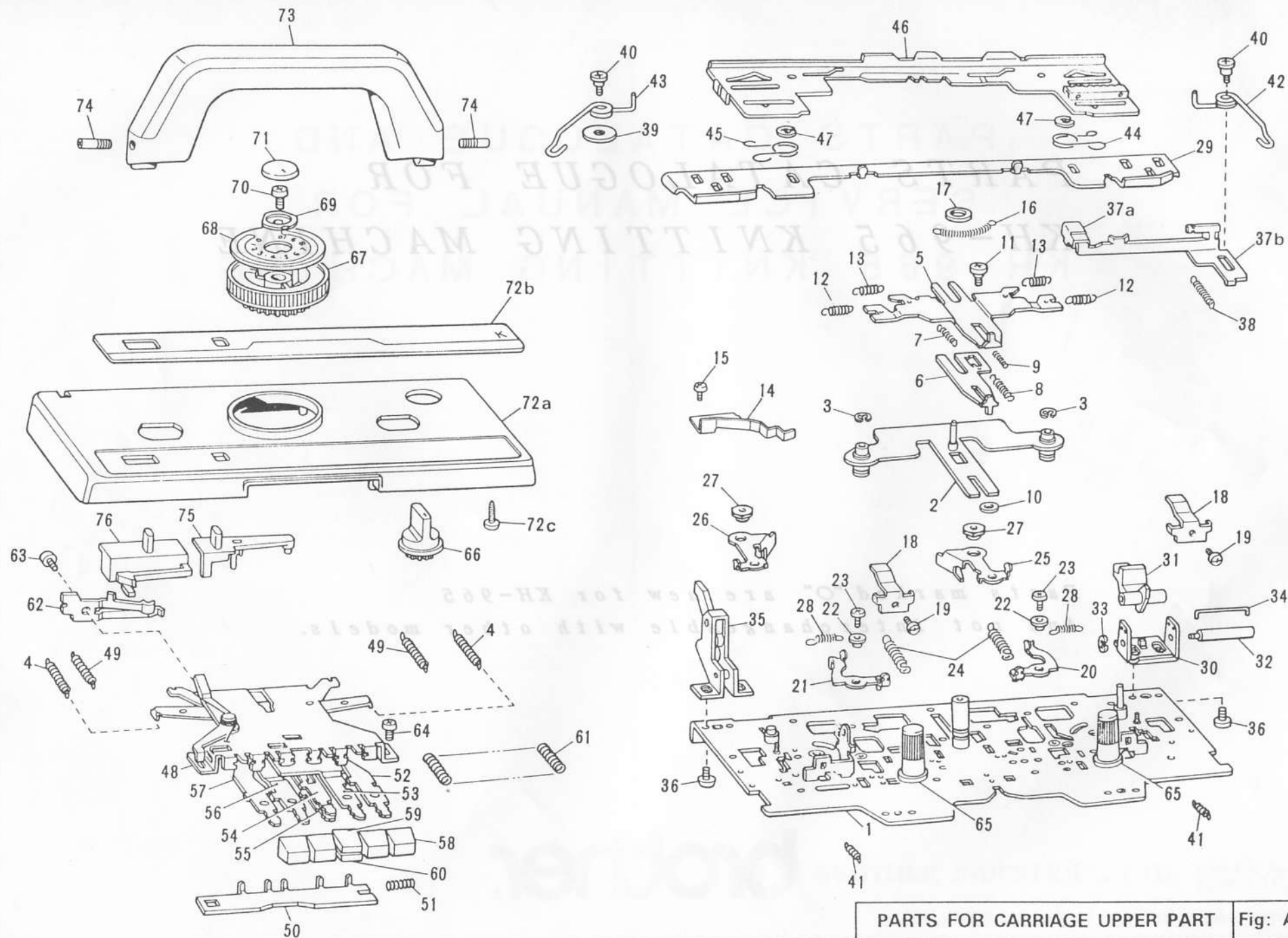
*Parts marked "O" are new for KH-965
And not interchangeable with other models.*

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PARTS FOR CARRIAGE UPPER PART

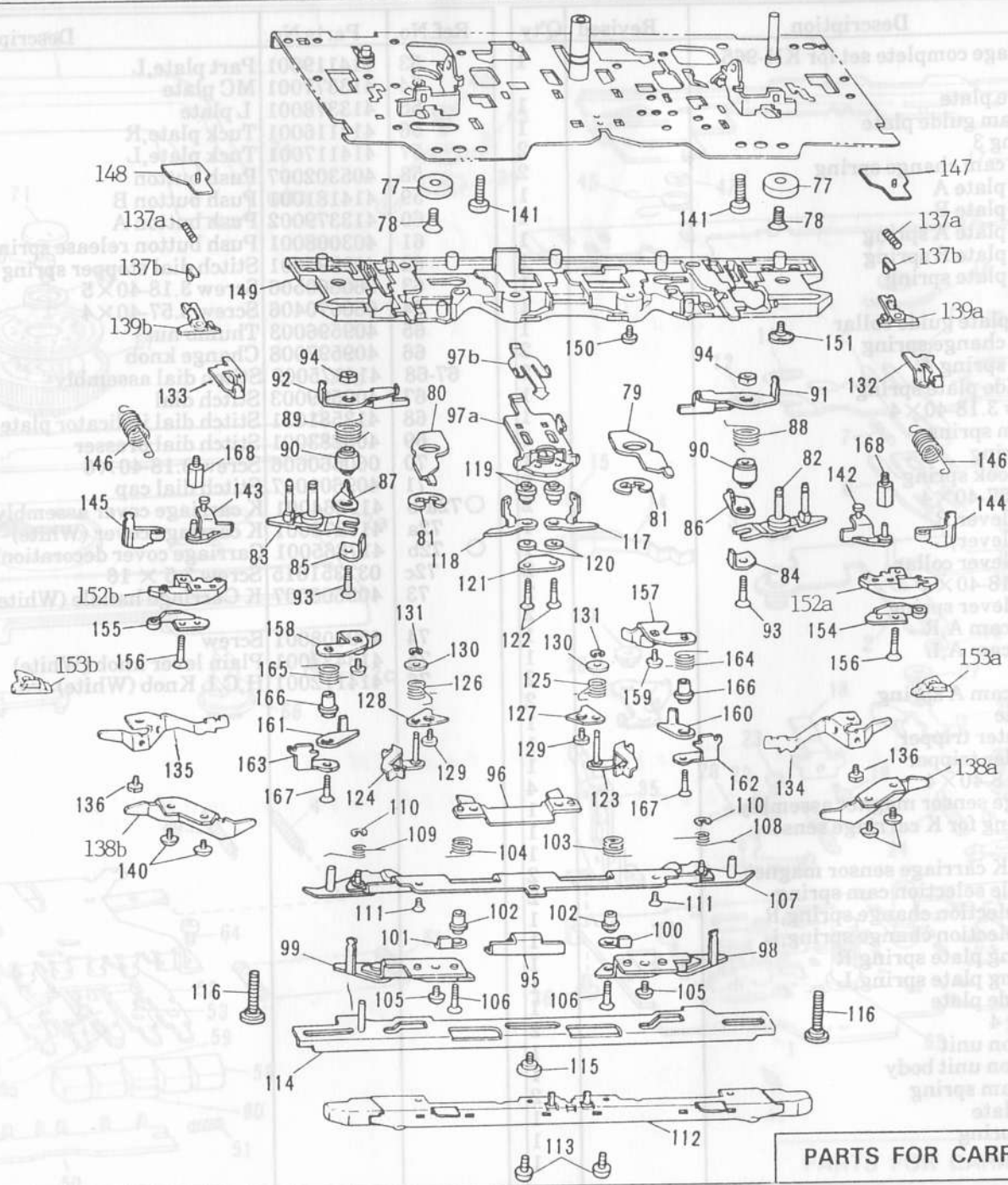
Ref No.	Part No.	Description	Revised	Qty	Ref No.	Part No.	Description	Revised	Qty
A 1	417863001	K Carriage complete set for KH 965		1	43	414119001	Part plate, L		
A 1	414011001	Carriage plate		1	54	413377001	MC plate		
A 1	414022001	Spring cam change plate		1	55	413378001	L plate		
A 1	414033001	Spring cam change spring		1	56	414119001	Tuck plate, L		
A 1	414044001	Change plate A		1	57	414117001	Tuck plate, L		
A 1	414055001	Change plate B		1	58	405302007	Push button		
A 1	414066001	Change plate C		1	59	414104001	Push button B		
A 1	414077001	Change plate D		1	60	409607008	Change knob		
A 1	414088001	MC cam change spring		1	61	413275009	Switch dial assembly		
A 1	414099001	MC cam change spring		1	62	405390003	Switch dial		
A 1	414100001	Presser ring		1	63	413271013	Switch dial indicator plate		
A 1	414101001	Presser ring		1	64	409603001	Switch dial presser		
A 1	414102001	Presser ring		1	65	409603001	Switch dial presser		
A 1	414103001	Presser ring		1	66	409603001	Switch dial presser		
A 1	414104001	Presser ring		1	67	409603001	Switch dial presser		
A 1	414105001	Presser ring		1	68	409603001	Switch dial presser		
A 1	414106001	Presser ring		1	69	409603001	Switch dial presser		
A 1	414107001	Presser ring		1	70	409603001	Switch dial presser		
A 1	414108001	Presser ring		1	71	409603001	Switch dial presser		
A 1	414109001	Presser ring		1	72	417863001	K Carriage cover assembly KH965		
A 1	414110001	Presser ring		1	72a	413375001	K carriage cover (White)		
A 1	414111001	Presser ring		1	72b	417863001	K carriage cover (White)		
A 1	414112001	Presser ring		1	72c	417863001	K carriage cover (White)		
A 1	414113001	Presser ring		1	73	417863001	K carriage cover (White)		
A 1	414114001	Presser ring		1	74	409603001	Switch dial presser		
A 1	414115001	Presser ring		1	75	413375001	K carriage cover (White)		
A 1	414116001	Presser ring		1	76	417863001	K carriage cover (White)		
A 1	414117001	Presser ring		1	77	417863001	K carriage cover (White)		
A 1	414118001	Presser ring		1	78	417863001	K carriage cover (White)		
A 1	414119001	Presser ring		1	79	417863001	K carriage cover (White)		
A 1	414120001	Presser ring		1	80	417863001	K carriage cover (White)		
A 1	414121001	Presser ring		1	81	417863001	K carriage cover (White)		
A 1	414122001	Presser ring		1	82	417863001	K carriage cover (White)		
A 1	414123001	Presser ring		1	83	417863001	K carriage cover (White)		
A 1	414124001	Presser ring		1	84	417863001	K carriage cover (White)		
A 1	414125001	Presser ring		1	85	417863001	K carriage cover (White)		
A 1	414126001	Presser ring		1	86	417863001	K carriage cover (White)		
A 1	414127001	Presser ring		1	87	417863001	K carriage cover (White)		
A 1	414128001	Presser ring		1	88	417863001	K carriage cover (White)		
A 1	414129001	Presser ring		1	89	417863001	K carriage cover (White)		
A 1	414130001	Presser ring		1	90	417863001	K carriage cover (White)		
A 1	414131001	Presser ring		1	91	417863001	K carriage cover (White)		
A 1	414132001	Presser ring		1	92	417863001	K carriage cover (White)		
A 1	414133001	Presser ring		1	93	417863001	K carriage cover (White)		
A 1	414134001	Presser ring		1	94	417863001	K carriage cover (White)		
A 1	414135001	Presser ring		1	95	417863001	K carriage cover (White)		
A 1	414136001	Presser ring		1	96	417863001	K carriage cover (White)		
A 1	414137001	Presser ring		1	97	417863001	K carriage cover (White)		
A 1	414138001	Presser ring		1	98	417863001	K carriage cover (White)		
A 1	414139001	Presser ring		1	99	417863001	K carriage cover (White)		
A 1	414140001	Presser ring		1	100	417863001	K carriage cover (White)		

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PARTS FOR CARRIAGE UPPER PART

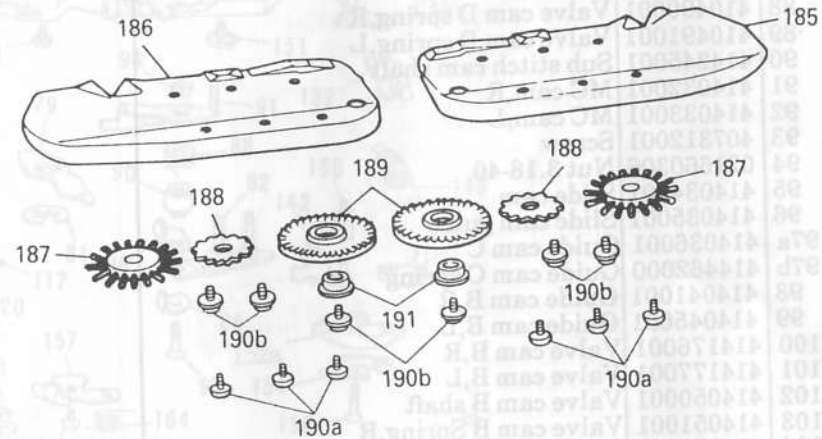
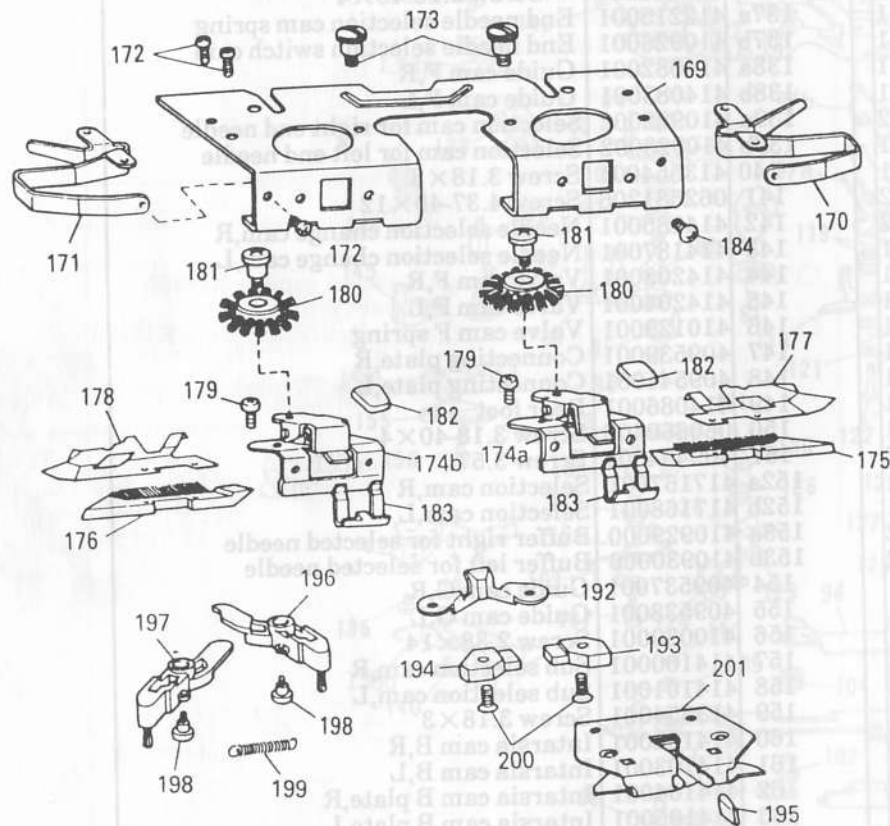
Ref.No.	Parts No.	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
A I -1	417863001	K Carriage complete set for KH-965		1	53	414119001	Part plate,L		1
-A II -201					54	413377001	MC plate		1
A I -1	414011001	Carriage plate		1	55	413378001	L plate		1
2	414022001	Stitch cam guide plate		1	56	414116001	Tuck plate,R		1
3	048030346	Snap ring 3		2	57	414117001	Tuck plate,L		1
4	407432001	Raising cam change spring		2	58	405302007	Push button		4
5	414053000	Change plate A		1	59	414181001	Push button B		1
6	414054000	Change plate B		1	60	413379002	Push button A		1
7	414370001	Change plate A spring		1	61	403008001	Push button release spring		4
8	414252001	Change plate B spring		1	62	409595001	Stitch dial stopper spring		1
9	413452001	Change plate spring		1	63	060660506	Screw 3.18-40×5		1
10	414251001	Collar		1	64	060670406	Screw 3.57-40×4		2
11	414025001	Change plate guide collar		1	65	409596003	Thumb nut		2
12	414241001	MC cam change spring		2	66	409597008	Change knob		1
13	414178001	MC cam spring A		2	67-68	414175009	Stitch dial assembly		1
14	414065001	Front slide plate spring		1	67	409599003	Stitch dial		1
15	060660406	+ -Screw 3.18-40×4		1	68	413581011	Stitch dial indicator plate		1
16	414069001	Tuck cam spring		1	69	406283001	Stitch dial presser		1
17	414180001	Presser ring		1	70	060660606	Screw 3.18-40×6		1
18	414084001	Handle look spring		2	71	409601007	Stitch dial cap		1
19	062670406	Screw 3.57-40×4		2	○72a-b	417864001	K carriage cover assembly KH965		1
20	414014001	Intarsia lever,R		1	72a	417278001	K carriage cover (White)		1
21	414017001	Intarsia lever,L		1	○72b	417865001	Carriage cover decoration plate KH965		1
22	414019001	Intarsia lever collar		2	72c	037351615	Screw 3.5 × 16		2
23	060660406	Screw 3.18-40×4		2	73	409605007	K Carriage handle (White)		1
24	414090001	Intarsia lever spring		2					2
25	414092001	Intarsia cam A,R		1	74	409608001	Screw		1
26	414093001	Intarsia cam A,L		1	75	413437001	Plain lever knob (White)		1
27	414094001	Nut		2	76	414112001	H.C.L Knob (White)		
28	414095001	Intarsia cam A spring		2					
29	409554001	Rear plate		1					
30-34	410130001	Row counter tripper		1					
35	410132101	Knit leader tripper		1					
36	060660406	Screw 3.18-40×4		4					
37	410141003	K carriage sensor magnet assembly		1					
38	412131001	Shift spring for K carriage sensor		1					
39	025050335	Washer		1					
40	410146001	Shaft for K carriage sensor magnet		2					
41	410135001	End needle selection cam spring		2					
42	414189001	Needle selection change spring,R		1					
43	414190001	Needle selection change spring,L		1					
44	409543001	Connecting plate spring,R		1					
45	409544001	Connecting plate spring,L		1					
46	417275001	Upper slide plate		1					
47	048040346	Snap ring 4		2					
48-63	414113001	Cam button unit		1					
48	414114001	Cam button unit body		1					
49	407512001	Raising cam spring		2					
50	413545001	Stopper plate		1					
51	405524001	Stopper spring		1					
52	414118001	Part plate,R		1					



PARTS FOR CARRIAGE LOWER PART Fig: AII

PARTS FOR CARRIAGE LOWER PART

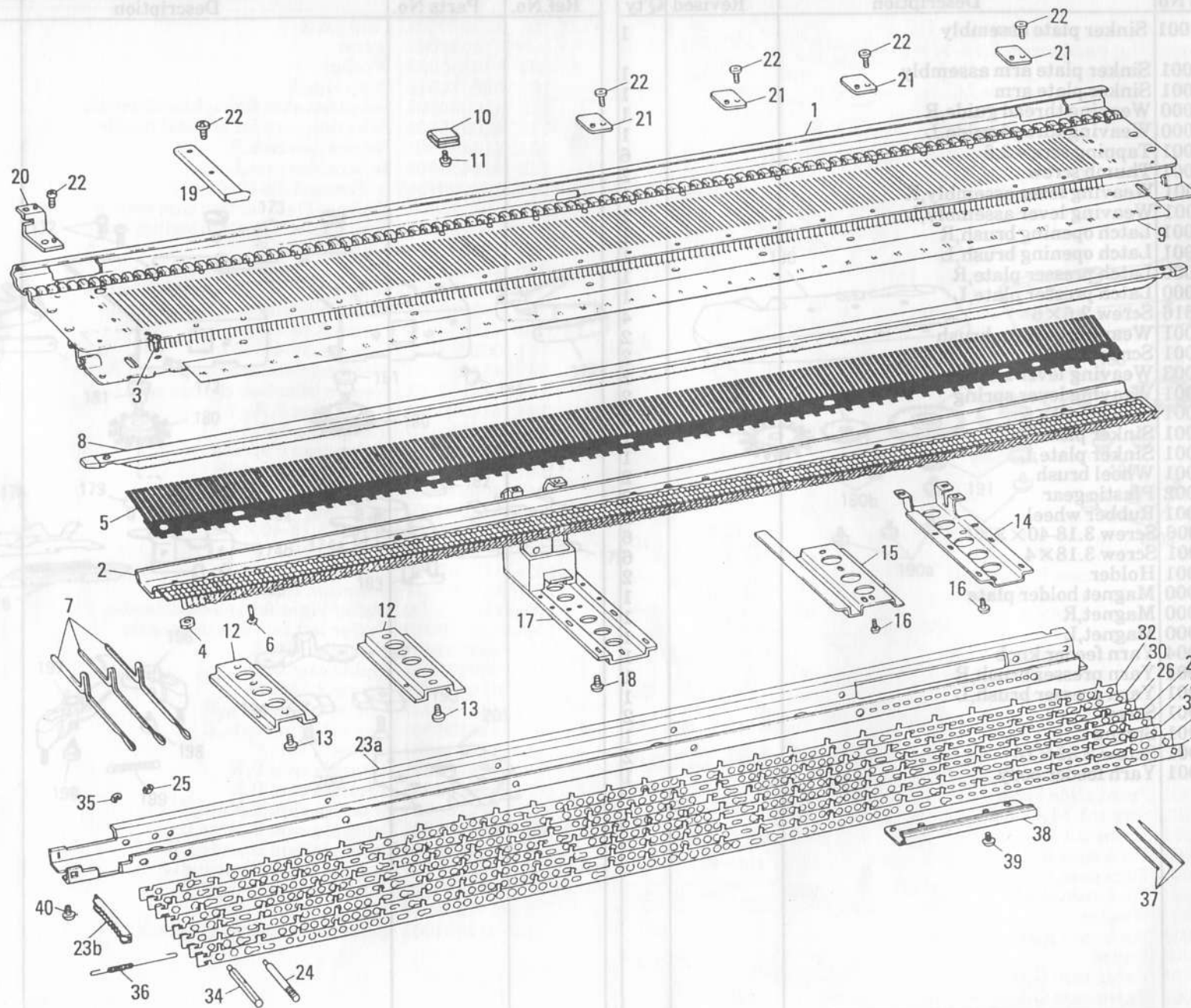
Ref.No.	Parts No.	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
A II -77	407285000	Carriage magnet 16 × 18		2	127,128	414077001	Cam plate		1
78	408773006	Flat head screw 3.18-40×9		2	129	414049001	Screw		2
79	414242001	Raising cam guide,R		1	130	025350233	Washer		2
80	414243001	Raising cam guide,L		1	131	048020346	Snap ring 2		2
81	048070346	Snap ring 7		2	132	410924101	Selection cam for right end needle		1
82	414026001	Stitch cam assembly,R		1	133	410925101	Selection cam for left end needle		1
83	414030001	Stitch cam assembly,L		1	134	414487001	Separation cam,R		1
84	407296001	Sub stitch cam,R		1	135	414488001	Separation cam,L		1
85	407297001	Sub stitch cam,L		1	136	060660406	+ -Screw 3.18-40×4		2
86	410488001	Valve cam D,R		1	137a	412215001	End needle selection cam spring		2
87	410489001	Valve cam D,L		1	137b	410926001	End needle selection switch cam		2
88	410490001	Valve cam D spring,R		1	138a	414082001	Guide cam F,R		1
89	410491001	Valve cam D spring,L		1	138b	414083001	Guide cam F,L		1
90	414245001	Sub stitch cam shaft		2	139a	410922002	Selection cam for right end needle		1
91	414032001	MC cam,R		1	139b	410923002	Selection cam for left end needle		1
92	414033001	MC cam,L		1	140	413554001	Screw 3.18×3		4
93	407312001	Screw		2	141	062681206	Screw 4.37-40×12		2
94	021660306	Nut 3.18-40		2	142	414185001	Needle selection change cam,R		1
95	414034001	Slide cam		1	143	414187001	Needle selection change cam,L		1
96	414035001	Slide cam guide		1	144	414203001	Valve cam F,R		1
97a	414036001	Guide cam C		1	145	414204001	Valve cam F,L		1
97b	414462000	Guide cam C spring		1	146	410129001	Valve cam F spring		2
98	414041001	Guide cam B,R		1	147	409539001	Connecting plate,R		1
99	414045001	Guide cam B,L		1	148	409541001	Connecting plate,L		1
100	414176001	Valve cam B,R		1	149	414086001	Rear foot		1
101	414177001	Valve cam B,L		1	150	060660406	Screw 3.18-40×4		4
102	414050001	Valve cam B shaft		2	151	409494001	Screw 3.57		2
103	414051001	Valve cam B Spring,R		1	152a	417167001	Selection cam,R		1
104	414052001	Valve cam B Spring,L		1	152b	417168001	Selection cam,L		1
105	413554001	Screw 3.18×3		2	153a	410929000	Buffer right for selected needle		1
106	407299001	Screw		2	153b	410930000	Buffer left for selected needle		1
107	414056001	Guide cam A		1	154	409537001	Guide cam G,R		1
108	414194001	Change cam spring,R		1	155	409538001	Guide cam G,L		1
109	414195001	Change cam spring,L		1	156	410030001	Screw 2.38×14		2
110	048025346	Snap ring 2.5		2	157	414100001	Sub selection cam,R		1
111	413285001	Screw 3.18×4		2	158	414101001	Sub selection cam,L		1
112	414172001	Front foot		1	159	413554001	Screw 3.18×3		2
113	413554001	Screw 3.18×3		2	160	414102001	Intarsia cam B,R		1
114	414062001	Front slide plate		1	161	414103001	Intarsia cam B,L		1
115	414184001	Screw 3.18×4		1	162	414104001	Intarsia cam B plate,R		1
116	408504001	Screw 3.18		2	163	414105001	Intarsia cam B plate,L		1
117	414066001	Tuck cam,R		1	164	414106001	Intarsia cam B spring,R		1
118	414067001	Tuck cam,L		1	165	414107001	Intarsia cam B spring,L		1
119	414068001	Tuck cam shaft		2	166	414108001	Intarsia cam B shaft		2
120	414179001	Washer		2	167	407299001	Screw		2
121	407340001	Tuck cam plate		1	168	414091001	Selection change cam shaft		2
122	407299001	Screw		2					
123	414070001	Valve cam G,R		1					
124	414073001	Valve cam G,L		1					
125	414075001	Valve cam G spring,R		1					
126	414076001	Valve cam G spring,L		1					



PARTS FOR CARRIAGE SINKER PLATE Fig: AII

PARTS FOR CARRIAGE SINKER PLATE

Ref.No.	Parts No	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
A II	415551001	Sinker plate assembly		1					
169-201									
169-191	415552001	Sinker plate arm assembly		1					
169	409979001	Sinker plate arm		1					
170	414122000	Weaving thread guide,R		1					
171	414123000	Weaving thread guide,L		1					
172	409162001	Tapping screw 2.6		6					
173	409626001	Thumb screw		2					
174a	410026001	Weaving lever assembly,R		1					
174b	410027001	Weaving lever assembly,L		1					
175	410003001	Latch opening brush,R		1					
176	410004001	Latch opening brush,L		1					
177	414191000	Latch presser plate,R		1					
178	414192000	Latch presser plate,L		1					
179	037280616	Screw 2.6×6		4					
180	414417001	Weaving pattern brush		2					
181	408316001	Screw 3.18		2					
182	409629003	Weaving lever knob		2					
183	407441001	Weaving lever spring		2					
184	408305001	Screw 3.18×5		4					
185	409614001	Sinker plate,R		1					
186	409618001	Sinker plate,L		1					
187	407702001	Wheel brush		2					
188	405184002	Plastic gear		2					
189	413403001	Rubber wheel		2					
190a	412048006	Screw 3.18-40×3		6					
190b	409621001	Screw 3.18×4		6					
191	410970001	Holder		2					
192	409625000	Magnet holder plate		1					
193	407454000	Magnet,R		1					
194	407578000	Magnet,L		1					
195	407450004	Yarn feeder knob		1					
196	414196001	Yarn presser brush,R		1					
197	414197001	Yarn presser brush,L		1					
198	414249001	Screw		2					
199	414250001	Spring		1					
200	413247001	Screw 2.38×10		2					
201	414130001	Yarn feeder body		1					

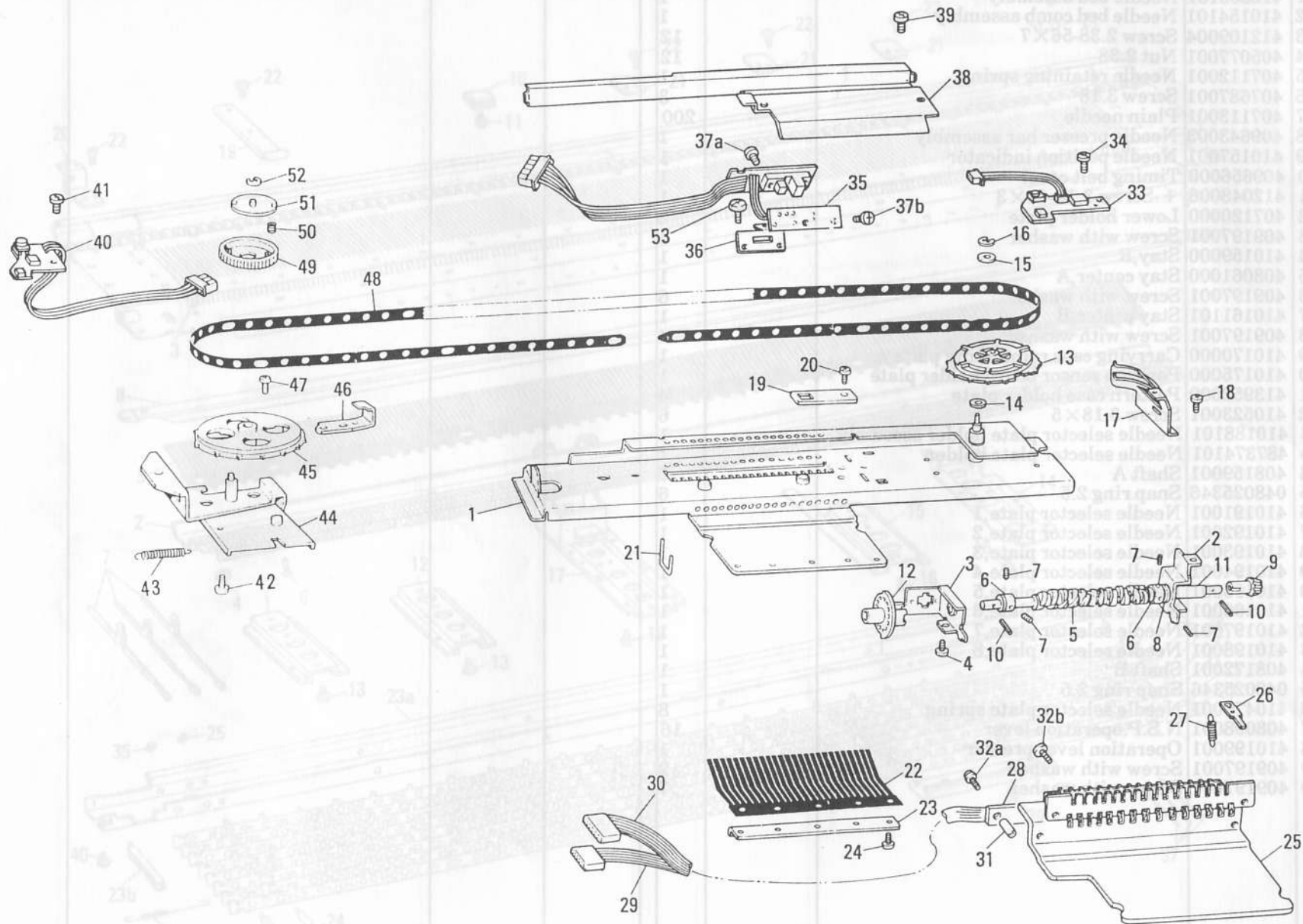


PARTS FOR NEEDLE BED

Fig: B

PARTS FOR NEEDLE BED

Ref.No.	Parts No	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
B-1	412803101	Needle bed assembly		1	42	412034000	Pulley adjusting plate		1
2	410154101	Needle bed comb assembly		1	47	406397001	Screw with washer 3.18x5		2
3	412109004	Screw 2.38-56x7		12	48	410186001	Timing belt		1
4	405077001	Nut 2.38		12	49	410477001	Friction plate		1
5	407112001	Needle retaining spring		1	50	410479001	Friction plate spring		1
6	407687001	Screw 3.18		3	51	40478000	Presser for friction plate spring		1
7	407113001	Plain needle		200	52	048030346	Snap ring 3		1
8	409643003	Needle presser bar assembly		1	53	090660406	+ Screw 3.18-40x4		1
9	410157001	Needle position indicator		1					
10	409656000	Timing belt cover		1					
11	412048006	+ Screw 3.18-40x3		1					
12	407120000	Lower holder plate		2					
13	409197001	Screw with washer		4					
14	410159000	Stay,R		1					
15	408061000	Stay center,A		1					
16	409197001	Screw with washer		6					
17	410161101	Stay center,B		1					
18	409197001	Screw with washer		4					
19	410170000	Carrying case reinforcing plate		1					
20	410175000	Position sensor board holder plate		1					
21	413952000	Pattern case holder plate		4					
22	410523001	Screw 3.18x5		6					
23-36	410188101	Needle selector plate holder assembly		1					
23a-b	487374101	Needle selector plate holder		1					
24	408159001	Shaft A		6					
25	048025346	Snap ring 2.5		6					
26	410191001	Needle selector plate,1		1					
27	410192001	Needle selector plate,2		1					
28	410193001	Needle selector plate,3		1					
29	410194001	Needle selector plate,4		1					
30	410195001	Needle selector plate,5		1					
31	410196001	Needle selector plate,6		1					
32	410197001	Needle selector plate,7		1					
33	410198001	Needle selector plate,8		1					
34	408172001	Shaft B		1					
35	048025346	Snap ring 2.5		1					
36	410476001	Needle selector plate spring		8					
37	408098001	N.S.P.operation lever		16					
38	410199001	Operation lever presser		1					
39	409197001	Screw with washer		2					
40	409197001	Screw with washer		7					

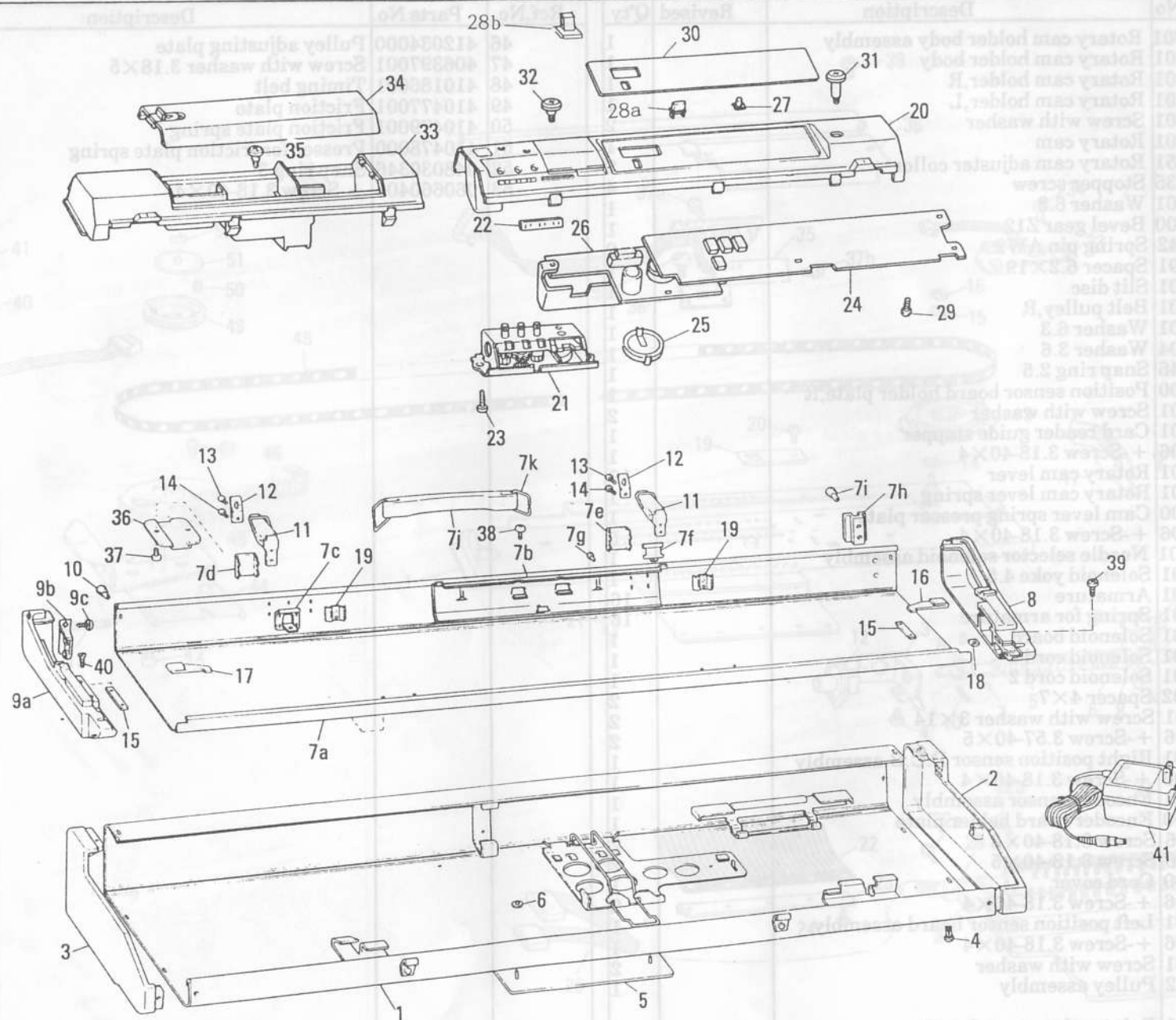


PARTS FOR NEEDLE SELECTOR UNIT

Fig. C

PARTS FOR NEEDLE SELECTOR UNIT

Ref.No.	Parts No	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
C-1-32	417883001	Rotary cam holder body assembly		1	46	412034000	Pulley adjusting plate		1
1	417281001	Rotary cam holder body		1	47	406397001	Screw with washer 3.18×5		2
2	417283001	Rotary cam holder,R		1	48	410186001	Timing belt		1
3	417285001	Rotary cam holder,L		1	49	410477001	Friction plate		1
4	409197001	Screw with washer		2	50	410479001	Friction plate spring		4
5	417397001	Rotary cam		1	51	410478000	Presser for friction plate spring		1
6	417808051	Rotary cam adjuster collar		2	52	048030346	Snap ring 3		1
7	014400435	Stopper screw		4	53	060660406	+ -Screw 3.18-40×4		1
8	411013001	Washer 6.3		1					
9	410216000	Bevel gear Z12		1					
10	047201042	Spring pin AW2		2					
11	410217001	Spacer 6.2×19		1					
12	413910001	Slit disc		1					
13	416602001	Belt pulley,R		1					
14	410223001	Washer 6.3		1					
15	400806004	Washer 3.6		1					
16	048025346	Snap ring 2.5		1					
17	416604100	Position sensor board holder plate,R		1					
18	409197001	Screw with washer		2					
19	408068001	Card reader guide stopper		1					
20	060660406	+ -Screw 3.18-40×4		1					
21	417287001	Rotary cam lever		16					
22	410226001	Rotary cam lever spring		1					
23	410227000	Cam lever spring presser plate		1					
24	060660406	+ -Screw 3.18-40×4		5					
25-32	417706001	Needle selector solenoid assembly		1					
25	417289001	Solenoid yoke 4.5		1					
26	417291001	Armature		16					
27	417471001	Spring for armature		16					
28	410327101	Solenoid board		1					
29	414006001	Solenoid cord 1		1					
30	414007001	Solenoid cord 2		1					
31	408481002	Spacer 4×7		2					
32a	415616001	Screw with washer 3×14		2					
32b	060670506	+ -Screw 3.57-40×5		2					
33	417033001	Right position sensor P.C.B.assembly		1					
34	060660406	+ -Screw 3.18-40×4		1					
35	417031001	Encoder sensor assembly		1					
36	417498000	Encoder board holder plate		1					
37a	062660806	Screw 3.18-40×8		2					
37b	062660506	Screw 3.18-40×5		2					
38	417292000	Cord cover		1					
39	060660406	+ -Screw 3.18-40×4		2					
40	417035001	Left position sensor board assembly		1					
41	060660406	+ -Screw 3.18-40×4		1					
42	409197001	Screw with washer		2					
43-47,	410181002	Pulley assembly		1					
49-52									
43	410016001	Belt tention control spring		1					
44	410180001	Pulley holder plate		1					
45	410182002	Pulley		1					

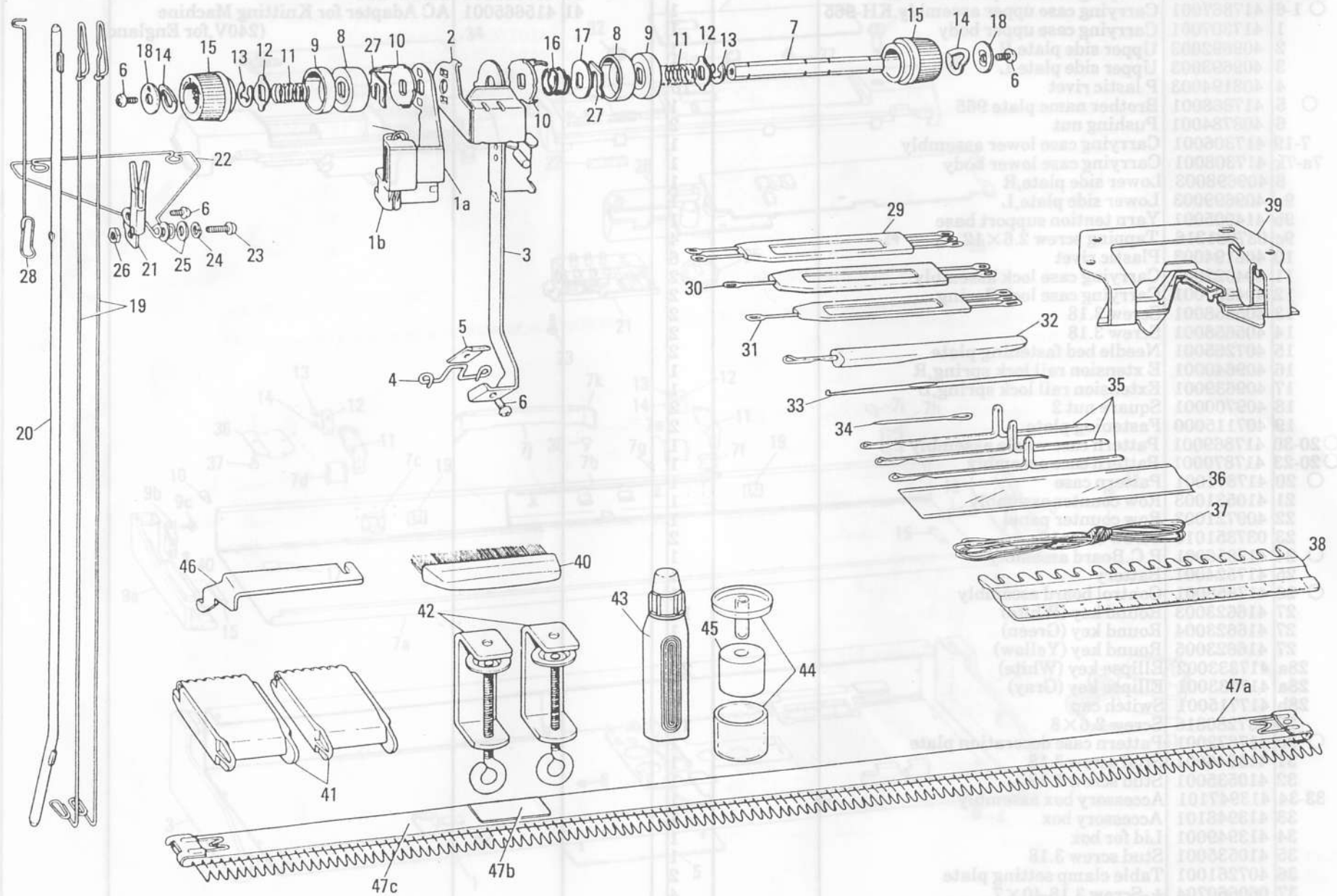


PARTS FOR CARRYING CASE

Fig: D

PARTS FOR CARRYING CASE

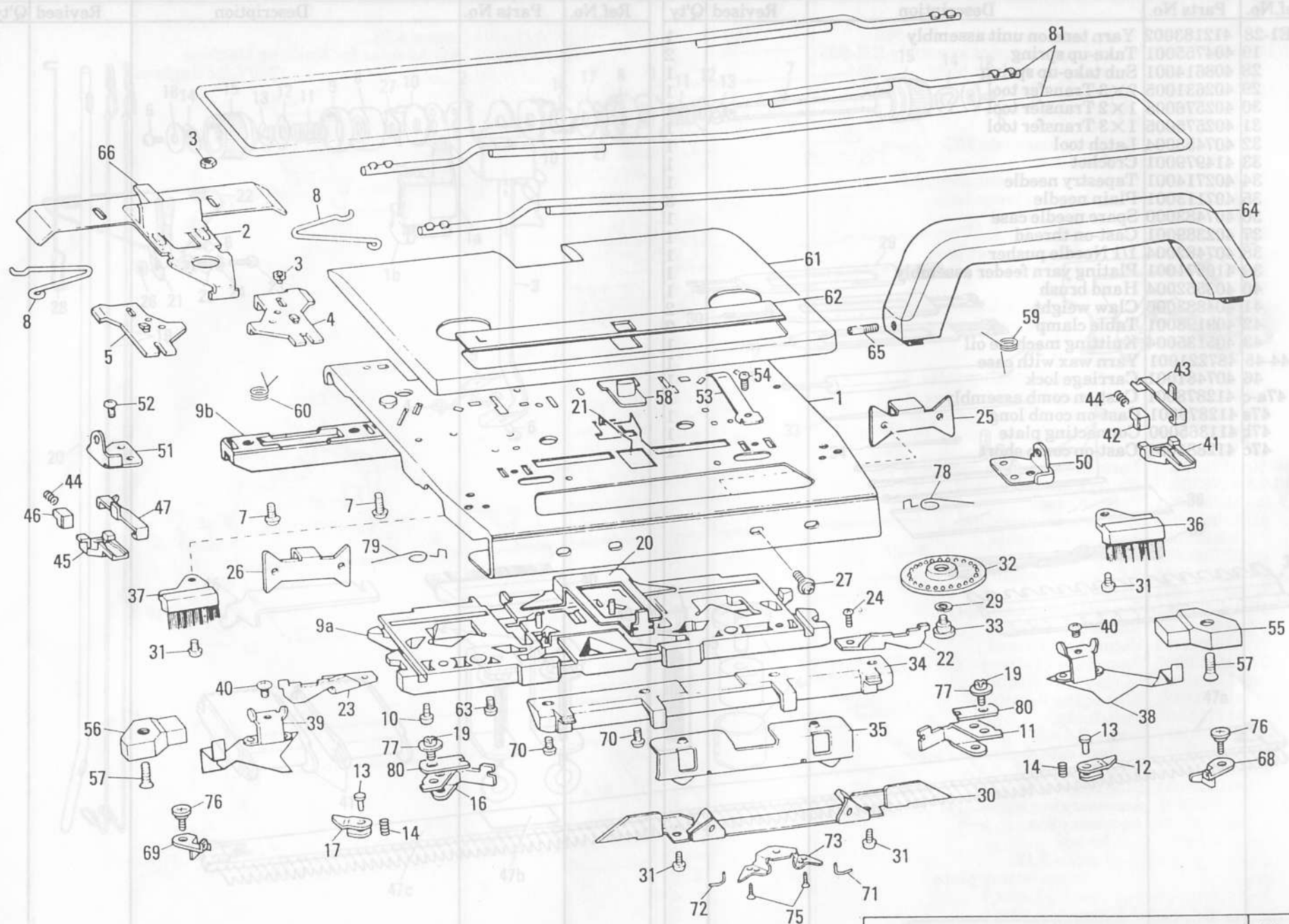
Ref.No.	Parts No.	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
○ D1-19	417866001	Carrying case complete KH-965		1	40	407119001	Screw 4.37		4
○ 1-6	417867001	Carrying case upper assembly KH-965		1	41	415665001	AC Adapter for Knitting Machine (240V, for England)		1
1	417307001	Carrying case upper body		1					
2	409692003	Upper side plate, R		1					
3	409693003	Upper side plate, L		1					
4	408194003	Plastic rivet		10					
○ 5	417868001	Brother name plate 965		1					
6	408784001	Pushing nut		2					
7-19	417306001	Carrying case lower assembly		1					
7a-7k	417308001	Carrying case lower body		1					
8	409698003	Lower side plate, R		1					
9a	409699003	Lower side plate, L		1					
9b	414005001	Yarn tension support base		1					
9c	037281216	Tapping screw 2.6×12		4					
10	408194003	Plastic rivet		6					
11	404022002	Carrying case lock assembly		2					
12	404027001	Carrying case lock Spring		2					
13	405658001	Screw 3.18		2					
14	405658001	Screw 3.18		2					
15	407265001	Needle bed fastening plate		2					
16	409640001	Extension rail lock spring, R		1					
17	409639001	Extension rail lock spring, L		1					
18	409700001	Square nut 2		2					
19	407115000	Fastening plate		2					
○ 20-30	417869001	Pattern case whole assembly		1					
○ 20-23	417870001	Pattern case assembly		1					
○ 20	417871001	Pattern case		1					
21	410531003	Row counter assembly		1					
22	409721003	Row counter panel		1					
23	037351016	Screw 3.5×10		2					
○ 24	417856001	P.C. Board assembly		1					
25	417524001	Battery		1					
○ 26	417858001	Control board assembly		1					
27	416623003	Round key (White)		14					
27	416623004	Round key (Green)		1					
27	416623005	Round key (Yellow)		1					
28a	417333002	Ellipse key (White)		25					
28a	417333001	Ellipse key (Gray)		2					
28b	417715001	Switch cap		1					
29	037280816	Screw 2.6×8		11					
○ 30	417872001	Pattern case decoration plate		1					
31	413946001	Stud screw 3.18		1					
32	410535001	Stud screw 3.18		1					
33-34	413947101	Accessory box assembly		1					
33	413948101	Accessory box		1					
34	413949001	Lid for box		1					
35	410535001	Stud screw 3.18		1					
36	407261001	Table clamp setting plate		2					
37	060660704	+ -Screw 3.18-40×7		4					
38	060660406	+ -Screw 3.18-40×4		3					
				2					



PARTS FOR ACCESSORIES

Fig: E

Ref.No.	Parts No.	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
E1-28	412183002	Yarn tension unit assembly		1					
19	404755001	Take-up spring		2					
28	408614001	Sub take-up spring		1					
29	402631005	2×3 Transfer tool		1					
30	402576005	1×2 Transfer tool		1					
31	402575005	1×3 Transfer tool		1					
32	407458004	Latch tool		1					
33	414979001	Crochet		1					
34	402714001	Tapestry needle		1					
35	407113001	Plain needle		3					
36	407483000	Spare needle case		1					
37	402389001	Cast-on thread		1					
38	407482004	1/1 Needle pusher		1					
39	410971001	Plating yarn feeder assembly		1					
40	403552004	Hand brush		1					
41	404883006	Claw weight		2					
42	409198001	Table clamp		2					
43	405135004	Knitting machine oil		1					
44-45	487221001	Yarn wax with case		1					
46	407481001	Carriage lock		1					
47a-c	412878001	Cast-on comb assembly		1					
47a	412879001	Cast-on comb long		1					
47b	411365000	Connecting plate		1					
47c	412881001	Cast-on comb short		1					



PARTS FOR L-CARRIAGE

Fig: F

PARTS FOR L - CARRIAGE

Ref.No.	Parts No.	Description	Revised	Q'ty	Ref.No.	Parts No.	Description	Revised	Q'ty
○ F 1-80	417876001	L carriage assembly KH965		1	56	407578000	Magnet,L		1
1	410481001	L carriage plate		1	57	417596001	Screw 3.18-40×10		2
2	410483001	Release button plate		1	58	409744005	Lace selecting knob		1
3	408166001	Stud for release button plate		4	59	412148001	L valve cam C spring,R		1
4	410484001	Connecting plate R for L carriage		1	60	412147001	L valve cam C spring,L		1
5	410485001	Connecting plate L for L carriage		1	○ 61-62	417877001	L carriage cover for KH965		1
7	060660706	Screw 3.18-40×7		4	○ 62	417878001	L carriage cover decoration plate KH965		1
8	410486001	Connecting plate spring		2	63	060660406	Screw 3.18-40×4		2
9a	415702001	Main cam		1	64	409748007	L carriage handle		1
9b	415704000	Rear foot		1	65	409751001	Screw		2
10	060660806	Screw 3.18-40×8		2	66	410585005	Release button		1
11	410578001	Separation cam R for L carriage		1	68	412145001	L valve cam C,R		1
12	408132001	Raising cam right for L carriage		1	69	412146001	L valve cam C,L		1
13	410579001	Shaft for separation cam		2	70	060660806	Screw 3.18-40×8		4
14	408134001	Raising cam spring		2	71	412141001	L valve cam B,R		1
16	410581001	Separation cam L for L carriage		1	72	412142001	L valve cam B,L		1
17	408137001	Raising cam left for L carriage		1	73	412143001	Reinforcing plate B		1
19	060660706	Screw 3.18-40×7		2	75	040210812	Screw 2×8		2
20	408582001	Lace selecting cam		1	76	409528001	Lever shaft		2
21	408583001	Change lever spring		1	77	403069001	Washer 3.3		2
22	410583001	Right end needle separation cam for L		1	78	410966001	R end needle selection change spring		1
23	410584001	Left end needle separation cam for L		1	79	410967001	L end needle selection change spring		1
24	410592001	+ -Screw 3.18×11.6		2	80	412898000	Separation cam plate		2
25	410494001	Needle transfer plate R		1	81	412205002	Extension rail		2
26	410495001	Needle transfer plate L		1					
27	413734001	Screw 3.18-40×4		4					
29	028030243	Spring washer		2					
30	408573001	Cam plate		1					
31	060660406	Screw 3.18-40×4		4					
32	411003001	Rubber wheel		2					
33	405029001	Stud screw		2					
34	407490000	Front foot		1					
35	408579000	Front foot holder		1					
36	408580004	Small brush,R		1					
37	408581004	Small brush,L		1					
38	408561001	Spring plate,R		1					
39	408562001	Spring plate,L		1					
40	060660406	Screw 3.18-40×4		2					
41	410957002	R end needle selection cam for L		1					
42	410959001	R end needle selection change cam for L		1					
43	410958001	R end needle selection plate for L		1					
44	410963001	End needle selection cam spring for L		2					
45	410960002	L end needle selection cam for L		1					
46	410962001	L end needle selection change cam for L		1					
47	410961001	L end needle selection plate for L		1					
50	409740001	Handle setting base,R		1					
51	409739001	Handle setting base,L		1					
52	060670506	Screw 3.57-40×5		2					
53	407522001	Handle lock spring		2					
54	060660406	Screw 3.18-40×4		2					
55	407454000	Magnet,R		1					

* When exchange the Main cam (Ref.No.F-9a) into new one, please refer to how to adjust the Mounting dimension of the Main cam on P.35.

* Mounting dimension of the Main cam

Mount the Main cam (Ref. No. F-9a) or Main cam and the Rear foot (Ref. No. F-9b) on the L carriage plate so that the dimension (A) (between both inner faces of cam) are within range of $45.2\text{m/m} \pm 0.1\text{m/m}$, according to the following steps. (refer to Fig. 1)

- (1) Tighten the Rear foot with 4 screws, while pushing it toward the "arrow" direction. (Also in case of replacing Rear foot.)
- (2) If you made the adjustment tool as shown in Fig. 1, you can adjust the dimension (A) easily.

And place the adjustment tool between the rear foot and the Main cam, then tighten the Main cam with two screws, while pushing it toward the "arrow" direction.

* Although you will not use the adjustment tool, you can adjust the dimension (A) with a calipers, the way of adjustment is that put the calipers on the place of dimension (A) then tighten the main cam with two screws, while pushing it toward the "arrow" direction.

- (3) Attach the end needle separation cams (D) while pushing them toward the "arrow" direction.

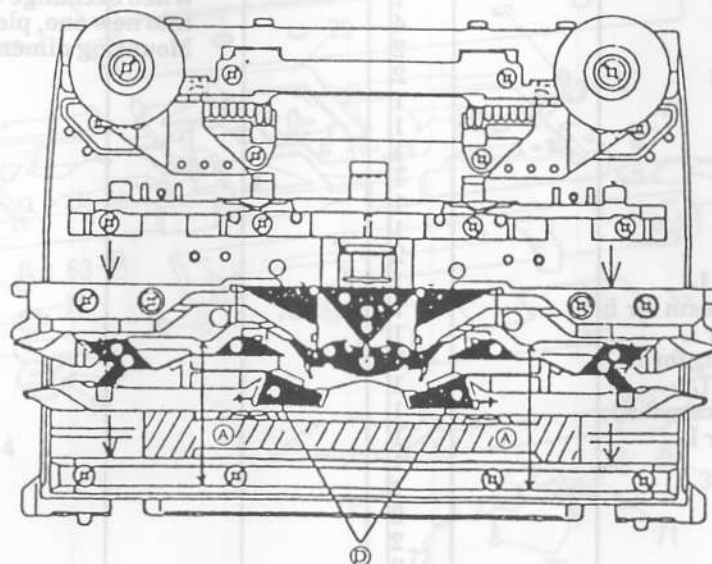
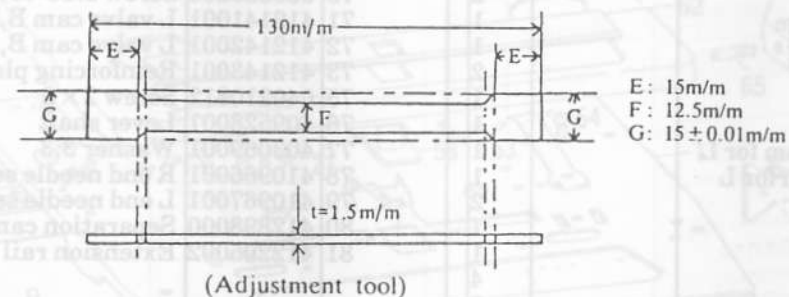


Fig. 1