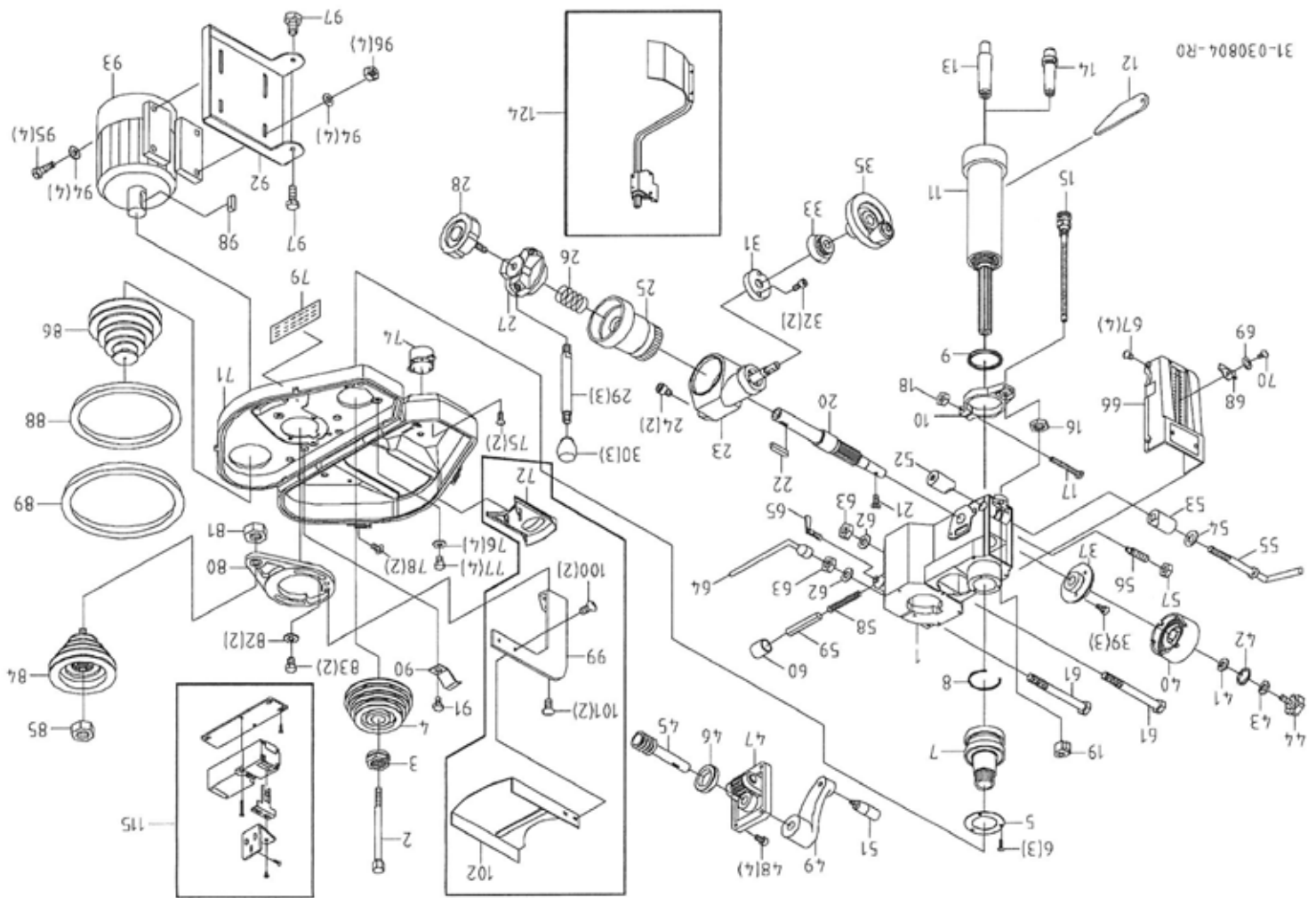


532901
PARTS BREAKDOWN

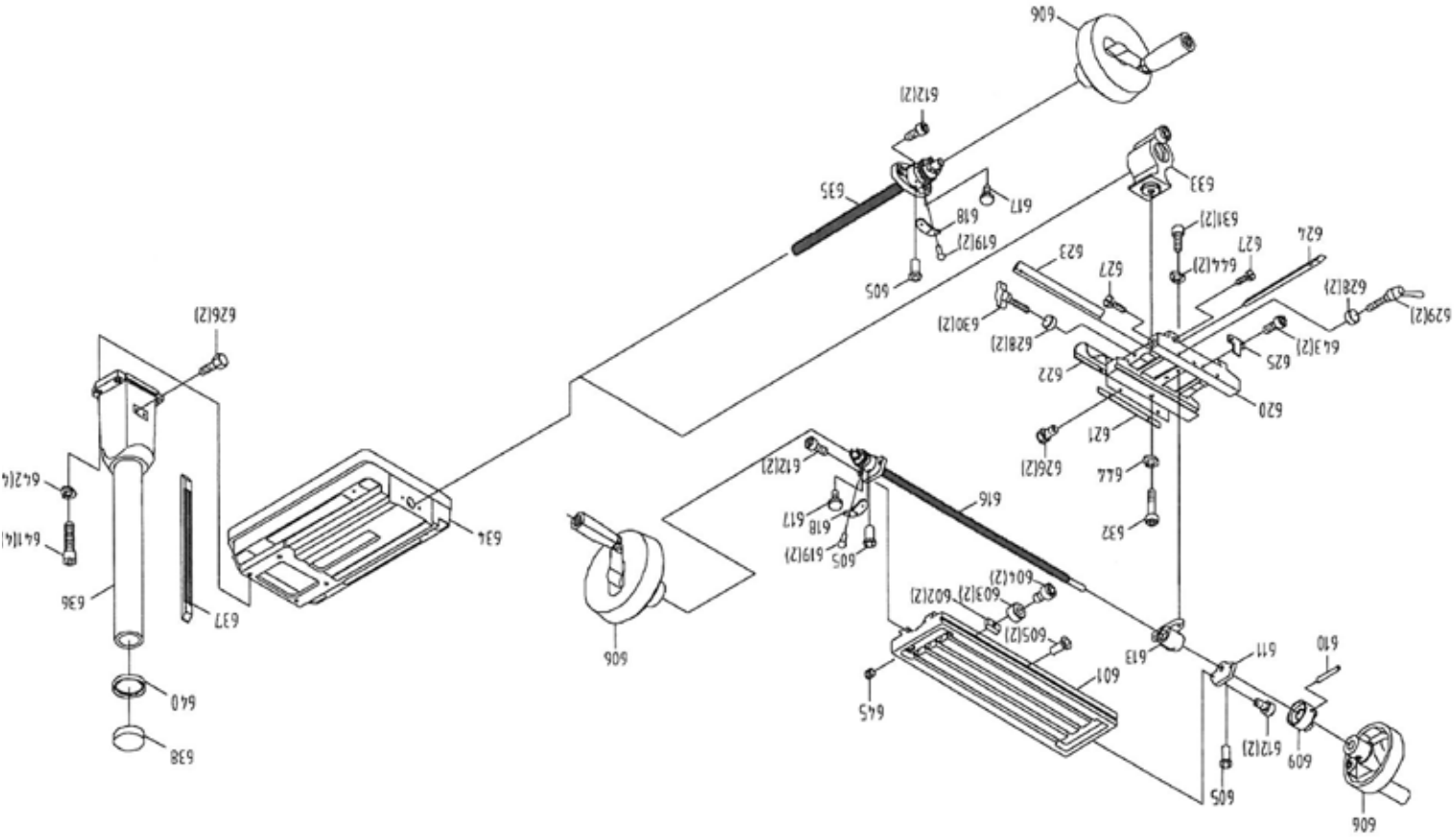


532901
PARTS BREAKDOWN

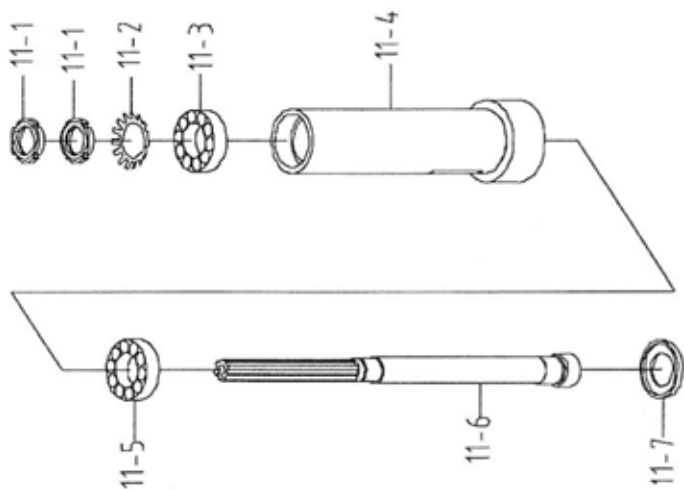
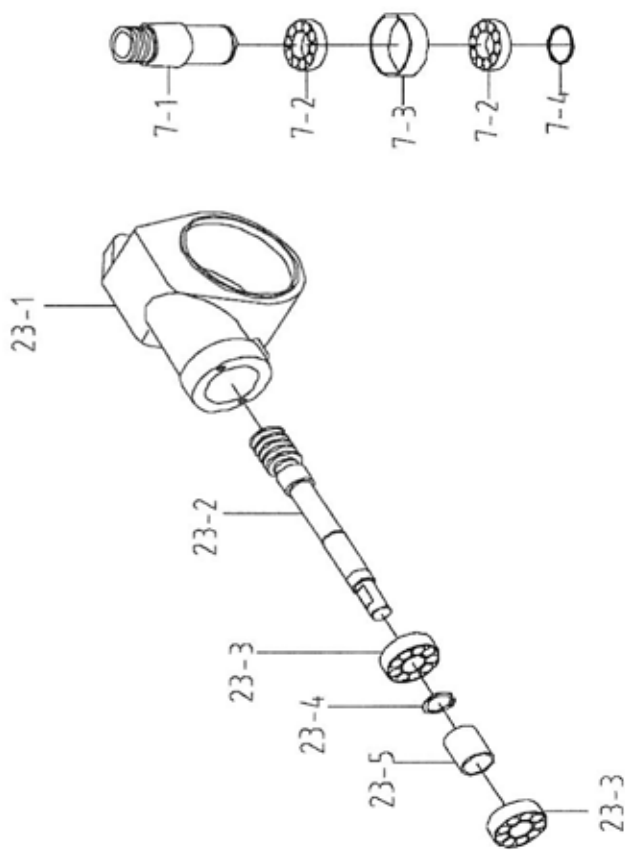


2006.07.20

311A



532901
PARTS BREAKDOWN



Component	Item Description
<u>524472</u>	Mill Mach 1.0Hp Chuck Arbor 532901-20
<u>524473</u>	Mill Mach 1.0Hp Cutter Arbor 532901-21
<u>598375</u>	Milling Machine Spindle Shaft Suit 532901
<u>598376</u>	Milling Machine Locknut Suit 532901
<u>598377</u>	Milling Machine Worm Gear Suit 532901 - 39-4 6160
<u>532918</u>	Mill Mach Worm Gear Suit 532901 - 25 61107 532902
<u>524471</u>	Mill Mach 1.0Hp Face Cutter Suit 532901 2-1/2" Diameter

PARTS LIST

MODEL NO. 31

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
1	6511	Head Body		1	
2	6101	Chuck Arbor Bolt	MT3 M10xP1.5	1	
2	6101-1	Chuck Arbor Bolt	MT3 M12xP1.75	1	
2	6101-2	Chuck Arbor Bolt	MT3 W3/8"-16	1	
2	6101-3	Chuck Arbor Bolt	MT3 W1/2"-12	1	
2	6101-4	Chuck Arbor Bolt	R8 W7/16"-20	1	
2	6101-5	Chuck Arbor Bolt	NT30 M12xP1.75	1	
3	6102	Spindle Locknut		1	
4	6103A	Spindle Pulley		1	
5	6105	Outer Bearing Plate	φ 105x66x2.5t	1	
6	S701	Cross Round Head Screw	1/4"x1/2"L	3	
7	6106S	Spindle Taper Sleeve Asbly		1	
7-1	6106	Spindle Taper Sleeve		1	
7-2	CA6009ZZ	Ball Bearing (6009ZZ)	6009ZZ	2	
7-3	6108	Washer	φ 74x φ 68x22	1	
7-4	6123	Fixed Ring	φ 2x φ 41	1	
8	6109	C-Retainer Ring	φ 3x φ 80	1	
9	6112	Rubber Flange		1	
10	6513	Feed Base		1	
11	6116-2S	Pinion Asbly	MT3	1	
11	6116-3S	Pinion Asbly	MT3 Heat treatment	1	
11	6116-6S	Pinion Asbly	R8	1	
11	6116BS	Pinion Asbly	R8 Heat treatment	1	
11	6116-2NS	Pinion Asbly	NT30	1	
11	6116-2SS	Pinion Asbly		1	Option
11-1	6114	Locknuts		2	
11-2	HW205	Washer	AW06 φ 30	1	
11-3	CA30206J	Taper Roller Bearing	E30206J	1	
11-4	6116-2	Rack Sleeve	MT3	1	
11-4	6116-3	Rack Sleeve	MT3 Heat treatment	1	
11-4	6116-6	Rack Sleeve	R8	1	
11-4	6116B	Rack Sleeve	R8 Heat treatment	1	
11-5	CA30207J	Taper Roller Bearing	30207J	1	
11-6	6117	Spindle Shaft	MT3	1	
11-6	6117-1	Spindle Shaft	MT3 Heat treatment	1	
11-6	6117-2	Spindle Shaft	R8	1	
11-6	6117-3	Spindle Shaft	NT30	1	
11-6	6117-6	Spindle Shaft	R8 Heat treatment	1	
11-7	6119	Bearing Cap	MT3\R8	1	
11-7	6119-1	Bearing Cap	NT30	1	
12	6168	Punch Key		1	
13	6121	Chuck Arbor	MT3 M10xP1.5	1	
13	6121-1	Chuck Arbor	MT3 M12xP1.75	1	

PARTS LIST
MODEL NO. 31

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
13	6121-2	Chuck Arbor	MT3 W3/8"-16	1	
13	6121-3	Chuck Arbor	MT3 W1/2"-12	1	
13	6121-4	Chuck Arbor	R8 W7/16"-20	1	
13	6121-5	Chuck Arbor	R8 7/16"-20 JT3	1	
13	6121-7	Chuck Arbor	MT3 M12-B16	1	
13	6121-9	Chuck Arbor	MT3 M12 B18	1	
13	6122-3	Chuck Arbor	NT30	1	
14	6120	Cutter Arbor	25.4 M10xP1.5	1	
14	6120-1	Cutter Arbor	25.4 M12xP1.75	1	
14	6120-2	Cutter Arbor	25.4 W3/8"-16	1	
14	6120-3	Cutter Arbor	25.4 W1/2"-12	1	
14	6120-4	Cutter Arbor	25.4 W7/16"-20	1	
14	6120-7	Cutter Arbor	27 M10xP1.75	1	
14	6120-9	Cutter Arbor	R8	1	
14	6122D	Cutter Arbor	MT3 M12- § 22	1	
14	6122	Cutter Arbor	NT30	1	
15	6554S	Graduated Rod Asbly		1	
16	6193	Nut		1	
17	S008	Hex. Head Screw	1/4"x2"L	1	
18	N003	Hex. Nut	1/4"	1	
19	6192	Position Set Bracket		1	
20	61106	Pinion Shaft		1	
21	S307	Flat Cross Head Screw	3/16"x1/2"L	1	
22	HK115	Key	8x7x45L	1	
23	61108S	Feed Cover Asbly		1	
23-1	61108	Bearing Cover		1	
23-2	6147	Worm Shaft		1	
23-3	CA6202ZZ	Ball Bearing (6202ZZ)	6202ZZ	2	
23-4	HCS04	C-Retaniner Ring	§ 15	1	
23-5	6135	Washer	§ 34x § 27.5x30L	1	
24	S419	Hex. Socket Head Screw	5/16"x3/4"L	2	
25	61107	Worm Gear		1	
26	61115	Spring		1	
27	61110	Handle Base		1	
28	6138	Blade Adjustable Knob		1	
29	6139	Knob W/Shaft		3	
30	290086	Plastic Round Knob		3	
31	6145	Worm Cover		1	
32	S407	Cross Round Head Screw	3/16"x3/8"L	2	
33	6144S	Micro Adjusting Indicator Set	Metric	1	
33	6144-1S	Micro Adjusting Indicator Set	Inch	1	
35	6142-2AS	Handwheel Assembly		1	
37	61105S	Spring Base Set		1	

PARTS LIST
MODEL NO. 31

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
39	S732	Cross Round Head Screw	3/16"x3/4"L	3	
40	61103S	Spring Cover Asbly		1	
41	W202	Spring Washer	1/4"x1"x1.5t	1	
42	W005	Washer	1/4"	1	
43	W202	Spring Washer	1/4"x1"x1.5t	1	
44	S471	Hex. Socket Head Screw	1/4"x5/8L	1	
45	6559	Worm Shaft		1	
46	61114	Bushing		1	
47	61101S	Head Raise Bracket Asbly		1	
48	S404	Hex. Socket Head Screw	1/4"x3/4"L	4	
49	6158S	Head Handle Set		1	
51	6027-1S	Clamp Handle		1	
52	6126A	Fixed Tight Collar		1	
53	6125A	Fixed Tight Collar		1	
54	W002	Washer	1/2"x7/8"x2t	1	
55	6124	Handle Rod		1	
56	6127	Screw Key	3/8"-16UNC-38L	1	
57	N005	Hex. Nut	3/8"	1	
58	6162	Spring		1	
59	6563	Pin		1	
60	6179	Rubber Collar		1	
61	6552	Head Body Fix Bolt	5/8"-150L	2	
62	W019	Washer	5/8"x1-9/16"x3t	2	
63	N008	Hex. Nut	5/8"	2	
64	6550	Lock Handle		1	
65	6151	Thumb Screw	3/8"-16UNC	1	
65	6151B	Blade Adjustable Knob	3/8"-16UNC x30L	1	Option
66	6196S	Front Cover Plate Asbly		1	
67	S701	Cross Round Head Screw	1/4"x1/2"L	4	
68	61102	Limit Plate		1	
69	W032	Washer	1/8"	1	
70	S705	Cross Round Head Screw	1/8"x1/4"L	1	
71	6169E	Belt Cover	Palley Cover	1	
72	6169-3	Shelf		1	
73	HB111	Oil Ball	1/4"	1	
74	6169B	Spindle Cover	Palley Cover	1	
75	HS801	Screw	3mm	2	
76	W017	Washer	5/16"	4	
77	S064	Hex. Head Screw	5/16"x5/8"L	4	
78	S701	Cross Round Head Screw	1/4"x1/2"L	2	For CE only
79	6557	Speed Chart		1	
80	6576B	Speed Change Inter Pulley Base		1	
81	N008	Hex. Nut	5/8"	1	
82	W016	Washer	5/16"x28x3t	2	

PARTS LIST
MODEL NO. 31

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
83	S019	Hex. Head Screw	5/16"x1-1/2"L	2	
84	6173AS	Inter Pulley Asbly		1	
85	N008	Hex. Nut	5/8"	1	
86	6170DS	Motor Pulley Set		1	
88	BB033	V-Belt	B-33	1	
89	BB042	V-Belt	B-42	1	
90	6577	Wire Relief Retainer		1	
91	S064	Hex. Head Screw	5/16"x5/8"L	1	
92	6566	Motor Mount Plate		1	
93		Motor		1	
94	W017	Washer	5/16"	8	
95	S017	Hex. Head Screw	5/16"x1"L	4	
96	N007	Hex. Nut	5/16"	4	
97	S025	Hex. Head Screw	7/16"x3/4"L	2	
98	HK046	Key	7x7x37L	1	
99	6169-10	Guard Bracket(For CE Only)		1	For CE only
99	6169-7C	Guard Bracket(For CE Only)		1	Option
100	HS519	Cross Round Head Screw	M5x8L	2	For CE only
101	HS527	Cross Round Head Screw	M6x12L	2	For CE only
102	6169-11	Protective Plate(For CE Only)		1	For CE only
102	6169-11C	Protective Plate(For CE Only)		1	Option
113	6187	Chuck	1/2"-JT6	1	
113	6187-1	Chuck	1/2"-B16	1	
114	6186	Milling Cutter	§ 25.4	1	
114	6186A	Milling Cutter	§ 25.4	1	
114	6186C	Milling Cutter	§ 22	1	
115	6638S	Micro Switch Bracket Set		1	For CE only
116		Switch		1	
124	690045S	Chuck Guard Asbly(For CE Only)		1	For CE only
124	690045AS	Chuck Guard Asbly(For CE Only)		1	For CE only (Option)
601	6628	Table	31	1	
601	6628-1	Table	31L	1	
602	6229	Fixed Block		2	
603	6230	Movable Fixed Ring		2	
604	S402	Hex. Socket Head Screw	1/4"x1/2"L	2	
605	HB111	Oil Ball	1/4"	5	
606	6601CS	Table Handle Wheel Set	§ 17	3	
607	6027-1S	Clamp Handle		1	
609	6620	Table Clutch	§ 17	1	
610	HP022	Cotter Pin	§ 5x38L	1	
611	6222	Left Flange	§ 17	1	
612	S414	Hex. Socket Head Screw	5/16"x1"L	6	
613	6223S	Table Nut Set	31\31L Metric	1	
613	6223-1S	Table Nut Set	31\31L Inch	1	
616	6224S	Table Screw Asbly	31 Metric	1	
616	6224-1S	Table Screw Asbly	31 Inch	1	

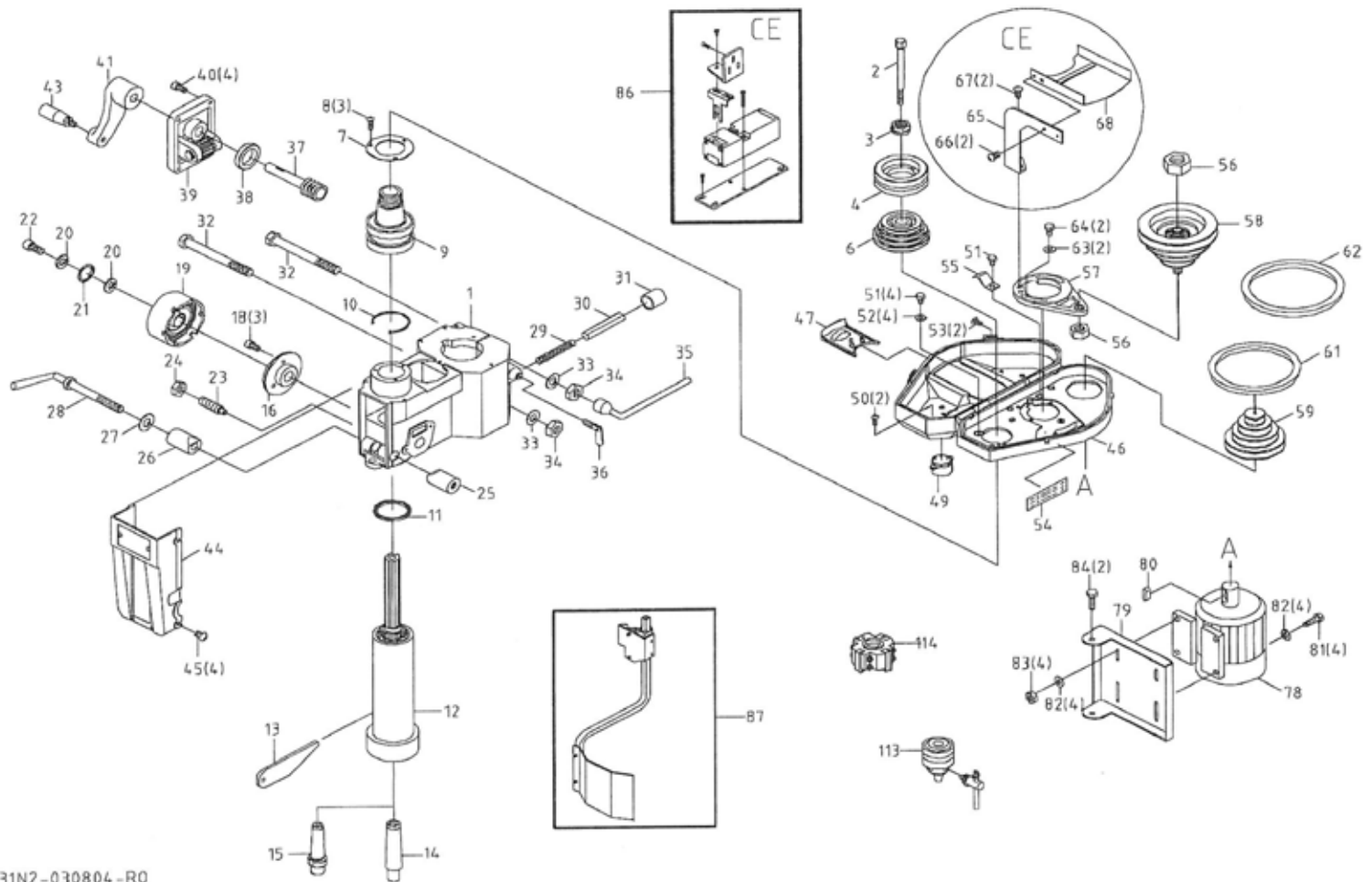
PARTS LIST

MODEL NO. 31

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
616	6224-2S	Table Screw Asbly	31L Metric	1	
616	6224-3S	Table Screw Asbly	31L Inch	1	
617	6602-3	Link Screw		2	
618	61121	Limit Plate		2	
619	HH001	Rivet	5/8"	4	
620	6616	Center Base	31	1	
620	6616-1	Center Base	31L	1	
621	6217	Antidust Plate		1	
622	6218S	Antidust Plate Asbly		1	
623	6627	Gib Strip	31	1	
623	6627-1	Gib Strip	31L	1	
624	6607	Gib Strip		1	
625	6214	Movable Fixed Block		1	
626	S018	Hex. Head Screw	5/16"x1/2"L	4	
627	6212	Gib Strip Bolt		2	
628	6630	Bushing		4	
629	6213-1	Grip		2	
629	6213-2	Grip		2	
630	6151-1	T Screw		2	
630	6213	Thumb Screw		2	
631	S414	Hex. Socket Head Screw	5/16"x1"L	2	
632	S418	Hex. Socket Head Screw	5/16"x2-1/4"L	1	
633	6215S	Acme Nut Asbly	Metric	1	
633	6215-1S	Acme Nut Asbly	Inch	1	
634	6606	Swivel Base		1	
635	6605S	Acme Screw Asbly	Metric	1	
635	6605-1S	Acme Screw Asbly	Inch	1	
636	6608	Column Base		1	
636	6608-1	Column Base		1	
637	6610	Rack	600.5L	1	
637	6610-1	Rack	885.5L	1	
638	6611S	Column Head Asbly		1	
640	6609	Column Flange Ring		1	
641	S004	Hex. Head Screw	5/8"x2-1/2"L	4	
642	W206	Spring Washer	5/8"	4	
643	S419	Hex. Socket Head Screw	5/16"x3/4"L	2	
644	W205	Spring Washer	5/16"	3	
645	HD103	Plug	PT1/4"x3/8"L	1	
646	6241A	Vise		1	

532901

PARTS BREAKDOWN

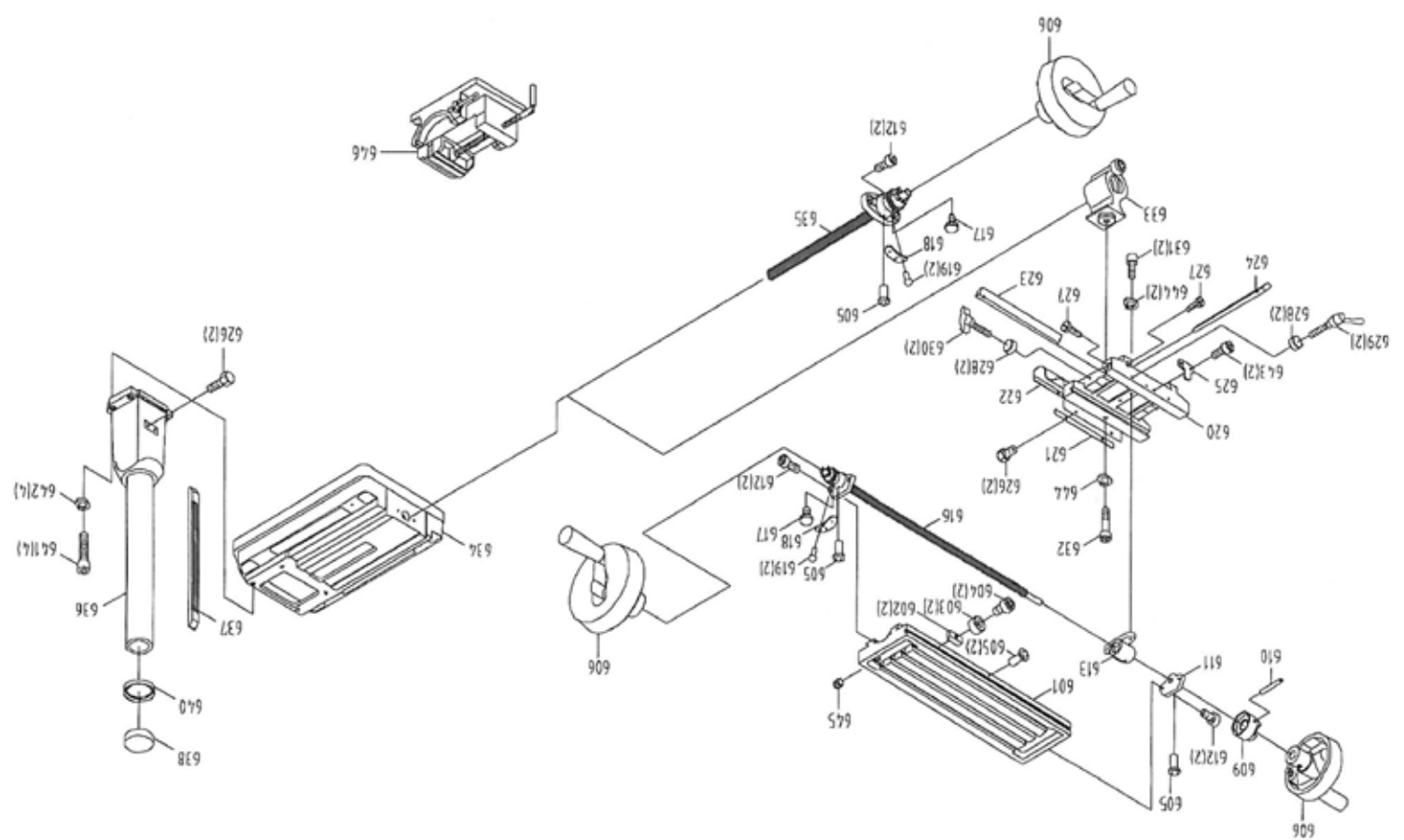


31N2-030804-R0

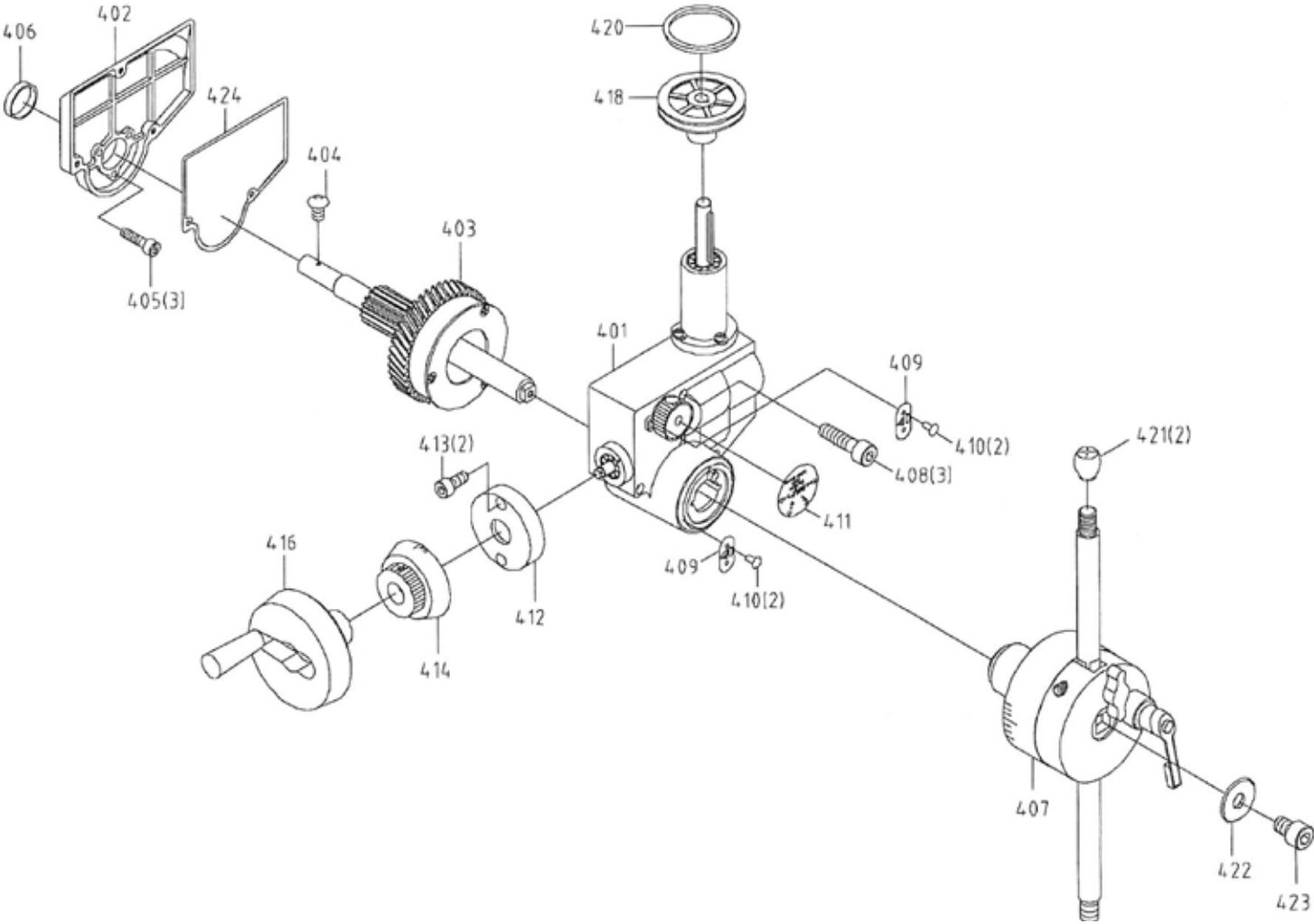
532901
PARTS BREAKDOWN



31N2F-060720-R1

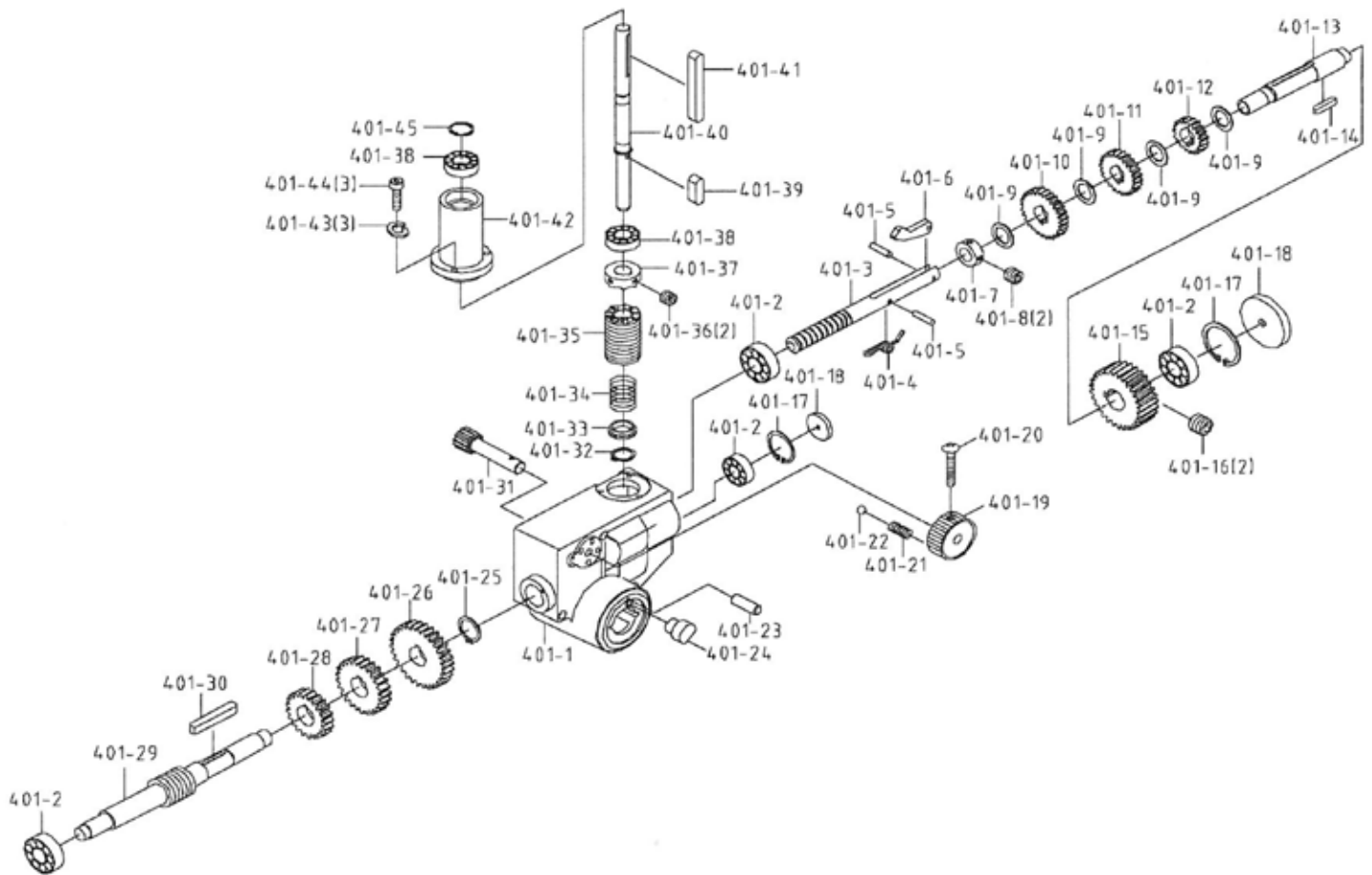


532901
PARTS BREAKDOWN



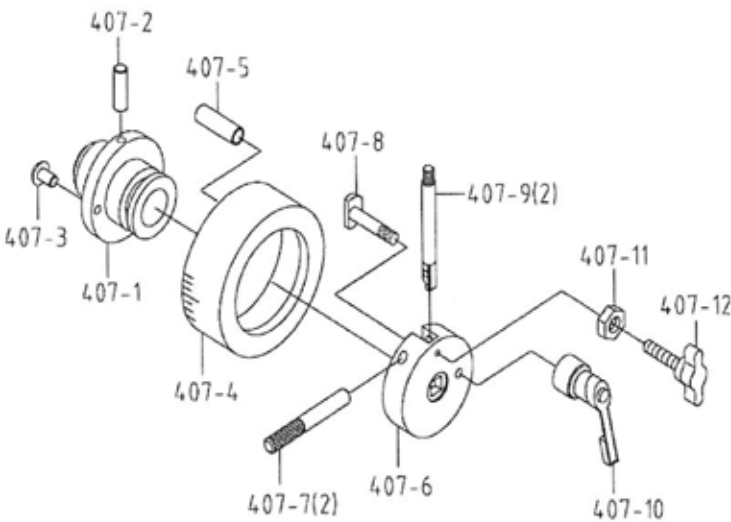
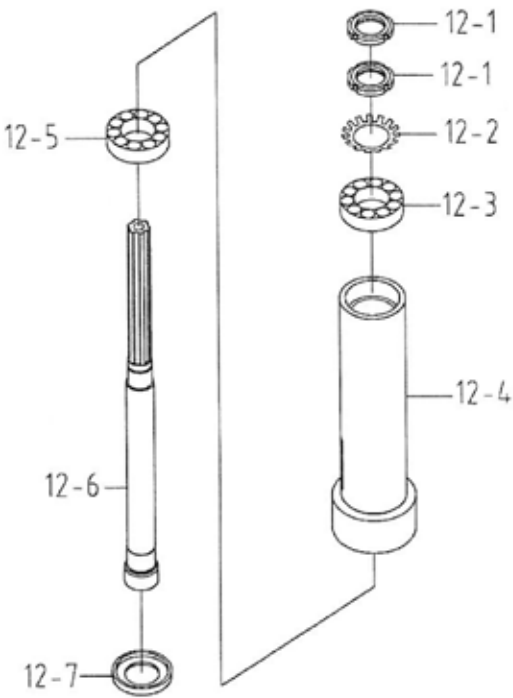
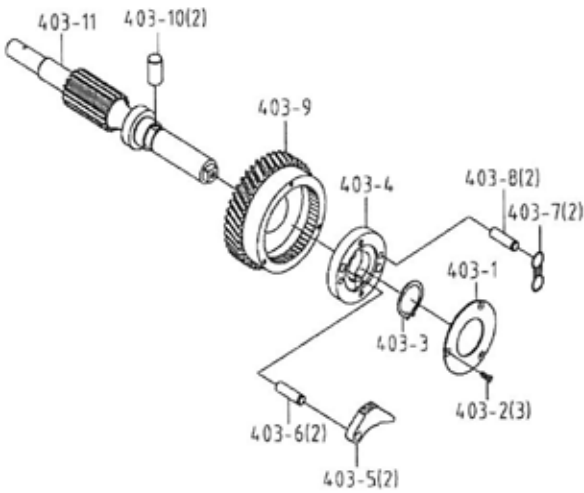
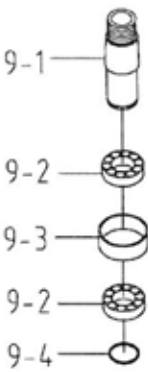
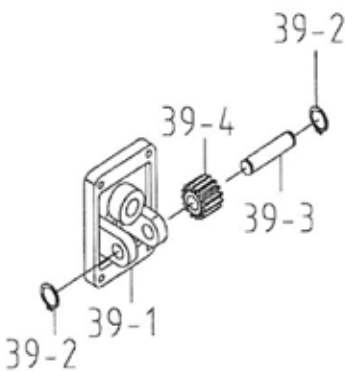
532901

PARTS BREAKDOWN



2F-030804-R0

532901
PARTS BREAKDOWN



PARTS LIST
MODEL NO. 31N2F

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
1	291045	Head Body		1	
2	6101	Chuck Arbor Bolt	MT3 M10xP1.5	1	
2	6101-1	Chuck Arbor Bolt	MT3 M12xP1.75	1	
2	6101-2	Chuck Arbor Bolt	MT3 W3/8"-16	1	
2	6101-3	Chuck Arbor Bolt	MT3 W1/2"-12	1	
2	6101-4	Chuck Arbor Bolt	R8 W7/16"-20	1	
2	6101-5	Chuck Arbor Bolt	NT30 M12xP1.75	1	
3	6102	Spindle Locknut		1	
4	290111S	Main Pulley Set		1	
6	291052A	Spindle Pulley		1	
7	6105	Outer Bearing Plate	φ 105x66x2.5t	1	
8	S701	Cross Round Head Screw	1/4"x1/2"L	3	
9	6106S	Spindle Taper Sleeve Asbly		1	
9-1	6106	Spindle Taper Sleeve		1	
9-2	CA6009ZZ	Ball Bearing (6009ZZ)	6009ZZ	2	
9-3	6108	Washer	φ 74x φ 68x22	1	
9-4	6123	Fixed Ring	φ 2x φ 41	1	
10	6109	C-Retainer ring	φ 3x φ 80	1	
11	6112	Rubber Flange		1	
12	6116-2S	Pinion Asbly	MT3	1	
12	6116-3S	Pinion Asbly	MT3 Heat treatment	1	
12	6116-6S	Pinion Asbly	R8	1	
12	6116BS	Pinion Asbly	R8 Heat treatment	1	
12	6116-2NS	Pinion Asbly	NT30	1	
12	6116-2SS	Pinion Asbly		1	Option
12-1	6114	Locknuts		2	
12-2	HW205	Washer	AW06 φ 30	1	
12-3	CA30206J	Taper Roller Bearing	E30206J	1	
12-4	6116-2	Rack Sleeve	MT3	1	
12-4	6116-3	Rack Sleeve	MT3 Heat treatment	1	
12-4	6116-6	Rack Sleeve	R8	1	
12-4	6116B	Rack Sleeve	R8 Heat treatment	1	
12-5	CA30207J	Taper Roller Bearing	30207J	1	
12-6	6117	Spindle Shaft	MT3	1	
12-6	6117-1	Spindle Shaft	MT3 Heat treatment	1	
12-6	6117-2	Spindle Shaft	R8	1	
12-6	6117-3	Spindle Shaft	NT30	1	
12-6	6117-6	Spindle Shaft	R8 Heat treatment	1	
12-7	6119	Bearing Cap	MT3\R8	1	
12-7	6119-1	Bearing Cap	NT30	1	
13	6168	Punch Key		1	
14	6121	Chuck Arbor	MT3 M10xP1.5	1	
14	6121-1	Chuck Arbor	MT3 M12xP1.75	1	

PARTS LIST

MODEL NO. 31N2F

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
14	6121-2	Chuck Arbor	MT3 W3/8"-16	1	
14	6121-3	Chuck Arbor	MT3 W1/2"-12	1	
14	6121-4	Chuck Arbor	R8 W7/16"-20	1	
14	6121-5	Chuck Arbor	R8 7/16"-20 JT3	1	
14	6121-7	Chuck Arbor	MT3 M12-B16	1	
14	6121-9	Chuck Arbor	MT3 M12 B18	1	
14	6122-3	Chuck Arbor	NT30	1	
15	6120	Cutter Arbor	25.4 M10xP1.5	1	
15	6120-1	Cutter Arbor	25.4 M12xP1.75	1	
15	6120-2	Cutter Arbor	25.4 W3/8"-16	1	
15	6120-3	Cutter Arbor	25.4 W1/2"-12	1	
15	6120-4	Cutter Arbor	25.4 W7/16"-20	1	
15	6120-7	Cutter Arbor	27 M10xP1.75	1	
15	6120-9	Cutter Arbor	R8	1	
15	6122D	Cutter Arbor	MT3 M12- ϕ 22	1	
15	6122	Cutter Arbor	NT30	1	
16	61105S	Spring Base Set		1	
18	S732	Cross Round Head Screw	3/16"x3/4"L	3	
19	61103S	Spring Cover Asbly		1	
20	W202	Spring Washer	1/4"x1"x1.5t	2	
21	W005	Washer	1/4"	1	
22	S471	Hex. Socket Head Screw	1/4"x5/8L	1	
23	6127	Screw Key	3/8"-16UNC-38L	1	
24	N005	Hex. Nut	3/8"	1	
25	6126A	Fixed Tight Collar		1	
26	6125A	Fixed Tight Collar		1	
27	W002	Washer	1/2"x7/8"x2t	1	
28	6124	Handle Rod		1	
29	6162	Spring		1	
30	6563	Pin		1	
31	6179	Rubber Collar		1	
32	6552	Head Body Fix Bolt	5/8"-150L	2	
33	W019	Washer	5/8"x1-9/16"x3t	2	
34	N008	Hex. Nut	5/8"	2	
35	6550	Lock Handle		1	
36	6151	Thumb Screw	3/8"-16UNC	1	
37	6559	Worm Shaft		1	
38	61114	Bushing		1	
39	61101S	Head Raise Bracket Asbly		1	
39-1	61101	Head Raise Bracket		1	
39-2	HCS03	C-Retaniner Ring	ϕ 14	2	
39-3	6561	Worm Shaft	ϕ 9/16"x64.3L	1	
39-4	6160	Worm Gear		1	

PARTS LIST

MODEL NO. 31N2F

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
40	S404	Hex. Socket Head Screw	1/4"x3/4"L	4	
41	6158S	Head Handle Set		1	
43	6027-1S	Head Asbly		1	
44	6196SA	Front Cover Plate Asbly		1	
45	S701	Cross Round Head Screw	1/4"x1/2"L	4	
46	6169E	Belt Cover	Palley Cover	1	
47	6169-3	Shelf		1	
49	6169B	Spindle Cover	Palley Cover	1	
50	HS802	Screw	3mm	2	
51	S018	Hex. Head Screw	5/16"x1/2"L	5	
52	W015	Washer	5/16"	4	
53	S701	Cross Round Head Screw	1/4"x1/2"L	2	For CE only
54		Speed Chart		1	
55	6577	Wire Relief Retainer		1	
56	N008	Hex. Nut	5/8"	2	
57	6576B	Speed Change Inter Pulley Base	Palley Cover	1	
58	6173AS	Inter Pulley Asbly		1	
59	6170DS	Motor Pulley Set		1	
61	BB033	V-Belt	B-33	1	
62	BB042	V-Belt	B-42	1	
63	W016	Washer	5/16"	2	
64	S019	Hex. Head Screw	5/16"x1-1/2"L	2	
65	6169-10	Guard Bracket(For CE Only)		1	For CE only
65	6169-7C	Guard Bracket(For CE Only)		1	Option
66	HS519	Cross Round Head Screw	M5x8L	2	For CE only
67	HS528	Cross Round Head Screw	M6x12L	2	For CE only
68	6169-11	Protective Plate(For CE Only)		1	For CE only
68	6169-11C	Protective Plate(For CE Only)		1	Option
69	HB111	Oil Ball	1/4"	1	
78		Motor		1	
79	6566	Motor Mount Plate		1	
80	HK115	Key	8x7x45L	1	
81	S017	Hex. Head Screw	5/16"x1"L	4	
82	W015	Washer	5/16"	8	
83	N007	Hex. Nut	5/16"	4	
84	S025	Hex. Head Screw	7/16"x3/4"L	2	
86	6638S	Micro Switch Bracket Set		1	For CE only
87	690045S	Chuck Guard Asbly(For CE Only)		1	For CE only
87	690045AS	Chuck Guard Asbly(For CE Only)		1	For CE only (Option)
113	6187	Chuck	1/2"-JT6	1	
113	6187-1	Chuck	1/2-B16	1	
114	6186A	Milling Cutter	φ 25.4	1	
114	6186C	Milling Cutter	φ 22	1	
115		Switch		1	
601	6628	Table	31	1	
601	6628-1	Table	31L	1	

PARTS LIST

MODEL NO. 31N2F

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
602	6229	Fixed Block		2	
603	6230	Movable Fixed Ring		2	
604	S402	Hex. Socket Head Screw	1/4"x1/2"L	2	
605	HB111	Oil Ball	1/4"	5	
606	6601BS	Table Handle Wheel Set	⌀ 17	3	
607	6027-1S	Clamp Handle		1	
609	6620	Table Clutch	⌀ 17	1	
610	HP022	Cotter Pin	⌀ 5x38L	1	
611	6222	Left Flange	⌀ 17	1	
612	S414	Hex. Socket Head Screw	5/16"x1"L	6	
613	6223S	Table Nut Set	Metric31\31L	1	
613	6223-1S	Table Nut Set	Inch31\31L	1	
616	6224S	Table Screw Asbly	Metric31	1	
616	6224-1S	Table Screw Asbly	Inch31	1	
616	6224-2S	Table Screw Asbly	Metric31L	1	
616	6224-3S	Table Screw Asbly	Inch31L	1	
617	6602-3	Link Screw		2	
618	61121	Limit Plate		2	
619	HH001	Rivet	⌀ 2	4	
620	6616	Center Base	31	1	
620	6616-1	Center Base	31L	1	
621	6217	Antidust Plate		1	
622	6218S	Antidust Plate Asbly		1	
623	6627	Gib Strip	31	1	
623	6627-1	Gib Strip	31L	1	
624	6607	Gib Strip		1	
625	6214	Movable Fixed Block		1	
626	S018	Hex. Head Screw	5/16"x1/2"L	4	
627	6212	Gib Strip Bolt		2	
628	6630	Bushing		4	
629	6213-1	Grip		2	
629	6213-2	Grip		2	
630	6151-1	T Screw		2	
630	6213	Thumb Screw		2	
631	S414	Hex. Socket Head Screw	5/16"x1"L	2	
632	S418	Hex. Socket Head Screw	5/16"x2-1/4"L	1	
633	6215S	Acme Nut Asbly	Metric	1	
633	6215-1S	Acme Nut Asbly	Inch	1	
634	6606	Swivel Base		1	
635	6605S	Acme Screw Asbly	Metric	1	
635	6605-1S	Acme Screw Asbly	Inch	1	
636	6608	Column Base		1	
636	6608-1	Column Base		1	

PARTS LIST

MODEL NO. 31N2F

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
637	6610	Rack	600.5L	1	
637	6610-1	Rack	885.5L	1	
638	6611S	Column Head Asbly		1	
640	6609	Column Flange Ring		1	
641	S004	Hex. Head Screw	5/8"x2-1/2"L	4	
642	W206	Spring Washer	5/8"	4	
643	S419	Hex. Socket Head Screw	5/16"x3/4"L	2	
644	W205	Spring Washer	5/16"	3	
645	HD103	Plug	PT1/4"x3/8"L	1	
646	6241A	Vise		1	
401	291022BS	Gear Box Assembly		1	
401-1	291022B	Gear Box		1	
401-2	CA6003ZZ	Bearing	6003ZZ	4	
401-3	2450082A	Change Gear Lever		1	
401-4	2450084B	Twisted Spring		1	
401-5	HP006	Pin	⌀ 3x10L	2	
401-6	2450083A	Speed-Changing Key		1	
401-7	2450089A	Bushing Bracket		1	
401-8	HS421	Hex. Socker Headless Screw	M6x6L	2	
401-9	2450074A	Bushing		4	
401-10	2450072A	Gear		1	
401-11	2450071A	Gear		1	
401-12	2450070A	Gear		1	
401-13	291026A	Worm Shaft		1	
401-14	HK009	Key	5x5x25L	1	
401-15	291047	Worm Gear		1	
401-16	HS421	Hex. Socker Headless Screw	M6x6L	2	
401-17	HCR04	C-Retainer ring	R35	2	
401-18	2450014	Cover		2	
401-19	2450079	Speed Lever		1	
401-20	HS512	Cross Round Head Screw	M4x0.7x25L	1	
401-21	290089	Spring		1	
401-22	HB001	Steel Ball	⌀ 8 or 5/16"	1	
401-23	2450051	Pin		1	
401-24	2450020	Release Block		1	
401-25	HCS08	C-Retainer ring	S19	1	
401-26	2450077A	Gear		1	
401-27	2450076A	Gear		1	
401-28	2450075A	Gear		1	
401-29	291028A	Transmission Worm Shaft		1	
401-30	HK011	Key	5x5x32L	1	
401-31	291027A	Gear Shaft		1	
401-32	HCS04	C-Retainer ring	S15	1	

PARTS LIST

MODEL NO. 31N2F

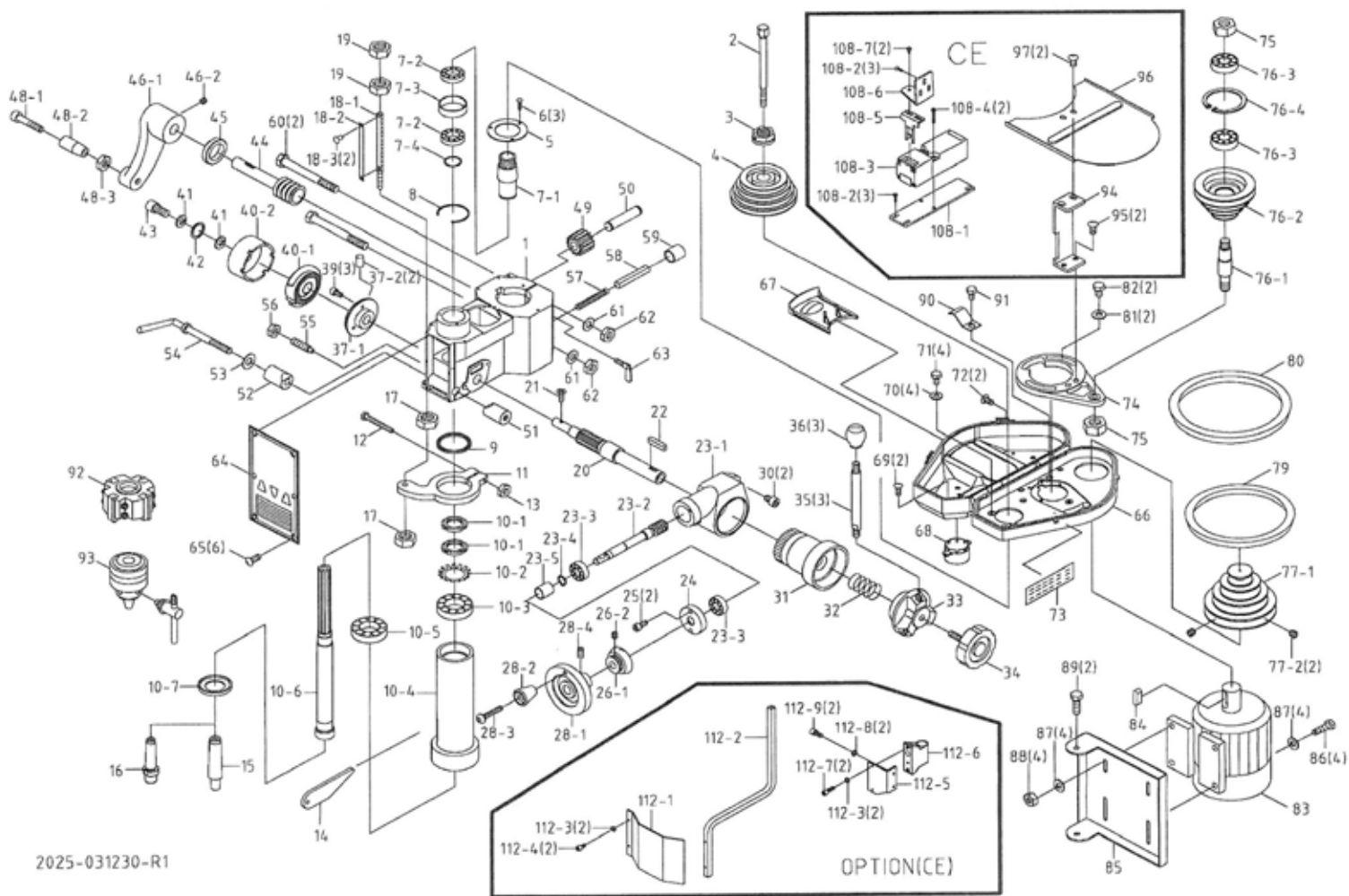
CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
401-33	2450057	Bushing		1	
401-34	2450054	Spring		1	
401-35	291046	Worm Shaft		1	
401-36	HS421	Hex. Socker Headless Screw	M6x6L	2	
401-37	291050	Clutch Block		1	
401-38	CA6003ZZ	Bearing	6003ZZ	2	
401-39	HK006	Key	5x5x10L	1	
401-40	291023A	Worm Shaft		1	
401-41	HK013	Key	5x5x45L	1	
401-42	291024A	Worm Base		1	
401-43	W202	Spring Washer	1/4"	3	
401-44	S404	Hex. Socket Head Screw	1/4"x3/4"L	3	
401-45	HCS06	C-Retainer ring	S17	1	
402	291032A	Gear Box Cover		1	
403	291029AS	Pinion Shaft Assembly		1	
403-1	2450048	Worm Gear Cover		1	
403-2	HS605	Flat Cross Head Screw	M4x4L	3	
403-3	HCS13	C-Retainer ring	S25	1	
403-4	2450024	Clutch Key Base		1	
403-5	2450026	Clutch Key		2	
403-6	2450025	Clutch Key Pin		2	
403-7	2450028	Spring		2	
403-8	2450027	Spring Pin		2	
403-9	2450023	Worm Gear		1	
403-10	2450022	Key		2	
403-11	291029A	Pinion Shaft		1	
404	S303	Flat Cross Head Screw	3/16"x3/8"L	1	
405	S416	Hex. Socket Head Screw	5/16"x1-1/4"L	3	
406	291049	Bearing Spacer		1	
407	291030AS	Clutch Bushing Assembly		1	
407-1	291030A	Clutch Bushing		1	
407-2	2450030	Bushing Pin		1	
407-3	2450031	Bushing Stop		1	
407-4	2450032A	Scale Base	Metric	1	
407-4	2450032B	Scale Base	Inch	1	
407-5	HP016	Pin	5	1	
407-6	2450037	Handle Body		1	
407-7	2450039	Handle Rod Pin		2	
407-8	2450033	Scale Base Set Screw		1	
407-9	2450038	Knob W/Shaft		2	
407-10	2450063	Graduated Base Fixed Grip		1	
407-11	N007	Hex. Nut	5/16"	1	
407-12	2450098	T Screw	5/16"x3/4"L	1	

PARTS LIST

MODEL NO. 31N2F

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
408	S474	Hex. Socket Head Screw	5/16"x3-1/2"L	3	
409	2450060	Scale		2	
410	HH001	Rivet	5/16"x4L	4	
411		Speed Scale	Metric	1	
411		Speed Scale	Inch	1	
412	6145	Worm Cover		1	
413	S708	Cross Round Head Screw	3/16"x3/8"L	2	
414	291051S	Micro Adjusting Indicator Set	Metric	1	
414	291051AS	Micro Adjusting Indicator Set	Inch	1	
416	6142BS	Handwheel Assembly		1	
418	290110S	Sub-Pulley Set		1	
420	290114	Round Belt	5/8"x679	1	
421	290086	Plastic Round Knob		2	
422	HW016	Washer	5/16"x23x2t	1	
423	HS241	Hex. Socket Head Screw	M8x12L	1	
424	291057	Rubber Plate		1	

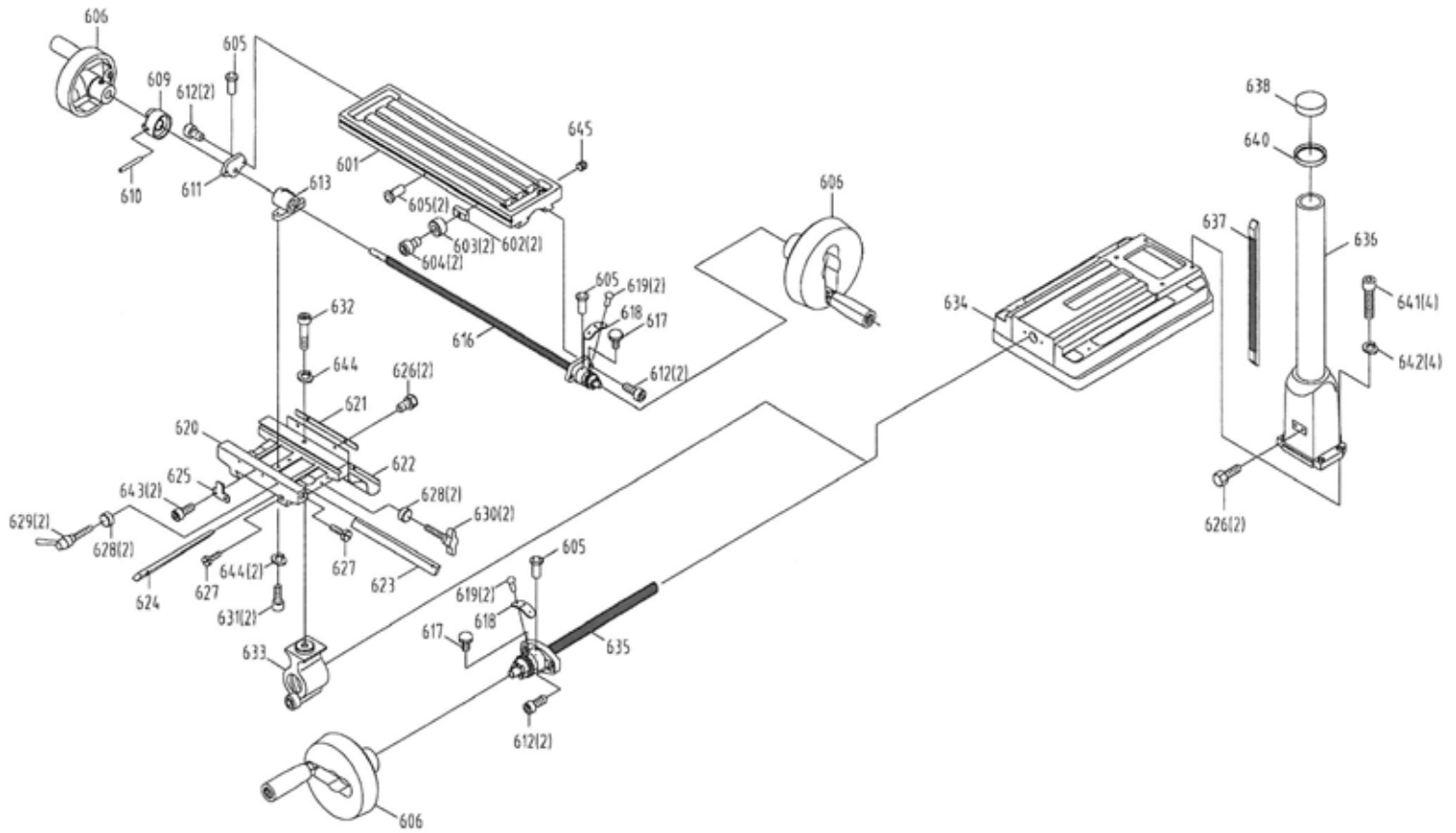
532901
PARTS BREAKDOWN



2025-031230-R1

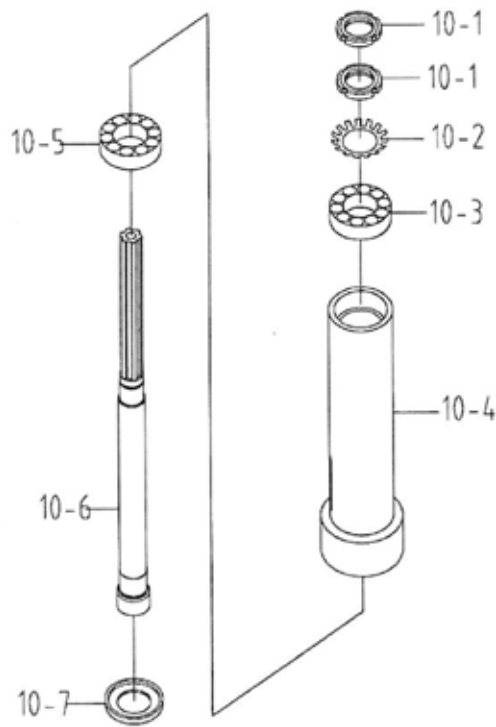
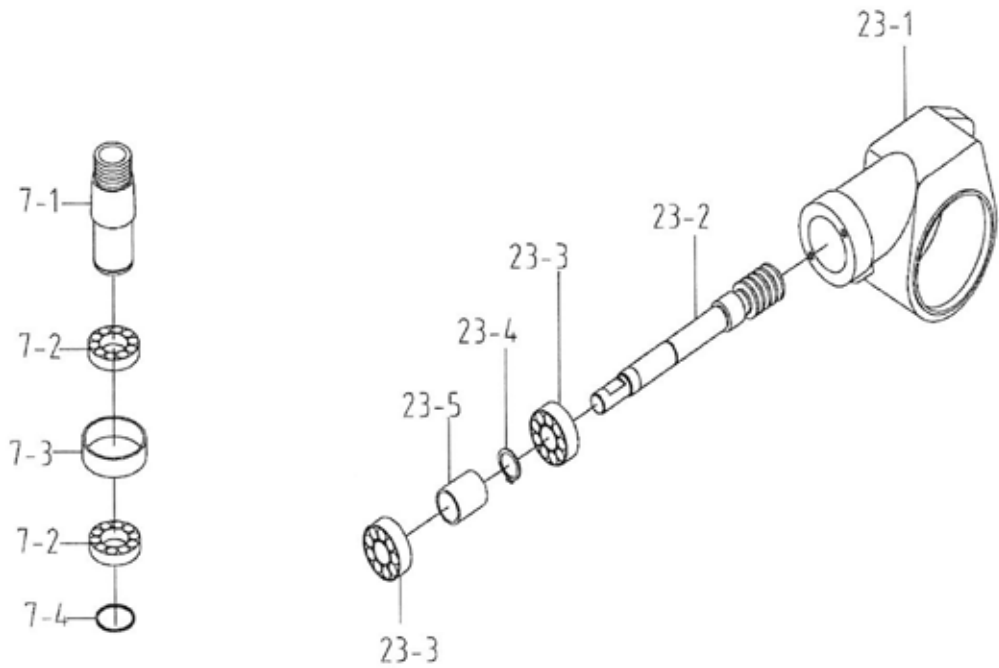
532901

PARTS BREAKDOWN



25TA-060720-R1

532901
PARTS BREAKDOWN



PARTS LIST

MODEL NO. 25

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
1	7111	Head Body		1	
2	7101	Chuck Arbor Bolt	MT3 M10xP1.5	1	
2	7101-1	Chuck Arbor Bolt	M12xP1.75	1	
2	7101-2	Chuck Arbor Bolt	W3/8"-16	1	
2	7101-3	Chuck Arbor Bolt	W1/2"-12	1	
2	7101-4	Chuck Arbor Bolt	W7/16"-20	1	
3	7102	Spindle Locknut		1	
4	7103	Spindle Pulley		1	
5	7105	Outer Bearing Plate	§ 84x50x2.8t	1	
6	S701	Cross Round Head Screw	1/4"x1/2"L	3	
7	7106S	Spindle Taper Sleeve Set		1	
7-1	7106	Spindle Taper Sleeve		1	
7-2	CA6007ZZ	Ball Bearing (6007ZZ)	6007ZZ	2	
7-3	7108	Washer	§ 60x § 55x16	1	
7-4	7123	Retainer Ring		1	
8	7109	C-Retainer ring	§ 3x § 61	1	
9	7112	Rubber Flange		1	
10	7116S	Rack Sleeve Set	MT3	1	
10	7116-2S	Rack Sleeve Set	R8	1	
10	7116-1S	Rack Sleeve Set	MT Heat treatment	1	
10	7116-3S	Rack Sleeve Set	R8 Heat treatment	1	
10	7116BS	Rack Sleeve Set	NT30 Heat treatment	1	
10	7116SS	Rack Sleeve Set	MT3	1	Option
10-1	7114	Locknuts		2	
10-2	HW210	Washer	§ 25.4	1	
10-3	CA30205J	Taper Roller Bearing (30205J)	E30205J	1	
10-4	7116	Rack Sleeve	MT3	1	
10-4	7116-2	Rack Sleeve	R8	1	
10-4	7116-1	Rack Sleeve	MT3 Heat treatment	1	
10-4	7116-3	Rack Sleeve	R8 Heat treatment	1	
10-4	7116B	Rack Sleeve	NT30 Heat treatment	1	
10-5	CA30206J	Taper Roller Bearing (30206J)	E30206J	1	
10-6	7117	Spindle Shaft	MT3	1	
10-6	7117-1	Spindle Shaft	MT3 Heat treatment	1	
10-6	7117-2	Spindle Shaft	R8	1	
10-6	7117-3	Spindle Shaft	R8 Heat treatment	1	
10-6	7117A	Spindle Shaft	NT30 Heat treatment	1	
10-7	7119	Bearing Cap	MT3R8	1	
11	7113	Feed Base		1	
12	S008	Hex. Head Screw	1/4"x2"L	1	
13	N003	Hex. Nut	1/4"	1	
14	6168	Punch Key		1	
15	6121	Chuck Arbor	MT3 M10xP1.5	1	

PARTS LIST

MODEL NO. 25

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
15	6121-1	Chuck Arbor	MT3 M12xP1.75	1	
15	6121-2	Chuck Arbor	MT3 W3/8"-16	1	
15	6121-3	Chuck Arbor	MT3 W1/2"-12	1	
15	6121-4	Chuck Arbor	R8 W7/16"-20	1	
15	6121-5	Chuck Arbor	R8 7/16"-20 JT3	1	
15	6121-7	Chuck Arbor	MT3 M12-B16	1	
15	6121-9	Chuck Arbor	MT3 M12 B18	1	
15	6122-3	Chuck Arbor	NT30	1	
16	7120	Cutter Arbor	MT3 M10xP1.5	1	
16	6122D	Cutter Arbor	MT3 M12- § 22	1	
16	7120-2	Cutter Arbor	MT3 W3/8"-16	1	
16	7120-3	Cutter Arbor	MT3 W1/2"-12	1	
16	7120-4	Cutter Arbor	R8 W7/16"-20	1	
17	N005	Hex. Nut	3/8"	2	
18	7154S	Granduated Rod Set		1	
19	N002	Hex. Nut	1/2"	2	
20	71106	Pinion Shaft		1	
21	S307	Flat Cross Head Screw	3/16"x1/2"L	1	
22	HK030	Key	6x6x45L	1	
23	61108S	Feed Cover Set		1	
23-1	61108	Feed Cover		1	
23-2	6147	Worm Shaft		1	
23-3	CA6202ZZ	Ball Bearing (6202ZZ)		2	
23-4	HCS04	C-Retaniner Ring	§ 15	1	
23-5	6135	Washer		1	
24	6145	Worm Cover		1	
25	S708	Cross Round Head Screw	3/16"x3/8"L	2	
26	6144S	Micro Adjusting Indicator Set	Metric	1	
26	6144-1S	Micro Adjusting Indicator Set	Inch	1	
28	6142-2AS	Handwheel Assembly		1	
30	S419	Hex. Socket Head Screw	5/16"x3/4"L	2	
31	61107	Worm Gear		1	
32	61115	Spring		1	
33	61110	Up-Down Handle		1	
34	6138	Blade Adjustable Knob		1	
35	6139	Knob W/Shaft		3	
36	290086	Plastic Round Knob		3	
37	61105	Spring Base Set		1	
39	S732	Cross Round Head Screw	3/16"x3/4"L	3	
40	61103S	Spring&Spring Cover		1	
41	W202	Spring Washer	1/4"	2	
42	W005	Washer	1/4"	1	
43	S471	Hex. Socket Head Screw	1/4"x5/8L	1	

PARTS LIST

MODEL NO. 25

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
44	7159	Worm Shaft		1	
45	71114	Bushing		1	
46	7158S	Head Handle Set		1	
48	6027-1S	Knob		1	
49	6160	Worm Gear		1	
50	7161	Worm Shaft		1	
51	7126	Fixed Tight Collar		1	
52	7125	Fixed Tight Collar		1	
53	W002	Washer	1/2"x7/8"x2t	1	
54	7124	Handle Rod		1	
55	7127	Screw Key		1	
56	N005	Hex. Nut	3/8"	1	
57	6162	Spring		1	
58	7163	Pin		1	
59	6179	Rubber Collar		1	
60	7152	Head Body Fix Bolt	1/2"-172L	2	
61	W001	Washer	1/2"x1-1/4"x3t	2	
62	N001	Hex. Nut	1/2"	2	
63	6151	Thumb Screw	3/8"-16UNC	1	
63	6151B	Blade Adjustable Knob	3/8"-16UNC x30L	1	Option
64		Name Plate		1	
65	S702	Cross Round Head Screw	1/4"x1/4"L	6	
66	7169A	Belt Cover		1	
67	6169-3	Shelf		1	
68	6169B	Spindle Cover		1	
69	HS801	Screw	3mm	2	
70	W005	Washer	1/4"	4	
71	S701	Cross Round Head Screw	1/4"x1/2"L	4	
72	HS528	Cross Round Head Screw	M6x12L	2	For CE only
73		Pulley Speed Chart		1	
74	7176B	Speed Change Inter Pulley Base		1	
75	N008	Hex. Nut	5/8"	2	
76	7173S	Inter Pulley Set		1	
77	7170DS	Motor Pulley Set		1	
78	HB111	Oil Ball	1/4"	1	
79	BA030	V-Belt	A30	1	
79	BG033	T-Belt	17310	1	
80	BA038	V-Belt	A38	1	
81	W017	Washer	5/16"	2	
82	S019	Hex. Head Screw	5/16"x1-1/2"L	2	
83		Motor		1	
84	HK096	Key	7x7x38L	1	
85	7166	Motor Mount Plate		1	
86	S017	Hex. Head Screw	5/16"x1"L	4	

PARTS LIST

MODEL NO. 25

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
87	W033	Washer	5/16"x27mmx2t	8	
88	N007	Hex. Nut	5/16"	4	
89	S011	Hex. Head Screw	3/8"x1/2"L	2	
90	6577	Wire Relief Retainer		1	
91	S701	Cross Round Head Screw	1/4"x1/2"L	1	
92	7186	Milling Cutter	§ 20	1	
92	7186A	Milling Cutter	§ 20	1	
92	7186B	Milling Cutter	§ 22	1	
93	6187	Chuck	1/2"-JT6	1	
93	6187-1	Chuck	1/2"-B16	1	
94	7104-5	Protective Plate(For CE Only)		1	For CE only
95	HS527	Cross Round Head Screw	M6x10L	2	For CE only
96	7104-4	Protective Plate(For CE Only)		1	For CE only
96	7104B	Protective Plate(For CE Only)		1	Option
97	HS527	Cross Round Head Screw	M6x10L	2	For CE only
108	6638S	Micro Switch Bracket Set		1	For CE only
109		Switch		1	
124	690045S	Chuck Guard Asbly(For CE Only)		1	For CE only
124	690045AS	Chuck Guard Asbly(For CE Only)		1	For CE only (Option)
601	12228	Table		1	
602	6229	Fixed Block		2	
603	6230	Movable Fixed Ring		2	
604	S402	Hex. Socket Head Screw	1/4"x1/2"L	2	
605	HB111	Oil Ball	1/4"	5	
606	6601CS	Table Handle Wheel Set		3	
607	6027-1S	Clamp Handle		1	
609	6620	Table Clutch	§ 17	1	
610	HP022	Pin	§ 5x38L	1	
611	6222	Left Flange		1	
612	S419	Hex. Socket Head Screw	5/16"x3/4"L	6	
613	6223S	Table Nut Set	Metric	1	
613	6223-1S	Table Nut Set	Inch	1	
616	12224S	Table Screw	Metric	1	
616	12224-1S	Table Screw	Inch	1	
617	6602-3	Link Screw		2	
618	61121	Limit Plate		2	
619	HH001	Rivet	§ 2	4	
620	12216	Center Base		1	
621	6217	Antidust Plate		1	
622	6218S	Antidust Plate		1	
623	7227	Gib Strip		1	
624	7207	Gib Strip		1	
625	6214	Movable Fixed Block		1	
626	S018	Hex. Head Screw	5/16"x1/2"L	4	
627	6212	Gib Strip Bolt		2	

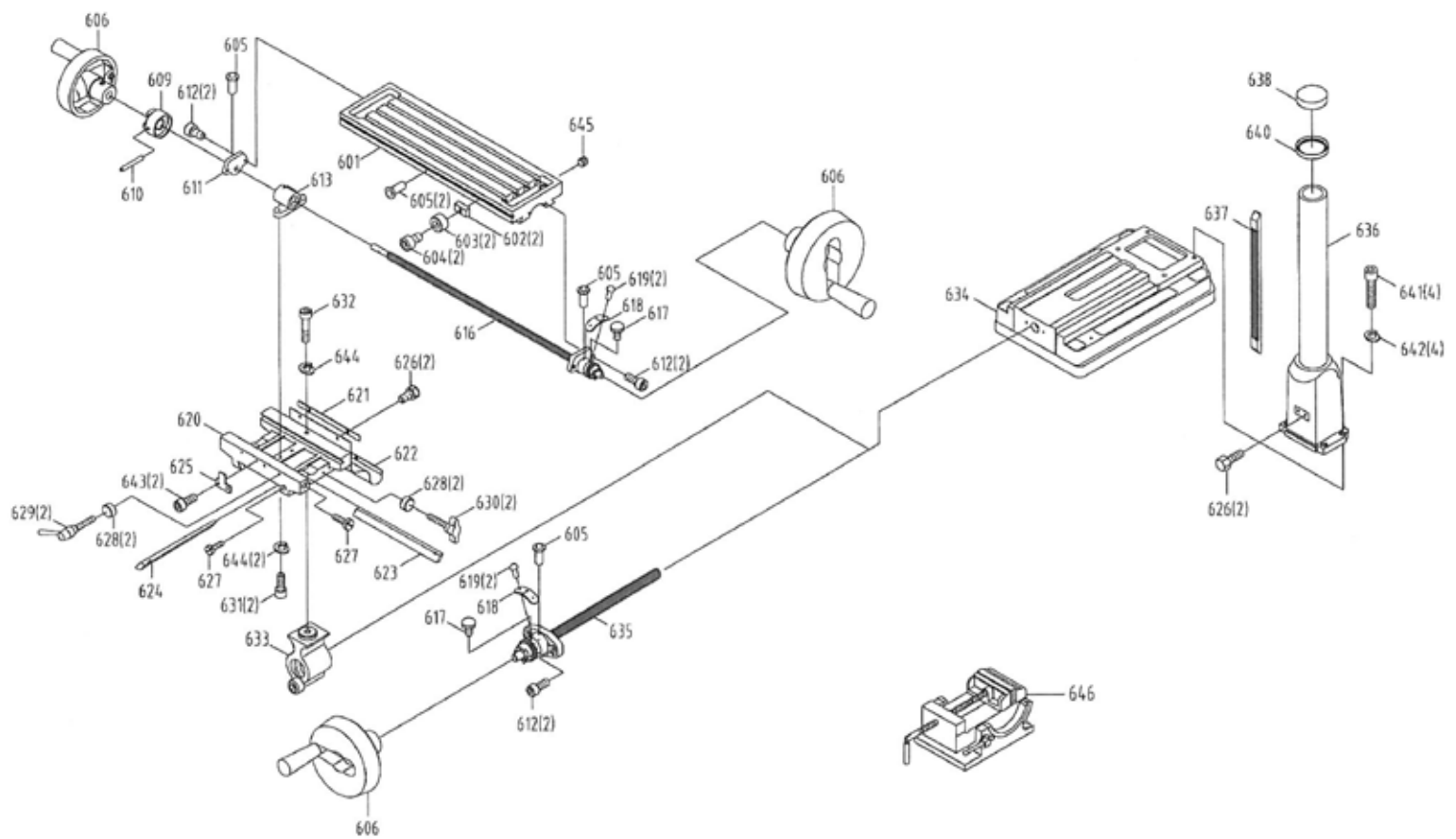
PARTS LIST

MODEL NO. 25

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
628	6630	Bushing		4	
629	6213-1	Grip	AL	2	
629	6213-2	Grip		2	
630	6151-1	T Screw		2	
630	6213	Thumb Screw		2	
631	S414	Hex. Socket Head Screw	5/16"x1"L	2	
632	S418	Hex. Socket Head Screw	5/16"x2-1/4"L	1	
633	6215S	Acme Nut Set	Metric	1	
633	6215-1S	Acme Nut Set	Inch	1	
634	12206	Swivel Base		1	
635	7205S	Acme Screw Set	Metric	1	
635	7205-1S	Acme Screw Set	Inch	1	
636	7208	Column Base		1	
637	7210	Rack		1	
638	7211S	Column Head Set		1	
640	7209	Column Flange Ring		1	
641	S421	Hex. Socket Head Screw	7/16"x2"L	4	
642	W215	Spring Washer	7/16"	4	
643	S419	Hex. Socket Head Screw	5/16"x3/4"L	2	
644	W205	Spring Washer	5/16"	3	
645	HD103	Plug	PT1/4"x3/8"L	1	
646	6241A	Vise		1	

532901

PARTS BREAKDOWN



31BS-060720-R1

PARTS LIST
MODEL NO. 31BS

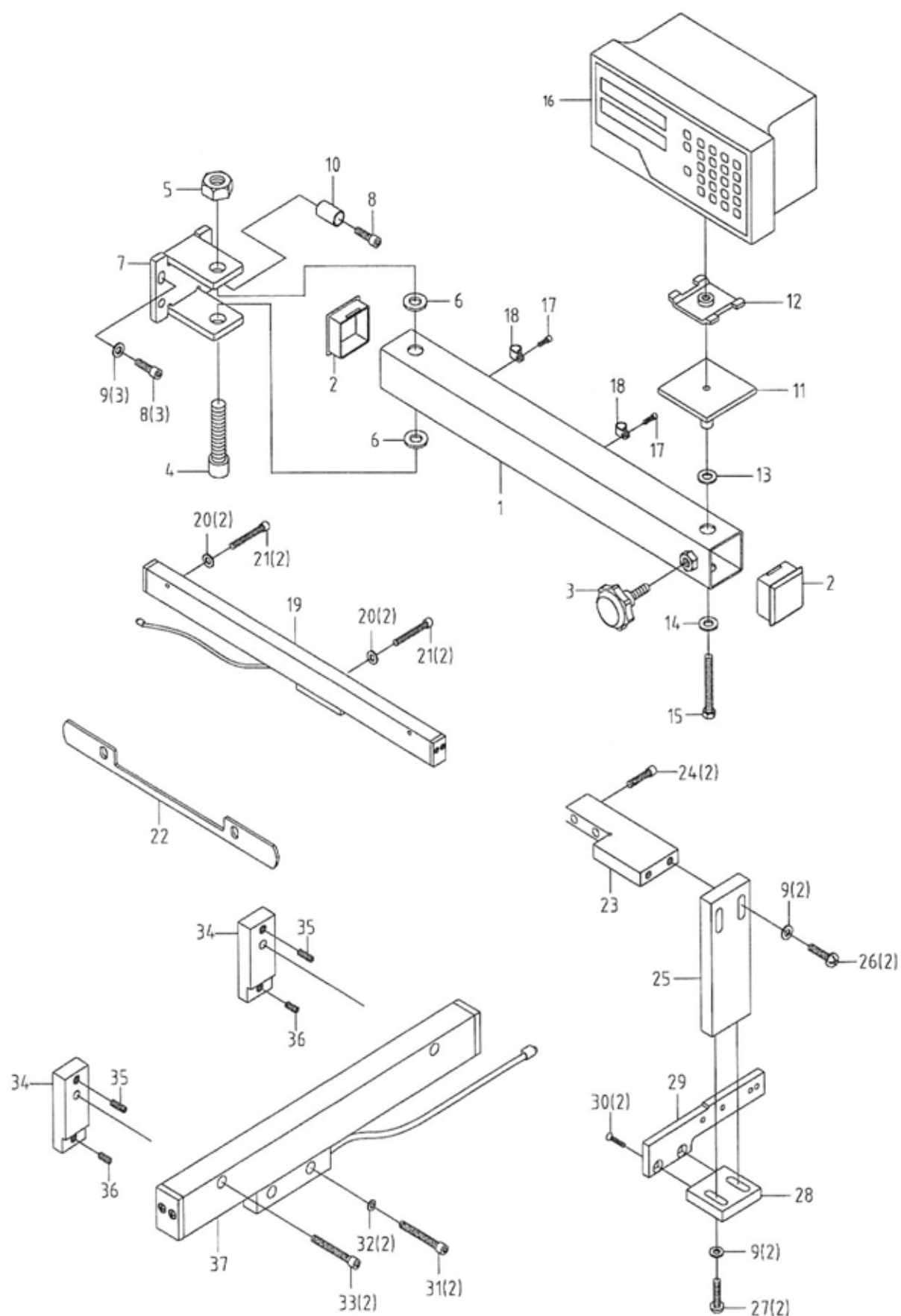
CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
601	6628	Table	31	1	
601	6628-1	Table	31L	1	
602	6229	Fixed Block		2	
603	6230	Movable Fixed Ring		2	
604	S402	Hex. Socket Head Screw	1/4"x1/2"L	2	
605	HB111	Oil Ball	1/4"	4	
606	6601CS	Table Handle Wheel Set		3	
607	6027-1S	Clamp Handle		3	
609	6620	Table Clutch	§ 17	1	
610	HP022	Cotter Pin	§ 5x38L	1	
611	6222A	Left Flange	§ 17	1	
612	S414	Hex. Socket Head Screw	5/16"x1"L	6	
613	6642S	Table Nut Set		1	
616	6224AS	Table Screw Asbly	31	1	
616	242004S	Table Screw Asbly	31L	1	
617	6602-3	Link Screw		2	
618	61121	Limit Plate		2	
619	HH001	Rivet	§ 2	4	
620	6616G	Center Base	31 BS	1	
620	242002	Center Base	31L BS	1	
621	6217	Antidust Plate		1	
622	6218S	Antidust Plate Asbly		1	
623	6627	Gib Strip	31	1	
623	6627-1	Gib Strip	31L	1	
624	6607	Gib Strip		1	
625	6214	Movable Fixed Block		1	
626	S018	Hex. Head Screw	5/16"x1/2"L	4	
627	6212	Gib Strip Bolt		4	
628	6630	Washer		4	
629	6213-1	Grip		2	
629	6213-2	Grip		2	
630	6151-1	T Screw		2	
630	6213	Thumb Screw		2	
631	S414	Hex. Socket Head Screw	5/16"x1L	2	
632	S418	Hex. Socket Head Screw	5/16"x2-1/4"L	1	
633	6641	Acme Nut Base		1	
634	6606D	Swivel Base		1	
635	6605CS	Acme Screw Asbly		1	
636	6608	Column Base		1	
636	6608-1	Column Base		1	
637	6610	Rack	600.5L	1	
637	6610-1	Rack	885.5L	1	
638	6611S	Column Head Asbly		1	
640	6609	Column Flange Ring		1	
641	S004	Hex. Head Screw	5/8"x2-1/2"L	4	
642	W206	Spring Washer	5/8"	4	
643	S419	Hex. Socket Head Screw	5/16"x3/4"L	2	
644	W205	Spring Washer	5/16"	3	
645	HD103	Spring Washer	PT1/4"x3/8"L	1	
646	6241A	Vise		1	

532901

PARTS BREAKDOWN



OPTIONAL ACCESSORIES (DRO)



PARTS LIST

MODEL NO. DRO

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
1	670032	Radial Arm		1	
2	670044	Cover		2	
3	670046	Plum Screw	5/16"x1"L	1	
4	S482	Hex. Socket Head Screw	1/2"x2-3/4"L	1	
5	HB811	Nut	1/2"	1	
6	W035	Washer	5/16"x 5/16" 25x1.8t	2	
7	670033	Radial Arm Bracket		1	
8	S401	Hex. Socket Head Screw	1/4"x1"L	4	
9	W037	Washer	5/16"x 5/16" 12x1.2t	7	
10	670045	Dramper		1	
11	670034	LCD rpm Monitor Base		1	
12	670035	Fixed Plate		1	
13	W036	Washer	5/16"x 5/16" 25x2t	1	
14	W038	Washer	5/16"x 5/16" 3/4"x1.5t	1	
15	HS041	Hex. Head Screw	M6x55L	1	
16	LS001	LCD rpm Monitor	MANVK-20	1	
17	HS202	Hex. Socket Head Screw	M3x10L	2	
18		Binder		2	
19	LS002	Scale	MKT47 (B)	1	
19	LS005	Scale	MKT52 (L)	1	
20	HW002	Washer	M4	4	
21	HS210	Hex. Socket Head Screw	M4x20L	4	
22	6217A	Antidust Plate		1	
23	670036A	Fixed Bracket		1	
24	S475	Hex. Socket Head Screw	1/4"x1-1/4"L	2	
25	670037B	Arm		1	
26	HT008	Round Head Screw	1/4"x1"L	2	
27	HT007	Round Head Screw	1/4"x3/4"L	2	
28	670040A	Plate		1	
29	670041A	Movable Base		1	
30	HD504	Hex. Socket Head Screw	3/16"x5/8"L	2	
31	HS210	Hex. Socket Head Screw	M4x20L	4	
32	HW002	Washer	M4	2	
33	HS215	Hex. Socket Head Screw	M4x45L	2	
34	670039D	Base		2	
35	S603	Hex. Socker Headless Screw	1/4"x3/4"L	2	
36	S604	Hex. Socker Headless Screw	1/4"x3/8"L	2	
37	LS003	Scale	MKT22	1	