



MILLTRONICS USA®
LET'S INVENT

ML18H
Mechanical Parts Manual

Rev 5

September 11, 2015

MILLTRONICS MANUFACTURING COMPANY

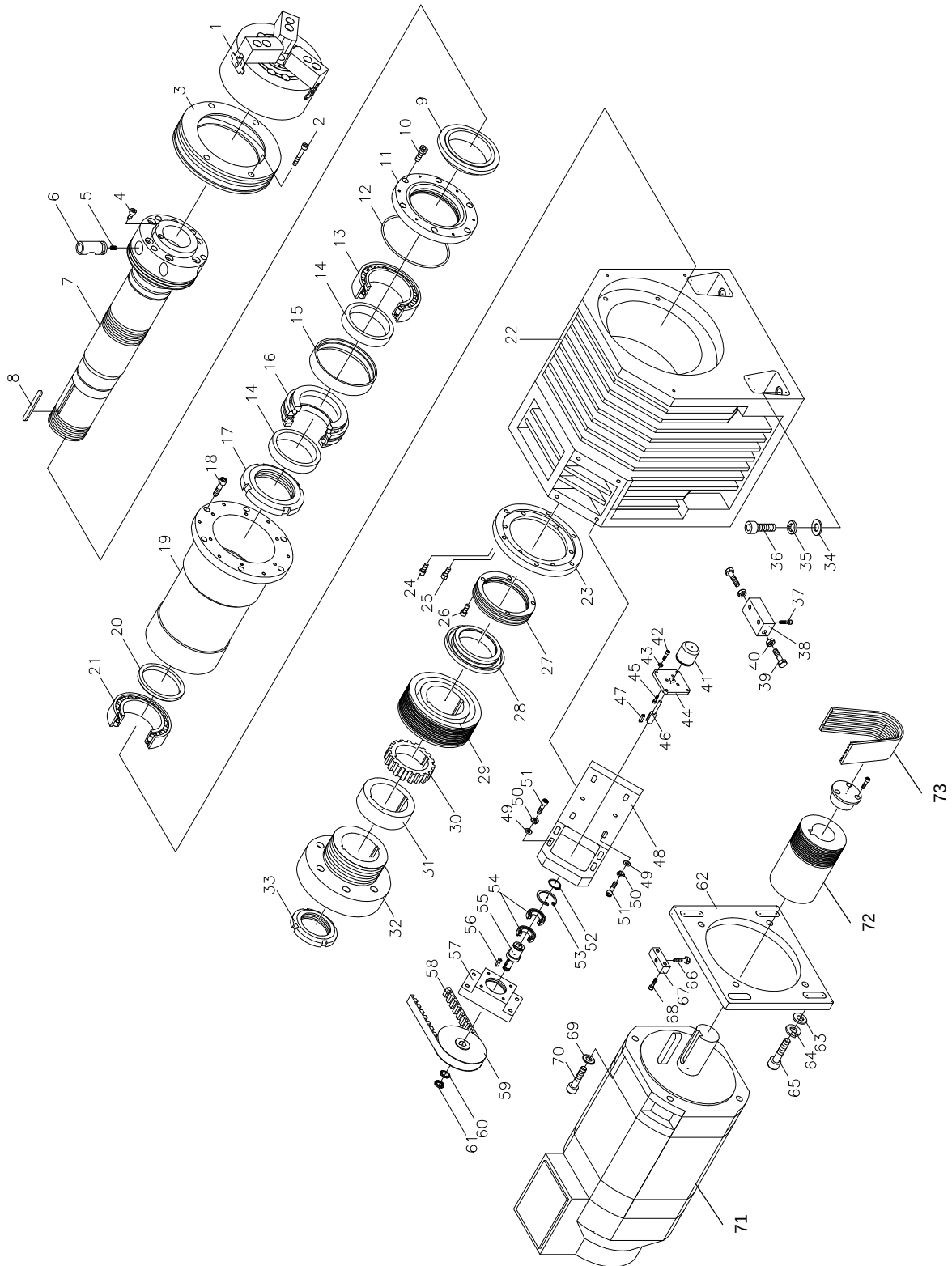
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952- 442-1410
952-442-1401 Technical Support
952-442-1418 Parts
<http://www.milltronics.net/>

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1 Headstock (standard)

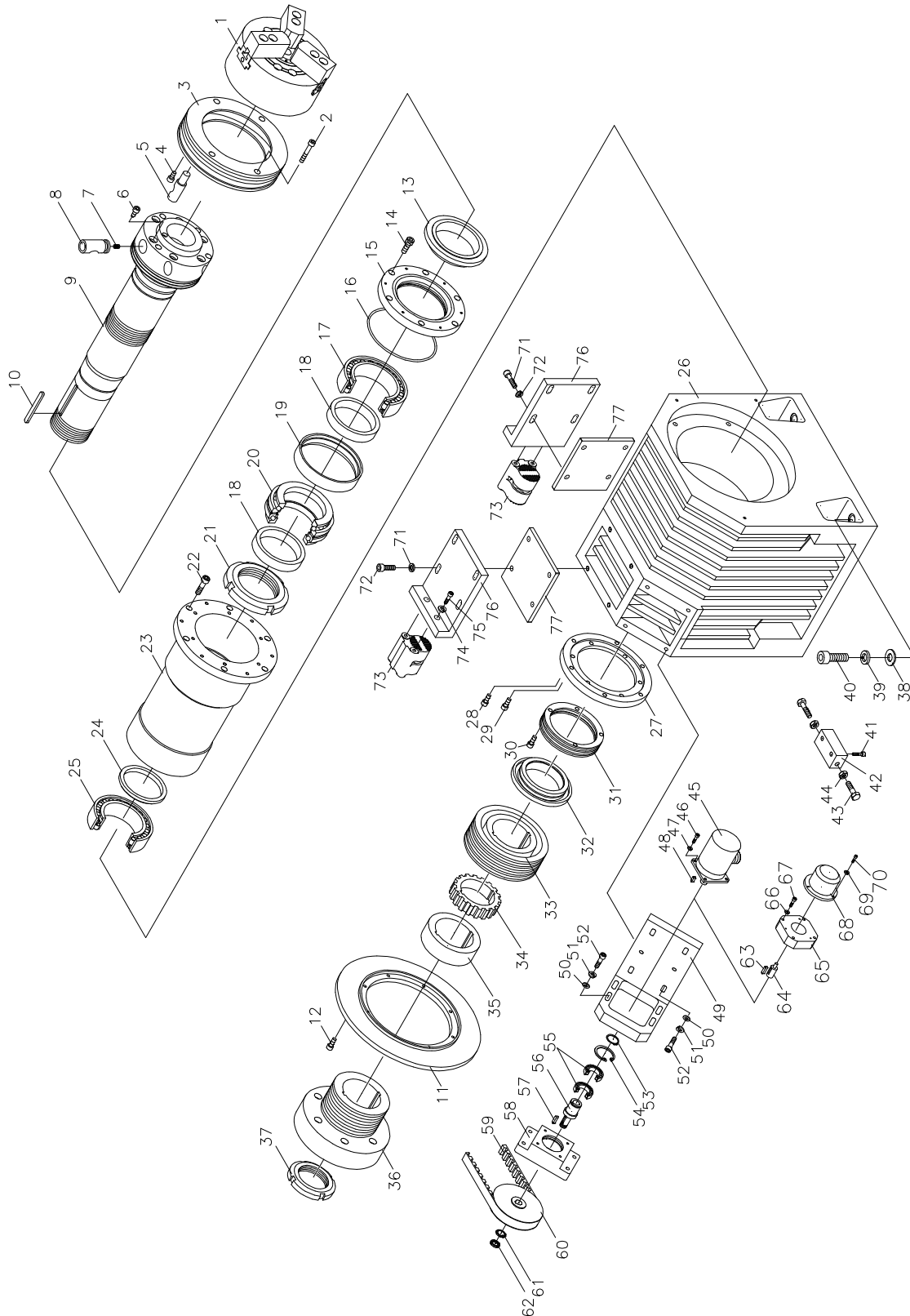


1.1. Headstock (standard)

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		3-jaw chuck	1	SK-8 (option)	MPL0069
2		Hex. socket screw	4	M8XP1.25X25L	
3	E-ARAG-01023-01	Front coupling cover	1		MPL0806
4	E-ARAG-01028-01	Screw for cams	6		
5	E-ARAK-01029-01	Spring	6		
6	E-ARAK-01026-01	Cam	6		
7	E-ARAG-01021-01	Spindle	1		MPL0472
8		Key	1	12X8X135L	
9	E-ARAG-01025-01	Seal ring	1		
10		Hex. socket screw	6	M8XP1.25X60L	
11	E-ARAG-01024-01	Cover	1		
12		O ring	1	G-175	
13		Bearing	1	NN3020K/W33	BG00159
14	E-ARAG-01006-01	Spacer	2		
15	E-ARAG-01017-01	Spacer	1		
16		Bearing	1	HTA020DB	BG00157
17	L-0253-00004	Nut	1	YSR 100X2.0	
18		Hex. socket screw	6	M8XP1.25X35L	MPL0867
19	E-ARAG-01022-01	Sleeve	1		
20	E-ARAG-01007-01	Spacer	1		
21		Bearing	1	NN3018K/W33	BG00158
22	E-ARAG-00001-01	Head stock	1		
23	E-ARAG-01008-01	Rear coupling cover	1		
24		Hex. socket screw	6	M8XP1.25X45L	
25		Hex. socket screw	6	M6XP1.0X25L	
26		Hex. socket screw	6	M8XP1.25X45L	
27	E-ARAG-01009-01	Rear coupling cover	1		MPL0601
28	E-ARAG-01010-01	Seal ring	1		MPL0602
29	E-ARAG-01071-01	Spindle Pulley	1		PY00304
30	E-ARAG-01012-01	Timing belt pulley	1		
31	E-ARAG-01014-01	Spacer	1		
32	E-ARAG-01013-01	Pulley	1		
33		Nut	1	YSK M90X2.0	
34		Washer	6	M16	
35		Spring washer	6	M16	
36		Hex. socket screw	6	M16XP2.0X60L	
37		Hex. socket screw	2	M8XP1.25X35L	MPL0867
38	E-ARAK-00002-01	Adjusting block	1		MPL0868
39		Hex. bolt	2	M10XP1.5X55L	
40		Nut	2	M10	MPL0870

Item	Part no.	Description	Q'ty	Remark	Milltronics #
41	9595 (standard) 9653 (w/orient)	Encoder	1		←
42		Hex. socket screw	4	M5XP0.8X15L	MPL0818
43		Spring washer	4	M5	
44	E-ARAK-03011-01	Plate	1		
45		Hex. Socket screw	3	M3XP0.5X14L	
46	E-ARAK-03012-01	Shaft	1		MPL0542
47		Key	1	5X5X17	MPL0818
48	E-ARAK-03031-02	Adjusting device for encoder	1		
49		Washer	8	M8	
50		Spring washer	8	M8	
51		Hex. socket screw	8	M8XP1.25X45L	
52		C snap	1	STW-25	
53		C snap	1	RTW-47	
54	L-0401-00102	Bearing NSK-6005ZZCM	2		
55	E-ARAK-03004-01	Shaft	1		
56		Key	1	5X5X20L	
57	E-ARAK-03002-01	Encoder bracket	1		
58	L-0902-00001	Timing belt	1	HTD-5M-870-15	BT00093
59	E-ARAG-03001-01	Timing belt pulley	1		MPL0818
60		Washer	1	AW-02	
61		Nut	1	AN-02	
62	E-ARAG-07001-01	Motor bracket	1		
63		Flat washer	4	M16	
64		Spring washer	4	M16	
65		Hex. socket screw	4	M16XP2.0X55L	
66		Hex. bolt	2	M8XP1.25X25L	
67	E-ARAK-07004-01	Adjusting block	2		
68		Hex. socket screw	4	M6XP1.0X20L	
69		Spring washer	4	M12	
70		Hex. socket screw	4	M12XP1.75X30L	
71		Spindle Motor	1	7.5kw	MO-114
		Spindle Motor	1	11 kw	MO-150
72		Spindle Motor Pulley	1		
73		Spindle Belt	1	865L12	BT-99

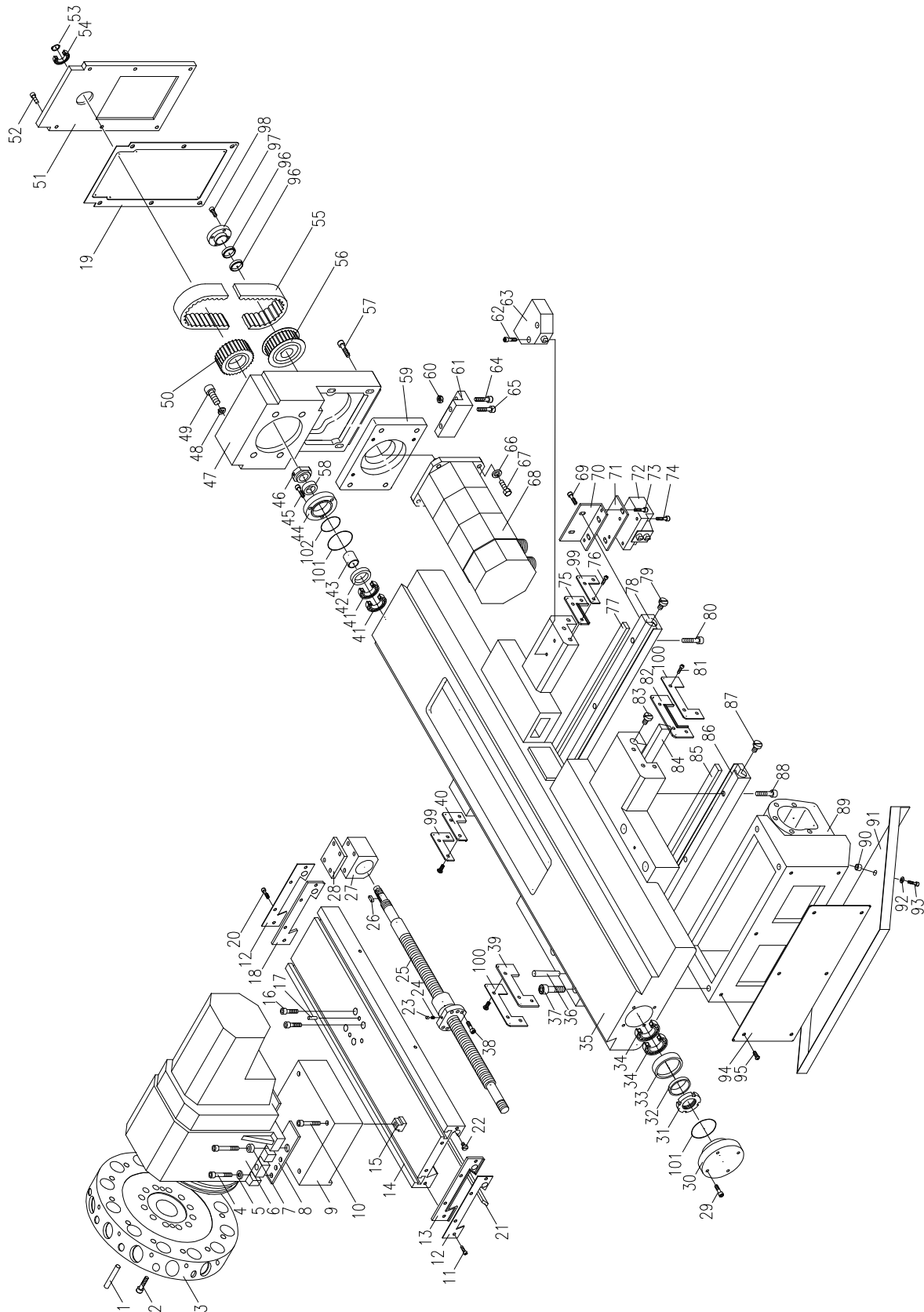
2 Headstock (with c-axis: option)



2.1 Headstock (with c-axis: option)

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		3-jaw chuck	1	SK-8 (option)	MPL0069
2	5001-A08125030	Hex. socket screw	4	M8XP1.25X25L	
3	E-ARAG-01023-01	Front coupling cover	1		MPL0806
4	5001-A08125016	Hex. socket screw	6	M8XP1.25X16L	MLA0096
5	E-ARAG-01027-01	Studs	6		
6	E-ARAG-01028-01	Screw for cams	6		
7	E-ARAK-01029-01	Spring	6		
8	E-ARAK-01026-01	Cam	6		
9	E-ARAG-01021-01	Spindle	1		
10	5121-C12008135	Key	1	12X8X135L	
11	E-ARAG-55002-01	Disk	1		
12		Hex. socket screw	8	M6XP1.0X14L	
13	E-ARAG-01076-01	Seal ring	1		
14	5001-A0812560	Hex. Socket screw	6	M8XP1.25X60L	
15	E-ARAG-01074-01	Cover	1		
16		O ring	1	G-175	
17		Bearing	1	NN3020K/W33	BG00159
18	E-ARAG-01084-01	Spacer	2		
19	E-ARAG-01085-01	Spacer	1		
20		Bearing	1	HTA020DB	BG00157
21	L-0253-00004	Nuts	1	YSR 100X2.0	
22	5001-A08125035	Hex. Socket screw	6	M8XP1.24X35L	MPL0867
23	E-ARAG-01090-01	Sleeve	1		
24	E-ARAG-01083-01	Spacer	1		
25		Bearing	1	NN3018K/W33	BG00158
26	E-ARAG-00001-01	Head stock	1		
27	E-ARAG-01008-01	Rear coupling cover	1		
28	5001-A08125045	Hex. Socket screw	6	M8XP1.25X45L	
29	5001-A06100025	Hex. Socket screw	6	M6XP1.0X25L	
30	5001-A08125045	Hex. Socket screw	6	M8XP1.25X45L	
31	E-ARAG-01078-01	Rear bearing cover	1		
32	E-ARAG-01075-01	Seal ring	1		
33	E-ARAG-01080-01	Pulley	1		
34	E-ARAG-01082-01	Timing belt pulley	1		
35	E-ARAG-01081-01	Spacer	1		
36	E-ARAG-01079-01	Pulley	1		
37		Nuts	1	YSK M90X2.0	
38	5071-B00000016	Washer	4	M16	
39	5081-B00000016	Spring washer	4	M16	
40	5001-B16200060	Hex. Socket screw	4	M16XP2.0X60L	
41	5001-A08125035	Hex. Socket screw	2	M8XP1.25X35L	MPL0867

Item	Part no.	Description	Q'ty	Remark	Milltronics #
42	E-ARAK-00002-01	Adjusting block	1		
43	5002-B10150055	Hex. Bolt	2	M10XP1.5X55L	MPL0869
44	5051-B00010150	Nut	2	M10	MPL0870
45		Encoder	1	C-Axis	EO-42
46	5001-B05080015	Hex. Socket screw	4	M5XP0.8X15L	MPL0818
47	5081-B00000005	Spring washer	4	M5	
48	5121-C05005017	Key (Fanuc)	1	5X5X17	
49	E-ARAK-03031-01	Adjusting device for encoder	1		
50	5071-B00000008	Washer	8	M8	
51	5081-B00000008	Spring washer	8	M8	
52	5001-B08125045	Hex. Socket screw	8	M8XP1.25X45L	
53	5141-A00000025	C snap	1	STW-25	
54	5142-A00000047	C snap	1	RTW-47	
55	L-0401-00102	Bearing	2	6005Z	
56	E-ARAK-55005-01	Shaft	1		
57	5121-C05005020	Key	1	5X5X20L	
58	E-ARAK-03002-01	Encoder bracket	1		
59	L-0902-00001	Timing belt	1	HTD-5M-870-15	BT00093
60	E-ARAG-03001-1	Timing belt pulley	1		MPL0819
61	5087-A00000002	Washer	1	AW-02	
62		Nut	1	AN-02	
63		Key (Siemens)	1	5X5X17	
64	E-ARAK-03041-01	Shaft (Siemens)	1		
65	E-ARAK-03042-01	Plate (Siemens)	1		
66		Spring washer	4	M5	
67		Hex. socket screw	4	M5XP0.8X15L	
68		Encoder (Siemens)	1		See #45
69		Spring washer	3	M3	
70		Hex. socket screw	3	M3XP0.5X14L	
71		Hex. socket screw	8	M10XP1.5X40L	
72		Spring washer	8	M10	
73	E-ARAK-55008-01	Brake	2	DBF10 (NIKA)	
74		Spring washer	4	M12	
75		Hex. socket screw	4	M12XP1.75X40L	
76	E-ARAK-55006-01	Bracket	2		
77	E-ARAG-55003-01	Plate	2		



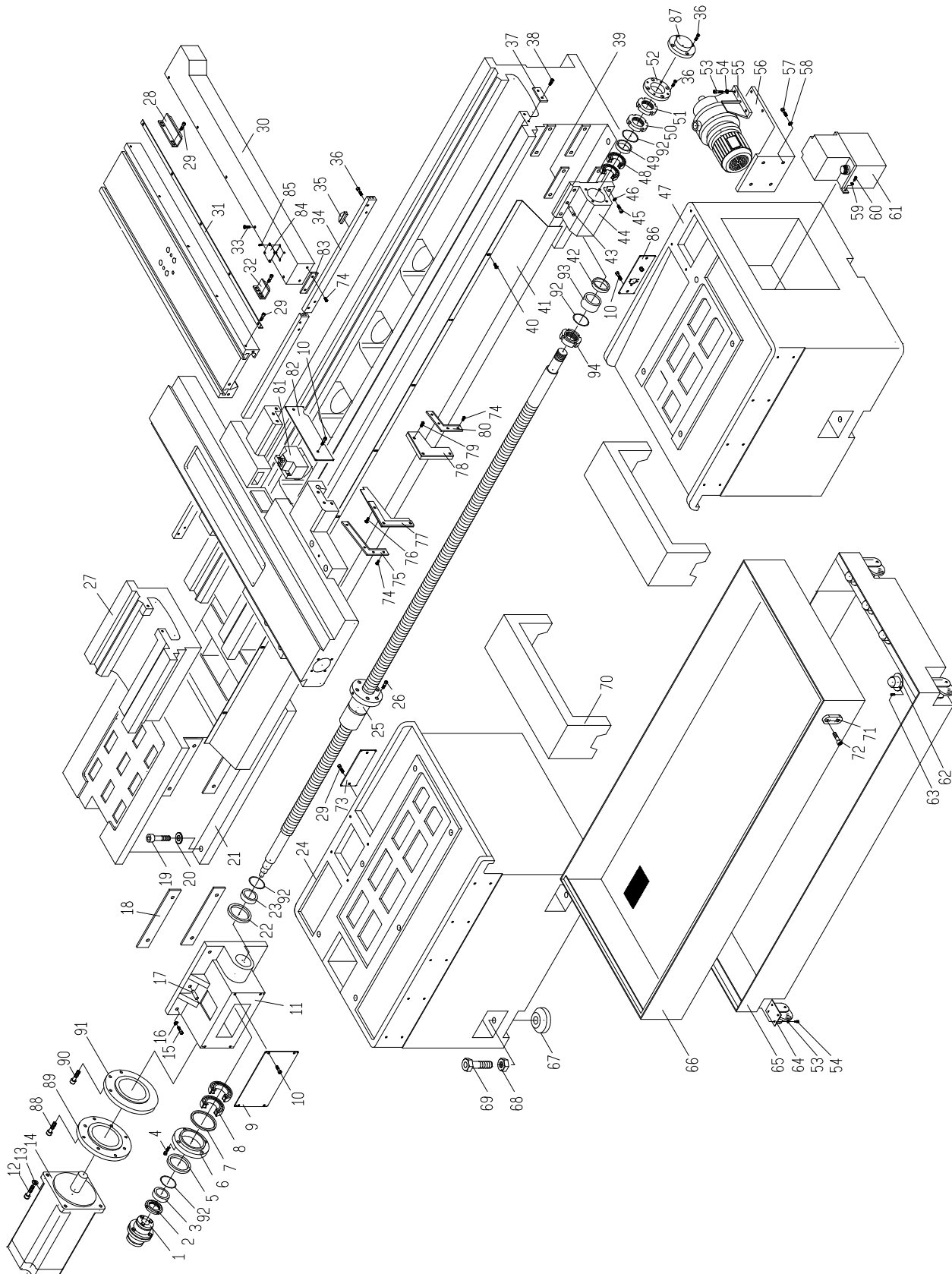
3.1 Carriage & Cross Slide

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1	5103-00006070	Taper pin	2	#6 x 70L	
2	5001-B08125045	Hex. socket screw	8	M8XP1.25X45L	
3	E-ARCE-65003-01	VDI disk	1		
4	5001-B08125035	Hex. socket screw	8	M8XP1.25X35L	MPL0867
5	5081-B00000008	Spring washer	8	M8	MPL0988
6	M-0102-01-001	Turret	1	TB-120	
7		Pin	1	DIA. 11X15X15L	
8	E-ARDE-65032-01	Spacer	2		
9	E-ARDE-65031-01	Raiser block	1		
10	5001-B12175030	Hex. bolt	4	M12XP1.75X30L	
11	5004-B05080012	Cap screw	4	M5XP0.8X12L	
12	E-ARAK-30004-01	Press plate	2		9800-138
13	E-ARAK-30003-02	Wiper	1		9800-138
14	E-ARAG-30001-01	Cross slide	1		MLT0402
15	E-ARAK-30007-01	T block	4	M12	
16	5001-B08125045	Hex. socket screw	4	M8XP1.25X45L	
17		Taper pin	2	#6X50L	MPL0918
18	E-ARAK-30005-02	Wiper	1	Wiper only MLT0406	9800-138
19	E-ARAG-51015-01	Plate	1		9800-138
20	5004-B05080012	Cap screw	4	M5XP0.8X12L	
21	E-ARAG-30002-01	Gib	1		MLA0233
22	2003-56010-400	Adjusting screw	2		MPS-604
23	E-ARAK-51005-01	Bushing	1	(With pulley) →	MLT-485
24	E-ARAK-51006-01	Spring	1		
25	E-ARAG-51001-01	Ball screw & nut	1		MPL0341
26	5121-C05005020	Key	1	5X5X20L	
27	E-ARAG-51005-01	Yoke	1		
28	E-ARAK-51008-01	Spacer	1		MPL-923
29	5001-B06100020	Hex. socket screw	4	M6XP1.0X20L	MLA-28
30	E-ARAG-51002-01	Cover	1		MLB0195
31	L-0253-00001	Nut	1	M20X1.0	
32	E-ARAG-51004-01	Spacer	1		
33	E-ARAG-51003-01	Spacer	1		
34	L-0404-00001	Bearing	1 set	20TAC-47B	BG00102
35	E-ARAG-20001-01	Carriage	1		
36	5103-00007080	Taper pin	2	#7X80L	
37	5001-B12175060	Hex. socket screw	2	M12XP1.75X60L	
38	5001-B05080016	Hex. socket screw	6	M5XP0.8X16L	
39	E-ARAG-20002-02	Wiper	1		9800-138
40	E-ARAG-20005-02	Wiper	1		9800-138
41	L-0404-00001	Bearing	1 set	20TAC-47B	BG00102

Item	Part no.	Description	Q'ty	Remark	Milltronics #
42	E-ARAG-51006-01	Spacer	1		
43	E-ARAG-51007-01	Spacer	1		
44	E-ARAG-51008-01	Cover	1		
45	5001-B06100016	Hex. socket screw	4	M6XP1.0X16L	
46	L-0253-00001	Nut	1	M20X1.0	MLA-106
47	E-ARAG-51010-01	Motor bracket for X axis	1		
48	5081-B00000010	Spring washer	4	M10	
49	5001-B10150035	Hex. socket screw	4	M10XP1.5X35L	
50	E-ARAG-51009-01	Timing belt pulley	1	Ballscrew	MLT0438
51	E-ARAG-51011-01	Cover for X motor bracket	1		
52	5001-B06100020	Hex. socket screw	6	M6XP1.0X20L	MLA-28
53	5141-00000015	C snap	1	STW-15	
54	L-0401-00101	Bearing	1	6202.ZZ	BG00092
55	L-0902-00026	Timing belt	1	HTD-5M-520-20	BT00098
56	E-ARAG-51014-01	Timing belt pulley	1		MLT0444
57	5001-B10150050	Hex. socket screw	4	M10XP.15X50L	10038
58	L-0604-00005	Oil seal	1	TC-304007	MLT0466
59	E-ARAG-51013-01	Motor bracket	1		MLT0447
60	5051-B00010150	Nut	1	M8	MPL0736
61	E-ARAK-51017-01	Adjusting block	1		
62	5001-B06100016	Hex. socket screw	2	M6XP1.0X16L	
63		Limit switch, tailstock	1	BNS-819-FD-60-101	SW00200
64	5001-B08125055	Hex. socket screw	1	M8XP1.25X55L	
65	5001-B08125055	Hex. socket screw	2	M8XP1.25X55L	
66	5081-B00000008	Spring washer	4	M8	MPL-988
67	5001-B08125025	Hex. socket screw	4	M8XP1.25X25L	MLA-24
68		Servo motor for X axis	1	SGMGV-09ADA61	MO00244
		Seal for x-axis motor	1		BG00214
69	5001-B06100016	Hex. socket screw	2	M6XP1.0X16L	
70	E-ARAK-73016-01	Support for limit switch	1		
71	E-ARAK-73017-01	Block for limit switch	1		
72		Home and limit switch	1	BNS819B02-D12-61-12-10	SW00200
73	5001-B06100012	Hex. socket screw	2	M6XP1.0X12L	
74	5001-B06100016	Hex. socket screw	2	M6XP1.0X16L	
75	E-ARAG-20004-02	Wiper	1		9800-138
76	5004-B05080012	Cap screw	6	M5XP0.8X12L	
77	E-ARAK-20004-01	Gib	1		MLT0207
78	E-ARAK-20003-01	Press block (rear)	1		
79	2003-56010-400	Adjusting screw	2		MPL-962
80	5001-B12175040	Hex. bolt	4	M12XP1.75X40L	
81	5004-B05080012	Cap screw	6	M5XP0.8X12L	
82	E-ARAG-20003-02	Wiper	1		9800-138

Item	Part no.	Description	Q'ty	Remark	Milltronics #
83	2003-56010-400	Adjusting screw	2		MPS-604
84	E-ARAK-20005-01	Gib	1		MLT0215
85	E-ARAK-20004-01	Gib	1		MLT0207
86	E-ARAK-20002-01	Press block (front)	1		
87	2003-56010-400	Adjusting screw	2		MPS-604
88	5001-B12175040	Hex. socket screw	4	M12XP1.75X40L	
89	E-ARAG-53007-01	Yoke for Z axis	1		
90	E-ARAK-53014-01	Spacer	2		
91	E-ARAG-70038-01	Tray guard	1		MPL-1013
92	5081-B00000008	Spring washer	2	M8	MPL-988
93	5004-B08125025	Cap screw	2	M8XP1.25X25L	MLA-24
94	E-ARAG-70039-01	Cover	1		
95	5004-B06100012	Cap screw	6	M6XP1.0X12L	
96	E-BLDA-53032-01	Packing toggle(24x28x6.3)	2		
97	E-ARAK-51042-01	Fixing cover	1		
98	5001-A05080020	Hex. socket screw	4	M5XP0.8X20L	
99	E-ARAG-20006-01	Plate	2		
100	E-ARAG-20007-01	Plate	2		
101	L-0603-00004	O ring	2	S-44	
102	L-0601-00006	O ring	1	P-20	
Cable Track, cross slide to enclosure					MPL-330
Cable Track, cross slide to motor					MPL-328

4 Bed



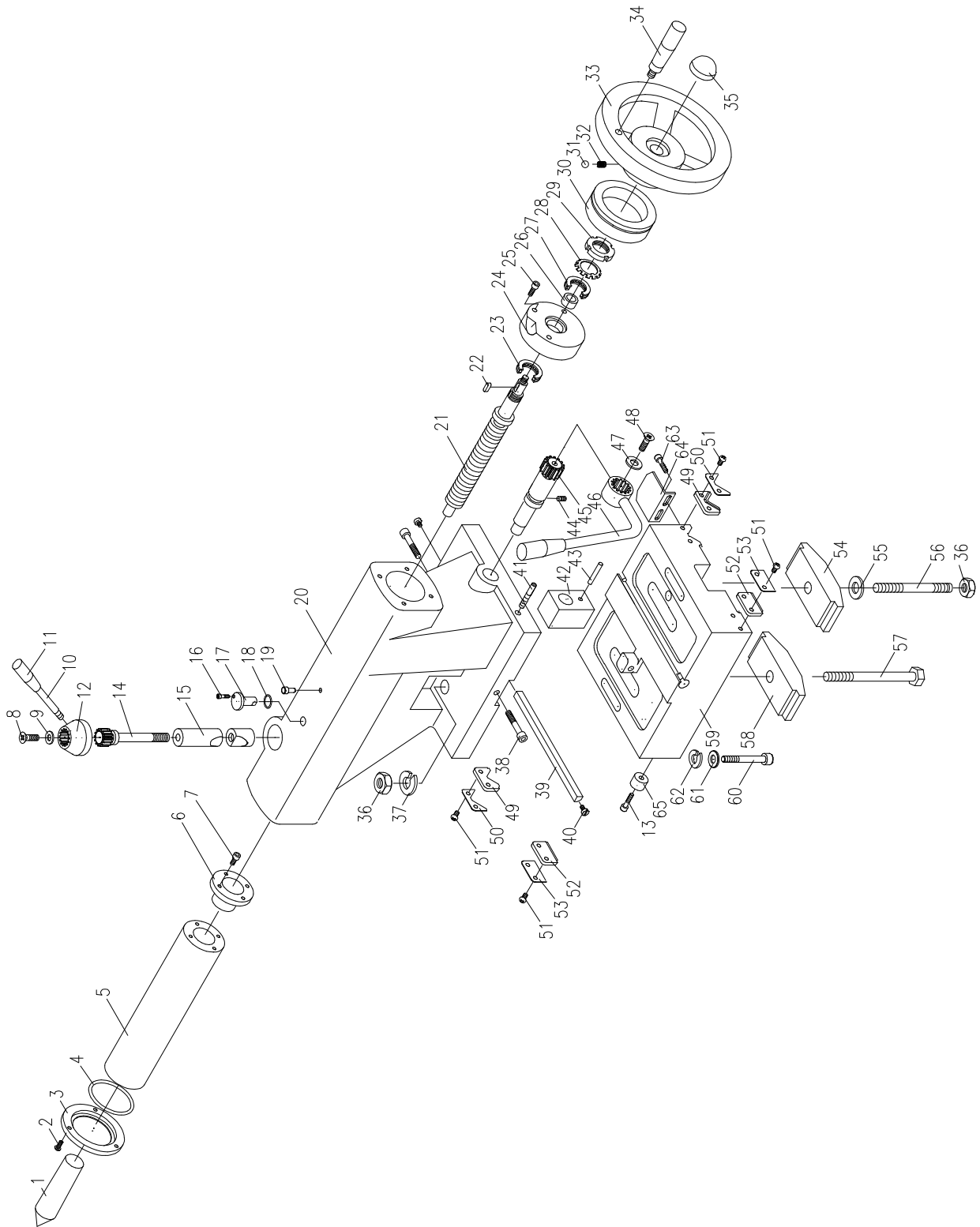
4.1 Bed

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1	L-1101-00002	Coupling	1		MA-241
2	L-0251-00003	Nut	1	M30X1.5	MPL-611
3	E-ARAK-53005-01	Spacer	1		MLB0120
4	5001-B06100020	Hex. socket screw	4	M6XP1.0X20L	MLA-28
5	L-0604-00004	Oil seal	1	TC-455508	MLB0122
6	E-ARAK-53004-01	Cover	1		MPL0981
7	E-ARAK-53006-01	Spacer	1		MPL0956
8	L-0404-00004	Bearing	1set	30TAC-62B	BG00047
9	E-ARAG-70050-01	Cover	1		MPL-1086
10	5004-B06100012	Cap screw	4	M6XP1.0X12L	
11	E-ARAG-53003-01	Bearing bracket for Z axis	1		
12	5001-B10150030	Hex. socket screw	4	M10XP1.5X30L	10033
13	5081-B00000010	Spring washer	4	M10	MPL0887
14		Servo motor	1	SGMGV-13ADA61	MO00246
15	5001-B12175050	Hex. bolt	4	M12XP1.25X50L	
16	5081-B00000012	Spring washer	4	M12	
17	5102-A00006050	Taper pin	2	#6X50L	MPL0918
18	E-ARAG-53010-01	Spacer	2		
19	5001-B16200060	Hex. socket screw	10	M16XP2.0X60L	
20	5081-B00000016	Spring washer	10	M16	
21	E-ARAG-10001-01	Bed	1	BNC-1640	
	E-ARAG-10031-01	Bed	1	BNC-1660	
22	L-0604-00004	Oil seal	1	TC-455508	MLB0122
23	E-ARAK-53005-01	Spacer	1		MLB0120
24	E-ARAG-40001-01	Left stand	1		
25		Ballscrew, 40"	1	* See note below	MPL0840
	E-ARAG-53001-01	Ballscrew, 60"	1	* See note below	MPL0694
26	5001-B10150025	Hex. socket screw	5	M10XP1.5X25L	
27	E-ARAG-10001-01	Gap	1		
28	E-ARAK-73018-01	Stop block	1		
29	5001-B06100016	Hex. socket screw	9	M6XP1.0X16L	
30	E-ARAG-73015-01	Wire track	1		
31	E-ARAG-73015-01	Wire track bracket	1		
32	E-ARAK-73019-01	Stop block	1		
33	5007-B06100010	Cap screw	5	M6XP1.0X10L	
34	E-ARAK-10002-01	Dog guide	2		
35	E-ARAK-10004-01	Dog	3		MPL0735
36	5001-B06100016	Hex. socket screw	6	M6XP1.0X16L	
37	E-ARAK-70028-01	Stop	1		
38	5004-B06100012	Cap screw	2	M6XP1.0X12L	
39	E-ARAK-53011-01	Spacer	2		

Item	Part no.	Description	Q'ty	Remark	Milltronics #
40	5004-B06100012	Cap screw	10	M6XP1.0X12L	
41	E-ARAK-70027-01	Ballscrew cover	1		MPL-1019
42	L-0604-00004	Oil seal	1	TC-455508	MLB0122
43	5102-A00006050	Taper pin	2	#6X50L	MPL0918
44	E-ARAK-53008-01	Bearing bracket for Z axis	1		
45	5001-B12175050	Hex. socket screw	4	M12XP1.75X50L	
46	5081-B00000012	Spring washer	4	M12	
47	E-ARAG-40002-01	Right stand	1		
48	L-0404-00004	Bearing	1set	30TAC 62	BG00047
49	E-ARAK-53005-01	Spacer	1		MLB0120
50	L-0251-00003	Nut	1	M30X1.5	10017
51	E-ARAK-53006-01	Spacer	1		MPL-956
52	E-ARAK-53009-01	Cover	1		
53	5001-B08125016	Hex. socket screw	20	M8XP1.25X16L	
54	5081-B00000008	Spring washer	20	M8	MPL-988
55		Coolant pump	1	TPH2T-2K	MA00290
		Coolant pump, 1-phase		CH2-30	MA00251
56	E-ARAK-70042-01	Pump bracket	1		MA00351
57	5001-B08125020	Hex. socket screw	4	M8XP1.25X20L	
58	5081-B00000008	Spring washer	4	M8	MPL-988
59	5001-B06100016	Hex. socket screw	2	M6XP1.0X16L	
60	5081-B00000006	Spring washer	2	M6	
61		Automatic lubrication pump	1	CEN-01-2L-A-3	MA-458
62	5001-B05080012	Hex. socket screw	16	M5XP0.8X12L	
63		Roller	8	1"	
64		Roller wheel	4	3"DX1.2"T	
65	E-ARAG-41001-01	Coolant tank	1		
66	E-ARAG-41002-01	Coolant tray	1		
67	E-ARAK-40004-01	Leveling block	6		
68	E-ARAK-40003-01	Leveling bolt	6		
69	E-ARAK-40003-01	Nut	6		
70	E-ARAK-41003-01	Tank support	2		
71		Oil glass	1	LS-3"	NU00344
72	5002-B10150030	Screw	2	M10XP1.5X30L	
73	E-ARAK-70045-01	Cover	1		
74	5004-B05080012	Cap screw	8	M5XP0.8X12L	
75	E-ARAK-70057-01	Wiper	1		9800-138
76	5004-B06100016	Cap screw	3	M6XP1.0X16L	
77	E-ARAK-70048-01	Wiper support	1		9800-138
78	E-ARAK-70049-01	Wiper support	1		9800-138
79	5004-B06100020	Cap screw	4	M6XP1.0X20L	
80	E-ARAK-70056-01	Wiper	1		9800-138

Item	Part no.	Description	Q'ty	Remark	Milltronics #
81		Limit switch	1	BNS819B02-D12-61-12-10	SW00200
82	E-ARAK-73027-01	Cover	1		
83	E-ARAK-70058-01	Wiper	1		9800-138
84	E-ARAK-73033-01	Cover	1		
85	5004-B03050006	Cap screw	4	M3XP0.5X6L	
86	E-ARAG-73028-01	Cover	1		
87	E-ARAK-53015-01	Cover	1		
88	5001-B10150030	SHCS (M10XP1.5X30L)	4		10033
89	E-ARAK-53024-01	Motor base	1		
90	5001-B08125020	Hex. socket screw	4	M8XP1.25X25L	MLA-24
91	E-ARAK-53021-01	Flange	1		
92	L-0602-00002	O ring	4	G-30	MPL0854
93	E-ARAK-53018-01	Collar	1		MPL0855
94	L-0251-00001	Nut	1	YSF M35XP1.5	MPL0853
		Z axis way cover	1		MPL0900

5 Tailstock



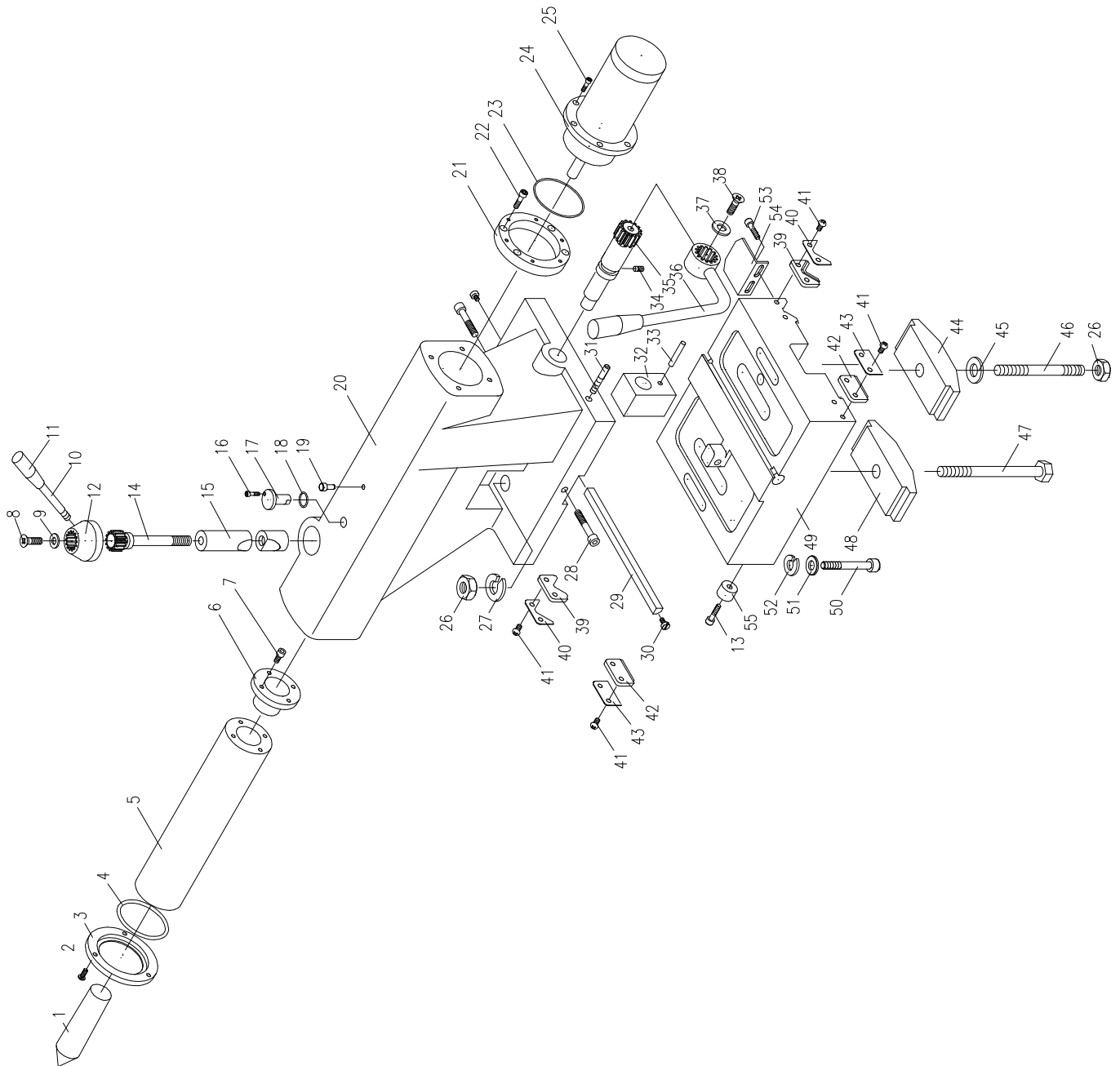
5.1 Tailstock

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		Center		MT5	MPL0757
2	5001-B06100012	Hex. socket screw	4	M6XP1.0X12L	
3	E-ARAK-60022-01	Front cover	1		
4		Oil Seal	1	LBH-657305	
5	E-ARAK-60003-01	Quill	1		MLA0199
6	E-ARAK-60006-01	Nut	1		MLA0200
7	5001-A06100025	Hex. socket screw	4	M6XP1.0X25L	
8	5007-B06100015	Flat screw	1	M6XP1.0X15L	MPL0859
9	E-ARAK-60014-01	Washer	1		MPL0860
10	E-ARAK-60021-01	Lever	1		MLA0081
11		Handle	1	M8	MLA0082
12	E-ARAK-60008-01	Lever seat	1		MLA0083
13	5001-B06100020	Hex. socket screw	1	M6XP1.0X12L	
14	E-ARAK-60009-01	Bolt	1		MPL0861
15	E-ARAK-60010-01	block - clamp	1		MPL0862
16	5001-B05080012	Hex. socket screw	2	M5XP0.8X12L	
17	E-ARAK-60013-01	Key	1		
18		O ring	1	P-12	
19		Oil plug	1	1/4"	
20	E-ARAG-60001-01	Tailstock body	1		MPL-1051
21	E-ARAK-60007-01	Lead screw	1		MLA0215
22	5121-C06006020	Key	1	6X6X20L	
23		Bearing	1	51104	BG-103
24	E-ARAK-60019-01	Indexing dial	1		MLA0095
25	5001-A08125016	Hex. socket screw	4	M8XP1.25X16L	MLA0096
26		Bushing	1	80B-2030	MLA0097
27		Bearing	1	51104	MLA0030
28	5087-A00000004	Washer	1	AW-04	MLA0099
29		Nut	1	AN-04	MLA0100
30	E-ARAK-60020-01	Dial	1		MLA0101
31		Steel ball	1	1/4" (BG00018)	MLA0102
32		Spring	1	6X8X1X15L	MLA0103
33	E-ARAK-60005-01	Hand wheel	1		MLA0227
34		Knob	1	M10	MLA0105
35	5055-B00012175	Nut	1	M12	MLA0229
36	5051-B00020250	Nut	1	M20	
37	5081-B00000020	Washer	1	M20	MPL-988
38	5001-B08125080	Hex. socket screw	2	M8XP1.25X80L	
39	E-ARAG-60016-01	Gib	1		MLA0233
40	E-ARAK-60023-01	Adjusting screw	2		
41	E-ARAK-60017-01	Bolt	1		

Item	Part no.	Description	Q'ty	Remark	Milltronics #
42	E-ARAK-60012-01	Block - adjusting	1		MLA0236
43	5105-A00004035	Spring pin	1	4X35L	MLA0237
44	5010-A08125016	Set screw	1	M8XP1.25X16L	
45	E-ARAK-60015-01	Shaft	1		MLA0116
46	E-ARAK-60018-01	Lever	1		
47	E-ARAK-60028-01	Washer	1		
48	5007-B06100015	Flat screw	1	M6XP1.0X15L	MPL0859
*	49-53	Available as assembly			9800-138
49	E-ARAK-60026-01	Wiper	2	MLA0243	
50	E-ARAK-60027-01	Wiper press plate	2	MLA0244	
51	5004-B05080012	Cap screw	8	M5XP0.8X12L	
52	E-ARAG-60006-01	Wiper	2	MLA0262	
53	E-ARAG-60007-01	Wiper press plate	2	MLA0247	
54	E-ARAG-60004-01	Clamp	1		
55	5071-B00000020	Washer	1	M20	
56	E-ARAG-60011-01	Bolt	1		MLA0127
57	5002-B20250170	Hex. Bolt	1	M20XP2.5X170L	
58	E-ARAG-60029-01	Clamp	1		
59	E-ARAG-60002-01	Body base	1		
60	5001-A10150060	Hex. socket screw	1	M10XP1.5X60L	
61	5071-B00000010	Washer	2	M10	
62	5081-B00000010	Spring washer	2	M10	
63	5004-B06100012	Cap screw	2	M6XP1.0X12L	
64	E-ARAK-73021-01	Dog	1		
65	E-ARAK-60030-01	Stopper	1		
66	5001-B06100020	Hex. socket screw	1	M6XP1.0X12L	

Not shown					
	Hydraulic – 40" Bed Fitting/pipe Assy	opt			MPL0382
	Hydraulic – 60" Bed Fitting/pipe Assy	opt			MPL0383
	Tailstock & Auto Position Switch	opt			SW00266

6 Hydraulic Tailstock Quill (option)

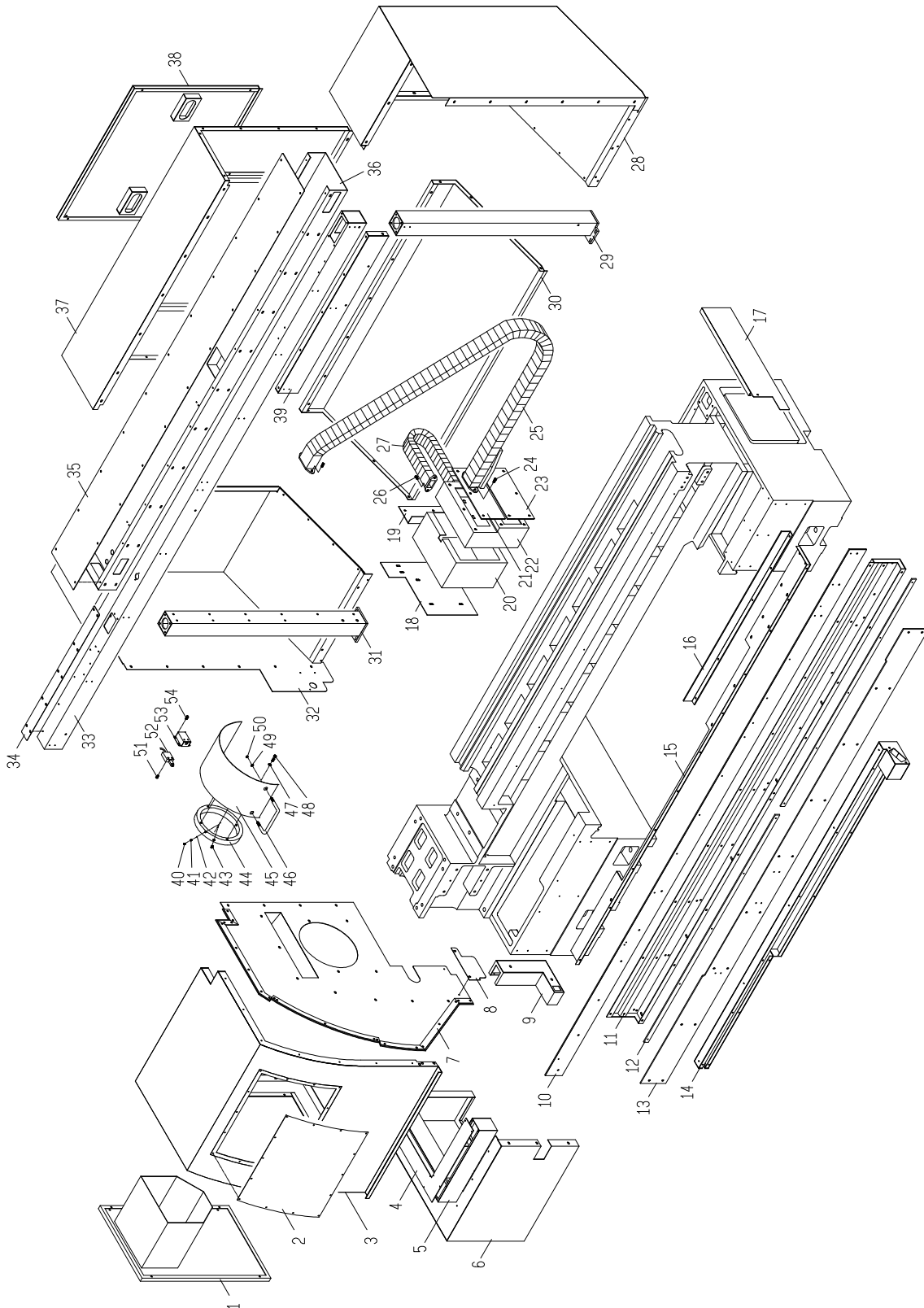


6.1 Hydraulic Tailstock Quill (option)

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		Center		MT5	
2	5001-B06100012	Hex. socket screw	4	M6XP1.0X12L	
3	E-ARAK-60022-01	Front cover	1		
4		Oil Seal	1	LBH-657305	
5	E-ARAK-60003-01	Quill	1		
6	E-ARAK-60006-01	Nut	1		
7	5001-A06100025	Hex. socket screw	4	M6XP1.0X25L	
8	5007-B06100015	Flat screw	1	M6XP1.0X15L	
9	E-ARAK-60014-01	Washer	1		
10	E-ARAK-60021-01	Lever	1		
11		Handle	1	M8	
12	E-ARAK-60008-01	Lever seat	1		
13	5001-B06100020	Hex. socket screw	1	M6XP1.0X12L	
14	E-ARAK-60009-01	Bolt	1		
15	E-ARAK-60010-01	block - clamp	1		
16	5001-B05080012	Hex. socket screw	2	M5XP0.8X12L	
17	E-ARAK-60013-01	Key	1		
18		O ring	1	P-12	
19		Oil plug	1	1/4"	
20	E-ARAG-60001-02	Tailstock body	1		
21		Indexing dial	1		
22		Hex. socket screw	4		
23		O ring	1		
24		Cylinder	1		
25		Hex. socket screw	6		
26	5051-B00020250	Nut	1	M20	
27	5081-B00000020	Washer	1	M20	
28	5001-B08125080	Hex. socket screw	2	M8XP1.25X80L	
29	E-ARAG-60016-01	Gib	1		
30	E-ARAK-60023-01	Adjusting screw	2		
31	E-ARAK-60017-01	Bolt	1		
32	E-ARAK-60012-01	Block - adjusting	1		
33	5105-A00004035	Spring pin	1	φ 4X35L	
34	5010-A08125016	Set screw	1	M8XP1.25X16L	
35	E-ARAK-60015-01	Shaft	1		
36	E-ARAK-60018-01	Lever	1		
37	E-ARAK-60028-01	Washer	1		
38	5007-B06100015	Flat screw	1	M6XP1.0X15L	
39	E-ARAK-60026-01	Wiper	2		

Item	Part no.	Description	Q'ty	Remark	Milltronics #
40	E-ARAK-60027-01	Wiper press plate	2		
41	5004-B05080012	Cap screw	8	M5XP0.8X12L	
42	E-ARAG-60006-01	Wiper	2		
43	E-ARAG-60007-01	Wiper press plate	2		
44	E-ARAG-60004-01	Clamp	1		
45	5071-B00000020	Washer	1	M20	
46	E-ARAG-60011-01	Bolt	1		
47	5002-B20250170	Hex. Bolt	1	M20XP2.5X170L	
48	E-ARAG-60029-01	Clamp	1		
49	E-ARAG-60002-01	Body base	1		
50	5001-A10150060	Hex. socket screw	1	M10XP1.5X60L	
51	5071-B00000010	Washer	2	M10	
52	5081-B00000010	Spring washer	2	M10	
53	5004-B06100012	Cap screw	2	M6XP1.0X12L	
54	E-ARAK-73021-01	Dog	1		
55	E-ARAK-60030-01	Stopper	1		
56	5001-B06100020	Hex. socket screw	1	M6XP1.0X12L	

7 Guarding

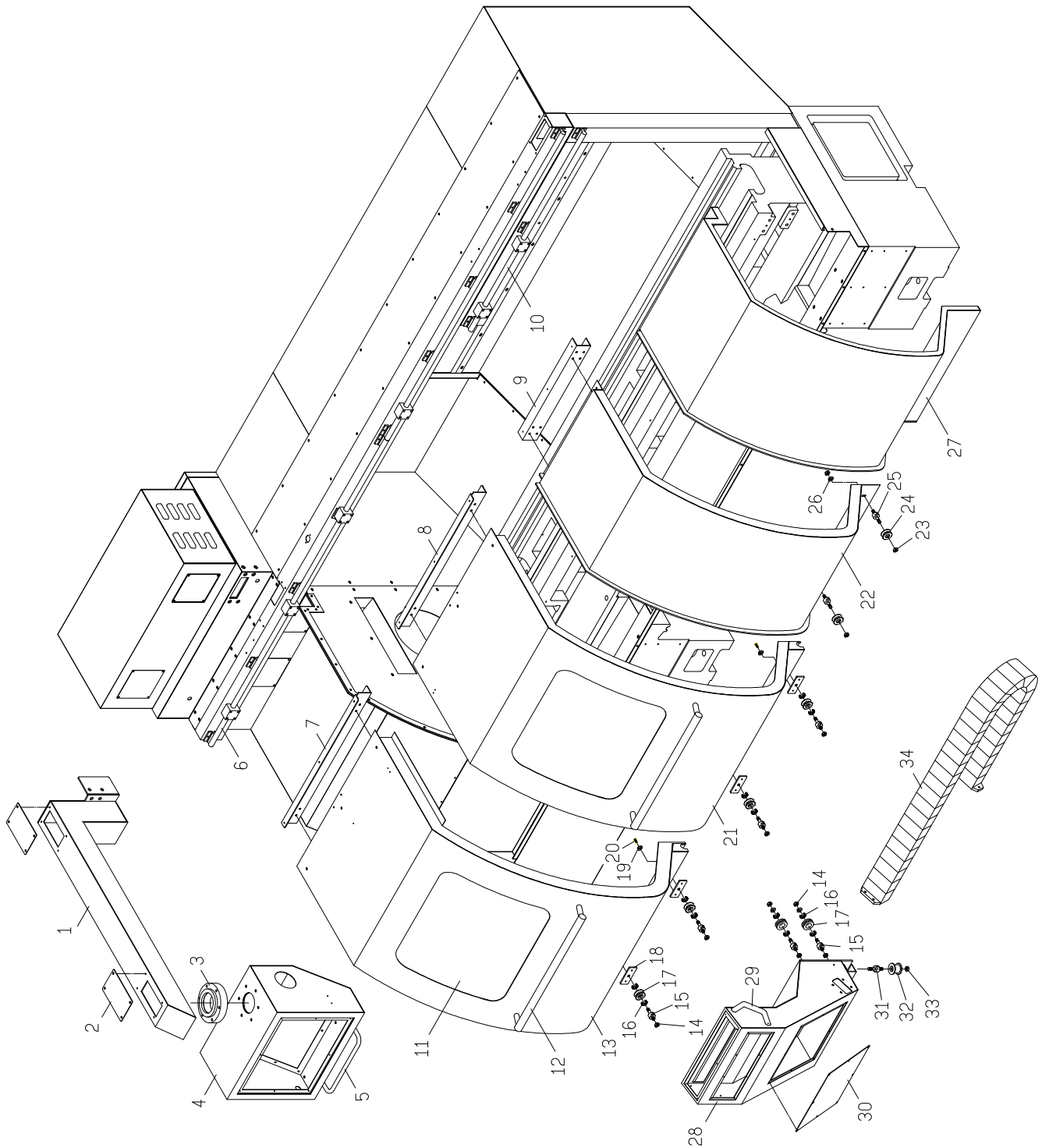


7.1 Guarding

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		Side door cover	1		
2		Cover	1		
3		Left guard	1		
4		Cover	1		
5		Duct	1		
6		Cover-spindle motor	1		
7		Side guard	1		
8		Cover	1		
9		Duct	1		
10		Front door slide	1		
11		Bracket	1		
12		Slide way	2		
13		Control box slide	1		
14		Bracket	1		
15		Coolant ledge	1		
16		Bottom slide	1		
17		Side guard	1		
18		Left cover	1		
19		Rear cover	1		
20		Cover	1		
21		Cover	1		
22		Box	1		
23		Cover	1		
24		Hex. socket screw	4	M6XP1.0X12L	
25	E-ARAG-94013-01	Cable carrier (for 40" length)	1	SQ301-II-R250-1400L(No.8)	MPL0330
	E-ARAG-94022-01	Cable carrier (for 60" length)	1	SQ301-II-R250-1500L(No.8)	MPL0331
26		Hex. socket screw	4	M6XP1.0X12L	
27	E-ARAG-94011-02	Cable carrier (for 60" length)	1	SQ301-II-R100-580L(No.11)	MPL0328
28		Rear right guard	1		
29		Right bracket	1		
30		Rear bottom guard	1		
31		Left bracket	1		
32		Rear left guard	1		
33		Top bracket	1		
34		Cover	1		
35		Cover	1		
36		Top duct	1		
37		Rear top guard	1		
38		Rear guard	1		
39		Top bracket (for 40" length)	0		
		Top bracket (for 60" length)	1		

Item	Part no.	Description	Q'ty	Remark	Milltronics #
40		Hex. screw	3	M8XP1.25X16L	
41		Compress washer	3	6x12L	
42		Steel ball	3	1/4"	BG00018
43	E-ARAK-70041-01	Set screw	3		
44	E-ARAG-70024-01	Fixing ring	1		
45	E-ARAG-70121-01	Chuck guard	1	D1-6	
46	E-ARAK-70069-01	Handle	1		
47		Spring washer	3	M8	MPL-988
48		Hex. socket screw	3	M8XP1.25X16L	
49		Spring washer	2	M6	
50		Nut	2	M6	
51		Cap screw	2	M5XP0.8X20L	
52		Limit switch	1	D4C-1202	SW00275
53	E-ARAK-73012-01	Limit switch bracket	1		MPL-916
54		Cap screw	4	M6XP1.0X12L	

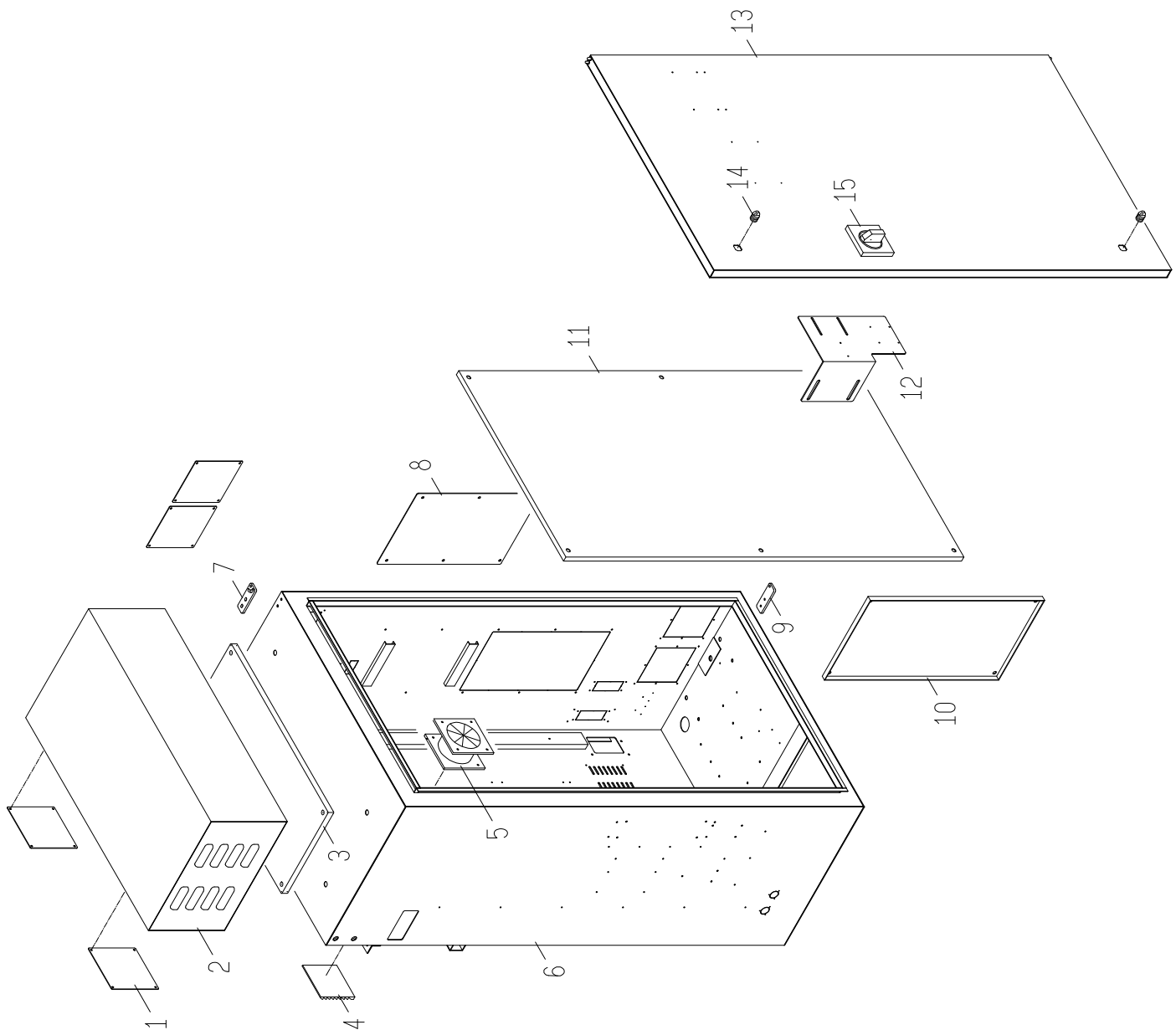
8 Guarding-Door & Control Cabinet



8.1 Guarding-Door & Control Cabinet

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		Duct	1		
2		Cover	2		
3		Housing	1		
4		Control panel	1		
5	L-5901-00004	Handle			
6		Rod guide way (for 40" bed)	1	LMC-C20-2880L	
		Rod guide way (for 60" bed)	2	LMC-C20-1690L	
7		Bracket	1		
8		Bracket	1		
9		Bracket (for 40" length)	0		
		Bracket (for 60" length)	1		
10		Rod guide way (for 40" bed)	0		
		Rod guide way (for 60" bed)	1	LMC-C20-1090L	
11	E-ARAG-70019-01	Glass	2	Verify size MLE0536 or	MPL0528
12	L-5901-00008	Handle	2		
13		Left door	1		
14		Nut	8	M8	MPL0736
15	E-ARAK-70030-01	Shaft	8		MPL0737
16	L-0401-00001	Bearing	16	608ZZ	BG00037
17	E-ARAK-70031-01	Wheel	8		MPL0734
18		Fixing block	4		
19		Washer	4	M5	
20		Cap screw	4	M5XP0.8X12L	
21		Right door	1		
22		Front door (for 40" bed)	0		
		Front door (for 60" bed)	1		
23		Nut	4	M8	
24		Wheel	2		
25		Shaft	2		
26		Washer	2	M8	
27		Front door	1		
28		Control box	1		
29	L-5901-00011	Handle	2		
30		Cover	1		
31		shaft	2		
32		Wheel	2		
33		Nut	2		
34	E-ARAG-94012-01	Cable carrier (for 40" bed)	1	SQ301-II-R100-1060L(No.11)	
	E-ARAG-94021-01	Cable carrier (for 60" bed)	1	SQ301-II-R100-1340L(No.11)	
		Safety Glass		Verify size	MPL0528
		Work light			MPS0438

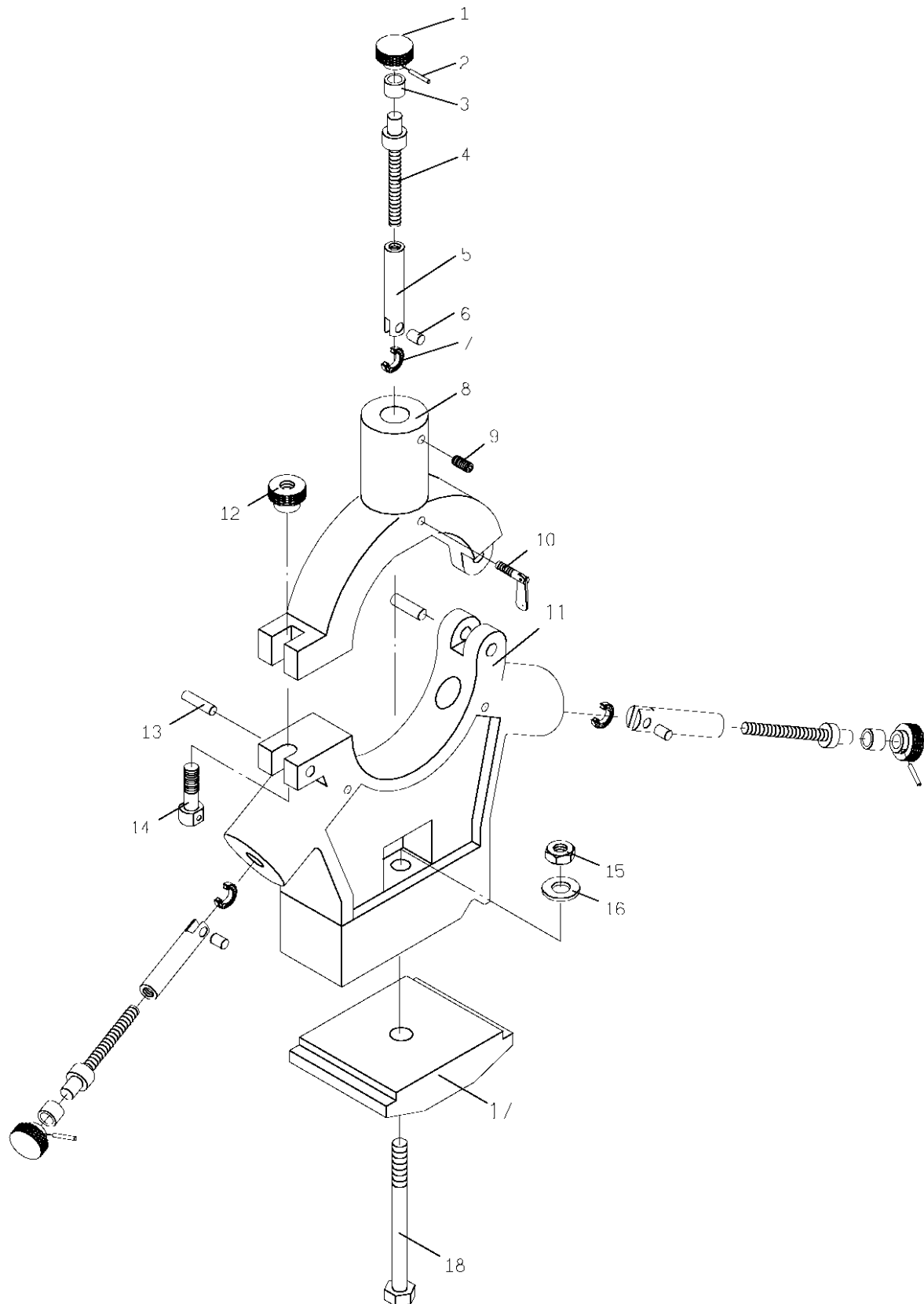
9 Electrical Box



9.1 Guarding-Door & Control Cabinet

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		Cover	6		
2	E-ARAG-73022-01	Brake resistor cover	1		
3		Electrical panel	1		
4		Fan cover	2		MLE0601
5		Fan	2		FA00001
6		Electrical cabinet	1		
7		Fixing plate	1		
8		Cover	1		
9		Fixing plate	1		
10		Electrical panel	1		
11		Electrical panel	1		
12		Bracket-main disconnect switch	1		
13		Door	1		
14		Latch	2		MLE-212
15		Main disconnect switch	1		SW00237
	L-5901-0004	Disconnect Switch Handle	1		MPL0847

10 Steady Rest (option)

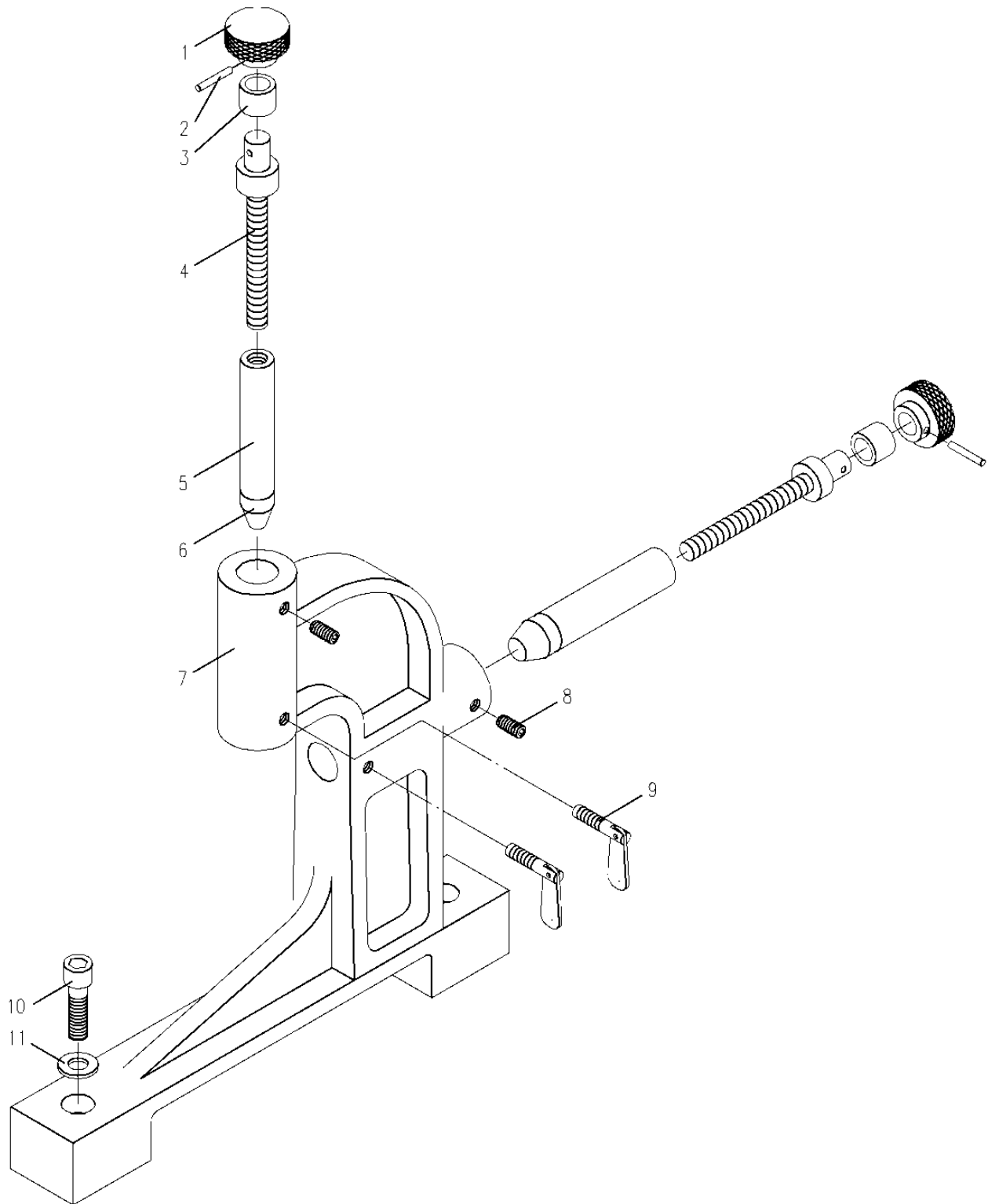


10.1 Steady Rest (option)

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1	E-ARAK-85032-01	Plug	3		
2	5105-A00004030	Spring pin	3	Dia. 4 x 30L	
3	E-ARAK-85033-01	Bush	3		
4	E-ARAK-85034-01	Lead screw	3		
5	E-ARAK-85035-01	Shaft	3		
6	E-ARAK-85036-01	Pin	3		
7		Bearing, 12mm	0 or 3	NAST-10x12mm	BG00212
		Bearing, 16mm	0 or 3	NAST-10x16mm	BG00121
8	E-ARAG-85031-01	upper body	1		
9	5010-A08125012	Set screw	3	M8XP1.25X12L	
10		Bolt	3	M8XP1.25X40L	
11	E-ARAG-85030-01	Down body	1		
12	E-ARAK-85037-01	Nut	1		
13	E-ARAK-85038-01	Pin	2		
14	E-ARAK-85039-01	Bolt	1		
15	5081-B00000020	Nut	1	M20	MLA0106
16	5071-B00000020	Washer	1	M20	
17	E-ARAG-60029-01	Block clamp	1		
18	5002-B20250110	Hex. Bolt	1	M20XP2.5X110L	

- Complete assembly MPL0171

11 Follow Rest (option)

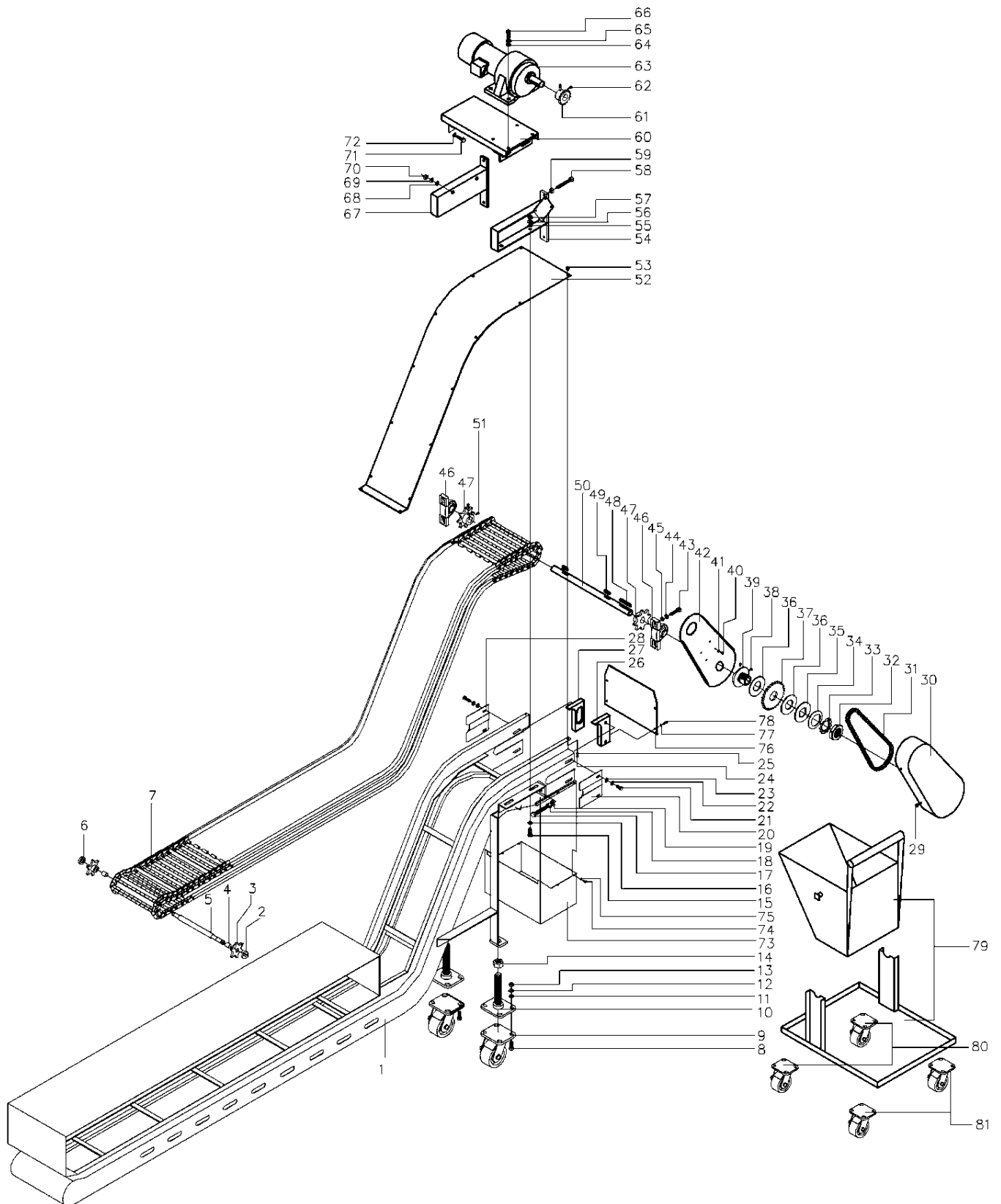


11.1 Follow Rest (option)

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1	E-ARAG-85032-01	Plug	2		
2	5105-A00004030	Spring pin	2	Dia. 4 x 30L	
3	E-ARAG-85033-01	Bush	2		
4	E-ARAG-85052-01	Lead screw	2		
5	E-ARAG-85053-01	Shaft	2		
6	E-ARAG-85054-01	Bronze jaw	2		MPL0353
7	E-ARDF-85050-01	Follow rest body	1		
8	5010-A08125012	Hex. Bolt	2	M8 x P1.25x12L	
9		Bolt	2	M8 x P1.25x40L	
10	5001-B12175055	Hex. bolt	2	M12xP1.75x55L	
11	5071-B00000012	Washer	2	M12xP1.75x55L	

- Complete Assembly MPL0170

12 Chip Conveyor (option)



12.1 Chip Conveyor (option)

Item	Part no.	Description	Q'ty	Remark	Milltronics #
1		Frame body	1		
2	PB100152	Ring	1		
3	TA204006015	Spur gear	2		
4	BD101520	Bearing	2	CB1520	
5		Spindle	1	PB100232	
6	PB100151	Ring	1		
7		Hinge belt	1	PB100300	
8	CB10025AA	Hexagon bolt	8	M10 x P1.25 x 25L	
9	CW5140	PU wheel	2	4"	
10	PB100165	Adjust board	2		
11	BU110A	Washer	8	M10	
12	BU210A	Spring washer	8	M10	
13	CM10AA	Nut	8	M10	MPL0870
14	CM24AA	Nut	2	M24	
15	CB10025AA	Hexagon bolt	4	M10 x P1.25 x 25L	
16	BU110A	Washer	4	M10	
17	CB12080AA	Hexagon bolt	2	M12 x P1.25 x 80L	
18	CM12AA	Washer	2	M12	
19	BU112A	Washer	2	M12	
20	PB200153	Left cover	1		
21	CB08016AA	Hexagon bolt	4	M8 x P1.0 x 16L	
22	BU208A	Spring washer	4	M8	
23	BU108A	Washer	4	M8	
24	CM05AA	Hexagon nut	2	M5 x P0.8	
25	BU205A	Spring washer	2	M5	
26	PB100155	Left aluminum base	1		
27	PB100156	Right aluminum base	1		
28	PB100154	Right cover	1		
29	CF0508A	Set screw	4	M5 x P0.8 x 8L	
30	PB100211	Motor cover	1		
31	CN04074A	Transmit chain	1	RS40	
32	PB100255	Nut	1		
33	PB100254	Washer	1		
34	PB100253	Spring washer	1		
35	PB100252	Washer	1		
36	ZV420894204	Brake	2		
37	TA50130042	Spur gear	1		
38	CC05006AA	Cap screw	2	M5 x P0.8 x 6L	
39	PB100251	Shaft body	1		
40	CF0508A	Set screw	4	M5 x P0.8 x 8L	
41	B0205A	Spring washer	4	M5	
42	PB100212	Motor cover	1		
43	CC10035AA	Cap screw	2	M10 x P1.25 x 35L	
44	BU110A	Spring washer	2	M10	
45	BU110A	Washer	2	M10	

Item	Part no.	Description	Q'ty	Remark	Milltronics #
46	BC01205	Bearing	2	UCP205	
47	TA104008025	Spur gear	2		
48	BK07060C	Flat key	1	7 x 7 x 60L	
49	BK07030C	Flat key	2	7 x 7 x 301	
50		Spindle	1	PB100231	
51	CF0610A	Set screw	2	M6 x P1.0 x 10L	
52		Cover	1		
53	CF0512A	Set screw	14	M5 x P0.8 x 12L	
54	PB100202	Adjust board	1		
55	BU110A	Washer	2	M10	
56	BU210A	Spring washer	2	M10	
57	CM10AA	Hexagon nut	2	M10	
58	CB10060AF	Hexagon bolt	2	M10 x P1.25 x 60L	
59	CM10AA	Hexagon nut	2	M10	
60		Adjust board	1	PB100201	
61	TA301015028	Spur gear	1		
62	CC06010AA	Cap screw	2	M6 x P1.0 x 10L	
63	EG1H020165S	Motor	1	1/4HP; 165:1	MO00189
64	BU110A	Washer	4	M10	
65	BU210A	Spring washer	4	M10	
66	CB10035AA	Hexagon bolt	4	M10 x P1.25 x 35L	
67	PB100203	Adjust board	1		
68	BU110A	Washer	4	M10	
69	BU210A	Spring washer	4	M10	
70	CM10AA	Hexagon nut	4	M10	
71	CB10025A	Hexagon bolt	4	M10 x P1.25 x 25L	
72	BU110A	Washer	4	M10	
73		Hopper	1	PB100172	
74	CF0508A	Set screw	4	M5 x P0.8 x 8L	
75	BU205A	Spring washer	4	M5	
76		Cover	1	PB100163	
77	BU205A	Spring washer	4	M5	
78	CF0508A	Set screw	4	M5 x P0.8 x 8L	
79		Chip bucket	1		MPL0489
80		wheel	2		
81		Wheel	2		MPL0655
		Washdown pump	1	TPH4T2K	MA00418

13 Waylube Unit

The on time and off time can be adjusted using MISC control parameters “Way Lube ON time (sec)”, and “Way Lube OFF time (min)”.

Oiler Comparison

	Old style	New style
Model #	CESD	CEN01
Part #	MA00219	MA00458
Timer function ON/OFF	Built-in controls	Via CNC #66
Audible alarm	YES	NO
Oil pressure gauge	NO	YES
Manual override button	YES	YES

Software & control

All 8200 versions have the functionality. 7200 version 77401 or higher is required to have the functionality.

The oiler timer is functional only when the “Grease Cycle Time” parameter is set to Zero, and the Way Lube ON and OFF time parameters are non-zero.

Pictures of MA00458

