



# Operating Instructions and Parts Manual

## Variable Speed Turret Mill

Model JTM-4VS

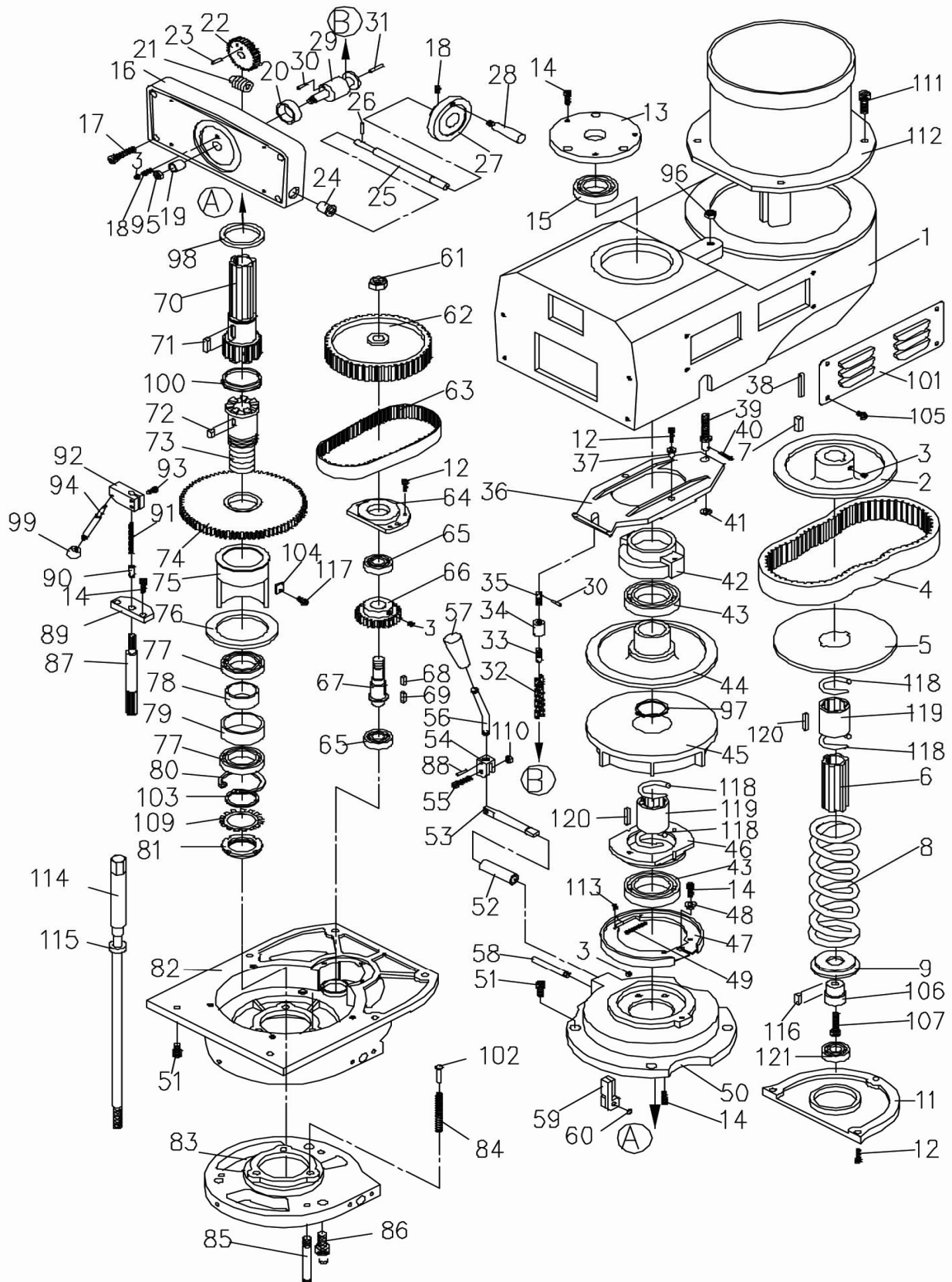


### JET

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**Part No. M-690182**  
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# Head Assembly



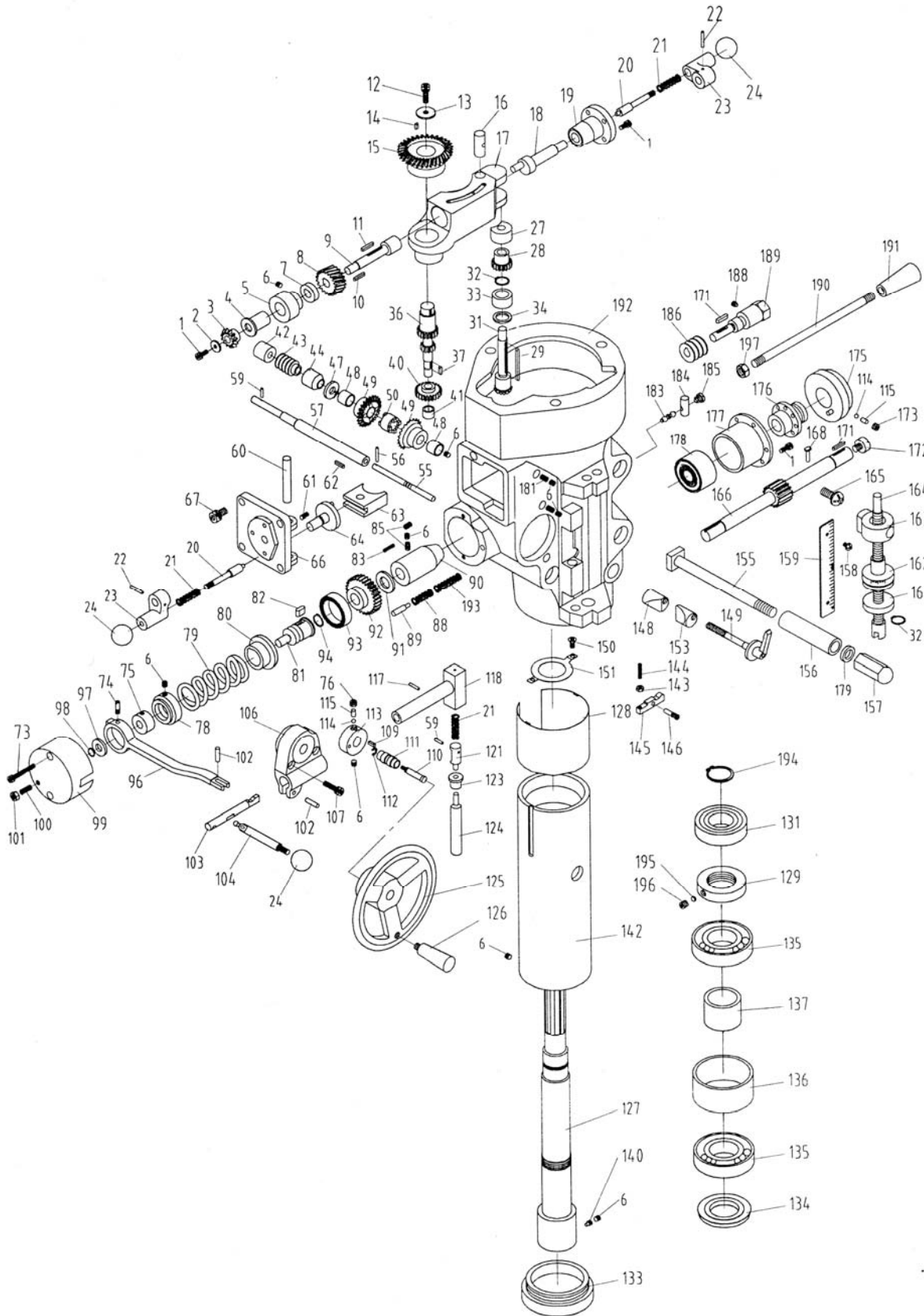
## Parts List for Head Assembly

Index No.	Part No.	Description	Size	Qty
	JTM4VS-HA	Head Assembly w/ Motor		1
1	VS-001G	Upper Housing		1
2	VS-002	Motor Pulley		1
	VS-044A	Motor Pulley Bushing (not shown)		1
3	TS-1503011	Set Screw	M6 x 6	4
4	VS-004	Belt	900VC3830	1
5	VS-005	Motor Pulley Disk		1
6	VS-006	Motor Pulley Shaft		1
7	KEY7725	Key	7 x 7 x 25 mm	1
8	VS-008	Motor Pulley Spring		1
9	VS-009	Spring Stop Washer		1
11	VS-011AG	Motor Pulley Cover		1
12	TS-1502051	Hex Socket Cap Screw	M5 x 20	8
13	VS-013	Cover		1
14	TS-1503041	Hex Socket Cap Screw	M6 x 16	10
15	BB-6007ZZ	Ball Bearing		1
16	VS-016G	Dial Cover		1
16-1	VS-016-1	Dial With Panel Assembly (not shown)		1
17	TS-1503071	Hex Socket Cap Screw	M6 x 30	4
18	TS-1503041	Hex Socket Cap Screw	M6 x 16	2
19	VS-019	Bushing		1
20	VS-020	Bushing		1
21	VS-021	Worm		1
22	VS-022	Worm Gear		1
23	VS-023	Spring Pin	5 x 10 mm	2
24	VS-024	Bushing		2
25	VS-025	Dial Control Shaft		1
26	VS-026	Spring Pin	3 x 12 mm	1
27	VS-027	Dial Wheel		1
28	VS-028	Wheel Handle		1
29	VS-029	Shaft		1
30	VS-030	Spring Pin	4 x 16 mm	2
31	VS-031	Spring Pin	3 x 25 mm	1
32	VS-032	Speed Change Chain		1
33	VS-033	Adjustment Stud		1
34	VS-034	Sleeve Nut		1
35	VS-035	Adjustment Stud		1
36	VS-036	Tilter		1
37	VS-037	Bushing		2
38	KEY6645	Key	6 x 6 x 45 mm	1
39	VS-039	Regulating Screw		1
40	VS-040	Spring Pin	3/32" x 3/4"	1
41	VS-041	Washer		1
42	VS-042	Support		1
43	BB-6010VV	Ball Bearing		2
44	VS-044	Driven Pulley Assembly (s/n:xxx1944 & lower)		1
	VS-044N	Driven Pulley Assembly (s/n:xxx1945 & higher)		1
45	VS-045	Steady Pulley (s/n:xxx1944 & lower)		1
	VS-045N	Steady Pulley (s/n:xxx1945 & higher)		1
46	VS-046	Bearing Cover		1
47	VS-047	Brake Lining		1
48	VS-048	Lock Screw		1
49	VS-049	Brake Spring		2
50	VS-050G	Lower Housing Cover		1
51	TS-1504031	Hex Socket Cap Screw	M8 x 20	4
52	VS-052	Brake Shaft Sleeve		1
53	VS-053	Brake Lock Shaft		1

Index No.	Part No.	Description	Size	Qty
54	VS-054	Brake Lock Block		1
55	TS-1503061	Hex Socket Cap Screw	M6 x 25	1
56	VS-056	Brake Lock Handle		1
57	VS-057	Plastic Ball		2
58	VS-058	Brake Finger Pivot Stud		1
59	VS-059	Brake Stud		2
60	VS-060	Snap Ring	S-8	2
61	TS-0561072	Nut	5/8"-18 UNF	1
62	VS-062	Timing Belt Pulley		1
63	VB-225L100	Timing Belt	225L100	1
64	VS-064	Bearing Retainer		1
65	BB-6203ZZ	Ball Bearing		2
66	VS-066	Bull Gear		1
67	VS-067	Counter Shaft		1
68	VS-068	Key	5 x 5 x 15 mm	1
69	VS-069	Key	5 x 5 x 18 mm	1
70	VS-070	Spindle Pulley Hub		1
71	VS-071	Key	8 x 7 x 24 mm	1
72	VS-072	Key	8 x 7 x 12 mm	1
73	VS-073	Spindle Gear Hub		1
74	VS-074	Spindle Gear Assembly		1
75	VS-075	Rack Cup		1
76	VS-076	Washer		1
77	BB-6908ZZ	Ball Bearing		2
78	VS-078	Bearing Washer		1
79	VS-079	Bearing Washer		1
80	VS-080	Snap Ring		1
81	VS-081	Nut		1
82	VS-082G	Lower Housing		1
83	VS-083G	Fixed Clutch Bracket		1
84	VS-084	Spring		1
85	VS-085	Stud		3
86	TS-1506021	Hex Socket Cap Screw	M12 x 25	3
87	VS-087	Gear Shift Pinion		1
88	VS-088	Pin		1
89	VS-089	Detent Plate		1
90	VS-090	Detent Washer		1
91	VS-091	Spring		1
92	VS-092	Pinion Block		1
93	TS-1503011	Hex Socket Cap Screw	M5 x 14	2
94	VS-094	Pinion Crank		1
95	VS-095	Cap Nut		1
96	TS-0561031	Hex Nut	3/8"	1
97	VS-097	Snap Ring		1
98	VS-098	Wave Washer		1
99	VS-099	Plastic Ball		1
100	VS-100	Snap Ring		1
101	VS-101B	Cover		2
102	VS-102	Spring Shaft		3
103	VS-103	Washer		1
104	VS-104	Copper Washer		2
105	VS-105	Screw	1/4" x 3/8"	8
106	VS-107	Shaft		1
107	TS-1504061	Hex Socket Cap Screw	M8 x 30	1
109	VS-109	Lock Washer		1
110	TS-1540041	Hex Nut	M6	1
111	TS-0209051	Hex Socket Cap Screw	3/8" x 1"	4
112	VS-000G	Motor	3HP 3PH	1
	JTM4VS-112G	Motor	2HP 1PH	1
113	VS-113	Oval Head Screw	1/8" x 1/4"	4

Index No.	Part No.	Description	Size	Qty
114	JTM1-001VS	Draw Bar		1
115	JTM4VS-A002B	Draw Bar Washer		1
116	VS-116	Key		1
117	VS-117	Oval Head Screw	3/16" x 1/2"	1
118	VS-007	Snap Ring		4
119	VS-005A	Plastic Sleeve		2
120	VS-120	Key	6 x 4 x 32 mm	2
121	BB-6206ZZ	Ball Bearing	6206ZZ	1
	VS-000A	Forward-Reverse Switch, 3 Phase (not shown)		1
	JTM2-598CP	Forward-Reverse Switch, 1 Phase (not shown)		1
	JTM1-598D	Switch Box (not shown)		1
	JTM1-598B	Switch Knob (not shown)		1
	LK-041B	Switch Bracket (not shown)		1

# Spindle Assembly



## Parts List for Spindle Assembly

Index No.	Part No.	Description	Size	Qty
1	TS-1533042	Screw	M5 x 10	6
2	HA-002	Bevel Pinion Washer		1
3	HA-003	Feed Gear		1
4	LA-161	Shaft Sleeve		1
5	LA-162	Worm Cradle Bushing		1
6	TS-1523011	Set Screw	M6 x 6	9
7	LA-163	Worm Gear Spacer		1
8	LA-164	Feed Drive Worm Gear		1
9	LA-165	Worm Gear Shaft		1
10	HA-010	Worm Shaft Key	3 x 3 x 8 mm	1
11	HA-011	Key	3 x 3 x 20 mm	1
12	HA-012	Locknut	M6 x 16	1
13	HA-013	Washer		1
14	HA-014	Cluster Gear Key	3 x 3 x 8.5 mm	1
15	LA-154	Feed Reverse Bevel Gear		1
16	LA-167	Feed Engage Pin		1
17	LA-166	Worm Gear Cradle		1
18	LA-033	Worm Gear Throw-Out		1
19	LA-002	Shift Sleeve		1
20	LA-004	Plunger		2
21	LA-005	Spring		3
22	HA-022	Spring Pin	3 x 22 mm	2
23	LA-003	Shift Crank		2
24	LA-006	Plastic Ball		3
27	LA-147	Upper Bushing		1
28	LA-144	Cluster Gear Assembly		1
29	HA-029	Cluster Gear Key	3 x 3 x 45 mm	1
31	LA-143	Cluster Gear Shaft		1
32	HA-032	Snap Ring		2
33	LA-142	Bevel Gear Bushing		1
34	LA-141	Thrust Spacer		1
36	LA-156	Feed Drive Gear		1
37	HA-037	Key	3 x 3 x 10 mm	1
40	LA-157	Feed Drive Gear		1
41	HA-041	Needle Bearing		1
42	LA-168	Bushing		1
43	LA-139	Worm		1
44	LA-138	Feed Worm Shaft Bushing		1
47	LA-137	Bevel Gear Thrust Spacer		1
48	LA-134	Bushing		2
49	LA-135	Feed Reverse Bevel Gear		2
50	LA-136	Feed Reverse Clutch		1
55	LA-132	Reverse Clutch Rod		1
56	HA-056	Spring Pin	3 x 20 mm	1
57	LA-133	Feed Worm Shaft		1
59	HA-059	Spring Pin	3 x 12 mm	2
60	LA-150	Feed Shift Rod		1
61	TS-1522031	Set Screw	M5 x 10	1
62	HA-062	Key	3 x 3 x 15 mm	1
63	LA-149	Feed Gear Shift Fork		1
64	LA-151	Cluster Gear Shift Crank		1
66	LA-148	Cluster Gear Cover		1
67	TS-1504011	Hex Socket Cap Screw	M8 x 10	4
73	TS-1502081	Hex Socket Cap Screw	M5 x 35	2
74	LA-081	Clutch Ring Pin		2
75	LA-080	Clutch Ring		1
76	TS-1524011	Set Screw	M8 x 8	1

Index No.	Part No.	Description	Size	Qty
78	LA-082	Overload Clutch Lockout		1
79	LA-083	Safety Clutch Spring		1
80	LA-084	Overload Clutch	46T	1
	LA-084N	Overload Clutch (serial # 6100913 and up)	50T	1
81	LA-085	Overload Clutch Sleeve		1
82	LA-090	Key		1
83	TS-1532052	Pan Head Machine Screw	M4 x 16	3
85	TS-1523031	Set Screw	M6 x 10	2
88	LA-169	Spring		1
89	LA-089	Spring Plunger		1
90	LA-123	Pinion Shaft Bushing		1
91	LA-122	Spacer		1
92	LA-087	Overload Clutch Worm Gear		1
93	LA-086	Overload Clutch Ring	46T	1
	LA-086N	Overload Clutch Ring (serial # 6100913 and up)	50T	1
94	HA-094	Snap Ring		1
96	LA-079	Trip Lever		1
97	LA-078	Washer		1
98	HA-098	Snap Ring		1
99	LA-076	Clutch Arm Cover		1
100	TS-1523051	Set Screw	M6 x 10	1
101	HA-101	Locknut		1
102	LA-077	Pin		3
103	LA-091	Cam Rod		1
104	LA-100	Trip Handle		1
106	LA-092	Feed Trip Bracket		1
107	TS-1503051	Hex Socket Cap Screw	M6 x 20	2
109	HA-109	Key	3 x 3 x10 mm	1
110	LA-130	Feed Reverse Knob Stud		1
111	LA-131	Reverse Knob		1
112	HA-112	Snap Ring		1
113	LA-129	Handwheel Clutch		1
114	SB-3/16	Steel Ball	3/16"	2
115	HA-115	Spring		2
117	HA-117	Spring Pin		1
118	LA-093	Cam Rod Sleeve Assembly		1
121	LA-095	Trip Plunger		1
123	LA-121	Bushing		1
124	LA-097	Feed Trip Plunger		1
125	LA-126	Handwheel (chrome)		1
	LA-126-BR	Handwheel (brushed finish)		1
126	LA-125	Handle (chrome)		1
	LA-125-BR	Handle (brushed finish)		1
127	LA-050A	Spindle		1
128	LA-060	Quill Skirt		1
129	LA-048	Lock Nut		1
131	BB-6206ZZ	Ball Bearing		1
133	LA-051	Nose Piece		1
134	LA-052	Spindle Shield		1
135	BB-7207C	Ball Bearing		2
136	LA-054	Bearing Spacer (large)		1
137	LA-053	Bearing Spacer (small)		1
140	LA-172	Set Screw		1
142	LA-058	Quill		1
143	TS-154021	Hex Nut	M4	1
144	TS-1521071	Set Screw	M4 x 20	1
145	LA-098	Feed Trip Lever		1
146	LA-099	Trip Lever Pin		1
148	LA-111	Quill Lock Sleeve		1



Index No.	Part No.	Description	Size	Qty
149	LA-109	Lock Handle (chrome)		1
	LA-109-BR	Lock Handle (brushed finish)		1
150	HA-150	Screw	M5 x 10	2
151	LA-057	Felt Washer		1
153	LA-110	Quill Lock Sleeve		1
155	LA-043	T-Bolt Assembly		4
156	LA-046	Spacer		4
157	LA-040	Lock Nut		4
158	HA-158	Screw	M4 x 5	2
159	LA-118	Micrometer Scale		1
161	LA-115	Quill Micro-Stop Nut		1
162	LA-116	Micrometer Nut		1
163	LA-117	Quill Stop Knob		1
164	LA-112	Quill Micro-Screw		1
165	LA-165A	Screw	3/8"-24UNF x 3/4"	1
166	LA-101	Quill Pinion Shaft		1
168	LA-101A	Pin		1
171	HA-171	Key		2
172	LA-107	Pinion Shaft Hub		1
173	TS-0270021	Set Screw	5/16" x 1/4"	1
175	LA-106	Hub		1
176	LA-104	Hub Sleeve		1
177	LA-103	Spring Cover		1
178	LA-102	Clock Spring		1
	LA-102/3	Clock Spring Assembly		1
179	TS-0680061	Washer	1/2"	1
181	TS-1523011	Set Screw	M6 x 6	2
183	LA-113	Lever		1
184	LA-114	Plunger		1
185	LA-124	Screw		1
186	LA-018	Worm Gear		1
188	LA-173	Set Screw		1
189	LA-019	Worm Shaft		1
190	LA-105	Handle		1
191	LB-017	Plastic Ball		1
192	LA-016G	Quill Housing		1
193	HA-193	Spring	10 x 20 mm	1
194	RINS30	Snap Ring		1
195	HB1291	Lock Washer		1
196	TS-1524011	Set Screw	M8 x 8	1
197	TS-0561031	Hex Nut	3/8"	1
	LA-166A	Worm Gear Cradle Assembly (index # 1-17,36,37,40)		1



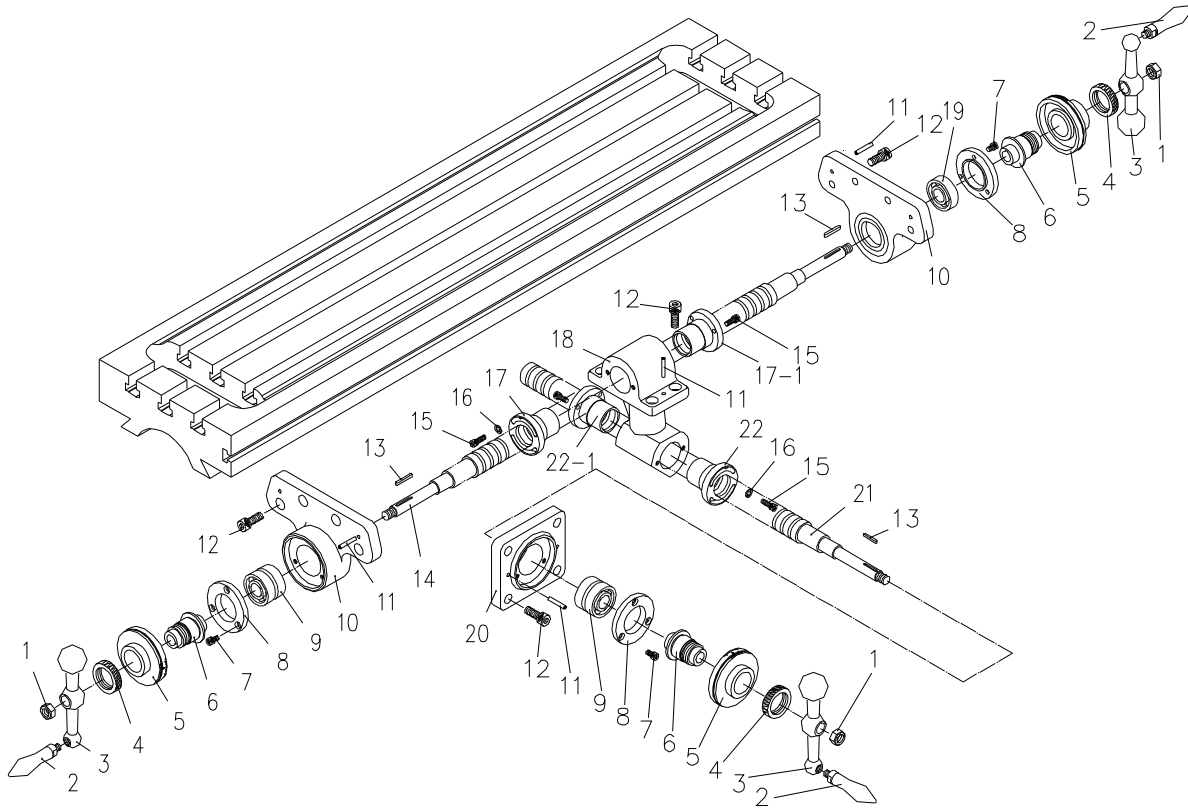
## Parts List for Base Assembly

Index No.	Part No.	Description	Size	Qty
1	LB-001	Set Screw	M6 x30	2
2	LB-023	Gear		1
3	LB-020G	Ram Adapter		1
4	LB-004	Snap Ring	S-28	2
5	LB-005	Rivet		5
6	LB-027	Adapter Scale		1
7	LB-035	Worm		1
8	LB-036	Worm Thrust Washer		1
9	LB-034	Shaft		1
10	LB-100	Key	5 x 5 x 40 mm	1
11	MB-026G	Ram		1
12	LB-032	Angle Plate		1
13	LB-028	Adapter Pivot Stud		1
14	LB-031	Washer		4
15	LB-030	Adapter Locking Bolt		3
16	MB-009G	Turret		1
	MB-00B	Turret Scale (not shown)		1
17	LB-030	Lock Bolt		4
18	LB-041	Ram Pinion Screw		1
19	LB-011	Ram/Turret Gib		1
20	LS-005E	Lock Plunger		2
21	LB-014	Ram Lock Bolt Handle		2
22	LB-015	Ram Pinion		1
23	LB-016	Ram Pinion Handle Rod		1
24	LB-017	Black Plastic Ball		1
25	TS-0211131	Set Screw	3/8" x 2"	2
26	TS-0561031	Hex Nut	3/8"	2
27	MB-008	Spider		1
28	MB-000AG	Column		1
29	MT000B	Table		1
30	LT-027	Stop Nut		2
31	LT-028	Table Stop		2
32	TS-1504071	Hex Socket Cap Screw	M8 x 35	2
33	TS-1504031	Hex Socket Cap Screw	M8 x 16	2
34	LK-002	Gib Adjusting Screw		6
35	LS-003	Table Stop Bracket		1
36	LS-008	Saddle/Table Gib		1
37	LS-013	Felt Wiper		2
38	LS-005R	Table Lock Plunger – R	16mm	1
38-1	LS-005L	Table Lock Plunger – L	13mm	1
39	LS-011	Knee Lock Handle		2
40	LS-001	Saddle/Knee Gib		1
42	LS-042	Screw	3/16"	20
43	MS-000G	Saddle		1
45	LS-016A	Felt (left)		1
46	LK-001	Knee/Column Gib		1
47	LS-016B	Knee/Wiper Felt (right)		1
48	LK-007	Upper Chip Guard		1
49	LK-006	Lower Chip Guard		1
50	MK-000G	Knee		1
51	TS-1505031	Hex Socket Cap Screw	M10 x 25	2
52	MK-012G	Elevating Screw Housing		1
53	MK-014	Elevating Screw Nut		1
54	TS-1503041	Hex Socket Cap Screw	M6 x 16	8
55	TS-0561052	Hex Nut	1/2-20UNF	1
56	LK-058	Key	4 x 4 x 30 mm	1

Index No.	Part No.	Description	Size	Qty
57	LK-022	Washer		1
58	MK-021	Bevel Gear		1
59	BB-6306ZZ	Ball Bearing		2
60	MK-019	Bearing Retainer Ring		1
61	MK-016	Elevating Screw		1
62	LK-037	Handle (chrome)		1
	LK-037-BR	Handle (brushed finish)		1
63	LK-036	Elevating Crank		1
64	LK-035	Clutch Insert		1
65	LK-034	Dial Lock Nut		1
66	LK-033	Dial		1
67	LK-032	Dial Holder		1
68	LK-030	Bearing Retainer Ring		1
69	BB-6204ZZ	Ball Bearing		1
70	LK-029	Bearing Cap		1
71	LK-075	Key	4 x 4 x 18 mm	2
72	MK-028	Elevating Shaft		1
73	BB-6204ZZ	Ball Bearing		2
74	MK-024	Bevel Pinion		1
75	LK-003B	Plunger	32mm	1
76	LK-081	Spring Pin	8 x 30 mm	1
77	LS-010A	Saddle Lock Plunger	116mm	1
78	TS-1515001	Hex Socket Cap Screw	M8 x 12	1
79	JTM4VS-B79	Grease Nipple	1/8"PT	1
80	JTM4VS-B80	Spacer		1
81	JTM4VS-B81	Turret Scale		1
82	JTM4VS-B82	Rubber T-Nut		6
83	MB-090	Screw	1/4" x 3/8"	4
84	MK-038	Bushing		1
85	VM-I40	Oil Plug	3/8" PT	2
86	MB-004	Cover		1
87	MB-041	Strainer Screen		2
88	JTM4VS-B88	Lock Washer		1
98	RIBW34	Hoisting Ring		1
99	LB-036	Worm Thrust Washer		1
100	LB-033	Thrust Washer		1
101	LS-018	Pleated Way Cover		1
102	LK-003C	Lock Plunger	35mm	1
103	LS-017C	Flat Way Cover		1
104	TS-1503051	Hex Socket Cap Screw	M6 x 20	6
105	KEY3320	Key	3 x 3 x 20 mm	1
107	LS-006B	Saddle Ratcheting Lever (chrome)		3
	LS-006B-BR	Saddle Ratcheting Lever (brushed finish)		3
	JTM4VS-TB	Tool Box Kit Complete (not shown)		1
	LC051	Plastic Electric Cover (not shown)		1
	LC051A	Plastic Electric Cover Assembly (not shown)		1

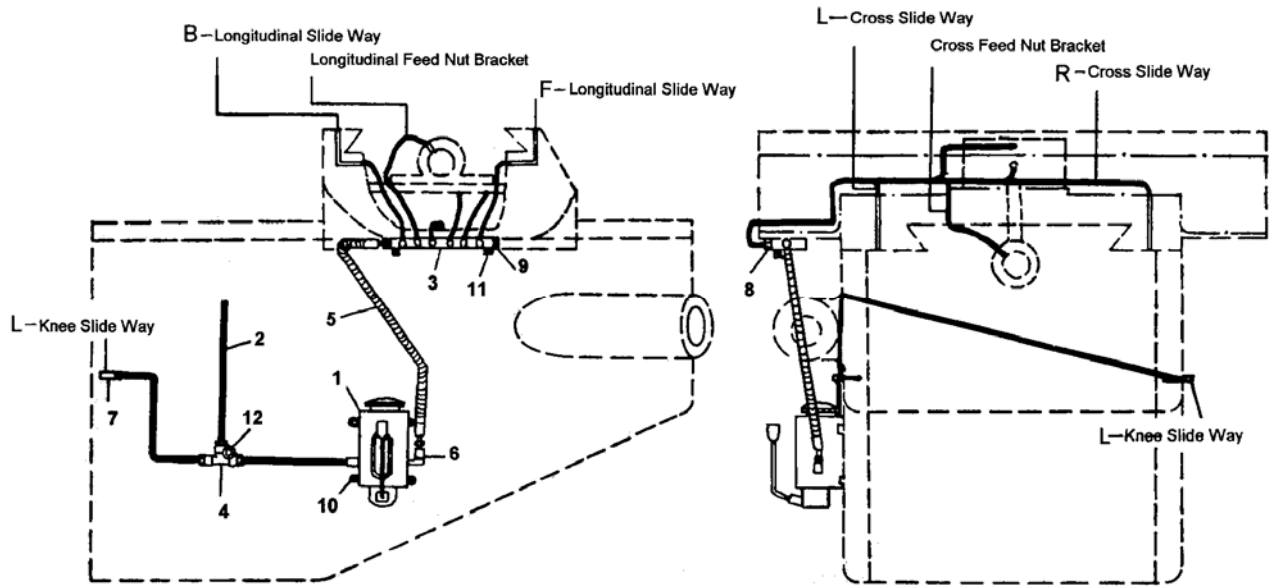
*(Includes switch wire, cover, terminal bracket, power wire, retainer)*

# Lead Screw Assembly



Index No.	Part No.	Description	Size	Qty
1	TS-0571052	Jam Nut	1/2-20UNF	3
2	LT-010C	Handle		3
	LT-010C-CHR	Chrome Surface Handle		3
3	LT-010B	Ball Crank		3
	LT-010BSP-CHR	Clutch Ball Crank (for powerfeed only)	chrome surface	3
	LT-010BSP	Clutch Ball Crank (for powerfeed only)		3
4	LT-009	Dial Lock Nut		3
5	LT-008	Dial		3
6	LT-007	Dial Holder		3
7	TS-150301	Hex Socket Cap Screw	M6 x 12	9
8	LT-005	Bearing Retainer Ring		3
9	BB-6204ZZ	Ball Bearing		3
10	LT-002	Bearing Bracket		2
11	LS-009	Spring Pin	5 x 30 mm	8
12	TS-1505031	Hex Socket Cap Screw	M10 x 25	16
13	LS-014A	Key	3 x 3 x 25 mm	3
14	MT-015D	Leadscrew		1
15	TS-1503041	Hex Socket Cap Screw	M6 x 16	10
16	TS-1550051	Washer	M7	4
17	MT-019B	Feed Screw Nut (set of 2; includes index # 17-1)		1
18	MT-017	Feed Nut Bracket		1
19	BB-6204ZZ	Ball Bearing		1
20	MT-025	Cross Feed Bearing Bracket		1
21	MT-024	Cross Feed Screw		1
22	MT-022	Cross Feed Nut (set of 2; includes index # 17-22)		1

# One-Shot Lubrication System



Index No.	Part No.	Description	Size	Qty
.....	LT-8-A.....	Hand Oiler Assembly (includes index #1,1A,4,5, 9) .....		1
1.....	LT-8.....	Hand Oiler .....		1
1A.....	LT-8-SG.....	Hand Oiler Sight Glass (w/gasket).....		1
2.....	ALMP-04.....	Aluminum Pipe .....	3.5M .....	1
.....	ALMP-04-VS.....	Oil Line Set w/ Fittings .....		1
3.....	DB-4.....	Oil Regulating Distributor .....		1
4.....	PKD-4.....	T-Joint .....		1
5.....	FHC-404.....	Flexible Steel Tube .....		1
6.....	PH-1-1/PB-4.....	Check Joint.....		2
7.....	PH-4.....	Elbow Joint .....		2
8.....	PA-4/PB-4.....	Straight Joint.....		14
9.....	PG-004.....	Union.....		1
10.....	JTM4VS-BUTW1458.....	Screw .....		4
11.....	TS-1503061.....	Hex Socket Cap Screw .....	M6 x 25 .....	2
12.....	TS-1502061.....	Hex Socket Cap Screw .....	M5 x 25 .....	1



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