



# Operating Instructions and Parts Manual Step Pulley Turret Mill

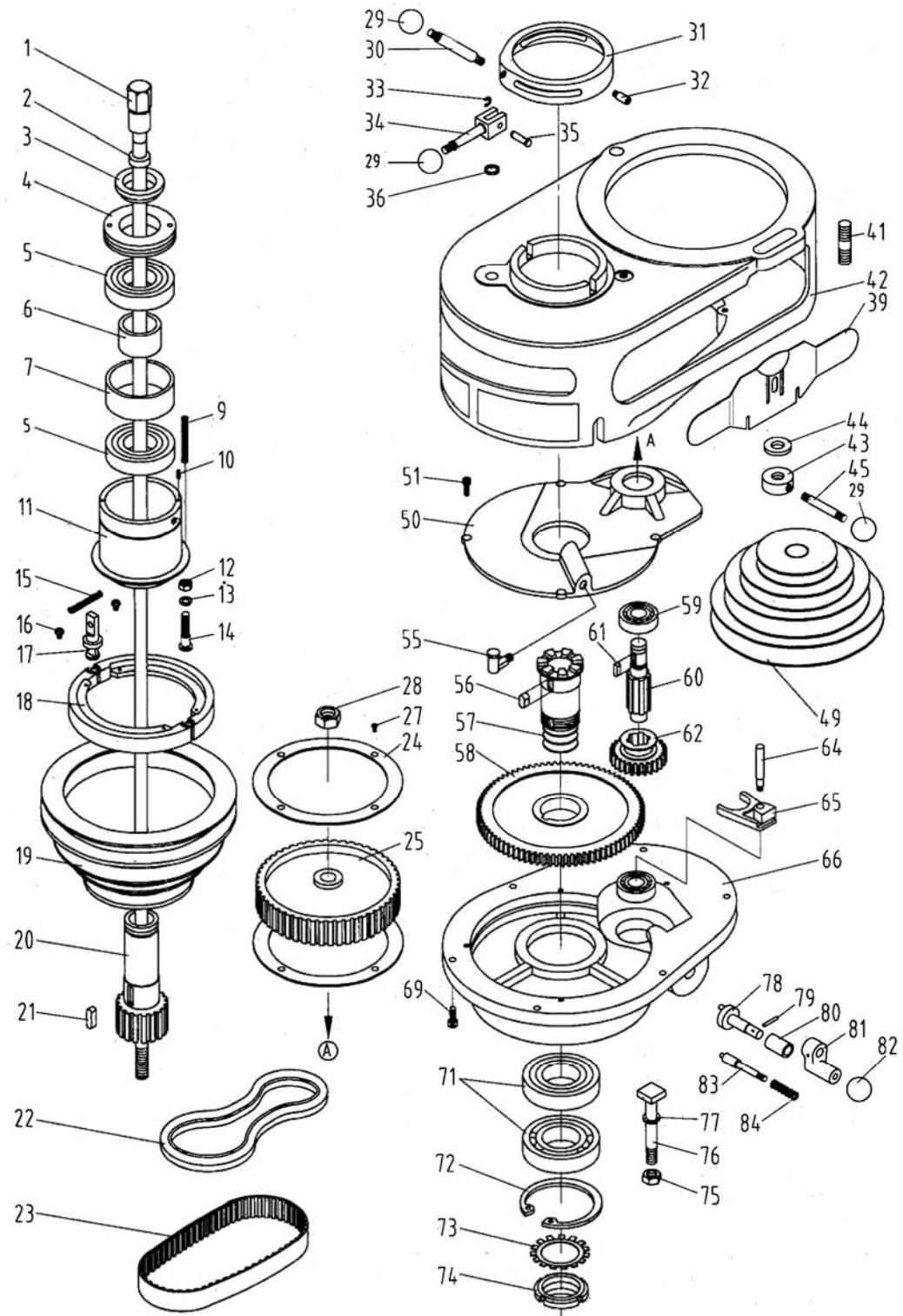
Model JTM-1, JTM-2



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### 15.1.1 Upper Head Assembly – Exploded View

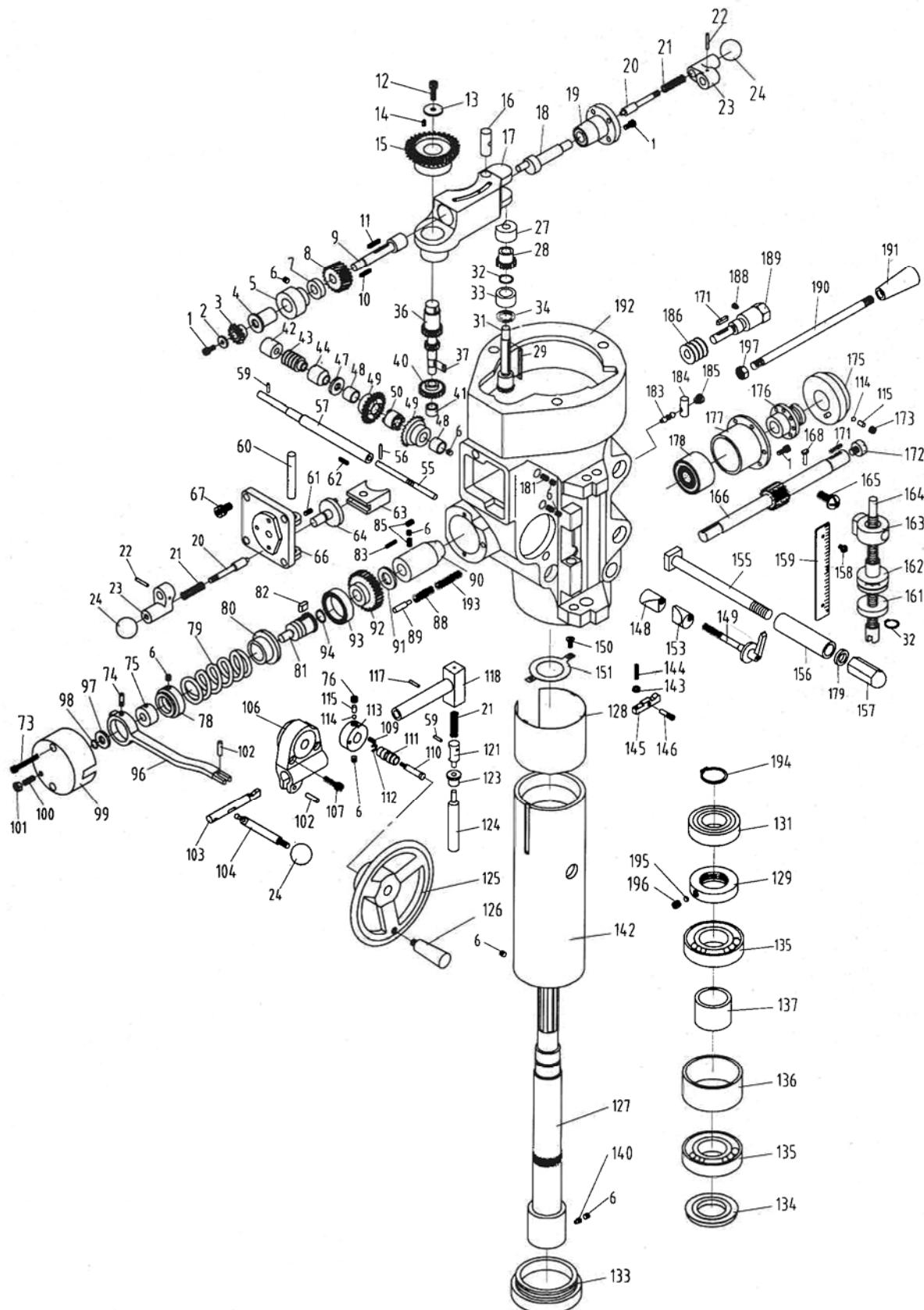


### 15.1.2 Upper Head Assembly – Parts List

Index No	Part No	Description	Size	Qty
1	LA-072.....	Draw Bar.....	R8 .....	1
2	JTM4VS-A002B .....	Draw Bar Washer .....		1
3	LA-071.....	Upper Bearing Lock Nut .....		1
4	LA-070.....	Bearing Sleeve Lock Nut .....		1
5	BB-6207ZZ .....	Ball Bearing .....	6207-ZZ .....	2
6	LA-068.....	Upper Bearing Spacer (small) .....		1
7	LA-069.....	Upper Bearing Spacer (large) .....		1
9	LA-169.....	Compression Spring .....		4
10	TS-1520041 .....	Set Screw .....	M3x10 .....	4
11	LA-066.....	Spindle Pulley Bearing Sleeve .....		1
12	TS-0571021 .....	Hex Jam Nut .....	5/16".....	1
13	TS-0720081 .....	Lock Washer.....	5/16".....	1
14	LA-034.....	Brake Ring Screw .....		1
15	LA-036.....	Spring .....		2
16	BUTW31612.....	Screw.....	3/16"x1/2" .....	4
17	LA-037.....	Brake Lock Stud .....		1
18	LA-035.....	Brake Assembly .....		1
19	LA-065.....	Spindle Pulley (four-step) .....		1
20	LA-064.....	Spindle Pulley Hub .....		1
21	JTM1-021 .....	Key.....	6x6x25mm .....	1
22	VB-A33.....	V-belt .....	A33 .....	1
23	VB225L100 .....	Timing Belt .....	225L .....	1
24	LA-027.....	Timing Belt Flange .....		2
25	LA-028.....	Timing Belt Pulley .....		1
27	JTM1-C27 .....	Flat Head Screw .....		8
28	TS-0571072 .....	Hex Jam Nut .....	5/8"-18NF .....	1
29	LA-006.....	Plastic Ball .....		3
30	LA-074.....	Spindle Clutch Lever .....		1
31	LA-073.....	Cam Ring .....		1
32	JTM1-032 .....	Cam Ring Pin .....		2
33	JTM1-C33 .....	E-Ring .....		1
34	LA-039.....	Brake Lock Handle .....		1
35	LA-038.....	Brake Lock Pin .....		1
36	TS-0680061 .....	Washer .....	1/2" .....	1
37	JTM1-037 .....	Spindle Speed Plate (JTM-1) .....		1
	JTM1-037A.....	Spindle Speed Plate (JTM-2) .....		1
39	JTM1-039A .....	Belt Guard .....		2
41	LA-012.....	Motor Mount Studs .....		2
42	LA-015.....	Belt Housing .....		1
43	LA-007.....	Motor Lock Nut .....		2
44	LA-008.....	Washer .....		1
45	LA-009.....	Motor Lock Nut Handle .....		4
49	LA-011.....	Motor Pulley (four-step) .....		1
50	LA-013.....	Gear Housing Cover .....		1
51	JTM1-C51 .....	Hex Socket Cap Screw .....	M5x14 .....	4
55	JTM1-055 .....	Oil Cup .....		1
56	JTM1-C56 .....	Key .....		1
57	LA-062.....	Spindle Gear Hub .....		1
58	LA-061.....	Spindle Bull Gear Assembly .....		1
59	BB-6203ZZ .....	Ball Bearing .....		1
60	LA-026.....	Shaft .....		1
61	JTM1-061 .....	Key .....	5x5x15mm .....	1
62	LA-025.....	Gear .....		1
63	BB-6203ZZ .....	Ball Bearing .....		1
64	LA-032.....	Dowel Pin .....		1
65	LA-031.....	Back Gear Shifter Fork .....		1
66	LA-014.....	Gear Housing .....		1
69	TS-1503041 .....	Hex Socket Cap Screw .....	M6x16 .....	6
71	BB-6208ZZ .....	Ball Bearing .....		2
72	JTM1-C72 .....	Snap Ring .....		1

<b>Index No</b>	<b>Part No</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
73 .....	JTM1-C73 .....	Lock Washer.....		1
74 .....	LA-059.....	Bearing Lock Nut .....		1
75 .....	JTM1-C75 .....	Hardened Nut .....	7/16"	1
76 .....	LA-045.....	T-Bolt .....		3
77 .....	JTM1-C77 .....	Bolt Washer .....		3
78 .....	LA-001.....	Shift Crank .....		1
79 .....	JTM-C79 .....	Spring Pin .....		1
80 .....	LA-044.....	Back Gear Shift Bushing.....		1
81 .....	LA-003.....	Shaft Crank Handle .....		1
82 .....	LA-006.....	Plastic Ball .....		1
83 .....	LA-004.....	Gearshift Plunger .....		1
84 .....	LA-005.....	Compression Spring .....		1
	JTM1-M2 .....	Motor (not shown).....	2HP 3PH 220V.....	1
	JTM1-598 .....	Fwd/Rev Switch (not shown) .....	for 3PH, 2/4P .....	1
	JTM1-598A.....	Switch Speed Plate (not shown) .....		1
	JTM1-598B.....	Switch Knob (not shown) .....		1
	JTM1-598C .....	Switch Bracket (not shown) .....		1
	JTM1-598D .....	Metal Switch Box (not shown) .....		1
	JTM2-M1 .....	Motor (not shown).....	2HP 1PH 115/230V.....	1
	JTM2-SC .....	Start Capacitor.....	500MFD, 125AC .....	1
	JTM2-598CP .....	Switch Assembly CP (not shown) .....		1
	JTM2-599 .....	Fwd/Rev Switch (not shown) .....	for 1PH .....	1
	JTM2-599A.....	Switch Plate (not shown) .....		1
	JTM2-599B.....	Switch Plate Mounting Screw (not shown) .....		1
	JTM2-599C .....	Motor – Switch Wiring Harness (not shown) .....		1
	BD1325R-X02 .....	Centrifugal Switch (not shown) .....		1

### 15.2.1 Head Assembly – Exploded View



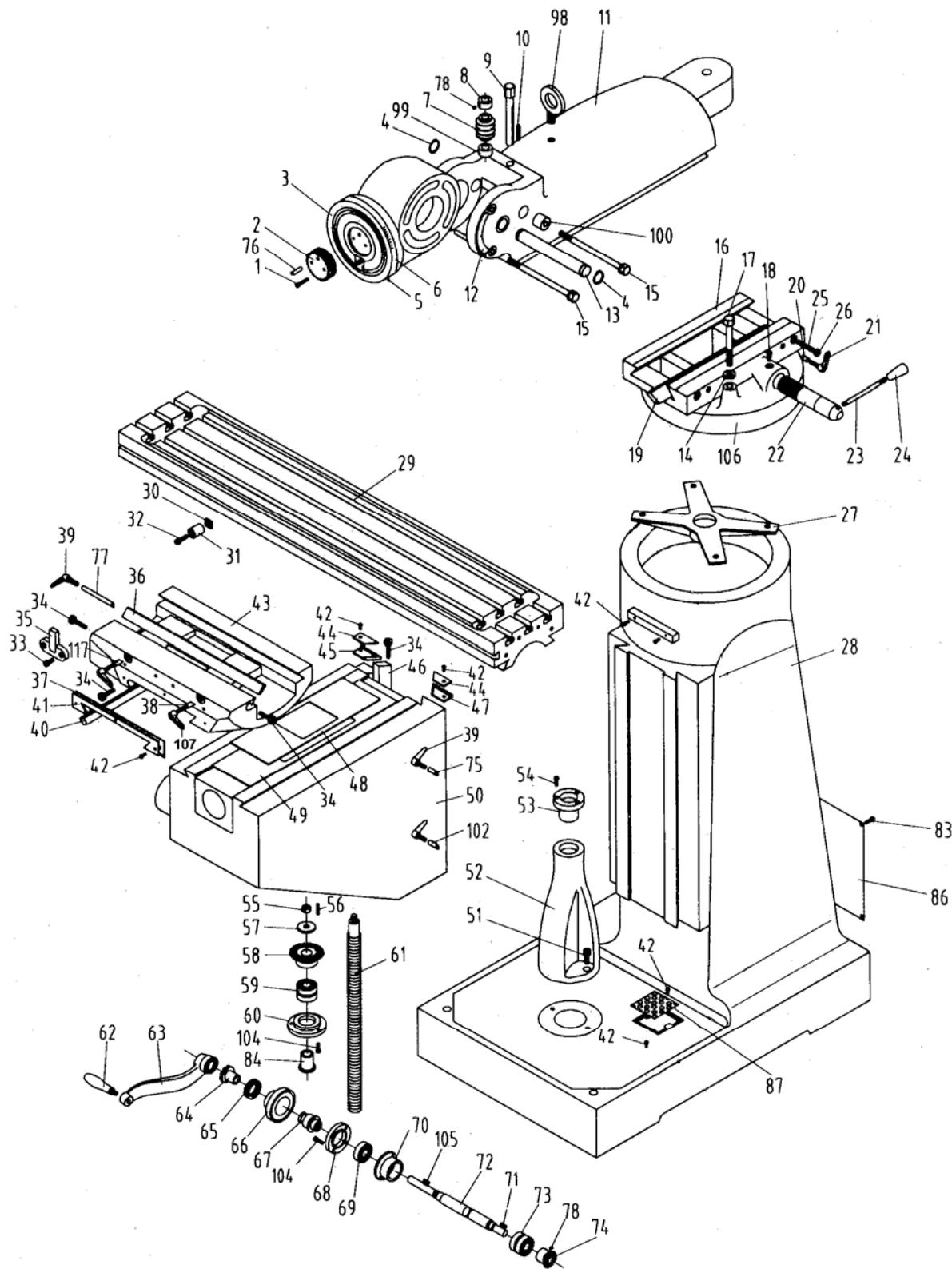
## 15.2.2 Head Assembly – Parts List

<b>Index No</b>	<b>Part No</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
	LA-166A	Worm Gear Cradle Assembly (includes #1-17,36,37,40)		1
1	TS-1533042	Screw	M5x10	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	M6x6	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	3x3x8mm	1
11	HA-011	Key	3x3x20mm	1
12	HA-012	Lock Nut	M6x16	1
13	HA-013	Washer		1
14	HA-014	Cluster Gear key	3x3x8.5	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	3x22mm	2
23	LA-003	Cam Rod		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	3x3x45mm	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	3x3x10mm	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	3x20mm	1
57	LA-133	Feed Worm Shaft		1
59	HA-059	Spring Pin	3x12mm	2
60	LA-150	Feed Shift Rod		1
61	TS-1522031	Set Screw	M5x10	1
62	HA-062	Key	3x3x15mm	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	M8x10	4
73	TS-1502081	Hex Socket Cap Screw	M5x35	2
74	LA-081	Clutch Ring Pin		2
75	LA-080	Clutch Ring		1
76	TS-1524011	Set Screw	M8x8	1
78	LA-082	Overload Clutch Lookout		1
79	LA-083	Safety Clutch Spring		1

<b>Index No</b>	<b>Part No</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
80	LA-084	Overload Clutch .....		1
81	LA-085	Overload Clutch Sleeve .....		1
82	LA-090	Key .....		1
83	TS-1532052	Pan Head Machine Screw .....	M4x16 .....	3
85	TS-1523031	Set Screw .....	M6x10 .....	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 (Brass) .....		1
93	LA-086	Overload Clutch Ring .....		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 .....	M6x10 .....	1
101	HA-101	Lock Nut .....		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 .....	M6x20 .....	2
109	HA-109	Key .....	3x3x10mm .....	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-121A	Bushing .....		1
124	LA-097	Feed Trip Plunger .....		1
125	LA-126	Handwheel .....		1
126	LA-125	Handle .....		1
127	LA-050A	Spindle .....		1
128	LA-060	Quill Skirt .....		1
129	LA-048	Lock Nut .....		1
131	BB-6206ZZ	Ball Bearing .....	6206-ZZ .....	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 .....	M4x20 .....	1
145	LA-098	Feed Trip Lever .....		1
146	LA-099	Trip Lever Pin .....		1
148	LA-111	Quill Lock Sleeve .....		1
149	LA-109	Lock Handle .....		1
150	HA-150	Screw .....	M5x10 .....	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 .....	M4x5 .....	2
159	LA-118	Micrometer Scale .....		1

<b>Index No</b>	<b>Part No</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
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"x1/4"	1
175 .....	LA-106.....	Hub .....		1
176 .....	LA-104.....	Hub Sleeve .....		1
	.....LA-102/3.....	Clock Spring Assembly (includes #177,178) .....		1
177 .....	LA-103.....	Spring Cover.....		1
178 .....	LA-102.....	Clock Spring .....		1
179 .....	TS-0680061 .....	Washer .....	1/2"	1
181 .....	TS-1523011 .....	Set Screw .....	M6x6 .....	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-016.....	Quill Housing .....		1
193 .....	HA-193.....	Spring .....	10x20mm .....	1
194 .....	RINS30.....	Snap Ring .....		1
195 .....	BH1291 .....	Lock Washer.....		1
196 .....	TS-1524011 .....	Set Screw .....	M8x8 .....	1
197 .....	TS-0561031 .....	Hex Nut.....	3/8" .....	1

### 15.3.1 Base Assembly – Exploded View

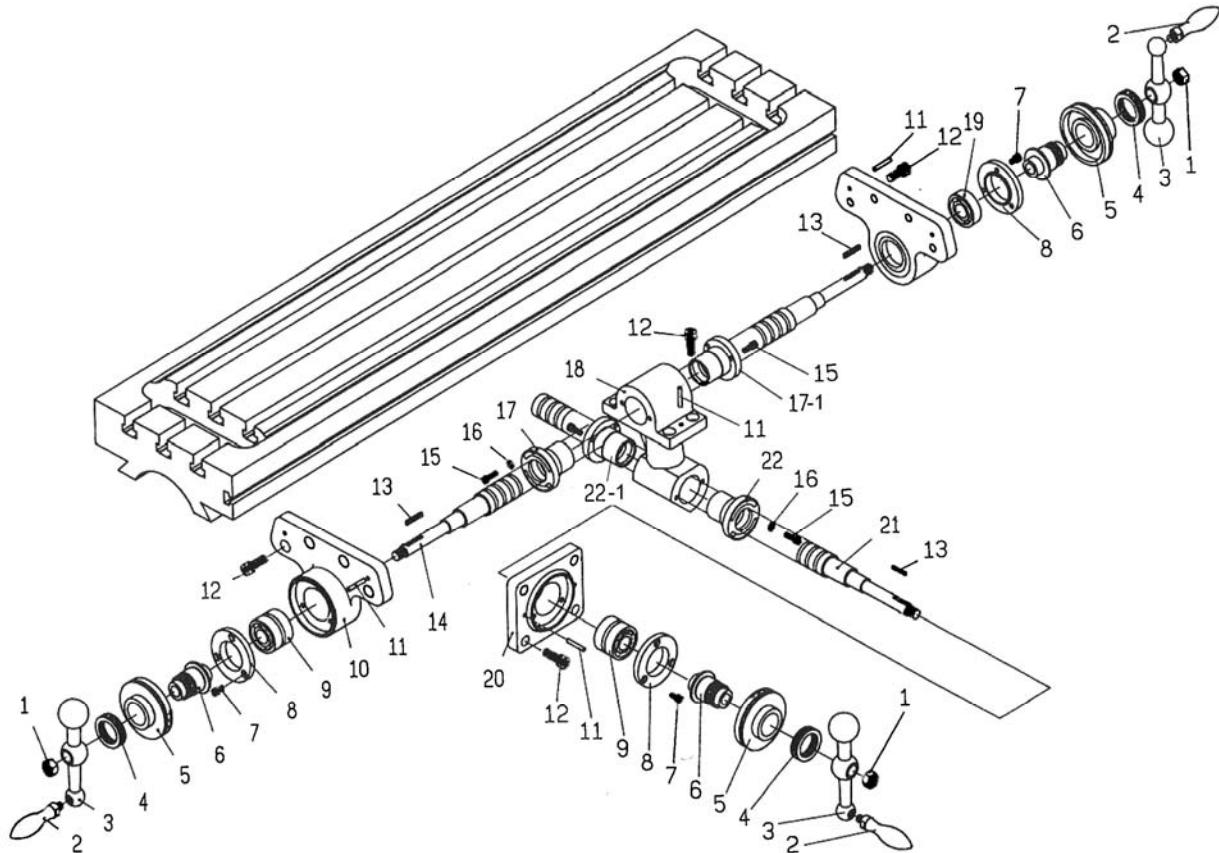


### 15.3.2 Base Assembly – Parts List

<b>Index No</b>	<b>Part No</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
1	LB-001	Hex Socket Cap Screw.....	M6 x30	2
2	LB-023	Gear.....		1
3	LB-020	Ram Adapter.....		1
4	LB-004	Snap Ring.....	S-28	2
5	LB-005	Rivet.....		15
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	1
11	MB-026	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-009	Turret .....		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	Handle .....		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-000	Column (serial # 1999/4/29 and lower) .....		1
	MB-000A	Column (serial # 1999/4/30 and higher) .....		1
29	JTM1-330A	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-005B	Table Lock Plunger .....	16mm	2
39	LS-011	Saddle Lock Handle .....		5
40	LS-001	Saddle/Knee Gib .....		1
41	LS-014	Wiper Plate .....		2
42	LS-042	Screw.....		16
43	MS-000	Saddle .....		1
44	LS-017A	Wiper Felt .....		2
45	LS-016A	Felt (left) .....		1
46	LK-001	Knee/Column Gib .....		1
47	LS-016	Knee/Wiper Felt (right) .....		1
48	LK-007	Upper Chip Guard .....		1
49	LK-006	Lower Chip Guard .....		1
50	MK-000	Knee .....		1
51	TS-1505031	Hex Socket Cap Screw.....	M10 x 25	2
52	MK-012	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	1
57	LK-022	Washer .....		1
58	MK-021	Bevel Gear .....		1
59	BB-6306ZZ	Ball Bearing .....		2

<b>Index No</b>	<b>Part No</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
60 .....	MK-019.....	Bearing Retainer Ring .....		1
61 .....	MK-016.....	Elevating Screw .....		1
62 .....	LK-037.....	Handle .....		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 .....	2
72 .....	MK-028.....	Elevating Shaft .....		1
73 .....	BB-6204ZZ .....	Ball Bearing .....		2
74 .....	MK-024.....	Bevel Pinion .....		1
75 .....	LK-003.....	Plunger .....		1
76 .....	LK-081.....	Spring Pin .....	8 x 30 .....	1
77 .....	LS-010.....	Saddle Lock Plunger .....		1
83 .....	MB-090.....	Screw.....	1/4 x 3/8 .....	4
84 .....	MK-038.....	Bushing .....		1
86 .....	MB-004.....	Cover .....		1
87 .....	MB-041.....	Strainer Screen .....		2
98 .....	RIBW34.....	Hoisting Ring .....		1
99 .....	LB-036.....	Worm Thrust Washer .....		1
100 .....	LB-033.....	Thrust Washer .....		1
102 .....	LK-003.....	Lock Plunger .....		1
104 .....	TS-1503051 .....	Hex Socket Cap Screw .....	M6 x 20 .....	6
105 .....	KEY3320.....	Key .....	3x3x20mm .....	1
106 .....	MB-00B .....	Turret Scale .....		1
107 .....	LS-006B .....	Saddle Ratcheting Lever .....		3
117 .....	LS-005A .....	Table Lock Plunger – L .....		3
.....	JTM1-WCF .....	Flat Way Cover (not shown) .....		1
.....	JTM1-WCA .....	Pleated Way Cover (not shown) .....		1
.....	JTM4VS-TB .....	Tool Box Kit Complete (not shown) .....		1
.....	STRIPE-1-3/4.....	JET Stripe .....	1-3/4"W .....	per ft.

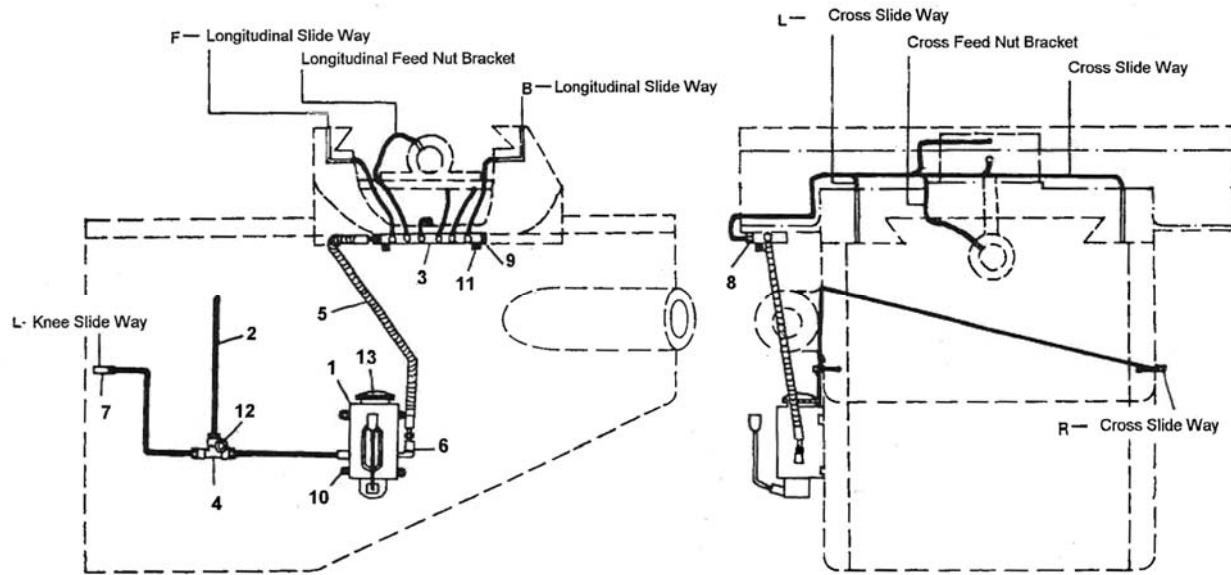
#### 15.4.1 Table Leadscrew Assembly – Exploded View



#### 15.4.2 Table Leadscrew Assembly – Parts List

Index No	Part No	Description	Size	Qty
1	TS-0571052	Jam Nut	1/2-20UNF	3
2	LT-010C	Handle		3
3	LT-010B	Ball Crank		3
4	LT-009	Dial Lock Nut		3
5	LT-008	Dial		3
6	LT-007	Dial Holder		3
7	TS-1503021	Hex Socket Cap Screw	M6 x 12	3
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	8
12	TS-1505031	Hex Socket Cap Screw	M10 x 25	16
13	BD920-A04	Key	3 x 3 x 25	3
14	MT-015B	Longitudinal Feed Screw		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 (includes #17-1)		1
18	MT-017	Feed Nut Bracket		2
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 (includes #22-1)		2

### 15.5.1 One-Shot Lubrication System – Exploded View



### 15.5.2 One-Shot Lubrication System – Parts List

Index No	Part No	Description	Size	Qty
	LT-8-A	Hand Oiler Assembly (includes #1,1A,4,5,9)		1
1	LT-8	Hand Oiler		1
1A	LT-8-SG	Hand Oiler Sight Glass (with 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
13	LT-8-C	Oil Cap		1