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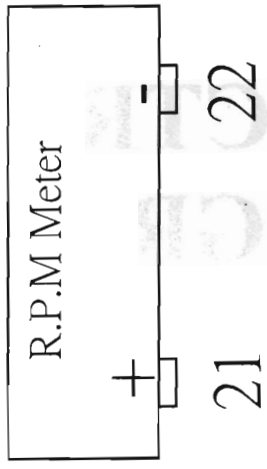
**NOTE: WHEN ORDERING PARTS, PLEASE MENTION:**

- 1. MACHINE MODEL & SERIAL NUMBER.**
- 2. ITEM NUMBER.**
- 3. PART NUMBER AND DESCRIPTION.**
- 4. YEAR OF PRODUCTION.**
- 5. VOLTAGE & HORSEPOWER**
- 6. QUANTITY.**

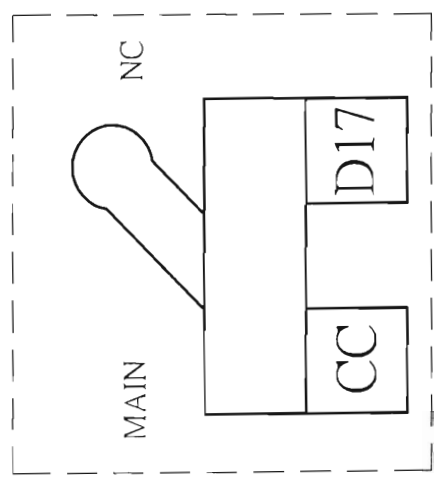
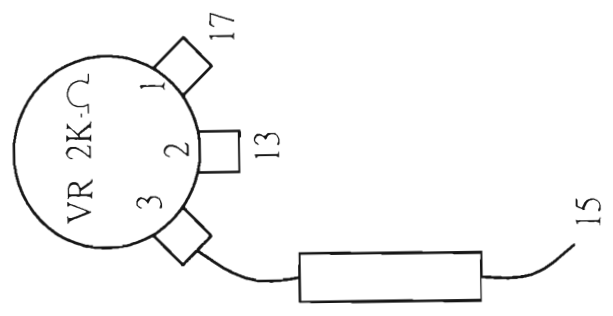
# **E-mill ELECTRIC WIRING DIAGRAM & COMPONENTS**

# 1. THE CONTROL PANEL

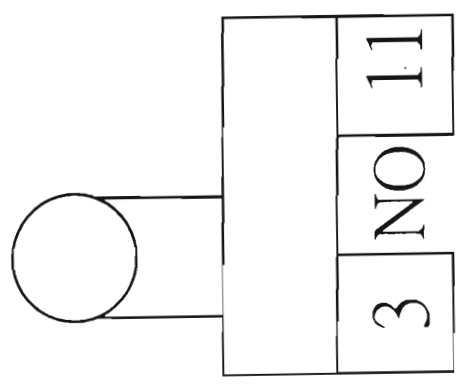
The Control Panel



SPINDLE SPEED



OPT.



RESET

SB3

11	T1
3	T

NO NC

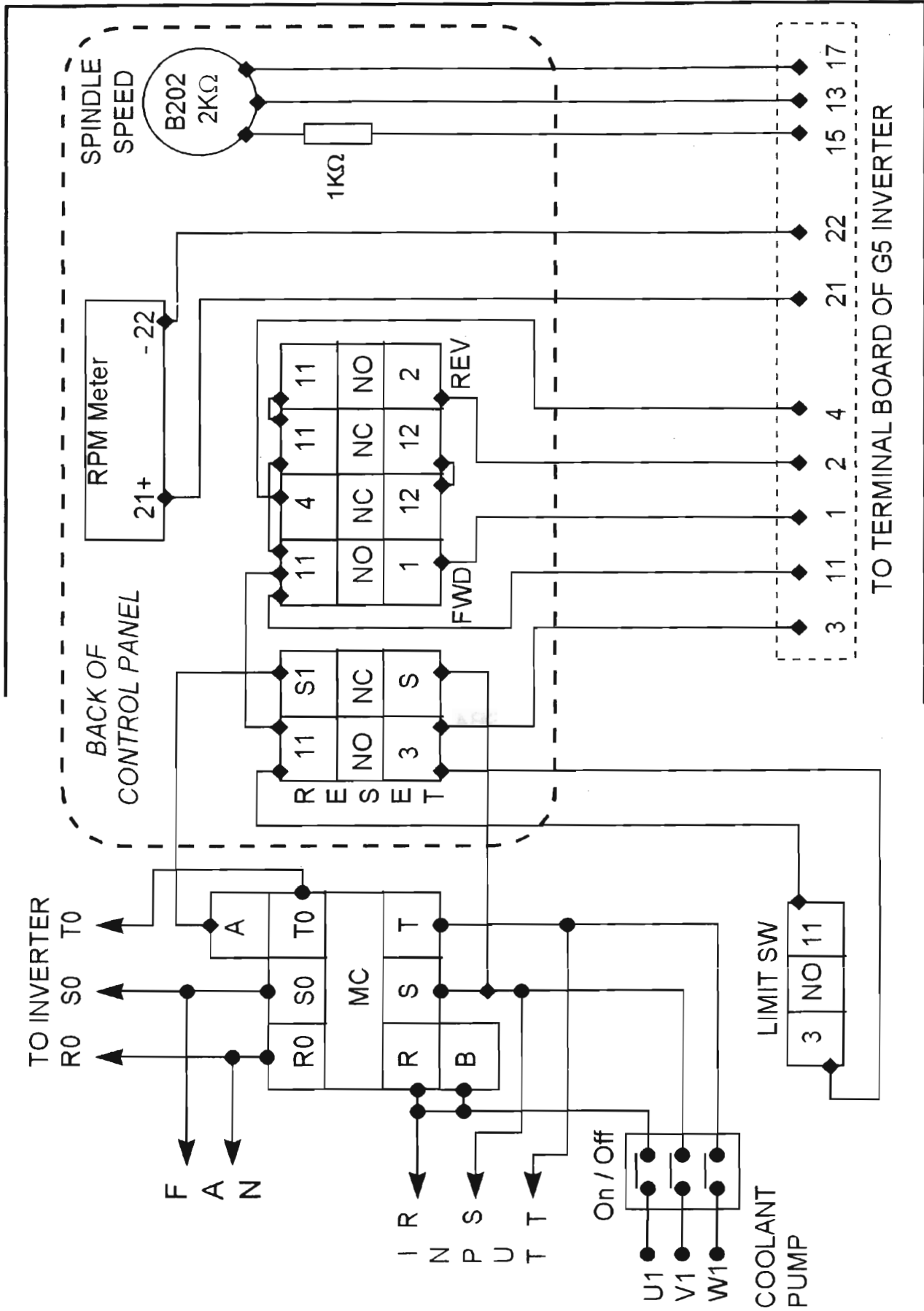
RESET

SB1 SB2

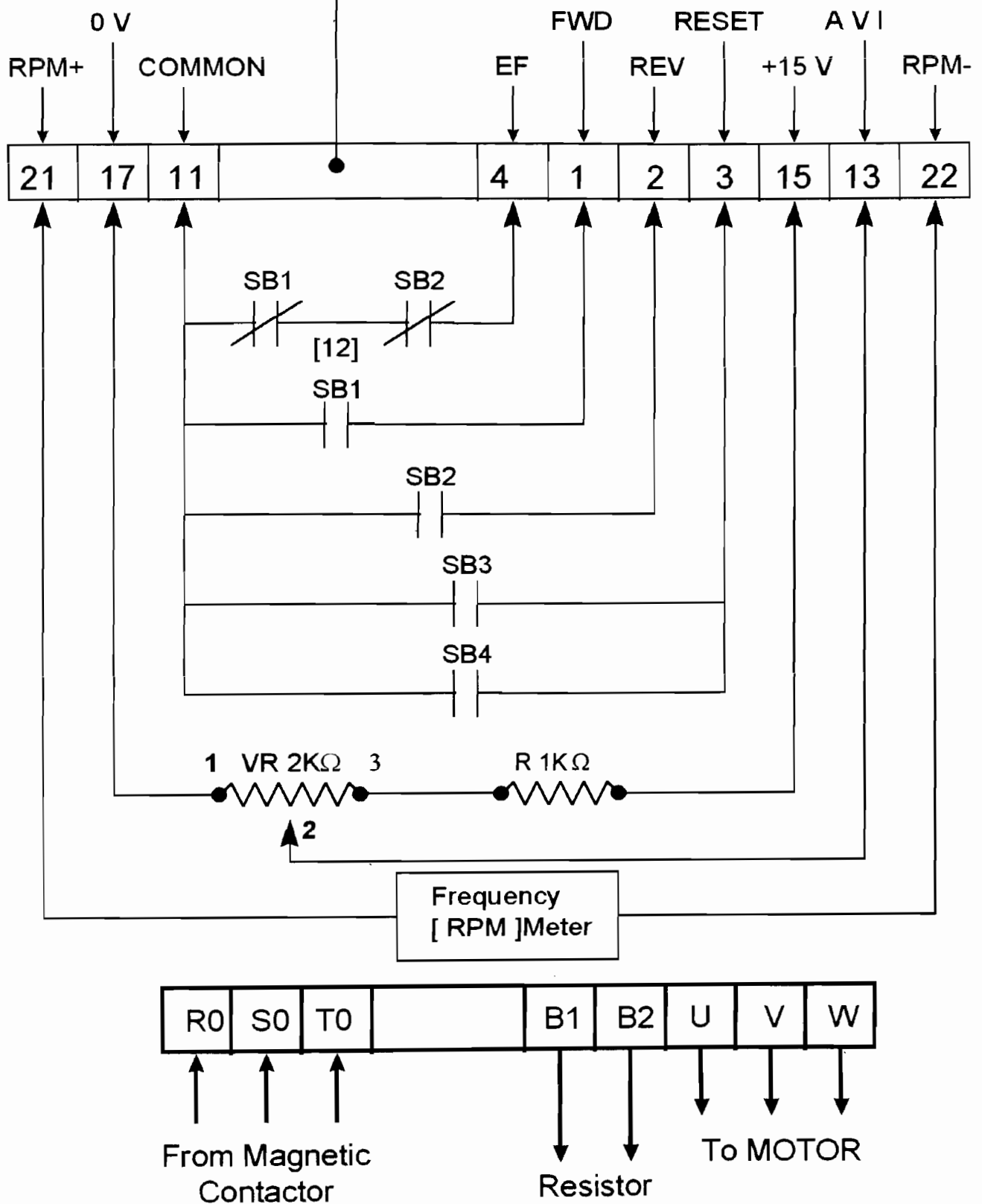
11	4	11	11
1	12	12	2

NO NC NC NO

## 2. YASKAWA G5 WIRING DIAGRAM

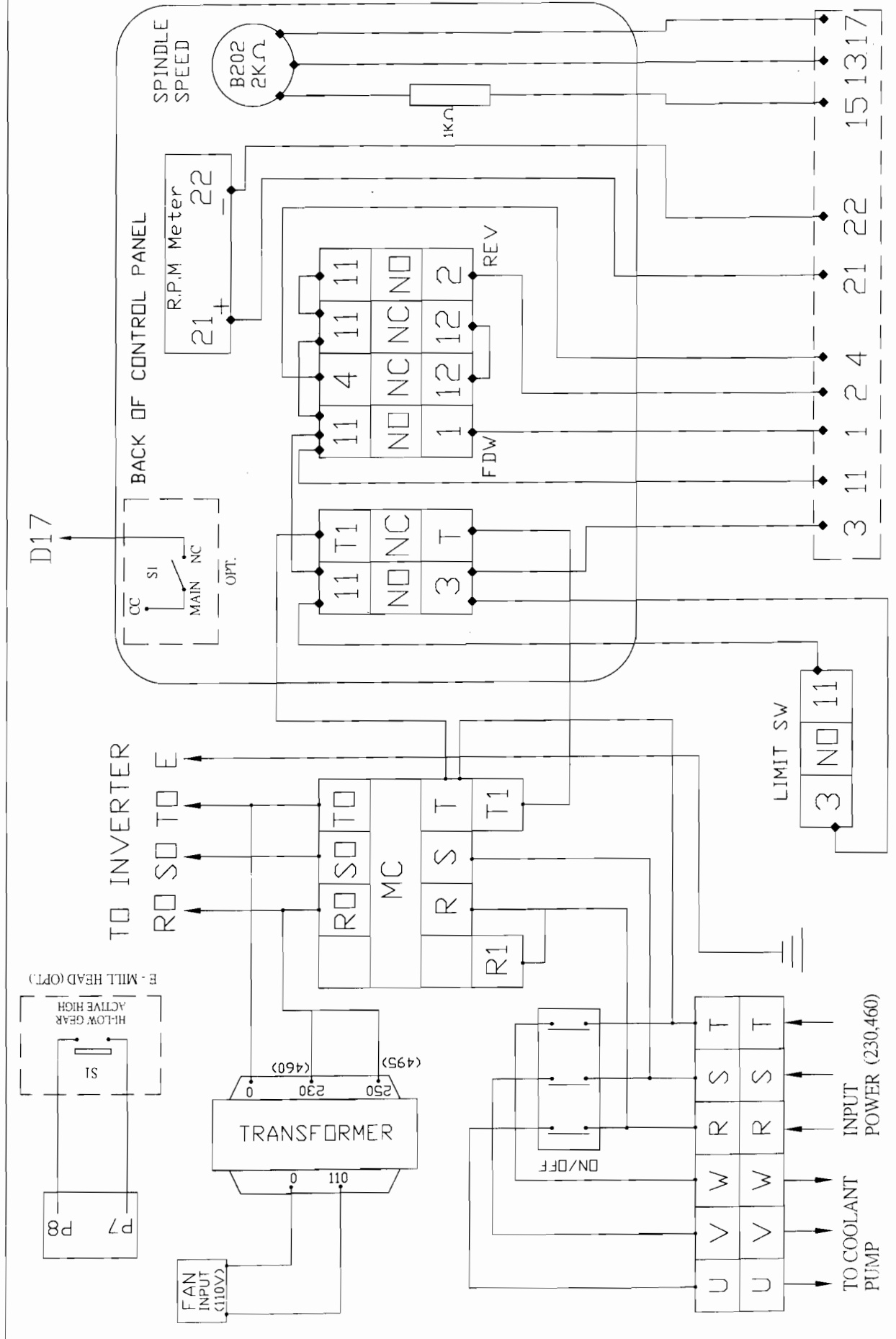


# Terminal Board of G5 Inverter



The Circuit Diagram

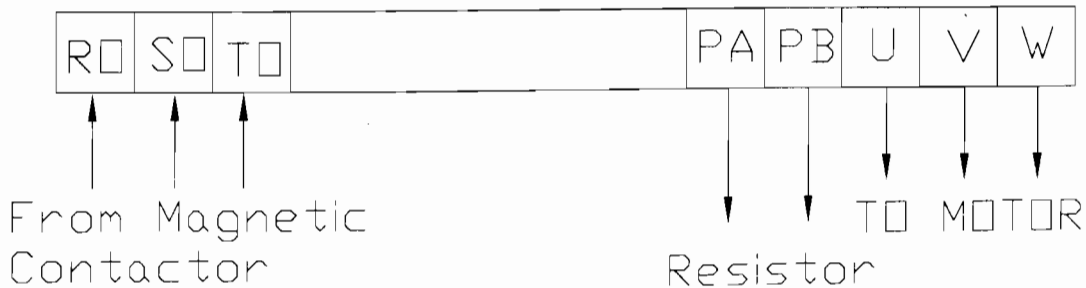
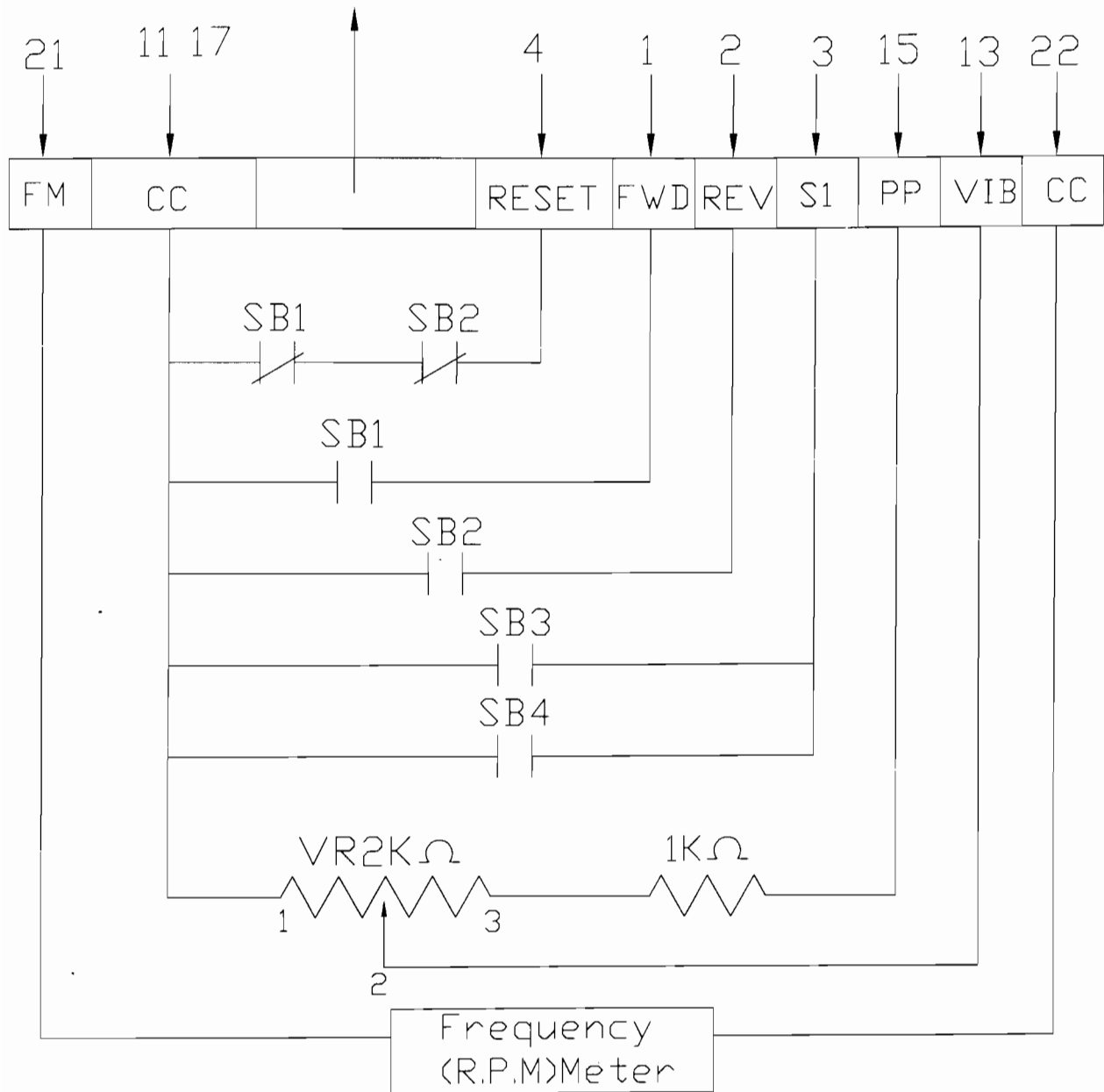
# TOSHIBA S7,S9 WIRING DIAGRAM



TO TERMINAL BOARD OF S7 INVERTER

# TOSHIBA

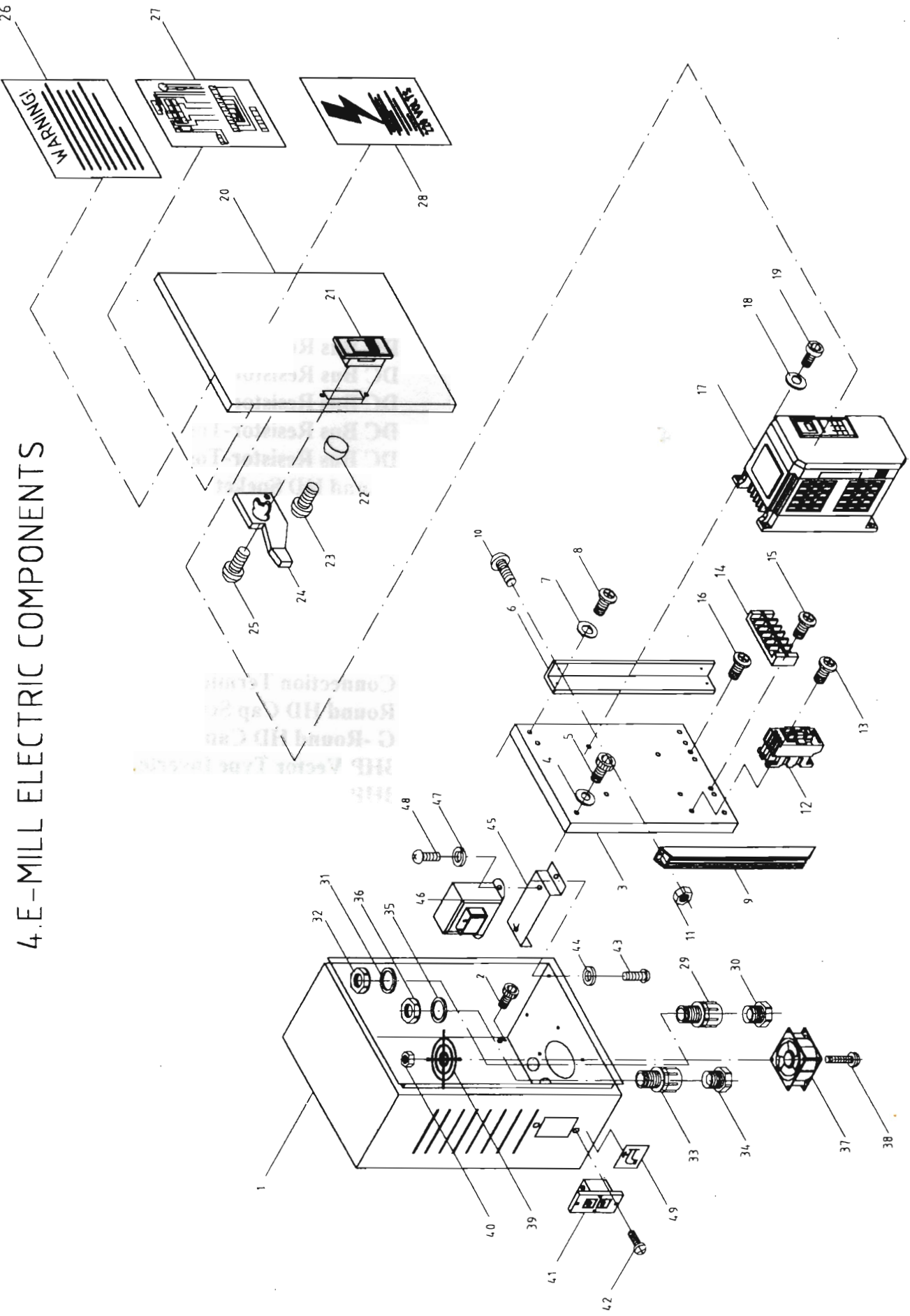
Terminal Board of S7 S9 Inverter



The Circuit diagram



# 4.E-MILL ELECTRIC COMPONENTS



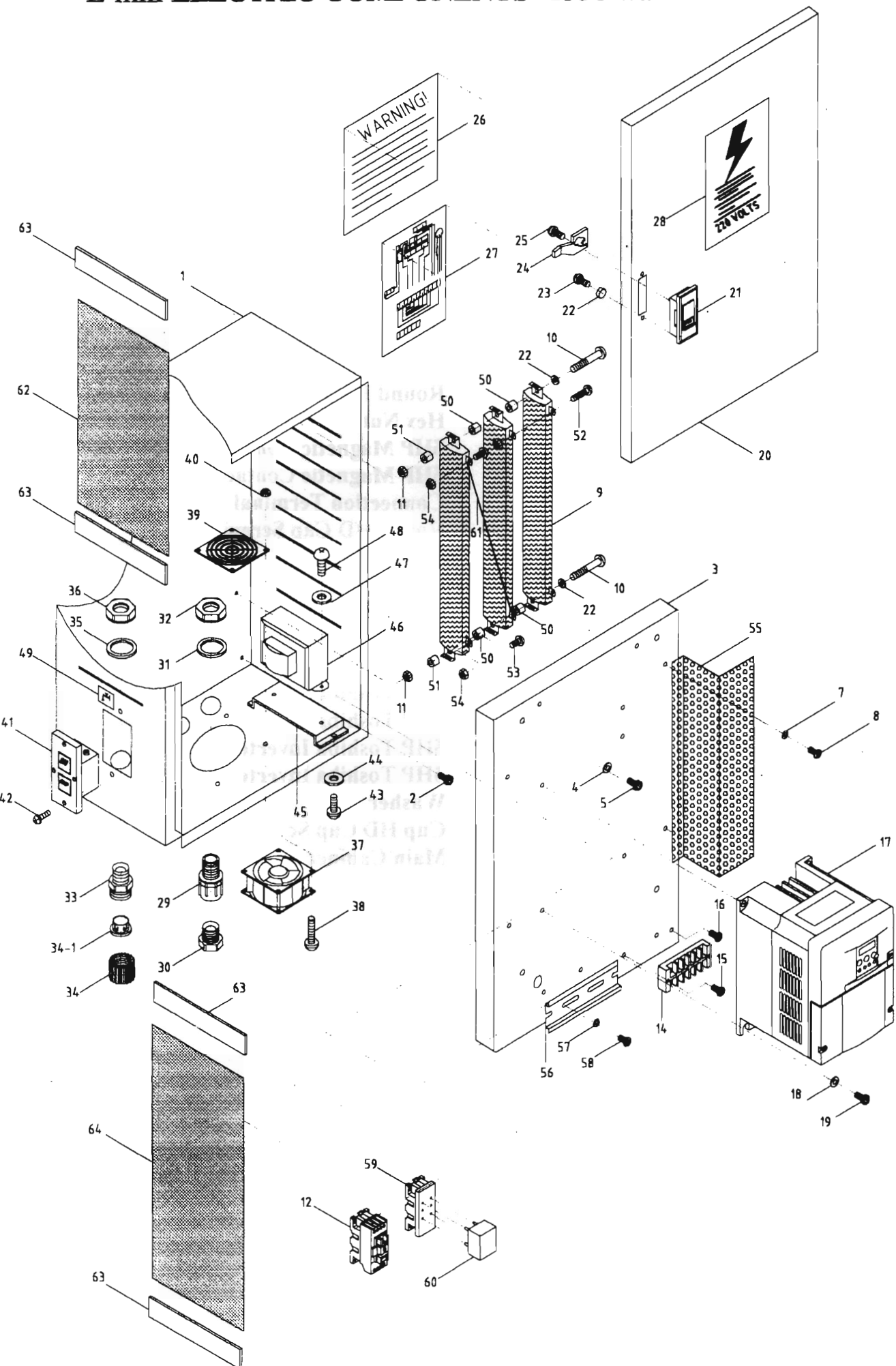
# E-mill ELECTRIC COMPONENTS—400 watts

ITEM NO.	PART NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	9600		Main Electric Cabinet-400W	1
2	9601		Socket HD Cap Screw	4
3	9602		Inverter Locating Plate-400W	1
4	9603		Washer	4
5	9604		Socket HD Cap Screw	4
6	9605		L - Locating Plate-400W	1
7	9606		Washer	2
8	9607		Round HD Cap Screw	2
9	9506		DC Bus Resistor-3HP-230V	1
	9506-1		DC Bus Resistor-3HP-460V	1
	9506-2		DC Bus Resistor-5HP-230V	1
	9506-3		DC Bus Resistor-5HP-460V	1
	9506-4		DC Bus Resistor-Toshiba-230V	1
	9506-5		DC Bus Resistor-Toshiba-460V	1
10	9609		Round HD Socket Screw	2
11	9610		Hex Nut	2
12	9507		3HP Magnetic Contactor-230V	1
	9507-1		3HP Magnetic Contactor-460V	1
	9507-2		5HP Magnetic Contactor-230V	1
	9507-3		5HP Magnetic Contactor-460V	1
13	9612		Round HD Cap Screw	2
14	9508		Connection Terminal	1
15	9614		Round HD Cap Screw	2
16	9615		G -Round HD Cap Screw	1
17	9509		3HP Vector Type Inverter-230V	1
	9509-1		3HP Vector Type Inverter-460V	1
	9509-2		5HP Vector Type Inverter-230V	1
	9509-3		5HP Vector Type Inverter-460V	1
	9509-4		5HP Toshiba Inverter-230V	1
	9509-5		5HP Toshiba Inverter-460V	1
	9509-6		5HP Toshiba Inverter-230V-S9	1
	9509-7		5HP Toshiba Inverter-460V-S9	1
18	9617		Washer	4
19	9618		Socket HD Cap Screw	4
20	9619		Main Cabinet Cover	1
21	9620		Cabinet Lock	1
22	9621		Lock Spacer	2
23	9622		Round HD Cap Screw	2

# E-mill ELECTRIC COMPONENTS—400 watts

ITEM NO.	PART NO.	FACTORY NO.	DESCRIPTION	Q'TY
24	9623		Extending Locking Piece	1
25	9624		Round HD Cap Screw	2
26	9625		Warning Sign	1
27	9626		Electric Diagram	1
28	9627		Electric Warning Label	1
29	9628		Nylon Cable Connector-body	1
30	9629		Nylon Cable Connector	
			-Lower cap	1
31	9630		Nylon Cable Connector-spacer	1
32	9631		Nylon Cable Connector-cap	1
33	9628		Nylon Cable Connector-body	1
34	9629		Nylon Cable Connector	
			-Lower cap	1
35	9630		Nylon Cable Connector-spacer	1
36	9631		Nylon Cable Connector-cap	1
37	9510		Cooling Fan-230V	1
	9510-1		Cooling Fan-460V	1
	9510-2		Cooling Fan-110V	1
38	9633		Round HD Cap Screw	4
39	9634		Fan Filter	1
40	9635		Nut	4
41	9511		Coolant On/Off Switch	1
42	9637		Round HD Cap Screw	2
43	9638		Round HD Cap Screw	2
44	9639		Hex Nut	2
45	9640		Transformer Locating Bracket	1
46	9512		Transformer-Single Phase-230V	1
	9512-1		Transformer-Single Phase-460V	1
47	9641		Spring Washer	2
48	9642		Round HD Cap Screw	2
49	9643		Coolant Indicator Sign	1

# E-mill ELECTRIC COMPONENTS -1350 watts



# E-mill ELECTRIC COMPONENTS—1350 watts

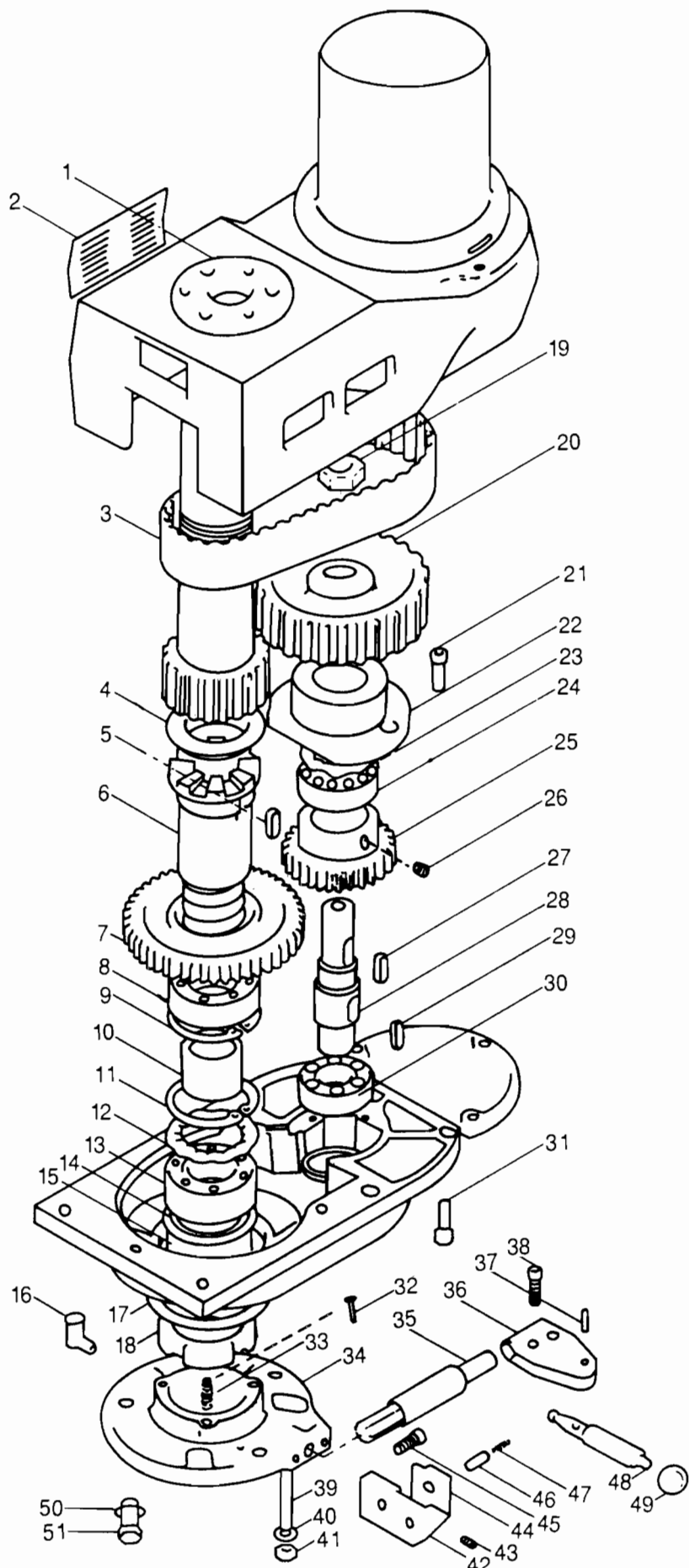
ITEM NO.	PART NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	9600-1		Main Electric Cabinet-1350W	1
2	9601	M6x12	Socket HD Cap Screw	4
3	9602-1		Inverter Locating Plate-1350W	1
4	9603		Washer	4
5	9601	M6x12	Socket HD Cap Screw	4
7	9606		Washer	2
8	9607	M4x10	Round HD Cap Screw	2
9	9506-6	ZRQ450W8 J	DC Bus Resistor-Toshiba-8 ohms	3
	9506-7	ZRQ450W15 J	DC Bus Resistor-Toshiba-15 ohms	3
10	9609-1	M4x70	Round HD Socket Screw	2
11	9610-1		Hex Nut	2
12	9507-2	CN16	5HP Magnetic Contactor-230V	1
	9507-3	CN16	5HP Magnetic Contactor-460V	1
14	9508		Connection Terminal	1
15	9607	M4x10	Round HD Cap Screw	2
16	9607	M4x10	G -Round HD Cap Screw	1
17	9509	G5	3HP Vector Type Inverter-230V	1
	9509-1	G5	3HP Vector Type Inverter-460V	1
	9509-2	G5	5HP Vector Type Inverter-230V	1
	9509-3	G5	5HP Vector Type Inverter-460V	1
	9509-4	S7	5HP Toshiba Inverter-230V	1
	9509-5	S7	5HP Toshiba Inverter-460V	1
	9509-6	S9	5HP Toshiba Inverter-230V-S9	1
	9507-7	S9	5HP Toshiba Inverter-460V-S9	1
18	9617		Washer	4
19	9618	M5x12	Cup HD Cap Screw	4
20	9619-1		Main Cabinet Cover	1
21	9620		Cabinet Lock	1
22	9621		Lock Spacer	2
23	9622	5/32x3/8	Round HD Cap Screw	2
24	9623		Extending Locking Piece	1
25	9624	5/32x1/4	Round HD Cap Screw	2
26	9625		Warning Sign	1
27	9626		Electric Diagram	1
28	9627		Electric Warning Label	1
29	9628		Nylon Cable Connector-body	1
30	9629		Nylon Cable Connector	1
			-Lower cap	1

# E-mill ELECTRIC COMPONENTS—1350 watts

ITEM NO.	PART NO.	FACTORY NO.	DESCRIPTION	Q'TY
31	9630		Nylon Cable Connector-spacer	1
32	9631		Nylon Cable Connector-cap	1
33	9654		Nylon Cable Connector-body	1
34	9655		Nylon Cable Connector	
			-Lower cap	1
34-1	9656		Cable Sleeve	1
35	9630		Nylon Cable Connector-spacer	1
36	9631		Nylon Cable Connector-cap	1
37	9510-2		Cooling Fan-110V	1
38	9633	M4x55	Round HD Cap Screw	4
39	9634-1		Fan Filter	1
40	9635		Nut	4
41	9511		Coolant On/Off Switch	1
42	9607	M4x10	Round HD Cap Screw	2
43	9638	M5x12	Round HD Cap Screw	2
44	9639		Hex Nut	2
45	9640		Transformer Locating Bracket	1
46	9512		Transformer-Single Phase-230V	1
	9512-1		Transformer-Single Phase-460V	1
47	9641		Spring Washer	2
48	9638	M5x12	Round HD Cap Screw	2
49	9643		Coolant Indicator Sign	1
50	9644		Aluminum Sleeve-Large	4
51	9645		Aluminum Sleeve-Small	2
52	9646	M5x35	Brass Round HD Cap Screw	1
53	9647	M5x8	Brass Round HD Cap Screw-S	4
54	9648		Brass Hex Nut	7
55	9649		Resistor Cover	1
56	9650		Component Rail	1
57	9641		Spring Washer	2
58	9642	M4x8	Round HD Cap Screw	2
59	9513		Relay Socket Seat (Option)	1
60	9514		Relay (Option)	1
61	9515		Resistor Connecting Wire	1
62	9651		Filter Net-Small	1
63	9652		Net Cover	4
64	9653		Filter Net-Large	1

# **3HP E-mill HEAD TOP HOUSING**

# 3HP E-mill HEAD TOP HOUSING





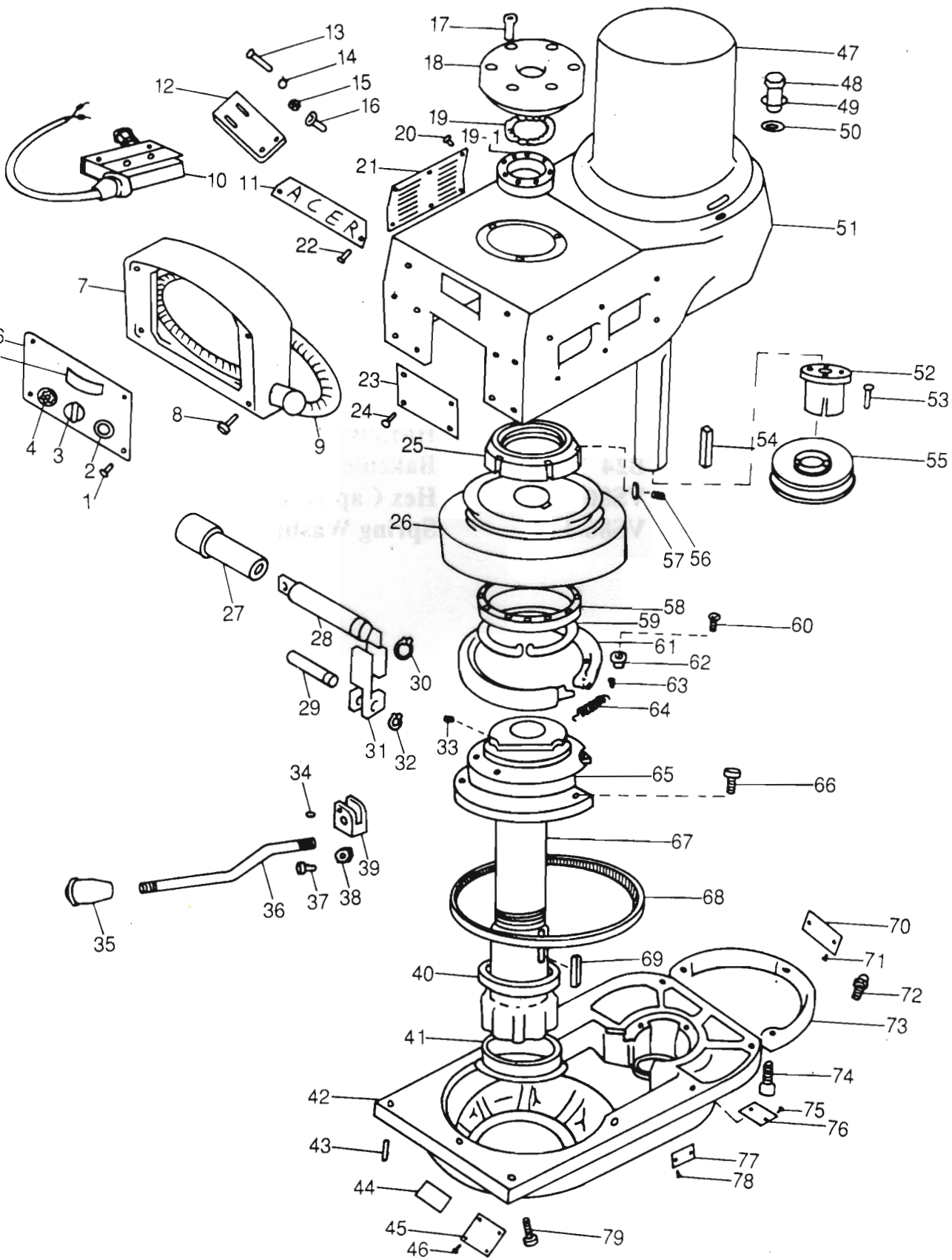
# 3HP E-mill HEAD TOP HOUSING

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	7013	VS13	Top Bearing Cap	1
2	H7088	VS101	Ventilator	2
3	7036	VS63	Timing Belt	1
4	7038	VS100	Timing Pulley Clutch Sleeve	1
5	7081	VS72	Key--	1
6	7039	VS73	Splined Gear Hub	1
7	7040	VS74	Spindle Bull Gear	1
8	7041	VS77	Bearing—6908ZZ	1
9	7042	VS80	Snap Ring	1
10	7043	VS78	Bull Gear Bearing Spacer	1
11	7042	VS80	Snap Ring	1
12	7058	VS73-1	Wave Spring Washer	1
13	7041	VS77	Bearing—6908ZZ	1
14	7057-2	VS	Washer	1
15	7057	VS79	Bearing Sleeve Spacer	1
16	7054	VS82-1	Oil Cap	1
17	7048	VS75	Ball Bearing Gear Sleeve	1
18	7056	VS81	Bearing Lock Nut	1
19	7087	VS61	Jam Nut	1
20	7086	VS62	Timing Belt Pulley	1
21	7085	VS12	Socket HD Cap Screw	3
22	7084	VS64	Bull Gear Pinion Bearing Cap	1
23	7082	VS64-1	Wave Spring Washer	1
24	7079	VS65	Ball Bearing—6203ZZ	1
25	7083	VS66	Bull Gear Pinion	1
26	7077	VS03	Socket Set Screw--	1
27	7078	VS68	Key--	1
28	7080	VS67	Bull Gear Pinion Counter Shaft	1
29	7078	VS69	Key--	1
30	7079	VS65	Ball Bearing—6203ZZ	1
31	7073	VS51	Socket HD Cap Screw	6
32	7055-1	VS102	T-Tip Pin	3
33	7055	VS84	Compression Spring	3
34	7049	VS83	Fixed Clutch Bracket	1
35	7059	VS87	Bull Gear Shift Pinion Shaft	1

# 3HP E-mill HEAD TOP HOUSING

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
36	7071	VS92	Hi-Low Pinion Block	1
37	7072	VS88	Spring Pin	1
38	7072-1	VS92-1	Socket HD Cap Screw	2
39	7063	VS85	Stud	3
40	7062	VS85-1	Spring Washer	3
41	7061	VS85-2	Hex Nut	3
42	7060	VS89	Hi-Low Detent Plate	1
43	7064	VS	Socket Set Screw	1
44	7065	VS89-1	Adjustable Plate	1
45	7068	VS12	Socket HD Cap Screw	2
46	7066	VS90	Hi-Low Detent Plunger	1
47	7067	VS91	Spring	1
48	7070	VS94	Hi-Low Shift Crank	1
49	7069	B24	Bakelite Ball	1
50	7045	VS86	Hex Cap Screw	3
51	7046	VS86-1	Spring Washer	3

# 3HP E-mill HEAD BACK GEAR



# 3HP E-mill HEAD BACK GEAR

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	7022-1	VS17-1	Round + Cap Screw	4
2	9500	VS	Emergency Switch	1
3	9501	VS	F/R Switch	1
4	9502	VS	Variable Resistor	1
5	9503	VS	RPM Meter-10V	1
	9503-1		RPM Meter-7.5V	1
6	H7023-1	VS16-5	Chromed Face Plate	1
7	H7005-1	VS16-6	Speed Changer Housing	1
8	H7025	VS17	Socket HD Cap Screw	4
9	9504	VS	Control Wire Cable	1
10	9505	VS	Limit Switch w/Cable	1
11	H8010-1	VS1-4	ACER Name Plate	1
12	H8010-2	VS1-5	Limit Switch Bracket Plate	1
13	7022-2	VS	Round Socket Cap Screw	2
14	7022-3	VS	Spring Washer	2
15	7022-4	VS	Hex Nut	2
16	7022-5	VS	Socket HD Cap Screw	2
17	8001	VS14	Socket HD Cap Screw	3
18	7013	VS13	Top Bearing Cap	1
19	8003	VS13-1	Wave Spring Washer	1
19-1	8004	VS15	Ball Bearing—6007ZZ	1
20	H7088-1	VS101-1	Round Cap Wooden Screw	12
21	H7088	VS101	Ventilator	2
22	H8010-3	VS1-6	Round Socket Cap Screw	2
23	H8010-4	VS1-7	Covering Plate	1
24	H8010-5	VS1-8	Round HD Screw	4
25	8034-1	VS70-2	Spindle Pulley Hub Lock-Nut	1
26	8028-1	VS45-1	Stationary Driven Pulley	1
27	H8073	VS52	Sleeve for Brake Lock Shaft	1
28	H8074	VS53	Brake Lock Shaft	1
29	8068	VS58	Brake Finger Pivot Stud	1
30	8066-1	VS60-1	Snap Ring	1
31	8067	VS59	Brake Operating Finger	2
32	8066	VS60	Snap Ring	1
33	H8077	VS99	Socket Set Screw	2

# 3HP E-mill HEAD BACK GEAR

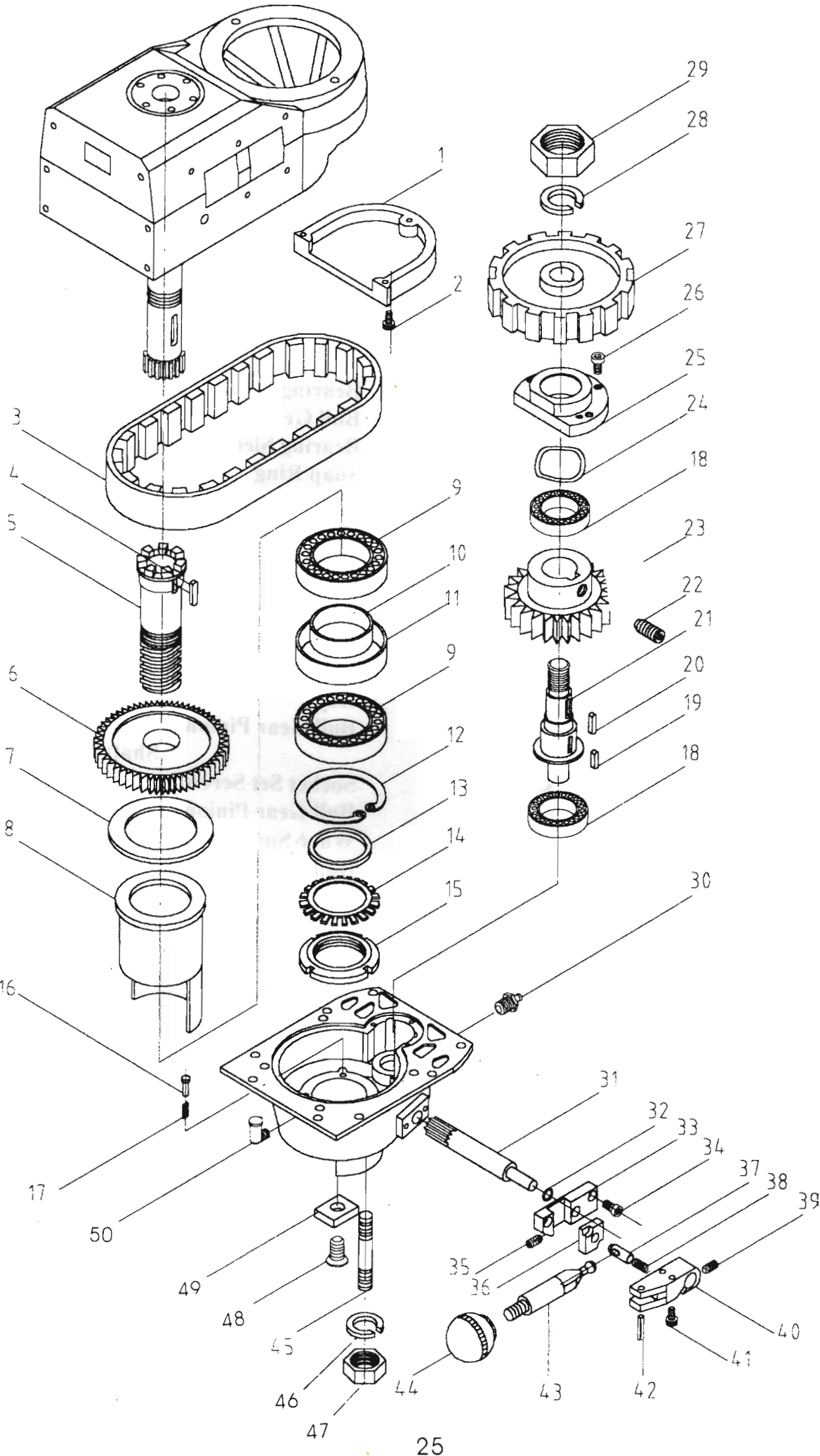
ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
34	8072	VS54-1	Socket Set Screw	1
35	8069	VS57	Bakelite Ball Handle	1
36	8070	VS56	Brake Lock Handle	1
37	8071-1	VS55-1	Socket HD Cap Screw	1
38	8070-1	VS56-1	Hex Nut	1
39	8070-2	VS54	Brake Handle Block	1
40	8033	VS98	Spindle Pulley Spacer	1
41	7038	VS100	Timing Pulley Clutch Sleeve	1
42	H8063	VS82	Gear Housing	1
43	8060	VS82-1	Taper Pin	1
44	H8063-1	VS82-3	Oil Add Name Plate	1
45	8061	VS82-1	Quill Feed Name Plate	1
46	8059	VS	Drive Screw	4
47	8008-1	VS	3HP Spindle Motor	1
48	8009	VS	Socket HD Cap Screw	2
49	8009-1	VS	Spring Washer	2
50	8009-2	VS	Washer	1
51	H8010	VS01	Belt Housing	1
52	8040-2	VS02-2	V-Belt Pulley Sleeve	1
53	8040-3	VS02-3	Hex HD Screw	2
54	8039	VS06	Key	1
55	8040-1	VS02-1	V-Belt Pulley	1
56	8034-2	VS70-3	Socket Set Screw	2
57	8034-3	VS70-4	Round Copper Tip	2
58	8023	VS43	Ball Bearing-6010ZZ	1
59	H8053-1	VS50-1	Snap Ring	1
60	8035	VS14	Round Socket Cap Screw	1
61	8032	VS47	Brake Shoe Assembly	1
62	8036	VS48	Brake Shoe Pivot Sleeve	1
63	8032-1	VS47-1	Round Cap Screw	4
64	8031	VS49	Brake Spring	2
65	H8053-2	VS50-2	Belt Housing Base	1
66	H8064	VS51	Socket HD Cap Screw	3
67	8034-5	VS70-1	Spindle Pulley Hub	1
68	8027-1	VS04-1	V Belt	1

# 3HP E-mill HEAD BACK GEAR

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
69	8049-1	VS71-1	Key	1
70	8063-2	VS01-1	Grease Add Name Plate	1
71	8059	VS	Drive Screw	2
72	8063-3	VS82-4	Grease Nibble	1
73	8054	VS11	Motor Pulley Cover	1
74	8055	VS12	Socket HD Cap Screw	3
75	8063-2	VS01-1	Grease Add Name Plate	1
76	8059	VS	Drive Screw	2
77	8058	VS82-2	Hi-Low Range Name Plate	1
78	8059	VS	Drive Screw	2

# **5HP E-mill HEAD TOP HOUSING**

# 5HP E-mill HEAD TOP HOUSING





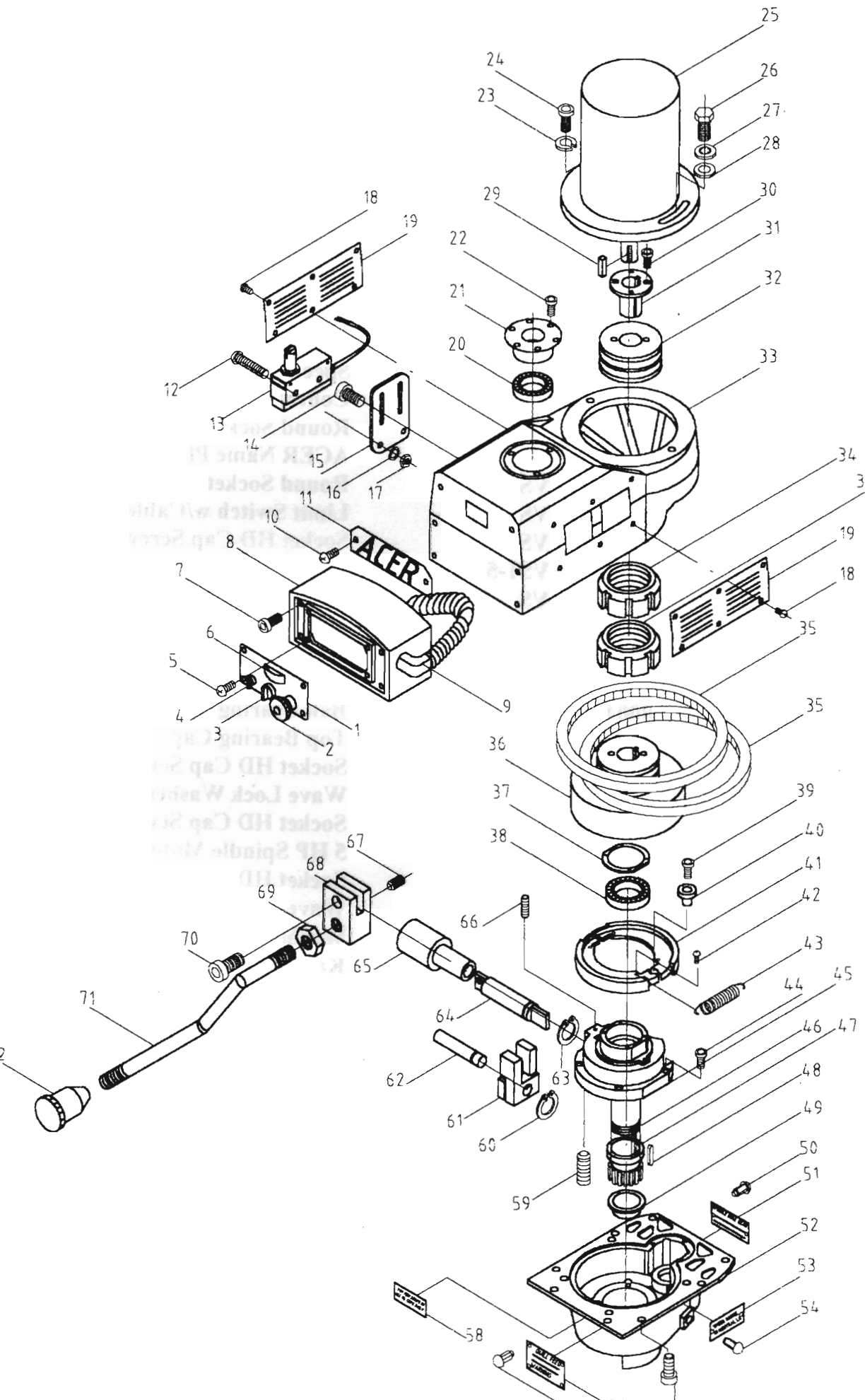
# 5HP E-mill HEAD TOP HOUSING

ITEM NO.	PARTS NO.	FACTORY NO	DESCRIPTION	Q'TY
1	8054	VS11	Motor Pulley Cover	1
2	8055	VS12	Socket HD Cap Screw	3
3	5E7036	FVS63	Timing Belt	1
4	5E7081	FVS72	Key	1
5	5E7039	FVS73	Splined Gear Hub	1
6	5E7040	FVS74	Spindle Bull Gear	1
7	5E7057-2	FVS100	Bull Gear Washer	1
8	5E7048	FVS75	Ball Bearing Gear Sleeve	1
9	5E7041	FVS77	Bearing—6910VV	2
10	5E7043	FVS78	Bull Gear Bearing Spacer	1
11	5E7057	FVS79	Bearing Sleeve Spacer	1
12	5E7042	FVS80	Snap Ring	1
13	5E7039-1	FVS	Gear Hub Spacer	1
14	5E7058	FVS73-1	Wave Spring Washer	1
15	5E7056	FVS81	Bearing Lock Nut	1
16	7055-1	VS102	T-Tip Pin	3
17	7055	VS84	Compression Spring	3
18	7079	VS65	Ball Bearing-6203ZZ	2
19	7078	VS69	Key	1
20	7078	VS69	Key	1
21	7080	VS67	Bull Gear Pinion Counter Shaft	1
22	7077	VS03	Socket Set Screw	1
23	7083	VS66	Bull Gear Pinion	1
24	7082	VS64-1	Wave Spring Washer	1
25	7084	VS64	Bull Gear Pinion Bearing Cap	1
26	7085	VS12	Socket HD Cap Screw	3
27	5E7086	FVS62	Timing Belt Pulley	1
28	5E7087-1	FVS	Spring Washer	1
29	7087	VS61	Jam Nut	1
30	8063-3	VS82-4	Grease Nibble	1
31	5E7059	FVS87	Bull Gear Shrift Pinion Shaft	1
32	5E7059-1	VS	Wave Spring Washer	1
33	7060	VS89	Hi-Low Detent Plate	1
34	7068	VS12	Socket HD Cap Screw	2
35	7064	VS	Socket Set Screw	1
36	7065	VS89-1	Adjustable Plate	1

# 5HP E-mill HEAD TOP HOUSING

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
37	7066	VS90	Hi-Low Detent Plunger	1
38	7067	VS91	Spring	1
39	5E7071-1	VS	Socket Set Screw	1
40	7071	VS92	Hi-Low Pinion Block	1
41	7072-1	VS92-1	Socket HD Cap Screw	2
42	7072	VS88	Spring Pin	1
43	7070	VS94	Hi-Low Shift Crank	1
44	7069	B24	Bakelite Ball	1
45	5E7063	FVS85	Stud	3
46	5E7062	FVS85-1	Spring Washer	3
47	5E7061	FVS85-2	Hex Nut	3
48	5E7049-1	FVS83-1	Flat HD Cap Screw	2
49	5E7049-2	FVS83-2	Brass Locating Plate	2
50	7054	VS82-1	Oil Cup	1

# 5HP E-mill HEAD BACK GEAR



# 5HP E-mill HEAD BACK GEAR

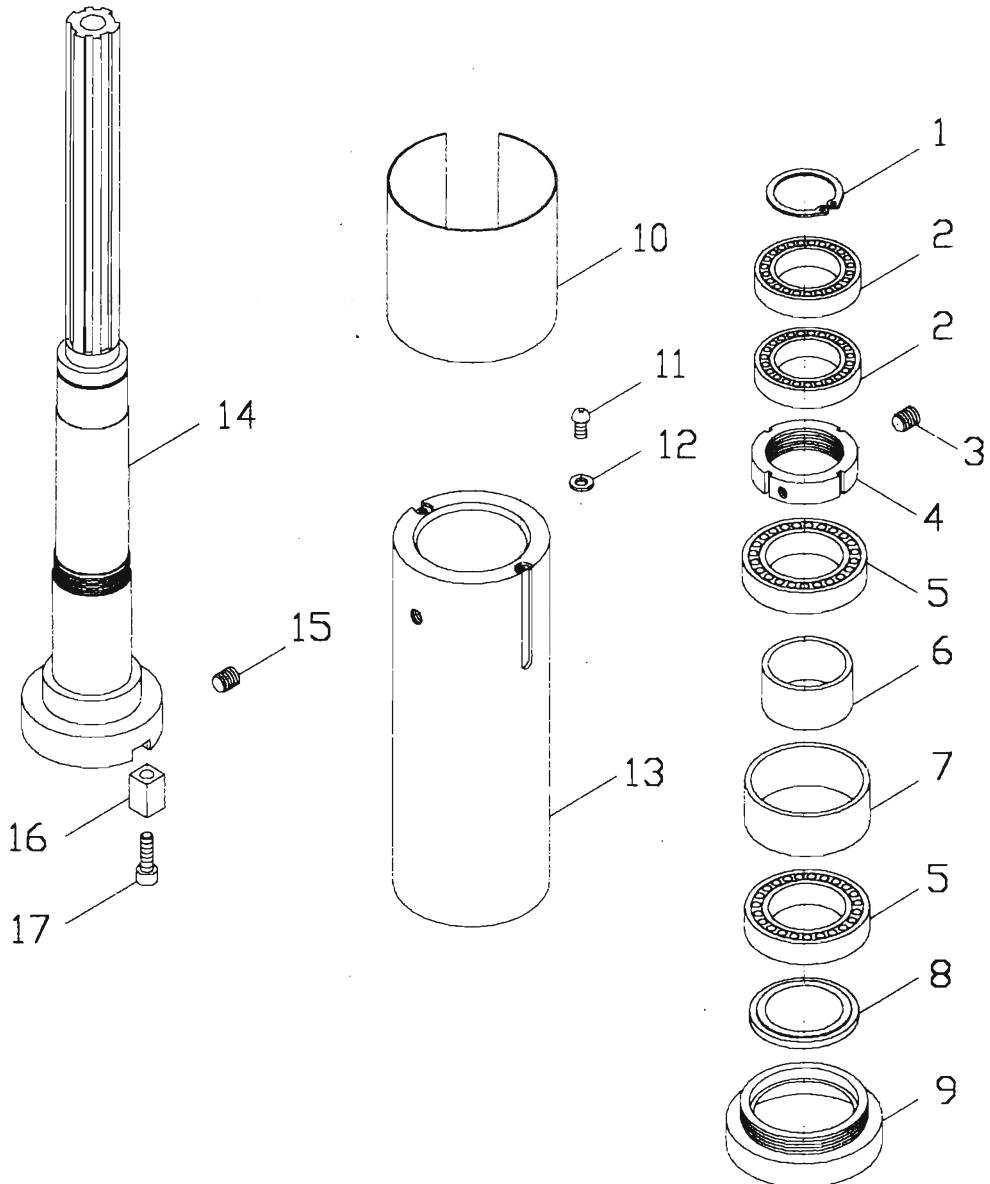
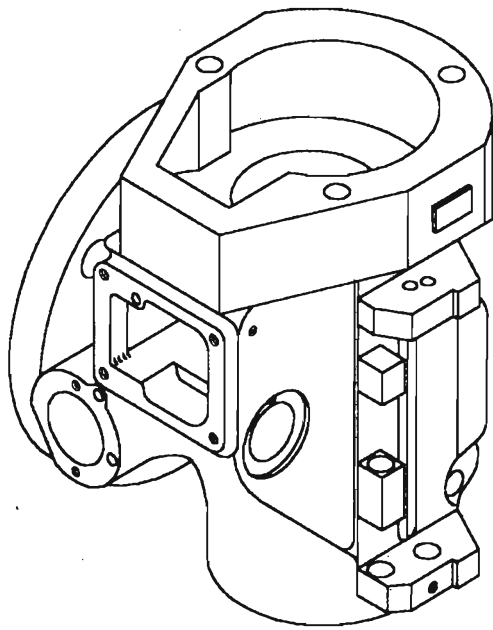
ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	5EH7023-1	FVS16-5	Chrome Face Plate	1
2	9500	VS	Emergency Switch	1
3	9501	VS	F/R Switch	1
4	9502	VS	Variable Resistor	1
5	7022-1	VS17-1	Round Socket Cap Screw	4
6	5E9503	VS	RPM Meter-10V	1
	5E9503-1		RPM Meter-7.5V	1
7	H7025	VS17	Socket HD Cap Screw	4
8	H7005-1	VS16-6	Speed Changer Housing	1
9	9504	VS	Control Wire Cable	1
10	H8010-3	VS1-6	Round Socket Cap Screw	2
11	H8010-1	VS1-4	ACER Name Plate	1
12	7022-2	VS	Round Socket Cap Screw	2
13	9505	VS	Limit Switch w/Cable	1
14	7022-5	VS	Socket HD Cap Screw	2
15	H8010-2	VS1-5	Limit Switch Bracket Plate	1
16	7022-3	VS	Spring Washer	2
17	7022-4	VS	Hex Nut	2
18	H7088-1	VS101-1	Round Cap Wooden Screw	12
19	H7088	VS101	Ventilator	2
20	5E8004	FVS15	Ball Bearing—6209ZZ	1
21	5E7013	FVS13	Top Bearing Cap	1
22	8001	VS14	Socket HD Cap Screw	3
23	8009-3	VS	Wave Lock Washer	1
24	8009	VS	Socket HD Cap Screw	1
25	5E8008-1	VS	5 HP Spindle Motor	1
26	8009	VS	Socket HD Cap Screw	1
27	8009-3	VS	Wave Lock Washer	1
28	8009-2	VS	Washer	1
29	8039-1	VS06-1	Key	1
30	8040-3	VS02-3	Hex HD Screw	2
31	5E8040-2	VS02-2	V-Belt Pulley Sleeve	1
32	5E8040-1	FVS02-1	3V Belt Pulley	1
33	5E8010	FVS01	Belt Housing	1
34	5E8034-1	FVS70-2	Spindle Hub Lock Nut	2
35	5E8027-1	FVS04-1	3V Belt	2
36	5E8028-1	FVS45-1	Stationary Driven Pulley	1
37	5EH8053-3	FVS50-3	Brake Shoe Lock Plate	1
38	5E8023	FVS43	Ball Bearing—6013VV	1

# 5HP E-mill HEAD BACK GEAR

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
39	8035	VS14	Round Socket Cap Screw	1
40	8036	VS48	Brake Shoe Pivot Sleeve	1
41	5E8032	FVS47	Brake Shoe Assembly	1
42	8032-1	VS47-1	Round Cap Screw	4
43	8031	VS49	Brake Spring	2
44	H8064	VS51	Socket HD Cap Screw	4
45	5EH8053-2	FVS50-2	Belt Housing Base	1
46	5E8034-5	FVS70-1	Spindle Pulley Hub	1
47	5E8033	FVS98	Spindle Pulley Spacer	1
48	5E8049-1	FVS71-1	Key	1
49	5E7038	FVS105	Timing Pulley Clutch Sleeve	1
50	8059	VS	Drive Screw	2
51	8063-2	VS01-1	Grease Add Name Plate	1
52	5EH8063	FVS82	Gear Housing	1
53	8058	VS82-2	Hi-Low Range Name Plate	1
54	8059	VS	Drive Screw	2
55	8055	VS12	Socket HD Cap Screw	8
56	8061	VS82-1	Quill Feed Name Plate	1
57	8059	VS	Drive Screw	4
58	H8063-1	VS82-3	Oil Add Name Plate	1
59	H8077	VS99	Socket Set Screw	1
60	8066	VS60	Snap Ring	1
61	8067	VS59	Brake Operating Finger	2
62	8068	VS58	Brake Finger Pivot Stud	1
63	8066-1	VS60-1	Snap Ring	1
64	H8074	VS53	Brake Lock Shaft	1
65	H8073	VS52	Sleeve for Brake Lock Shaft	1
66	H8077	VS99	Socket Set Screw	1
67	8072	VS54-1	Socket Set Screw	1
68	8070-2	VS54	Brake Handle Block	1
69	8070-1	VS56-1	Hex Nut	1
70	8071-1	VS55-1	Socket HD Cap Screw	1
71	5E8070	FVS56	Brake Lock Handle	1
72	8069	VS57	Bakelite Ball Handle	1
73	5EH8053-4		Round Socket Cap Screw	4

Note: To order parts for milling head, basic machine and table assembly, please search the main manual for the right part number.

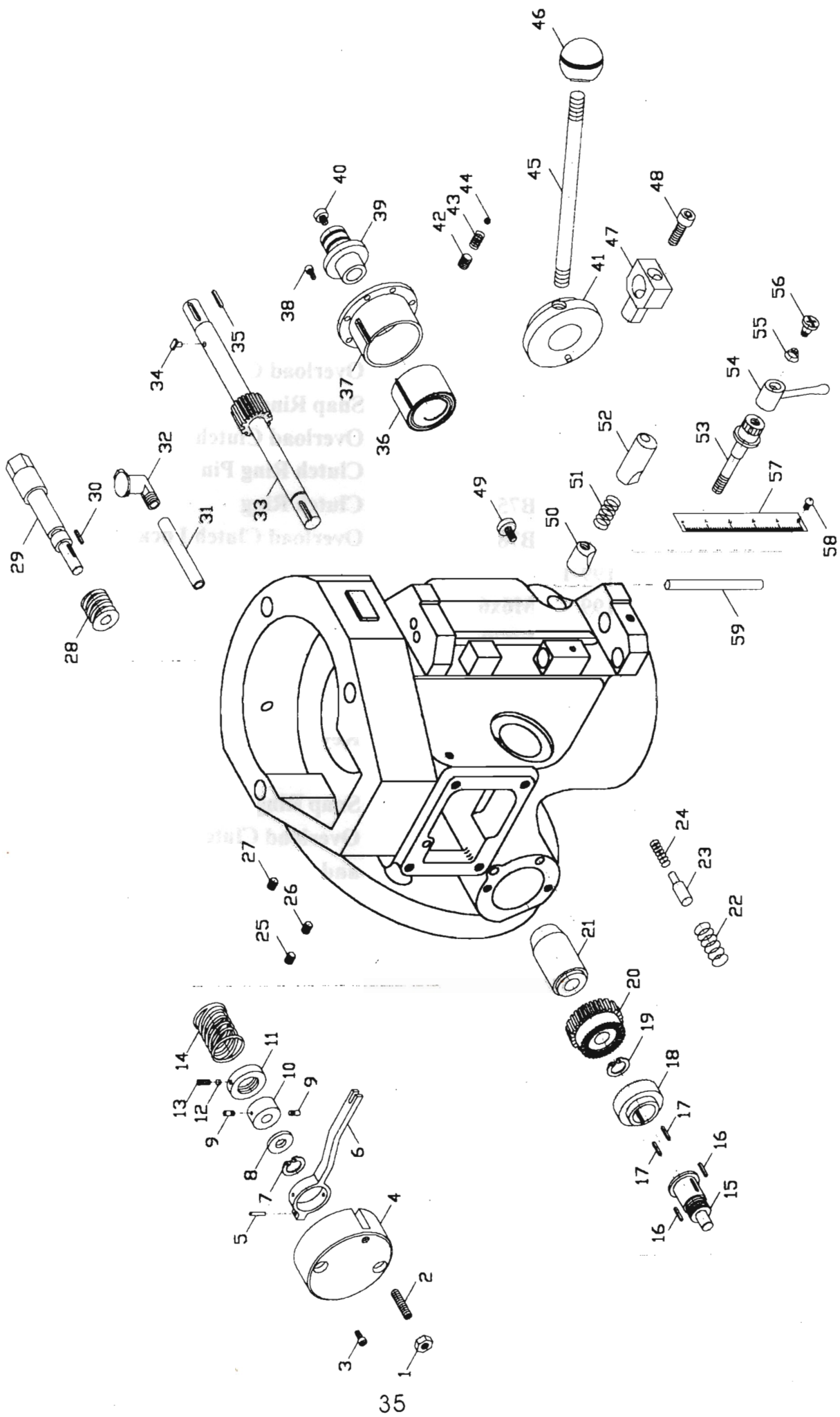
# (MILLING HEAD) SPINDLE ASS'Y



# 5HP (MILLING HEAD) SPINDLE ASS'Y

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	5K-6090	C40	Snap Ring	1
2	5K-6092		Ball Bearing- 6008LLB	2
3	5K-6094-1	M8x6	Socket Set Screw	2
4	5K-6094	FB129	Lock Nut	1
5	5K-6093		Ball Bearing- 7010	2
6	5K-6096	FB137	Bearing Spacer- Small	1
7	5K-6095	FB136	Bearing Spacer- Large	1
8	5K-6097	FB134	Spindle Dirt Shield	1
9	5K-6098	FB133	Nose Piece	1
10	5K-6086	FB128	Quill Skirt	1
11	5K-6088-1	M5x8	Felt Washer Screw	2
12	5K-6088-2	M5	Washer	2
13	5K-6085	FB142	Quill	1
14	5K-6084	FB127	Spindle #40	1
15	5K-6085-1	M5x8	Socket Set Screw	1
16	5K-6099	FB127-1	Keeper Key	2
17	5K-6100	M8x25	Socket HD Cap Screw	2
18	5K-8014		Drawbar	1
19	5K-8020		Drawbar Washer	1

# (MILLING HEAD) HAND FEED ASSY





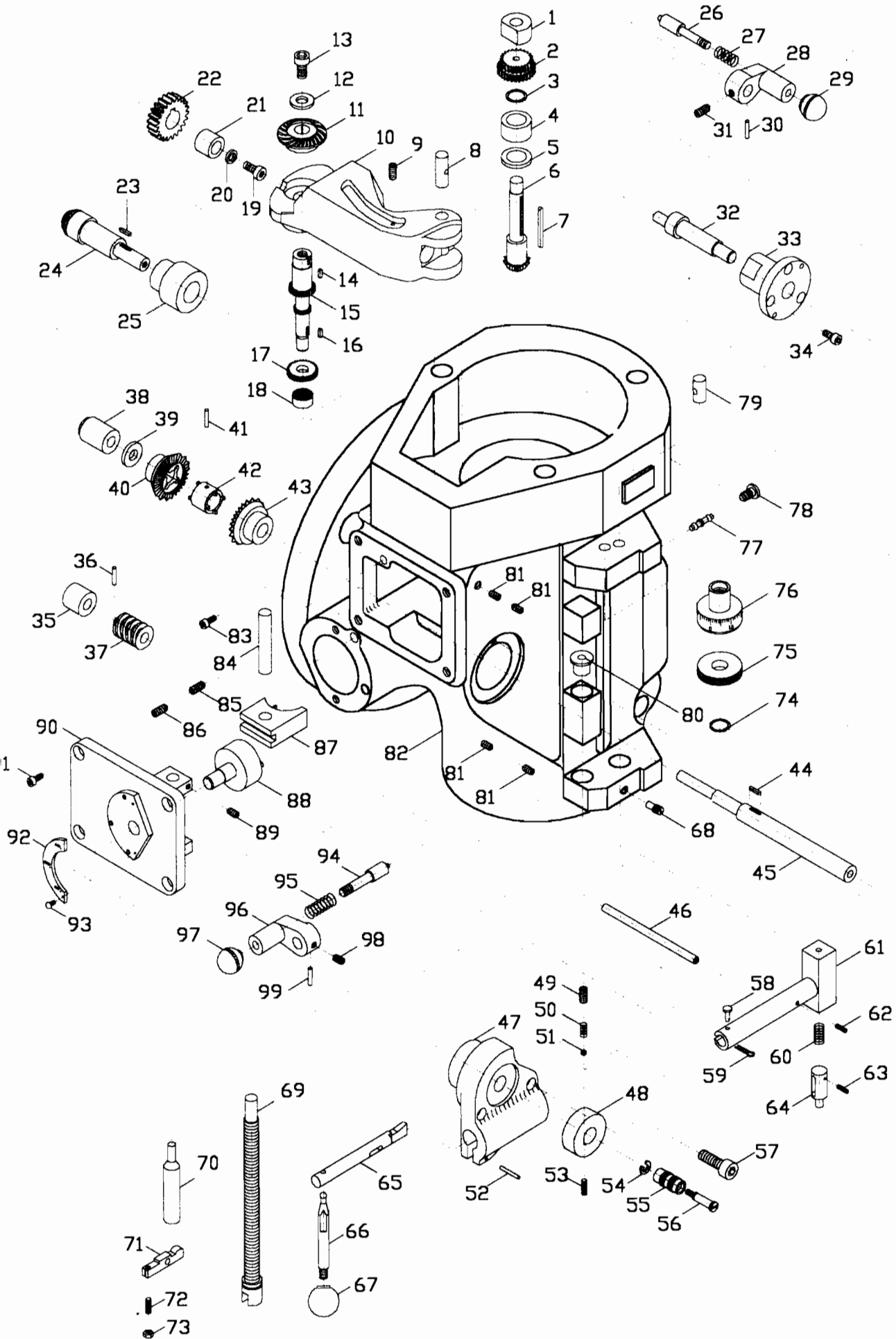
# **SHP (MILLING HEAD) HAND FEED ASS'Y**

<b>ITEM NO.</b>	<b>PARTS NO.</b>	<b>FACTORY NO.</b>	<b>DESCRIPTION</b>	<b>Q'TY</b>
1	5K-6208	M6	Hex Nut	1
2	5K-6207	M6x16	Socket Set Screw	1
3	5K-6206	M5x35	Socket HD Cap Screw	2
4	5K-6205	B99	Clutch Arm Cover	1
5	5K-6204	5x20	Roll Pin	1
6	5K-6203	FB96	Overload Clutch Trip Lever	1
7	5K-6195-1	C10	Snap Ring	1
8	5K-6201	B97	Overload Clutch Washer	1
9	5K-6202	B74	Clutch Ring Pin	2
10	5K-6200	B75	Clutch Ring	1
11	5K-6198	B78	Overload Clutch Lock nut	1
12	5K-6199-1		Brass Plug	1
13	5K-6199	M6x6	Socket Set Screw	1
14	5K-6197	FB79	Safety Clutch Spring	1
15	5K-6195	FB81	Overload Clutch Sleeve	1
16	5K-6196	5x20	Key	2
17	5K-6196	5x25	Key	2
18	5K-6194	FB80	Overload Clutch	1
19	5K-6188-1	C16	Snap Ring	1
20	5K-6187+88	FB92+93	Overload Clutch Worm Gear and Ring	1
21	5K-6186	FB90+91	Quill Pinion Shaft Bushing	1
22	5K-6192	B88-1	Compression Spring	1
23	5K-6193	B89	Overload Clutch Lever Spring Plunger	1
24	5K-6191	FB88	Compression Spring	1
25	5K-6246-1	M6x6	Socket Set Screw	1
26	5K-6246	M6x16	Lock Screw	1
27	5K-5042		Set Screw Plunger	1
28	5K-5039	B186	Worm Gear	1
29	5K-5040	FB189	ADJ Worm Shaft	1

# 5HP (MILLING HEAD) HAND FEED ASS'Y

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
30	5K-5041	4x20	Key	1
31	5K-6133-1		Bronze Tubing	1
32	5K-6133		Oil Cup	1
33	5K-6172	FB166	Quill Pinion Shaft	1
34	5K-6172-1	B168	Cap Tip- T shape	1
35	5K-6184	3x20	Key	1
36	5K-6181	FB178	Clock Spring	1
37	5K-6180	FB177	Spring Cover	1
38	5K-6180-1	M5x12	Socket HD Cap Screw	2
39	5K-6182	B176	Pinion Shaft Hub Sleeve	1
40	5K-6183	B172	Pinion Shaft Hub Screw	1
41	5K-6178	B175	Rack Feed Handle Hub	1
42	5K-6177	M8x6	Socket Set Screw	1
43	5K-6175		Compression Spring	1
44	5K-6176		Steel Ball	1
45	5K-6174	B190	Pinion Shaft Hub Handle	1
46	5K-6173	B191	Black Plastic Ball	1
47	5K-6105	FB164	Quill Stop Knob	1
48	5K-6106	3/8x5/8x24T	Socket HD Cap Screw	1
49	5K-6253	B154	Cap Screw	1
50	5K-6116B	B148	Quill Lock Sleeve Tapped	1
51	5K-6116-1	B152-1	Compression Spring	1
52	5K-6116A	FB153	Quill Lock Sleeve	1
53	5K-6117	FB152	Quill Lock Bolt	1
54	5K-6119	FB149	Lock Handle	1
55	5K-6117-1		Spring	1
56	5K-6117-2		Spring Screw	1
57	5K-6243	B159	Micrometer Scale	1
58	5K-6244	M4x8	Round HD Cap Screw	2
59	5K-6251	B147	Set Bar	1

# (MILLING HEAD) AUTO FEED ASS'Y



# 5HP (MILLING HEAD) AUTO FEED ASS'Y

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
1	5K-6157	B27	Cluster Gear Shaft Upper Bearing	1
2	5K-6153	FB28	Cluster Gear Assembly	1
3	5K-6158	C16	Snap Ring	1
4	5K-6156	FB33	Bevel Gear Bearing	1
5	5K-6159	FB34	Bevel Gear Thrust Spacer	1
6	5K-6151	FB31+35	Cluster Gear Shaft	1
7	5K-6160	M3x35	Cluster Gear Key	1
8	5K-6122	B16	Feed Engage Pin	1
9	5K-6123	M6x6	Socket Set Screw	1
10	5K-6121	FB17	Worm Gear Cradle	1
11	5K-6148	FB15	Feed Reverse Bevel Gear	1
12	5K-6149	FB13, 3/8"	Washer	1
13	5K-6150	3/8x1/4	Socket HD Cap Screw	1
14	5K-6147	3x8	Key	1
15	5K-6143	FB36	Feed Driving Gear Shaft	1
16	5K-6145	3x10	Key	1
17	5K-6144	FB40	Feed Drive Gear	1
18	5K-6252	BA66	Needle Bearing	1
19	5K-6124	M6x12	Socket HD Cap Screw	1
20	5K-6140	M6	Washer	1
21	5K-6136-1		Worm Gear Bushing	1
22	5K-6134		Feed Drive Worm Gear	1
23	5K-6135	3x12	Key	1
24	5K-6139		Feed Bevel Pinion	1
25	5K-6136+37		Worm Gear Cradle Bushing	1
26	5K-6169	B20	Gear Shift Plunger	1
27	5K-6170	B21	Compression Spring	1
28	5K-6168	B23	Shift Crank	1
29	5K-6131	B24	Black Plastic Ball	1
30	5K-6128	3x20	Spring Pin	1

# 5HP (MILLING HEAD) AUTO FEED ASS'Y

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
31	5K-6168-1	M5x5	Socket Set Screw	1
32	5K-6126	B18	Worm Gear Cradle Throw-out	1
33	5K-6125	B19	Shift Sleeve	1
34	5K-6132	M5x12	Socket HD Cap Screw	3
35	5K-6227	B42	Bushing	1
36	5K-6226	3x10	Spring Pin	1
37	5K-6225	B43	Worm	1
38	5K-6224	FB44	Feed Worm Shaft Bushing	1
39	5K-6223	B47	Feed Worm Shaft Thrust Washer	1
40	5K-6220	B48+49	Feed Reverse Bevel Gear	1
41	5K-6217	3x20	Spring Pin	1
42	5K-6222	B50	Feed Reverse Clutch	1
43	5K-6220	B48+49	Feed Reverse Bevel Gear	1
44	5K-6230	3x15	Key	1
45	5K-6209	FB57	Feed Worm Shaft	1
46	5K-6216	FB55	Reverse Clutch Rod	1
47	5K-6231	FB106	Feed Trip Bracket	1
48	5K-6218	B113	Handwheel Clutch	1
49	5K-6219-1	M8x6	Socket Set Screw	1
50	5K-6219-2	B115	Compression Spring	1
51	5K-6255	B114	Steel Ball	1
52	5K-6231-1	5x20	Dowel Pin	1
53	5K-6219	M6x6	Socket Set Screw	1
54	5K-6215	B112, E5	Snap Ring	1
55	5K-6213	B111	Reverse Knob	1
56	5K-6214	B110	Feed Reverse Knob Stud	1
57	5K-6232	M6x25	Socket HD Cap Screw	2
58	5K-6236-1		Dowel Pin	1
59	5K-6241-1	#2	Y Pin	1
60	5K-6242	B120	Compression Spring	1

# 5HP (MILLING HEAD) AUTO FEED ASS'Y

ITEM NO.	PARTS NO.	FACTORY NO.	DESCRIPTION	Q'TY
61	5K-6236	FB118	Cam Rod Sleeve Assembly	1
62	5K-6237	3x16	Spring Pin	1
63	5K-6241	3x12	Spring Pin	1
64	5K-6240	B121	Trip Plunger	1
65	5K-6239	FB103	Cam Rod	1
66	5K-6234	FB104	Trip Handle	1
67	5K-6131	B24	Black Plastic Ball	1
68	5K-6112		Trip Lever Pin	1
69	5K-6104	B164	Quill Stop Micro-Screw	1
70	5K-6118	B124	Feed Trip Plunger	1
71	5K-6111	B145	Feed Trip Lever	1
72	5K-6113	B146, M4x20	Socket Set Screw	1
73	5K-6113-1	M4	Hex Nut	1
74	5K-6115	C16	Snap Ring	1
75	5K-6108	B161	Quill Micro-Stop Nut	1
76	5K-6107	B162	Micrometer Nut	1
77	5K-6110	B183	Reverse Trip Ball Lever	1
78	5K-6114	B185	Reverse Trip Ball Lever Screw	1
79	5K-6109	B184	Feed Reverse Trip Plunger	1
80	5K-6118-1	B123	Trip Plunger Bushing	1
81	5K-6246	M6x8	Socket Set Screw	4
82	5K-6101	FB192	Quill Housing	1
83	5K-6101-1	M6x30	Socket HD Cap Screw	1
84	5K-6163	B60	Feed Shift Rod	1
85	5K-6228	M6x12	Mock-It Lock Screw	1
86	5K-6228-1	M6x8	Socket Set Screw	1
87	5K-6162	B63	Feed Gear Shift Fork	1
88	5K-6166	FB64	Cluster Gear Shift Crank	1
89	5K-6164	M5x5	Socket Set Screw	1
90	5K-6161	FB66	Cluster Gear Cover	1
91	5K-6165	M5x12	Socket HD Cap Screw	4

# **5HP (MILLING HEAD) AUTO FEED ASS'Y**

<b>ITEM NO.</b>	<b>PARTS NO.</b>	<b>FACTORY NO.</b>	<b>DESCRIPTION</b>	<b>Q'TY</b>
92	5K-6165-1	VS66-1	Feed Rate Plate	1
93	5K-6165-2		Drive Screw	2
94	5K-6169	B20	Gear Shift Plunger	1
95	5K-6170	B21	Compression Spring	1
96	5K-6168	B23	Shift Crank	1
97	5K-6171	B24	Black Plastic Ball	1
98	5K-6168-1	M5x5	Socket Set Screw	1
99	5K-6167	3x20	Spring Pin	1
100	5K-6210	B125	Handwheel	1
101	5K-6210-1	B126	Handle	1