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**OPERATION MANUAL**


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**TROUBLESHOOTING**

Symptom	Possible Cause	Possible Solution
Spindle does not fully retract.	1. Poorly adjusted return spring. 2. Worn return spring.	1. Increase return spring tension. 2. Replace return spring
Spindle switch does not work.	1. Shorted/disconnected wiring.	1. Inspect wiring connections. Replace/repair as necessary.

**Power Feed**

Powerfeed does not move table or is slipping.	1. Table locked. 2. Drive selector not engaged. 3. Sheared pin. 4. Gears not meshing or teeth missing. 5. Motor shaft and gear shaft not engaged	1. Unlock table locks. 2. Select speed, engage drive selector. 3. Replace pin. 4. Check gears and adjust/replace. 5. Replace clutch.
Operates at high speed only or is inconsistent.	1. Rapid micro switch is stuck. 2. V.R. does not work properly. 3. Wiring harness unplugged from circuit board	1. Lightly tap on it to lower it. 2. Test/repair/replace 3. Reconnect wiring harness.

**Digital Readout Unit (DRO)**

DRO does not give reading.	1. DRO is not turned on/plugged in. 2. Shorted/disconnected wiring/plugs..	1. Press DRO ON/Power button/plug in. 2. Inspect circuit boards, sensors, plugs, and wiring connections. Replace/repair as necessary.
DRO reading is incorrect.	1. Initial reading is incorrect. 2. Sensor has gone bad. 3. Spacing between sensor & scale is incorrect.	1. Test/zero/reset DRO at beginning point. 2. Test/replace sensor as necessary. 3. Adjust spacing between sensor and scale

**Lamp**

Lamp will not light.	1. Power not turned on. 2. Bulb is burned out. 3. Short in wiring or wired incorrectly	1. Press switch/button on lamp or control panel. 2. Replace bulb. 3. Trace and test wiring. Fix any errors.
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## SPARE PARTS SECTION

The following section covers the spare parts diagrams and lists that were current at the time this manual was originally printed. Due to continuous improvements of the machine, changes may be made at any time without notification.

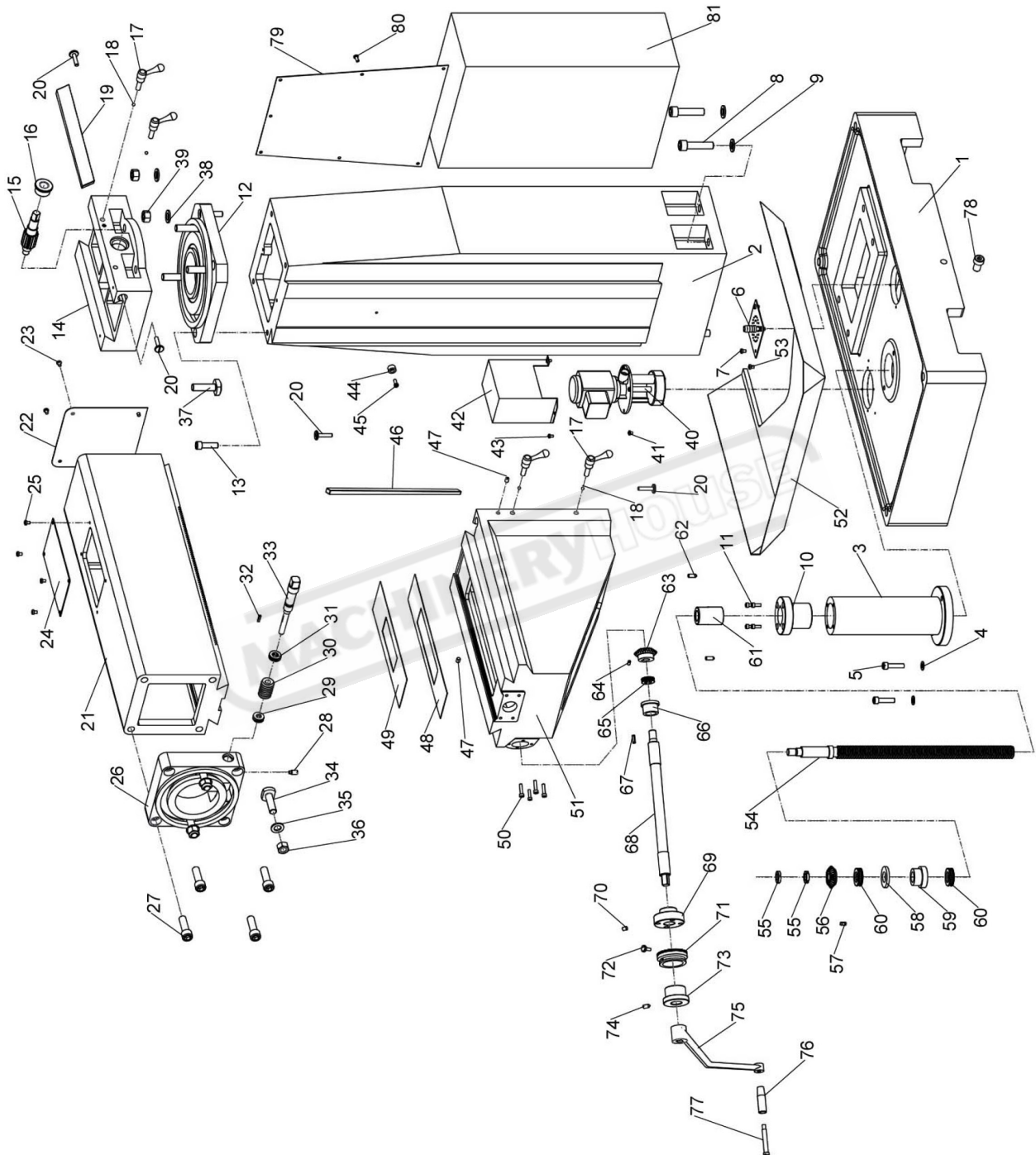
**HOW TO ORDER SPARE PARTS**

1. Have your machines model number, serial number & date of manufacture on hand, these can be found on the specification plate mounted on the machine
2. A scanned copy of your parts list/diagram with required spare part/s identified
3. Go to [www.machineryhouse.com.au/contactus](http://www.machineryhouse.com.au/contactus) and fill out the enquiry form attaching a copy of scanned parts list.



OPERATION MANUAL

A: COLUMN PARTS HM-51B





## OPERATION MANUAL

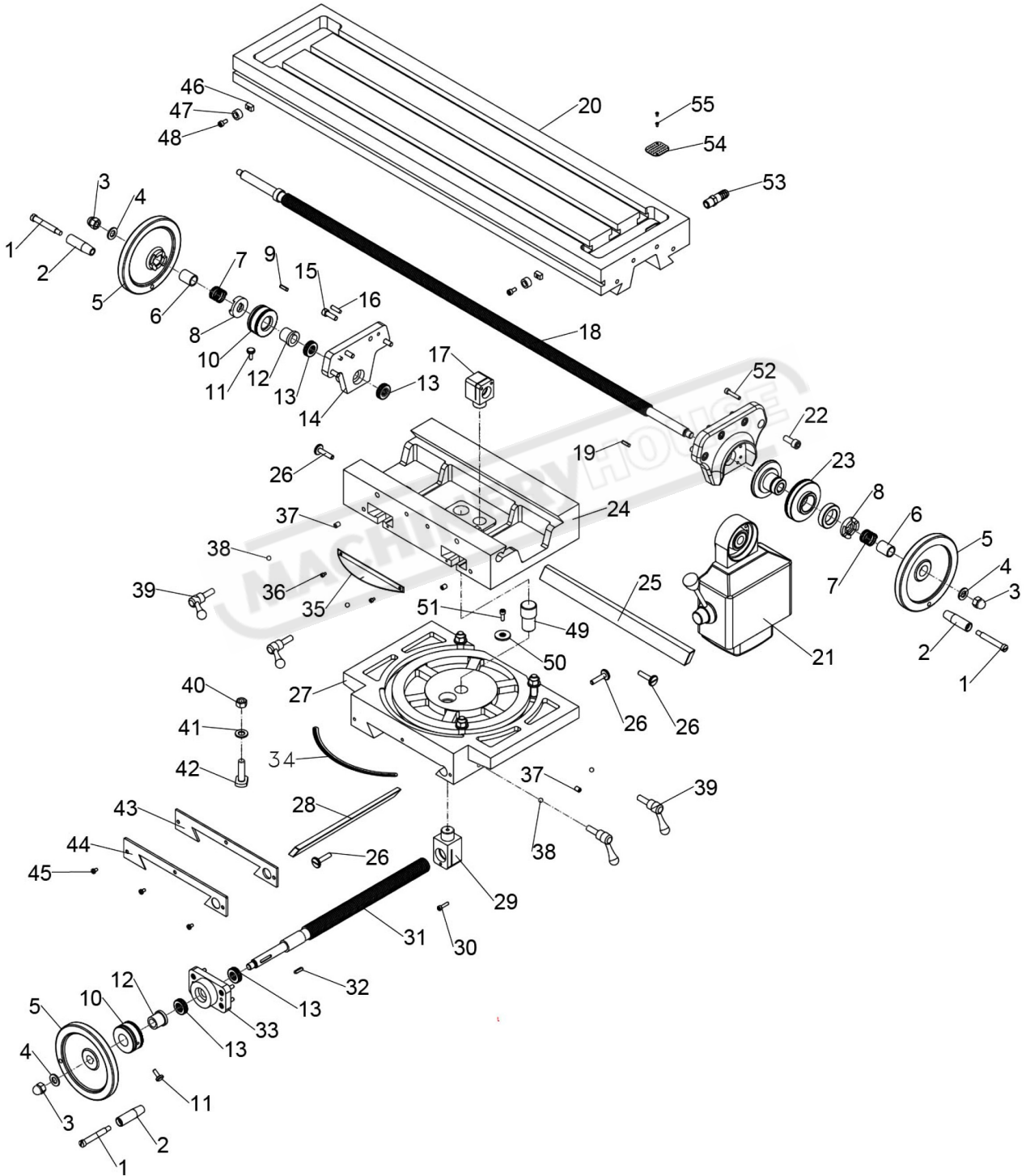
**A: COLUMN PARTS LIST HM-51B**

No.	Description	Qty.	No.	Description	Qty.
1	BASE	1	45	SCREW M6x18	1
2	COLUMN	1	46	GIB	1
3	ELEVATING SCREW HOUSING	1	47	BILLIARD OIL CUP	4
4	LOCK WASHER 10MM	2	48	WIPER PLATE	1
5	HEX BOLT M10-1.5x45	2	49	WIPER PLATE	1
6	CONNECT TUBE	1	50	CAP SCREW M6X25	4
7	PHLP HD SCR M6x12	4	51	KNEE	1
8	HEX BOLT M16-2x65	4	52	OIL PAN	1
9	LOCK WASHER 16MM	4	53	CAP SCREW M6X12	2
10	COLLAR	1	54	HOIST DESCEND LEAD SCREW	1
11	CAP SCREW M8-1.25x25	2	55	CIRCULAR NUT M16X1.5	2
12	HOLD SUPPORT	1	56	CONICAL GEAR	1
13	CAP SCREW M12-1.75x30	4	57	KEY 6x6x12	1
14	AROUND BRACKET	1	58	ADJUST WASHER	1
15	FEED SHAFT	1	59	COLLAR	1
16	COLLAR	1	60	BALL BEARING 51105	2
17	CLAMP BOLT M10-1.5x53x25	4	61	NUT 42x60MM	1
18	CLAMP BLOCK	4	62	SET SCREW M8X20	2
19	GIB	1	63	CONICAL GEAR	1
20	FLAT HD SCR M8-1.25x40	4	64	SET SCREW M6-1x10	1
21	OVERARM	1	65	BALL BEARING 51103	1
22	COVER	1	66	COLLAR	1
23	PHLP HD SCR M6-.1x10	4	67	KEY 5x5x20	1
24	COVER	1	68	SHAFT	1
25	PHLP HD SCR M6-.1x10	4	69	COLLAR	1
26	HOLD BRACKET	1	70	CAP SCREW M6-1x22	1
27	CAP SCREW M16-2x50	4	71	SCALE RING	1
28	CAP SCREW M8x20	1	72	KNURLED THUMB SCR M6-1x10	1
29	BALL BEARING 51101	1	73	COLLAR	1
30	WORM	1	74	SET SCREW	1
31	BALL BEARING 51102	1	75	HANDLE	1
32	KEY 4x 4x20	1	76	TAPER KNOB	1
33	WORM SHAFT	1	77	HANDLE SPINDLE	1
34	T BOLT M16-2x60	3	78	SCREW	1
35	WASHER 16MM	3	79	BEHIND COVER	1
36	HEX NUT M16-2	3	80	FLAT HD SCR M5x12	4
37	T BOLT M16-2x50	4			
38	WASHER 16mm	4			
39	HEX NUT M16-2	4			
40	ELECTRIC PUMP	1			
41	CAP SCREW M5X12	4			
42	SHIELD	1			
43	CAP SCREW M5X12	2			
44	SLEEVE	1			



OPERATION MANUAL

**B: SWIVEL TABLE PARTS HM-51B**



## OPERATION MANUAL

**B: SWIVEL TABLE PARTS LIST HM-51B**

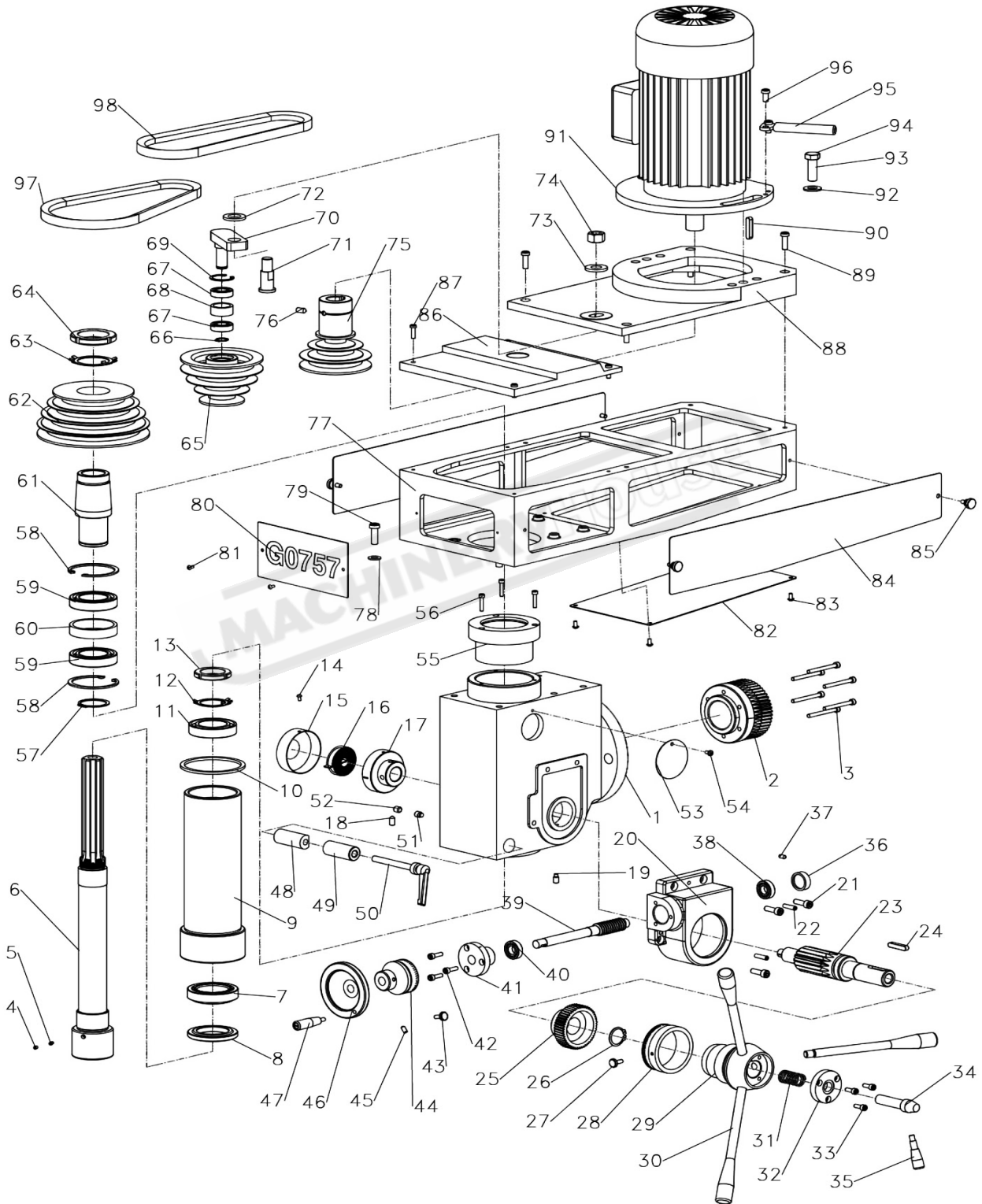
No.	Description	Qty.	No.	Description	Qty.
1	HANDLE SPINDLE	3	29	SPECIAL NUT	1
2	TAPER KNOB	3	30	SCREWM5x25	3
3	HEX NUT M12-1.75	3	31	LONG LEAD SCREW	1
4	LOCK WASHER 12MM	3	32	KEY 5x30	1
5	HAND WHEEL	3	33	SUPPORT	1
6	BUSH	2	34	ANGLE RULER	1
7	SPRING	2	35	GUARD	1
8	CONNECT	2	36	SCREWM5X10	2
9	KEY 5x20mm	1	37	OIL CUP 8	4
10	SCALE RING	2	38	CLAMP BLOCK	4
11	CAP SCREW M6-1x16	2	39	CLAMP BOLT M10-1.5x53x25	4
12	COLLAR	2	40	HEX NUT M12	4
13	BALL BEARING 51103	4	41	WASHER 12	4
14	SUPPORT	1	42	T BOLT M12X1.75X42	4
15	CAP SCREW M8x25	6	43	WIPER PLATE	1
16	PIN 6x25mm	2	44	WAY COVER	1
17	SPECIAL NUT	1	45	PHLP HD SCR M5-.8x12	3
18	LONG LEAD SCREW	1	46	SCREW BRACKET	1
19	KEY 5X20mm	1	47	DOG	1
20	TABLE	1	48	CAP SCREW M6-1x16	1
21	POWER FEED	1	49	SHAFT	1
22	CAP SCREW M10x25mm	4	50	WASHER	1
23	SCALE RING	1	51	SCREWM6X30	1
24	ROTARY BRACKET	1	52	PIN 6x25	2
25	GIB	1	53	CONNECT TUBE	1
26	ADJUST SCREW M8-1.25mm	3	54	SPLASH GUARD	1
27	CENTER BASE	1	55	SCREWM4X8	2
28	GIB	1			





OPERATION MANUAL

C: VERTICAL BELT SPINDLE PARTS HM-51B



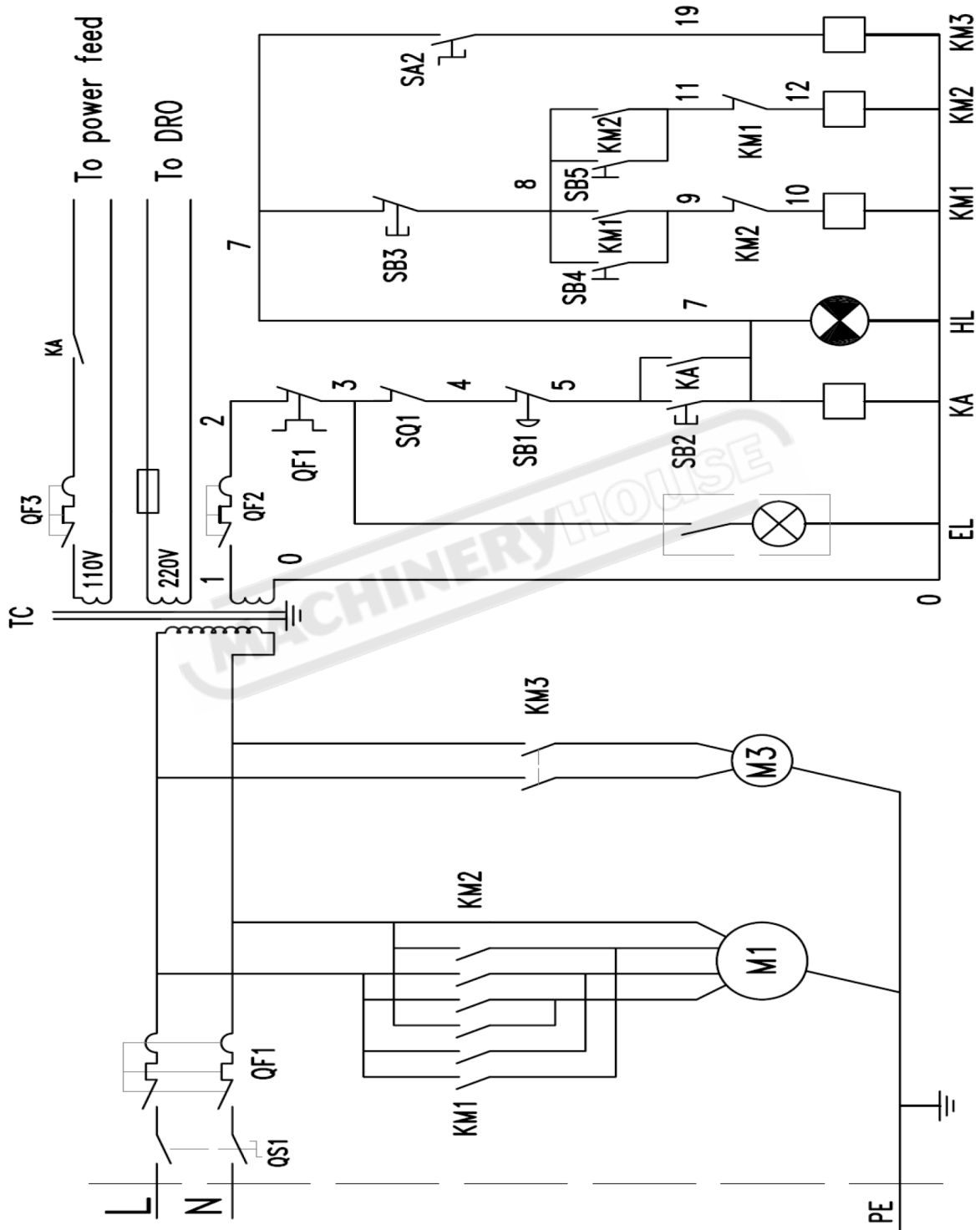


## OPERATION MANUAL

**C: VERTICAL BELT SPINDLE PARTS LIST HM-51B**

No.	Description	Qty.	No.	Description	Qty.
1	SPINDLE BOX	1	50	CLAMP HANDLE	1
2	GEAR	1	51	SET SCREW M10X10	1
3	BOLT	6	52	SET SCREW M10X10	1
4	SCREWM5X6	1	53	BAFFLE	1
5	SCREWM5X6	1	54	SCREWM5X10	1
6	SPINDLE	1	55	COLLAR	1
7	BALL BEARING 32010/P5	1	56	SCREWM5X30	3
8	WASHER	1	57	EXT RETAINING RING 45	1
9	SLEEVE	1	58	INT RETAINING RING75	2
10	RUBBER WASHER	1	59	BALL BEARING 6009/P5	2
11	BALL BEARING 6009/P5	1	60	RING	1
12	LOCK WASHER 40	1	61	DRIVING SHAFT	1
13	LOCK NUT M40X1.5	1	62	PULLEY	1
14	CAP SCREW M4X8	1	63	LOCK WASHER 50	1
15	SPRING CAP	1	64	LOCK NUT M50X1.5	1
16	SPRING PLATE	1	65	PULLEY	1
17	SPRING BASE	1	66	EXT RETAINING RING 17	1
18	SET SCREW M8X16	1	67	BALL BEARING 6003	2
19	SET SCREW M8X16	1	68	BUSHING	1
20	HANDL WHEEL GEAR BOX	1	69	INT RETAINING RING 35	1
21	SCREWM8X25	3	70	CENTER PULLEY SHAFT	1
22	PIN 6X25	2	71	SMALL SHAFT	1
23	FEED SHAFT	1	72	WASHER	1
24	KEY 8X38	1	73	WASHER	1
25	HELICAL GEAR	1	74	HEX NUT M16	1
26	EXT RETAINING RING 30	1	75	MOTOR PULLEY	1
27	CAP SCREW M6X16	1	76	SET SCREW M8X12	1
28	SCALE RING	1	77	MOTOR BASE	1
29	HANDLE BRACKET HUB	1	78	WASHER 10	6
30	HANDLE BAR	3	79	SET SCREW M10X30	6
31	COMPRESSION SPRING	1	80	SCUTCHEON	1
32	COVER	1	81	RIVET	2
33	SCREWM6X12	3	82	COVER	1
34	HANDLE	1	83	SCREWM5X10	4
35	HANDLE BAR	1	84	COVER	2
36	COVER	1	85	SCREW	4
37	SCREWM6X12	1	86	COVER	1
38	BALL BEARING 6002	1	87	SCREWM6X16	4
39	WORM	1	88	HEAD BOX COVER	1
40	BALL BEARING 6002	1	89	SCREWM8X30	4
41	COVER	1	90	KEY 8X40	1
42	SCREWM6X20	3	91	MOTOR	1
43	LOCK SCREW M6X16	1	92	WASHER 14	2
44	SCALE RING	1	93	BOLT M14X40	2
45	SET SCREW M6X12	1	94	HEX NUT M14	2
46	HANDLE WHEEL	1	95	HANDLE	1
47	HANDLE	1	96	SCREWM8X25	1
48	CLAMP BLOCK	1	97	V-BELT B737	1
49	CLAMP BLOCK	1	98	V-BELT B737	1

**D: ELECTRICAL DIAGRAM HM-51B**

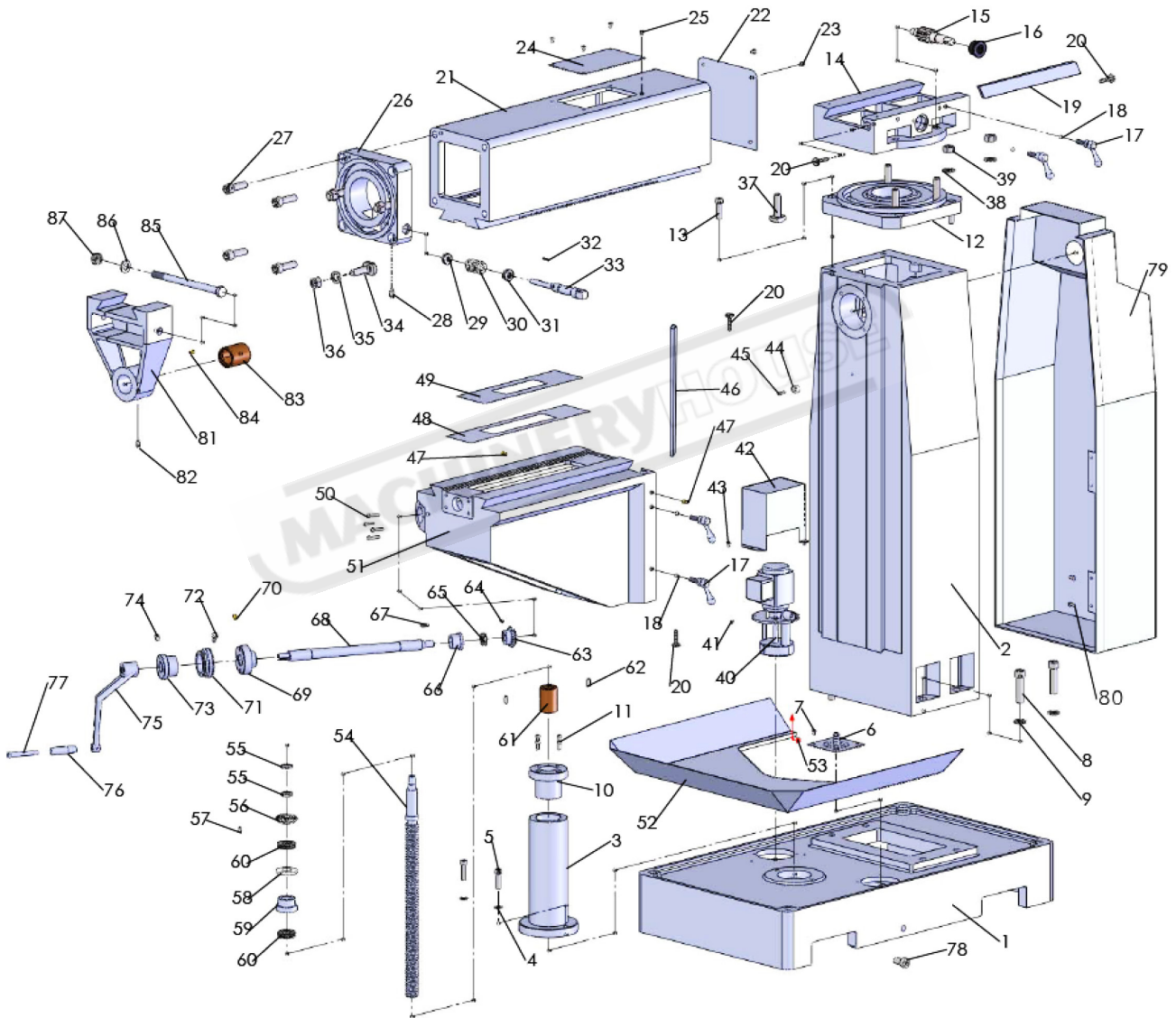






OPERATION MANUAL

A: COLUMN PARTS HM-54GV



## OPERATION MANUAL

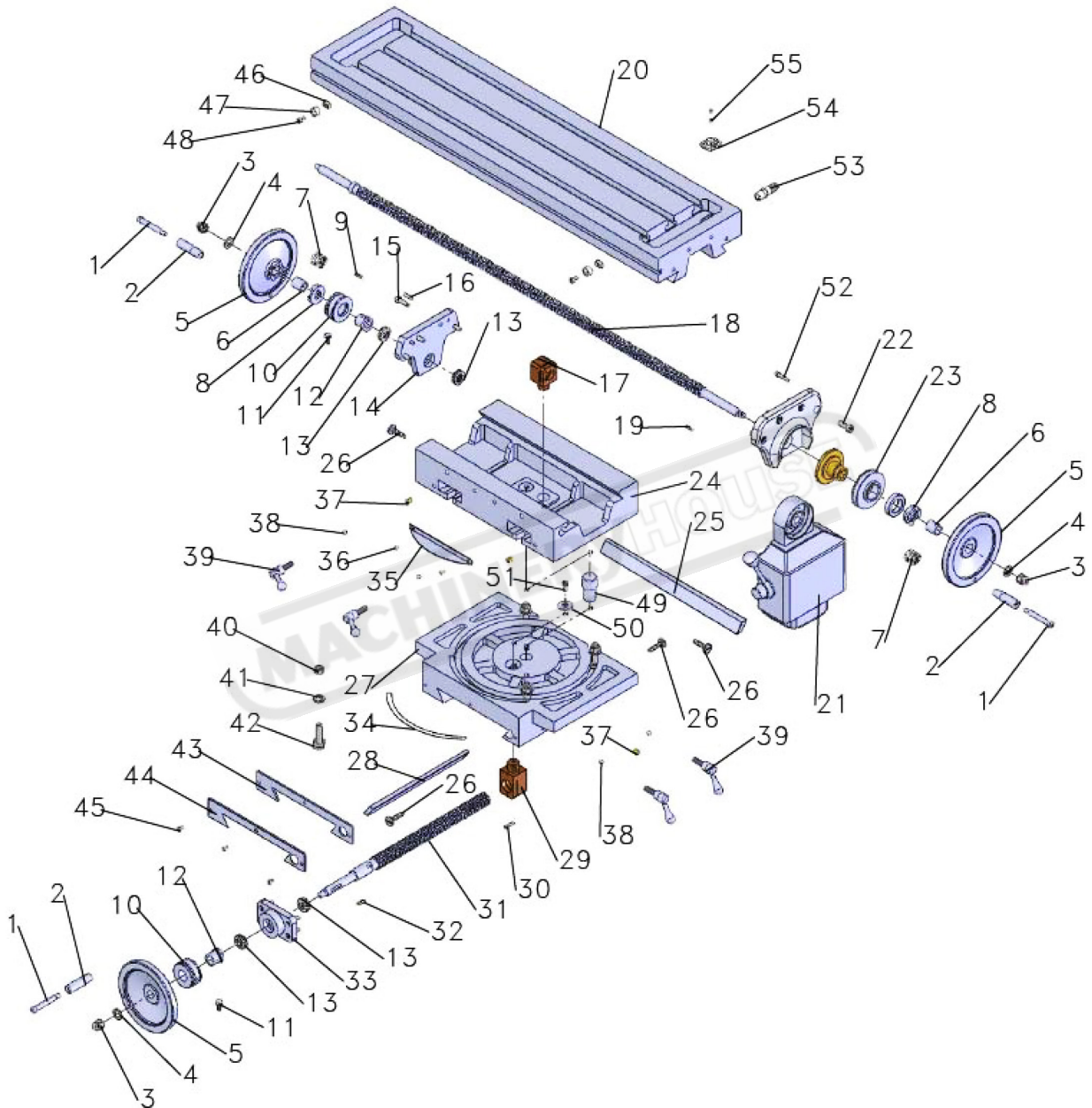
**A: COLUMN PARTS LIST HM-54GV**

No.	Description	Qty.	No.	Description	Qty.
1	BASE	1	45	SCREW M6x18	1
2	COLUMN	1	46	GIB	1
3	ELEVATING SCREW HOUSING	1	47	BILLIARD OIL CUP	4
4	LOCK WASHER 10MM	2	48	WIPER PLATE	1
5	HEX BOLT M10-1.5x45	2	49	WIPER PLATE	1
6	CONNECT TUBE	1	50	CAP SCREW M6X25	4
7	PHLP HD SCR M6x12	4	51	KNEE	1
8	HEX BOLT M16-2x65	4	52	OIL PAN	1
9	LOCK WASHER 16MM	4	53	CAP SCREW M6X12	2
10	COLLAR	1	54	HOIST DESCEND LEAD SCREW	1
11	CAP SCREW M8-1.25x25	2	55	CIRCULAR NUT M16X1.5	2
12	HOLD SUPPORT	1	56	CONICAL GEAR	1
13	CAP SCREW M12-1.75x30	4	57	KEY 6x6x12	1
14	AROUND BRACKET	1	58	ADJUST WASHER	1
15	FEED SHAFT	1	59	COLLAR	1
16	COLLAR	1	60	BALL BEARING 51105	2
17	CLAMP BOLT M10-1.5x53x25	4	61	NUT 42x60MM	1
18	CLAMP BLOCK	4	62	SET SCREW M8X20	2
19	GIB	1	63	CONICAL GEAR	1
20	FLAT HD SCR M8-1.25x40	4	64	SET SCREW M6-1x10	1
21	OVERARM	1	65	BALL BEARING 51103	1
22	COVER	1	66	COLLAR	1
23	PHLP HD SCR M6-.1x10	4	67	KEY 5x5x20	1
24	COVER	1	68	SHAFT	1
25	PHLP HD SCR M6-.1x10	4	69	COLLAR	1
26	HOLD BRACKET	1	70	CAP SCREW M6-1x22	1
27	CAP SCREW M16-2x50	4	71	SCALE RING	1
28	CAP SCREW M8x20	1	72	KNURLED THUMB SCR M6-1x10	1
29	BALL BEARING 51101	1	73	COLLAR	1
30	WORM	1	74	SET SCREW	1
31	BALL BEARING 51102	1	75	HANDLE	1
32	KEY 4x 4x20	1	76	TAPER KNOB	1
33	WORM SHAFT	1	77	HANDLE SPINDLE	1
34	T BOLT M16-2x60	3	78	SCREW	1
35	WASHER 16MM	3	79	BEHIND COVER	1
36	HEX NUT M16-2	3	80	FLAT HD SCR M5x12	4
37	T BOLT M16-2x50	4	81	SUPPORT	1
38	WASHER 16mm	4	82	SET SCREW M8-1.25x16	1
39	HEX NUT M16-2	4	83	SLEEVE	1
40	ELECTRIC PUMP	1	84	BILLIARD OIL CUP	1
41	CAP SCREW M5X12	4	85	SPECIAL BOLT M16-2x218	1
42	SHIELD	1	86	FLAT WASHER 16MM	1
43	CAP SCREW M5X12	2	87	HEX NUT M16-2	1
44	SLEEVE	1			



OPERATION MANUAL

**B: SWIVEL TABLE PARTS HM-54GV**



## OPERATION MANUAL

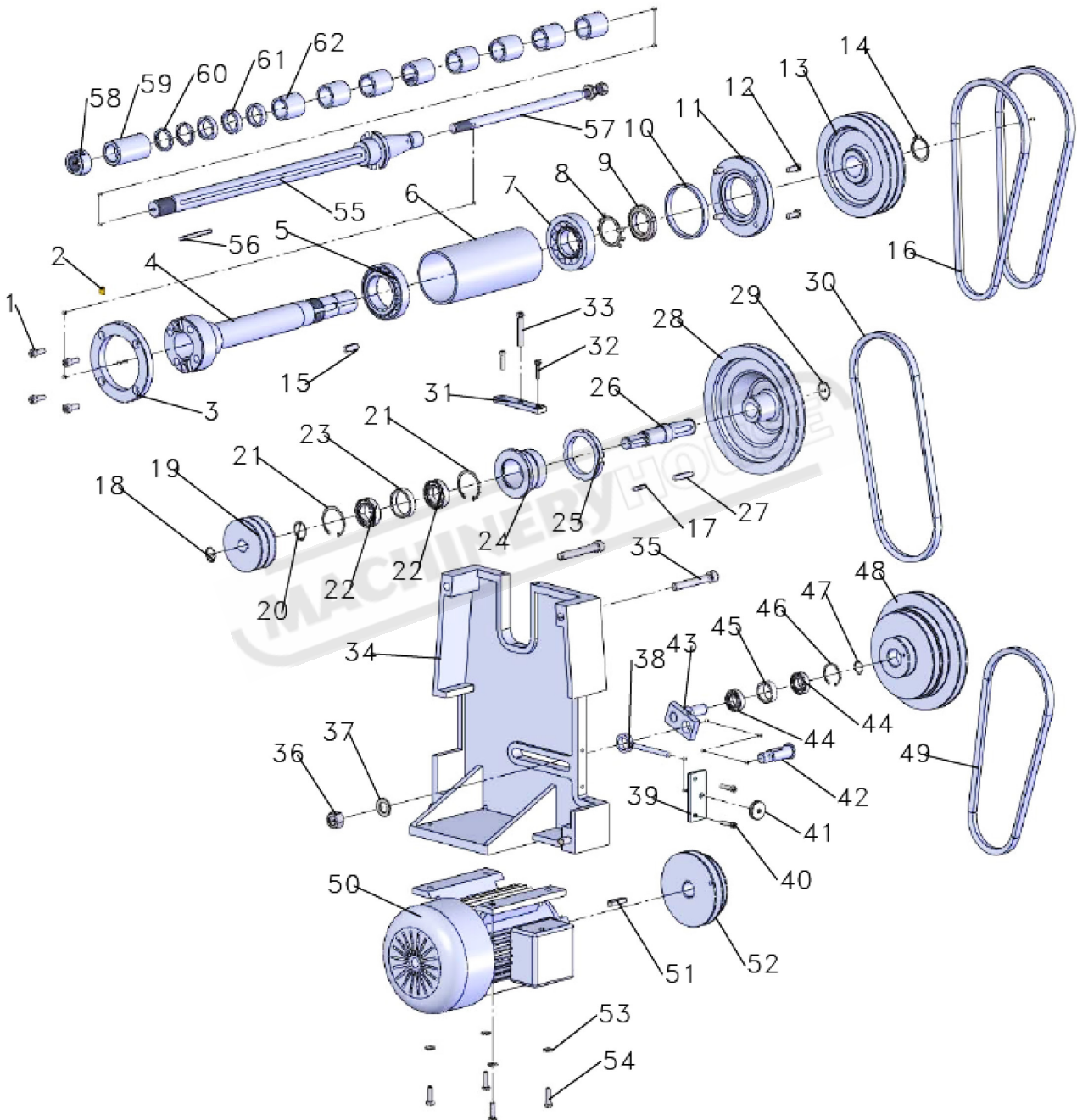
**B: SWIVEL TABLE PARTS LIST HM-54GV**

No.	Description	Qty.	No.	Description	Qty.
1	HANDLE SPINDLE	3	29	SPECIAL NUT	1
2	TAPER KNOB	3	30	SCREWM5x25	3
3	HEX NUT M12-1.75	3	31	LONG LEAD SCREW	1
4	LOCK WASHER 12MM	3	32	KEY 5x30	1
5	HAND WHEEL	3	33	SUPPORT	1
6	BUSH	2	34	ANGLE RULER	1
7	SPRING	2	35	GUARD	1
8	CONNECT	2	36	SCREWM5X10	2
9	KEY 5x20mm	1	37	OIL CUP 8	4
10	SCALE RING	2	38	CLAMP BLOCK	4
11	CAP SCREW M6-1x16	2	39	CLAMP BOLT M10-1.5x53x25	4
12	COLLAR	2	40	HEX NUT M12	4
13	BALL BEARING 51103	4	41	WASHER 12	4
14	SUPPORT	1	42	T BOLT M12X1.75X42	4
15	CAP SCREW M8x25	6	43	WIPER PLATE	1
16	PIN 6x25mm	2	44	WAY COVER	1
17	SPECIAL NUT	1	45	PHLP HD SCR M5-.8x12	3
18	LONG LEAD SCREW	1	46	SCREW BRACKET	1
19	KEY 5X20mm	1	47	DOG	1
20	TABLE	1	48	CAP SCREW M6-1x16	1
21	POWER FEED	1	49	SHAFT	1
22	CAP SCREW M10x25mm	4	50	WASHER	1
23	SCALE RING	1	51	SCREWM6X30	1
24	ROTARY BRACKET	1	52	PIN 6x25	2
25	GIB	1	53	CONNECT TUBE	1
26	ADJUST SCREW M8-1.25mm	3	54	SPLASH GUARD	1
27	CENTER BASE	1	55	SCREWM4X8	2
28	GIB	1			



OPERATION MANUAL

C: HORIZONTAL SPINDLE PARTS HM-54GV





## OPERATION MANUAL

**C: HORIZONTAL SPINDLE PARTS LIST HM-54GV**

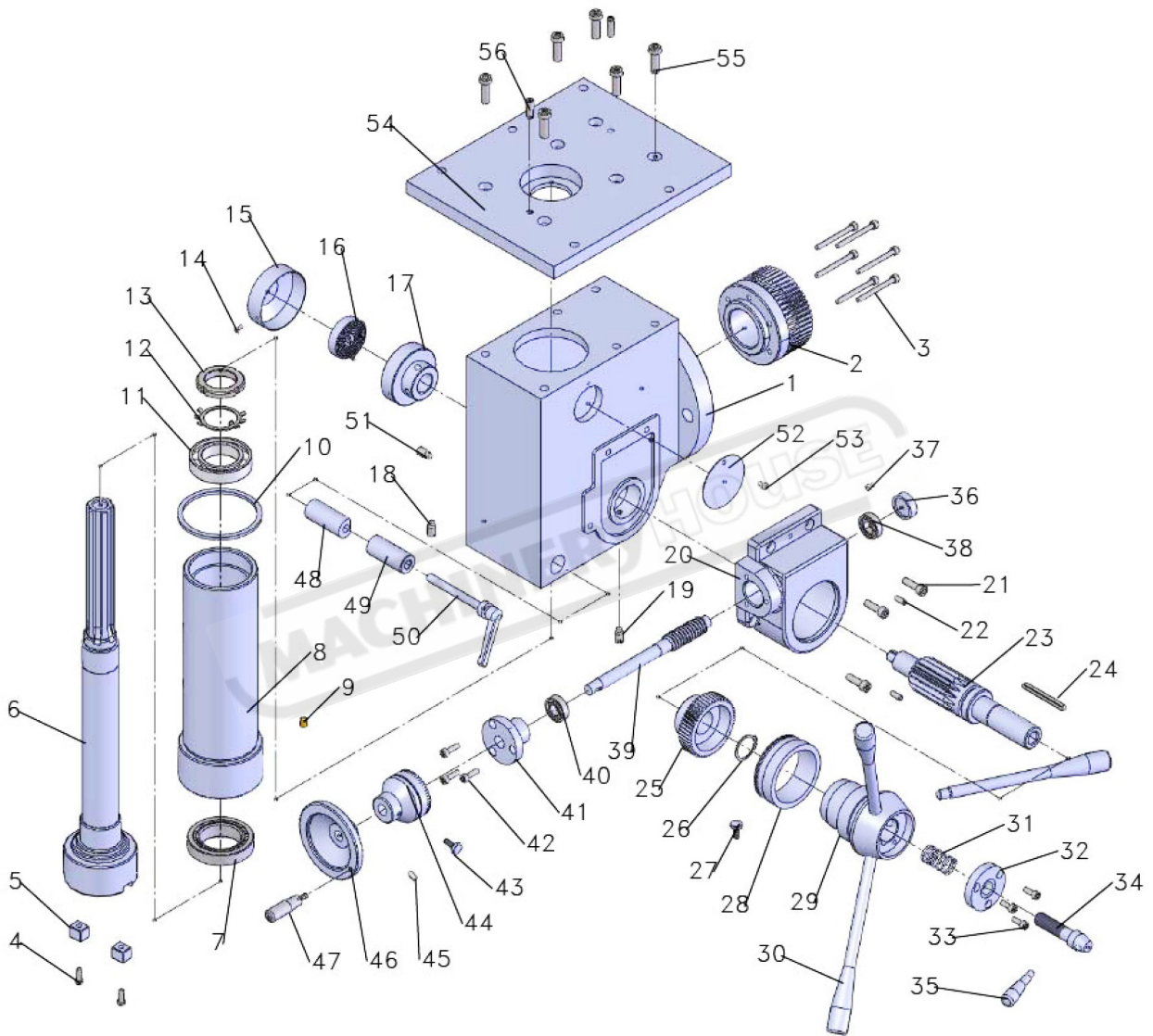
No.	Description	Qty.	No.	Description	Qty.
1	CAP SCREW M8-1.25x25	4	40	CAP SCREW M6-1x25	2
2	OIL CUP	1	41	SPECIAL NUT M8-1.25	1
3	COVER	1	42	SMALL SHAFT	1
4	SPINDLE	1	43	CONNECT	1
5	BALL BEARING 32011	1	44	BALL BEARING 6003	2
6	COLLAR	1	45	COLLAR	1
7	BALL BEARING 30308	1	46	INT RETAINING RING 35MM	1
8	FLAT WASHER 39MM	1	47	EXT RETAINING RING 17MM	1
9	SLOTTED LOCK NUT M39X1.5	1	48	PULLEY	1
10	SPECIAL WASHER 90x4	1	49	V-BELT A800	1
11	COVER	1	50	MOTOR	1
12	CAP SCREW M8-1.25x25	4	51	KEY 8X45	1
13	SPINDLE PULLEY	1	52	MOTOR WHEEL	1
14	RETAINING RING	1	53	LOCK WASHER 8MM	4
15	KEY 10X8X30	1	54	HEX BOLT M8-1.25x30	4
16	V-BELT A838	2	55	HORIZONTAL ARBOR	1
17	KEY 6X30	1	56	KEY	1
18	EXT RETAINING RING 20	1	57	HORIZONTAL ARBOR	1
19	WHEEL	1	58	ARBOR NUT	1
20	EXT RETAINING RING 25	1	59	ARBOR SLEEVE	1
21	INT RETAINING RING 47MM	2	60	ARBOR SPACER	2
22	BALL BEARING 6005	2	61	COLLAR	3
23	COLLAR	1	62	ARBOR SLEEVE	8
24	COLLAR	1			
25	SPECIAL NUT M64X2	1			
26	SMALL SHAFT	1			
27	KEY 8X40	1			
28	PULLEY	1			
29	EXT RETAINING RING 25MM	1			
30	V-BELT A864	1			
31	SUPPORT	1			
32	CAP SCREW M6-1x25	2			
33	HEX BOLT M8-1.25x60	1			
34	MOTOR BASE	1			
35	CAP SCREW M12-1.75x85	4			
36	HEX NUT M16-2	1			
37	FLAT WASHER 16MM	1			
38	ADJUST SCREW M8-1.25	1			
39	SUPPORT	1			





OPERATION MANUAL

D: SPINDLE BOX PARTS HM-54GV



## OPERATION MANUAL

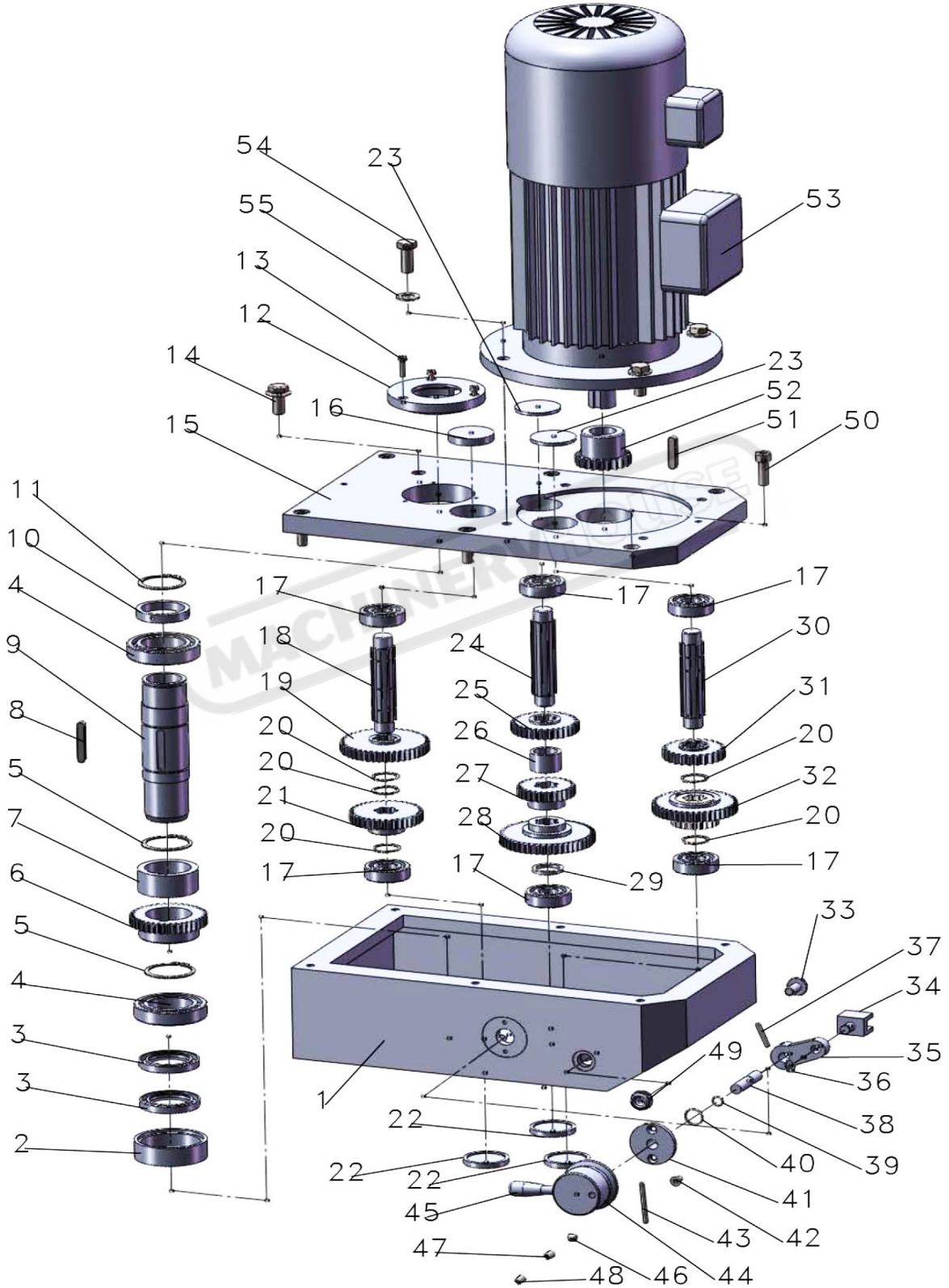
**D: SPINDLE BOX PARTS LIST HM-54GV**

No.	Description	Qty.	No.	Description	Qty.
1	SPINDLE BOX	1	40	BALL BEARING 6002	1
2	GEAR	1	41	COVER	1
3	SCREWM6X75	6	42	SCREWM6-1x20	3
4	SCREWM6X16	2	43	CAP SCREW M6-1x16	1
5	FIXED KEY	2	44	SCALE RING	1
6	SPINDLE	1	45	SCREWM6-1x12	1
7	BALL BEARING 32010	1	46	HANDLE WHEEL	1
8	SLEEVE	1	47	HANDLE	1
9	OIL CUP	1	48	CLAMP BLOCK	1
10	RUBBER WASHER 90MM	1	49	CLAMP BLOCK	1
11	BALL BEARING 6009	1	50	CLAMP HANDLE	1
12	LOCK WASHER 40	1	51	SET SCREW M10X10	2
13	LOCK NUT M40X1.5	1	52	BAFFLE	1
14	CAP SCREW M4X8	1	53	SCREWM5X10	1
15	SPRING CAP	1	54	HEAD BOX COVER	1
16	SPRING PLATE	1	55	SCREWM10X30	6
17	SPRING BASE	1	56	PIN 8X25	2
18	SET SCREW M8X16	1			
19	SET SCREW M8X16	1			
20	HANDL WHEEL GEAR BOX	1			
21	SCREWM8X25	3			
22	PIN 6X25	2			
23	FEED SHAFT	1			
24	KEY 8X38	1			
25	HELICAL GEAR	1			
26	EXT RETAINING RING 30	1			
27	CAP SCREW M6-1x16	1			
28	SCALE RING	1			
29	HANDLE BRACKET HUB	1			
30	HANDLE BAR	2			
31	COMPRESSION SPRING	1			
32	COVER	1			
33	CAP SCREW M6X16	3			
34	HANDLE SEAT M16X2	1			
35	HANDLE BAR	1			
36	COVER	1			
37	SCREWM6X12	1			
38	BALL BEARING 6002	1			
39	WORM	1			



OPERATION MANUAL

E: GEAR HEAD PARTS HM-54GV



## OPERATION MANUAL

**E: GEAR HEAD PARTS LIST HM-54GV**

No.	Description	Qty.	No.	Description	Qty.
1	GEAR CASE	1	40	RUBBER RING 20X2	1
2	COLLAR	1	41	COVER	1
3	OIL SEAL FB45X62X8	2	42	SCREW5X12	2
4	BALL BEARING 6009	2	43	PIN 5X50	1
5	EXT RETAINING RING 45	2	44	HANDLE SEAT	1
6	GEAR	1	45	HANDLE	1
7	COLLAR	1	46	STEEL BALL 6	1
8	KEY 8X50	1	47	SPRING	1
9	SHAFT	1	48	SET SCREW	1
10	SPEED MEASUREMENT	1	49	OIL POINTER	1
11	EX RETAINING RING 45	1	50	CAP HEAD SCREW	6
12	COLLAR	1	51	KEY 8X40	1
13	SCREWM5X15	3	52	GEAR	1
14	HEX BOLT M16X1.5	1	53	MOTOR	1
15	BOX COVER	1	54	SCREWM12X30	4
16	COVER	1	55	WASHER 12	4
17	BALL BEARING 6204	6			
18	DRIVING SHAFT	1			
19	GEAR	1			
20	EX RETAINING RING 25	5			
21	GEAR	1			
22	COVER	3			
23	COVER	2			
24	DRIVING SHAFT	1			
25	GEAR	1			
26	COLLAR	1			
27	GEAR	1			
28	GEAR	1			
29	RING	1			
30	DRIVING SHAFT	1			
31	GEAR	1			
32	GEAR	1			
33	HEX BOLT M10X1	1			
34	LIFT FORK	1			
35	ROCKER ARM	1			
36	EX RETAINING RING 10	1			
37	PIN 5X30	1			
38	SMALL SPINDLE	1			
39	RUBBER RING 12X2	1			

