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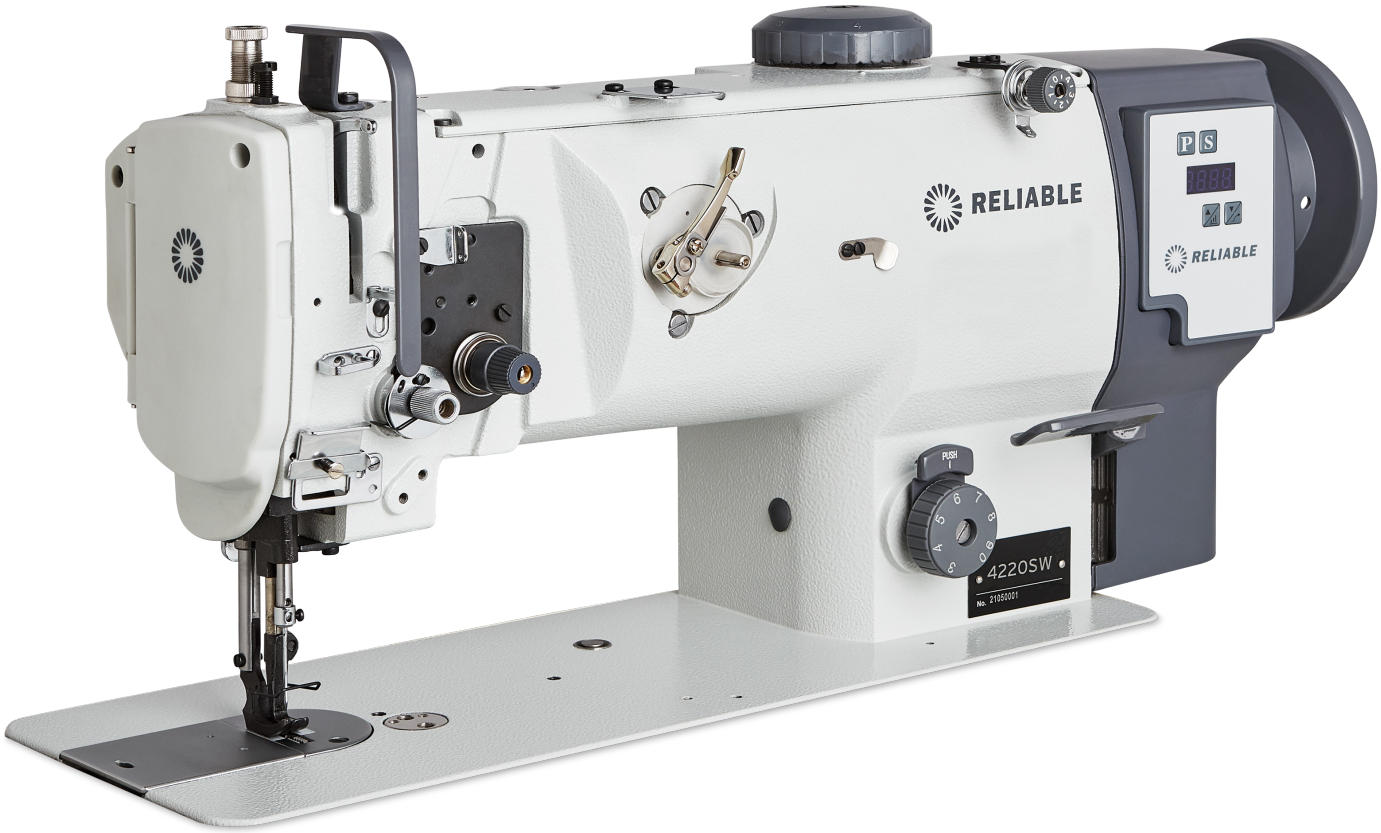

4220SW

INDUSTRIAL SEWING MACHINE

INSTRUCTION MANUAL

www.reliablecorporation.com

CONTENT

OPERATION INSTRUCTION

PARTS MANUAL

INSTRUCTION MANUAL

1. Brief introduction

This machine is suitable for sewing the heavy materials of car seats, sofas, tarpaulins, tents, bags, etc.

1.5. Main specifications

Application	Medium and heavy duty
Max. sewing speed	1800 s.p.m max
Max. stitch speed	9mm
Needle bar stroke	36mm
Needle	DP*17 (Nm125-Nm180) standard Nm160 (23#)
Lubrication	Semi-lubrication
Hook	Large hook
Height of presser foot lift	9mm by hand, 16mm by knee
Motor	Motor

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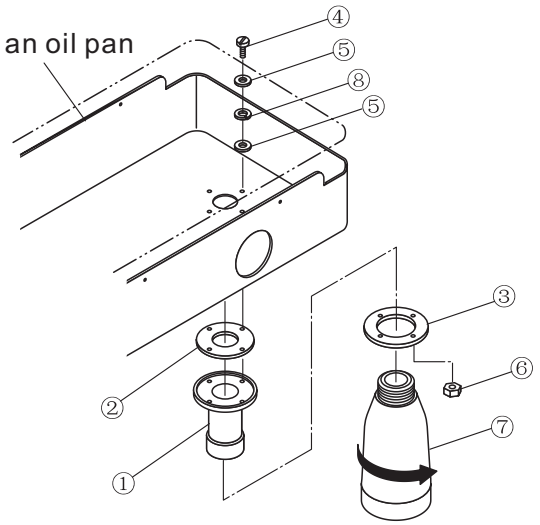

2. Installing the oil pot (Fig. 2)

1.Install the bolt ①, oil seal ② and spacer ③ onto the oil reservoir, and then put the cushion ⑤ and spacer ⑧ into the set screw ④, then set it by nut ⑥.

2.Tighten the oil pot ⑦ onto the bolt ①.

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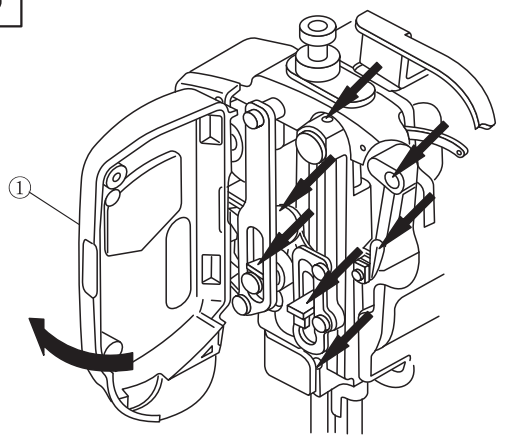

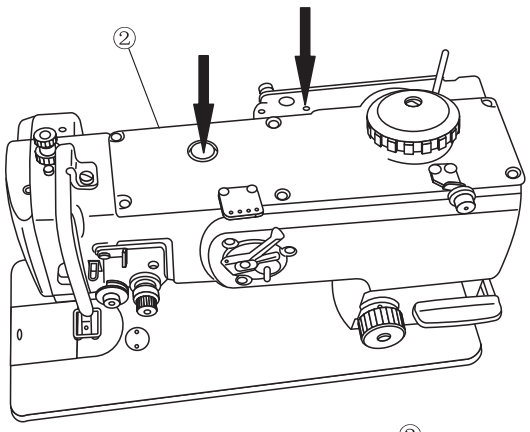

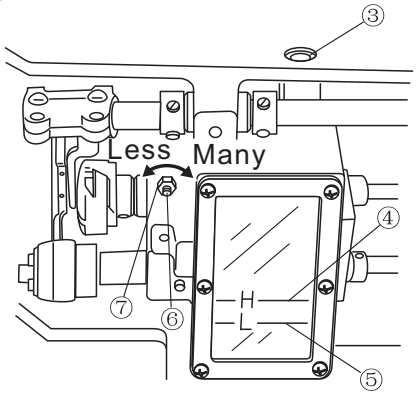

3. Lubrication (Fig. 3)

1.Lubricate behind face plate cover.

a.Loosen the face plate screw;
b.Open the face plate ① in the direction of the arrow;
c.Lubricate the place as the arrow shows every day;
d.Close the face plate;
e.Tighten the screw.

2.Machine body lubrication

a.Lubricate the place as the arrows indicate once a week;
b.When running the machine for the first time or after a long period of non-use, please oil the place as the arrows indicate. Take down the top cover ②, then oil each felt and oil wick. ①

3.Rotating hook lubrication

a.For hook lubrication add oil to oil hole ③ until oil level is between L and H ⑤. Check once a week. Always keep the oil level between L and H ⑤.
b.When adjusting the oil flow to the rotating hook, turn the adjusting screw ⑥ clockwise to increase the flow and counter clockwise ⑦ to decrease the flow.

Note: Excess lubrication results in leaking.

4. Installing the needle (Fig. 4)

1.Turn the balance wheel to raise the needle bar to its highest position;
2.Loosen the set screw ② and make the long groove of the needle ① face towards the left;
3.Insert the needle into the needle bar;
4.Tighten the set screw ②. To make sure needle is all the way up check visibility on fig 3.

Needle threads from left to right

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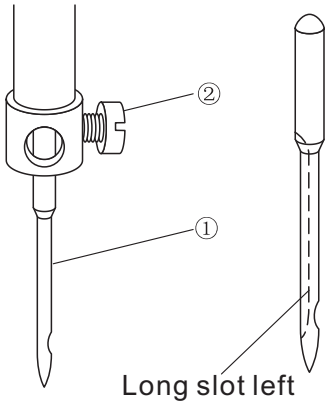

5. Loading the bobbin in the bobbin case (Fig. 5)

1.When loading the bobbin into the bobbin case, the thread should be passing from left to right in the bobbin.
2.Use your thumb and index finger to secure the bobbin in the bobbin case from spinning. Bring the thread through the slot ① in the bobbin case and under the flat tension spring ②.

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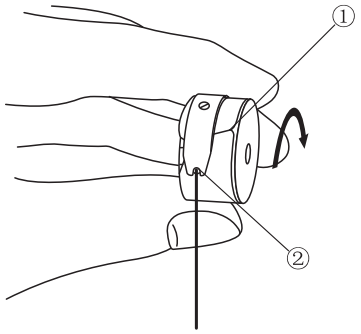
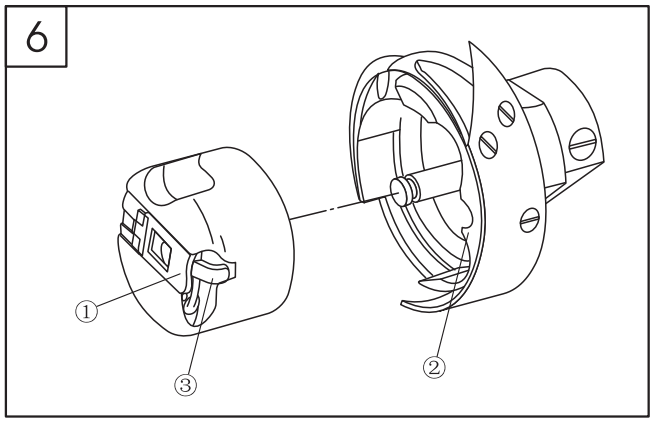
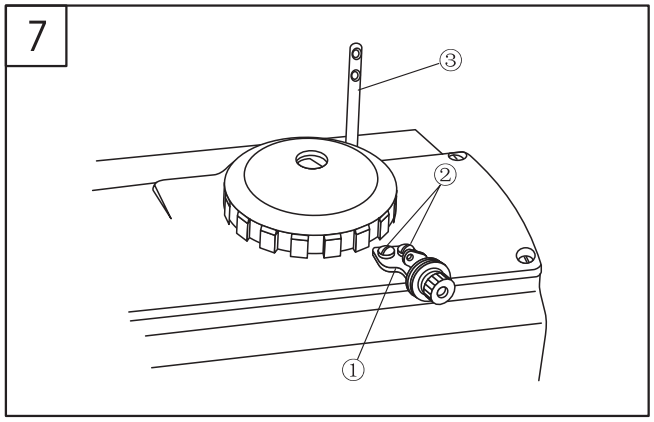




6. Removing and Installing the bobbin case (Fig. 6)

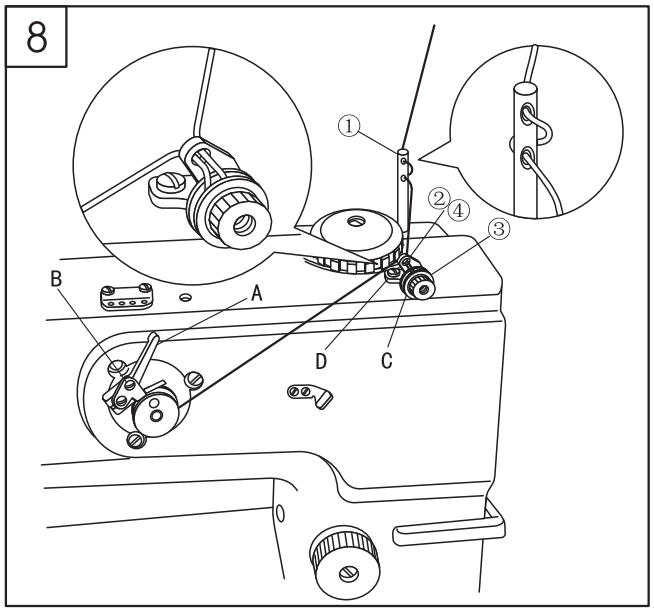
1.When removing the bobbin case from the hook assembly, lift the latch ① and pull the case straight out.

2. Align the bobbin case with the rotating hook shaft then insert it. Align the inside of the rotating hook ② and the latch ③, then install the bobbin case by pressing it until you hear a “click” sound.



7. Adjusting the bobbin winder attention assembly (Fig. 7)

1.By loosening the screws ② in fig 7, you can move the tension assembly in and out to center the thread in the bobbin when winding.
2.Insert the bobbin thread guider ③ into the machine head.

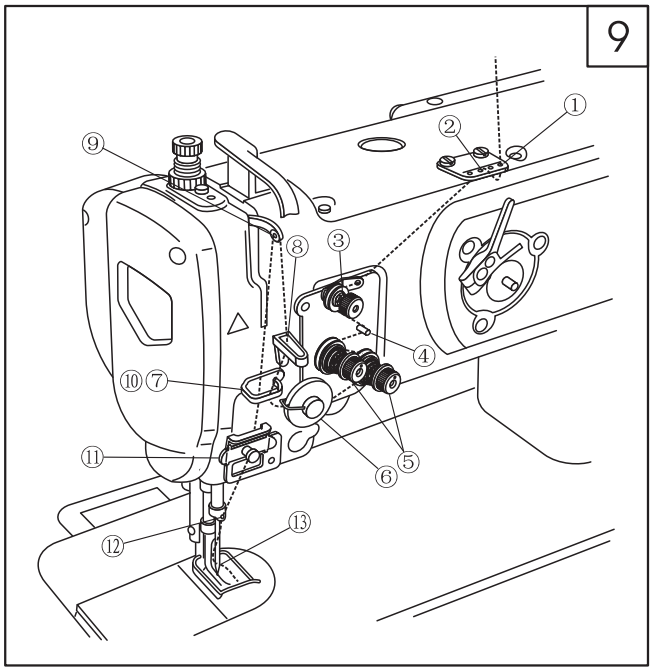


8. Winding the bobbin thread (Fig. 8)

1.Thread in numerical order from ① to ④, then wind the bobbin winder.
2.Press down the winding bar A.
3.Loosen the set screw B and adjust the adjusting plate until the winding amount reaches to 80% of the outside diameter.
4.After winding, the winding bar A will separate and stop automatically.

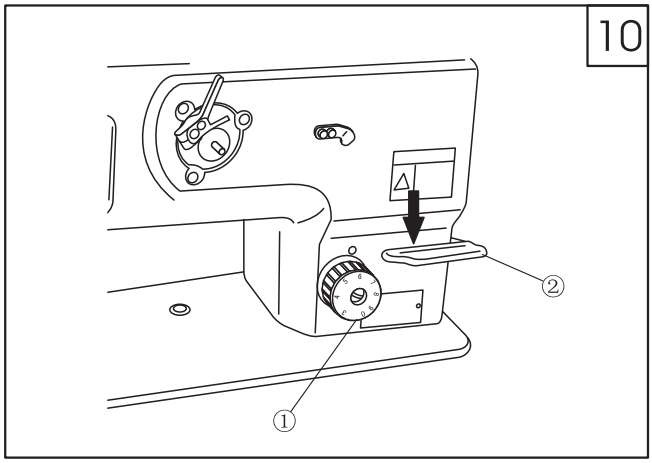
9. Threading (Fig. 9)

Thread in the order as shown in Fig. 9



10. Adjusting the stitch length (Fig. 10)

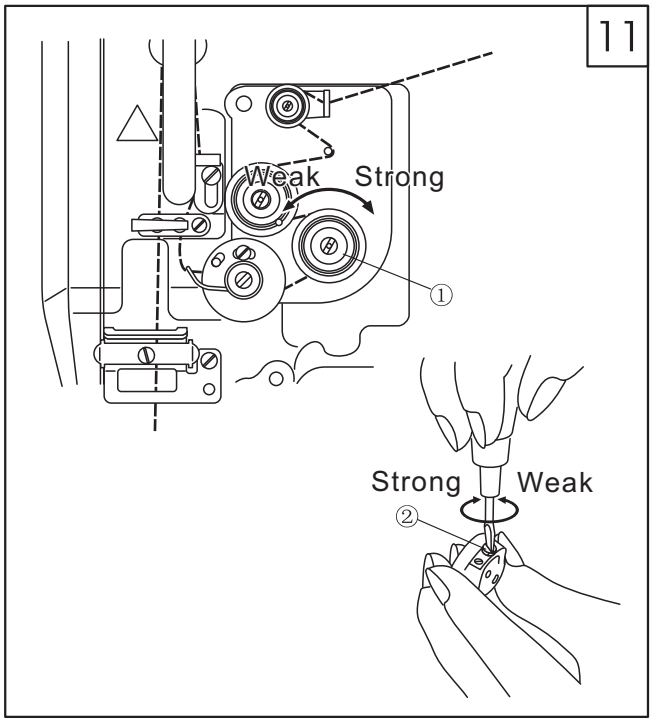
1. Turning the dial ① towards a larger number increases the stitch length and turning it towards a lower number decreases the stitch length.
2. To make a reverse stitch, press the lever ② all the way down.



11. Adjusting the thread tension nut (Fig. 11)

1. Adjusting the thread tension nut of the needle: Turn the nut ① clockwise to increase the tension of the needle thread; to reduce the tension of the needle thread turn it anti-clockwise.

2. Adjusting the tension of the bobbin thread: Turn the large screw ② on the flat spring clockwise to increase the tension and counterclockwise to decrease the tension.



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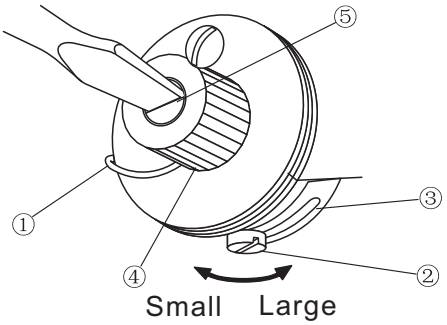

12. Adjusting the thread take-up spring (Fig. 12)

1.Changing the travel of the thread take-up spring:

a.Loosen the set screw ②, move the stopper ③ leftward and rightward, then adjust the thread take-up spring ①.

b.Move the stopper ③ rightward to increase the movement of the take-up spring and left to decrease it.

2.Changing the tension of the thread take-up spring:

Loosen the nut ④, turn the spring shaft ⑤ counter-clockwise to increase the tension; turn it clockwise to reduce the tension.

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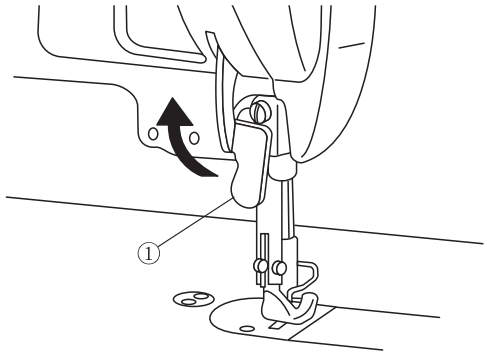

13. Presser foot lifter (Fig.13)

1.Stopping the presser foot when it is lifted:
Lift the lifting bar ① in the direction of the arrow. When the presser foot is lifted by 9mm, stop it.
2.When lowering the presser foot, put down the lifting bar ① to make the presser foot go back to its original place.

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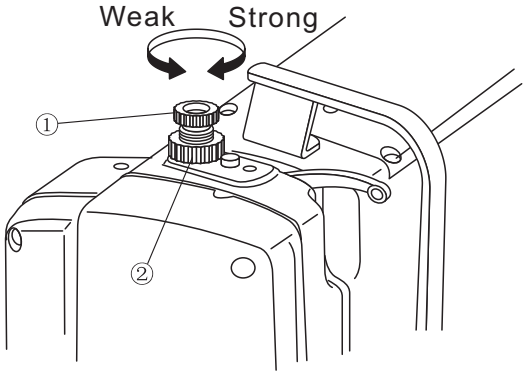

14. Adjusting the pressure of the presser foot(Fig. 14)

Turn the adjusting screw ① rightward to increase the pressure; turn it leftward to reduce the pressure. After adjustment, tighten the set nut ②.

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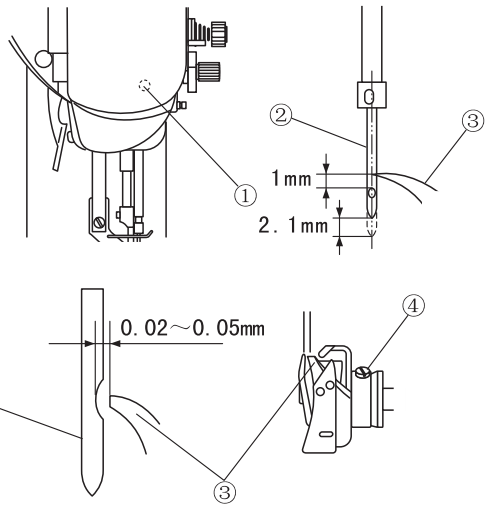


15. Relationship between needle and rotating hook(Fig. 15)

1. Adjust the stitch length dial to 0.
2. Turn the balance wheel to lift the needle bar from its lowest position by 2.1mm. loosen the screw ①, adjust the distance between up end of the eye of needle ② and rotating hook point ③ to 1mm, then tighten it.
3. Turn the balance wheel to lift the needle bar from its lowest position by 2.1mm. Loosen the two set screws ④, turn the rotating hook, align the rotating hook point ③ with the center of the needle ②, then tighten the two screws ④.
4. Loosen the two set screws ④, move the rotating hook leftward and rightward. Align the rotating hook point ③ and the center of the needle ②, and adjust the clearance between rotating hook point and needle to 0.02-0.05mm, then tighten the screw.

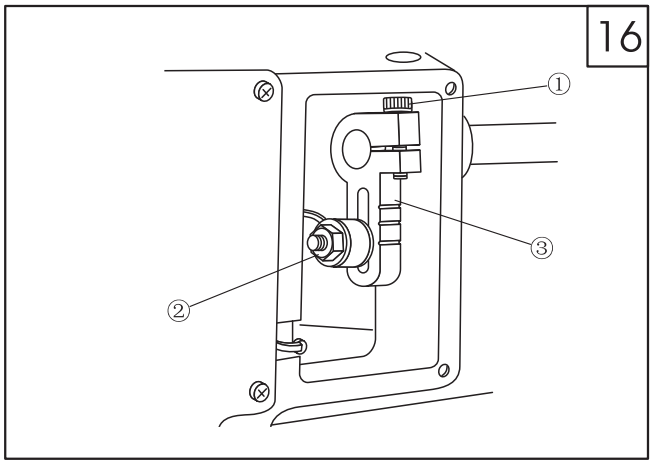
16. Adjusting the height and pressure foot walk (Fig. 16)

To adjust the height of the presser foot walk loosen nut ②, slide the lever up to increase the height of the walk or slide the lever down to decrease the height of the walk.

How to adjust when the inside foot and outside foot are not rising at equal height:

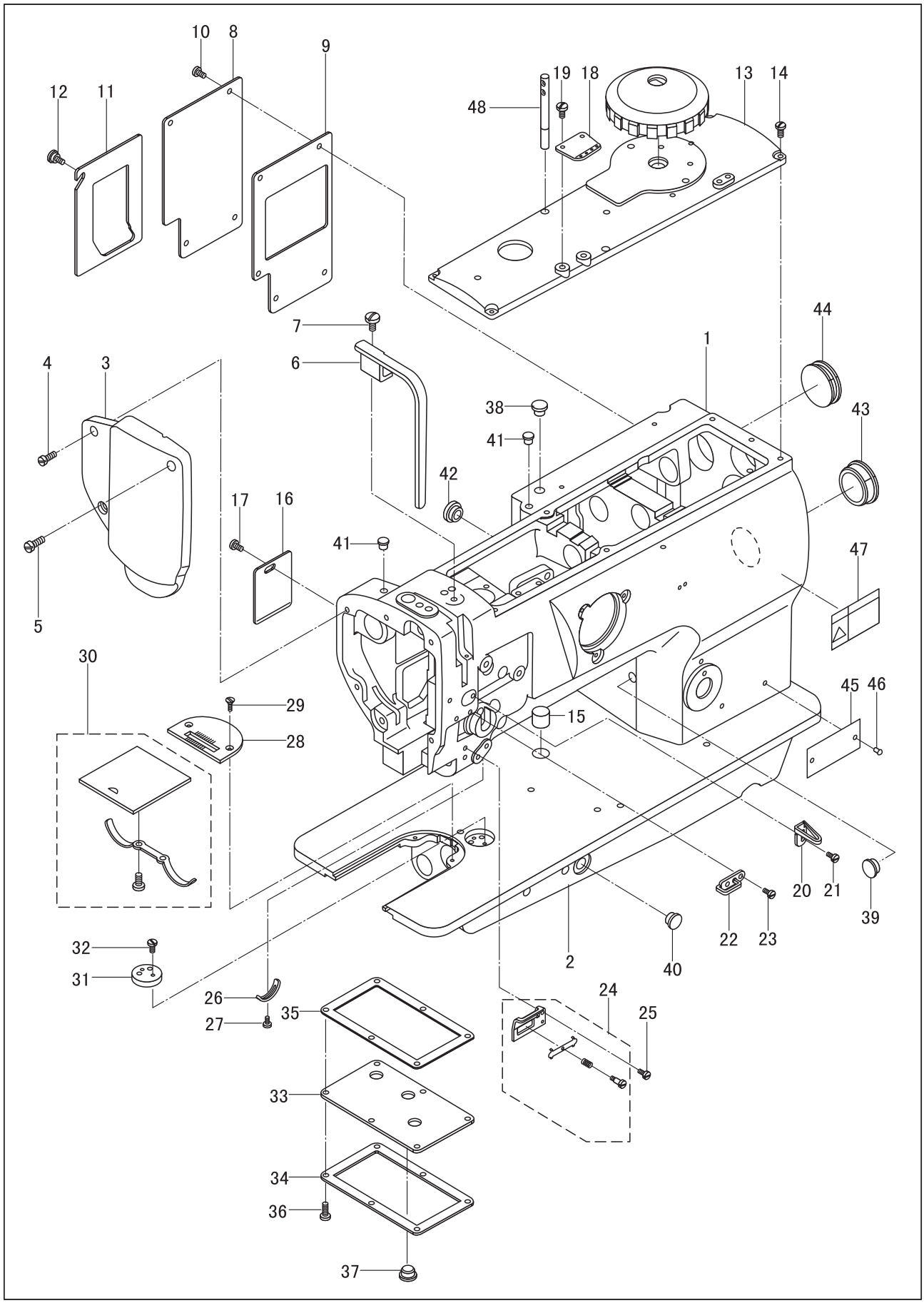
a. By turning the handwheel towards you, bring the foot that is lifting the highest all the way up.

b. By turning the handwheel towards you, bring the foot that is lifting the highest, halfway down in its travel towards the needle point. Then loosen screw ① the foot will drop and make contact with the needle plank, now tighthen screw ① to secure the walk.



PARTS MANUAL

1. Arm and bed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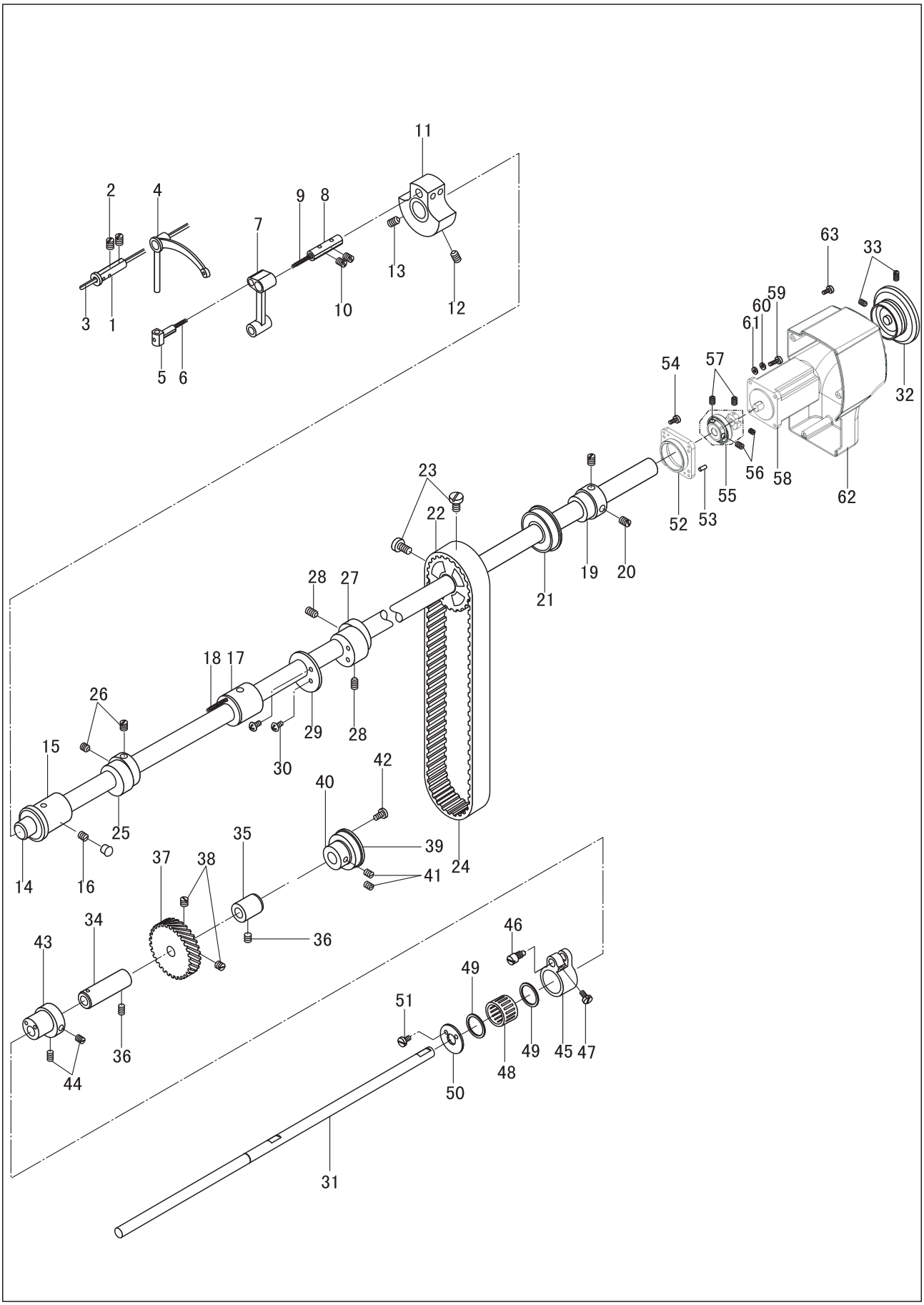
1. Arm and bed

No.	Part Number	Name	Qt.	Remark
1	92WF2-001	Arm	1	
2	110WF2-003	Bed	1	
3	92WF2-003	Face plate assembly	1	
4	1WF5-039	Screw (1)	2	SM11/64″×40
5	37T2-210	Screw (2)	1	SM15/64″×28
6	92WF2-004	Safety guard	1	
7	13WF2-045	Screw	1	SM15/64″×28
8	92WF2-005	Side cover(1)	1	
9	92WF2-006	Seal spacer	1	
10	1WF1-011	Screw	5	SM11/64″×40
11	92WF2-007	Side cover(2)	1	
12	92WF2-008	Screw	1	SM11/64×40
13	92WF2-009	Upper cover	1	
14	1WF1-011	Screw	6	SM11/64″×40
15	92WF2-038	Rubber plug	1	
16	92WF2-011	Small cover	1	
17	1WF1-011	Screw	1	SM11/64″×40
18	92WF2-012	Upper thread guide plate	1	
19	21WF1-062	Screw	2	SM3/16″×32
20	92WF2-013	Upper thread guide	1	
21	36WF1-016	Screw	1	SM9/64″×40
22	92WF2-014	Middle thread guide	1	
23	1WF1-007	Screw	2	SM9/64″×40
24	92WF2-015	Lower thread guide assembly	1	
25	1WF1-007	Screw	1	SM9/64″×40
26	50WF2-022	Position plate	1	
27	1WF1-026	Screw	1	SM9/64″×40
28	92WF2-016	Needle plate	1	
29	36WF3-004	Screw	2	SM11/64″×40
30	008035C	Slide plate assembly	1	
31	92WF2-017	Clamp holder	1	
32	36T5-008E5	Screw	2	SM11/64″×40
33	92WF2-022	Oil screen	1	
34	92WF2-023	Presser plate	1	
35	92WF2-024	Seal spacer	1	
36	22T6-008D3	Screw	6	SM11/64×40
37	92WF2-028	Rubber plug	3	
38	92WF2-028	Rubber plug	1	
39	92WF2-028	Rubber plug	1	
40	92WF2-028	Rubber plug	1	
41	92WF2-029	Rubber plug	2	
42	92WF2-030	Rubber plug	1	
43	92WF2-031	Rubber plug	1	
44	92WF2-032	Rubber plug	1	
45	92WF2-034	Model label	1	
	110WF2-034	Model label	1	
46		Rivet	2	GB827 2×5
47	7WF4-019A	Safety caution label	1	
48	92WF2-037	Upper thread guide bar	1	

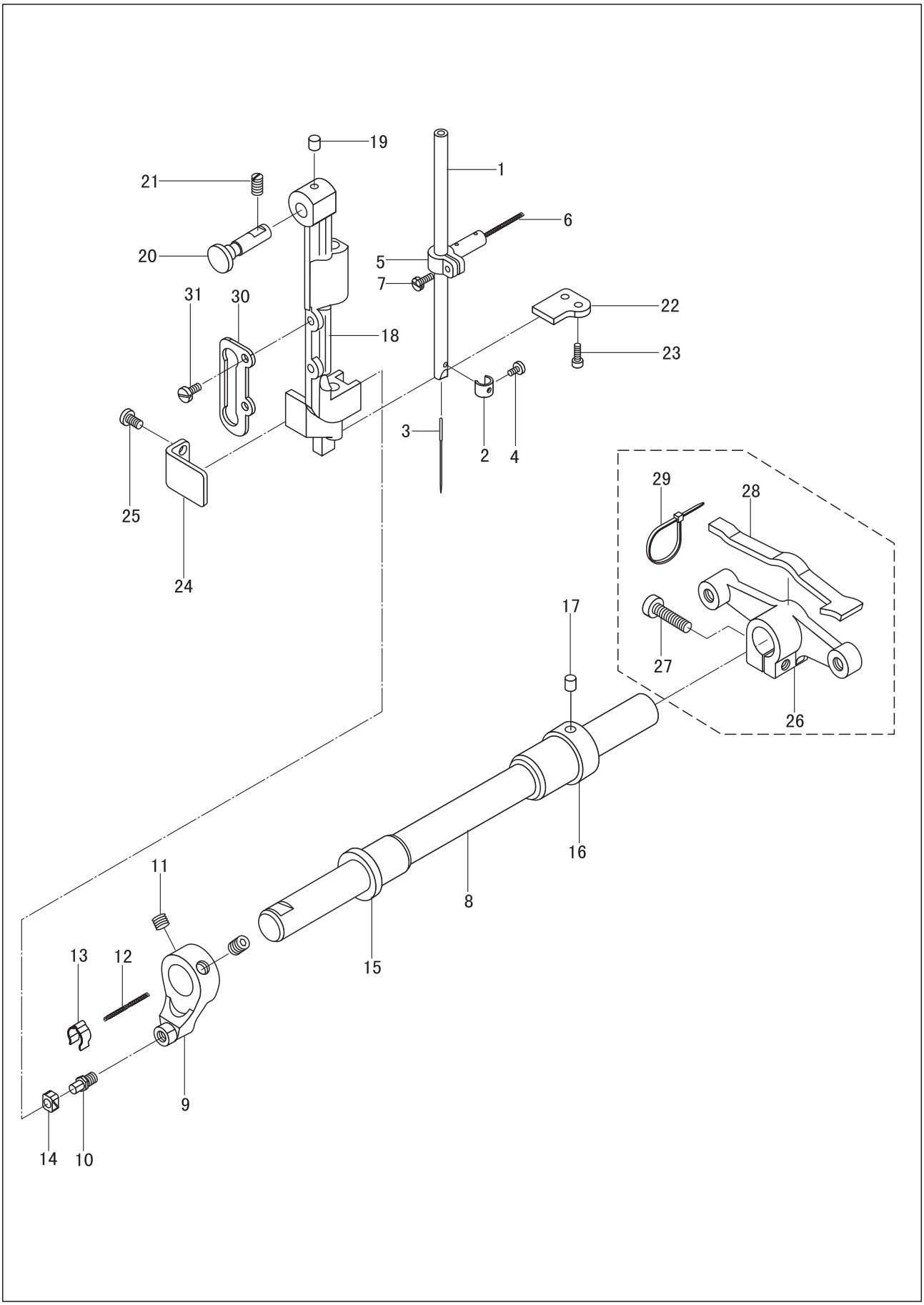
2. Upper shaft and thread take-up mechanism



2. Upper shaft and thread take-up mechanism

No.	Part Number	Name	Qt.	Remark
1	16WF1-010	Thread take-up lever pin shaft	1	103530
2	1WF5-019	Screw	2	SM15/64″×28
3		Oil wick	1	φ2.5×155
4	92WF1-004	Thread take-up lever	1	
5	92WF1-005	Slide block	1	
6		Oil wick	1	
7	92WF1-006	Needle bar link	1	
8	50WF1-008	Needle bar crank pin	1	
9		Oil wick	1	
10	1WF5-019	Screw	2	SM15/64″×28
11	92WF1-007	Needle bar crank	1	
12	17050	Screw	1	SM9/32″×28
13	50WF1-013	Screw	1	SM9/32″×28
14	92WF1-008	Upper shaft	1	
15	92WF1-009	Upper shaft front bushing	1	
16	50WF1-022	Screw	1	SM15/64″×28
17	92WF1-010	Upper shaft middle bushing	1	
18		Oil wick	1	φ2×120
19	92WF1-011	Bearing bushing	1	
20	57WF-009	Screw	2	M6
21	92WF1-033	Upper bearing	1	6005-2ZNR
22	92WF1-013	Balance block	1	
23	92WF1-014	Screw	2	SM1/4″×40
24	92WF1-034	Synchronized belt	1	540-8YU-15
25	92WF3-014	Lift eccentric cam	1	
26	21WF1-020	Screw	2	SM1/4″×40
27	92WF3-029	Feed eccentric cam	1	
28	21WF1-020	Screw	2	SM1/4″×40
29	92WF3-030	Retaining block	1	
30	7WF5-017	Screw	2	SM11/64″×40
31	92WF1-016	Lower shaft	1	
32	258WF2-006	Blance wheel	1	
33	258WF2-007	screw	2	GB/T80 M5×8
34	92WF1-018	front bushing	1	
35	92WF1-019	middle bushing	1	
36	17T5-016	screw	2	SM15/64″×28
37	92WF1-021	gearing	1	
38	2KT5-027	screw	2	SM1/4″×40
39		bearing	1	NSK6004Z
40	119WF1-001	bearing bushing	1	
41	49WF1-015	screw	2	
42	7WF5-025	screw	1	
43	92WF3-062	eccentric cam	1	
44	6K1-017	screw	2	SM15/64″×28
45	92WF3-063	link	1	
46	92WF3-064	eccentric pin	1	
47	2KT5-005	screw	1	SM11/64″×40
48	92WF3-073	bearing	1	K202417
49	92WF3-065	ring	2	
50	92WF3-066	cover	1	
51	16WF1-059	screw	2	SM9/64″×40
52	385WF1-009	install bracket	1	
53		position pin	2	GB/T117 5×22
54	93WF7-014	screw	4	M5×14
55	385WF1-005	connecting assembly	1	
56	394WF2-006	screw	2	M6×0.75×8
57	93WF15-012	screw	2	M6×0.75×8
58	430WF1-004B	director motor	1	
59	80WF6-025	screw	4	M5×20
60		washer	4	GB859 5
61		washer	4	GB/T97.1 5
62	541WF1-006E	motor system	1	
63	80WF6-025	screw	3	M5×20

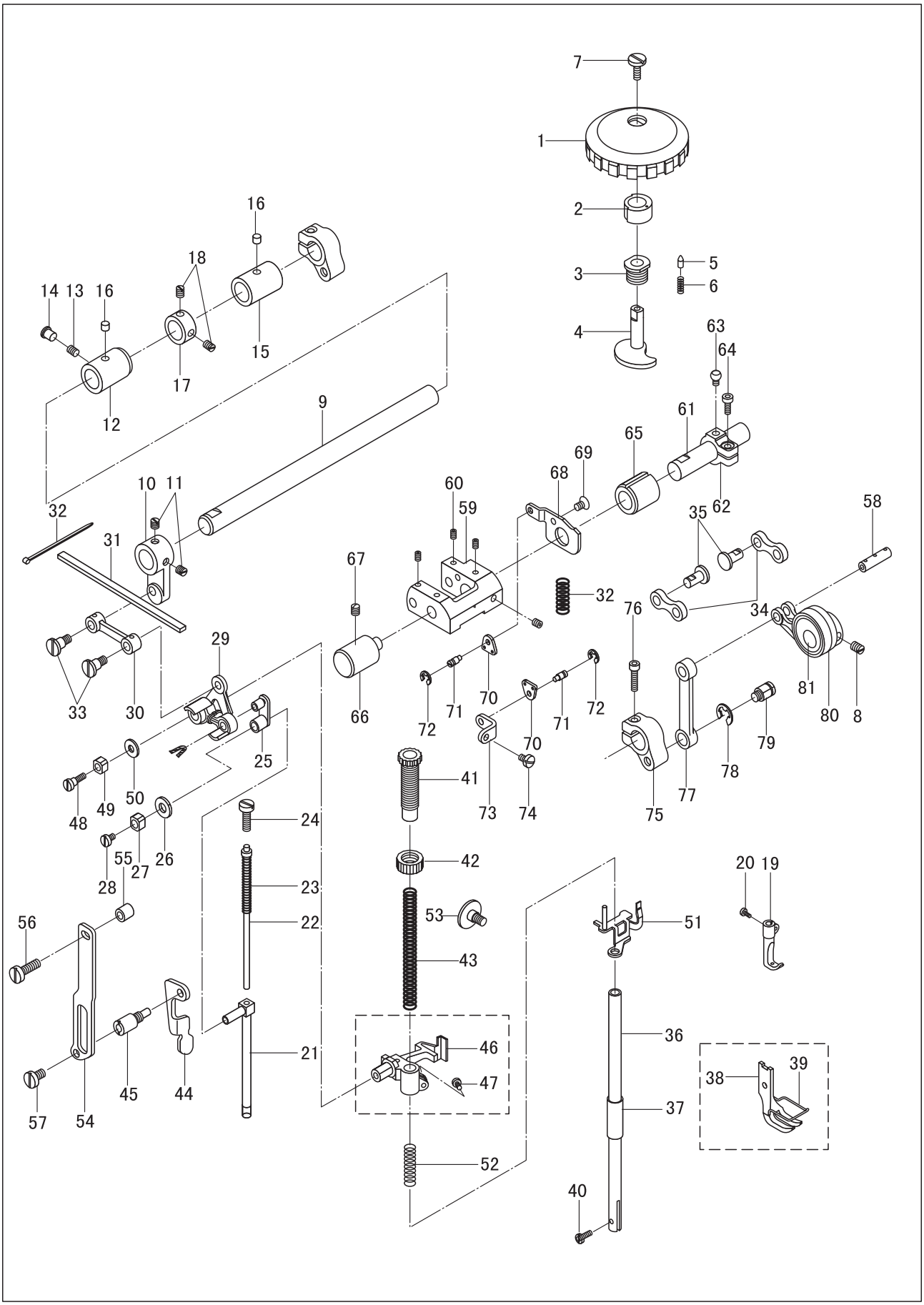
3. Needle bar vibrating parts



3. Needle bar vibrating parts

No.	Part Number	Name	Qt.	Remark
1	50WF1-001	Needle bar	1	
2	92WF1-003	Needle bar thread guide	1	
3	92WF1-032	Needle	1	
4	22T2-017	Screw	1	SM1/8″×44
5	50WF1-003	Needle bar adapter	1	
6		Oil wick	1	
7	22WF3-014	Screw	1	SM9/64″×40
8	92WF3-001	Vibrating shaft	1	
9	92WF3-002A	Crank	1	
10	92WF3-002B	Crank pin	1	
11	92WF3-070	Screw	2	GB80-85 M8×8
12		Oil felt	1	φ1.5
13	92WF3-003	Spring	1	
14	92WF3-004	Slide block	1	
15	92WF3-005	Vibrating shaft front bushing	1	
16	92WF3-006	Vibrating shaft rear bushing	1	
17	92WF3-007	Oil felt	1	
18	92WF3-008	Needle bar vibrating frame	1	
19	92WF3-007	Oil felt	1	
20	92WF3-009	Hinge shaft	1	
21	1WF2-019	Screw	1	SM15/64″×28
22	92WF3-010	Position plate (1)	1	
23	21WF1-054	Screw	2	SM9/64″×40
24	92WF3-011	Position plate (2)	1	
25	1WF1-011	Screw	2	SM11/64″×40
26	92WF3-012	Driven crank	1	
27	52WF1-050	Screw	1	SM15/64″×28
28	92WF3-013	Oil felt	1	
29	2KT-001a	Wire	2	
30	50WF3-030	Guide rail	1	
31	1WF1-011	Screw	2	SM11/64″×40

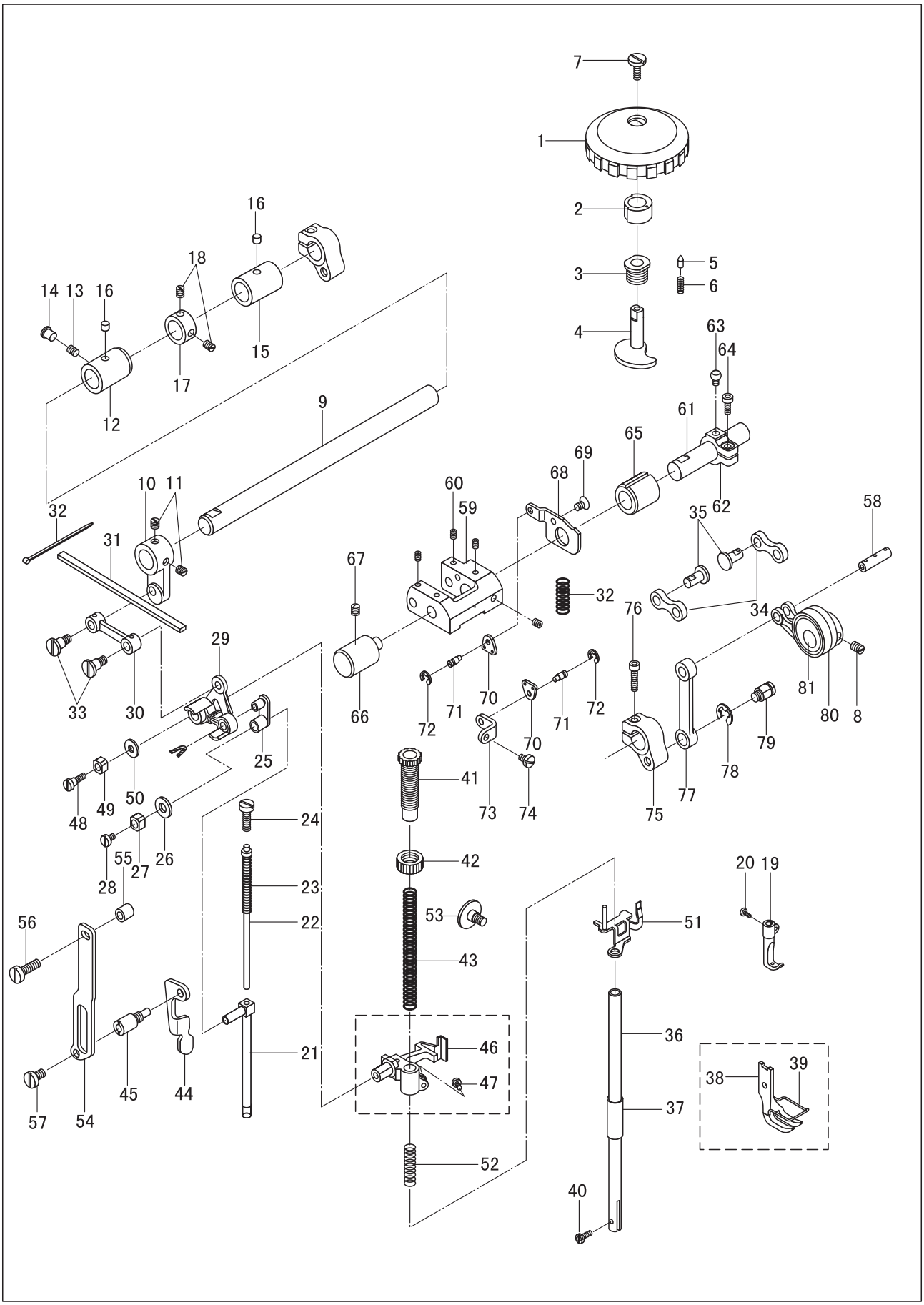
4. Upper feed parts



4. Upper feed parts

No.	Part Number	Name	Qt.	Remark
1	119WF7-017A	Dial	1	
2	119WF7-017B	Dial bushing	1	
3	119WF7-019	Bushing	1	
4	119WF7-018	Adjusting shaft	1	
5	994131	Pin	1	
6	93WF8-002	Spring	1	
7	302395	Screw	1	
8	21WF1-020	Screw	1	
9	92WF3-018	Upper feed shaft	1	
10	92WF3-019	Upper feed crank	1	
11	2KT5-027	Screw	2	SM1/4″×40
12	92WF3-020	Upper feed shaft bushing(left)	1	
13	50WF1-022	Screw	1	SM15/64″×28
14	92WF2-029	Rubber plug	1	
15	92WF3-021	Upper feed bushing(right)	1	
16		Oil felt	2	φ6×10
17	92WF3-022	Collar	1	
18	7WF5-033	Screw	2	SM1/4″×40
19	92WF3-023	Walking foot	1	
20	50WF3-020	Screw	1	SM11/64″×40
21	50WF3-018	Walking foot lifting bar	1	
22	92WF3-024	Spring guide assembly	1	
23	50WF3-032	Presser spring	1	
24	6K1-048	Screw	1	SM15/64″×28
25	50WF3-027	Link	1	
26	50WF3-028	Oil felt	1	
27	50WF3-029	Slide block	1	
28	17078	Screw	1	SM11/64″×40
29	92WF3-025	Foot lifting plate	1	
30	92WF3-026	Foot lifting link	1	
31	92WF3-027	Oil felt	1	
32	119WF7-013	spring	1	
33	92WF3-028	Screw	2	
34	119WF7-011	link	2	
35	994118	pin shaft	2	
36	22WF3-005	presser bar	1	
37	50WF4-001	Presser bar bushing	1	
38	92WF4-001	Presser foot	1	
39	92WF4-002	Finger guard	1	
40	22WF3-014	Screw	1	SM9/64″×40
41	92WF4-003	Screw	1	SM1/2″×28
42	1KT4-002	Nut	1	SM1/2″×28
43	50WF4-006	Spring	1	
44	92WF4-004	Presser foot lifting bar	1	
45	92WF4-005	shaft	1	
46	92WF4-006	Releasing bracket	1	
47	1WF1-011	Screw	1	SM11/64″×40
48	92WF4-007	Screw	1	
49	50WF3-029	Slide block	1	
50	92WF4-008	Washer	1	
51	92WF4-009	Releasing plate	1	
52	50WF4-013	Spring	1	
53	50WF4-014	Screw	1	SM1/4″×28

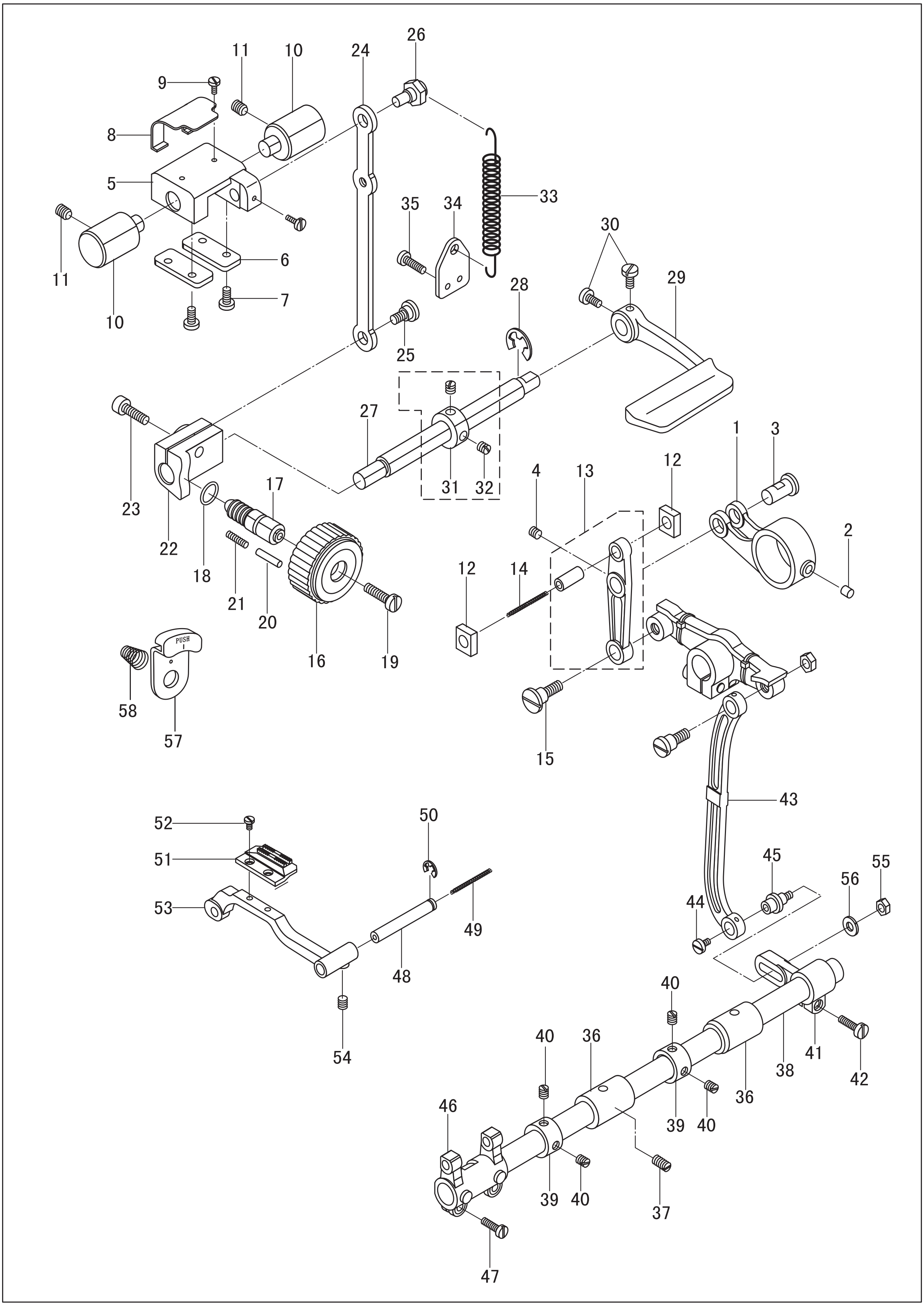
4. Upper feed parts



4. Upper feed parts

No.	Part Number	Name	Qt.	Remark
54	92WF4-010	Presser bar guide plate	1	
55	92WF4-011	Washer	1	
56	60WF4-003	Screw (upper)	1	SM15/64″×28
57	52WF3-027	Screw (lower)	1	SM15/64″×28
58	119WF7-008C	Pin shaft	1	
59	119WF7-001	Adjusting bracket	1	
60	6K2-043	Screw	4	
61	119WF7-003	shaft	1	
62	119WF7-004	crank	1	
63	119WF7-005	screw	1	
64	72WF5-021	screw	1	
65	119WF7-002	bushing	1	
66	92WF3-037	shaft	1	
67	7KT5-024	screw	1	
68	119WF7-012	retaining plate	1	
69		screw	1	GB/T819.2 M5×8
70	119WF7-014	connecting plate	2	
71	119WF7-015	screw	2	
72		ring	2	GB8965
73	119WF7-016	bracket	1	
74	50WF3-089	screw	1	
75	119WF7-009	crank	1	
76	80WF6-025	screw	1	
77	119WF7-008B	link	1	
78		ring	1	GB896 8
79	119WF7-010	screw	1	
80	119WF7-008A	link	1	
81	119WF7-007	bearing	1	
82	21WF1-020	screw	1	

5. Feed parts



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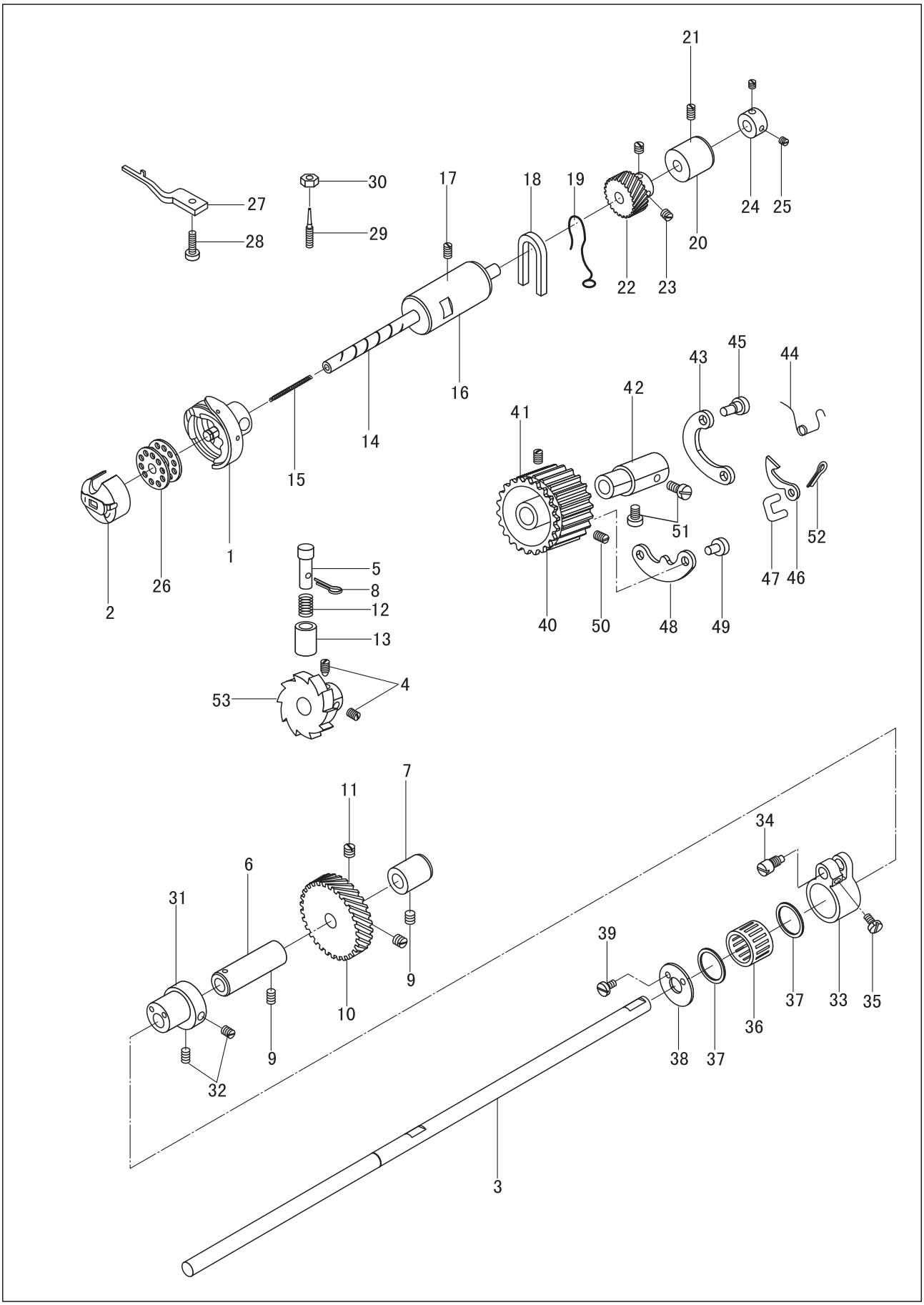
5. Feed parts

No.	Part Number	Name	Qt.	Remark
1	92WF3-031	Feed Link	1	
2	92WF3-032	Oil Felt	1	
3	92WF3-033	Link Pin	1	
4	6K2-043	Screw	1	M5
5	92WF3-034	Reverse Feed Bracket	1	
6	92WF3-035	Retaining Plate	2	
7	1WF1-011	Screw	4	SM11/64″×40
8	92WF3-036	Presser Plate	1	
9	16WF1-059	Screw	2	SM11/64″×40
10	92WF3-037	Reverse Feed Bracket Shaft	2	
11	1WF5-019	Screw	2	SM15/64″×28
12	92WF3-038	Slide Block	2	
13	92WF3-039	Feed Vibrating Bar Assembly	1	
14		Oil Wick	1	Φ1.5
15	92WF3-040	Screw	1	
16	92WF3-041	Stitch Length Adjusting Dial	1	
17	92WF3-042	Bolt	1	
18	92WF3-043	Seal Ring	1	
19	92WF3-044	Screw	1	SM3/16″×28
20	92WF3-072	Stop Pin	1	
21	50WF3-058	Spring	1	
22	92WF3-045	Stitch Length Holder	1	
23	6K2-024	Screw	1	M6
24	92WF3-046	Link	1	
25	92WF3-047	Screw	1	
26	92WF3-048	Eccentric Pin	1	
27	92WF3-049	Reverse Feed Lever Shaft	1	
28	92WF3-071	Retainer	1	GB896-86-9
29	92WF3-050	Reverse Feed Lever	1	
30	92WF3-051	Screw	2	SM3/16″×28
31	92WF3-052	Collar	1	
32	7WF5-033	Screw	2	SM1/4″×40
33	92WF3-053	Spring	1	
34	92WF3-054	Spring Hook	1	
35	1WF3-009	Screw	2	SM11/64″×40
36	92WF3-021	Feed Shaft Bushing	2	
37	1WF2-019	Screw	1	SM15/64″×28
38	92WF3-055	Feed Shaft	1	
39	92WF3-022	Collar	2	
40	7WF5-033	Screw	4	SM1/4″×40
41	119WF3-001	Crank	1	
42	41WF3-018	Screw	1	SM3/16″×28
43	92WF3-058	Link	1	
44	119WF3-003	Screw	1	
45	119WF3-002	Nut	1	
46	92WF3-060	Feed Crank	1	
47	1WF3-009	Screw	2	SM11/64″×40
48	92WF3-061	Connecting Pin	1	
49		Oil Wick	1	Φ3
50	92WF3-072	Retainer	1	GB896-86-5
51	92WF3-067	Feed Dog	1	
52	17WF3-002	Screw	2	SM1/8″×44
53	92WF3-068	Feed Dog Support	1	
54	80WF6-036	Screw	1	M5
55	22WF3-004	Nut	1	
56	71WF3-058	Washer	1	
57	92WF3-071	Push	1	
58	36T5-011	Spring	1	

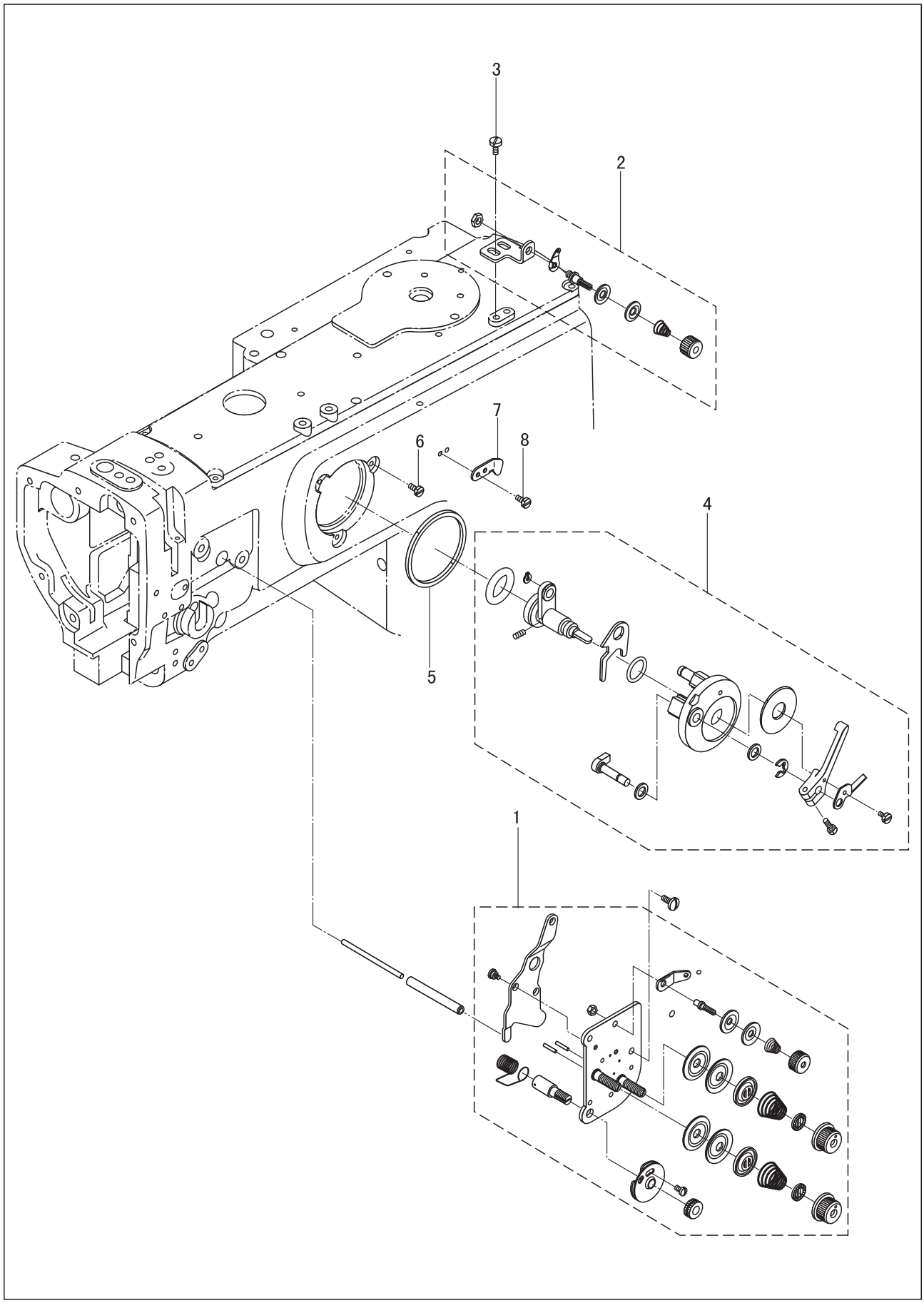
6. Lower shaft mechanism



6. Lower shaft mechanism

No.	Part Number	Name	Qt.	Remark
1	92WF1-001	Hook CPL	1	
2	92WF1-002	Bobbin case CPL	1	
3	92WF1-016	Lower shaft	1	
4	6K2-043	Lower shaft synchronized pulley CPL	2	
5	22WF1-038	Screw	1	
6	92WF1-018	Lower shaft bushing (L)	1	
7	92WF1-019	Lower shaft bushing (M)	1	
8		Lower shaft bushing (R)	1	
9	17T5-016	Screw	2	SM15/64″×28
10	92WF1-021	Lower shaft gear	1	
11	2KT5-027	Screw	2	SM1/4″×40
12	16WF3-046	Collar	1	
13	22WF1-040	Screw	1	
14	92WF1-023	Hook driving shaft	1	
15		Oil wick	1	
16	92WF1-024	Hook driving shaft bushing (L)	1	
17	42WF3-007	Screw	1	SM15/64″×28
18	92WF1-025	Oil felt	1	
19	92WF1-026	Spring	1	
20	92WF1-027	Hook driving shaft bushing (R)	1	
21	42WF3-007	Screw	1	SM15/64″×28
22	92WF1-028	Hook driving gear	1	
23	22T2-005B3	Screw	2	SM1/4″×40
24	92WF1-029	Collar	1	
25	18WF3-022	Screw	2	SM11/64″×40
26	33T1-027	Bobbin	1	
27	145WF-016	Bobbin case opener	1	
28	6K1-057	Screw	1	SM11/64″×40
29	92WF1-031	Screw	1	SM11/64″×40
30	50WF3-042	Nut	1	SM11/64″×40
31	92WF3-062	Eccentric cam	1	
32	6K1-017	Screw	2	SM15/64″×28
33	92WF3-063	Feed dog lift link	1	
34	92WF3-064	Eccentric pin	1	
35	2KT5-005	Screw	1	SM11/64″×40
36	92WF3-073	Bearing	1	K202417
37	92WF3-065	Retainer	2	
38	92WF3-066	Cover	1	
39	16WF1-059	Screw	2	SM9/64″×40
40	110WF-017A	Lower shaft synchronized pulley	1	
41	16WF1-043	Retain ring	1	
42		Pulley bushing	1	103614
43	22WF1-013	Spring plate	1	
44	22WF1-014	Spring	1	
45	22WF1-015	Pin	1	
46	22WF1-016	Stop plate	1	
47	22WF1-017	Link	1	
48	22WF1-018	Clutch plate	1	
49	22WF1-019	Clutch plate pin	1	
50	22WF1-020	Screw	2	
51	22WF1-052	Screw	2	
52		Pin	1	GB/T991 1.2×8
53	110WF-032	Clutch wheel	1	
54	6K2-043	Screw	2	
55	22WF1-038	Button	1	
56		Pin	1	
57	16WF3-046	Spring	1	
58	22WF1-040	Button bushing	1	

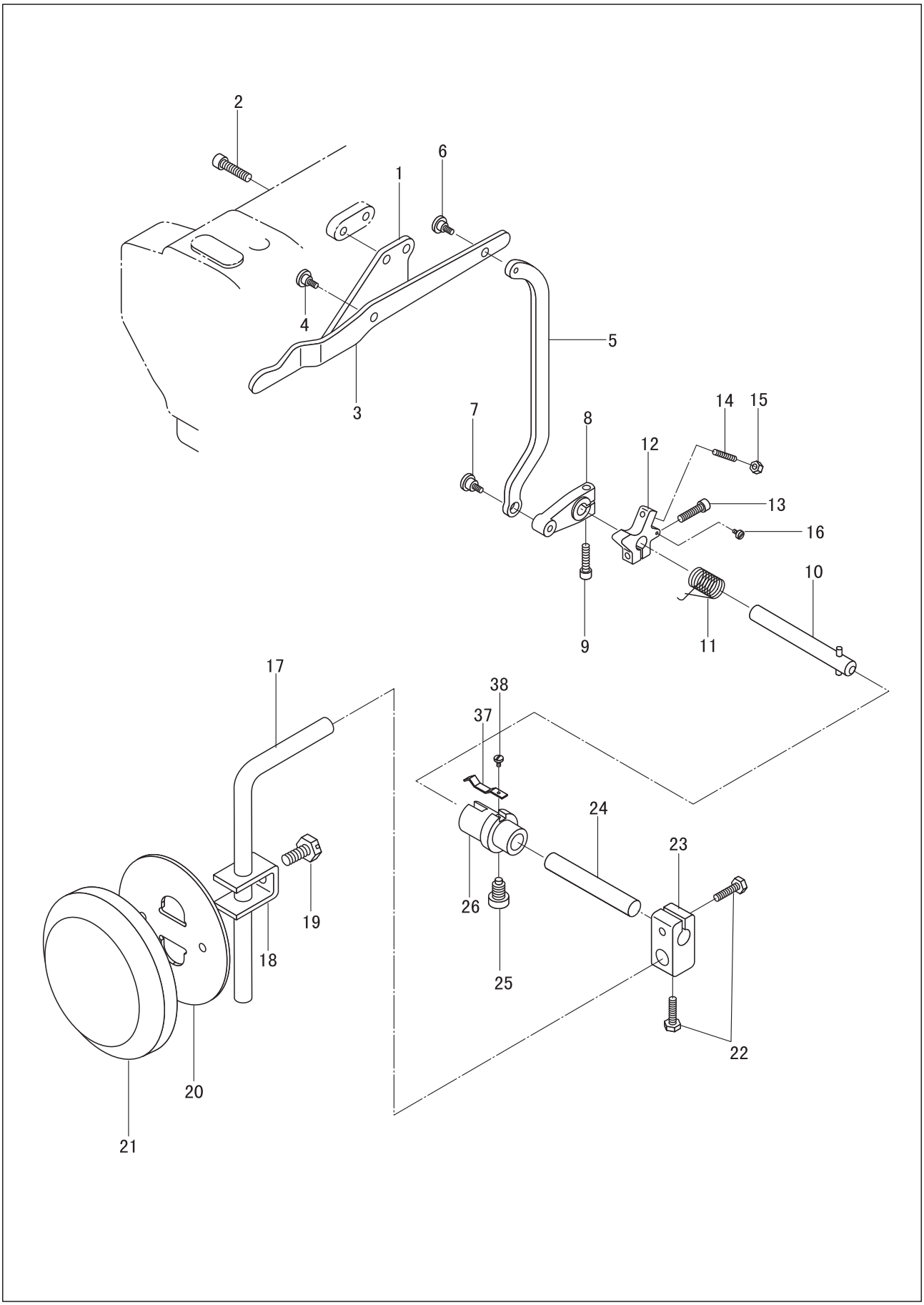
7. Thread tension and bobbin thread winder mechanism



7. Thread tension and bobbin thread winder mechanism

No.	Part Number	Name	Qt.	Remark
1	119WF2-005	**Thread tension plate assembly**	1	
2	92WF2-021	**Bobbin thread tension assembly**	1	
3	13WF2-040	**Screw**	1	M4
4	92WF2-025	**Thread winder assembly**	1	
5	92WF2-026	**Friction ring**	1	
6	92WF2-027	**Screw**	3	SM11/64″×40
7	92WF2-036	**Cutter**	1	
8	36WF2-031	**Screw**	2	

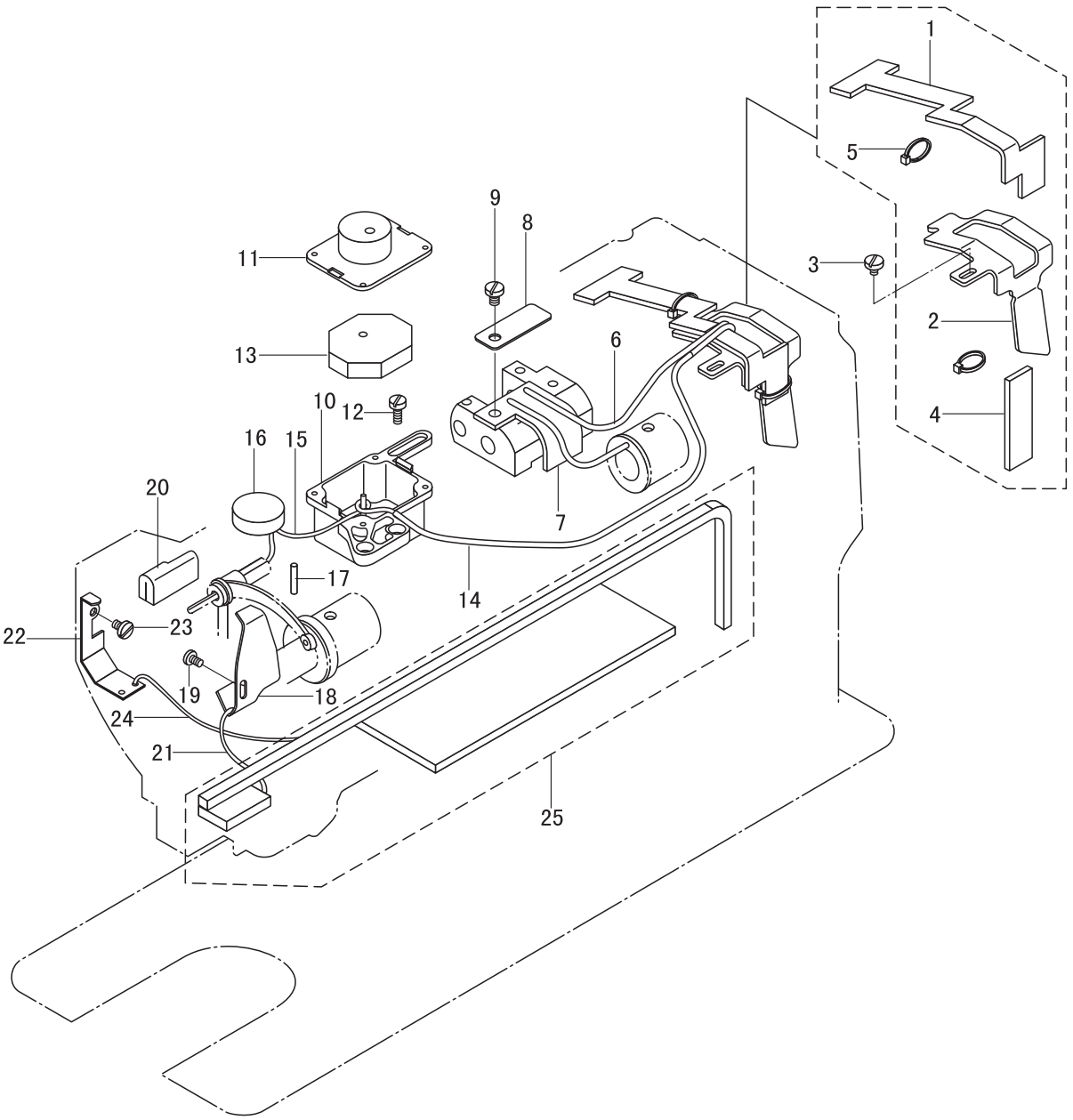
8. Knee lifter mechanism



8. Knee lifter mechanism

No.	Part Number	Name	Qt.	Remark
1	92WF4-012	**Knee control lever support**	1	
2	72WF2-009	**Screw**	2	M6
3	92WF4-013	**Knee control lever**	1	
4	92WF4-014	**Screw**	1	SM1/4″×40
5	92WF4-015	**Knee control connecting rod**	1	
6	92WF4-016	**Screw**	1	SM11/64″×40
7	92WF4-014	**Screw**	1	SM1/4″×40
8	94WF4-017	**Crank**	1	
9	80WF6-025	**Screw**	1	M5
10	92WF4-018	**Knee control revolving shaft**	1	
11	92WF4-019	**Spring**	1	
12	92WF4-020	**Position block**	1	
13	80WF6-025	**Screw**	1	M5
14	92WF4-022	**Screw**	1	GB77-85 M5×25
15	13WF3-074	**Nut**	1	M5
16	92WF4-021	**Screw**	1	SM9/64″×40
17	22T9-003B2	**Knee control bell bent bar**	1	
18	22T9-003B6	**Bell bracket**	1	
19	22T9-003B7	**Screw**	1	
20	22T9-003B5	**Knee control bell**	1	
21	22T9-003B8	**Cushion**	1	
22	60WF6-007	**Screw**	2	SM5/16″×24
23	60WF6-008	**Bell bent bar adapter**	1	
24	60WF6-009	**Knee control connecting bar**	1	
25	17WF2-026B	**Screw**	1	SM5/16″×24
26	60WF6-010	**Connecting bushing**	1	
27	60WF6-011	**Spring**	1	
28	60WF1-002	**Screw**	1	SM9/64″×40

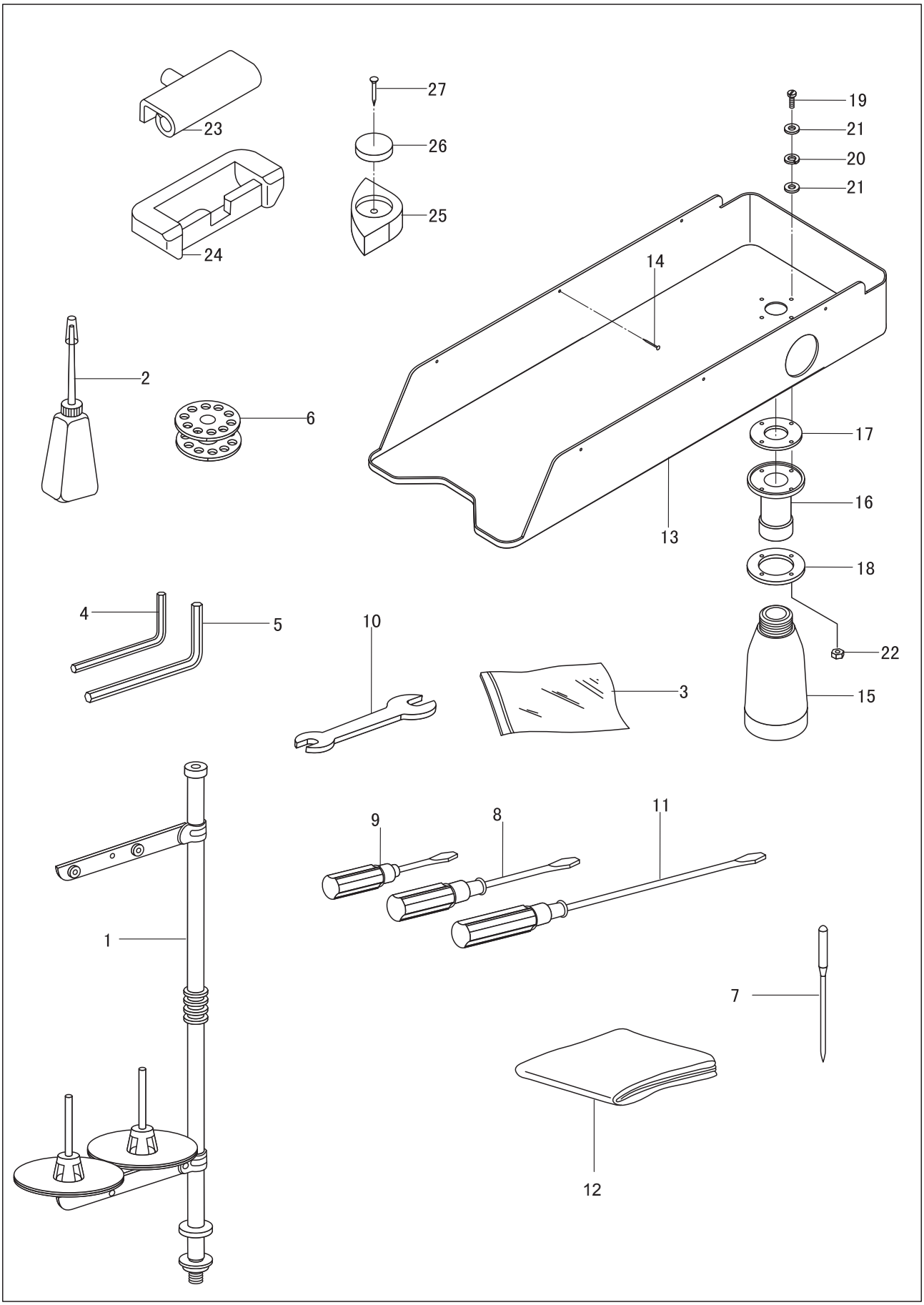
9. Lubrication



9. Lubrication

No.	Part Number	Name	Qt.	Remark
1	92WF5-001	**Oil felt**	1	
2	92WF5-002	**Oil felt support**	1	
3	36WF1-031D	**Screw**	1	SM11/64″×40
4	92WF5-003	**Small oil felt**	1	
5	2KT7-001a	**Binding cord**	3	
6		**Oil wick**	1	ϕ2×190
7	119WF5-003	**Oil felt**	1	
8	119WF5-001	**Press plate**	1	
9	119WF5-002	**Screw**	1	
10	92WF5-006	**Oil pot**	1	
11	92WF5-007	**Oil pot cover**	1	
12	21WF3-026	**Screw**	2	SM11/64″×40
13	92WF5-008	**Oil felt**	2	
14		**Oil tube**	1	ϕ3× ϕ5×180
15		**Oil wick**	1	ϕ2×380
16	92WF5-009	**Oil felt 1**	1	
17	92WF5-010	**Oil felt 2**	1	
18	92WF5-011	**Oil retaining plate**	1	
19	16WF1-059	**Screw**	1	SM9/64″×40
20	92WF5-012	**Oil felt**	1	
21		**Oil wick**	1	ϕ2×250
22	92WF5-013	**Oil retaining plate**	1	
23	36WF1-031D	**Screw**	1	SM11/64″×40
24		**Oil wick**	1	ϕ2×250
25	92WF5-014	**Oil felt assembly**	1	

10. Accessories



10. Accessories

No.	Part Number	Name	Qt.	Remark
1	33TF-019	Spool stand	1	
2	33TF-011	Small oil pot	1	
3	33TF-010	Parts bag	2	
4	1F-010	Allen Key	1	S=2.5MM
5	1F-011	Allen Key	1	S=3MM
6	33T1-027	Bobbin	6	
7		Needle	3	DP×17 23#
8	33TF-013	Screwdriver (medium)	1	
9	33TF-014	Screwdriver (small)	1	
10		Double ended spanner	1	9×10
11	33TF-012	Screwdriver (big)	1	
12	13F-002	Machine head cover	1	
13	92WF6-017	Oil reservoir	1	
14		Screw	6	SG1162-79
15	92WF6-027	Oil pot	1	
16	92WF6-018	Adapter	1	
17	92WF6-019	Seal ring	1	
18	92WF6-020	Presser plate	1	
19		Connecting screw	4	GB818-85 M3×14
20		Spacer	4	GB848-85 M3
21	92WF6-023	Seal spacer	8	
22		Connecting nut	4	GB170-86 M3
23	22T9-007F1	Connecting hook assembly	2	
24	22T9-007F2	Rubber cushion	2	
25	92WF6-025	Rubber cushion	4	
26	92WF6-026	Oil felt	4	
27	13F-006	Screw	4	GB349-88

1. Button Displays and operating instructions

1.1 Key Description

Function key enter parameter area		Under normal mode, press the [P] key to enter the user parameter mode Press and hold the [P] key to boot into parameter mode Technician
Enter and determine \ save button		Enter parameter values such items and their contents change after adjustment, need to press the [S] key to save the confirmation. Note: The parameters are saved directly by the [S] key.
On the adjustment key		1. Choose the region parameter items incrementing key 2. Parameter setting value incrementing key 3. Select the shortcut needle position
Under the adjustment key		1. Choose the region parameter items of diminishing key 2.Is decremented key parameter settings 3. Slow play seam selection shortcuts

2 User Parameter &Technician Parameter

Parameter	Parameter Function	Range	Default	Description
In the normal screen, press [P]				
P01	Maximum Sewing Speed （r/S）	100-3700	3700	Maximum speed of machine sewing
P02	Speed Curve Adjustment （%）	1-100	80	The Lager the value, the faster to increase speed
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P07	Soft Start Speed （r/S）	200-1500	400	Soft Start Speed Adjustment
P08	Stitch Numbers for Soft Start	0-99	2	Soft Start Stitches Setting (one unit = half stitch)
P14	Soft Start	ON/OFF	ON	ON: Slow start feature is turned on. OFF: Slow start function off.
P15	Make up pin mode	0-3	0	0: Semi-pin ; 1: a pin 2: Continuous filling half needle 3: Continuous injection
P24	Foot pedal reverse voltage	30-500	120	
P30	Thick material angle	0-100	0	
P42	Information Display	N01-N07		NO1 Electrically controlled version serial numbers NO2 Selected needle cassette version NO3 Speed NO4 Pedals AD, NO5 Positioning angle (0–359), NO6 Under the positioning angle NO7 Bus voltage AD
P43	Setting Direction of Motor Rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise
Press and hold the [P] key to boot				
P44	Brake force	1-50	16	Efforts to stop the machine when selecting
P48	Low (Positioning) Speed （r/S）	100-500	210	Setting Positioning Speed
P56	Needles Goes Up Automatically as Power turned on	0-2	1	0: always not to find a position 1: : always looking for positioning

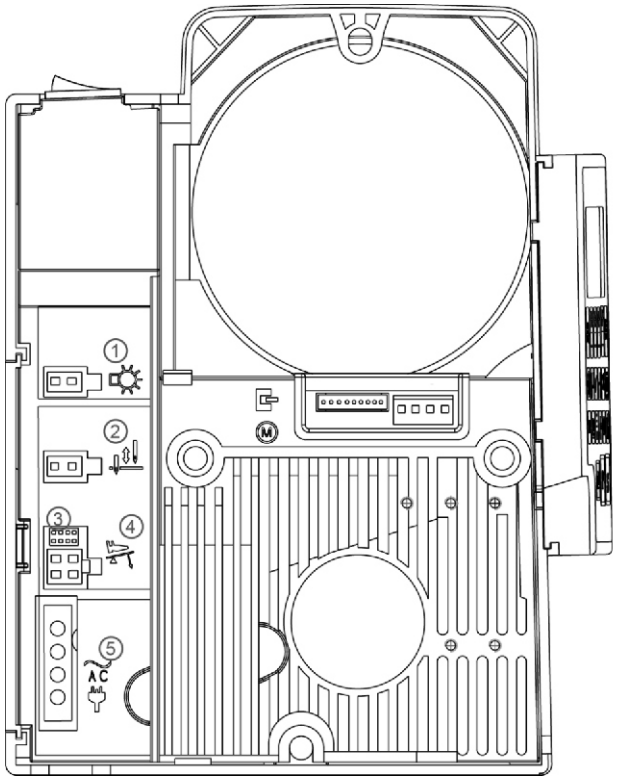
Parameter	Parameter Function	Range	Default	Description
				2: If the motor is positioned on the no longer find location (only with magnet motor)
P58	Up Position Adjustment	0-1439	40	Up Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value increased.
P59	Down Position Adjustment	0-1439	720	Down Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value increased.
P60	Testing Speed (r/S)	100-3700	2000	Setting testing speed.
P61	Testing A	ON/OFF	OFF	Option of Testing A, after setting press 【060. TV】to set the speed keep running.
P62	Testing B	ON/OFF	OFF	Option of Testing B, after setting press 【060. TV】to set the speed execute the cycle of Start – Sewing –Stop - Trimming
P63	Testing C	ON/OFF	OFF	Option of Testing C, after setting press 【060. TV】to set the speed execute the cycle of Start – Sewing –Stop without positioning function
P64	Running Time of Testing B and C	1-250	20	Setting running time of testing B and C
P65	Stop Time of Testing B and C	1-250	20	Setting stop time of testing B and C
P66	Machine Protection Switch Testing	0-2	1	0: Disable, 1: Testing zero signal, 2: Testing positive signal
P67	Trimming Protection Switch Testing	ON/OFF	OFF	OFF: Disable ON: Enable
Press and hold the [P], [S] key while the boot				
P70	The factory Type Selection		27	
P72	The needle position correction	0-1439	0	Hand rotation manual to the appropriate position, press S key to save
P73	Under needle position correction	0-1439	0	Hand rotation manual to the appropriate position, press S key to save
P84	Thick start angle	0-330	9	
P85	The thick end angle	0-330	57	
P92	Encoder start angle		160	View manual 1.5 chapter

3 Error Code List

Error Code	Problem	Strategies
E01	1) Power ON, the main voltage detection is too high 2) When the supply voltage is too high	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage specified in use.) If correct, please replace the control box and inform the factory
E02	1) Power ON, the main voltage detection is too high 2) When the supply voltage is too high	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage specified in use.)

		If correct, please replace the control box and inform the factory
E03	Operation panel and CPU transmission communication exception	Turn off the system power, check the operation panel interface is loose If contact is good, please change the operation panel. If it is not operated, the control box is damaged, please change
E05	Control of the contact of the device	Off the system power supply, check and control the connector is loose or fall off, Will resume normal after the restart system If you still can not work normally, please replace the speed controller and notify the manufacturer.
E07	a) Motor plug wiring contact is not transferred b) Lock head or motor belt foreign body in the card die c) The machine is too thick, the motor torque is not enough. d) Module driven output exception	Rotating head motor hand wheel observation is stuckIf stuck, the first rule out mechanical failure Such as rotation normal Check the motor encoder connector and motor power cable joints are loose If there is a loose please revise Such as good contact Check the supply voltage of the power supply voltage is too high or too high If you have to adjust As normal, please replace the control box and notify the manufacturer.
E9 E11	Synchronizer signal error.	Power off system Check the motor encoder interface is loose or off Will resume normal after the restart system If you still can not work normally, please inform the factory and replace the motor.
E14	Encoder signal exception	Turn off the system powe Check the motor encoder interface is loose or off Will resume normal after the restart system If you still can not work normally, please replace the motor and notify the manufacturer.
E15	Power module is not normal overcurrent protection	Turn off the system power, and then restart If you still can not work normally, please inform the factory and replace the motor.
E17	Head protection switch is not in the correct position	Turn off the system power, check the nose is opened, the head switch is damaged.
E20	Motor starting failure	After driving the motor does not rotate, do not look for the encoder reference point

4. Port Outline Diagram



① LED sewing light
② Half stitch
③ Soft update
④ Pedal
⑤ Power