



4510TW

INDUSTRIAL SEWING MACHINE

INSTRUCTION MANUAL

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1. Brief introduction

Both the models adopt straight twin-needle and two horizontal hooks with auto lubrication for thread looping, sliding lever for thread take up to form two lines of lockstitch seam. The upper shaft and lower shaft is connected by ball bearing and driven by teeth-type synchronic belt; plunge oil pump lubrication system. They adopt the compound feed mechanics of feed dog, needle bar and presser foot, even if for long stitch length and long material, They can deal with them freely.

They are widely used in factories of suitcase, tent, cushion, leather goods, apparel, mat, etc..

The difference between the two models:

4400TW adopts twin-needle, two large horizontal hooks with auto lubrication. With the parts it can form ten different needle gauges.

4400SW adopts single needle and forms single line double lockstitch form.

2. Main Technical Specification

1 Application:	medium and heavy duty materials
2 Max. sewing speed:	2000 rpm
3 Max. Stitch length:	9 mm
4 Needle bar stroke:	36 mm
5 Presser foot lift height:	8mm(by hand); 16mm(by knee)
6 Hook:	large horizontal hook with auto lubrication
7 Needle:	DP×17 Nm125~180
8 Lubrication:	pump auto lubrication (partial of manually oiling)
9 Needle gauge: (Twin-needle)	6.4, 3.2, 4, 4.8, 8, 9.5, 12.7, 16, 19, 25.4
10 Motor power:	0.37 kw (clutch motor)

3. Installation and preparation

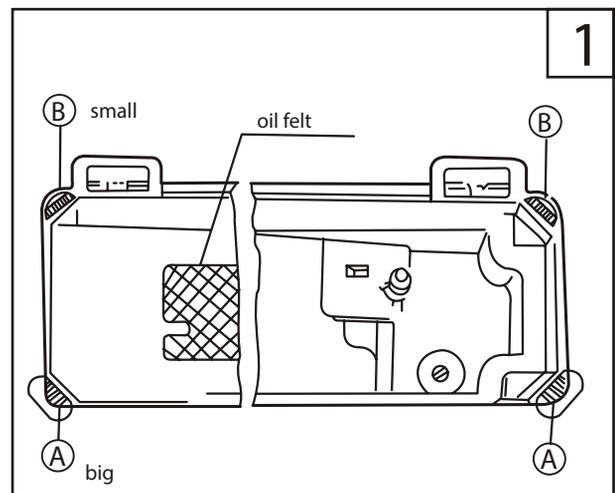
3.1 Installation

3.1.1 Location of the machine

To ensure a smooth running, the machine should be located on rigid and flat floor. The insert of rubber mat between machine stand and floor is recommended for further reducing the running noise and vibration.

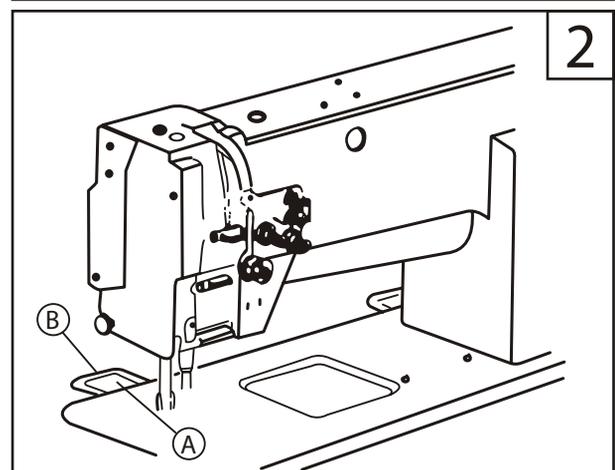
3.1.2 Oil Reservoir Installation(Fig.1)

Put the oil reservoir into the table cutout, and place the four cushions on the four corners of the cutout, and place oil felt into the oil reservoir.



3.1.3 Mounting machine head(Fig.2)

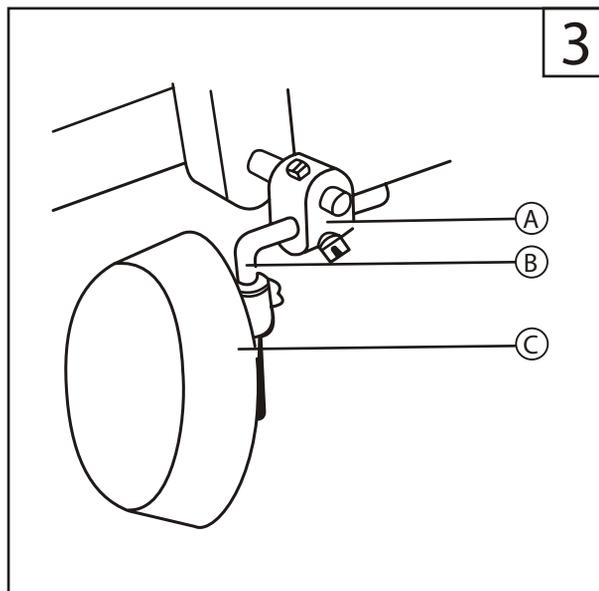
Make the hinge (A) of machine head engaged with hinge socket (B) on the table, then turn the machine head freely till it is seated on the frame of table cutout.



3.1.4 Knee control presser foot lifter installation(Fig.3)

a. Installing

Install Connector (A) , Bell Crank (B) Bell (C) in the order shown in Fig.3.

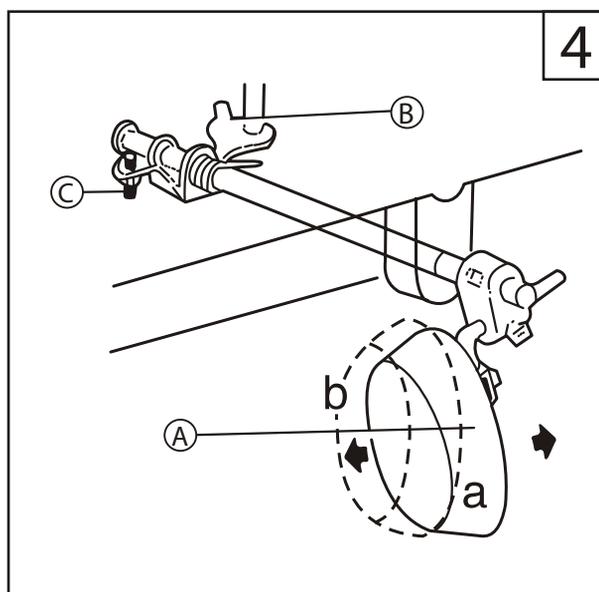


b. Adjustment (Fig.4)

In the order of the following:

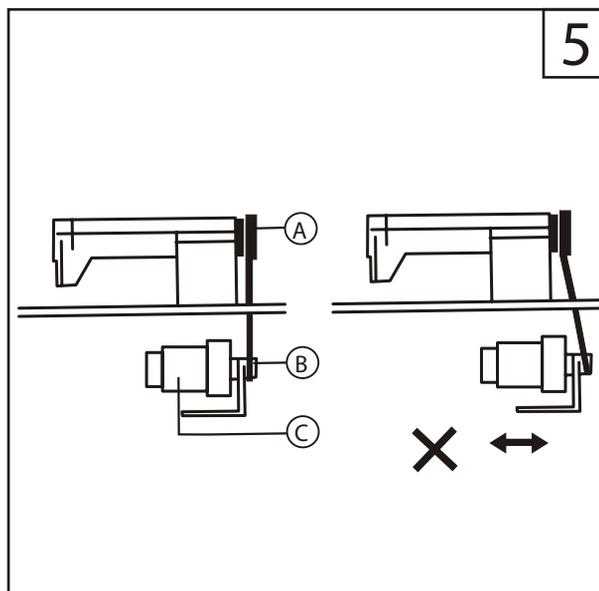
1. When the presser foot is at its lowest position, keep the crank in the position shown by b in the figure, turn Knee Control Stop Adjusting Screw (C) to touch with the oil reservoir, and tighten the nut of Screw (C).

2. When operate by knee, the presser foot lift volume is controlled by Screw (B). Turn the presser foot lever down, make the bell in the position shown by a in the figure, lift the presser foot to 13 mm, adjust Screw (B) to touch the oil reservoir. Then tighten the nut of Screw (B).



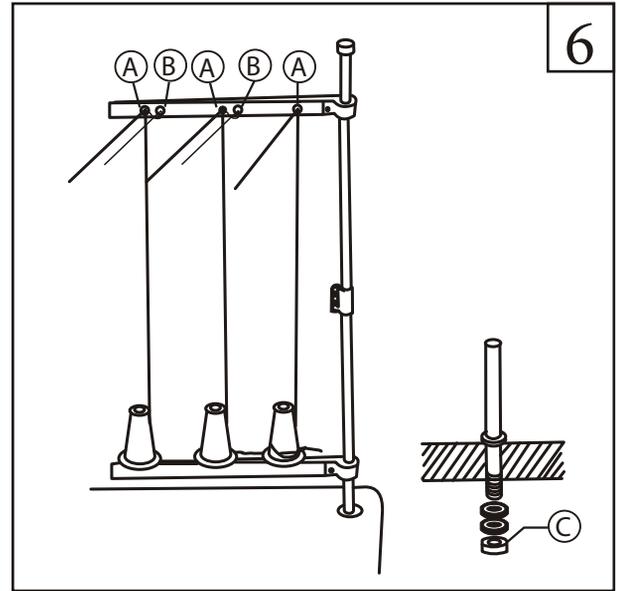
3.1.5 Installing the motor (Fig.5)

Align machine balance wheel belt groove (A) with motor pulley belt groove (B) by moving the motor (C) leftward or rightward. Be sure the belt is not touch with table.



3.1.8 Installing the thread spool stand (Fig.6)

Locate thread spool stand at the right front of the table, note that spool rest may not obstruct when machine head is turned backward, then tighten wood screw.



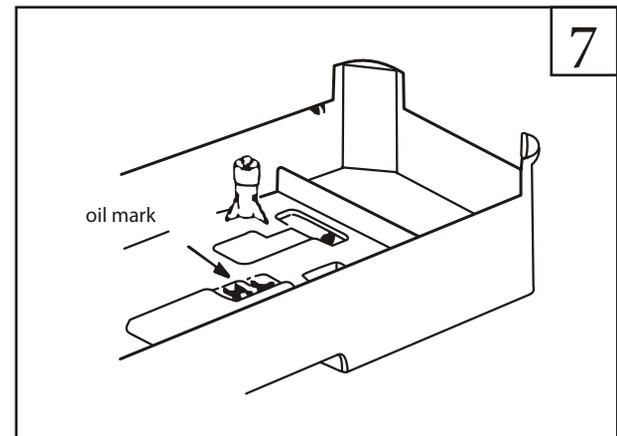
3.2 Preparation

3.2.1 Cleaning the machine

Before delivery, the machine parts are coated with rust preventive grease, which may be hardened and contaminated by dust during storage and shipment. The grease must be removed by clean cloth with gasoline.

3.2.2 Examination

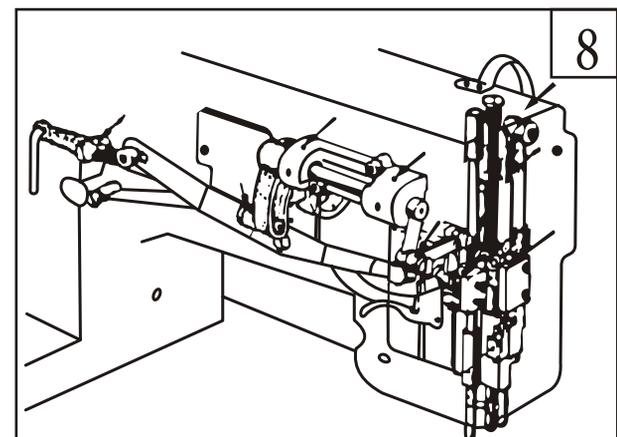
Though every machine is confirmed by strict inspection and test before delivery, the machine parts may be loosed or deformed after long distance transportation with jolt. A thorough examination must be performed after cleaning the machine. Turn the balance wheel to see if there is running obstruction, parts collision, uneven resistance or abnormal noise. If these exist, adjustment must be made accordingly before run.



3.2.3 Precaution before Start

a. Oiling (Fig.7)

Oil amount should be filled according to the marks in the oil reservoir. Mark (H) refers to the highest of oil amount; (L) refers to the lowest, be careful that the oil amount should not be lower than Mark (L), otherwise the machine parts can not be fed with oil and cause overheat and collision.



b. When the machine starts for the initial time or reuse after a long period of time, the proper oil amount should be filled in sections of machine shown by arrows in Fig 8,9. When it is in operation, observe the oil sparking in oil screen to check the oil condition.

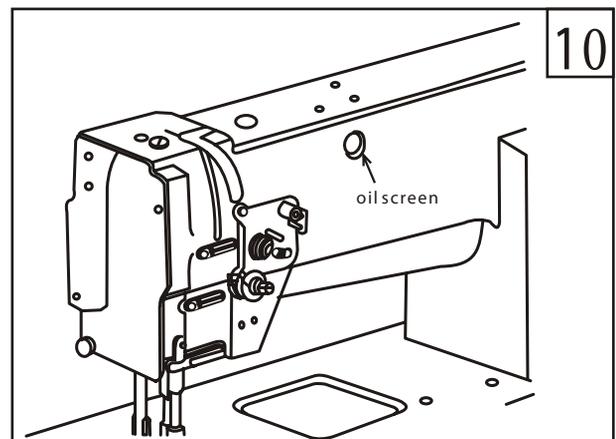
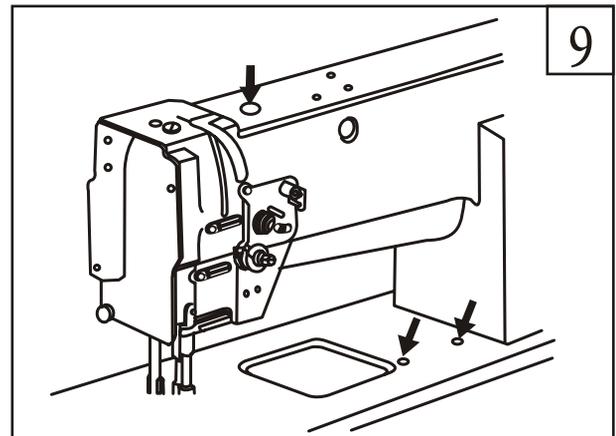
Note: when the machine needs drop oiling, do not start before drop oiling.

c. When a new machine starts running, for extending its life, please run at a medium and low speed (1000 spm) for about a month and then raise the speed gradually.

d. Please turn off the power when it is not in use or the operator leaves away from it.

e. Replace the oil every month. When replacing, fully drain off the old oil in the reservoir and add the new one.

f. The needle gauge options are: 6.4, 3.2, 4, 4.8, 8, 9.5, 12.7, 16, 19, 25.4. For getting it, the throat plate, presser foot or alternating foot, needle holder, feed dog, left and right sliding plates, thread guide should be changed. It is provided with 6.4mm when it leaves off the factory, for the other size, the relevant parts can be ordered from the factory.



4. Operation

4.1 Coordination between needle, thread and sewing material

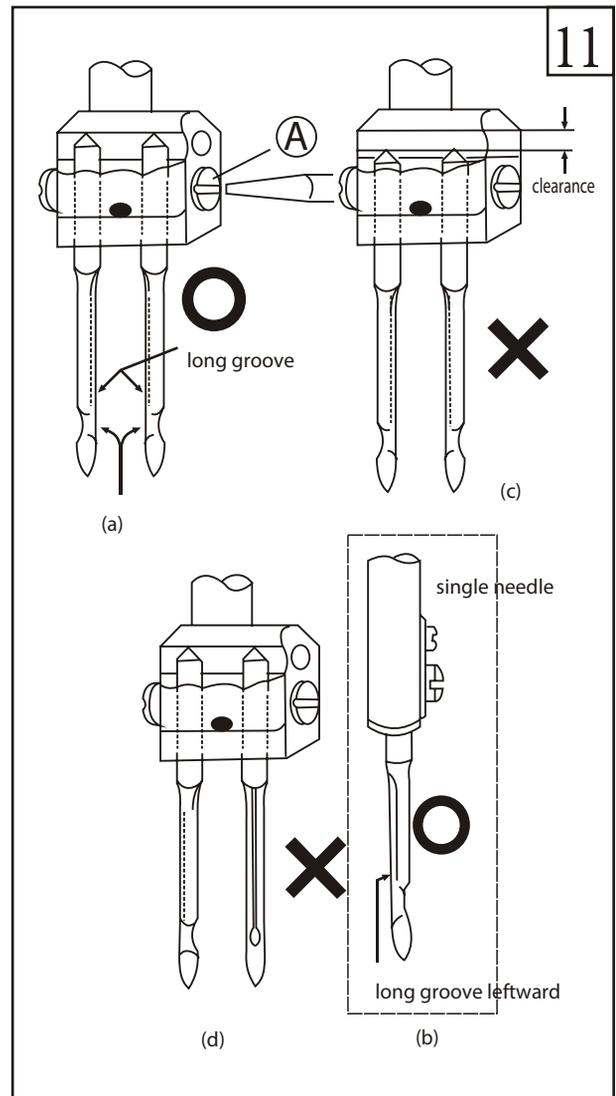
The coarseness of needle should be in accordance with the nature of material. If stitch on heavy duty material with a slim needle, the needle will be easily bent, skip or thread breakage occurs, on the contrary, stitch on tightly woven material with a very coarse needle, the material will be destroyed with over-big needle. So the needle and thread should be properly selected.

4.2 Needle installation (Fig. 1 1)

Turn the balance wheel to lift needle bar to the highest position, loosen Needle Set Screw (A), fully insert the needle shank up to the bottom of needle socket, keeping the long grooves of the two needles opposite with each other, then tighten Screw (A). For single needle, keep the long groove of needle facing the left of the operator. See Fig (b).

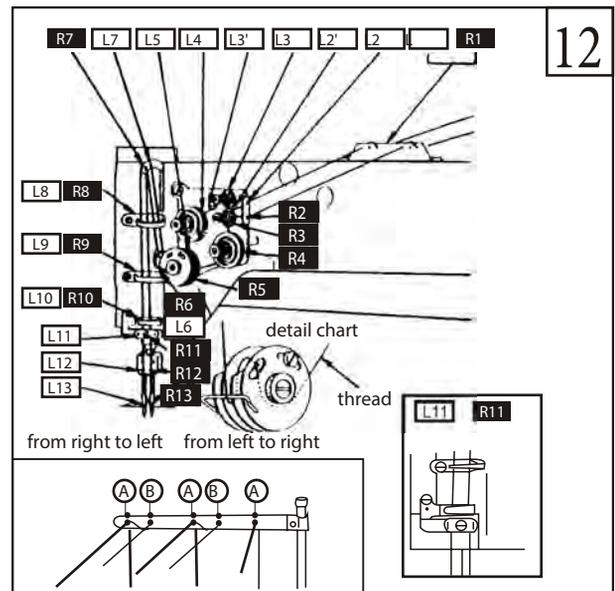
Note: Fig.(c): insufficient insertion.

Fig.(d): wrong direction of needle long groove in insertion.



4.3.3 Threading (Fig.12)

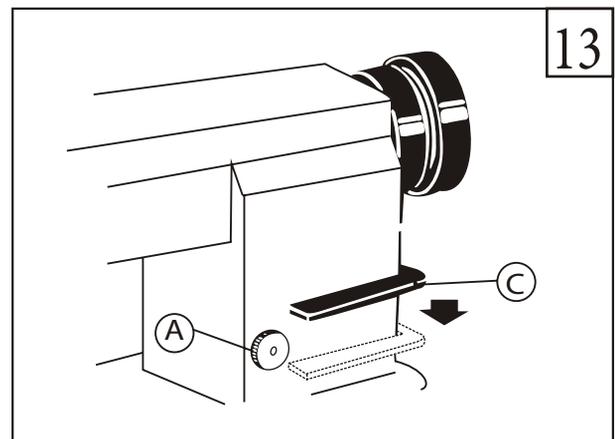
Every thread should be drawn through Thread Hole A, when use light and smooth thread (polyester or long silk thread), it should be drawn through Hole B, Keep the thread take-up lever in its highest position, draw every thread in the following numerical order.



4.3.4 The stitch length and forward and reverse sewing control (Fig.13)

The stitch length can be regulated by Stitch Length Dial (A). Turn it counter-clockwise to expand its length and clockwise to shorten its length. The numbers on Dial (A) show the sizes of the stitch length in mm.

For reverse feed, press down Release Feed Lever (C) to perform reverse sewing, Release the lever, the reverse feed lever can reset automatically and the forward sewing is resumed.

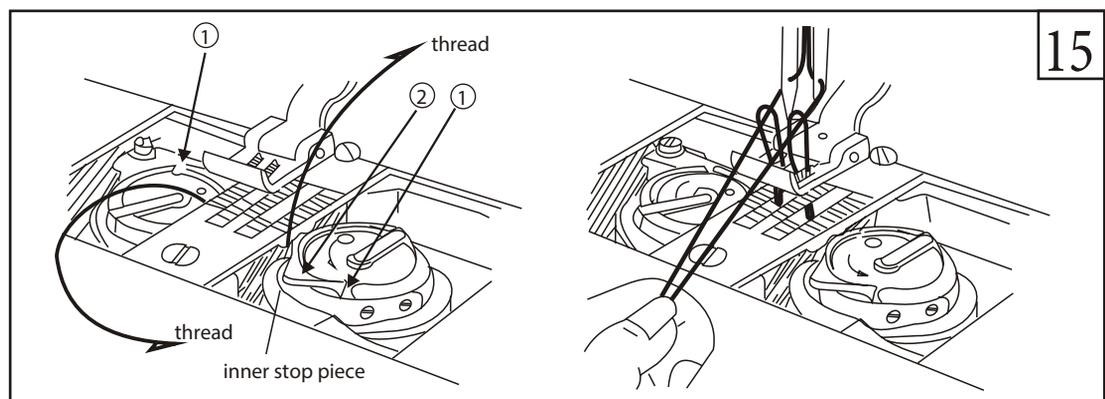
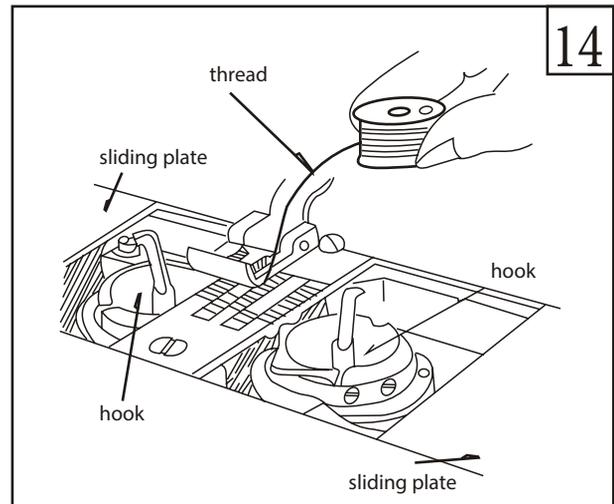


4.3.5 Placing bobbin (Fig.14)

Note: when bobbin is placed into the bobbin case, the thread should be wound properly in the correct direction shown in the figure.

4.3.6 Drawing thread from the bobbin (Fig.15)

- a. Draw the thread end to Bobbin Slot (1) shown in the figure, and pull it out down through the inner bobbin stop piece.
- b. Hold the thread with left hand, turn the balance wheel slowly and get the bobbin thread, then draw them a little apart from the presser foot.

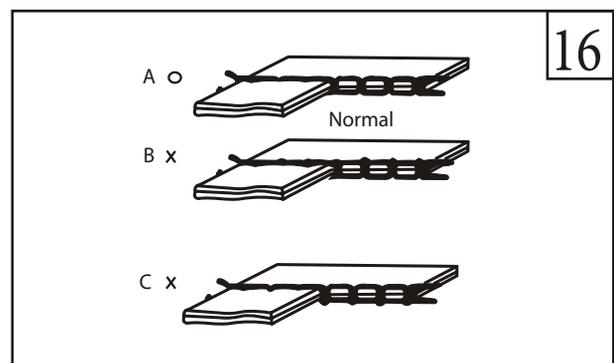


5. Machine Adjustment

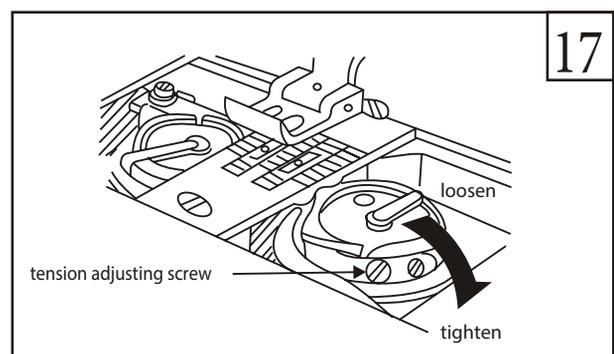
5.1 Thread tension adjustment

All forms of stitches are shown in Fig. 16.

The normal stitch of sewing machine is shown as Fig.(A) If stitch is abnormal, the puckering and thread breakage will occur, and the needle thread tension and bobbin thread tension should be adjusted so that the normal stitch can be obtained.

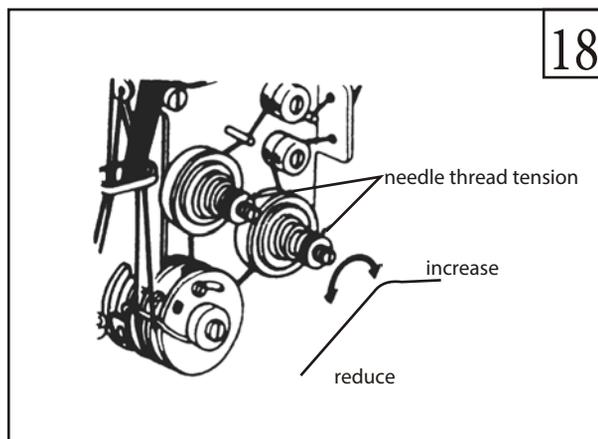


- a. If the stitch seam shows as Fig. 16B, indicates that the needle thread or bobbin thread tension is too loose, then turn the thread tension screw counter-clockwise to release the needle thread pressure; or turn the adjusting screw with a screwdriver to increase the bobbin thread tension. (see Fig. 16, 18)



b. If the needle thread is too loose and the bobbin thread is too tight, then shows as Fig. 16C, And turn the thread tension screw clockwise to increase the needle thread tension; or turn loose the bobbin lace screw to reduce the bobbin thread tension. (See Fig. 17, 18)

For special sewing with special thread, the tension need can be obtained by adjusting the power and stroke of the thread take-up spring.

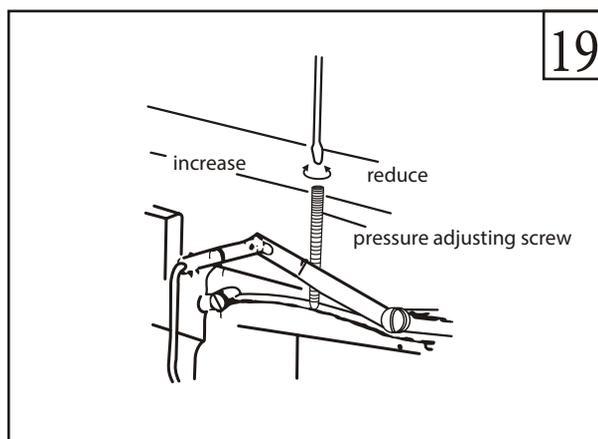


5.2 Adjusting the pressure of presser foot (Fig. 19)

The pressure of the presser foot should be adjusted according to the thickness of the sewing materials. If stitch on heavy duty material, the pressure should be increased and turn the pressure adjusting screw on the back of the arm clockwise if reduce the pressure, turn it counter-clockwise.

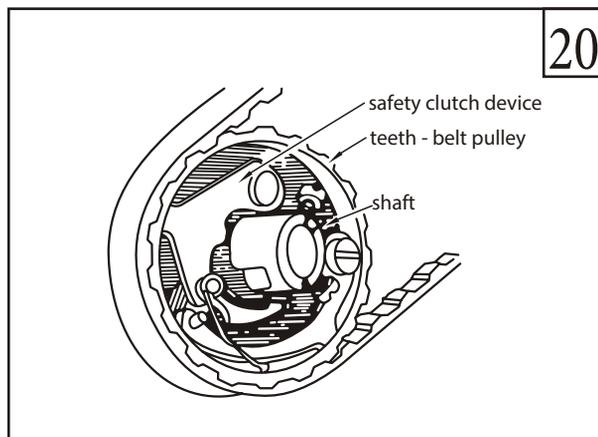
5.3 Use and adjustment of the safety clutch device

The function of the safety clutch device is to prevent the hook and teeth-belt from destroy when the needle thread is drawn into the hook for a normal load during the operation.



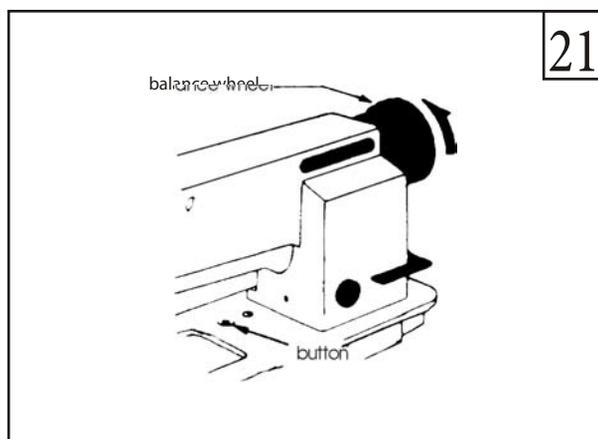
5.3.1 The function of the safety clutch device (Fig. 20)

- When the safety clutch device is functioning, the teeth-belt will remove the load and the rock shaft will stop rotating, only the upper shaft rotates, and the machine stops work.
- Clean off the needle thread which is drawn in the hook.
- Turn the shaft of the teeth-belt with hand to check if the rock shaft can turn smoothly, then reset the safety clutch device.

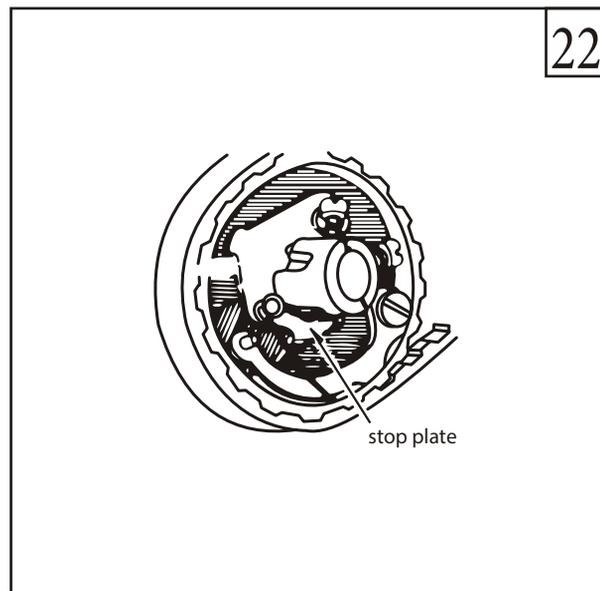


5.3.2 Resetting the safety clutch device.

- While press down the button in the bed surface with left hand, turn the balance wheel slowly with right hand in the direction shown in Fig. 21.

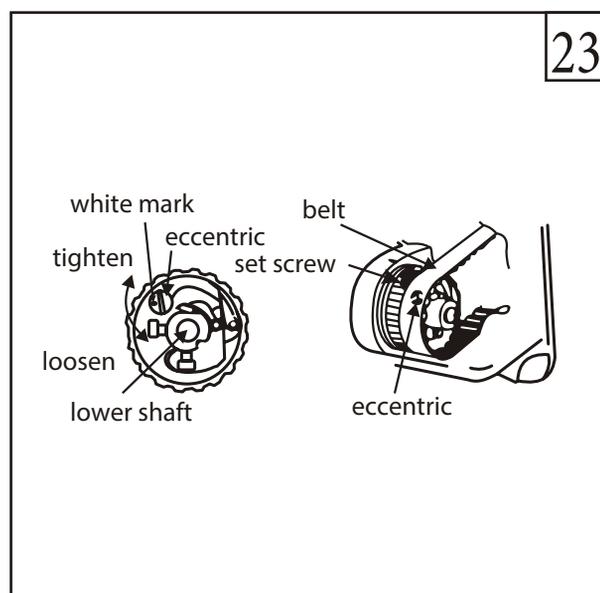


- b. When the stop plate stops the balance wheel, more strength is needed to turn the balance wheel to reset the safety clutch device.
- C. Release the button in the bed. So the resetting of it is OK. (See Fig.22)



5.3.3 Regulating the strength on the safety clutch device(Fig.23)

- a. When the white mark of the eccentric pin aims at the center of the rock shaft, indicates that the strength on the safety clutch device is the minimum. When the white mark points outward, the strength is properly increased.
- b. For regulating the strength of it, move the teeth - belt and loosen the set screw of the eccentric pin, and turn the eccentric pin.
- c. After regulation, please tighten the set screw.

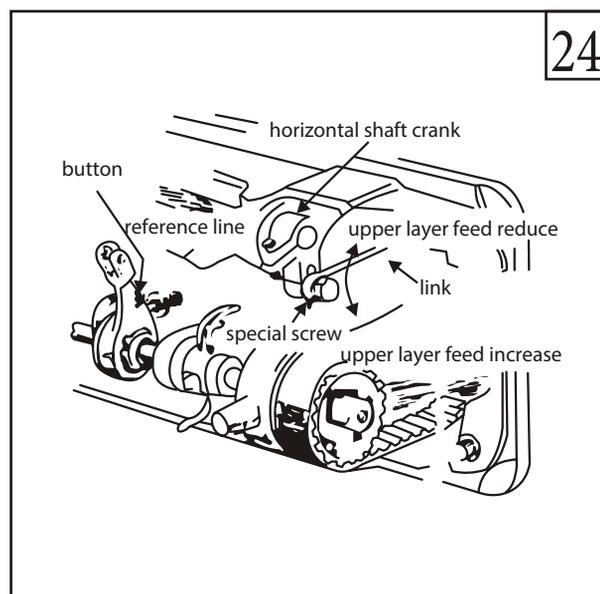


5.4 Upper feed adjustment (Fig.24)

If the upper and lower feed are not in timing during sewing, the long hole of the horizontal feed crank should be adjusted to get the length of upper feed.

Adjust as the following:

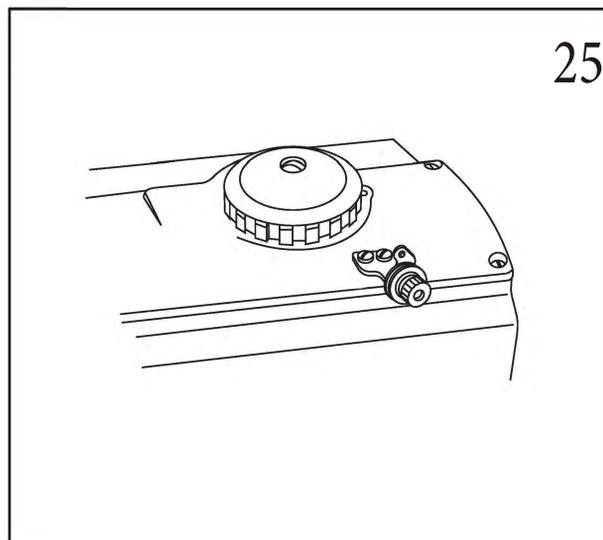
- a. Loosen the special screw.
- b. Move the special screw upward to reduce the feed amount of upper layer of material.
- c. Move the special screw downward to increase the feed amount. Theoretically when it is on the reference line of the horizontal feed crank, the upper feed amount equals to the lower feed amount.
- d. After adjustment, tighten the special screw.



5.5 Adjusting the height of the presser foot (Fig.25)

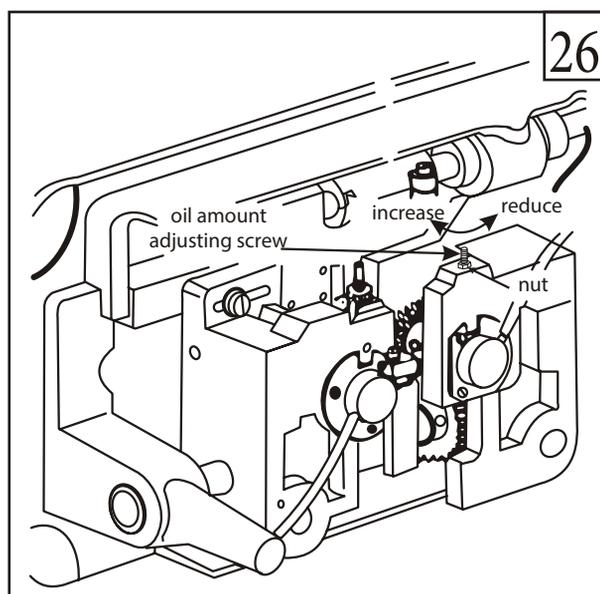
Adjust the height of the presser foot for different thicknesses of work.

1. Turn the dial to the left to lower the presser foot.
2. Turn the dial to the right to raise the presser foot.



5.6 Hook oil amount adjustment (Fig. 26)

It adopts plunger full auto lubrication system, even at very low speed, it can supply and suck oil very well. Generally only the hook oil amount can be adjusted, the other can not be adjusted. The hook oil amount can be obtained by the oil amount adjusting screw. First loosen the nut of the adjusting screw, turn the screw clockwise to increase the oil amount, on the contrary reduce the oil amount. After adjustment, tighten the nut.

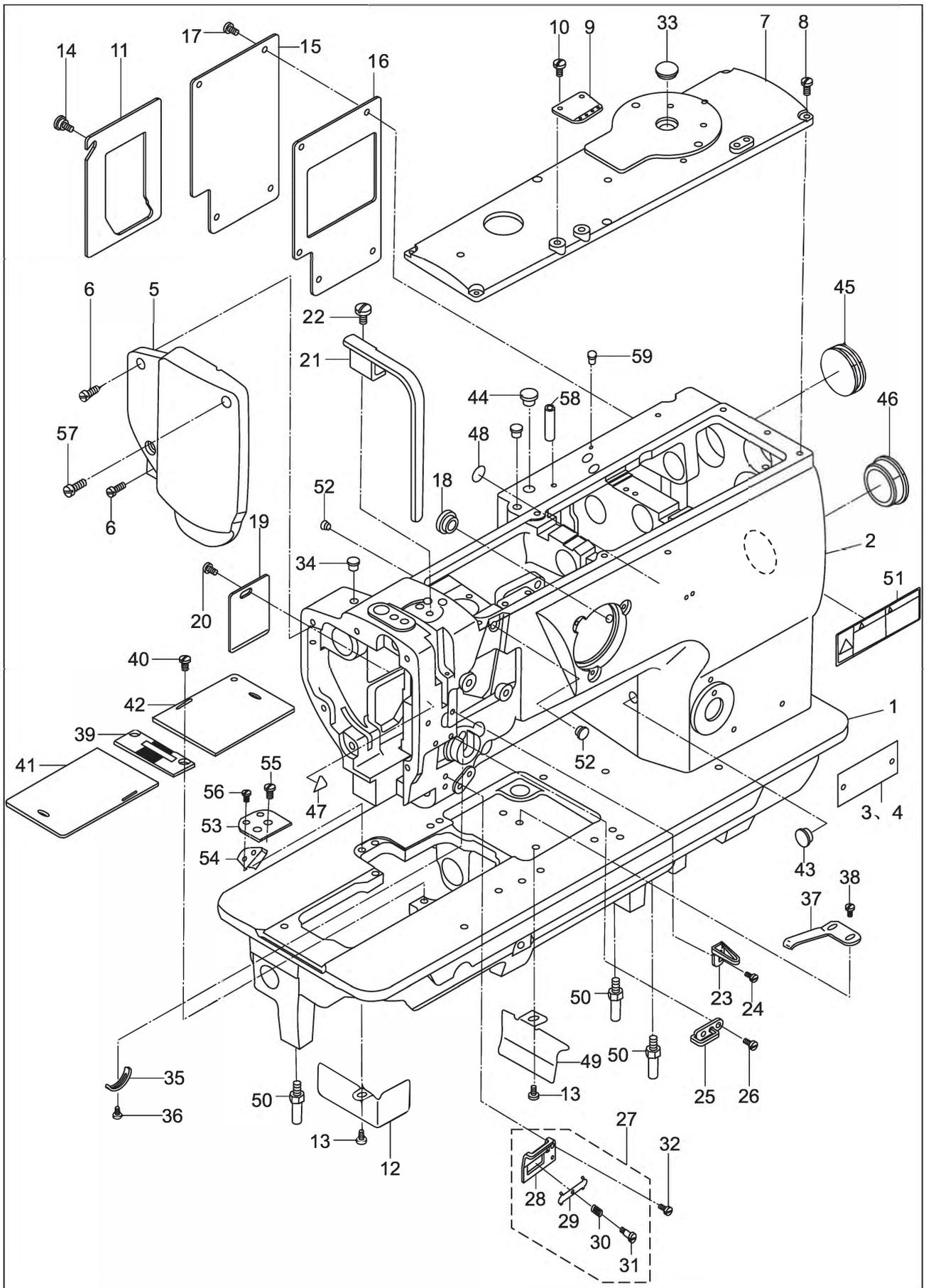


Parts Diagram

1. Arm and Bed

No.	Part Number	Name	Qt.	Remark
1	199WF2-001	Bed	1	
2	119WF2-016	Arm	1	
3	199WF2-002A	Model plate	1	
4	199WF2-002B	Model plate	1	
5	92WF2-003	Face plate assy	1	
6	1WF5-039	Screw	2	
7	92WF2-009	Top cover	1	
8	21WF4-047	Screw	6	SM11/64" x 40
9	199WF2-017	Upper thread guide	1	
10	21WF1-062	Screw	1	SM3/16" x 32
11	92WF2-007	Side cover	1	
12	199WF2-003	Cover	1	
13	21WF4-047	Screw	2	SM11/64" x 40
14	92WF2-008	Screw	1	
15	92WF3-005	Back cover	1	
16	92WF2-006	Packing	1	
17	1WF1-011	Screw	5	SM11/64" x 40
18	92WF2-030	Rubber plug	2	
19	92WF2-011	Small cover	1	
20	1WF1-011	Screw	1	SM11/64" x 40
21	92WF2-004	Thread take-up lever cover	1	
22	13WF2-045	Screw	1	SM15/64" x 28
23	92WF2-013	Thread guide	1	
24	36WF1-016	Screw	1	SM9/64" x 40
25	92WF2-014	Thread guide	1	
26	1WF1-007	Screw	2	SM9/64" x 40
27	92WF2-015	Lower thread guide assy	1	
28	92WF2-015A	Thread guide	1	
29	92WF2-015B	Plate	1	
30	92WF2-015C	Spring	1	
31	92WF2-015D	Screw	1	SM9/64" x 40
32	1WF1-007	Screw	1	SM9/64" x 40
33	17WF1-009	Rubber plug	1	
34	92WF2-029	Rubber plug	2	
35	50WF2-022	Plate for take-up spring	1	
36	1WF1-026	Screw	1	SM9/64" x 40
37	199WF2-004	Leafspring	1	
38	2KT5-005	Screw	2	SM11/64" x 40

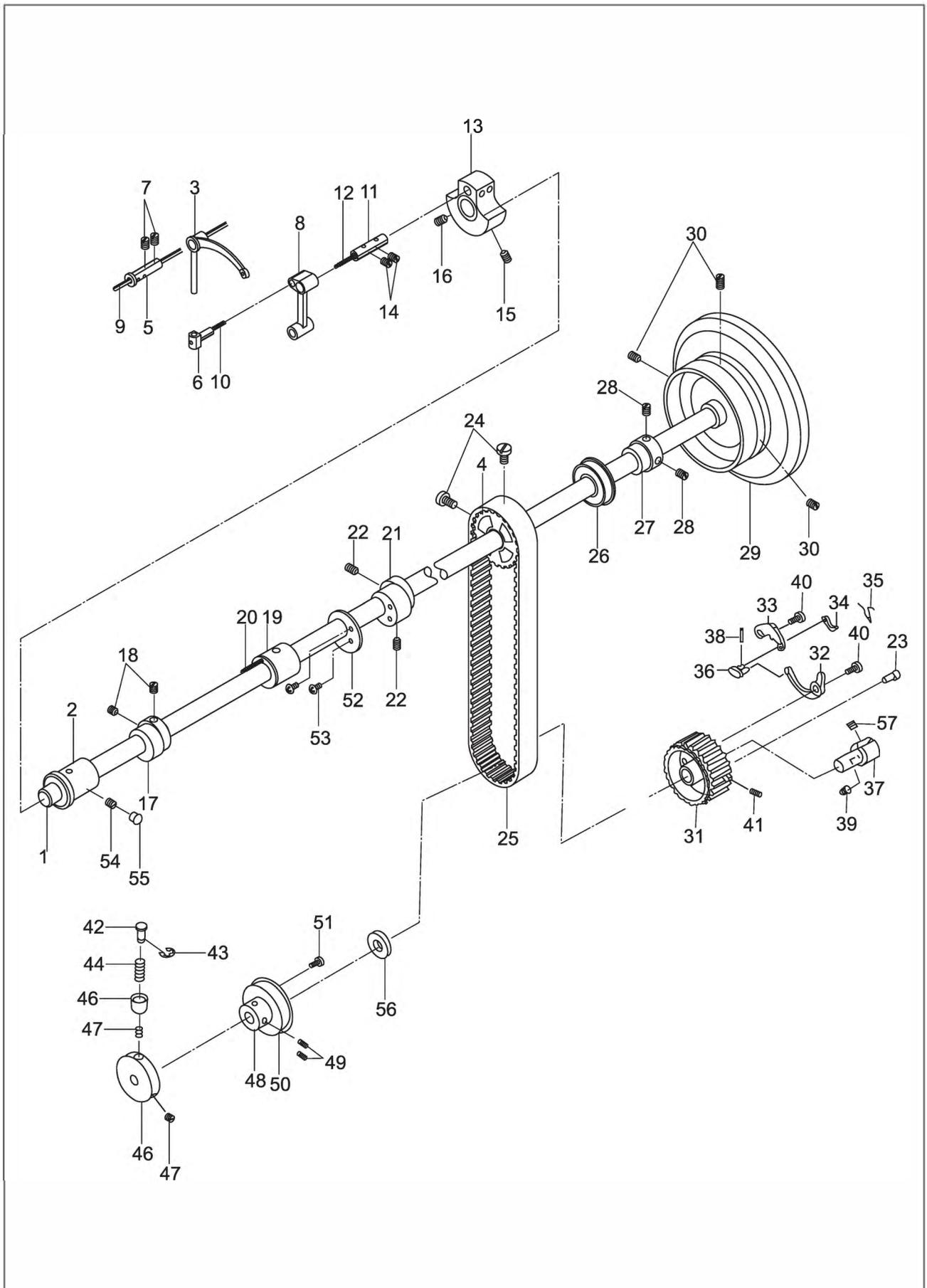
1. Arm and Bed



1. Arm and Bed

No.	Part Number	Name	Qt.	Remark
39	199WF2-005	Needle plate	1	
40	199WF2-006	Screw	2	
41	199WF2-007	Sliding plate (L)	1	
42	199WF2-008	Sliding plate (R)	1	
43	92WF2-028	Rubber plug	1	
44	92WF2-028	Rubber plug	1	
45	92WF2-032	Rubber plug	1	
46	92WF2-031	Rubber plug	1	
47	59WF1-010	Caution mark	1	
48	21WF4-050	Ground wire mark	1	
49	199WF2-009	Oil shield	1	
50	199WF2-010	Screw	3	
51	1KT1-005	Caution label	1	
52	199WF2-011	Rubber plug	2	
53	199WF2-012	Auxiliary cover	1	
54	199WF2-013	Supporter	1	
55	50WF2-031	Screw	2	
56	199WF2-014	Screw	2	SM9/64" × 40
57	26210	Screw	1	SM15/64" × 28
58		Pin	1	GB/T 879.1 4.5 × 20
59	199WF2-015	Rubber plug	2	

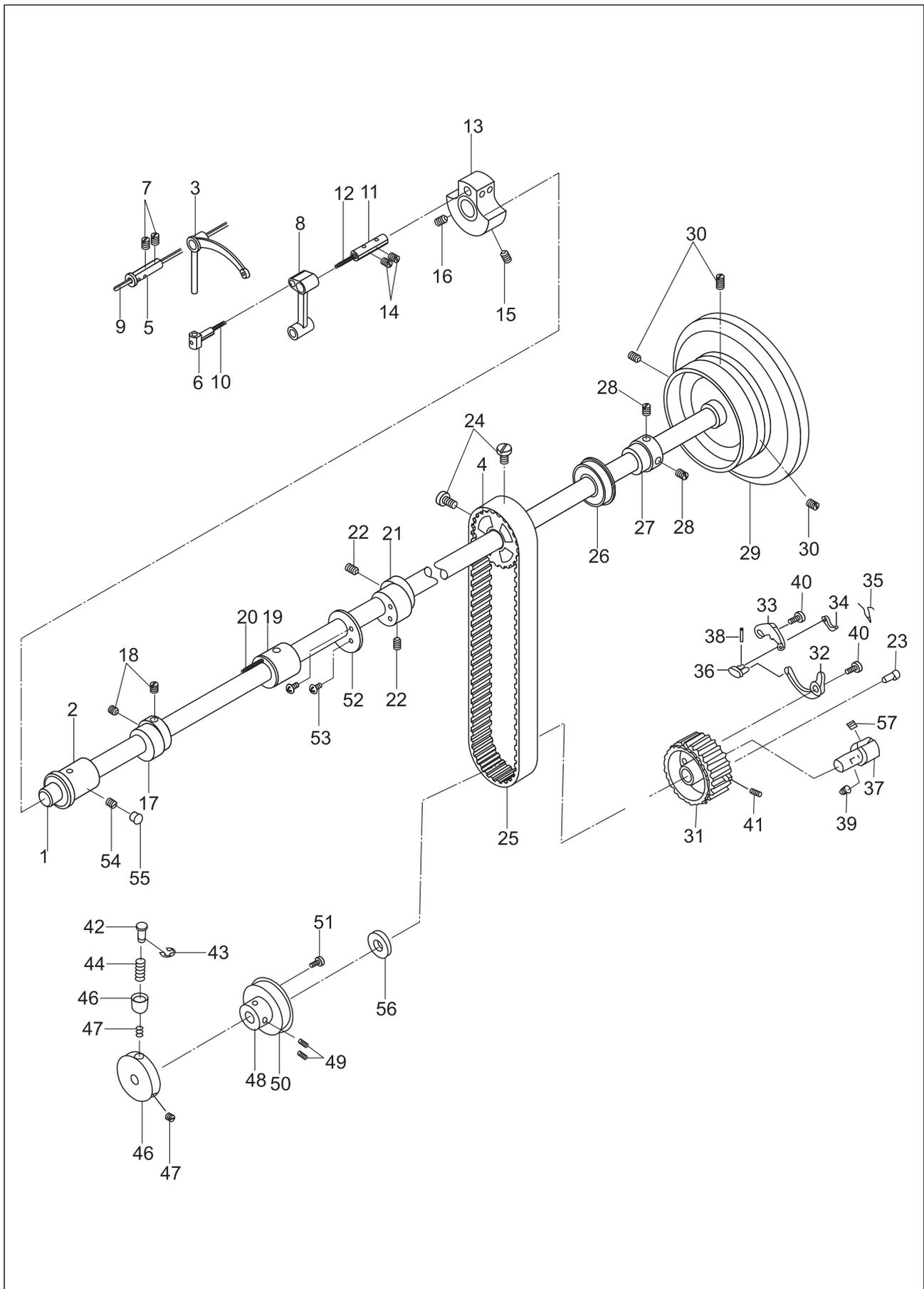
2. Arm shaft & thread take-up mechanisms



2. Arm shaft & thread take-up mechanisms

No.	Part Number	Name	Qt.	Remark
1	199WF1-051	Arm shaft	1	
2	92WF1-009	Front bushing, arm shaft	1	
3	199WF1-001	Thread take-up lever	1	
4	199WF1-002	Synchronized pulley assy	1	
5	16WF1-010	Pin shaft	1	
6	50WF1-006	Slide block	1	
7	1WF50-019	Screw	2	SM15/64" × 28
8	92WF1-006	Needle bar link	1	
9	199WF1-003	Oil wick	1	Φ2.5 × 450
10	199WF1-004	Oil wick	1	L=30
11	50WF1-008	Pin	1	
12	199WF1-005	Wick	1	Φ7 × 30
13	92WF1-007	Needle bar crank	1	
14	1WF5-019	Screw	2	SM15/64" × 28
15	50WF1-013	Screw	1	SM9/32" × 28
16	20T2-007	Screw	1	SM9/32" × 28
17	92WF3-014	Feed cam	1	
18	1WF2-010	Screw	2	SM1/4" × 40
19	92WF1-010	Middle bushing, arm shaft	1	
20	199WF1-006	Wick	1	Φ2 × 150
21	92WF3-029	Feed eccentric cam	1	
22	1WF2-010	Screw	2	SM1/4" × 40
23	22WF1-015	Pin	1	
24	92WF1-014	Screw	2	
25	92WF1-034	Teeth belt	1	
26	36WF3-019A	Upper bearing	1	50105 25 × 47 × 12
27	92WF1-011	Bushing	1	
28	57WF-009	Screw	2	M6
29	92WF1-015	Hand wheel	1	
30	42WF3-007	Screw	2	
31	110WF1-017	Lower synchronized pulley	1	
32	22WF1-013	Leafspring	1	
33	22WF1-018	Stop plate	1	
34	22WF1-016	Stop plate	1	
35	22WF1-014	Twist spring	1	
36	22WF1-017	Link	1	
37	103614	Bushing	1	
38	B225001	Pin	1	GB91-86 1.2 × 8

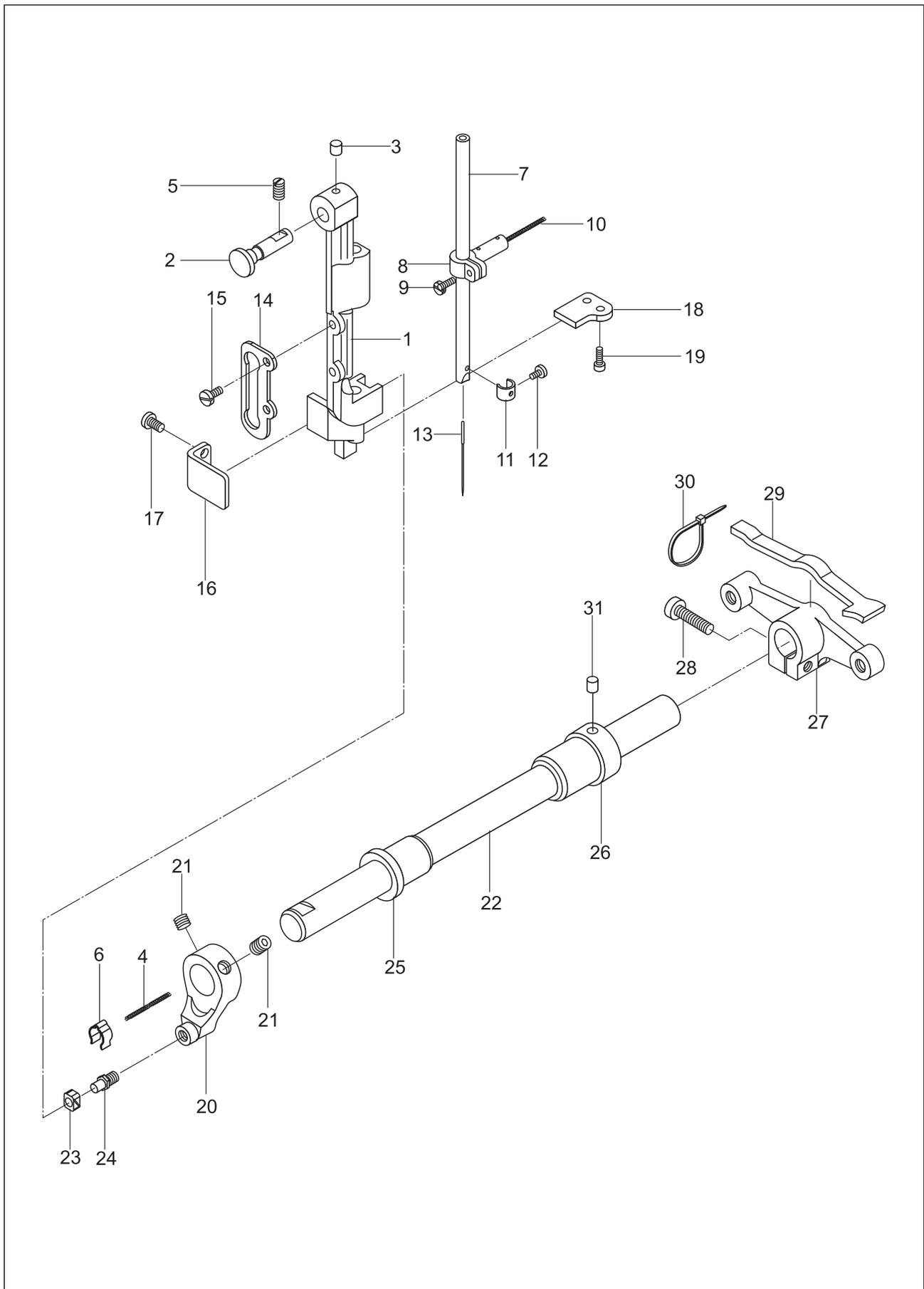
2. Arm shaft & thread take-up mechanisms



2. Arm shaft & thread take-up mechanisms

No.	Part Number	Name	Qt.	Remark
39	22WF1-052	Screw	1	SM1/4" × 40
40	22WF1-019	Screw	2	
41	22WF1-020	Screw	2	
42	199WF1-020	Push button	1	
43		Retaining ring	1	GB896 5
44	199WF1-021	Spring	1	
45	199WF1-022	Bushing	1	
46	199WF1-023	Wheel	1	
47	18227	Screw	1	SM1/4" × 40
48	199WF1-024	Collar	2	
49	21WF1-022	Screw	1	SM1/4" × 40
50		Bearing	2	50104 20 × 42 × 12
51	199WF1-025	Screw	1	
52	92WF3-030	Retaining block	2	
53	7WF5-017	Screw	1	SM11/64" × 40
54	1WF5-019	Screw	2	SM15/64" × 28
55	92WF2-029	Rubber plug	1	
56	199WF1-026	Washer	2	
57	22WF1-012	Screw	1	

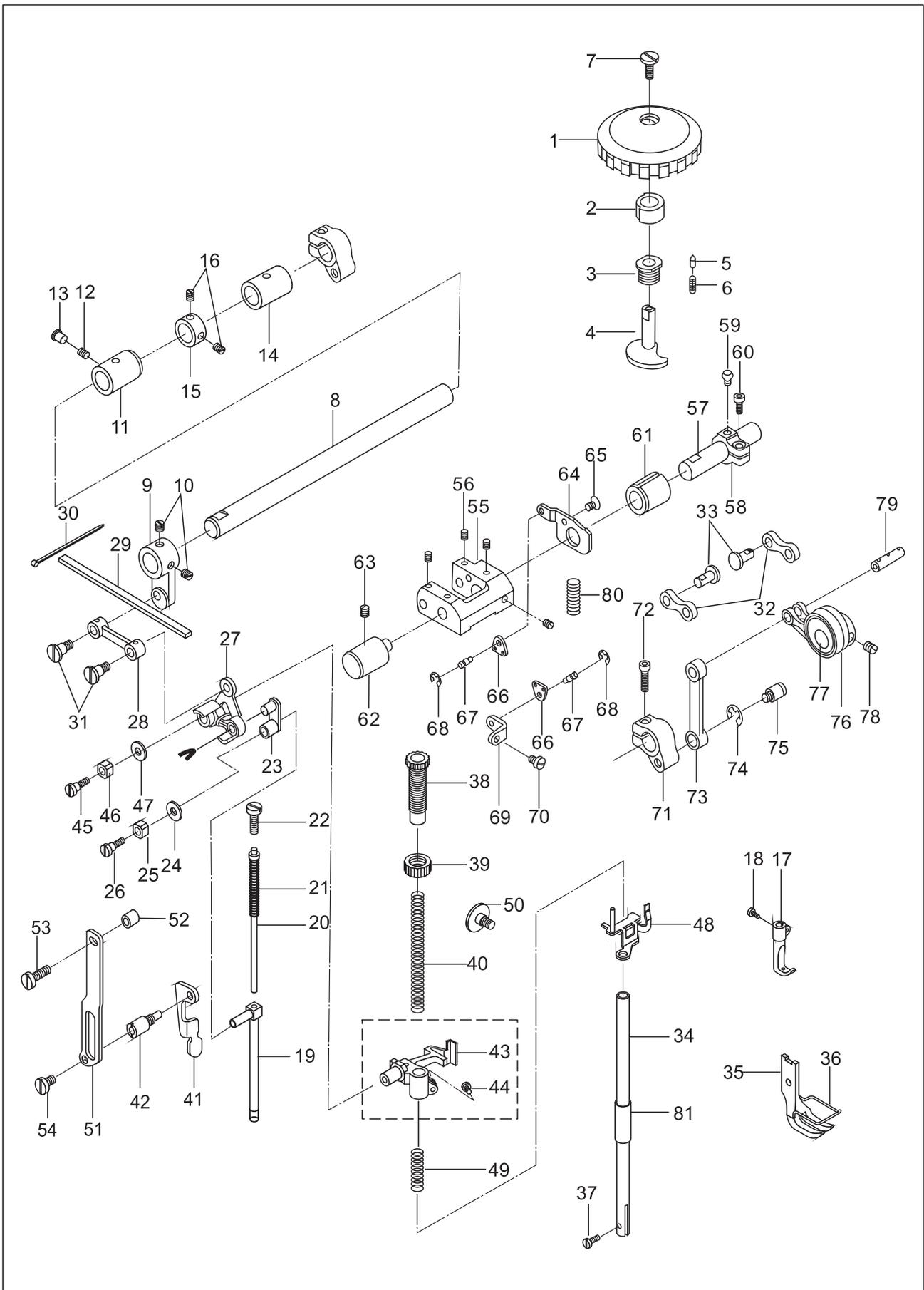
3. Needle bar & swing mechanisms



3. Needle bar & swing mechanisms

No.	Part Number	Name	Qt.	Remark
1	92WF3-008	Needle bar rocking bracket	1	
2	92WF3-009	Pin	1	
3	92WF3-007	Oil felt	1	
4	199WF3-001	Oil wick	1	Φ2 × 160
5	42WF3-007	Screw	1	
6	92WF3-003	Leafspring	1	
7	50WF1-001	Needle bar	1	
8	50WF3-003	Needle bar joint	1	
9	36WF3-029B	Screw	1	
10	199WF3-002	Oil wick	1	Φ6 × 20
11	92WF1-003	Needle bar thread guide	1	
12	22T2-017	Screw	1	SM1/8" × 44
13		Needle	1	DP × 17 24#
14	50WF3-030	Guide rail	1	
15	1WF1-011	Screw	2	SM11/64" × 40
16	92WF3-011	Position plate	1	
17	W01111	Screw	2	SM11/64" × 40
18	92WF3-010	Position plate	1	
19	21WF1-054	Screw	2	SM91/64" × 40
20	92WF3-002A	Crank	1	
21	92WF3-070	Screw	2	
22	92WF3-001	Rocking shaft	1	
23	92WF3-004	Slide block	1	
24	92WF3-002B	Pin	1	
25	92WF3-005	Front bushing	1	
26	92WF3-006	Rear bushing	1	
27	92WF3-012	Crank	1	
28	52WF1-050	Screw	1	
29	92WF3-013	Oil felt	1	
30	2KT-001A	Band	1	
31	92WF3-007	Oil felt	1	

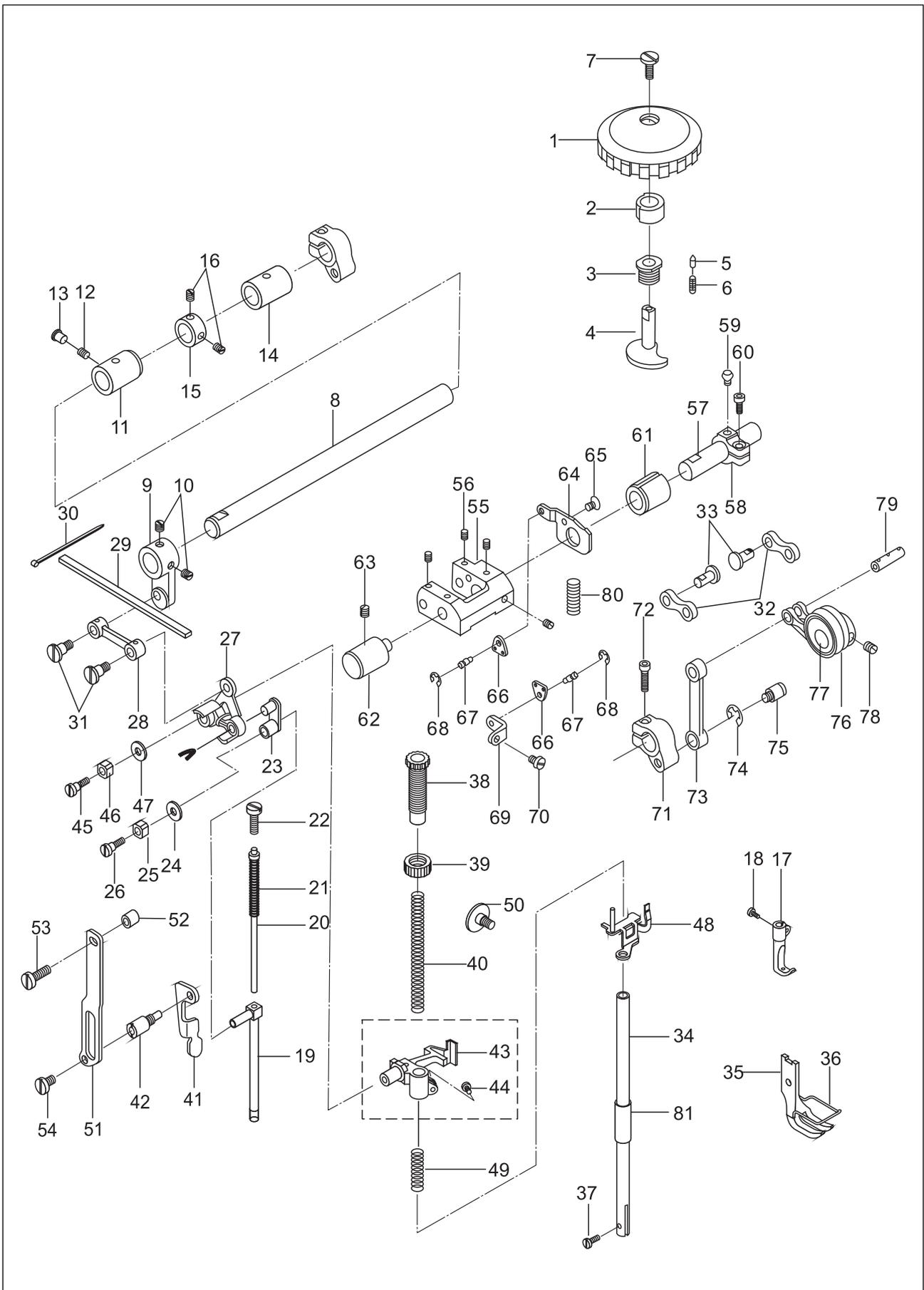
4. Upper feed mechanisms



4. Upper feed mechanisms

No.	Part Number	Name	Qt.	Remark
1	119WF7-017A	Dial	1	
2	119WF7-017B	Bushing	1	
3	119WF7-019	Bushing	1	
4	119WF7-018	Shaft	1	
5	994131	Pin	1	
6	93WF8-002	Spring	1	
7	302395	Screw	1	
8	92WF3-018	Shaft	1	
9	92WF3-019	Crank	1	
10	2KT5-027	Screw	2	SM1/4" × 40
11	199WF4-001	Front bushing	1	
12	1WF5-019	Screw	1	SM15/64" × 28
13	92WF2-029	Rubber plug	1	
14	92WF3-021	Rear bushing	1	
15	92WF3-022	Collar	1	
16	22T3-002B2	Screw	2	SM1/4" × 40
17	92WF3-023	Walking foot	1	
18	50WF3-020	Screw	1	
19	50WF3-018	Walking foot lifting bar	1	
20	92WF3-024	Spring guide bar assy	1	
21	50WF3-032	Spring	1	
22	6K1-048	Regulating screw	1	SM15/64" × 28
23	50WF3-027	Link	1	
24	50WF3-028	Felt	1	
25	50WF3-029	Slide block	1	
26	20T4-006	Screw	1	SM11/64" × 40
27	92WF3-025	Lifting plate	1	
28	92WF3-026	Link	1	
29	92WF3-027	Oil felt	1	
30	2KT7-001A	Band	2	
31	92WF3-028	Screw	2	
32	119WF7-011	Link	2	
33	994118	Pin shaft	2	
34	22WF3-005	Presser bar	1	
35	92WF4-001	Presser foot	1	
36	92WF4-002	Finger guard	1	
37	22WF3-014	Screw	1	SM9/64" × 40
38	02WF4-003	Regulating bolt	1	SM1/2" × 28
39	1KT4-002	Nut	1	SM1/2" × 28
40	92WF4-023	Spring	1	
41	92WF4-004	Foot lift lever	1	
42	92WF4-005	Lift lever shaft	1	

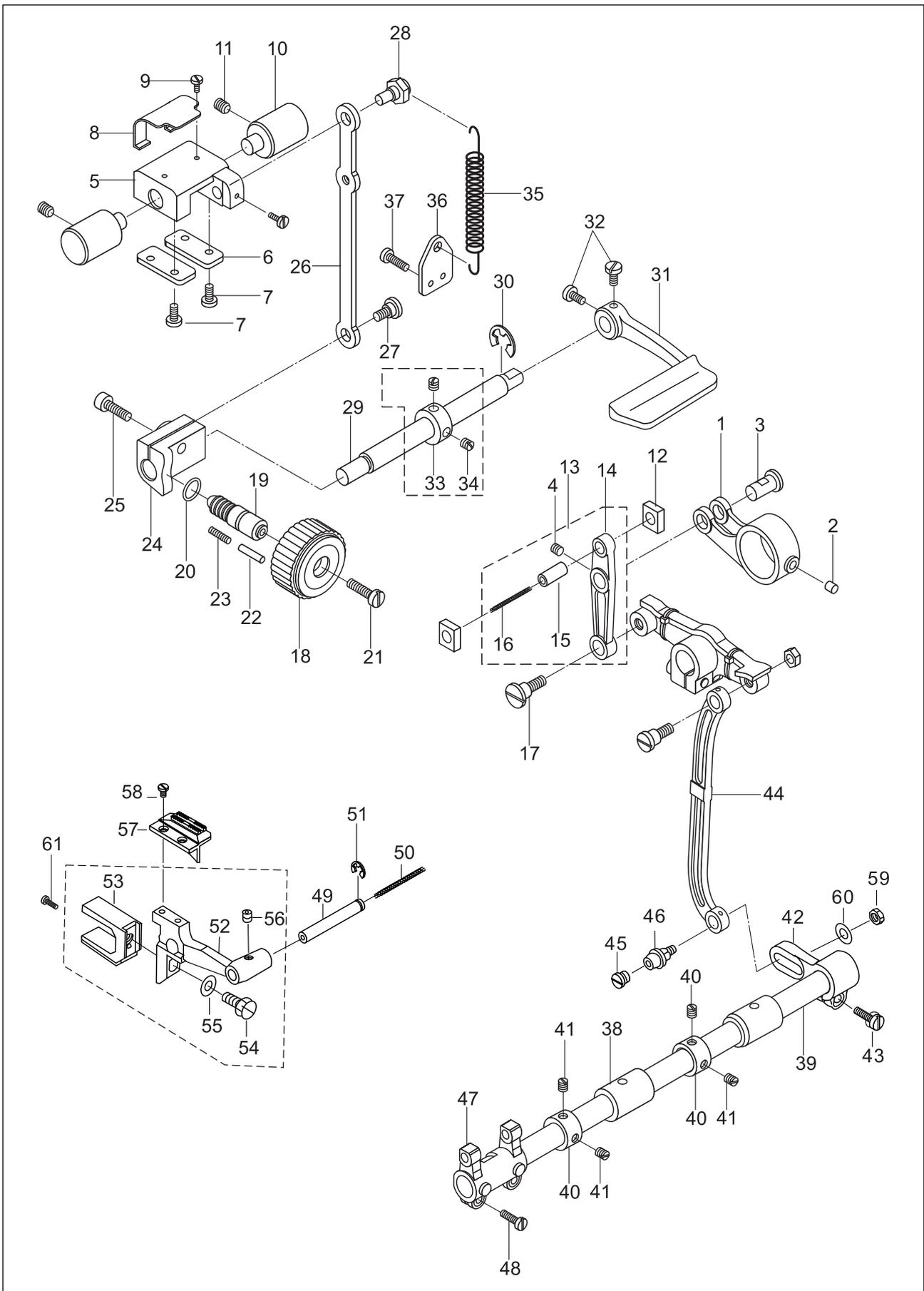
4. Upper feed mechanisms



4. Upper feed mechanisms

No.	Part Number	Name	Qt.	Remark
43	92WF4-006	Bracket	1	
44	1WF1-011	Screw	1	SM11/64" × 40
45	92WF4-007	Screw	1	
46	50WF3-029	Slide block	1	
47	92WF4-008	Washer	1	
48	92WF4-009	Releasing plate	1	
49	50WF4-013	Spring	1	
50	50WF4-014	Screw	1	
51	92WF4-010	Guide plate	1	
52	92WF4-011	Washer	1	
53	60WF4-003	Screw	1	SM15/64" × 28
54	52WF3-027	Screw	1	SM15/64" × 28
55	119WF7-001	Adjusting bracket	1	
56	6K2-043	Screw	4	
57	119WF7-003	Shaft	1	
58	119WF7-004	Crank	1	
59	119WF7-005	Screw	1	
60	72WF5-021	Screw	1	
61	119WF7-002	Bushing	1	
62	92WF3-037	Shaft	1	
63	1WF5-019	Screw	1	SM15/64" × 28
64	119WF7-012	Retaining plate	1	
65		Screw	1	GB/T819.2 M5 × 8
66	119WF7-014	Connecting plate	2	
67	119WF7-015	Screw	2	
68		Retaining ring	2	GB896 5
69	119WF7-016	Hanger	1	
70	50WF3-089	Screw	1	
71	119WF7-009	Crank	1	
72	80WF6-025	Screw	1	
73	119WF7-008B	Link	1	
74		Retaining ring	1	GB896 8
75	119WF7-010	Screw	1	
76	119WF7-008A	Link	1	
77	119WF7-007	Needle bearing	1	
78	21WF1-022	Screw	1	
79	119WF7-008C	Pin shaft	1	
80	119WF7-013	Spring	1	
81	50WF4-001	Bushing	1	

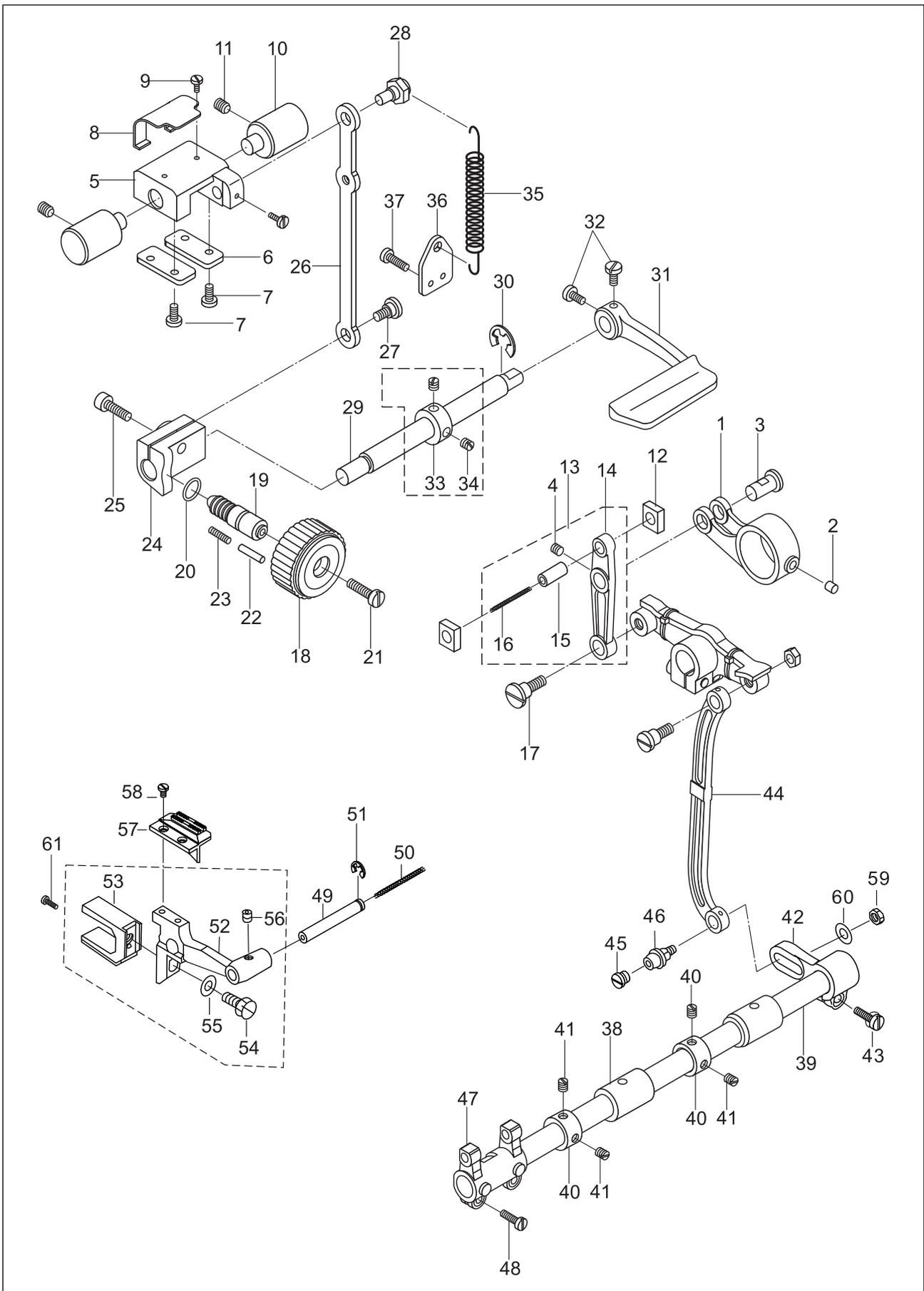
5. Lower feed, reverse and feed regulating



5. Lower feed, reverse and feed regulating

No.	Part Number	Name	Qt.	Remark
1	92WF3-031	Feed link	1	
2	92WF3-032	Oil felt	1	
3	92WF-033	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	
8	92WF3-036	Presser plate	1	
9	16WF1-059	Screw	2	SM9/64" × 40
10	92WF3-037	Shaft	2	
11	1WF5-019	Screw	2	SM15/64" × 28
12	92WF3-038	Slide block	2	
13	92WF3-039	Feed rocking bar assy	1	
14	92WF3-039A	Feed rocking bar	1	
15	92WF3-039B	Pin	1	
16	199WF3-003	Oil wick	1	Φ1.5 × 35
17	92WF3-040	Screw	1	
18	92WF3-041	Stitch regulating dial	1	
19	92WF3-042	Screw	1	
20	92WF3-043	Seal ring	1	
21	92WF3-044	Screw	1	SM3/16" × 28
22	17WF4-035	Pin	1	
23	50WF3-058	Spring	1	
24	92WF3-045	Holder	1	
25	6K2-024	Screw	1	M6
26	92WF3-046	Link	1	
27	92WF3-047	Screw	1	
28	92WF3-048	Eccentric pin	1	
29	92WF3-049	Reverse feed lever shaft	1	
30	92WF3-071	Retaining ring	1	GB896 9
31	92WF3-050	Reverse feed lever	1	
32	92WF3-051	Screw	2	
33	92WF3-052	Collar	1	
34	22T3-002B2	Screw	2	SM1/4" × 40
35	92WF3-053	Spring	1	
36	92WF3-054	Spring hook	1	
37	1WF3-009	Screw	2	SM11/64" × 40
38	92WF3-021	Feed shaft bushing	2	

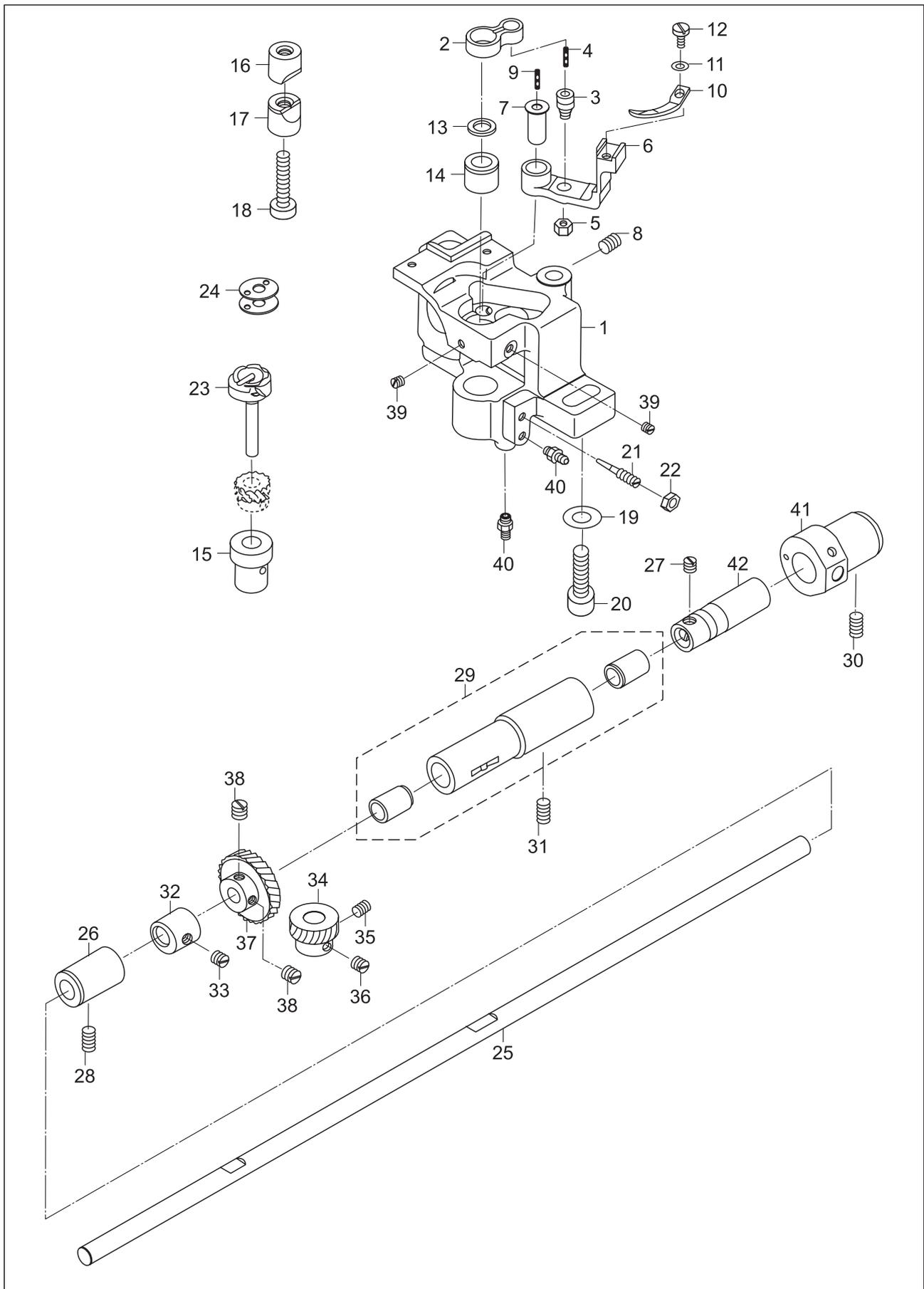
5. Lower feed, reverse and feed regulating



5. Lower feed, reverse and feed regulating

No.	Part Number	Name	Qt.	Remark
39	92WF3-055	Feed shaft	1	
40	92WF3-022	Feed shaft collar	2	
41	22T3-002B2	Screw	4	SM1/4" × 40
42	119WF3-001	Driving crank	1	
43	41WF3-018	Screw	1	SM3/16" × 28
44	92WF3-058	Link	1	
45	119WF3-003	Screw	1	
46	119WF3-002	Screw	1	
47	92WF3-060	Feed crank	1	
48	1WF3-009	Screw	2	SM11/64" × 40
49	92WF3-061	Pin	1	
50	199WF3-004	Oil wick	1	Φ2.5 × 120
51	92WF3-072	Retaining ring	1	GB896 5
52	199WF3-005	Feed dog support	1	
53	199WF3-006	Lifting fork	1	
54	42WF1-008	Screw	1	SM15/64" × 28
55	41WF1-009	Washer	1	
56	80WF6-036	Screw	1	
57	199WF3-007	Feed dog	1	
58	199WF3-008	Screw	2	
59	22WF3-004	Nut	1	
60	71WF3-058	Washer	1	
61	13WF6-008	Screw	1	

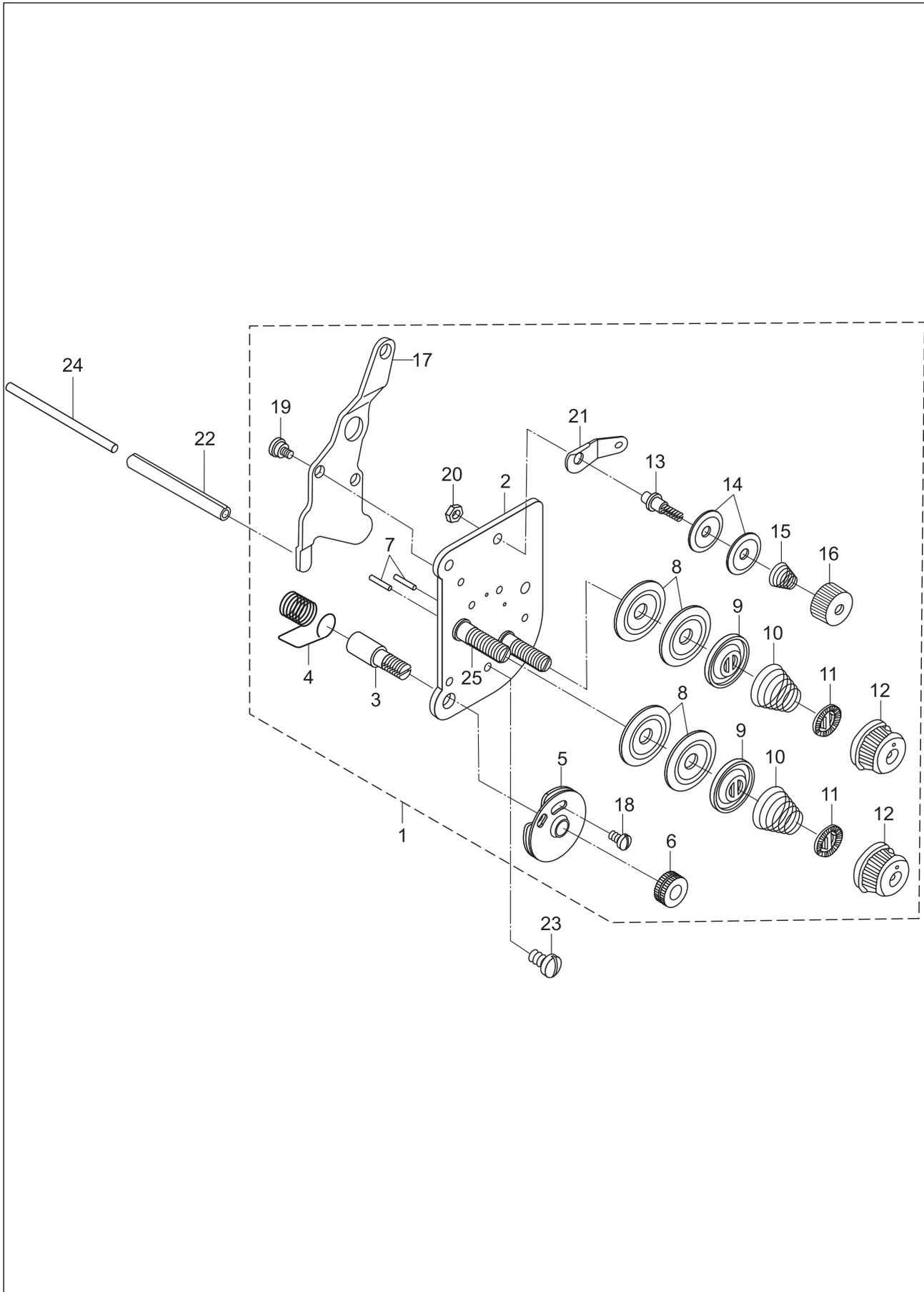
6. Lower shaft and rotating hook



6. Lower shaft and rotating hook

No.	Part Number	Name	Qt.	Remark
1	199WF1-027	Rotating hook base	1	
2	199WF1-028	Thread opener link	1	
3	199WF1-029	Pin	1	
4	199WF1-030	Oil wick	1	Φ3×15
5	27WF4-008	Nut	1	
6	199WF1-031	Thread opener supporter	1	
7	199WF1-032	Shaft	1	
8	52WF2-030	Screw	1	SM11/64"×40
9	199WF1-033	Oil wick	1	Φ3×20
10	199WF1-034	Thread opener	1	
11	36WF1-042	Washer	1	
12	21WF2-038	Screw	1	SM9/64"×40
13	199WF1-035A	Adjusting washer	1	
14	199WF1-036	Upper bushing, rotating hook	1	
15	199WF1-037	Lower bushing, rotating hook	1	
16	199WF1-038	Block A	1	
17	199WF1-039	Block B	1	
18	1WF2-060	Bolt	1	
19	199WF1-040	Washer	1	
20		Bolt	1	GB/T 70.1 M8×40
21	92WF1-031	Screw	1	
22	27WF4-008	Nut	1	
23	199WF1-041	Rotating hook assy	1	
24	1WF2-065	Bobbin	1	
25	199WF1-042	Lower shaft	1	
26	199WF1-043	Front bushing, lower shaft	1	
27	1WF2-009	Screw	1	SM1/4"×40
28	17WF4-016	Screw	1	SM15/64"×28
29	199WF1-044	Middle bushing assy	1	
30	17WF4-016	Screw	1	SM15/64"×28
31	17WF4-016	Screw	1	SM15/64"×28
32	199WF1-045	Feed dog lifting cam	1	
33	661012	Screw	1	SM15/64"×28
34	199WF1-046	Rotating hook shaft gear	1	
35	21WF1-033	Screw	1	SM1/4"×40
36	21WF1-043	Screw	1	SM1/4"×40
37	199WF1-047	Lower shaft gear	1	
38	1WF2-010	Screw	2	SM1/4"×40
39	36WF5-021	Screw	2	SM11/64"×40
40	199WF1-048	Oil tube connector	2	
41	199WF1-049	Bushing	1	
42	199WF1-050	Shaft	1	

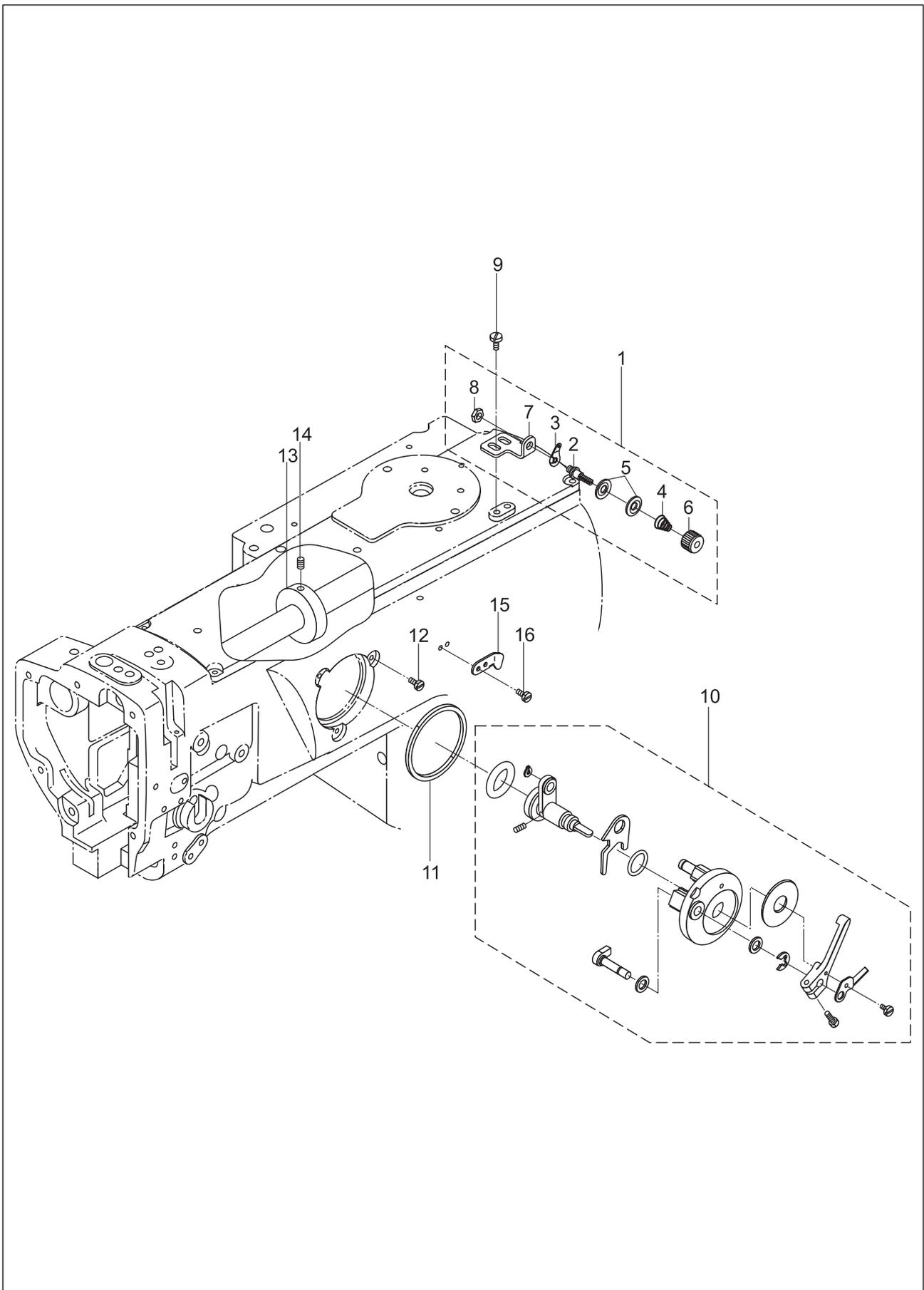
7. Tension adjusting components



7. Tension adjusting components

No.	Part Number	Name	Qt.	Remark
1	119WF2-005	Thread tensity assy	1	
2	119WF2-005A	Setting plate	1	
3	92WF2-018C	Thread take-up spring pin	1	
4	92WF2-018B	Thread take-up spring	1	
5	16WF2-046A8	Plate	1	
6	16WF2-046A11	Thumb nut	1	
7	21WF4-024	Thread release pin	1	
8	22T1-012F5	Tension disc	2	
9	22T1-012F4	Plate	2	
10	21WF4-031	Spring	1	
11	153209	Retainer	1	
12	21WF4-030	Nut	1	
13	92WF2-021A1	Bolt	1	
14	50WF2-035A4	Tension disc	2	
15	50WF3-035A3	Spring	1	
16	50WF2-035A5	Thumb nut	1	
17	119WF2-005B	Plate	1	
18	16WF2-046A9	Screw	1	
19	16WF2-046A15	Screw	2	
20	13WF2-052	Nut	1	
21	50WF2-035A2	Thread guide	1	
22		Pin	1	GB/T 879.1 6×50
23	1WF1-011	Screw	1	SM11/64"×40
24	92WF2-020	Pin	1	
25	21WF4-020	Bolt	1	

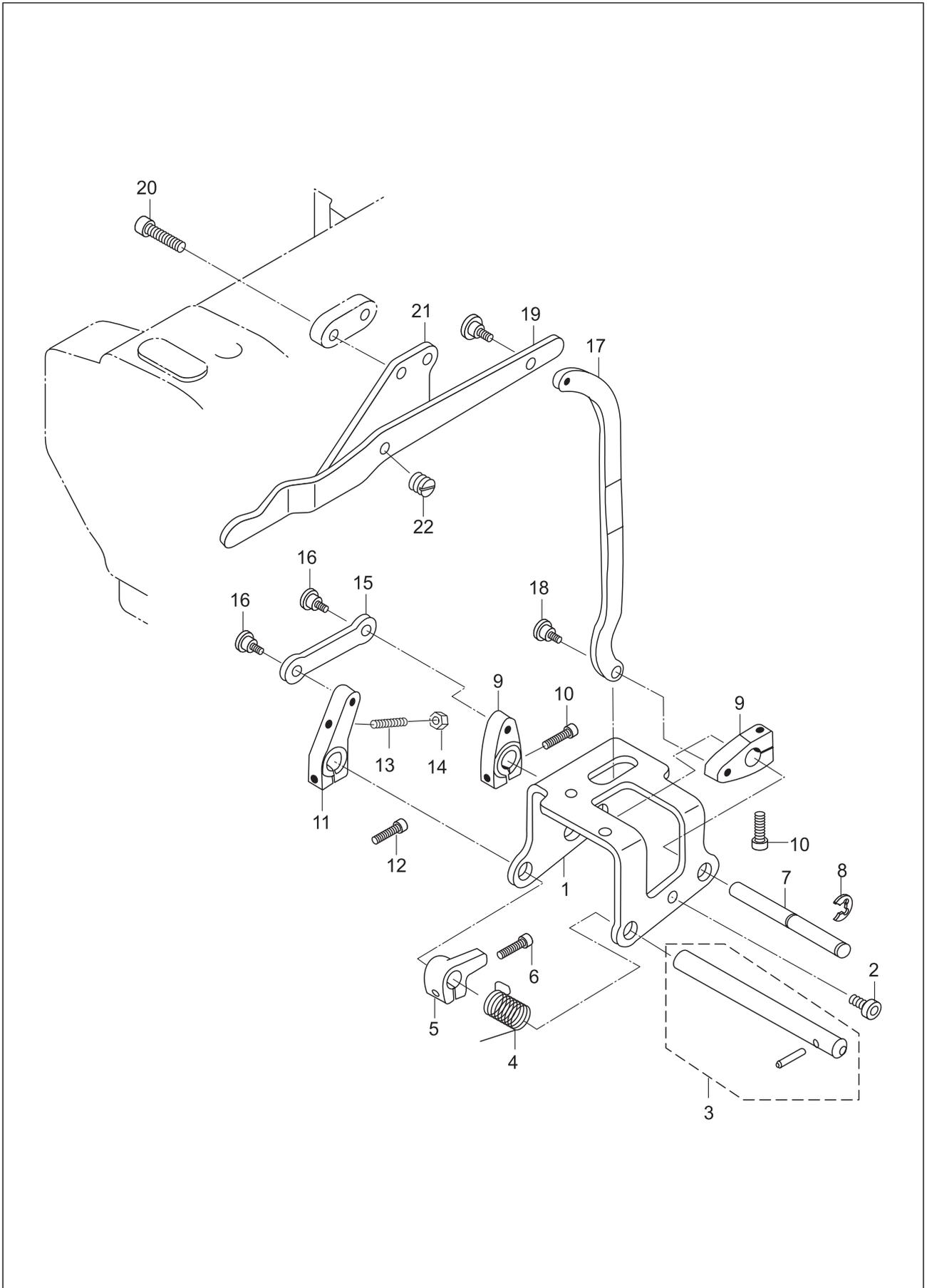
8. Winding & small tension components



8. Winding & small tension components

No.	Part Number	Name	Qt.	Remark
1	92WF2-021	Small tension assy	1	
2	92WF2-021A	Bolt	1	
3	50WF2-035A2	Thread guide	1	
4	50WF2-035A3	Spring	1	
5	50WF2-035A4	Tension disc	2	
6	50WF2-035A5	Thumb nut	1	SM11/64" × 40
7	92WF2-021B	Setting plate	1	
8	2KT5-026	Nut	1	SM11/64" × 40
9	13WF2-040	Screw	2	M4
10	92WF2-025	Thread winding assy	1	
11	92WF2-026	Friction ring	1	
12	92WF2-027	Screw	3	SM11/64" × 40
13	92WF2-035	Friction wheel	1	
14	6K2-043	Screw	2	
15	92WF2-036	Cutter	1	
16	36WF2-031	Screw	2	

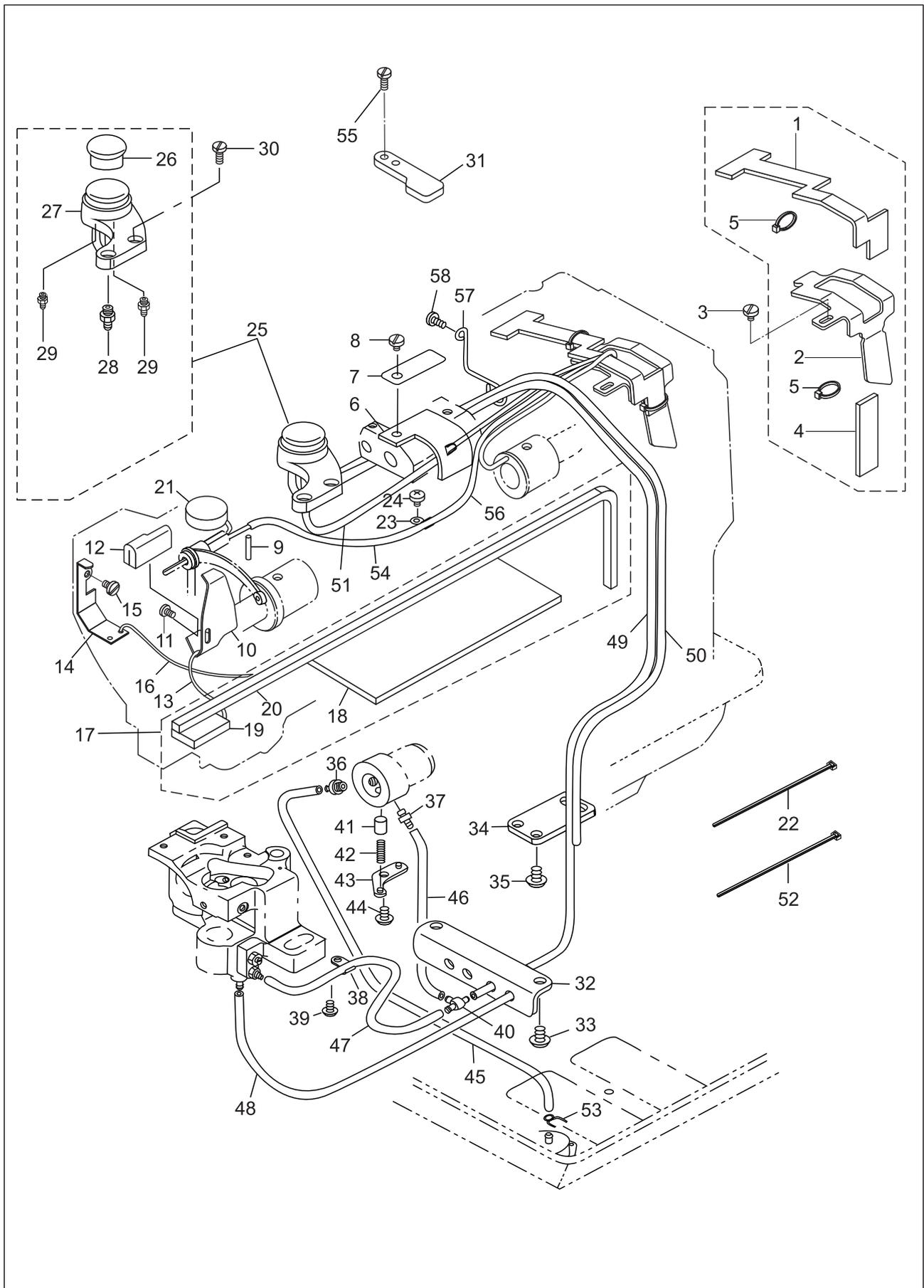
9. Knee lifting mechanisms



9. Knee lifting mechanisms

No.	Part Number	Name	Qt.	Remark
1	199WF5-001	Bracket	1	
2	52WF5-003	Screw	3	M6
3	199WF5-002	Shaft assy	1	
4	199WF5-003	Twist spring	1	
5	199WF5-004	Crank	1	
6	B188004	Screw	1	GB70-85 M5×6
7	199WF5-005	Shaft	1	
8		Retaining ring	1	
9	199WF5-006	Crank	2	
10	B188004	Screw	2	GB70-85 M5×6
11	199WF5-007	Driving crank	1	
12	B188004	Screw	1	GB70-85 M5×6
13	199WF5-008	Bolt	1	
14	72WF5-022	Nut	1	M5
15	199WF5-009	Link	1	
16	92WF4-016	Screw	2	
17	199WF5-010	Link	1	
18	92WF4-016	Connecting screw	2	
19	92WF4-013	Knee lift lever	1	
20	72WF-009	Screw	1	
21	92WF4-012	Settting plate	1	
22	92WF4-014	Screw	1	

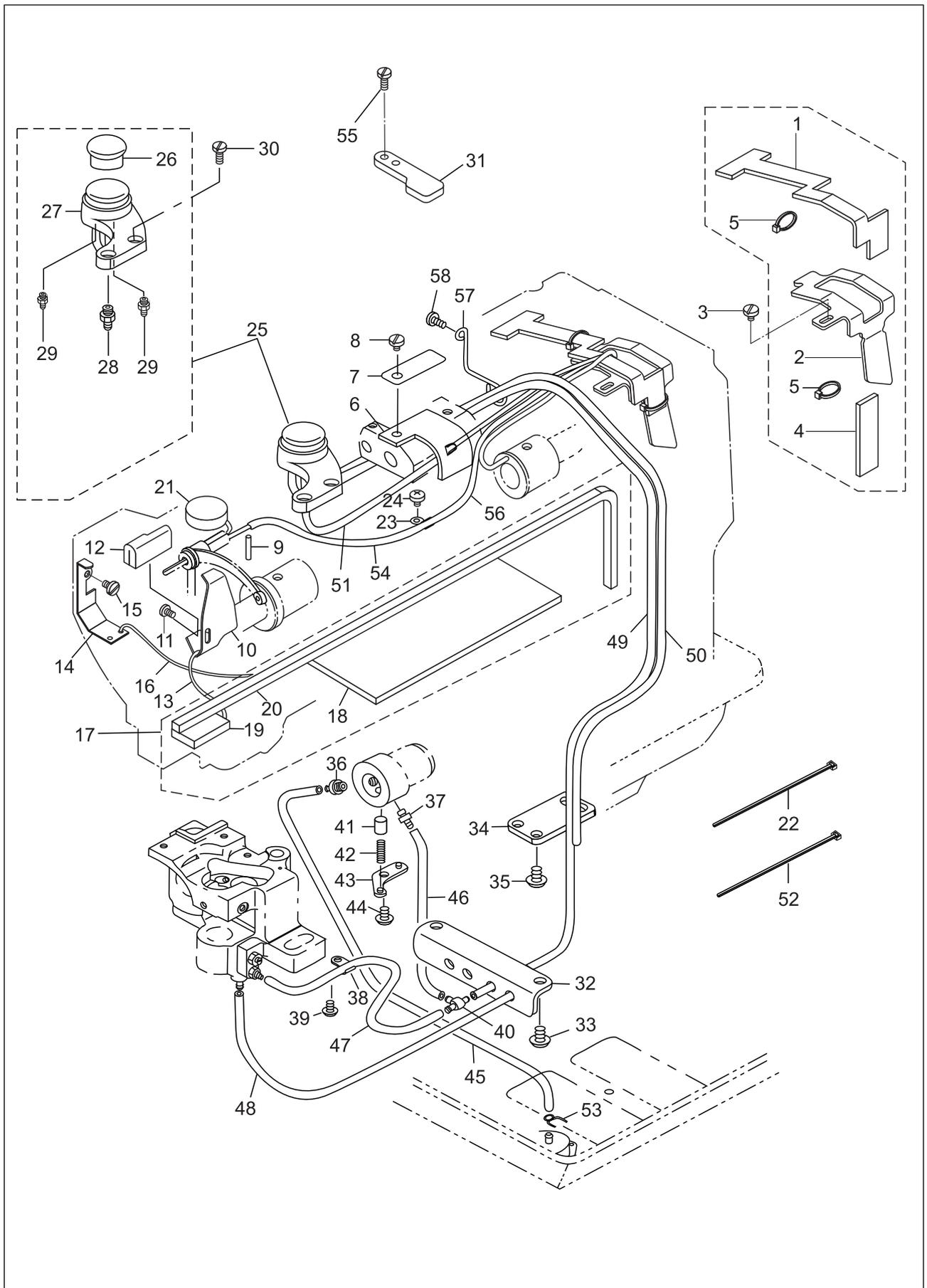
10. Lubrication components



10. Lubrication components

No.	Part Number	Name	Qt.	Remark
1	92WF5-001	Oil felt	1	
2	92WF5-002	Bracket	1	
3	1WF1-011	Screw	1	SM11/64" × 40
4	92WF5-003	Oil felt	1	
5	2KT7-001A	Band	2	
6	119WF5-003	Oil felt	1	
7	119WF5-001	Plate	1	
8	119WF5-002	Screw	1	
9	92WF5-010	Oil felt	1	
10	92WF5-011	Oil shield	1	
11	16WF1-059	Screw	1	SM9/64" × 40
12	92WF5-012	Oil felt	1	
13		Oil wick	1	Φ2 × 250
14	92WF5-013	Oil shield	1	
15	36WF1-031D	Screw	1	SM11/64" × 40
16		Oil wick	1	Φ2 × 250
17	92WF5-014	Oil felt assy	1	
18	92WF5-014A	Felt	1	
19	92WF5-014B	Felt	1	
20	92WF5-014C	Oil wick	1	
21	92WF5-009	Felt	1	
22	2KT7-001A	Band	1	
23	1WF6-036	Clip	1	
24	17WF1-020	Screw	1	SM11/64" × 40
25	199WF6-001	Oil box assy	1	
26	199WF6-001A	Oil window	1	
27	199WF6-001B	Oil box	1	
28	199WF6-002	Connector	1	
29	199WF1-048	Connector	2	
30	1WF5-042	Screw	2	SM11/64" × 40
31	92WF5-004	Plate	1	
32	199WF6-003	Bracket	1	
33	27WF5-005	Screw	2	SM15/64" × 28
34	199WF6-004	Supporter	1	
35	27WF5-005	Screw	2	SM15/64" × 28
36	199WF6-005	Connector	1	
37	199WF1-048	Connector	1	
38	1WF6-036	Clip	1	

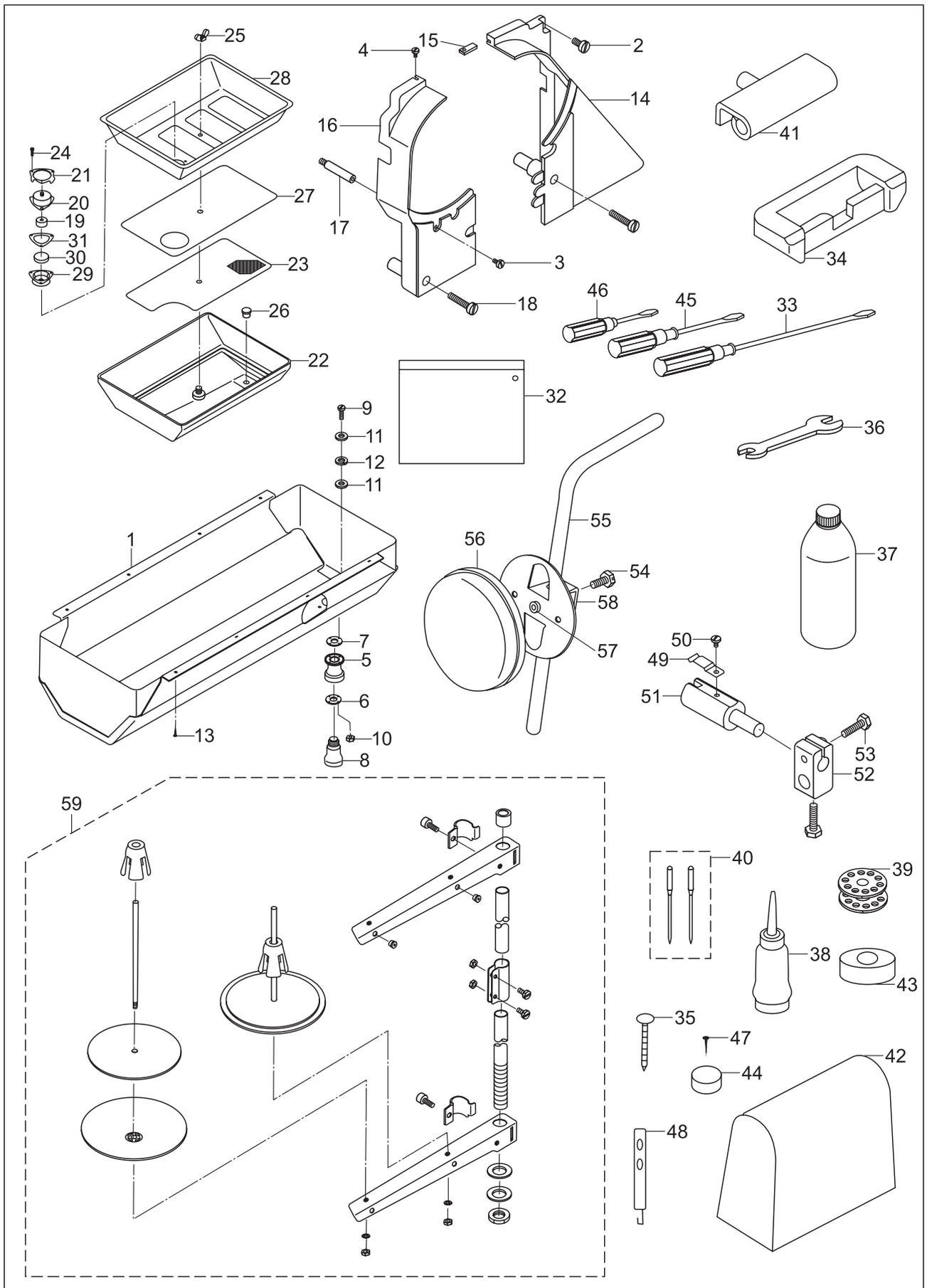
10. Lubrication components



10. Lubrication components

No.	Part Number	Name	Qt.	Remark
39	17WF1-020	Screw	1	SM11/64" × 40
40	1WF6-029	Tube connector	1	
41	199WF6-007	Plug	1	
42	199WF6-008	Spring	1	
43	199WF6-009	Plate	1	
44	17WF1-020	Screw	1	SM11/64" × 40
45	199WF6-010	Oil tube	1	Φ5 × 1 L=370
46	199WF6-011	Oil tube	1	Φ5 × 1 L=80
47	199WF6-012	Oil tube	1	Φ5 × 1 L=220
48	199WF6-013	Oil tube	1	Φ5 × 1 L=300
49	199WF6-014	Oil tube	1	Φ5 × 1 L=610
50	199WF6-015	Oil tube	1	Φ5 × 1 L=500
51	199WF6-016	Oil tube	1	Φ5 × 1 L=200
52	2KT5-001A	Band	11	
53	199WF6-017	Clip	1	
54	199WF6-018	Oil tube	1	Φ5 × 1 L=225
55	W01111	Screw	2	
56	199WF6-019	Oil wick	1	Φ5 × 480
57	199WF6-020	Setting hook	1	
58	36WF4-017	Screw	1	

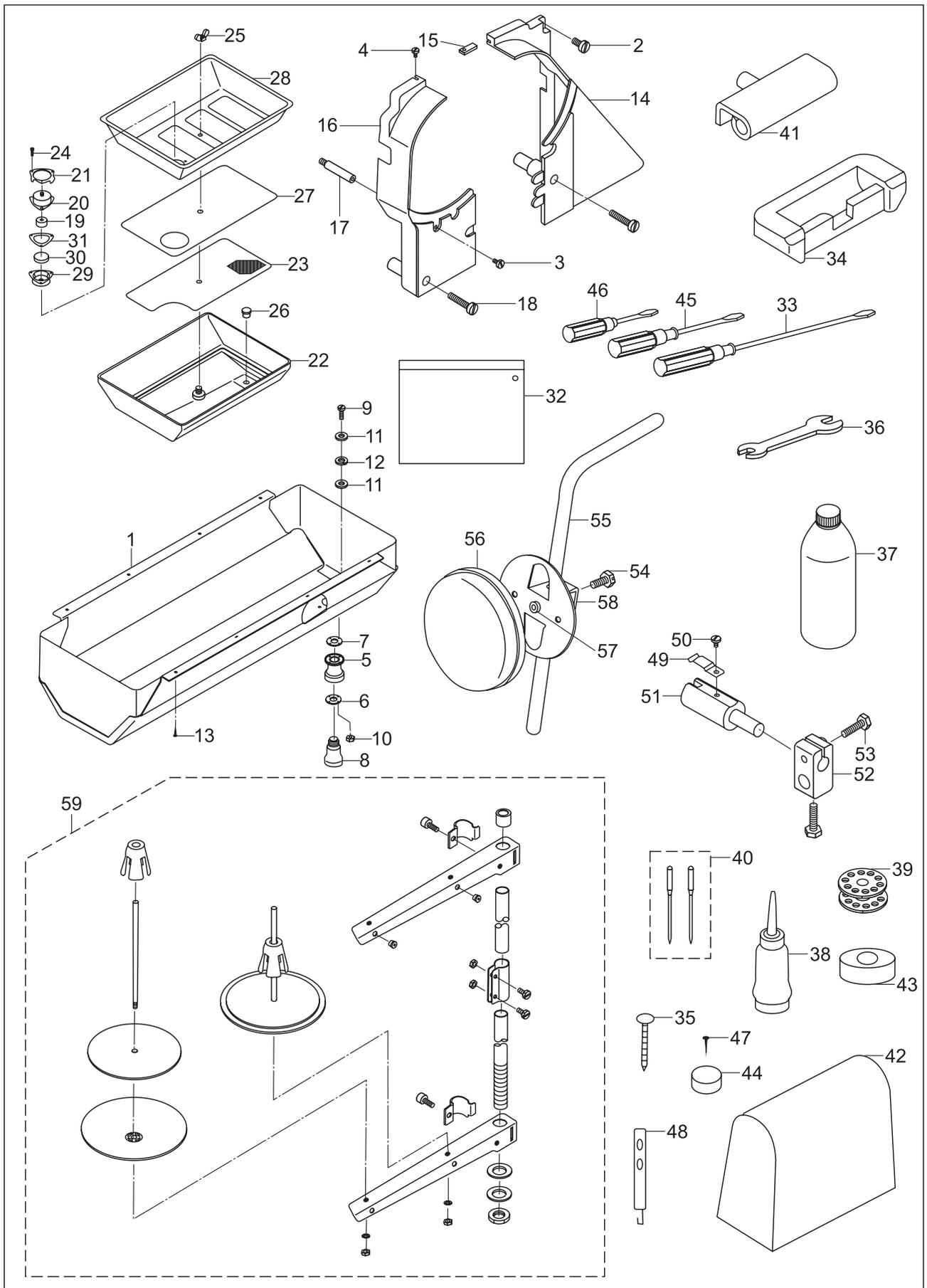
11. Accessories



11. Accessories

No.	Part Number	Name	Qt.	Remark
1	199WF7-001	Big oil pan	1	
2	21WF3-012	Screw	1	SM15/64" × 28
3	42WF2-008	Screw	1	SM11/64" × 40
4	2KT6-012	Screw	1	SM11/64" × 40
5	92WF6-018	Oil bolt	1	
6	92WF6-020	Washer	1	
7	92WF6-019	Seal	1	
8	92WF6-027	Waste oil pot	1	
9		Screw	4	GB/T818 M3 × 14
10		Nut	4	GB/T6170 M3
11	92WF6-023	Spacer	8	
12		Washer	4	GB/T95 M3
13		Wood screw	8	GB99 2.5 × 16
14	92WF6-013B	Belt cover	1	
15	92WF6-013C	Connector	1	
16	92WF6-013A	Belt cover	1	
17	92WF6-016	Supporting pole	1	
18	1WF2-060	Screw	2	SM15/64" × 28
19	199WF7-002	Filter element	1	
20	199WF7-003	Cap	1	
21	199WF7-004	Fix piece	1	
22	199WF7-005	Small oil pan	1	
23	199WF7-006	Supporter	1	
24		Screw	3	GB/T65 M2 × 10
25		Screw	1	GB62 M5
26	199WF7-007	Plug	1	
27	199WF7-008	Filter	1	
28	199WF7-009	Tray	1	
29	199WF7-010	Case	1	
30	199WF7-011	Magnet	1	
31	199WF7-012	Seal	1	
32	33TF-010	Accessories bag	1	
33	33TF-012	Screwdriver	1	
34	22T9-007F2	Hinge cushion	1	
35		Nail	8	3/4
36	92WF6-028	Wrench	1	
37	1F-009	Big oil pot	1	
38	33TF-011	Small oil pot	1	

11. Accessories



11. Accessories

No.	Part Number	Name	Qt.	Remark
39	1WF2-065	Bobbin	3	
40		Needle	3	DP × 17 24#
41	22T9-007F1	Hinge	2	
42	13F-002	Machine head cover	1	
43	92WF6-025	Cushion	1	
44	92WF6-026	Oil felt	4	
45	33TF-013	Screwdriver	1	
46	33TF-014	Screwdriver	1	
47		Nail	1	SG162 L=19
48	92WF2-037	Thread finger	1	
49	199WF7-014	Leafspring	1	
50	21WF7-015	Screw	1	SM9/64" × 40
51	199WF7-015	Connector	1	
52	199WF7-016	Crank	1	
53		Screw	2	GB/T5781 M6 × 25
54	22T9-003B7	Screw	1	
55	199WF7-017	Lever	1	
56	22T9-003B8	Cushion	1	
57	22T9-003B5	Connector	1	
58	22T9-003B6	Holder	1	
59	33TF-019	Thread stand assy	1	



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