



TYPICAL

GC24690/24690-1

**Post Bed Double/Single Needle Large Hook
Compound Feed Lockstitch Sewing Machine**

GC24690CX/24690-1CX

**Post Bed Double/Single Needle Large Hook Compound
Feed Lockstitch Sewing Machine With Thick Thread**

OPERATION INSTRUCTION / PARTS MANUAL

TYPICAL SEWING MACHINE WANPING MACHINERY CO., LTD.

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1. brief introduction

This series machines adopt sliding type take-up lever mechanism, compound feed with needle feed, bottom feed and alternating presser feet, driven by timing belt and big hook is installed. They are suitable for stitching car seat, upholstery, canvas, covers, outside clothes, etc.

2. main specifications

Application	Medium and heavy weight materials
Max. sewing speed	2000s.p.m
Max. stitch length	10mm
Needle bar stroke	33.2mm
Presser foot lift height	8.5mm by hand 13mm by knee
Hook	Large vertical auto-lubricating hook
Lifting amount	2.7~6mm(standard 3.2mm)
Needle	DP×17 24 [#] (thick thread 25 [#])
Thread	20 [#] ~ 5 [#]
Lubrication	Semi-lubrication

3. operation preparation

1. Clearing the machine

Before the head is packed, all of the parts of the machine are coated with anti-rust grease, meanwhile the grease can harden and the dust can cover the machine surface during long time storage and shipment, so, the dust and grease must be cleared by clean cloth with gasoline.

2. Examination

Although every machine is conformed by strict inspection and test before delivery, the parts of the machine may be loose and deformed after long distance transportation with jolt. A thorough examination must be performed. Turn the balance wheel slightly by hand to check if there is running obstruction, parts collision, uneven resistance and abnormal noise. If any these exist, adjustment must be made accordingly before running.

3. Location of machine

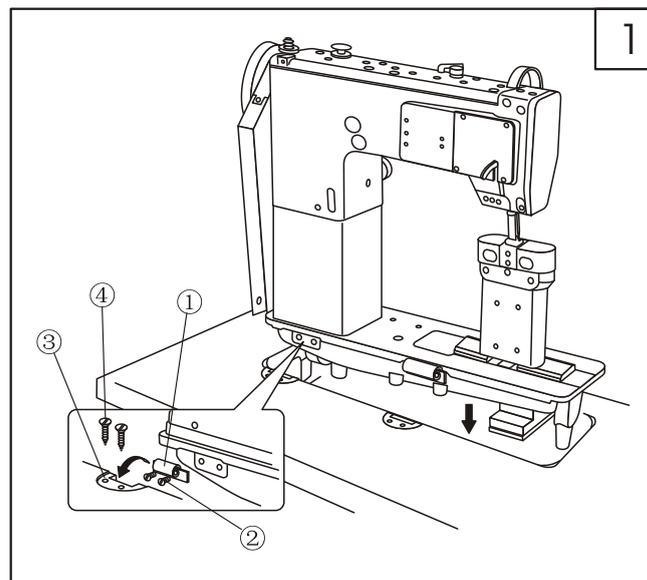
The machine must be located on the rigid and flat floor for ensuring its smooth operation and reducing its vibration. Meanwhile, a rubble mat should be inserted between the machine stand and the floor for further reducing the running noise.

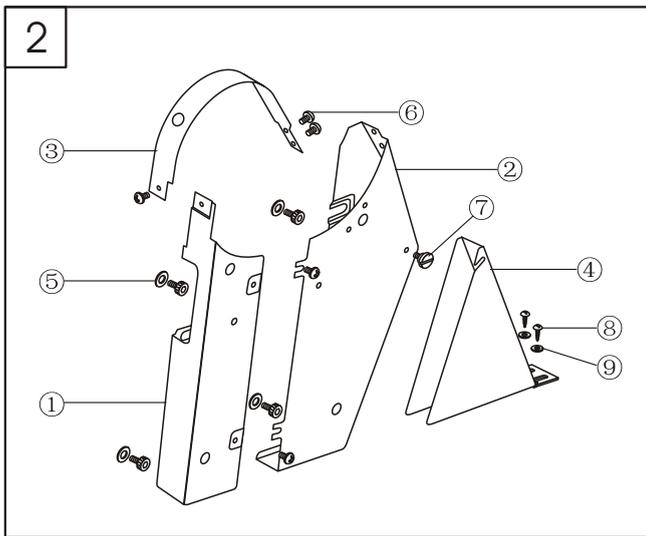
4. installing the oil pan (Fig. 1)

Insert the rubber cushion (small and big) into the corners of oil pan, then put the oil pan into the table cutouts, the hole of knee lifter on the oil pan should be on the right.

5. installing the machine hinge (Fig. 1)

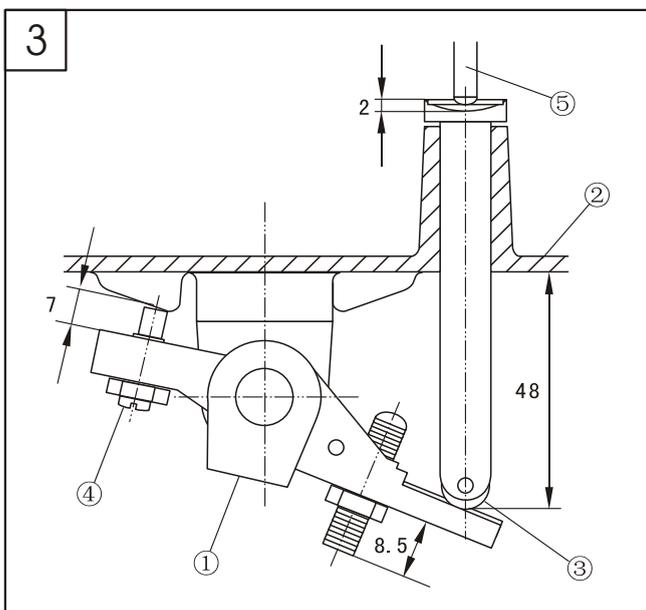
Install the hinge ① on the machine bed with screw ②, insert the hinge ③ in the table cutouts and fixed by nail ④, make the hinge ① engaged with hinge cushion ③ on the table.





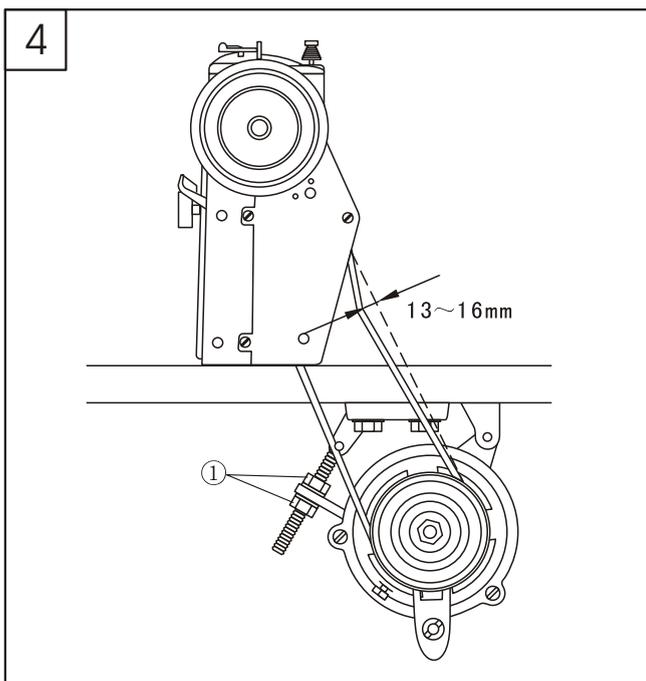
6. Installing the belt guard(Fig.2)

Put the belt onto the hand wheel, and fix the belt guard ①② on the right of machine head with screw ⑤, connect belt guard ①② by upper cover ③, tighten with screw ⑥, install the belt guard ④ on the belt guard ② and tighten the screw ⑦ by hand, finally fix the belt guard ④ on the table with screw ⑧ and washer ⑨.



7. Installing the knee lifter(Fig.3)

Adjust the position of knee lifter lifting crank ①, screw ④ and knee lifter lifting rod ③ as Fig 3 shown, turn the knee lifter lever ⑤ to make the clearance between ③ and ⑤ 2mm, then tighten the lever ⑤.

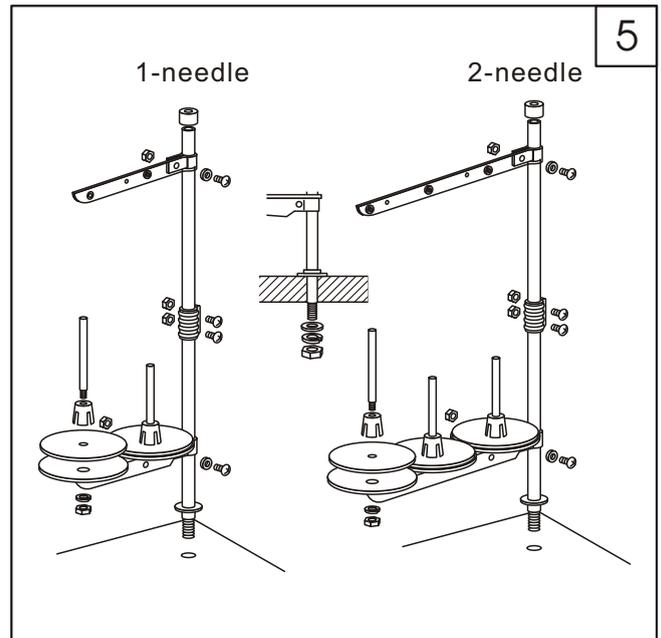


8. Adjusting the tension of V-belt(Fig.4)

Adjust the nut ① to move the motor up and down. The proper tension of V-belt is a slack of 13-16mm when it is depressed with a force of 1kgf. Then tighten the screw ①.

9. Installing the thread unwinder (Fig.5)

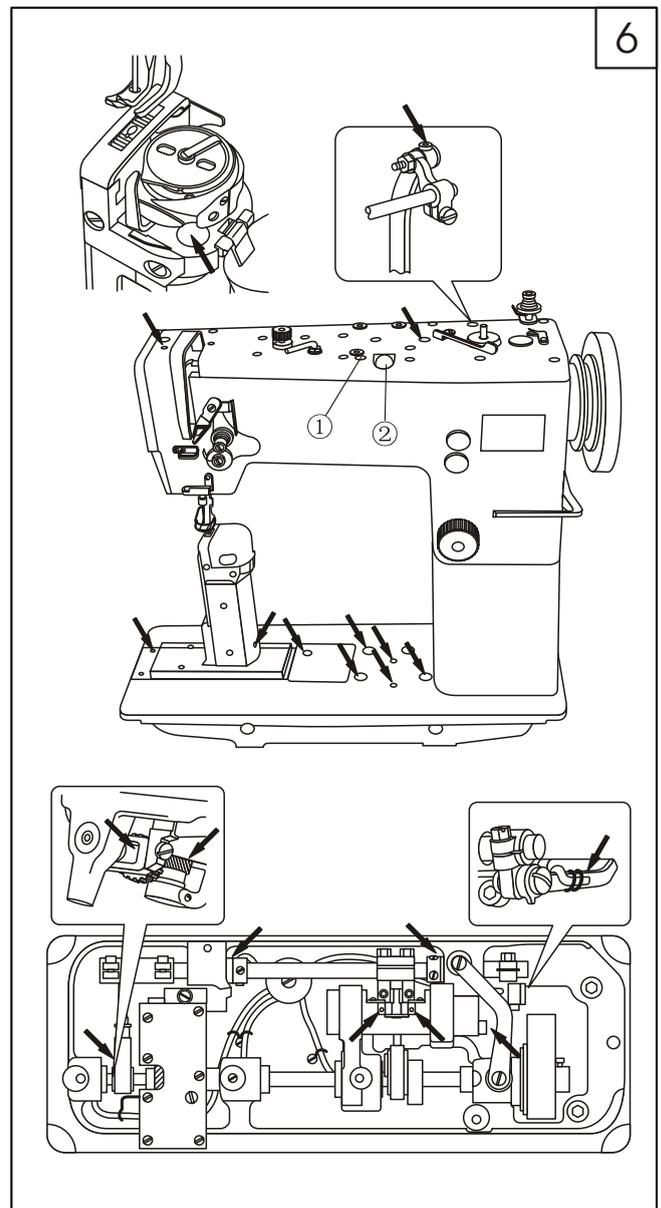
Install the thread unwinder on the table as Fig.5 shown.

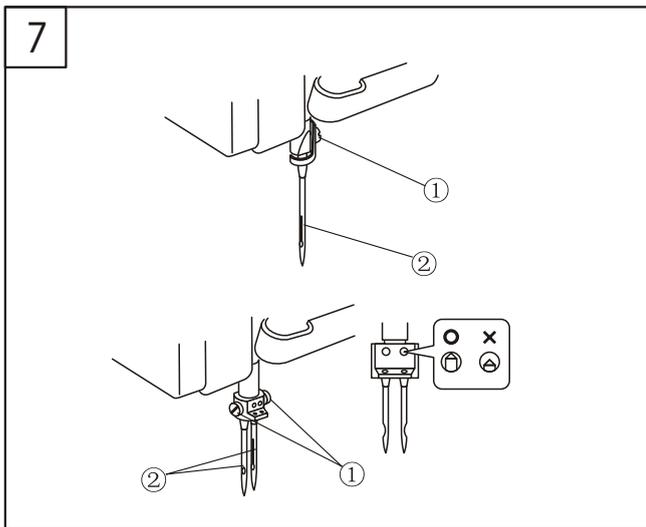


10. Lubrication (Fig.6)

Add 1-2 drops of oil in the places indicated by the arrows. Fill the oil through the oil filler hole ①, until the oil level reaches the upper reference line ② of the oil window.

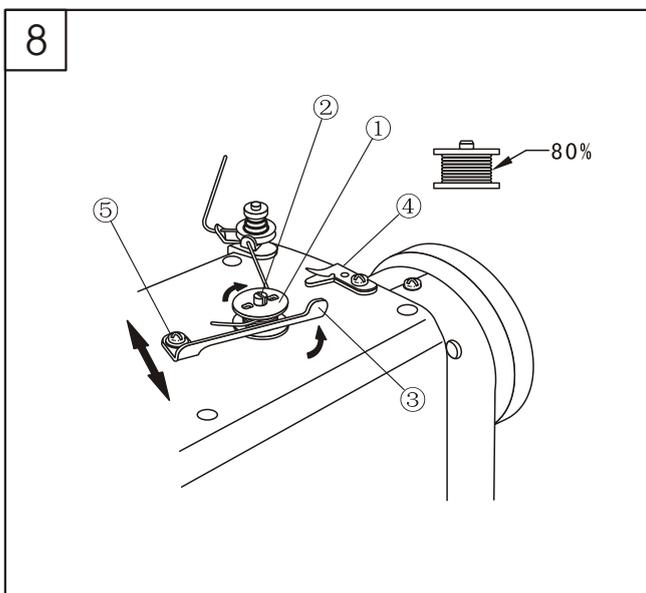
To extend the machine life, the new machine should be run the medium speed (less than 1200 s.p.m), then increase the speed gradually.





11. Installing the needle (Fig.7)

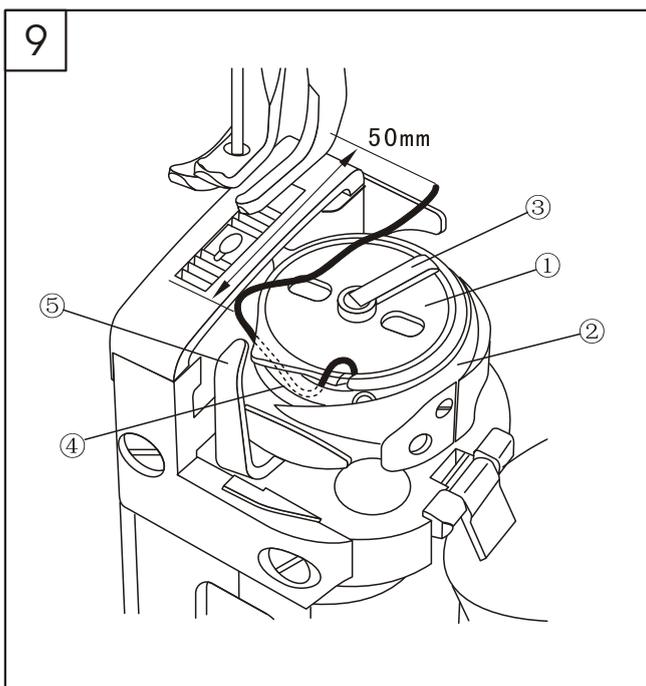
Turn the hand wheel to lift the needle bar to its highest position, loosen the needle set screw ①, fully insert the needle shank up to the bottom of needle bar (single needle) or needle clamp (double needle), for single needle machine, keep the long groove leftward; for double needle machine, keep the long grooves of the two needles opposite with each other, then tighten the set screw ①.



12. Winding the bobbin thread (Fig.8)

Insert the bobbin ① into winder shaft ②, wind thread several circles around bobbin shown by the arrow, put the winder lever ③ onto bobbin, then it can be automatic wound when sewing. After finish, thread can be cut by thread cutter ④.

The optimum capacity of bobbin thread is fill about 80% of bobbin outside diameter, and it can be adjusted by moving the winder lever (loosen the screw ⑤).

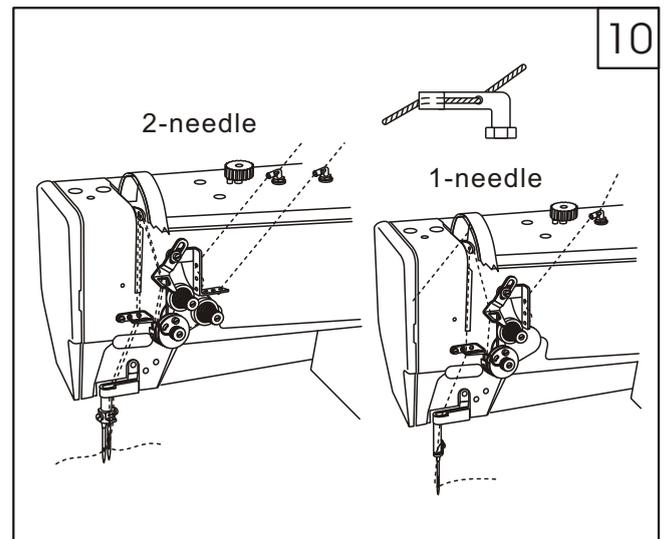


13. Installing the bobbin (Fig.9)

Open the hook latch ③, put the bobbin ① in the hook ② and lock the hook latch, draw the bobbin thread through hook lace ④ and bobbin case opener ⑤ and have an end of 50mm.

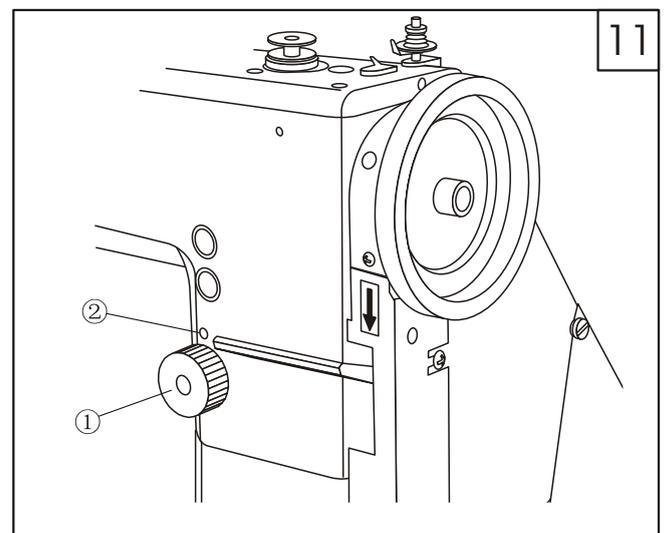
14. Threading the needle thread (Fig.10)

Threading the needle thread as shown in the Fig. 10.



15. Adjusting the stitch length (Fig.11)

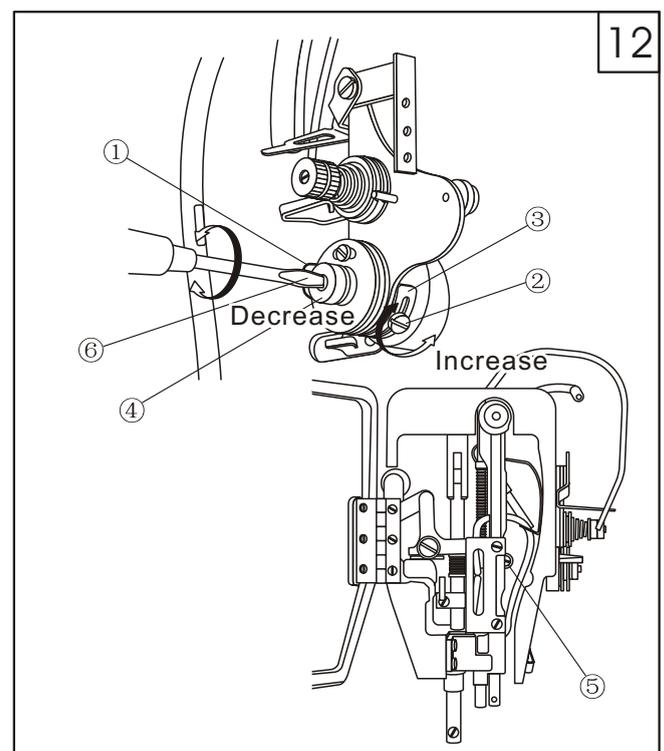
Turn the stitch length dial ①, The numbers on the dial aligning with the mark ② show the sizes of the stitch length in mm.



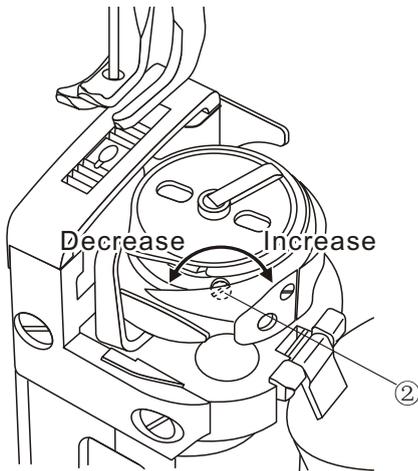
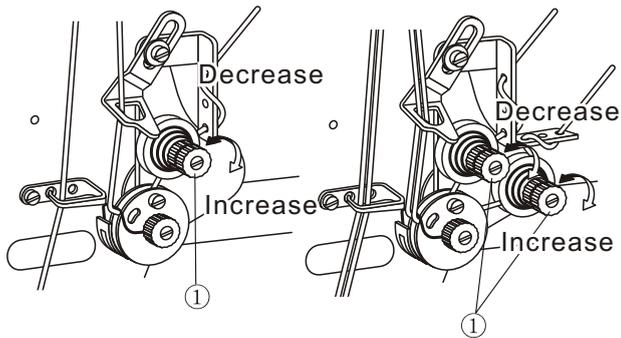
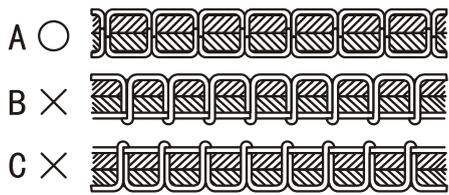
16. Adjusting the thread controller spring (Fig.12)

The operating range of controller spring ① can be adjusted by the spring stopper ③, turn the screw ② to increase or decrease the operating range.

The adjusting method of spring tension: loosen the nut ④ and screw ⑤, turn the thread controller stud by the screwdriver ⑥, after the required tension got, tighten the nut ④ and screw ⑤.



13

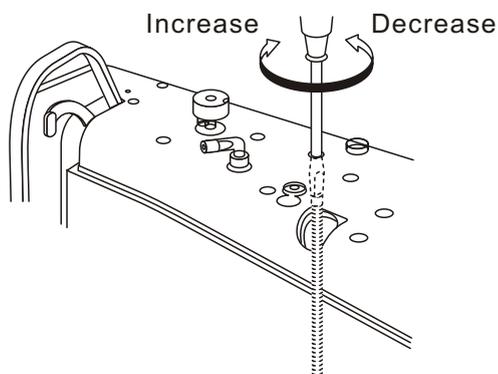


17. Adjusting the thread tension (Fig.13)

The normal stitch of sewing machine is shown in Fig.13A. If stitch is abnormal, the puckering and thread breakage will occur, the needle thread tension and bobbin thread tension should be adjusted so that the normal stitch can be obtained.

1. If the stitch seam shows as Fig.13B, indicates that the needle thread tension is too loose or the bobbin thread tension is too tight. Please turn the thread tension nut ① to increase the needle thread pressure; or turn the bobbin lace adjusting screw ② to decrease the bobbin thread tension.
2. If the needle thread tension is too tight or the bobbin thread tension is too loose shown as Fig.13C. Please turn the thread tension nut ① to decrease the needle thread pressure; or turn the bobbin lace adjusting screw ② to increase the bobbin thread tension.

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

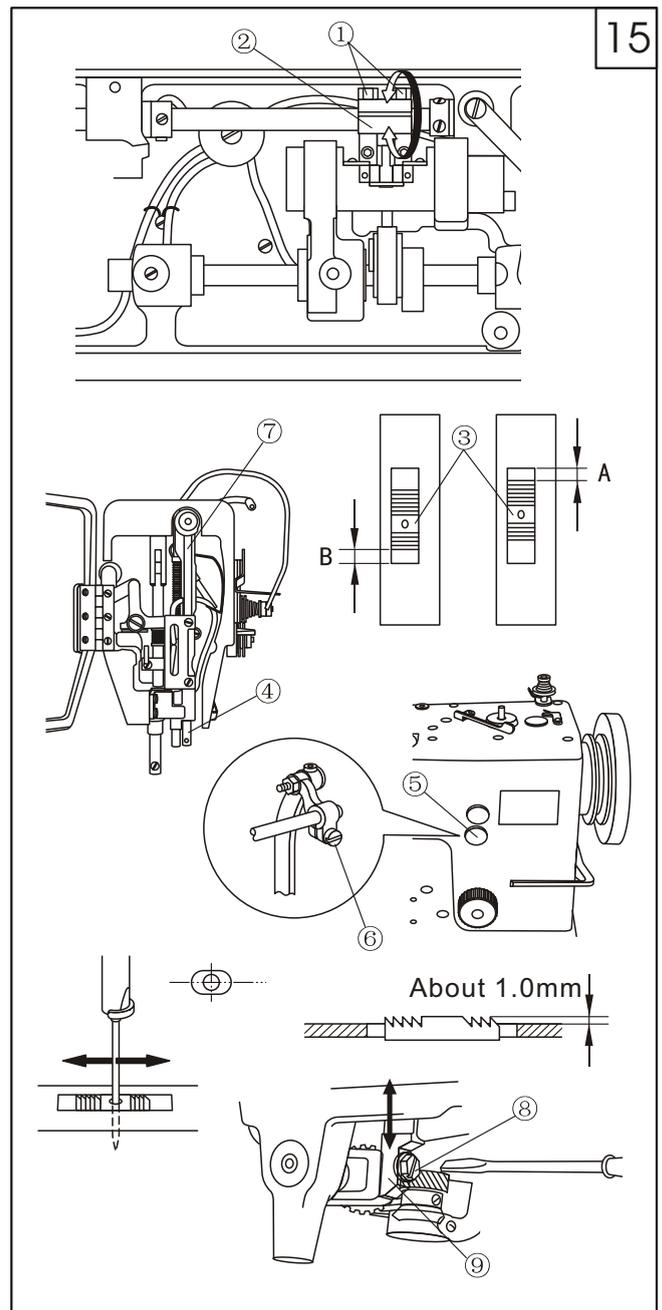
Please turn the pressure regulating screw to increase or decrease the presser foot pressure.

19. Adjusting the position of the needle and feed dog(Fig.15)

Set the stitch length maximum, turn the hand wheel by hand to check if the clearance of A, B are equal. If not, please adjust to make $A=B$. The adjustment method: loosen the screw ①, move the feed crank ② to make the clearance equal, then tighten the screw ①.

Usually the needle should fall in the hole centre of needle plate. If not, first remove the rubber plug ⑤ loosen the screw ⑥ and adjust the needle bar rocking frame ⑦ to make the needle aim at the hole center, tighten the screw ⑥ and insert the plug ⑤.

When the feed dog is at its highest position, it should have 1mm higher than the surface of needle plate. The adjustment method: loosen the screw ⑧, move the feed base ⑨ up and down according to the requirements.

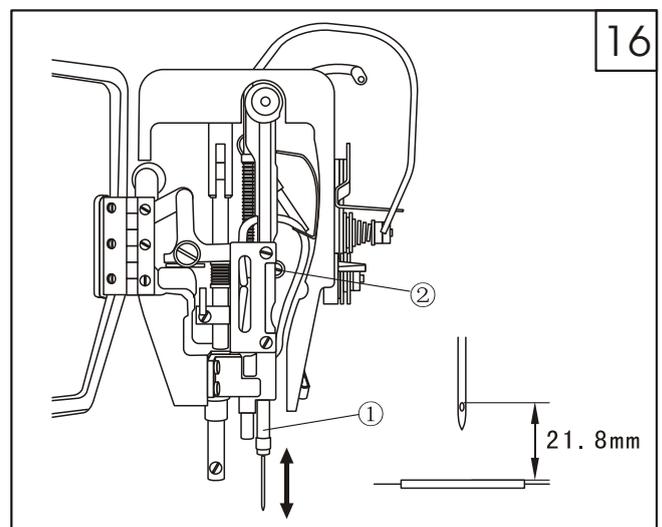


20. Adjusting the height of needle bar(Fig.16)

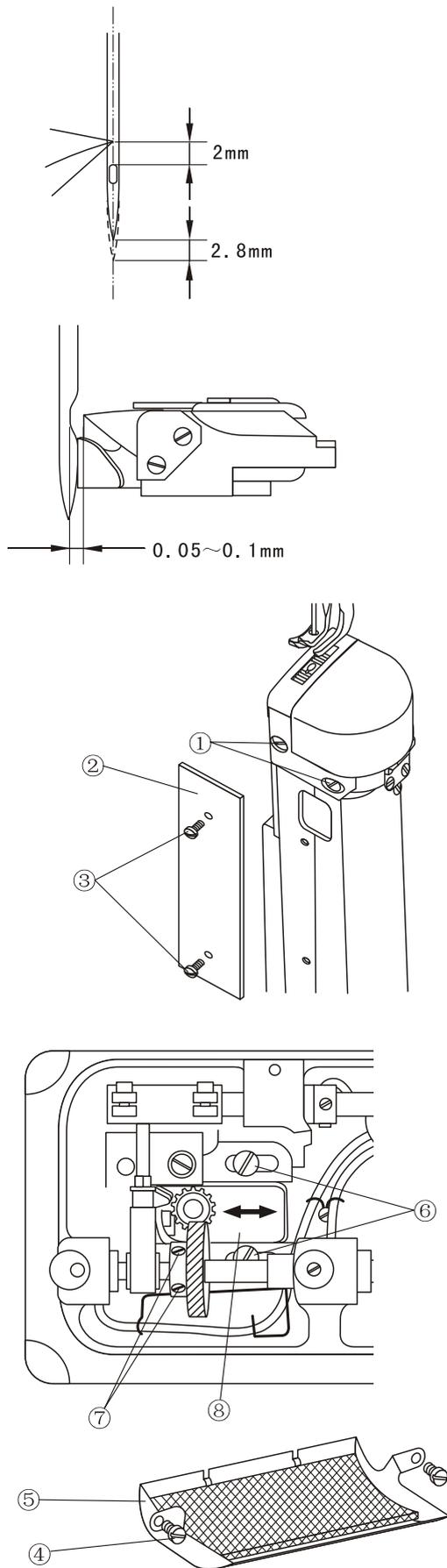
When the needle bar is at its highest position, normally the measurement between the surface of needle plate and the upper end of the needle eye is 21.8mm.

The adjustment method:

Loosen the screw ② and move the needle bar ① up and down to get the required position.



17



21. Adjusting the timing between needle and hook (Fig.17)

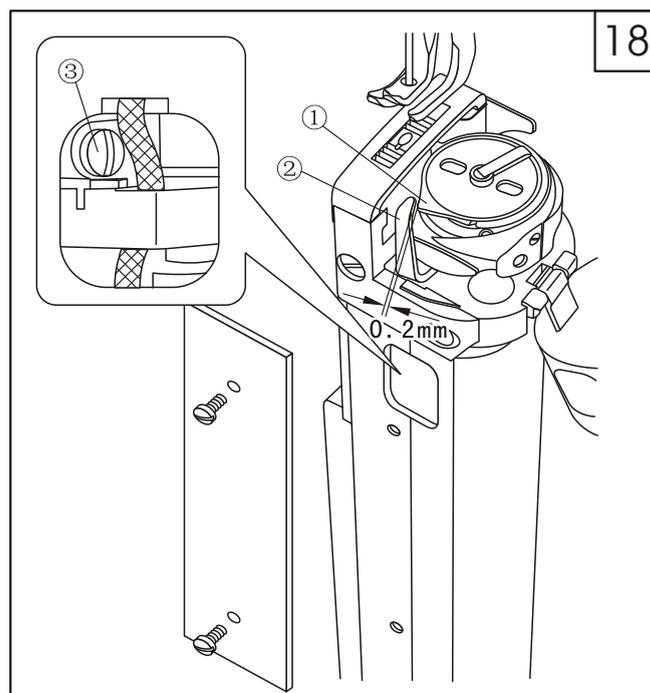
Set the stitch length to zero, turn the hand wheel until the needle bar reaches its lowest point, continue turning and allow the needle bar to raise 2.8mm, at this position, the point of the hook should be at the center of the needle, and normally, the measurement between the hook point and the upper end of the needle eye should be 2mm, further the clearance between the hook point and needle hollow should be about 0.05~0.1mm. The needle should slightly touch the needle guard.

The adjustment method:

Loosen the screw ①, remove the post bed cover ② and screw ③, remove the gear cover ⑤ and screw ④, loosen the screw ⑥ and gear screw ⑦, adjust the clearance between needle and hook point within 0.05~0.1mm by moving hook saddle ⑧ leftward or rightward. Turn the hand wheel, and raise the needle bar 2.8mm from its lowest point adjust the point of the hook beat at the center of the needle, after the above adjustment, tighten the screw.

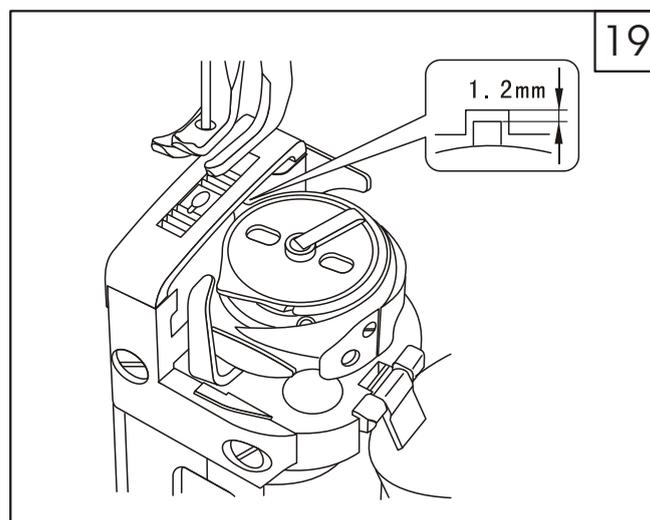
22. Adjusting the clearance of bobbin case opener (Fig.18)

Adjust the clearance between hook and bobbin case opener to about 0.2mm. Remove the post bed cover and loosen the screw ③, adjust the bobbin case opener ② to get the required clearance, after adjustment, tighten the screw ③ and post bed cover.



23. Adjusting the clearance between needle plate and hook (Fig.19)

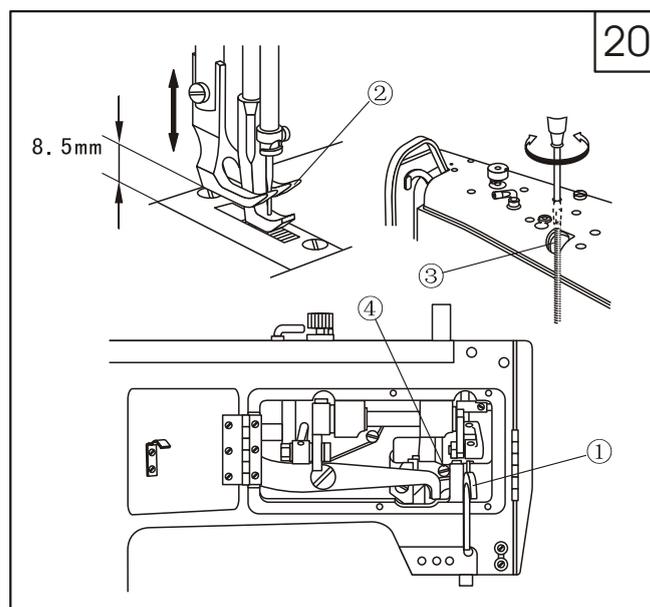
The clearance between the groove of needle plate and hook gib should not be less than 1.2mm



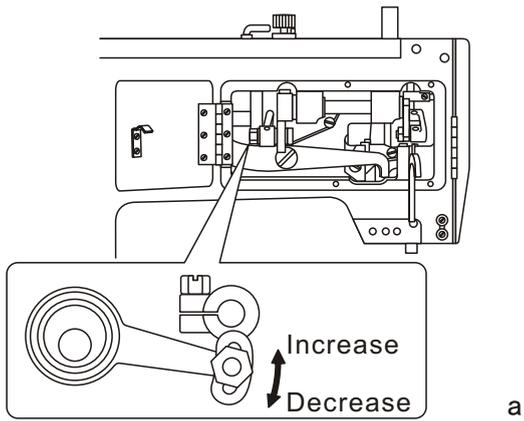
23. Adjusting the height of presser foot (Fig.20)

The standard height of presser foot ② is 8.5mm by hand lifter.

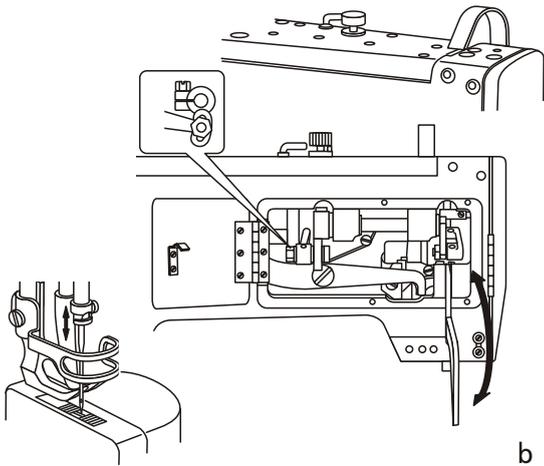
Loosen screw ③, raise the presser bar lifter ① and loosen the screw ④, move the presser bar up or down to get the required height. Tighten the screw ④ and adjust the screw ③ to get the proper pressure of presser foot.



21



a



b

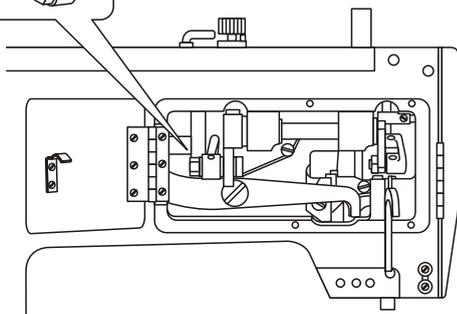
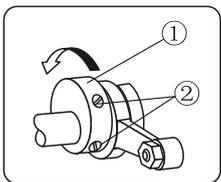
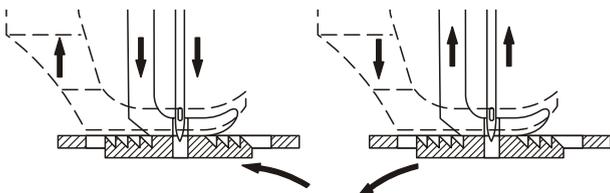
25. Adjusting the presser foot movement amount (Fig.21)

Normally the lifting amount of presser foot and walking foot are same in their vertical motions.

If changing the movement amount of both the presser foot and walking foot, use method shown in the Fig.a.

If changing the movement amount for anyone, use method shown in the Fig.b.

22



26. Adjusting the timing of vibrating presser foot (Fig.22)

When the needle goes down, the walking foot should reach the feed dog before the needle eye does. When the needle is raised, make sure the walking foot is still holding the material firmly.

If the timing is not correct, please make following adjustment shown in the Fig.22.

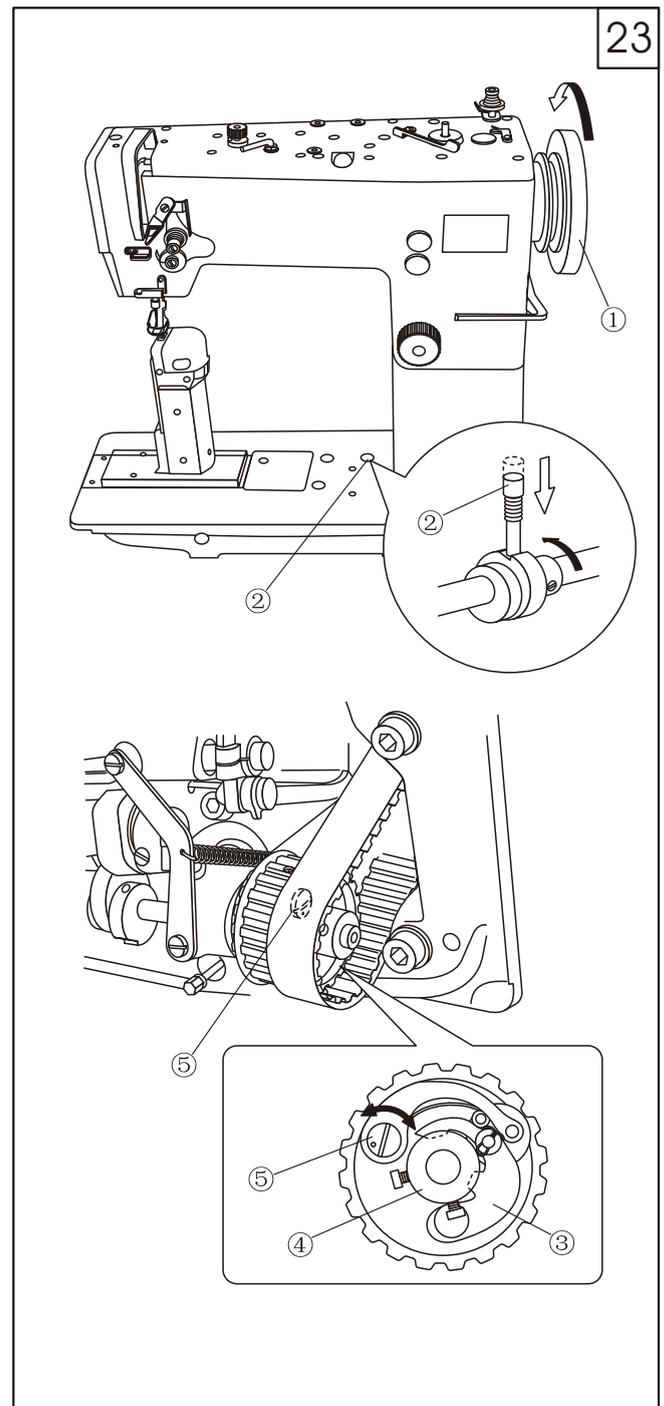
Loosen the screw ①, turn the cam ②, after the adjustment, tighten the screw.

27. Safety clutch mechanism(Fig.23)

When the thread is jammed in the hook, for protecting the hook and time belt, the clutch will disengage and low shaft will stop turning.

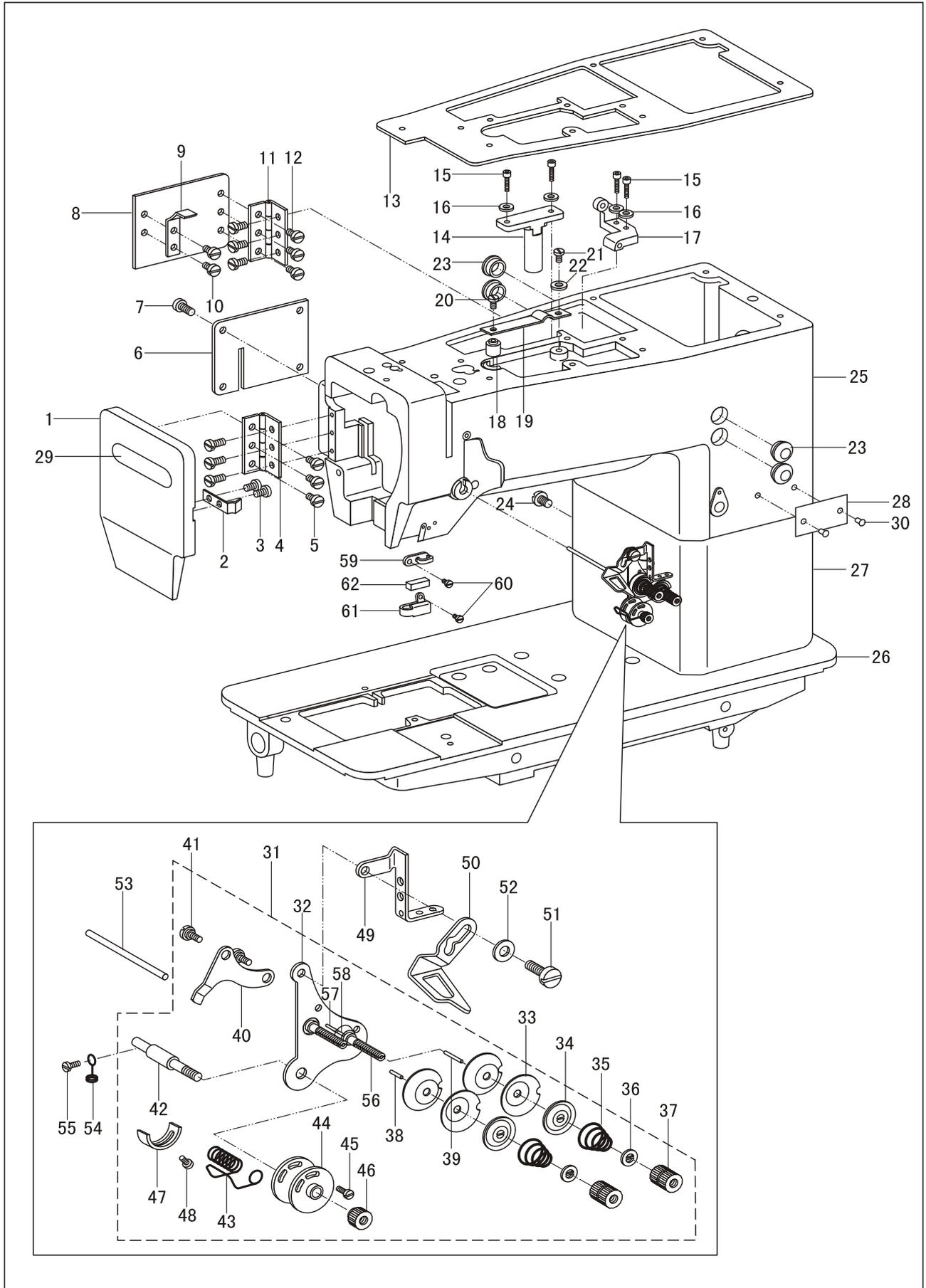
Reset the safety clutch shown in the Fig. 23 turn the hand wheel ① in the reverse direction while pressing the push button ②, the safety clutch will return to the original position when the locking lever ③ is in the groove of safety clutch collar.

Loosen the screw ⑦, turn the screw ⑤ to adjust the engage tension.



Parts manual

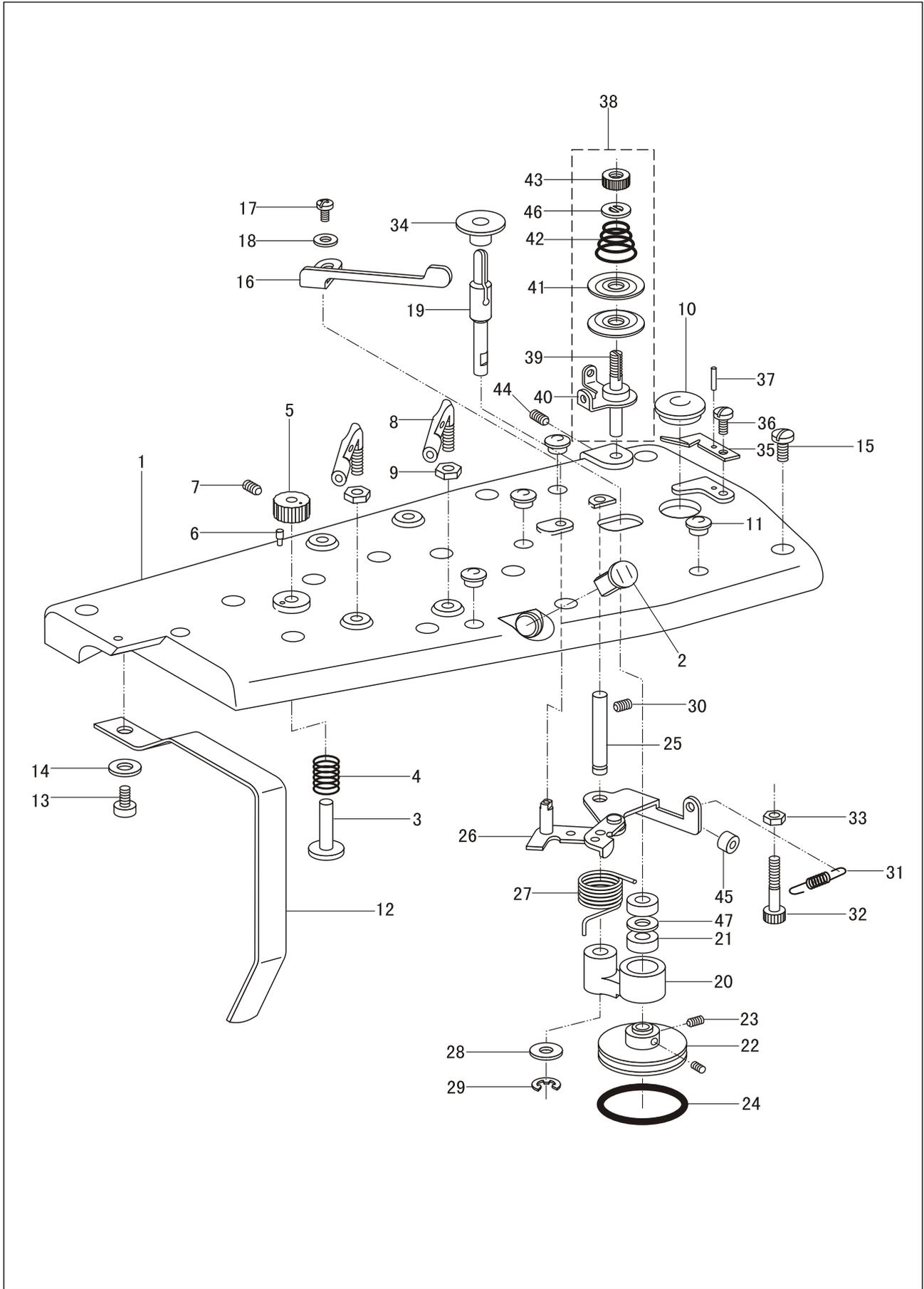
1. Machine casting components



1. Machine casting components

No.	Parts No.	Name of parts	Qty.				Remarks
			GC24690	CX	-1	-1CX	
1	89WF2-003	Face plate	1	1	1	1	
2	89WF2-004	Face plate spring	1	1	1	1	
3	89WF2-005	Screw	2	2	2	2	
4	89WF2-006	Hinge CPL.	1	1	1	1	
5	89WF2-005	Screw	6	6	6	6	
6	89WF2-007	Back cover (front)	1	1	1	1	
7	13WF2-008	Screw	4	4	4	4	
8	89WF2-008	Back cover (rear)	1	1	1	1	
9	89WF2-004	Back cover (rear) spring	1	1	1	1	
10	89WF2-005	Screw	2	2	2	2	
11	89WF2-006	Hinge CPL.	1	1	1	1	
12	89WF2-005	Screw	6	6	6	6	
13	89WF2-013	Seal gasket	1	1	1	1	
14	89WF2-009	Bracket	1	1	1	1	
15	80WF6-029	Screw	4	4	4	4	
16		Washer	4	4	4	4	GB93-87 5
17	89WF2-010	Knee lifter connection lever bracket	1	1	1	1	
18	49WF2-016	Oil regulator	1	1	1	1	
19	49WF2-015	Oil control spring	1	1	1	1	
20	16WF3-014	Screw	1	1	1	1	
21	13WF2-008	Screw	1	1	1	1	
22	7KT2-020	Washer	1	1	1	1	
23	89WF2-011	Rubber plug	4	4	4	4	
24		Earth wire screw	1	1	1	1	GB818-85-M4×6
25	88WF1-001	Arm	1	1	1	1	
26	89WF2-001	Bed	1	1	1	1	
27	89WF2-002	Connection post	1	1	1	1	
28	89WF2-030	Model label (CN)	1				
	89WF2-031	Model label (EN)	1				
	121WF-001	Model label (CN)		1			
	121WF-001A	Model label (EN)		1			
	113WF2-008	Model label (CN)			1		
	113WF2-008A	Model label (EN)			1		
	120WF-001	Model label (CN)				1	
	120WF-001A	Model label (EN)				1	
29	93WF1-052	Face plate label	1	1	1	1	
30		Rivet	2	2	2	2	GB827-86 2.5×5
31	89WF2-032	Thread tension CPL.	1	1			
	113WF2-009	Thread tension CPL.			1	1	
32	25WF2-009A1	Thread tension bracket	1	1			
	16WF2-046A1	Thread tension bracket			1	1	
33	16WF2-046A6	Thread tension disc	4	4	2	2	
34	16WF2-046A5	Tension releasing disc	2	2	1	1	
35	037536	Tension spring	2	2	1	1	
36	153209	Washer	2	2	1	1	
37	16WF2-046A3	Tension adjusting nut	2	2	1	1	
38	19WF2-012	Tension releasing pin (short)	1	1			
	16WF2-046A13	Tension releasing pin			1	1	
39	115955	Tension releasing pin (long)	1	1			
40	16WF2-046A14	Tension releasing plate	1	1	1	1	
41	16WF2-046A15	Screw	2	2	2	2	
42	25WF2-009A2	Thread controller stud	1	1			
	16WF2-046A10	Thread controller stud			1	1	
43	19WF2-014	Thread controller spring	1	1			
	16WF2-046A7	Thread controller spring			1	1	
44	16WF2-046A8	Thread controller disc	2	2	1	1	
45	1WF1-010R	Screw	1	1			
	16WF2-046A9	Screw			1	1	
46	16WF2-046A11	Nut	1	1	1	1	
47	103693	Thread controller spring stopper	1	1	1	1	
48	16WF2-050	Screw	1	1	1	1	
49	89WF2-017	Thread retainer	1	1			
	49WF2-022	Thread retainer			1	1	
50	89WF2-018	Thread guide	1	1	1	1	
51	13WF2-063	Screw	1	1	1	1	
52		Washer	1	1	1	1	GB848-85-5
53	103723	Tension releasing plate rod	1	1	1	1	
54	72WF5-015	Oil wick retainer	1	1	1	1	
55	52WF3-018	Screw	1	1	1	1	
56	16WF2-046A2	Screw	2	2	2	2	
57	16WF2-046A12	Pin	1	1	1	1	
58	19WF2-011	Pin (long)	1	1			
59	16WF2-011	Upper thread guide	1	1	1	1	
60	16WF2-015	Screw	2	2	2	2	
61	16WF2-013	Lower thread guide	1	1	1	1	
62	16WF2-014	Oil felt	1	1	1	1	

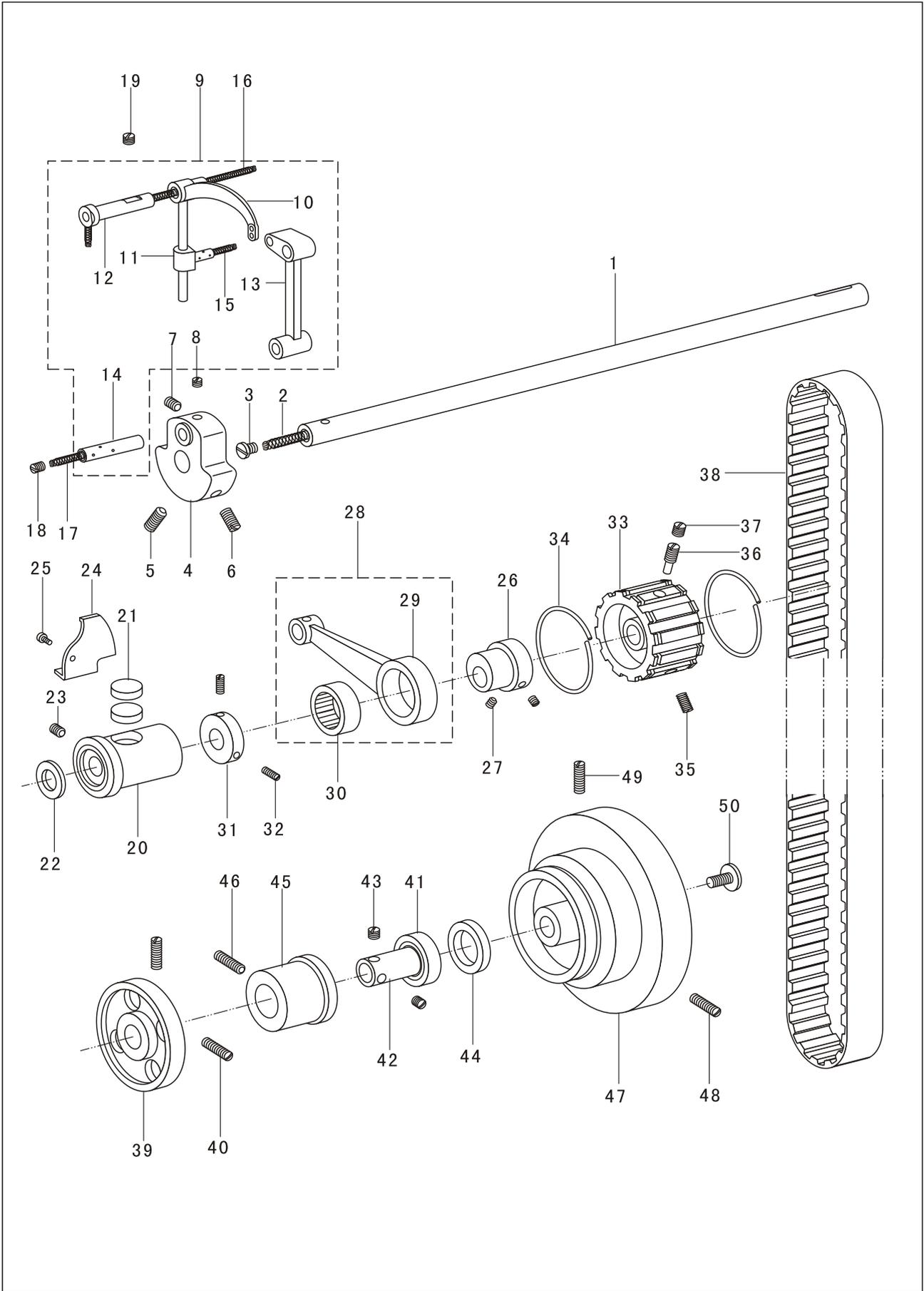
2. Upper cover and bobbin winder components



2. Upper cover and bobbin winder components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	89WF2-012	Upper cvoer	1	1	1	1	
2	49WF2-014	Oil window	1	1	1	1	
3	49WF2-017	Oil regulating stud	1	1	1	1	
4	49WF2-018	Oil regulating spring	1	1	1	1	
5	49WF2-019	Oil regulating dial	1	1	1	1	
6	49WF2-020	Pin	1	1	1	1	
7	7KT3-032	Screw	1	1	1	1	
8	13WF2-066	Thread guide	2	2	1	1	
9	13WF2-067	Nut	2	2	1	1	
10	89WF2-011	Rubber plug	1	1	1	1	φ20
11	89WF2-014	Rubber plug	4	4	4	4	φ9
12	89WF2-015	Thread take-up lever cover	1	1	1	1	
13	89WF2-016	Screw	1	1	1	1	
14		Washer	1	1	1	1	GB93-87 4
15	13WF3-069	Screw	11	11	11	11	
16	89WF5-001	Bobbin winder lever	1	1	1	1	
17		Screw	1	1	1	1	GB818-85-M4×8
18		Washer	1	1	1	1	GB97.1-85-4
19	89WF5-002	Bobbin winder shaft	1	1	1	1	
20	89WF5-003	Winder crank	1	1	1	1	
21		Ball bearing	2	2	2	2	5×16×5
22	89WF5-004	Bobbin winder friction wheel	1	1	1	1	
23	89WF5-005	Screw	2	2	2	2	
24	89WF5-006	Ring	1	1	1	1	
25	89WF5-007	Shaft	1	1	1	1	
26	89WF5-008	Winder lever shaft CPL.	1	1	1	1	
27	89WF5-009	Spring	1	1	1	1	
28	89WF5-010	Washer	1	1	1	1	
29		Retaining ring	1	1	1	1	GB896-86-6
30	57WF-009	Screw	1	1	1	1	
31	89WF5-011	Spring	1	1	1	1	
32	89WF5-012	Screw	1	1	1	1	
33	72WF5-022	Nut	1	1	1	1	
34	89WF5-013	Bobbin winder dust guard	1	1	1	1	
35	89WF5-014	Knife	1	1	1	1	
36	1WF4-051	Screw	1	1	1	1	
37		Pin	1	1	1	1	GB879-86 2×8
38	BS38736	Bobbin winder CPL	1	1	1	1	
39	BS38738	Bobbin winder tension stud	1	1	1	1	
40	BS38737	Bobbin winder tension plate	1	1	1	1	
41	22T1-012F5	Bobbin winder tension disc	2	2	2	2	
42	33T4-008C1	Bobbin winder tension spring	1	1	1	1	
43	B108265	Nut	1	1	1	1	
44	13WF3-062	Screw	1	1	1	1	
45	89WF5-015	Rubber cover	1	1	1	1	
46	153209	Washer	1	1	1	1	
47	89WF5-018	Washer	1	1	1	1	

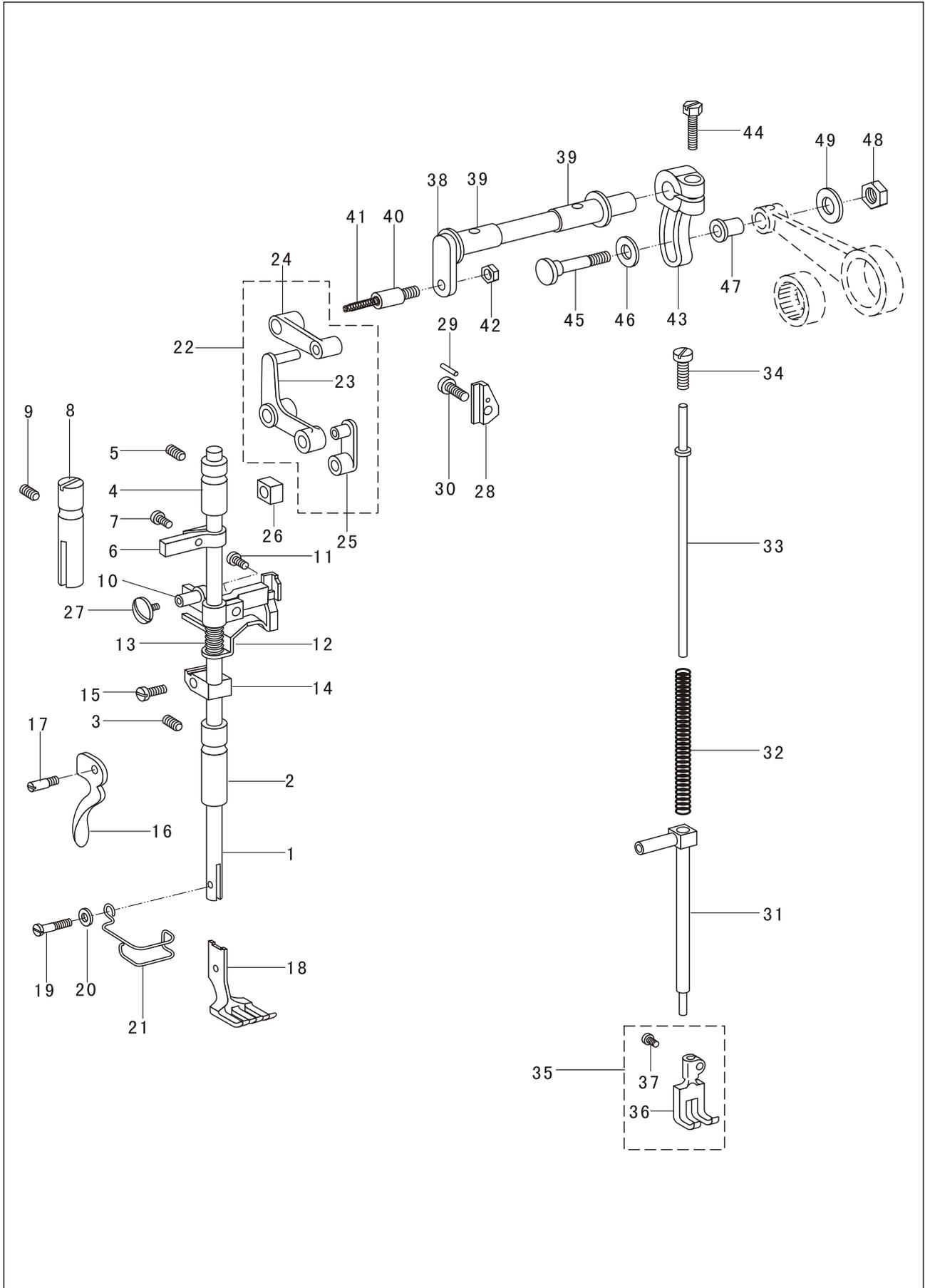
3. Upper shaft and thread take-up components



3. Upper shaft and thread take-up components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	88WF2-006	Upper shaft	1	1	1	1	φ 5 L=110mm
2		Oil wick	1	1	1	1	
3	16WF1-022	Screw	1	1	1	1	
4	16WF1-018	Needle bar crank	1	1	1	1	
5	16WF1-019	Screw	1	1	1	1	
6	16WF1-020	Screw	1	1	1	1	
7	16WF1-016	Screw (long)	1	1	1	1	
8	16WF1-017	Screw (short)	1	1	1	1	
9		Thread take-up lever CPL	1	1	1	1	
10	88WF2-004	Thread take-up lever	1	1	1	1	φ 3 L=15mm 方3×7 L=150mm φ 3 L=105mm
11	215029	Thread take-up lever driving stud	1	1	1	1	
12	49WF1-003	Thread take-up lever hinge stud	1	1	1	1	
13	16WF1-014	Needle bar link	1	1	1	1	
14	16WF1-015	Needle bar crankpin	1	1	1	1	
15		Oil wick	1	1	1	1	
16		Oil wick	1	1	1	1	
17		Oil wick	1	1	1	1	
18	88WF2-003	Rubber plug	1	1	1	1	
19	49WF1-004	Screw	1	1	1	1	
20	18006	Bushing (front)	1	1	1	1	
21	16WF1-025	Oil felt	2	2	2	2	
22	16WF1-021	Washer	1	1	1	1	
23	22WF1-045	Screw	1	1	1	1	
24	16WF2-038	Oil guard	1	1	1	1	
25	22T1-003C6	Screw	1	1	1	1	
26	22WF5-022	Lifting eccentric wheel	1	1	1	1	
27	22WF4-002	Screw	2	2	2	2	
28	103775C	Lifting eccentric link CPL	1	1	1	1	
29	22WF5-021	Lifting eccentric link	1	1	1	1	
30		Needle bearing	1	1	1	1	7940/00 25×32×13
31	22WF5-024	Collar	1	1	1	1	
32	7KT5-016	Screw	2	2	2	2	
33	16WF1-030	Belt pulley	1	1	1	1	
34	16WF1-043	Pulley spring ring	2	2	2	2	
35	16WF1-033	Screw (long)	1	1	1	1	
36	16WF1-031	Screw	1	1	1	1	
37	16WF1-032	Screw (short)	1	1	1	1	
38	16WF1-034	Timing belt	1	1	1	1	
39	89WF5-016	Bobbin winder driving wheel	1	1	1	1	
40	89WF5-017	Screw	2	2	2	2	202 15×35×11
41		Bearing	1	1	1	1	
42	88WF2-008	Bushing	1	1	1	1	
43	22WF1-048	Screw	2	2	2	2	
44	16WF1-029	Bearing retaining ring	1	1	1	1	
45	88WF2-007	Upper shaft bushing (rear)	1	1	1	1	
46	16WF1-004	Screw	1	1	1	1	
47	217165A	Hand wheel	1	1	1	1	
48	16WF1-036	Screw	1	1	1	1	
49	16WF1-037	Screw	1	1	1	1	
50	16WF1-040	Screw	1	1	1	1	

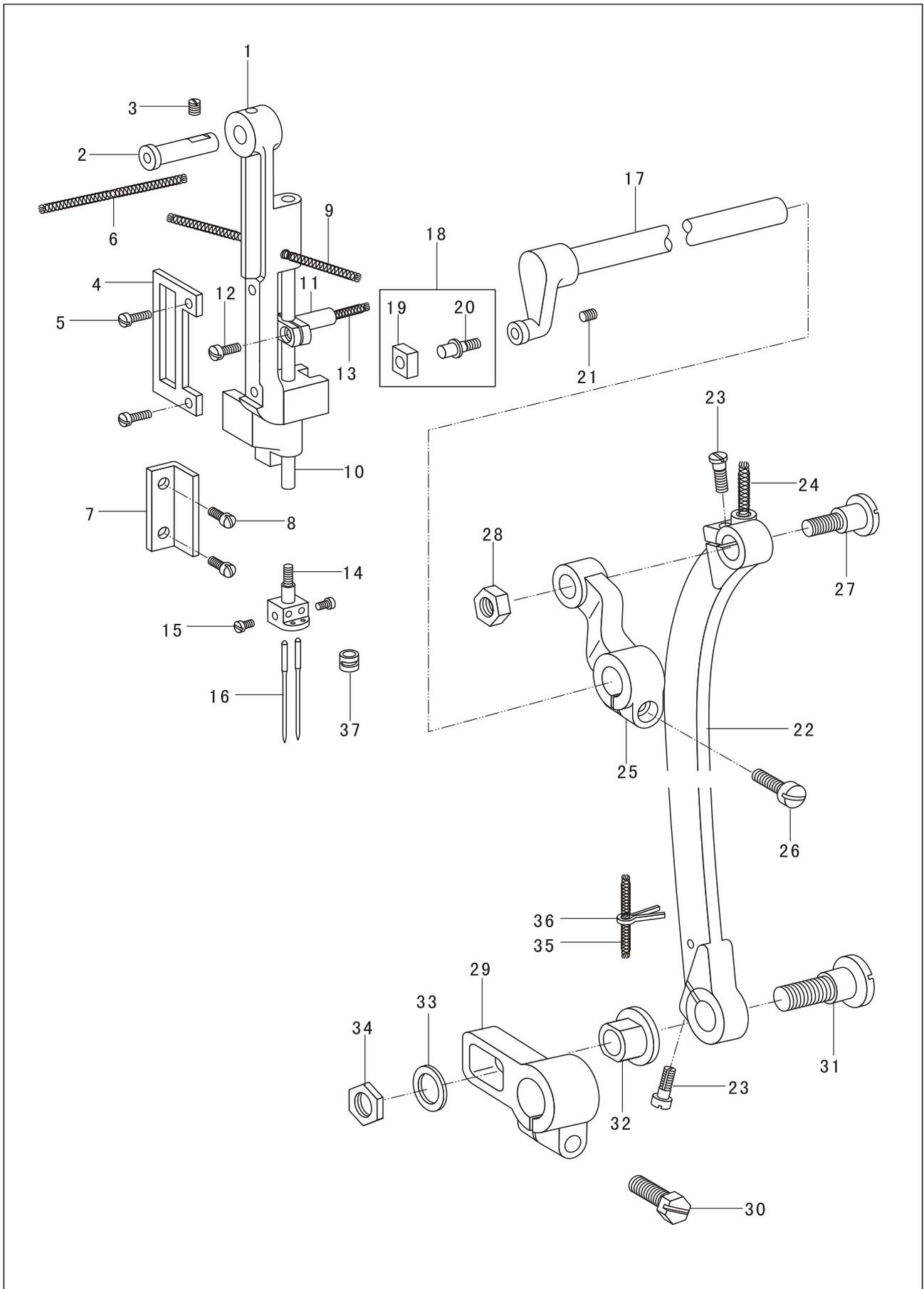
4. Walking foot components



4. Walking foot components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	22WF3-005	Presser bar	1	1	1	1	
2	22WF3-006	Presser bar bushing (lower)	1	1	1	1	
3	16WF3-025	Screw	1	1	1	1	
4	16WF4-027	Presser bar bushing(upper)	1	1	1	1	
5	16WF3-025	Screw	1	1	1	1	
6	16WF4-021	Position guide bracket	1	1	1	1	
7	16WF4-022	Screw	1	1	1	1	
8	16WF4-020	Position guide	1	1	1	1	
9	16WF3-025	Screw	1	1	1	1	
10	22WF3-007	Lifting bracket	1	1	1	1	
11	16WF2-033	Screw	1	1	1	1	
12	22WF3-009	Tension release slide	1	1	1	1	
13	22WF3-008	Slide spring	1	1	1	1	
14	16WF4-023	Presser bar springbracket	1	1	1	1	
15	16WF1-009	Screw	1	1	1	1	
16	88WF3-001	Presser foot lifting bar	1	1	1	1	
17	16WF4-001	Hinge screw	1	1	1	1	
18	88WF3-002	Presser foot	1				
	121WF-004	Presser foot		1			
	22WF3-013	Presser foot			1		
	105WF3-001	Presser foot				1	
19	88WF3-003	Screw	1	1	1	1	
20		Washer	1	1	1	1	GB848-85-4
21	88WF3-004	Finger guard	1	1			
	104WF3-002	Finger guard			1	1	
22		Lifting bell crank CPL	1	1	1	1	
23	22WF5-026	Lifting bell crank	1	1	1	1	
24	22WF5-014	Lifting bell crank link	1	1	1	1	
25	22WF5-028	Link	1	1	1	1	
26	215121	Slide block	1	1	1	1	
27	22WF5-027	Screw	1	1	1	1	
28	22WF3-010	Lifting bracket guideblock	1	1	1	1	
29	22WF3-012	Pin	1	1	1	1	
30	22WF3-011	Screw	1	1	1	1	
31	22WF5-029	Walking foot bar	1	1	1	1	
32	22WF5-030	Spring	1	1	1	1	
33	22WF5-031	Walking foot bar extension	1	1	1	1	
34	49WF5-009	Screw	1	1	1	1	
35		Walking foot CPL	1	1	1	1	
36	88WF4-001	Walking foot	1				
	121WF-005	Walking foot		1			
	120WF-004	Walking foot			1		
	104WF4-001	Walking foot				1	
37	22WF5-033	Screw	1	1	1	1	
38	22WF5-012	Lifting rock shaft	1	1	1	1	
39	22WF5-013	Bushing	2	2	2	2	
40	88WF4-002	Screw	1	1	1	1	
41		Oil wick	1	1	1	1	φ 5 L=14mm
42	22WF5-016	Nut	1	1	1	1	
43	88WF4-003	Lifting eccentric crank	1	1	1	1	
44	16WF3-040	Screw	1	1	1	1	
45	22WF5-018	Screw	1	1	1	1	
46	88WF4-004	Washer	1	1	1	1	
47	22WF5-019	Collar bushing	1	1	1	1	
48	632117	Nut	1	1	1	1	
49	491218	Washer	1	1	1	1	

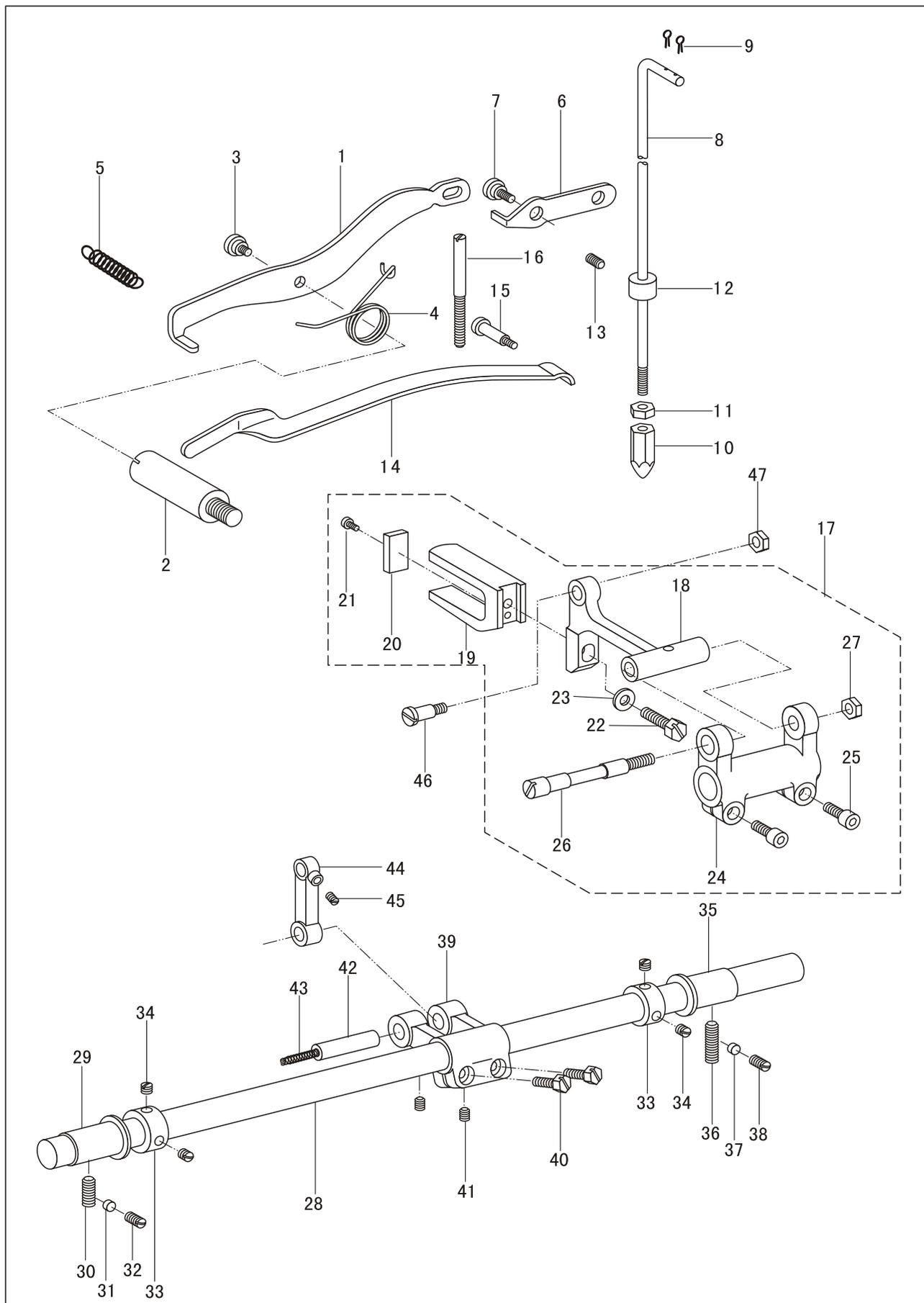
5. Needle bar rocking frame components



5. Needle bar rocking frame components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	91WF5-001	Needle bar rocking frame	1	1	1	1	
2	22WF5-002	Hinge stud	1	1	1	1	
3	7KT5-002	Screw	1	1	1	1	
4	215120	Slide block plate	1	1	1	1	
5	6KT1-014	Screw	2	2	2	2	
6		Oil wick	1	1	1	1	φ5×15
7	88WF4-005	Position bracket	1	1	1	1	
8	49WF2-012	Screw	2	2	2	2	
9		Oil wick	1	1	1	1	φ5 L=350mm
10	88WF2-002	Needle bar	1	1			
	49WF1-001	Needle bar			1	1	
11	91WF1-001	Needle bar connection stud	1	1	1	1	
12	16WF1-009	Screw	1	1	1	1	
13		Oil wick	1	1	1	1	φ5 L=20mm
14	88WF2-001	Needle clamp	1	1			
15	16WF1-007	Screw	2	2			
	22WF1-003	Screw			1	1	
16		Needle	2		1		DP×17 24#
		Needle		2		1	DP×17 25#
17	22WF5-004	Rocking shaft	1	1	1	1	
18		Slide block CPL	1	1	1	1	
19	22WF5-005	Slide block	1	1	1	1	
20	22WF5-006	Slide block stud	1	1	1	1	
21	22WF1-020	Screw	1	1	1	1	
22	89WF3-004	Rocking shaft crank link	1	1	1	1	
23	88WF4-007	Screw	2	2	2	2	
24		Oil wick	1	1	1	1	φ5 L=8mm
25	89WF3-005	Rocking shaft crank	1	1	1	1	
26	7KT4-024	Screw	1	1	1	1	
27	88WF4-009	Screw	1	1	1	1	
28	661108	Nut	1	1	1	1	
29	88WF4-010	Rocking shaft crank (lower)	1	1	1	1	
30	16WF3-030	Screw	1	1	1	1	
31	88WF4-011	Screw	1	1	1	1	
32	88WF4-013	Rocking shaft crank (lower) pipe	1	1	1	1	
33		Washer	1	1	1	1	GB848-85-8
34	88WF4-012	Nut	1	1	1	1	
35		Oil wick	1	1	1	1	φ5 L=40mm
36		Clip	1	1	1	1	GB91-86 2.5×35
37	49WF1-002	Needle bar thread guide			1	1	

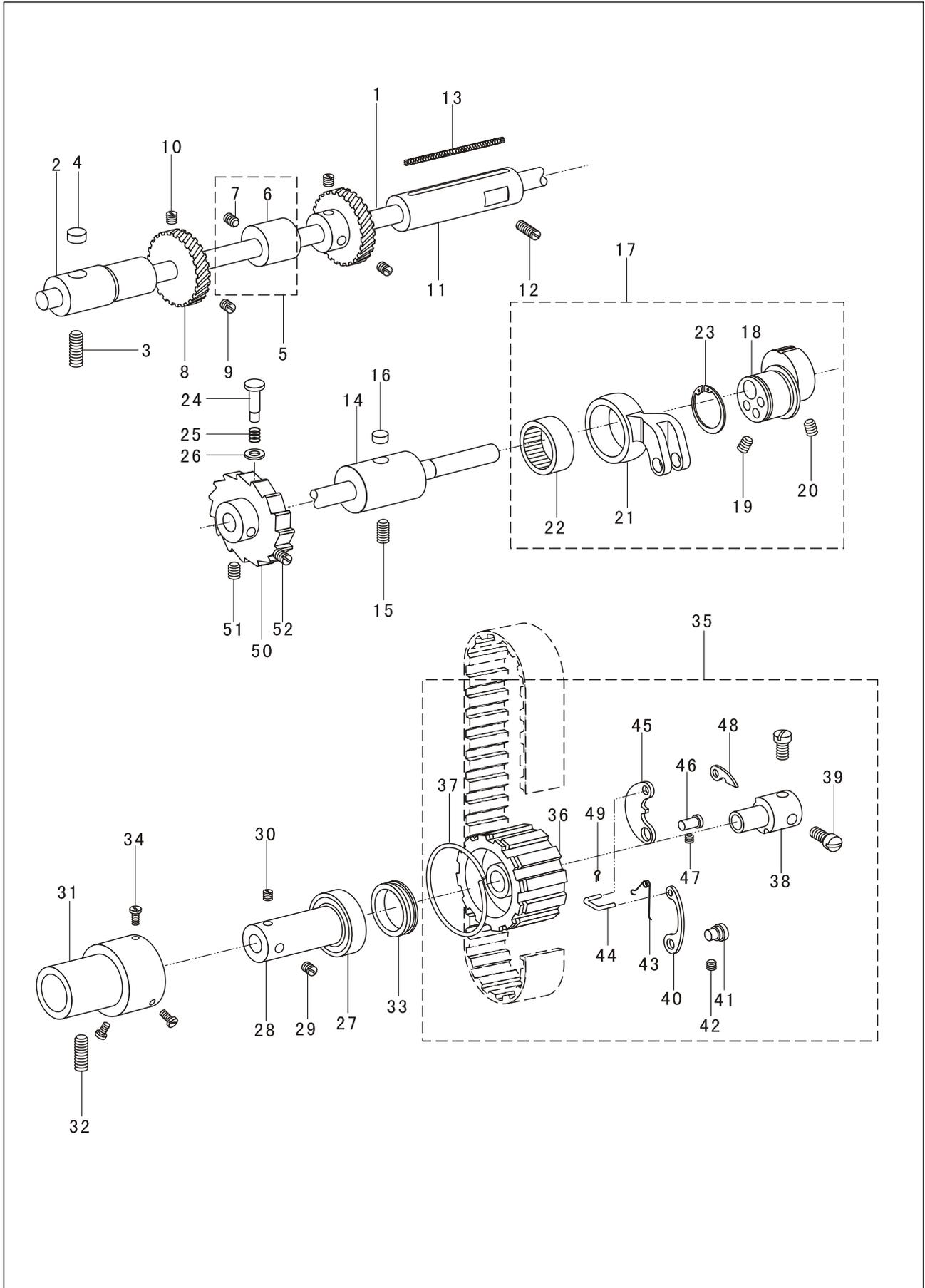
6. Knee lifting and feed shaft components



6. Knee lifting and feed shaft components

No.	Parts No.	Name of parts	Qty.				Remarks
			GC24690	CX	-1	-1CX	
1	16WF4-006	Knee lifter lifting lever	1	1	1	1	
2	88WF3-005	Lifting lever bracket	1	1	1	1	
3	88WF3-006	Hinge screw	1	1	1	1	
4	16WF4-004	Spring	1	1	1	1	
5	16WF4-003	Screw	1	1	1	1	
6	88WF3-007	Connecting lever	1	1	1	1	
7	16WF3-059	Hinge screw	1	1	1	1	
8	89WF4-001	Knee lifter lifting rod	1	1	1	1	
9		Clip	2	2	2	2	GB91-86 1.6×10
10	88WF3-009	Lifting rod extension rod	1	1	1	1	
11	7KT4-021	Nut	1	1	1	1	
12	16WF4-011	Lifting rod collar	1	1	1	1	
13	49WF4-029	Screw	1	1	1	1	
14	88WF3-010	Presser bar spring	1	1	1	1	
15	16WF4-008	Screw	1	1	1	1	
16	88WF3-011	Adjusting screw	1	1	1	1	
17		Feed base CPL	1	1	1	1	
18	89WF3-002	Feed base	1	1	1	1	
19	16WF3-012	Feed lifting eccentric fork	1	1	1	1	
20	16WF3-013	Oil felt	1	1	1	1	
21	16WF3-014	Screw	1	1	1	1	
22	16WF3-015	Screw	1	1	1	1	
23		Washer	1	1	1	1	GB97.1-85-6
24	88WF5-004	Feed base crank	1	1	1	1	
25	80WF6-029	Screw	2	2	2	2	
26	89WF3-003	Feed base hinge screw	1	1	1	1	
27	16WF3-017	Nut	1	1	1	1	
28	88WF5-008	Feed shaft	1	1	1	1	
29	16WF3-023	Feed shaft bushing (front)	1	1	1	1	
30	7KT5-002	Screw	1	1	1	1	
31	16WF3-026	Liner	1	1	1	1	
32	16WF3-025	Screw	1	1	1	1	
33	16WF3-027	Collar	2	2	2	2	
34	89WF3-007	Screw	4	4	4	4	
35	16WF3-066	Feed shaft bushing (rear)	1	1	1	1	
36	16WF1-004	Screw	1	1	1	1	
37	16WF3-026	Liner	1	1	1	1	
38	16WF3-025	Screw	1	1	1	1	
39	16WF3-029	Feed crank (rear)	1	1	1	1	
40	16WF3-030	Screw	2	2	2	2	
41	16WF3-032	Screw	2	2	2	2	
42	16WF3-031	Pin	1	1	1	1	
43		Oil wick	1	1	1	1	φ3 L=28mm
44	88WF5-011	Feed link	1	1	1	1	
45	16WF3-032	Screw	1	1	1	1	
46	16WF3-007	Screw	1	1	1	1	
47	16WF3-008	Nut	1	1	1	1	

7. Lower shaft components



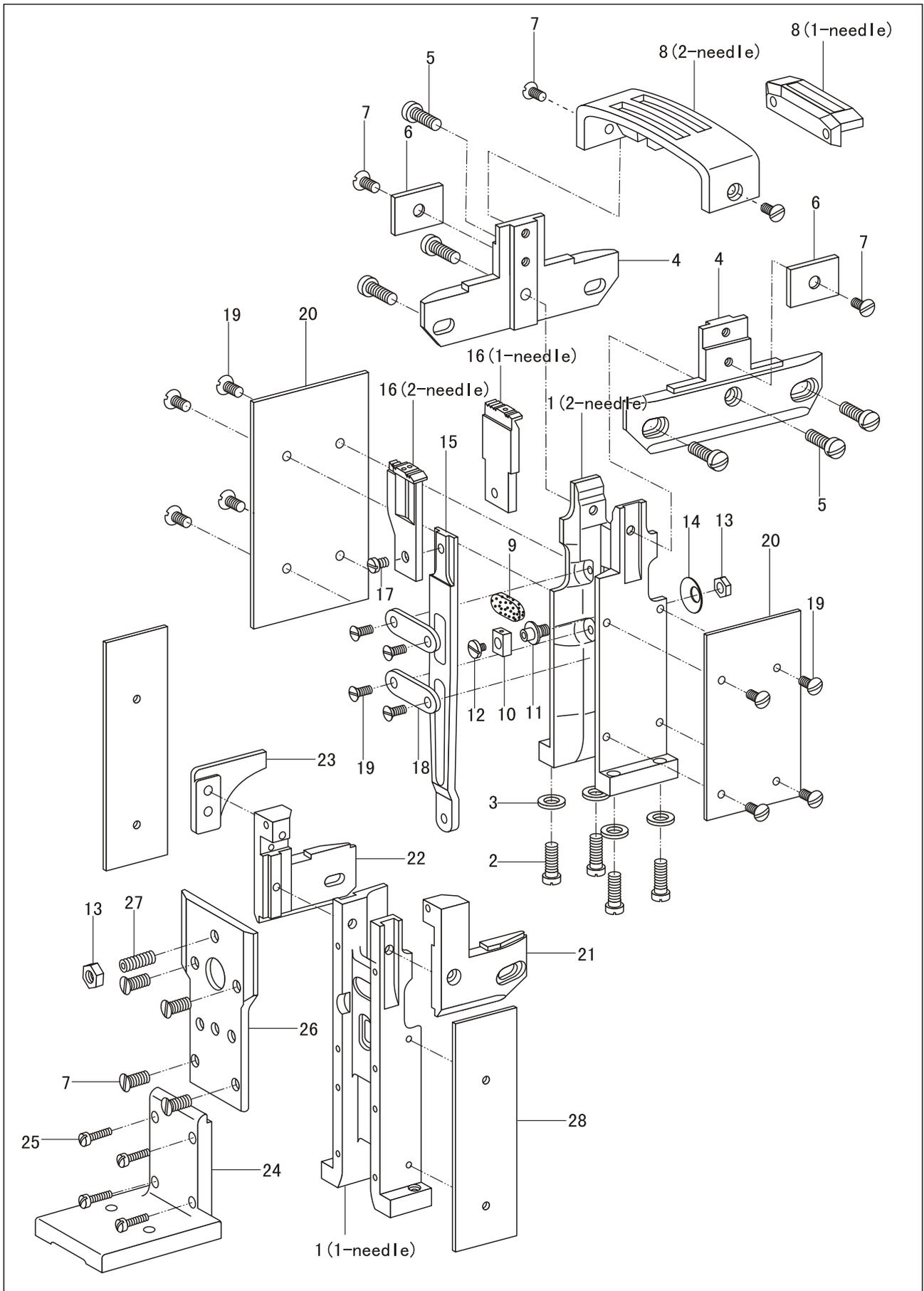
7. Lower shaft components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	89WF1-001	Lower shaft	1	1	1	1	
2	88WF2-010	Lower shaft bushing(front)	1	1			
	16WF1-039	Lower shaft bushing(front)			1	1	
3	16WF1-004	Screw	1	1	1	1	
4		Oil felt	1	1	1	1	φ9.5×5
5		Feed lifting cam CPL	1	1	1	1	
6	88WF5-003	Feed lifting cam	1	1	1	1	
7	16WF1-047	Screw	1	1	1	1	
8	16WF1-052	Hook driving gear	2	2	1	1	
9	21WF1-033	Screw	2	2	1	1	
10	16WF1-053	Screw	2	2	1	1	
11	89WF1-002	Lower shaft bushing(middle)	1	1	1	1	
12	16WF1-051	Screw	1	1	1	1	
13		Oil wick	1	1	1	1	φ5×35
14	88WF2-012	Lower shaft bushing(rear)	1	1	1	1	
15	7KT1-019	Screw	1	1	1	1	
16		Oil felt	1	1	1	1	φ10.5×5
17		Feed driving eccentric CPL	1	1	1	1	
18	88WF5-006	Feed driving eccentric	1	1	1	1	
19	21WF1-020	Screw	1	1	1	1	
20	21WF1-005	Screw	1	1	1	1	
21	88WF5-007	Feed driving eccentric link	1	1	1	1	
22		Needle bearing	1	1	1	1	27941/30K 30×37×12
23		Retaining ring	1	1	1	1	GB894.1-86-30
24	88WF1-008	Push button	1	1	1	1	
25	16WF3-046	Spring	1	1	1	1	
26	16WF3-047	Retaining ring	1	1	1	1	
27		Ball bearing	1	1	1	1	202 15×35×11
28	88WF2-013	Ball bearing collar	1	1	1	1	
29	16WF1-047	Screw	1	1	1	1	
30	16WF1-028	Screw	1	1	1	1	
31	16WF1-045	Lower shaft bushing (rear)	1	1	1	1	
32	16WF1-051	Screw	1	1	1	1	
33	16WF1-048	Retaining washer	1	1	1	1	
34	16WF1-049	Screw	3	3	3	3	
35		Safety clutch pulley CPL	1	1	1	1	
36	22WF1-010	Pulley	1	1	1	1	
37	16WF1-043	Spring flange	1	1	1	1	
38	22WF1-011	Safety clutch collar	1	1	1	1	
39	22WF1-012	Screw	2	2	2	2	
40	22WF1-013	Spring lever	1	1	1	1	
41	22WF1-015	Hinge pin	1	1	1	1	
42	22WF1-020	Screw	1	1	1	1	
43	22WF1-014	Spring	1	1	1	1	
44	22WF1-017	Link	1	1	1	1	
45	22WF1-018	Safety clutch locking lever	1	1	1	1	
46	22WF1-019	Hinge stud	1	1	1	1	
47	22WF1-020	Screw	1	1	1	1	
48	22WF1-016	Safety clutch ratchet	1	1	1	1	
49		Latch pin	1	1	1	1	GB91-86 1.6×10
50	88WF2-014	Ratchet wheel	1	1	1	1	
51	16WF1-053	Screw	1	1	1	1	
52	16WF1-054	Screw	1	1	1	1	

8. Stitch length adjustment components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	88WF5-012	Feed reverse lever	1	1	1	1	
2	104848	Screw	1	1	1	1	
3	88WF5-013	Feed reverse shaft	1	1	1	1	
4	88WF5-014	Feed reverse lever stopper	1	1	1	1	
5	16WF3-061	Screw	1	1	1	1	
6	88WF5-015	Spring	1	1	1	1	
7	88WF5-016	Spring hook	1	1	1	1	
8	88WF5-017	Feed regulator	1	1	1	1	
9	1WF4-018	Screw	1	1	1	1	
10	88WF5-018	Feed regulating stud	1	1	1	1	
11		O-ring	1	1	1	1	10.6×2.65 GB3452-1
12	037499	Stitch dial	1	1	1	1	
13	88WF5-019	Screw	1	1	1	1	
14	36T5-007D4	Washer	1	1	1	1	
15	88WF5-020	Lock pin	1	1	1	1	
16	21WF3-046	Spring	1	1	1	1	
17	89WF3-006	Feed regulating rod	1	1	1	1	
18		Ball joint	1	1	1	1	SABJK6S
19	7KT3-005	Screw	1	1	1	1	
20	72WF2-018	Nut	1	1	1	1	
21	88WF5-022	Screw	1	1	1	1	
22	88WF5-023	Feed rock shaft driving crank	1	1	1	1	
23	16WF3-061	Screw	1	1	1	1	
24	88WF5-024	Spring	1	1	1	1	
25	88WF5-025	Spring bracket	1	1	1	1	
26	7KT2-010	Screw	2	2	2	2	
27	88WF5-026	Spring hook	1	1	1	1	
28		Stitch regulating crank CPL	1	1	1	1	
29	88WF5-027	Stitch regulating crank	1	1	1	1	
30	88WF5-028	Slide block guide	2	2	2	2	
31	13WF2-047	Screw	4	4	4	4	
32	88WF5-029	Collar	1	1	1	1	
33	80WF6-011	Screw	2	2	2	2	
34	88WF5-030	Slide block	2	2	2	2	
35	88WF5-031	Slide block stud	1	1	1	1	
36		Oil wick	1	1	1	1	φ3×26
37	72WF2-018	Nut	1	1	1	1	

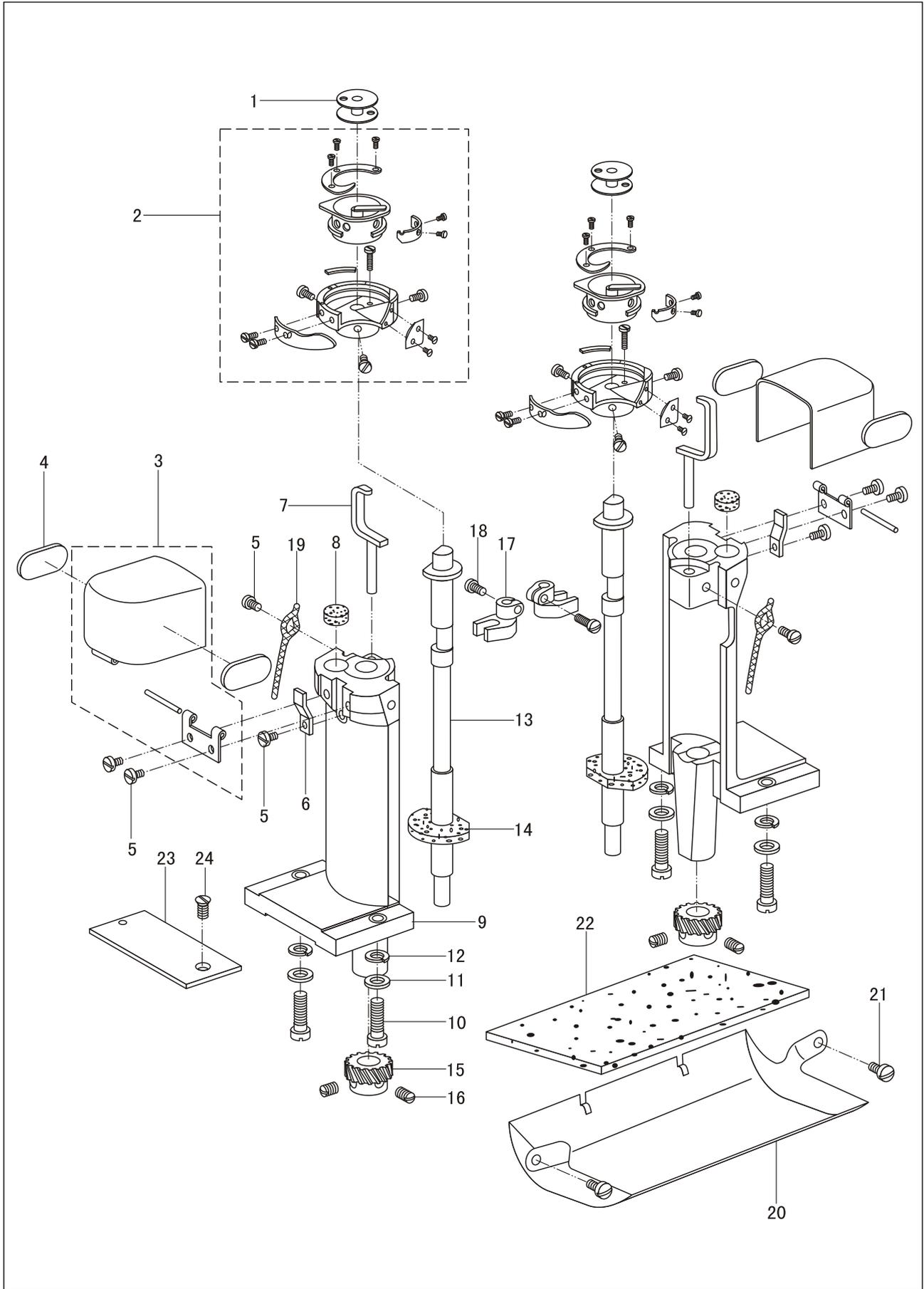
9. Hook and post bed components I



9. Hook and post bed components I

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	89WF2-019	Post bed	1	1			
	113WF2-001	Post bed			1	1	
2	16WF2-041	Screw	4	4	2	2	
3	16WF2-032	Washer	4	4	2	2	
4	89WF2-024	Needle plate support	2	2			
5	21WF1-062	Screw	6	6			
6	89WF2-023	Needle plate sub-cover	2	2			
7	13WF2-010	Screw	4	4			
8	89WF2-022	Needle plate	1				
	121WF-002	Needle plate		1			
	113WF2-005	Needle plate			1		
	120WF-002	Needle plate				1	
9	89WF2-020	Oil felt	2	2	1	1	
10	16WF3-003	Slide block	1	1	1	1	
11	16WF3-004	Stud	1	1	1	1	
12	16WF3-005	Screw	1	1	1	1	
13	16WF3-006	Nut	1	1	2	2	
14	16WF2-023	Washer	1	1	1	1	
15	16WF3-002	Feed plate	1	1	1	1	
16	89WF3-001	Feed dog	1				
	121WF-003	Feed dog		1			
	113WF3-001	Feed dog			1		
	120WF-003	Feed dog				1	
17	16WF2-020	Screw	1	1	1	1	
18	89WF2-021	Feed plate support	2	2			
19	13WF2-010	Screw	12	12	8	8	
20	89WF2-028	Post bed cover	2	2			
21	113WF2-002	Needle plate support(front)			1	1	
22	113WF2-003	Needle plate support(rear)			1	1	
23	113WF2-004	Hook cover support			1	1	
24	16WF2-029	Post bed support			1	1	
25	16WF2-033	Screw			4	4	
26	113WF2-007	Post bed cover(L)			1	1	
27	22WF1-020	Screw			1	1	
28	113WF2-006	Post bed cover (fornt/rear)			2	2	

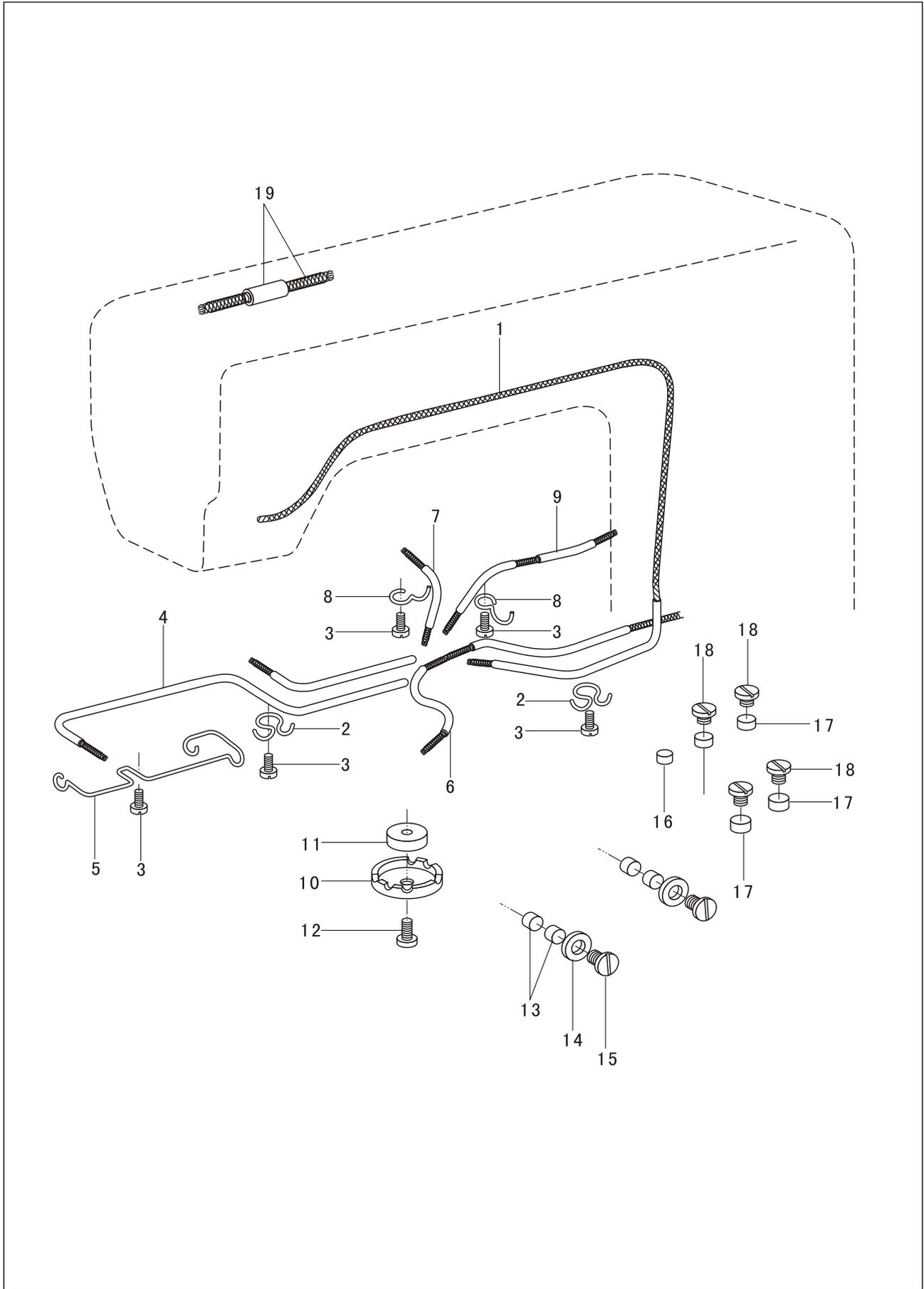
10. Hook and post bed components II



10. Hook and post bed components II

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	215044	Bobbin	2	2	1	1	
2	89WF1-009	Rotary hook CPL.	2	2			
	113WF1-001	Rotary hook CPL.			1	1	
3	89WF2-025	Hook cover CPL.	2	2	1	1	
4	89WF2-025B	Rubber	4	4	2	2	
5	13WF2-010	Screw	8	8	4	4	
6	89WF2-026	Hook cover springplate	2	2	1	1	
7	89WF1-006	Bobbin case opener	2	2	1	1	
8		Oil felt	2	2	1	1	Φ12×9
9	89WF2-027	Hook saddle	2	2	1	1	
10	89WF2-033	Screw	4	4	2	2	
11	16WF2-032	Washer	4	4	2	2	
12		Washer	4	4	2	2	GB93-87 8
13	89WF1-003	Hook driving shaft	2	2	1	1	
14	89WF1-004	Oil felt	2	2	1	1	
15	88WF2-021	Gear	2	2	1	1	
16	16WF1-056	Screw	4	4	2	2	
17	89WF1-007	Bobbin case opener fork	2	2	1	1	
18	89WF1-008	Screw	2	2	1	1	
19		Oil wick	2	2	1	1	Φ5×110
20	16WF2-018	Gear cover	1	1	1	1	
21	16WF2-020	Screw	2	2	2	2	
22	16WF2-019	Felt	1	1	1	1	
23	89WF2-029	Bed slide	1	1			
	16WF2-034	Bed slide			1	1	
24	16WF2-035	Screw	1	1	1	1	

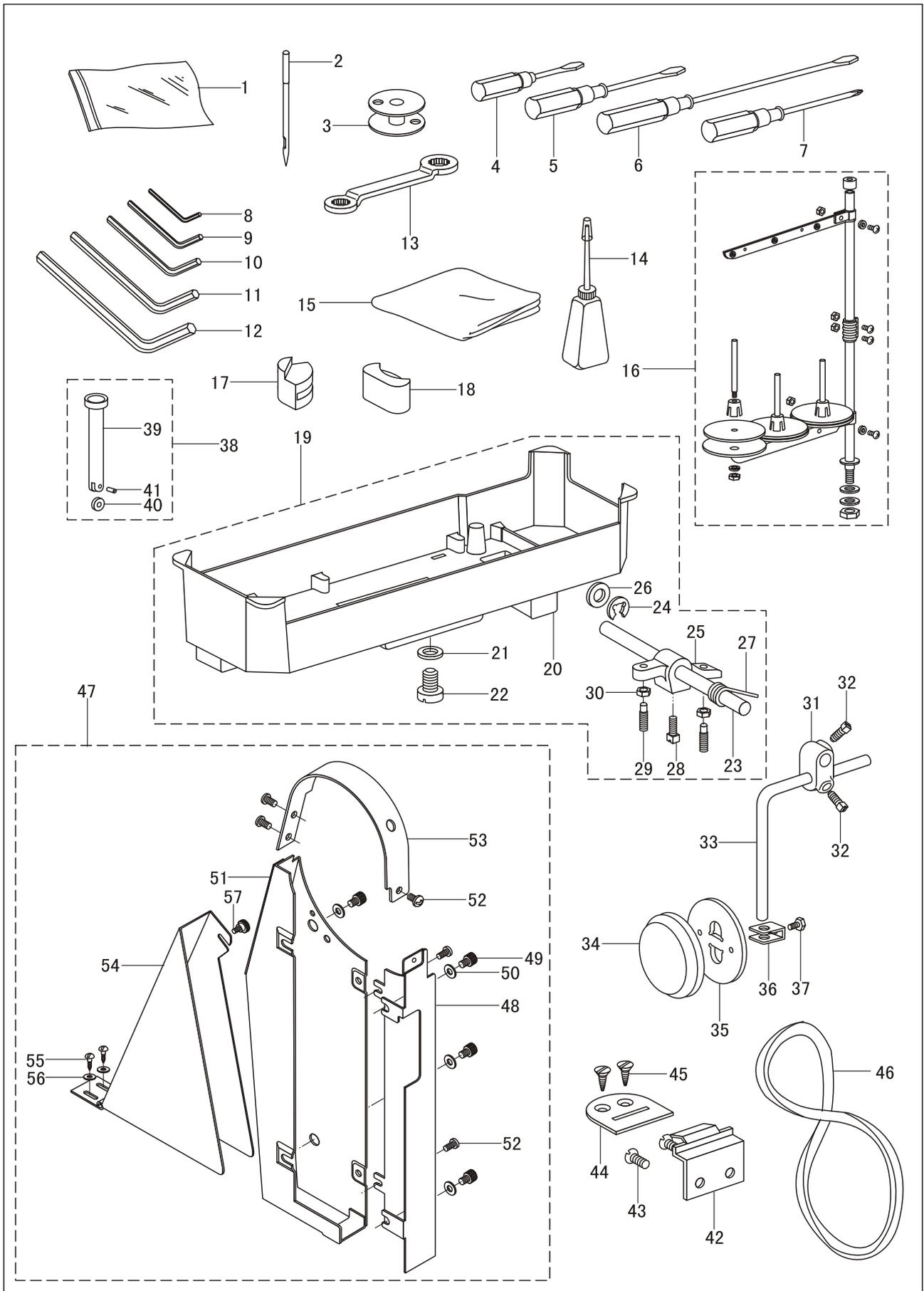
11. Lubrication components



11. Lubrication components

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1		Oil wick& oil pipe	1	1	1	1	Wick $\phi 3 \times 800$ mm pipe $\phi 5 \times 490$ mm
2	88WF6-001	Clamp	2	2	2	2	
3	1WF1-005	Screw	5	5	5	5	
4		Oil wick& oil pipe	1	1	1	1	Wick $\phi 3 \times 550$ mm pipe $\phi 5 \times 100/330$ mm
5	89WF6-001	Clamp	1	1	1	1	
6		Oil wick& oil pipe	1	1	1	1	Wick $\phi 3 \times 300$ mm pipe $\phi 5 \times 60/150$ mm
7		Oil wick& oil pipe	1	1	1	1	Wick $\phi 3 \times 150$ mm pipe $\phi 5 \times 100$ mm
8	88WF6-003	Clamp	2	2	2	2	
9		Oil wick& oil pipe	1	1	1	1	Wick $\phi 3 \times 180$ mm pipe $\phi 5 \times 50/60$ mm
10	88WF6-004	Oil tube	1	1	1	1	
11		Oil felt	1	1	1	1	$\phi 6.5 \times \phi 36$ mm H=5mm
12	88WF6-006	Screw	1	1	1	1	
13		Oil felt	4	4	4	4	$\phi 10 \times 5$ mm
14	88WF6-007	Seal	2	2	2	2	
15	88WF6-008	Screw	2	2	2	2	
16		Oil felt	1	1	1	1	$\phi 9 \times 5$ mm
17		Oil felt	4	4	4	4	$\phi 10 \times 5$ mm
18	88WF6-009	Screw	4	4	4	4	
19		Oil wick and oil pipe	1	1	1	1	Pipe $\phi 5 \times 60/150$ mm

12. Accessories



12. Accessories

No.	Parts No.	Name of parts	Qty.				Remarks
			6024690	CX	-1	-1CX	
1	33TF-010	Accessories pack	1	1	1	1	
2		Needle	6		3		DP×17 24#
		Needle		6		3	DP×17 25#
3	215044	Bobbin	6	6	3	3	
4	33TF-014	Screwdriver (small)	1	1	1	1	
5	33TF-013	Screwdriver (middle)	1	1	1	1	
6	33TF-012	Screwdriver (big)	1	1	1	1	
7		Screwdriver	1	1	1	1	
8		Wrench	1	1	1	1	1. 6mm
9	1F-010	Wrench	1	1	1	1	2. 5mm
10	1F-011	Wrench	1	1	1	1	3mm
11	13F-010	Wrench	1	1	1	1	4mm
12	13F-011	Wrench	1	1	1	1	5mm
13	16WF5-004	Double head wrench	1	1	1	1	
14	33TF-011	Oil pot	1	1	1	1	
15	42F-001	Machine head cover	1	1	1	1	
16	89F-001	Thread stand	1	1			
	53F-001	Thread stand			1	1	
17	89WF7-002	Rubber cushion (small)	2	2	2	2	
18	89WF7-003	Rubber cushion (big)	2	2	2	2	
19		Oil pan CPL	1	1	1	1	
20	89WF7-004	Oil pan	1	1	1	1	
21	89WF7-005	O-ring	1	1	1	1	
22	22T9-001A2	Drain screw	1	1	1	1	
23	89WF7-006	Knee lifter rock shaft	1	1	1	1	
24		Retaining ring	1	1	1	1	GB896-86-9
25	89WF7-007	Knee lifter lifting crank	1	1	1	1	
26	89WF7-008	Washer	1	1	1	1	
27	89WF7-009	Spring	1	1	1	1	
28	89WF7-010	Screw	1	1	1	1	
29	22WF3-003	Screw	2	2	2	2	
30	22T9-001A10	Nut	2	2	2	2	
31	22T9-003B3	Knee lifter rock shaft hub	1	1	1	1	
32	22T9-003B4	Screw	2	2	2	2	
33	22T9-003B2	Knee lifter rock lever	1	1	1	1	
34	22T9-003B8	Knee lifter rockingpad	1	1	1	1	
35	22T9-003B5	Knee lifter rockingplate	1	1	1	1	
36	22T9-003B6	Joint	1	1	1	1	
37	22T9-003B7	Screw	1	1	1	1	
38	89WF7-011	Knee lifter lifting rod CPL	1	1	1	1	
39	89WF7-011A	Knee lifter lifting rod	1	1	1	1	
40	89WF7-011B	Roller	1	1	1	1	
41	80WF7-011C	Screw stud	1	1	1	1	
42	3KT2-006	Machine hinge (2)	2	2	2	2	
43	3KT2-002	Screw	4	4	4	4	
44	3KT2-005	Machine hinge (1)	2	2	2	2	
45	16F-002	Nail	4	4	4	4	
46		V-belt	1	1	1	1	M55
47	89WF7-001	Belt guard CPL	1	1	1	1	
48	89WF7-001A	Belt guard (small)	1	1	1	1	
49	89WF7-001B	Screw	4	4	4	4	
50		Washer	4	4	4	4	GB97.1-85-6
51	89WF7-001C	Belt guard (big)	1	1	1	1	
52		Screw	5	5	5	5	GB818-85-4×5
53	89WF7-001D	Upper cover	1	1	1	1	
54	89WF7-001E	Back belt guard	1	1	1	1	
55		Screw	2	2	2	2	GB950-86-3.5×16
56		Washer	2	2	2	2	GB848-85-4
57	89WF7-001F	Screw	1	1	1	1	

Table of gauge sets for GC24690/24690CX

Gauge Size	Needle clamp	Walking foot	Presser foot	Needle plate		Feed dog		Needle plate Support (Fronte & Rear)	Needle plate Sub-cover (Fronte & Rear)	Postbed cover (Front & Rear)	Bed Slide
	mm	GC24690/ GC24690CX	GC24690CX	GC24690	GC24690	GC24690CX	GC24690CX	GC24690/ GC24690CX	GC24690/ GC24690CX	GC24690/ GC24690CX	GC24690/ GC24690CX
1 / 8"	88WF2-001a	88WF4-001A	88WF3-002A	89WF2-022A1	GC24690	GC24690CX	GC24690	89WF3-001A1	89WF2-024A	89WF2-028A	89WF2-029A
5 / 32"	89WF1-005	88WF4-002	88WF4-003	89WF2-022A2	GC24690	GC24690CX	GC24690	89WF3-001A2	89WF2-024	89WF2-028A	89WF2-029A
3 / 16"	88WF2-001B	88WF4-001B	88WF3-002B	89WF2-022A3	GC24690	GC24690CX	GC24690	89WF3-001A3	89WF2-024	89WF2-028B	89WF2-029A
7 / 32"	88WF2-001C	88WF4-001C	88WF3-002C	89WF2-022A4	GC24690	GC24690CX	GC24690	89WF3-001A4	89WF2-024	89WF2-028B	89WF2-029A
1 / 4"	88WF2-001	88WF4-001	88WF3-002	89WF2-022B1	GC24690	GC24690CX	GC24690	89WF3-001B1	89WF2-024	89WF2-028B	89WF2-029B
5 / 16"	88WF2-001D	88WF4-001D	88WF3-002D	89WF2-022B2	GC24690	GC24690CX	GC24690	89WF3-001B2	89WF2-024	89WF2-028B	89WF2-029B
3 / 8"	88WF2-001E	88WF4-001E	88WF3-002E	89WF2-022	GC24690	GC24690CX	GC24690	89WF3-001	89WF2-024	89WF2-028	89WF2-029B
1 / 2"	88WF2-001G	88WF4-001G	88WF3-002G	89WF2-022C1	GC24690	GC24690CX	GC24690	89WF3-001C1	89WF2-024B	89WF2-028	89WF2-029C
5 / 8"	88WF2-001I	88WF4-001I	88WF3-002I	89WF2-022C2	GC24690	GC24690CX	GC24690	89WF3-001C2	89WF2-024B	89WF2-028C	89WF2-029C
3 / 4"	88WF2-001J	88WF4-001J	88WF3-002J	89WF2-022C3	GC24690	GC24690CX	GC24690	89WF3-001C3	89WF2-024B	89WF2-028C	89WF2-029C

- Please don't adjust and repair the machine by non-professionals,except adjusting stitch.
- Specifications subject to change without notice

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